

Pigment Violet 29 (CASRN: 81-33-4) Bibliography: Supplemental File for the TSCA Scope Document

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This document provides the bibliographic citations that were identified and screened from the initial literature search and the initial categorization of whether citations are *on topic* or *off topic*. *On topic* references are those that may contain data and/or information relevant to the risk evaluation. *Off topic* references are those that do not appear to contain data or information relevant to the risk evaluation.

Because systematic review is an iterative process, EPA/OPPT expects that some references may move from the *on topic* to the *off topic* category and vice versa. Additional *on topic* references not initially identified in the initial search may also be identified as the systematic review process proceeds. Moreover, targeted supplemental searches may be conducted to address specific needs for the analysis phase (e.g., to locate specific data needed for modeling).

Some of the references supporting the “Scope of the Risk Evaluation for Pigment Violet 29” may not be reflected in the “OPPT Risk Assessment, Problem Formulation or Scope Document” section of this bibliography document. Thus, please refer to the bibliography included in the final scope document for the full list of references.

PEER REVIEWED LITERATURE SEARCH RESULTS

The peer reviewed literature search results include results from comprehensive searches of bibliographic databases. The results were reviewed and determined to either be *on topic* or *off topic* with respect to the data needs of the five topic areas presented below. The full literature search strategy is presented in the *Strategy for Conducting Literature Searches for Pigment Violet 29- Supplemental File for the TSCA Scope Document*.

Citations are presented in the format returned from database searches. In some instances citations may be incomplete (e.g., publication year or journal information may be missing). Efforts to complete citation information are underway. Because each reference was considered for each topic area during screening, a citation may be listed as *on topic* or *off topic* in more than one topic area.

Fate Literature Search Results

On Topic

No *on topic* fate references

Fate Literature Search Results

Off Topic

- Aguilera-Sigalat, J; Pais, VF; Domenech-Carbo, A; Pischel, U, we; Galian, RE; Perez-Prieto, J. (2013). Unconventional Fluorescence Quenching in Naphthalimide-Capped CdSe/ZnS Nanoparticles. *J Phys Chem C*. 117: 7365-7375. <http://dx.doi.org/10.1021/jp3128252>.
- Ahmed, R; Simbrunner, C; Baig, MA; Sitter, H. (2015). Grain Size and Interface Dependence of Bias Stress Stability of n-Type Organic Field Effect Transistors. *ACS Applied Materials & Interfaces*. 7: 22380-22384. <http://dx.doi.org/10.1021/acsami.5b06210>.
- Ahrens, MJ; Fuller, MJ; Wasielewski, MR. (2003). Cyanated perylene-3,4-dicarboximides and perylene-3,4 : 9,10-bis(dicarboximide): Facile chromophoric oxidants for organic photonics and electronics. *Chem Mater*. 15: 2684-2686. <http://dx.doi.org/10.1021/cm034140u>.
- Alcalá, MA; Shade, CM; Uh, H; Kwan, SY; Bischof, M; Thompson, ZP; Gogick, KA; Meier, AR; Strein, TG; Bartlett, DL; Modzelewski, RA; Lee, YJ; Petoud, S; Brown, CK. (2011). Preferential accumulation within tumors and in vivo imaging by functionalized luminescent dendrimer lanthanide complexes. *Biomaterials*. 32: 9343-9352. <http://dx.doi.org/10.1016/j.biomaterials.2011.07.076>.
- Al-Hussein, M; Hesse, HC; Weickert, J; Doessel, L; Feng, X; Muellen, K; Schmidt-Mende, L. (2011). Structural properties of the active layer of discotic hexabenzocoronene/perylene diimide bulk hetero junction photovoltaic devices: The role of alkyl side chain length. *Thin Solid Films*. 520: 307-313. <http://dx.doi.org/10.1016/j.tsf.2011.06.044>.
- Alkhalifah, MS; Lei, C; Myers, SA; O'Neill, M; Kitney, SP; Kelly, SM. (2014). Solution-processed bilayer photovoltaic devices with nematic liquid crystals. *Liquid Crystals*. 41: 402-417. <http://dx.doi.org/10.1080/02678292.2013.834082>.

Fate Literature Search Results

Off Topic

- Aluicio-Sarduy, E; Singh, R; Kan, Z; Ye, T; Baidak, A; Calloni, A; Berti, G; Duo, L; Iosifidis, A; Beaupre, S; Leclerc, M; Butt, HJ; Floudas, G; Keivanidis, PE. (2015). Elucidating the Impact of Molecular Packing and Device Architecture on the Performance of Nanostructured Perylene Diimide Solar Cells. *ACS Applied Materials & Interfaces*. 7: 8687-8698. <http://dx.doi.org/10.1021/acsmami.5b00827>.
- An, ZS; Yu, JS; Jones, SC; Barlow, S; Yoo, S; Domercq, B; Prins, P; Siebbeles, LDA; Kippelen, B; Marder, SR. (2005). High electron mobility in room-temperature discotic liquid-crystalline perylene diimides. *Adv Mater Deerfield*. 17: 2580-+. <http://dx.doi.org/10.1002/adma.200500027>.
- Antohe, S; Tomozeiu, N; Gogonea, S. (1991). PROPERTIES OF THE ORGANIC-ON-INORGANIC SEMICONDUCTOR BARRIER CONTACT DIODES IN/PTCDI/P-SI AND AG/CUPC/P-SI. 125: 397-408.
- Antohe, S; Vonsovici, A. (1991). SEMICONDUCTOR ANALYSIS USING THE CUPC P-SI AND PTCDI P-SI ORGANIC-ON-INORGANIC CONTACT BARRIERS. 124: 583-593.
- Bai, R; Ouyang, M; Zhou, RJ; Shi, MM; Wang, M; Chen, HZ. (2008). Well-defined nanoarrays from an n-type organic perylene-diimide derivative for photoconductive devices. *Nanotechnology*. 19: 055604. <http://dx.doi.org/10.1088/0957-4484/19/05/055604>.
- Banal, JL; Soleimaninejad, H; Jrad, FM; Liu, M; White, JM; Blakers, AW; Cooper, MW; Jones, DJ; Ghiggino, KP; Marder, SR; Smith, TA; Wong, WWH. (2016). Energy Migration in Organic Solar Concentrators with a Molecularly Insulated Perylene Diimide. *J Phys Chem C*. 120: 12952-12958. <http://dx.doi.org/10.1021/acs.jpcc.6b04479>.
- Banthia, S; Samanta, A. (2006). Long and short brick network architecture: Role of water molecules acting as three-connecting spacers. *Cryst Growth Des*. 6: 360-362. <http://dx.doi.org/10.1021/cg050517s>.
- Bao, Q; Goh, BM; Yan, B; Yu, T; Shen, Z; Loh, KP. (2010). Polarized emission and optical waveguide in crystalline perylene diimide microwires. *Adv Mater Deerfield*. 22: 3661-3666. <http://dx.doi.org/10.1002/adma.201000731>.
- Bardajee, GR. (2013). Microwave-assisted solvent-free synthesis of fluorescent naphthalimide dyes. *Dyes and Pigments*. 99: 52-58. <http://dx.doi.org/10.1016/j.dyepig.2013.04.004>.
- Bardajee, GR; Li, AY; Haley, JC; Winnik, MA. (2008). The synthesis and spectroscopic properties fluorescent naphthalimide of novel, functional dyes. *Dyes and Pigments*. 79: 24-32. <http://dx.doi.org/10.1016/j.dyepig.2007.12.012>.
- Barra, M; Di Girolamo, FV; Chiarella, F; Salluzzo, M; Chen, Z; Facchetti, A; Anderson, L; Cassinese, A. (2010). Transport Property and Charge Trap Comparison for N-Channel Perylene Diimide Transistors with Different Air-Stability. *J Phys Chem C*. 114: 20387-20393. <http://dx.doi.org/10.1021/jp103555x>.
- Bauer, J; Behrens, P; Speckbacher, M; Langhals, H. (2003). Composites of perylene chromophores and layered double hydroxides: Direct synthesis, characterization, and photo- and chemical stability. *Adv Funct Mater*. 13: 241-248.
- Bhosale, ME; Krishnamoorthy, K. (2015). Chemically Reduced Organic Small-Molecule-Based Lithium Battery with Improved Efficiency. *Chem Mater*. 27: 2121-2126. <http://dx.doi.org/10.1021/cm5046786>.
- Bian, B; Ji, SJ, un; Shi, H, aiBin. (2008). Synthesis and fluorescent property of some novel bischromophore compounds containing pyrazoline and naphthalimide groups. *Dyes and Pigments*. 76: 348-352. <http://dx.doi.org/10.1016/j.dyepig.2006.08.050>.
- Bielejewska, N; Chrzumnicka, E; Stolarski, R; Bauman, D. (2010). Spectral properties of naphthalimide dyes mixed with 4-heptyl-4'-cyanobiphenyl (7CB) in Langmuir-Blodgett films. *Opto-Electronics Review*. 18: 197-207. <http://dx.doi.org/10.2478/s11772-010-0005-z>.
- Bijak, K; Filapek, M; Wiacek, M; Janecek, H; Grucela, M; Smolarek, K; Mackowski, S; Schab-Balcerzak, E, wa. (2016). Preparation and characterization of new aliphatic-tailed five- and six-membered azomethine-diimides. *Mater Chem Phys*. 171: 97-108. <http://dx.doi.org/10.1016/j.matchemphys.2015.12.005>.
- Bijak, K; Grucela-Zajac, M; Janecek, H; Wiacek, M; Schab-Balcerzak, E, wa. (2013). New azomethine-phthalic diimides: Synthesis and thermal, optical and electrochemical characterization. *Synthetic Metals*. 175: 146-154. <http://dx.doi.org/10.1016/j.synthmet.2013.05.017>.
- Biniek, L; Schwartz, PO; Zaborova, E; Heinrich, B; Leclerc, N; Mery, S; Brinkman, M. (2015). Zipper-like molecular packing of donor-acceptor conjugated co-oligomers based on perylenediimide. 3: 3342-3349. <http://dx.doi.org/10.1039/c5tc00221d>.
- Bodapati, JB; Icil, H. (2008). Highly soluble perylene diimide and oligomeric diimide dyes combining perylene and hexa(ethylene glycol) units: Synthesis, characterization, optical and electrochemical properties. *Dyes and Pigments*. 79: 224-235. <http://dx.doi.org/10.1016/j.dyepig.2008.02.009>.
- Bojinov, V; Grabchev, I. (2001). A new method for synthesis of 4-allyloxy-1,8-naphthalimide derivatives for use as fluorescent brighteners. *Dyes and Pigments*. 51: 57-61.
- Bojinov, V; Grabchev, I. (2003). Synthesis of new polymerizable 1,8-naphthalimide dyes containing a 2-hydroxyphenylbenzotriazole fragment. *Dyes and Pigments*. 59: 277-283. [http://dx.doi.org/10.1016/S0143-7208\(03\)00113-X](http://dx.doi.org/10.1016/S0143-7208(03)00113-X).
- Bojinov, V; Ivanova, G; Chovelon, JM; Grabchev, I. (2003). Photophysical and photochemical properties of some 3-bromo-4-alkylamino-N-alkyl-1,8-naphthalimides. *Dyes and Pigments*. 58: 65-71. [http://dx.doi.org/10.1016/S0143-7208\(03\)00036-6](http://dx.doi.org/10.1016/S0143-7208(03)00036-6).
- Bojinov, V; Konstantinova, T. (2002). Synthesis of polymerizable 1,8-naphthalimide dyes containing hindered amine fragment. *Dyes and Pigments*. 54: 239-245.
- Bojinov, VB; Panova, IP. (2007). Synthesis and absorption properties of new yellow-green emitting benzo[de]isoquinoline-1,3-diones containing hindered amine and 2-hydroxyphenylbenzotriazole fragments. *Dyes and Pigments*. 74: 551-560. <http://dx.doi.org/10.1016/j.dyepig.2006.03.016>.
- Bojinov, VB; Panova, IP. (2009). Novel 4-(2,2,6,6-tetramethylpiperidin-4-ylamino)-1,8-naphthalimide based yellow-green emitting fluorescence sensors for transition metal ions and protons. *Dyes and Pigments*. 80: 61-66. <http://dx.doi.org/10.1016/j.dyepig.2008.05.007>.
- Bojinov, VB; Panova, IP; Grabchev, I, voK. (2007). Novel polymerizable light emitting dyes - combination of a hindered amine with a 9-phenylxanthene fluorophore. *Synthesis and photophysical investigations*. *Dyes and Pigments*. 74: 187-194. <http://dx.doi.org/10.1016/j.dyepig.2006.01.034>.

Fate Literature Search Results

Off Topic

- Bojinov, VB; Panova, IP; Simeonov, DB. (2008). Design and synthesis of polymerizable, yellow-green emitting 1,8-naphthalimides containing built-in s-triazine UV absorber and hindered amine light stabilizer fragments. *Dyes and Pigments.* 78: 101-110. <http://dx.doi.org/10.1016/j.dyepig.2007.10.010>.
- Bojinov, VB; Simeonov, DB; Georgiev, NI. (2008). A novel blue fluorescent 4-(1,2,2,6,6-pentamethylpiperidin-4-yloxy)-1,8-naphthalimide pH chemosensor based on photoinduced electron transfer. *Dyes and Pigments.* 76: 41-46. <http://dx.doi.org/10.1016/j.dyepig.2006.08.006>.
- Bonetti, S; Prosa, M; Pistone, A; Favaretto, L; Sagnella, A; Grisin, I; Zambianchi, M; Karges, S; Lorenzoni, A; Posati, T; Zamboni, R; Camaioni, N; Mercuri, F; Muccini, M; Melucci, M; Benfenati, V. (2016). A self-assembled lysinated perylene diimide film as a multifunctional material for neural interfacing. 4: 2921-2932. <http://dx.doi.org/10.1039/c5tb02299a>.
- Bonnet, JP; Tran-Van, F; Chevrot, C. (2006). Photoactive ionic assemblies between n dopable perylene and p dopable carbazole derivatives. *Synthetic Metals.* 156: 1292-1298. <http://dx.doi.org/10.1016/j.synthmet.2006.09.013>.
- Boobalan, G; Imran, PKM; Manoharan, C; Nagarajan, S. (2015). Optical and Electrical Properties of New Perylene Diimide Thin Films. *Journal of Electronic Materials.* 44: 4000-4005. <http://dx.doi.org/10.1007/s11664-015-3870-x>.
- Bouche, CM; Berdague, P; Facoetti, H; Robin, P; Lebarny, P; Schott, M. (1996). Side-chain electroluminescent polymers. *Synthetic Metals.* 81: 191-195.
- Brennaman, MK; Norris, MR; Gish, MK; Grumstrup, EM; Alibabaei, L; Ashford, DL; Lapides, AM; Papanikolas, JM; Templeton, JL; Meyer, TJ. (2015). Ultrafast, Light-Induced Electron Transfer in a Perylene Diimide Chromophore-Donor Assembly on TiO₂. *Journal of Physical Chemistry Letters.* 6: 4736-4742. <http://dx.doi.org/10.1021/acs.jpcllett.5b02194>.
- Brochstain, S; Politi, MJ. (1999). Solubilization of 1,4,5,8-naphthalenediimides and 1,8-naphthalimides through the formation of novel host-guest complexes with alpha-cyclodextrin. *Langmuir.* 15: 4486-4494.
- Brus, VV; Proctor, CM; Ran, NA; Nguyen, T-Q. (2016). Capacitance Spectroscopy for Quantifying Recombination Losses in Nonfullerene Small-Molecule Bulk Heterojunction Solar Cells. 6. <http://dx.doi.org/10.1002/aenm.201502250>.
- Bryaskova, R; Georgiev, NI; Dimov, SM; Tzoneva, R; Detrembleur, C; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Novel nanosized water soluble fluorescent micelles with embedded perylene diimide fluorophores for potential biomedical applications: Cell permeability, localization and cytotoxicity. *Mater Sci Eng C.* 51: 7-15. <http://dx.doi.org/10.1016/j.msec.2015.02.035>.
- Bu, L; Dawson, TJ; Hayward, RC. (2015). Tailoring Ultrasound-Induced Growth of Perylene Diimide Nanowire Crystals from Solution by Modification with Poly(3-hexyl thiophene). *ACS Nano.* 9: 1878-1885. <http://dx.doi.org/10.1021/nn506795q>.
- Bujdak, J; Danko, M; Chorvat, D, Jr; Czimerova, A; Sykora, J; Lang, K. (2012). Selective modification of layered silicate nanoparticle edges with fluorophores. *Appl Clay Sci.* 65-66: 152-157. <http://dx.doi.org/10.1016/j.clay.2012.04.029>.
- Buzio, R; Gerbi, A; Marre, D; Barra, M; Cassinese, A. (2015). Electron injection barrier and energy-level alignment at the Au/PDI8-CN2 interface via current-voltage measurements and ballistic emission microscopy. *Organic Electronics.* 18: 44-52. <http://dx.doi.org/10.1016/j.orgel.2015.01.007>.
- Buzio, R; Gerbi, A; Marre, D; Barra, M; Cassinese, A. (2016). Ballistic electron and photocurrent transport in Au/organic/Si(001) diodes with PDI8-CN2 interlayers. *Journal of Vacuum Science and Technology Part B Microelectronics and Nanometer Structures.* 34. <http://dx.doi.org/10.1116/1.4950733>.
- Cacialli, F; Bouche, CM; Le Barny, P; Friend, RH; Facoetti, H; Soyer, F; Robin, P. (1998). Naphthalimide polymers for organic light-emitting diodes. *Optical Materials.* 9: 163-167.
- Cai, P; Jia, H; Chen, J; Cao, Y. (2015). Organic/Organic Cathode Bi-Interlayers Based on a Water-Soluble Nonconjugated Polymer and an Alcohol-Soluble Conjugated Polymer for High Efficiency Inverted Polymer Solar Cells. *ACS Applied Materials & Interfaces.* 7: 27871-27877. <http://dx.doi.org/10.1021/acsami.5b09744>.
- Cai, Y; Gao, Y, a; Luo, Q; Li, M; Zhang, J; Tian, H, e; Zhu, W, eiH. (2016). Ferrocene-Grafted Photochromic Triads Based on a Sterically Hindered Ethene Bridge: Redox-Switchable Fluorescence and Gated Photochromism. 4: 1410-1416. <http://dx.doi.org/10.1002/adom.201600229>.
- Cai, Y; Guo, X; Sun, X; Wei, D; Yu, M; Huo, L; Sun, Y. (2016). A twisted monomeric perylenediimide electron acceptor for efficient organic solar cells. 59: 427-434. <http://dx.doi.org/10.1007/s40843-016-5063-3>.
- Camurlu, P; Karagoren, N. (2013). Both p and n-Dopable, Multichromic, Naphthalimide Clicked Poly(2,5-dithienylpyrrole) Derivatives. *J Electrochem Soc.* 160: H560-H567. <http://dx.doi.org/10.1149/2.043309jes>.
- Canning, J; Ast, S; Hossain, M, dA; Chan, H; Rutledge, PJ; Jamalipour, A. (2015). Bend and twist intramolecular charge transfer and emission for selective metal ion sensing. 5: 2675-2681. <http://dx.doi.org/10.1364/OME.5.002675>.
- Cao, JX; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2005). Polyfluorenes containing 1,8-naphthalimide dye as endcapping groups. *Synthetic Metals.* 152: 237-240. <http://dx.doi.org/10.1016/j.synthmet.2005.07.239>.
- Cao, X; Meng, L; Li, Z; Mao, Y; Lan, H; Chen, L; Fan, Y; Yi, T, ao. (2014). Large Red-Shifted Fluorescent Emission via Intermolecular pi-pi Stacking in 4-Ethylnyl-1,8-naphthalimide-Based Supramolecular Assemblies. *Langmuir.* 30: 11753-11760. <http://dx.doi.org/10.1021/1a503299j>.
- Cao, X; Wu, Y; Liu, K; Yu, X; Wu, B, o; Wu, H; Gong, Z; Yi, T, ao. (2012). Iridium complex triggered white-light-emitting gel and its response to cysteine. *J Mater Chem.* 22: 2650-2657. <http://dx.doi.org/10.1039/c2jm13826c>.
- Cao, X; Zhao, N; Gao, A; Lv, H; Jia, Y; Wu, R; Wu, Y. (2017). Bis-naphthalimides self-assembly organogel formation and application in detection of p-phenylenediamine. *Mater Sci Eng C.* 70: 216-222. <http://dx.doi.org/10.1016/j.msec.2016.08.079>.
- Cao, X; Zhou, J; Zou, Y; Zhang, M; Yu, X; Zhang, S; Yi, T; Huang, C. (2011). Fluorescence and morphology modulation in a photochromic diarylethene self-assembly system. *Langmuir.* 27: 5090-5097. <http://dx.doi.org/10.1021/la200419v>.

Fate Literature Search Results

Off Topic

- Castro-Carranza, A; Nolasco, JC; Estrada, M; Gwoziecki, R; Benwadih, M; Xu, Y; Cerdeira, A; Marsal, LF; Ghibaudo, G; Iniguez, B; Pallares, J. (2012). Effect of Density of States on Mobility in Small-Molecule n-Type Organic Thin-Film Transistors Based on a Perylene Diimide. *I E E Electron Device Letters.* 33: 1201-1203. <http://dx.doi.org/10.1109/LED.2012.2201441>.
- Centore, R; Ricciotti, L; Carella, A; Roviello, A; Causa, M; Barra, M; Cicullo, F; Cassinese, A. (2012). Perylene diimides functionalized with N-thiadiazole substituents: Synthesis and electronic properties in OFET devices. *Organic Electronics.* 13: 2083-2093. <http://dx.doi.org/10.1016/j.orgel.2012.06.002>.
- Chall, S; Pramanik, S; Dhar, S; Saha, A; Bhattacharya, SC. (2012). Facile room temperature synthesis of lanthanum oxalate nanorods and their interaction with antioxidative naphthalimide derivative. *J Nanosci Nanotechnol.* 12: 2229-2238. <http://dx.doi.org/10.1166/jnn.2012.5695>.
- Chan, CY, iu; Wong, Y, iC; Wong, H, okLai; Chan, M, eiYee; Yam, VWW, ah. (2014). A new class of three-dimensional, p-type, spirobifluorene-modified perylene diimide derivatives for small molecular-based bulk heterojunction organic photovoltaic devices. 2: 7656-7665. <http://dx.doi.org/10.1039/c4tc01001a>.
- Chang, DM, in; Kwon, DY; Kim, YS, ik. (2014). Novel Ru(II) Complex with 3-(2'-pyridyl)-1,8-Naphthalimide Derivative for Dye-Sensitized Solar Cells. *J Nanosci Nanotechnol.* 14: 9335-9339. <http://dx.doi.org/10.1166/jnn.2014.10127>.
- Chang, SC; Utecht, RE; Lewis, DE. (1999). Synthesis and bromination of 4-alkylamino-N-alkyl-1,8-naphthalimides. *Dyes and Pigments.* 43: 83-94.
- Chen, G; Song, J; Zhang, H; Jiang, Y; Liu, W; Zhang, W; Wang, B. (2015). Pd nanoparticles encapsulated in magnetic carbon nanocages: an efficient nanoenzyme for the selective detection and multicolor imaging of cancer cells. *Nanoscale.* 7: 14393-14400. <http://dx.doi.org/10.1039/c5nr03421c>.
- Chen, G; Wang, L; Zhang, J; Chen, F; Anpo, M. (2009). Photophysical properties of a naphthalimide derivative encapsulated within Si-MCM-41, Ce-MCM-41 and Al-MCM-41. *Dyes and Pigments.* 81: 119-123. <http://dx.doi.org/10.1016/j.dyepig.2008.09.013>.
- Chen, H; Liu, Z; Zhao, Z; Zheng, L; Tan, S; Yin, Z; Zhu, C; Liu, Y. (2016). Synthesis, Structural Characterization, and Field-Effect Transistor Properties of n-Channel Semiconducting Polymers Containing Five-Membered Heterocyclic Acceptors: Superiority of Thiadiazole Compared with Oxadiazole. 8: 33051-33059. <http://dx.doi.org/10.1021/acsami.6b12540>.
- Chen, HZ; Ling, MM; Mo, X; Shi, MM; Wang, M; Bao, Z. (2007). Air stable n-channel organic semiconductors for thin film transistors based on fluorinated derivatives of perylene diimides. *Chem Mater.* 19: 816-824. <http://dx.doi.org/10.1021/cm062352w>.
- Chen, HZ; Shi, MM; Aernouts, T; Wang, M; Borghs, G; Heremans, P. (2005). A novel organic n-type material: fluorinated perylene diimide. *Solar Energy Materials and Solar Cells.* 87: 521-527. <http://dx.doi.org/10.1016/j.solmat.2004.07.056>.
- Chen, K, ewYu; Chang, C, heWei. (2014). 1,7-Bis-(N,N-dialkylamino)perylene Bisimides: Facile Synthesis and Characterization as Near-Infrared Fluorescent Dyes. *Materials.* 7: 7548-7565. <http://dx.doi.org/10.3390/ma7117548>.
- Chen, L, in; Yang, L; Yang, Z; Shi, M; Wang, M; Chen, H; Zhang, W; Xu, F. (2009). Carrier Transport in Zinc Phthalocyanine Doped with a Fluorinated Perylene Derivative: Bulk Conductivity versus Interfacial Injection. *J Phys Chem C.* 113: 17160-17169. <http://dx.doi.org/10.1021/jp903381n>.
- Chen, Q, un; Zhang, D; Zhang, G; Yang, X; Feng, Y, u; Fan, Q; Zhu, D. (2010). Multicolor Tunable Emission from Organogels Containing Tetraphenylethene, Perylenediimide, and Spiropyran Derivatives. *Adv Funct Mater.* 20: 3244-3251. <http://dx.doi.org/10.1002/adfm.201000590>.
- Chen, S; Wang, C; Bunes, BR; Li, Y; Wang, C; Zang, L. (2015). Enhancement of visible-light-driven photocatalytic H-2 evolution from water over g-C3N4 through combination with perylene diimide aggregates. *Appl Catal A-Gen.* 498: 63-68. <http://dx.doi.org/10.1016/j.apcata.2015.03.026>.
- Chen, W; Yang, X; Long, G; Wan, X; Chen, Y; Zhang, Q. (2015). A perylene diimide (PDI)-based small molecule with tetrahedral configuration as a non-fullerene acceptor for organic solar cells. 3: 4698-4705. <http://dx.doi.org/10.1039/c5tc00865d>.
- Chen, Y; Chang, H, ao; Tian, H; Bao, C; Li, W; Yan, D; Geng, Y; Wang, F. (2012). An easily made thienoacene comprising seven fused rings for ambient-stable organic thin film transistors. *Organic Electronics.* 13: 3268-3275. <http://dx.doi.org/10.1016/j.orgel.2012.09.041>.
- Chen, Y; Chen, L; Qi, G; Wu, H; Zhang, Y; Xue, L; Zhu, P; Ma, P; Li, X. (2010). Self-assembled organic-inorganic hybrid nanocomposite of a perylenetetracarboxylic diimide derivative and CdS. *Langmuir.* 26: 12473-12478. <http://dx.doi.org/10.1021/la102094d>.
- Chen, Y; Tang, A; Zhang, X, in; Lu, Z; Huang, J; Zhan, C; Yao, J. (2014). A new solution-processed diketopyrrolopyrrole donor for non-fullerene small-molecule solar cells. 2: 1869-1876. <http://dx.doi.org/10.1039/c3ta14335j>.
- Chen, Y; Zhang, X, in; Zhan, C; Yao, J. (2015). In-depth understanding of photocurrent enhancement in solution-processed small-molecule:perylene diimide non-fullerene organic solar cells. *Physica Status Solidi A: Applications and Materials Science (Print).* 212: 1961-1968. <http://dx.doi.org/10.1002/pssa.201532102>.
- Chen, Z, hiJun; Wang, L, iMin; Zou, G; Zhang, L; Zhang, GJ, un; Cai, XF, ei; Teng, MS. (2012). Colorimetric and ratiometric fluorescent chemosensor for fluoride ion based on perylene diimide derivatives. *Dyes and Pigments.* 94: 410-415. <http://dx.doi.org/10.1016/j.dyepig.2012.01.024>.
- Cheng, H; Huai, J; Cao, L, i; Li, Z. (2016). Novel self-assembled phosphonic acids monolayers applied in N-channel perylene diimide (PDI) organic field effect transistors. *Appl Surf Sci.* 378: 545-551. <http://dx.doi.org/10.1016/j.apsusc.2016.03.228>.
- Cheng, H, ren; Qian, Y. (2015). Synthesis and intramolecular FRET of perylenediimide-naphthalimide dendrons. *Dyes and Pigments.* 112: 317-326. <http://dx.doi.org/10.1016/j.dyepig.2014.07.005>.
- Cheng, P, ei; Zhao, X; Zhou, W; Hou, J; Li, Y; Zhan, X. (2014). Towards high-efficiency non-fullerene organic solar cells: Matching small molecule/polymer donor/acceptor. *Organic Electronics.* 15: 2270-2276. <http://dx.doi.org/10.1016/j.orgel.2014.06.025>.
- Cheriya, RT; Mallia, AR; Hariharan, M. (2014). Light harvesting vesicular donor-acceptor scaffold limits the rate of charge recombination in the presence of an electron donor. *Energ Environ Sci.* 7: 1661-1669. <http://dx.doi.org/10.1039/c3ee43293a>.

Fate Literature Search Results

Off Topic

- Cheyns, D; Vasseur, K; Rolin, C; Genoe, J; Poortmans, J; Heremans, P. (2008). Nanoimprinted semiconducting polymer films with 50 nm features and their application to organic heterojunction solar cells. *Nanotechnology*. 19: 424016. <http://dx.doi.org/10.1088/0957-4484/19/42/424016>.
- Chiarella, F; Barra, M; Carella, A; Parlato, L; Sarnelli, E; Cassinese, A. (2016). Contact-resistance effects in PDI8-CN2 n-type thin-film transistors investigated by Kelvin-probe potentiometry. *Organic Electronics*. 28: 299-305. <http://dx.doi.org/10.1016/j.orgel.2015.11.009>.
- Chiarella, F; Chianese, F; Barra, M; Parlato, L; Toccoli, T; Cassinese, A. (2016). Spontaneous Wetting Dynamics in Perylene Diimide n-Type Thin Films Deposited at Room Temperature by Supersonic Molecular Beam. *J Phys Chem C*. 120: 26076-26082. <http://dx.doi.org/10.1021/acs.jpcc.6b07310>.
- Chinapang, P; Ruangpornvisuti, V; Sukwattanasinitt, M; Rashatasakhon, P. (2015). Ferrocenyl derivative of 1,8-naphthalimide as a new turn-on fluorescent sensor for Au(III) ion. *Dyes and Pigments*. 112: 236-238. <http://dx.doi.org/10.1016/j.dyepig.2014.07.013>.
- Chiu, TL; Chuang, K, aiH; Lin, C, hiF; Ho, Y, uH; Lee, JH, aw; Chao, CC; Leung, M, anKit; Wan, D, eHui; Li, CY, u; Chen, HL, i. (2009). Low reflection and photo-sensitive organic light-emitting device with perylene diimide and double-metal structure. *Thin Solid Films*. 517: 3712-3716. <http://dx.doi.org/10.1016/j.tsf.2008.12.037>.
- Choi, J, aeH; Kwon, O, htak; Lee, HY; Towns, AD; Yoon, C. (2010). Synthesis and spectroscopic properties of novel phthalimide-derived monoazo disperse dyes containing ester groups. *Color Technol.* 126: 237-242. <http://dx.doi.org/10.1111/j.1478-4408.2010.00252.x>.
- Choi, W; Ko, HC; Moon, B; Lee, H. (2004). Electrochemical deposition of a pyrrole-1-yl substituted perylene diimide for photoluminescence and electrochromism. *J Electrochem Soc*. 151: E80-E83. <http://dx.doi.org/10.1149/1.1640629>.
- Choppawa, T; Sukwattanasinitt, M; Sahasithiwat, S; Ruangpornvisuti, V; Rashatasakhon, P. (2014). Substituent effect on quantum efficiency in 4-aryloxy-N-(2',6'-diisopropylphenyl)-1,8-naphthalimides: Experimental and computational investigations. *Dyes and Pigments*. 109: 175-180. <http://dx.doi.org/10.1016/j.dyepig.2014.05.007>.
- Chou, W, eiY; Lin, Y, iS; Kuo, LL; Liu, SJ; Cheng, HL; Tang, F, uC. (2014). Light sensing in photosensitive, flexible n-type organic thin-film transistors. 2: 626-632. <http://dx.doi.org/10.1039/c3tc31966k>.
- Chung, YC; Yang, K; Choi, J, aeWon; Chun, BC. (2014). Characterisation and application of polyurethane copolymers grafted with photoluminescent dyes. *Color Technol.* 130: 305-313. <http://dx.doi.org/10.1111/cote.12097>.
- Cormier, RA; Gregg, BA. (1998). Synthesis and characterization of liquid crystalline perylene diimides. *Chem Mater*. 10: 1309-1319.
- Coya, C; Luis Alvarez, A; Ramos, M, ar; Gomez, R; Seoane, C; Luis Segura, J. (2012). Highly efficient solution-processed white organic light-emitting diodes based on novel copolymer single layer. *Synthetic Metals*. 161: 2580-2584. <http://dx.doi.org/10.1016/j.synthmet.2011.08.010>.
- Dahan, E; Sundararajan, PR. (2014). Thermo-reversible gelation of rod-coil and coil-rod-coil molecules based on poly(dimethyl siloxane) and perylene imides and self-sorting of the homologous pair. *Soft Matter*. 10: 5337-5349. <http://dx.doi.org/10.1039/c4sm00999a>.
- Dai, G; Chang, J; Wu, J; Chi, C. (2012). Dithieno-naphthalimide based copolymers for air-stable field effect transistors: synthesis, characterization and device performance. *J Mater Chem*. 22: 21201-21209. <http://dx.doi.org/10.1039/c2jm34251k>.
- Dai, S; Lin, Y; Cheng, P, ei; Wang, Y; Zhao, X; Ling, Q; Zhan, X. (2015). Perylene diimide-thienylenevinylene-based small molecule and polymer acceptors for solution-processed fullerene-free organic solar cells. *Dyes and Pigments*. 114: 283-289. <http://dx.doi.org/10.1016/j.dyepig.2014.11.022>.
- Dang, D; Zhi, Y; Wang, X; Zhao, B; Gao, C; Meng, L. (2017). A(1)-A-A(1) type small molecules terminated with naphthalimide building blocks for efficient non-fullerene organic solar cells. *Dyes and Pigments*. 137: 43-49. <http://dx.doi.org/10.1016/j.dyepig.2016.09.059>.
- Davarpanah, S; Mahmoodi, NM; Arami, M; Bahrami, H; Mazaheri, F. (2009). Environmentally friendly surface modification of silk fiber: Chitosan grafting and dyeing. *Appl Surf Sci*. 255: 4171-4176. <http://dx.doi.org/10.1016/j.apsusc.2008.11.001>.
- Davis, NJL, K; Macqueen, RW; Roberts, DA; Danos, A; Dehn, S; Perrier, S; Schmidt, TW. (2016). Energy transfer in pendant perylene diimide copolymers. 4: 8270-8275. <http://dx.doi.org/10.1039/c6tc02555b>.
- de Castro, FL; Santos, JG; Turolla Fernandes, GJ; de Araujo, AS; Fernandes, VJ, Jr; Politi, MJ; Brochszta, S. (2007). Solid state fluorescence of a 3,4,9,10-perylenetetracarboxylic diimide derivative encapsulated in the pores of mesoporous silica MCM-41. *Microporous and Mesoporous Materials*. 102: 258-264. <http://dx.doi.org/10.1016/j.micromeso.2006.12.042>.
- De Los Cobos, O; Fousseret, B; Lejeune, M; Rossignol, F; Dutreih-Colas, M; Carrion, C; Boissiere, C; Ribot, F; Sanchez, C; Cattoen, X; Man, MWC, hi; Durand, JO. (2012). Tunable Multifunctional Mesoporous Silica Microdots Arrays by Combination of Inkjet Printing, EISA, and Click Chemistry. *Chem Mater*. 24: 4337-4342. <http://dx.doi.org/10.1021/cm3022769>.
- De Luca, G; Liscio, A; Melucci, M; Schnitzler, T; Pisula, W; Clark, CG, Jr; Scolaro, LM; Palermo, V; Muellen, K; Samori, P. (2010). Phase separation and affinity between a fluorinated perylene diimide dye and an alkyl-substituted hexa-peri-hexabenzocoronene. *J Mater Chem*. 20: 71-82. <http://dx.doi.org/10.1039/b915484a>.
- Decker, A; Suraru, SL; Rubio-Pons, O; Mankel, E; Bockstedte, M; Thoss, M; Wuerthner, F; Mayer, T; Jaegermann, W. (2011). Toward Functional Inorganic/Organic Hybrids: Phenoxy-allyl-PTCDI Synthesis, Experimentally and Theoretically Determined Properties of the Isolated Molecule, Layer Characteristics, and the Interface Formation of Phenoxy-allyl-PTCDI on Si(111):H Determined by SXPS and DFT. *J Phys Chem C*. 115: 21139-21150. <http://dx.doi.org/10.1021/jp205294h>.
- del Cano, T; Parra, V; Rodriguez-Mendez, ML; Aroca, R; de Saja, JA. (2004). Molecular stacking and emission properties in Langmuir-Blodgett films of two alkyl substituted perylene tetracarboxylic diimides. *Organic Electronics*. 5: 107-114. <http://dx.doi.org/10.1016/j.orgel.2003.11.004>.
- Deng, D, an; Gu, L, i. (2013). Synthesis and characterization of cyclopentadithiophene-based low bandgap copolymers for all-polymer solar cells. *Journal of Materials Science: Materials in Electronics*. 24: 507-513. <http://dx.doi.org/10.1007/s10854-012-0930-3>.

Fate Literature Search Results

Off Topic

- Deng, W; Shen, Y; Qian, J; Cao, Y; Yang, H. (2015). A Perylene Diimide Crystal with High Capacity and Stable Cyclability for Na-Ion Batteries. *ACS Applied Materials & Interfaces*. 7: 21095-21099. <http://dx.doi.org/10.1021/acsmami.5b04325>.
- Díez-Pérez, I; Li, Z; Guo, S; Madden, C; Huang, H; Che, Y; Yang, X; Zang, L; Tao, N. (2012). Ambipolar transport in an electrochemically gated single-molecule field-effect transistor. *ACS Nano*. 6: 7044-7052. <http://dx.doi.org/10.1021/nm302090t>.
- Dimitrov, SD; Durrant, JR. (2014). Materials Design Considerations for Charge Generation in Organic Solar Cells. *Chem Mater*. 26: 616-630. <http://dx.doi.org/10.1021/cm402403z>.
- Dincalp, H; Askar, Z; Zafer, C; Icli, S. (2011). Effect of side chain substituents on the electron injection abilities of unsymmetrical perylene diimide dyes. *Dyes and Pigments*. 91: 182-191. <http://dx.doi.org/10.1016/j.dyepig.2011.03.022>.
- Dincalp, H; Cimen, O; Saltan, GM; Icli, S. (2015). Functionalized bay-substituted perylene diimide additives for inverted organic photovoltaic devices based on P3HT/PCBM. *J Optoelect Adv Mater*. 17: 579-589.
- Dincalp, H; Kizilok, S; Icli, S. (2010). Fluorescent macromolecular perylene diimides containing pyrene or indole units in bay positions. *Dyes and Pigments*. 86: 32-41. <http://dx.doi.org/10.1016/j.dyepig.2009.11.005>.
- Distanov, VB; Berdanova, VF; Gurkalenko, YA; Prezhdo, VV. (2001). An alternative approach to the production of fluorescent colored fibres. *Dyes and Pigments*. 48: 159-163.
- Dodangeh, M; Gharanjik, K; Arami, M. (2014). Synthesis, Characterization, and Photo-Physical Properties of Dendrimers Modified With 1,8-Naphthalimide Derivatives as Novel Fluorescent pH Sensors. *IEEE Sens J*. 14. <http://dx.doi.org/10.1109/JSEN.2014.2319293>.
- Dong, S; Zhang, X; Zhou, Y; Jiang, J; Bian, Y. (2011). Perylene diimide-appended mixed (phthalocyaninato)(porphyrinato) europium(III) double-decker complex: Synthesis, spectroscopy and electrochemical properties. *Dyes and Pigments*. 91: 99-104. <http://dx.doi.org/10.1016/j.dyepig.2011.03.010>.
- dos Santos, ER; Pina, J; Venancio, T; Serpa, C; Martinho, JMG; Carlos, RM. (2016). Photoinduced Energy and Electron-Transfer Reactions by Polypyridine Ruthenium(II) Complexes Containing a Derivatized Perylene Diimide. *J Phys Chem C*. 120: 22831-22843. <http://dx.doi.org/10.1021/acs.jpcc.6b06693>.
- Du, P; Li, C; Li, SF; Zhu, WH; Tian, H. (2003). Novel luminescent metal complexes. *Synthetic Metals*. 137: 1131-1132. [http://dx.doi.org/10.1016/S0379-6779\(02\)00959-1](http://dx.doi.org/10.1016/S0379-6779(02)00959-1).
- Dubey, RK; Efimov, A; Lemmettyinen, H. (2011). 1,7- And 1,6-Regioisomers of Diphenoxyl and Dipyrroldinyl Substituted Perylene Diimides: Synthesis, Separation, Characterization, and Comparison of Electrochemical and Optical Properties. *Chem Mater*. 23: 778-788. <http://dx.doi.org/10.1021/cm1018647>.
- Dutta, AK; Vanoppen, P; Jeuris, K; Grim, PCM; Pevenage, D; Salesse, C; De Schryver, FC. (1999). Spectroscopic, AFM, and NSOM studies of 3D crystallites in mixed Langmuir-Blodgett films of N,N'-bis(2,6-dimethylphenyl) 3,4,9,10-perylenetetracarboxylic diimide and stearic acid. *Langmuir*. 15: 607-612.
- Dwivedi, AK; Pandeeswar, M; Govindaraju, T. (2014). Assembly modulation of PDI derivative as a supramolecular fluorescence switching probe for detection of cationic surfactant and metal ions in aqueous media. 6: 21369-21379. <http://dx.doi.org/10.1021/am5063844>.
- Dworak, L; Matylitsky, VV; Ren, T; Basche, T; Wachtveitl, J. (2014). Acceptor Concentration Dependence of Forster Resonance Energy Transfer Dynamics in Dye-Quantum Dot Complexes. *J Phys Chem C*. 118: 4396-4402. <http://dx.doi.org/10.1021/jp409807x>.
- Echue, G; Hamley, I; Lloyd Jones, GC; Faul, CF. (2016). Chiral Perylene Materials by Ionic Self-Assembly. *Langmuir*. 32: 9023-9032. <http://dx.doi.org/10.1021/acs.langmuir.6b02201>.
- Everett, TA; Higgins, DA. (2009). Electrostatic self-assembly of ordered perylene-diimide/polyelectrolyte nanofibers in fluidic devices: from nematic domains to macroscopic alignment. *Langmuir*. 25: 13045-13051. <http://dx.doi.org/10.1021/la9019298>.
- Everett, TA; Twite, A, myA; Xie, A; Battina, SK; Hua, D, uyH; Higgins, DA. (2006). Preparation and characterization of nanofibrous perylene-diimide - Polyelectrolyte composite thin films. *Chem Mater*. 18: 5937-5943. <http://dx.doi.org/10.1021/cm061695r>.
- Fakis, M; Fitilis, I; Stefanatos, S; Vellis, P; Mikroyannidis, J; Giannetas, V; Persephonis, P. (2009). The photophysics and two-photon absorption of a series of quadrupolar and tribranched molecules: The role of the edge substituent. *Dyes and Pigments*. 81: 63-68. <http://dx.doi.org/10.1016/j.dyepig.2008.08.014>.
- Fan, J; Lin, C; Li, H; Zhan, P; Wang, J; Cui, S; Hu, M; Cheng, G; Peng, X. (2013). A ratiometric lysosomal pH chemosensor based on fluorescence resonance energy transfer. *Dyes and Pigments*. 99: 620-626. <http://dx.doi.org/10.1016/j.dyepig.2013.06.032>.
- Fan, Q; Cheng, K; Yang, Z; Zhang, R; Yang, M; Hu, X; Ma, X; Bu, L; Lu, X; Xiong, X; Huang, W; Zhao, H; Cheng, Z. (2015). Perylene-diimide-based nanoparticles as highly efficient photoacoustic agents for deep brain tumor imaging in living mice. *Adv Mater Deerfield*. 27: 843-847. <http://dx.doi.org/10.1002/adma.201402972>.
- Felip-Leon, C; Diaz-Oltra, S; Galindo, F; Miravet, JF. (2016). Chameleonic, Light Harvesting Photonic Gels Based on Orthogonal Molecular Fibrillization. *Chem Mater*. 28: 7964-7972. <http://dx.doi.org/10.1021/acs.chemmater.6b03137>.
- Feng, X; An, Y; Yao, Z; Li, C; Shi, G. (2012). A turn-on fluorescent sensor for pyrophosphate based on the disassembly of Cu²⁺-mediated perylene diimide aggregates. 4: 614-618. <http://dx.doi.org/10.1021/am201616r>.
- Feng, Y; Feng, W, ei. (2008). Photo-responsive perylene diimide-azobenzene dyad: Photochemistry and its morphology control by self-assembly. *Optical Materials*. 30: 876-880. <http://dx.doi.org/10.1016/j.optmat.2007.03.009>.
- Fernandez-Alonso, S; Corrales, T; Pablos, JL; Catalina, F. (2016). Surface modification of poly(ethylene-butyl acrylate) copolymers by microwave methodology and functionalization with 4-dimethylamino-N-(2-hydroxyethyl)-1,8-naphthalimide for acidity sensing. *React Funct Polym*. 107: 78-86. <http://dx.doi.org/10.1016/j.reactfunctpolym.2016.08.009>.
- Ferreira, R; Remon, P; Pischel, U, we. (2009). Multivalued Logic with a Tristable Fluorescent Switch. *J Phys Chem C*. 113: 5805-5811. <http://dx.doi.org/10.1021/jp809527d>.

Fate Literature Search Results

Off Topic

- Fleming, CL; Ashton, TD; Pfeffer, FM. (2014). Synthesis of 4-amino substituted 1,8-naphthalimide derivatives using palladium-mediated amination. *Dyes and Pigments.* 109: 135-143. <http://dx.doi.org/10.1016/j.dyepig.2014.05.006>.
- Fleming, CL; Nalder, T, imD; Doeven, EH; Barrow, CJ; Pfeffer, FM; Ashton, TD. (2016). Synthesis of N-substituted 4-hydroxynaphthalimides using palladium-catalysed hydroxylation. *Dyes and Pigments.* 126: 118-120. <http://dx.doi.org/10.1016/j.dyepig.2015.11.007>.
- Flors, C; Oesterling, I; Schnitzler, T; Fron, E; Schweitzer, G; Sliwa, M; Herrmann, A; van Der Auweraer, M; de Schryver, FC; Muellen, K; Hofkens, J. (2007). Energy and electron transfer in ethynylene bridged perylene diimide multichromophores. *J Phys Chem C.* 111: 4861-4870. <http://dx.doi.org/10.1021/jp068877t>.
- Frisenda, R; Parlato, L; Barra, M; van Der Zant, HSJ; Cassinese, A. (2015). Single-Molecule Break Junctions Based on a Perylene-Diimide Cyano-Functionalized (PDI8-CN2) Derivative. *Nanoscale Res Lett.* 10: 1011. <http://dx.doi.org/10.1186/s11671-015-1011-3>.
- Fu, Y; Yang, Q; Deng, Y; Jiang, W, ei; Wang, Z; Geng, Y; Xie, Z. (2015). Suppressed charge recombination in polymer solar cells based on perylene diimide derivative acceptors via solvent vapor annealing. *Organic Electronics.* 18: 24-31. <http://dx.doi.org/10.1016/j.orgel.2015.01.008>.
- Fu, Y; Zhang, J; Wang, H; Chen, J, iaLi; Zhao, P; Chen, G, uoR; He, XP. (2016). Intracellular pH sensing and targeted imaging of lysosome by a galactosyl naphthalimide-piperazine probe. *Dyes and Pigments.* 133: 372-379. <http://dx.doi.org/10.1016/j.dyepig.2016.06.022>.
- Fujiki, A; Miyake, Y; Oshikane, Y; Akai-Kasaya, M; Saito, A; Kuwahara, Y. (2011). STM-induced light emission from thin films of perylene derivatives on the HOPG and Au substrates. *Nanoscale Res Lett.* 6: 347. <http://dx.doi.org/10.1186/1556-276X-6-347>.
- Fujiwara, S; Yamamoto, T; Tezuka, Y; Habuchi, S. (2014). Synthesis of core-fluorescent four-armed star and dicyclic 8-shaped poly(THF)s by electrostatic self-assembly and covalent fixation (ESA-CF) protocol. *React Funct Polym.* 80: 3-8. <http://dx.doi.org/10.1016/j.reactfunctpolym.2013.11.007>.
- Gan, J; Chen, KC; Chang, CP; Tian, H. (2003). Luminescent properties and photo-induced electron transfer of naphthalimides with piperazine substituent. *Dyes and Pigments.* 57: 21-28. [http://dx.doi.org/10.1016/S0143-7208\(02\)00162-6](http://dx.doi.org/10.1016/S0143-7208(02)00162-6).
- Gehrig, DW; Roland, S; Howard, I, anA; Kamm, V; Mangold, H; Neher, D; Laquai, F. (2014). Efficiency-Limiting Processes in Low-Bandgap Polymer:Perylene Diimide Photovoltaic Blends. *J Phys Chem C.* 118: 20077-20085. <http://dx.doi.org/10.1021/jp503366m>.
- Geng, Y, un; Li, H, aiBin; Wu, SX; Su, ZM, in. (2012). The interplay of intermolecular interactions, packing motifs and electron transport properties in perylene diimide related materials: a theoretical perspective. *J Mater Chem.* 22: 20840-20851. <http://dx.doi.org/10.1039/c2jm33369d>.
- Georgiev, NI; Asiri, AM; Qusti, AH; Alamry, KA; Bojinov, VB. (2014). A pH sensitive and selective ratiometric PAMAM wavelength-shifting bichromophoric system based on PET, FRET and ICT. *Dyes and Pigments.* 102: 35-45. <http://dx.doi.org/10.1016/j.dyepig.2013.10.007>.
- Georgiev, NI; Bojinov, VB. (2010). The design and synthesis of a novel 1,8-naphthalimide PAMAM light-harvesting dendron with fluorescence "off-on" switching core. *Dyes and Pigments.* 84: 249-256. <http://dx.doi.org/10.1016/j.dyepig.2009.09.013>.
- Georgiev, NI; Bojinov, VB; Nikolov, PS. (2009). Design and synthesis of a novel pH sensitive core and peripherally 1,8-naphthalimide-labeled PAMAM dendron as light harvesting antenna. *Dyes and Pigments.* 81: 18-26. <http://dx.doi.org/10.1016/j.dyepig.2008.08.009>.
- Georgiev, NI; Bojinov, VB; Nikolov, PS. (2011). The design, synthesis and photophysical properties of two novel 1,8-naphthalimide fluorescent pH sensors based on PET and ICT. *Dyes and Pigments.* 88: 350-357. <http://dx.doi.org/10.1016/j.dyepig.2010.08.004>.
- Georgiev, NI; Dimitrova, MD; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Synthesis, sensor activity and logic behaviour of a novel bichromophoric system based on rhodamine 6G and 1,8-naphthalimide. *Dyes and Pigments.* 115: 172-180. <http://dx.doi.org/10.1016/j.dyepig.2015.01.001>.
- Georgiev, NI; Dimitrova, MD; Todorova, YD; Bojinov, VB. (2016). Synthesis, chemosensing properties and logic behaviour of a novel ratiometric 1,8-naphthalimide probe based on ICT and PET. *Dyes and Pigments.* 131: 9-17. <http://dx.doi.org/10.1016/j.dyepig.2016.03.051>.
- Georgiev, NI; Sakr, AR; Bojinov, VB. (2011). Design and synthesis of novel fluorescence sensing perylene diimides based on photoinduced electron transfer. *Dyes and Pigments.* 91: 332-339. <http://dx.doi.org/10.1016/j.dyepig.2011.04.015>.
- Gharanjig, K; Arami, M; Bahrami, H; Movassagh, B; Mahmoodi, NM; Rouhani, S. (2008). Synthesis, spectral properties and application of novel monoazo disperse dyes derived from N-ester-1,8-naphthalimide to polyester. *Dyes and Pigments.* 76: 684-689. <http://dx.doi.org/10.1016/j.dyepig.2007.01.024>.
- Gharanjig, K; Sadeghi-Kiakhani, M; Arami, M; Mahmoodi, NM; Khosravi, A. (2010). Solubilisation kinetics of some monoazo naphthalimide disperse dyes containing butyric acid and investigation of fastness properties of the dyes on polyester. *Color Technol.* 126: 37-41. <http://dx.doi.org/10.1111/j.1478-4408.2010.00225.x>.
- Gharanjig, K; Sadeghi-Kiakhani, M; Tehrani-Bagha, AR; Khosravi, A; Menger, FM. (2011). Solubility of Two Disperse Dyes Derived from N-Alkyl and N-Carboxylic Acid Naphthalimides in the Presence of Gemini Cationic Surfactants. *Journal of Surfactants and Detergents.* 14: 381-389. <http://dx.doi.org/10.1007/s11743-011-1253-8>.
- Giri, D; Ashraf, KM; Collinson, MM; Higgins, DA. (2015). Single-Molecule Perspective on Mass Transport in Condensed Water Layers over Gradient Self-Assembled Monolayers. *J Phys Chem C.* 119: 9418-9428. <http://dx.doi.org/10.1021/acs.jpcc.5b01958>.
- Glaz, MS; Biberdorf, JD; Nguyen, MT; Travis, JJ; Holliday, BJ; Vanden Bout, DA. (2013). Perylene diimide functionalized polynorbornene: a macromolecular scaffold for supramolecular self-assembly. 1: 8060-8065. <http://dx.doi.org/10.1039/c3tc31861c>.
- Gommans, H; Aernouts, T, om; Verreet, B; Heremans, P; Medina, A; Claessens, CG; Torres, T. (2009). Perfluorinated Subphthalocyanine as a New Acceptor Material in a Small-Molecule Bilayer Organic Solar Cell. *Adv Funct Mater.* 19: 3435-3439. <http://dx.doi.org/10.1002/adfm.200900524>.
- Gong, R, ui; Mu, H; Sun, Y; Fang, X; Xue, P; Fu, E. (2013). The first fluorescent sensor for medium-chain fatty acids in water: design, synthesis and sensing properties of an organic-inorganic hybrid material. 1: 2038-2047. <http://dx.doi.org/10.1039/c3tb00355h>.

Fate Literature Search Results

Off Topic

- Gopikrishna, P; Das, D; Iyer, PK. (2015). Synthesis and characterization of color tunable, highly electroluminescent copolymers of polyfluorene by incorporating the N-phenyl-1,8-naphthalimide moiety into the main chain. 3: 9318-9326. <http://dx.doi.org/10.1039/c5tc01899d>.
- Grabchev, I. (1998). Photophysical characteristics of polymerizable 1,8-naphthalimide dyes and their copolymers with styrene or methylmethacrylate. *Dyes and Pigments*. 38: 219-226.
- Grabchev, I; Bojinov, V; Petkov, C. (2001). Synthesis and photophysical properties of polymerizable 1,8-naphthalimide dyes and their copolymers with styrene. *Dyes and Pigments*. 51: 1-8.
- Grabchev, I; Chovelon, JM. (2008). New blue fluorescent sensors for metal cations and protons based on 1,8-naphthalimide. *Dyes and Pigments*. 77: 1-6. <http://dx.doi.org/10.1016/j.dyepig.2007.02.012>.
- Grabchev, I; vo; Dumas, S; Chovelon, JM. (2009). A polyamidoamine dendrimer as a selective colorimetric and ratiometric fluorescent sensor for Li⁺ cations in alkali media. *Dyes and Pigments*. 82: 336-340. <http://dx.doi.org/10.1016/j.dyepig.2009.02.003>.
- Grabchev, I; Konstantinova, T. (1997). Synthesis of some polymerisable 1,8-naphthalimide derivatives for use as fluorescent brighteners. *Dyes and Pigments*. 33: 197-203.
- Grabchev, I; Meallier, P; Konstantinova, T; Popova, M. (1995). SYNTHESIS OF SOME UNSATURATED 1,8-NAPHTHALIMIDE DYES. *Dyes and Pigments*. 28: 41-46.
- Grabchev, I; Moneva, I; Betcheva, R; Elyashevich, G. (2002). Colored microporous polyethylene films: effect of porous structure on dye adsorption. *Mater Res Innovat*. 6: 34-37. <http://dx.doi.org/10.1007/s10019-001-0154-2>.
- Grabchev, I; Moneva, I; Bojinov, V; Guittneau, S. (2000). Synthesis and properties of fluorescent 1,8-naphthalimide dyes for application in liquid crystal displays. *J Mater Chem*. 10: 1291-1296.
- Grabchev, I; Moneva, I; Kozlov, A; Elyashevich, G. (2001). Orientation of pores in microporous polyethylene films as determined by polarized absorption spectroscopy. *Mater Res Innovat*. 4: 301-305.
- Grabchev, I; Petkov, C; Bojinov, V. (2001). Synthesis and absorption properties of some new bis-1,8-naphthalimides. *Dyes and Pigments*. 48: 239-244.
- Grabchev, I; Petkov, C; Bojinov, V. (2002). 1,8-naphthalimides as blue emitting fluorophores for polymer materials. *Macromolecular Materials & Engineering*. 287: 904-908.
- Grabchev, I; Petkov, C; Bojinov, V. (2004). Infrared spectral characterization of poly(amidoamine) dendrimers peripherally modified with 1,8-naphthalimides. *Dyes and Pigments*. 62: 229-234. <http://dx.doi.org/10.1016/j.dyepig.2003.12.004>.
- Grabchev, I; vo; Staneva, D; Chovelon, JM. (2010). Photophysical investigations on the sensor potential of novel, poly(propylenamine) dendrimers modified with 1,8-naphthalimide units. *Dyes and Pigments*. 85: 189-193. <http://dx.doi.org/10.1016/j.dyepig.2009.10.023>.
- Grabtchev, I; Philipova, T; Meallier, P; Guittneau, S. (1996). Influence of substituents on the spectroscopic and photochemical properties of naphthalimide derivatives. *Dyes and Pigments*. 31: 31-34.
- Gregg, BA; Kose, ME. (2008). Reversible Switching between Molecular and Charge Transfer Phases in a Liquid Crystalline Organic Semiconductor. *Chem Mater*. 20: 5235-5239. <http://dx.doi.org/10.1021/cm0800813h>.
- Greiner, R; Schlueter, T; Zgela, D; Langhals, H. (2016). Fluorescent aryl naphthalene dicarboximides with large Stokes shifts and strong solvatochromism controlled by dynamics and molecular geometry. 4: 11244-11252. <http://dx.doi.org/10.1039/c6tc04453k>.
- Grepioni, F; D'Agostino, S; Braga, D; Bertocco, A; Catalano, L; Ventura, B. (2015). Fluorescent crystals and co-crystals of 1,8-naphthalimide derivatives: synthesis, structure determination and photophysical characterization. 3: 9425-9434. <http://dx.doi.org/10.1039/c5tc01518a>.
- Grimaldi, IA; Barra, M; Carella, A; Di Girolamo, FV; Loffredo, F; Minarini, C; Villani, F; Cassinese, A. (2013). Bias stress effects investigated in charge depletion and accumulation regimes for inkjet-printed perylene diimide organic transistors. *Synthetic Metals*. 176: 121-127. <http://dx.doi.org/10.1016/j.synthmet.2013.05.030>.
- Grimaldi, IA; Barra, M; Del Mauro, AD, eG; Loffredo, F; Cassinese, A; Villani, F; Minarini, C. (2012). Inkjet printed perylene diimide based OTFTs: Effect of the solvent mixture and the printing parameters on film morphology. *Synthetic Metals*. 161: 2618-2622. <http://dx.doi.org/10.1016/j.synthmet.2011.08.004>.
- Gross, AJ; Haddad, R; Travelet, C; Reynaud, E; Audebert, P; Borsali, R; Cosnier, S. (2016). Redox-Active Carbohydrate-Coated Nanoparticles: Self-Assembly of a Cyclodextrin-Polystyrene Glycopolymer with Tetrazine-Naphthalimide. *Langmuir*. 32: 11939-11945. <http://dx.doi.org/10.1021/acs.langmuir.6b03512>.
- Gruenewald, M; Kleinlein, J; Syrowatka, F; Wuerthner, F; Molenkamp, LW; Schmidt, G. (2013). Large room-temperature magnetoresistance in lateral organic spin valves fabricated by in situ shadow evaporation. *Organic Electronics*. 14: 2082-2086. <http://dx.doi.org/10.1016/j.orgel.2013.04.049>.
- Gu, P, eiY; Lu, C, aiJ; Hu, Z, hiJun; Li, N, ajun; Zhao, TT; Xu, QF; Xu, QH, ua; Zhang, JD; Lu, JM, ei. (2013). The AIEE effect and two-photon absorption (TPA) enhancement induced by polymerization: synthesis of a monomer with ICT and AIE effects and its homopolymer by ATRP and a study of their photophysical properties. 1: 2599-2606. <http://dx.doi.org/10.1039/c3tc00738c>.
- Guarisco, C; Palmisano, G; Calogero, G; Ciriminna, R; Di Marco, G; Loddo, V; Pagliaro, M; Parrino, F. (2014). Visible-light driven oxidation of gaseous aliphatic alcohols to the corresponding carbonyls via TiO₂ sensitized by a perylene derivative. *Environ Sci Pollut Res Int*. 21: 11135-11141. <http://dx.doi.org/10.1007/s11356-014-2546-z>.
- Gudeika, D; Grazulevicius, JV; Sini, G; Bucinskas, A; Jankauskas, V; Miasojedovas, A; Juršėnas, S. (2014). New derivatives of triphenylamine and naphthalimide as ambipolar organic semiconductors: Experimental and theoretical approach. *Dyes and Pigments*. 106: 58-70. <http://dx.doi.org/10.1016/j.dyepig.2014.02.023>.

Fate Literature Search Results

Off Topic

- Gudeika, D; Grazulevicius, JV; Volyniuk, D; Butkute, R; Juska, G; Miasojedovas, A; Gruodis, A; Jursenas, S. (2015). Structure-properties relationship of the derivatives of carbazole and 1,8-naphthalimide: Effects of the substitution and the linking topology. *Dyes and Pigments.* 114: 239-252. <http://dx.doi.org/10.1016/j.dyepig.2014.11.013>.
- Gudeika, D; Grazulevicius, JV; Volyniuk, D; Juska, G; Jankauskas, V; Sini, G. (2015). Effect of Ethynyl Linkages on the Properties of the Derivatives of Triphenylamine and 1,8-Naphthalimide. *J Phys Chem C.* 119: 28335-28346. <http://dx.doi.org/10.1021/acs.jpcc.5b10163>.
- Gudeika, D; Michaleviciute, A; Grazulevicius, JV; Lygaitis, R; Grigalevicius, S; Jankauskas, V; Miasojedovas, A; Jursenas, S; Sini, G. (2012). Structure Properties Relationship of Donor-Acceptor Derivatives of Triphenylamine and 1,8-Naphthalimide. *J Phys Chem C.* 116: 14811-14819. <http://dx.doi.org/10.1021/jp303172b>.
- Gudeika, D; Reghu, RR; Grazulevicius, JV; Buika, G; Simokaitiene, J; Miasojedovas, A; Jursenas, S; Jankauskas, V. (2013). Electron-transporting naphthalimide-substituted derivatives of fluorene. *Dyes and Pigments.* 99: 895-902. <http://dx.doi.org/10.1016/j.dyepig.2013.07.016>.
- Guillermet, O; Mossyan-Deneux, M; Giorgi, M; Glachant, A; Mossyan, JC. (2006). Structural study of vapour phase deposited 3,4,9,10-perylene tetracarboxylic acid diimide: Comparison between single crystal and ultra thin films grown on Pt(100). *Thin Solid Films.* 514: 25-32. <http://www.sciencedirect.com/science/article/pii/S0040609006002586>.
- Guo, H; Li, Q; Ma, L; Zhao, J. (2012). Fluorene as pi-conjugation linker in N boolean AND N Pt(II) bisacetylide complexes and their applications for triplet-triplet annihilation based upconversion. *J Mater Chem.* 22: 15757-15768. <http://dx.doi.org/10.1039/c2jm32074f>.
- Guo, X, in; Tu, D; Liu, X. (2015). Recent advances in rylene diimide polymer acceptors for all-polymer solar cells. 24: 675-685. <http://dx.doi.org/10.1016/j.jechem.2015.11.003>.
- Guo, XF; Zhang, DQ; Zhu, DB. (2004). Logic control of the fluorescence of a new dyad, spiropyran-perylene diimide-spiropyran, with light, ferric ion, and proton: Construction of a new three-input "AND" logic gate. *Adv Mater Deerfield.* 16: 125-. <http://dx.doi.org/10.1002/adma.200306102>.
- Guo, Y; Zhang, J, i; Yu, G, ui; Zheng, J; Zhang, L, ei; Zhao, Y, an; Wen, Y; Liu, Y. (2012). Lowering programmed voltage of organic memory transistors based on polymer gate electrets through heterojunction fabrication. *Organic Electronics.* 13: 1969-1974. <http://dx.doi.org/10.1016/j.orgel.2012.05.007>.
- Guthrie, JT; Konstantinova, T; Ginova, E. (1997). Polymers of acrylonitrile and the naphthalimide derivatives of some fluorescent dyes. *Dyes and Pigments.* 34: 287-296.
- Hadmojo, WT; Nam, S, oY; Shin, T, aeJoo; Yoon, SC; Jang, SY; Jung, I, nH. (2016). Geometrically controlled organic small molecule acceptors for efficient fullerene-free organic photovoltaic devices. 4: 12308-12318. <http://dx.doi.org/10.1039/c6ta04344e>.
- Haines, C; Chen, M; Ghiggino, KP. (2012). The effect of perylene diimide aggregation on the light collection efficiency of luminescent concentrators. *Solar Energy Materials and Solar Cells.* 105: 287-292. <http://dx.doi.org/10.1016/j.solmat.2012.06.030>.
- Hains, AW; Chen, HY; Reilly, TH; Gregg, BA. (2011). Cross-linked perylene diimide-based n-type interfacial layer for inverted organic photovoltaic devices. 3: 4381-4387. <http://dx.doi.org/10.1021/am201027j>.
- Hamel, M; Simic, V; Normand, S. (2008). Fluorescent 1,8-naphthalimides-containing polymers as plastic scintillators. An attempt for neutron-gamma discrimination. *React Funct Polym.* 68: 1671-1681. <http://dx.doi.org/10.1016/j.reactfunctpolym.2008.09.005>.
- Han, BG; Kim, JS, oo. (2015). The Luminescent Solar Concentrators with the H-aggregate of Perylene Diimide Dye Imbedded into PMMA. *Fibers and Polymers.* 16: 752-760. <http://dx.doi.org/10.1007/s12221-015-0752-z>.
- Han, C; Huang, T; Liu, Q, i; Xu, H; Zhuang, Y; Li, J; Hu, J; Wang, A; Xu, K, ai. (2014). Design and synthesis of a highly sensitive "Turn-On" fluorescent organic nanoprobe for iron(III) detection and imaging. 2: 9077-9082. <http://dx.doi.org/10.1039/c4tc01759e>.
- Hao, L; Xiao, C; Zhang, J; Jiang, W, ei; Xu, W, ei; Wang, Z. (2013). Perpendicularly entangled perylene diimides for high performance electron transport materials. 1: 7812-7818. <http://dx.doi.org/10.1039/c3tc31912a>.
- He, E; Wang, J; Liu, H; He, Z; Zhao, H; Bao, W; Zhang, R; Zhang, H. (2016). Facile synthesis of an isolable and ambient stable bay-substituted perylene diimide radical anion salt and its optical response to base-acid and metal ions. *Journal of Materials Science.* 51: 9229-9238. <http://dx.doi.org/10.1007/s10853-016-0168-1>.
- He, E; Wang, J; Xu, H, ai; He, Z; Wang, H; Zhao, H; Zhang, Y; Zhang, R; Zhang, H. (2016). Facile synthesis of graphene oxide sheet-immobilized perylene diimide radical anion salt and its optical response to different solvents and pH values. *Journal of Materials Science.* 51: 6583-6589. <http://dx.doi.org/10.1007/s10853-016-9885-8>.
- He, Q; Li, T; Yan, C; Liu, Y; Wang, J; Wang, M; Lin, Y; Zhan, X. (2016). Cracking perylene diimide backbone for fullerene-free polymer solar cells. *Dyes and Pigments.* 128: 226-234. <http://dx.doi.org/10.1016/j.dyepig.2016.01.034>.
- He, X; Zhou, W; Li, Y; Liu, X; Li, C; Liu, H; Zhu, D. (2008). Tuning morphology and fluorescence of aggregated nanostructures of derived perylene diimide molecules. *J Nanosci Nanotechnol.* 8: 2005-2010. <http://dx.doi.org/10.1166/jnn.2008.042>.
- Hendsbee, AD; McAfee, SM; Sun, J, onP; McCormick, TM; Hill, I, anG; Welch, GC. (2015). Phthalimide-based pi-conjugated small molecules with tailored electronic energy levels for use as acceptors in organic solar cells. 3: 8904-8915. <http://dx.doi.org/10.1039/c5tc01877c>.
- Hendsbee, AD; Sun, J, onP; Law, W, aiKit; Yan, H, e; Hill, I, anG; Spasyuk, DM; Welch, GC. (2016). Synthesis, Self-Assembly, and Solar Cell Performance of N-Annulated Perylene Diimide Non-Fullerene Acceptors. *Chem Mater.* 28: 7098-7109. <http://dx.doi.org/10.1021/acs.chemmater.6b03292>.
- Hendsbee, AD; Sun, J, onP; Rutledge, LR; Hill, I, anG; Welch, GC. (2014). Electron deficient diketopyrrolopyrrole dyes for organic electronics: synthesis by direct arylation, optoelectronic characterization, and charge carrier mobility. 2: 4198-4207. <http://dx.doi.org/10.1039/c3ta14414c>.
- Herrmann, R; Rennhak, M; Reller, A. (2014). Synthesis and characterization of fluorescence-labelled silica core-shell and noble metal-decorated ceria nanoparticles [Review]. 5: 2413-2423. <http://dx.doi.org/10.3762/bjnano.5.251>.

Fate Literature Search Results

Off Topic

- Ho, Y, uhWen; Yao, W, eiHua. (2009). The synthesis and spectral characteristics of novel 6-(2-substituted-1,3,4-oxadiazol-5-yl)-2-phenylthieno[2,3-d]pyrimidine fluorescent compounds derived from 5-cyano-1,6-dihydro-4-methyl-2-phenyl-6-thioxopyrimidine. *Dyes and Pigments.* 82: 6-12. <http://dx.doi.org/10.1016/j.dyepig.2008.09.014>.
- Hong, K; Kim, S, eH; Yang, C; An, T, aeKyu; Cha, H; Park, C; Park, CE, on. (2011). Photopatternable, highly conductive and low work function polymer electrodes for high-performance n-type bottom contact organic transistors. *Organic Electronics.* 12: 516-519. <http://dx.doi.org/10.1016/j.orgel.2010.12.022>.
- Horowitz, G; Kouki, F; Spearman, P; Fichou, D; Nogues, C; Pan, X; Garnier, F. (1996). Evidence for n-type conduction in a perylene tetracarboxylic diimide derivative. *Adv Mater Deerfield.* 8: 242-&.
- Hosseini, S; Madden, C; Hihath, J; Guo, S; Zang, L; Li, Z. (2016). Single -Molecule Charge Transport and Electrochemical Gating in Redox-Active Perylene Diimide Junctions. *J Phys Chem C.* 120: 22646-22654. <http://dx.doi.org/10.1021/acs.jpcc.6b06229>.
- Hou, J; Zhang, Q; Li, X; Tang, Y; Cao, MR; Bai, F; Shi, Q; Yang, CH; Kong, DL; Bai, G. (2011). Synthesis of novel folate conjugated fluorescent nanoparticles for tumor imaging. *J Biomed Mater Res A.* 99: 684-689. <http://dx.doi.org/10.1002/jbm.a.33187>.
- Hou, R, an; Feng, S; Gong, X, ue; Liu, Y; Zhang, J; Li, C; Bo, Z. (2016). Side chain effect of nonfullerene acceptors on the photovoltaic performance of wide band gap polymer solar cells. *Synthetic Metals.* 220: 578-584. <http://dx.doi.org/10.1016/j.synthmet.2016.07.015>.
- Hou, X; Yu, Q; Zeng, F; Ye, J; Wu, S. (2015). A ratiometric fluorescent probe for in vivo tracking of alkaline phosphatase level variation resulting from drug-induced organ damage. 3: 1042-1048. <http://dx.doi.org/10.1039/c4tb01744g>.
- Houari, Y; Laurent, AD; Jacquemin, D. (2013). Spectral Signatures of Perylene Diimide Derivatives: Insights From Theory. *J Phys Chem C.* 117: 21682-21691. <http://dx.doi.org/10.1021/jp407104m>.
- Hsu, Y, uYi; Yeh, SC; Lin, SH; Chen, CT, i; Tung, SH; Jeng, R, wJ. (2016). Dendrons with urea/malonamide linkages for gate insulators of n-channel organic thin film transistors. *React Funct Polym.* 108: 86-93. <http://dx.doi.org/10.1016/j.reactfunctpolym.2016.05.008>.
- Hu, C; Zhu, WH; Lin, WQ; Tian, H. (1999). Synthesis and luminescence of novel emitting copolymers. *Synthetic Metals.* 102: 1129-1130.
- Hu, G; Lv, L; Li, L; Zhang, Q; Li, X; Tian, Y; Wu, J; Jin, B; Zhou, H; Yang, J; Zhang, S. (2011). Design, synthesis, photoluminescence and electrochemiluminescence properties of naphthalimide derivative and its silver complex. *Dyes and Pigments.* 89: 105-110. <http://dx.doi.org/10.1016/j.dyepig.2010.09.011>.
- Hu, JC; Kuang, WF; Deng, K; Zou, WJ; Huang, YW; Wei, ZX; Faul, CFJ. (2012). Self-Assembled Sugar-Substituted Perylene Diimide Nanostructures with Homochirality and High Gas Sensitivity. *Adv Funct Mater.* 22: 4149-4158. <http://dx.doi.org/10.1002/adfm.201200973>.
- Hu, X; Zuo, L; Pan, H; Hao, F; Pan, J; Fu, L, ei; Shi, M; Chen, H. (2012). Synthesis and photovoltaic properties of n-type conjugated polymers alternating 2,7-carbazole and arylene diimides. *Solar Energy Materials and Solar Cells.* 103: 157-163. <http://dx.doi.org/10.1016/j.solmat.2012.04.041>.
- Hu, Y; Chen, L; Jung, H; Zeng, Y; Lee, S; Swamy, KMK; Zhou, X, in; Kim, M; Yoon, J. (2016). Effective Strategy for Colorimetric and Fluorescence Sensing of Phosgene Based on Small Organic Dyes and Nanofiber Platforms. *ACS Applied Materials & Interfaces.* 8: 22246-22252. <http://dx.doi.org/10.1021/acsami.6b07138>.
- Hu, Y; Wang, K; Zhang, Q; Li, F; Wu, T; Niu, L. (2012). Decorated graphene sheets for label-free DNA impedance biosensing. *Biomaterials.* 33: 1097-1106. <http://dx.doi.org/10.1016/j.biomaterials.2011.10.045>.
- Hu, Y; Zeng, F. (2017). A theranostic prodrug based on FRET for real-time drug release monitoring in response to biothiols. *Mater Sci Eng C.* 72: 77-85. <http://dx.doi.org/10.1016/j.msec.2016.11.056>.
- Hu, Z; Xu, R; Dong, S; Lin, K, ai; Liu, J; Huang, F, ei; Cao, Y. (2017). Quaternisation-polymerized N-type polyelectrolytes: synthesis, characterisation and application in high-performance polymer solar cells. 4: 88-97. <http://dx.doi.org/10.1039/c6mh00434b>.
- Huang, C; Sartin, MM; Siegel, N; Cozzuol, M; Zhang, Y; Hales, JM; Barlow, S; Perry, JW; Marder, SR. (2011). Photo-induced charge transfer and nonlinear absorption in dyads composed of a two-photon-absorbing donor and a perylene diimide acceptor. *J Mater Chem.* 21: 16119-16128. <http://dx.doi.org/10.1039/c1jm12566d>.
- Huang, J; Wang, X; Zhang, X; Niu, Z; Lu, Z; Jiang, B; Sun, Y; Zhan, C; Yao, J. (2014). Additive-assisted control over phase-separated nanostructures by manipulating alkylthienyl position at donor backbone for solution-processed, non-fullerene, all-small-molecule solar cells. 6: 3853-3862. <http://dx.doi.org/10.1021/am406050j>.
- Huang, L; Zhu, F; Liu, C; Wang, H; Geng, Y; Yan, D. (2010). Heteroepitaxy growth high performance films of perylene diimide derivatives. *Organic Electronics.* 11: 195-201. <http://dx.doi.org/10.1016/j.orgel.2009.10.014>.
- Huang, W; Markwart, JC; Briseno, AL; Hayward, RC. (2016). Orthogonal Ambipolar Semiconductor Nanostructures for Complementary Logic Gates. *ACS Nano.* 10: 8610-8619. <http://dx.doi.org/10.1021/acsnano.6b03942>.
- Huang, X; Fang, Y, i; Li, X, in; Xie, Y; Zhu, W. (2011). Novel dyes based on naphthalimide moiety as electron acceptor for efficient dye-sensitized solar cells. *Dyes and Pigments.* 90: 297-303. <http://dx.doi.org/10.1016/j.dyepig.2011.01.010>.
- Hussain, M; Shamey, R; Hinks, D; El-Shafei, A; Ali, SI. (2012). Synthesis of novel stilbene-alkoxysilane fluorescent brighteners, and their performance on cotton fiber as fluorescent brightening and ultraviolet absorbing agents. *Dyes and Pigments.* 92: 1231-1240. <http://dx.doi.org/10.1016/j.dyepig.2011.06.034>.
- Hwang, Y, ejin; Courtright, BAE; Jenekhe, SA. (2015). Ternary blend all-polymer solar cells: enhanced performance and evidence of parallel-like bulk heterojunction mechanism. 5: 229-234. <http://dx.doi.org/10.1557/mrc.2015.36>.
- Ichikawa, M; Deguchi, S; Onoguchi, T; Jeon, HG, u; Banoukepa, G, deR. (2013). N,N'-diphenylperylene diimide functioning as a sensitizing light absorber based on excitation transfer for organic thin-film solar cells. *Organic Electronics.* 14: 464-468. <http://dx.doi.org/10.1016/j.orgel.2012.12.004>.
- Icli, S; Icil, H; Gurol, I. (1997). High rates of fluorescence quenching between perylene dodecyldiimide and certain pi-electron donors. *Turkish Journal of Chemistry.* 21: 363-368.

Fate Literature Search Results

Off Topic

- Im, P; Kang, D; Kim, D; Choi, Y; Yoon, W; Lee, MH; Lee, I, nH; Lee, CR, o; Jeong, KU, n. (2016). Flexible and Patterned Thin Film Polarizer: Photopolymerization of Perylene-based Lyotropic Chromonic Reactive Mesogens. *ACS Applied Materials & Interfaces*. 8: 762-771. <http://dx.doi.org/10.1021/acsmami.5609995>.
- Inal, S; Koelsch, JD; Chiappisi, L; Janietz, D; Gradzielski, M; Laschewsky, A; Neher, D. (2013). Structure-related differences in the temperature-regulated fluorescence response of LCST type polymers. 1: 6603-6612. <http://dx.doi.org/10.1039/c3tc31304b>.
- Iverson, IK; Casey, SM; Seo, W; Tam-Chang, SW; Pindzola, BA. (2002). Controlling molecular orientation in solid films via self-organization in the liquid-crystalline phase. *Langmuir*. 18: 3510-3516. <http://dx.doi.org/10.1021/la011499t>.
- Iwan, A; Schab-Balcerzak, E, wa; Siwy, M; Sikora, A; Palewicz, M; Janecek, H; Sibinski, M. (2011). New aliphatic-aromatic tetraphenylphthalic-based diimides: Thermal, optical and electrical study. *Optical Materials*. 33: 958-967. <http://dx.doi.org/10.1016/j.optmat.2010.12.017>.
- Jafari, S; Khosravi, A; Gharanjig, K; Moradian, S; Pourmahdian, S. (2014). A NOVEL UTILISATION OF PRINCIPAL COMPONENT ANALYSIS TO OPTIMISE SORPTION ISOTHERMS AND DETERMINE DIFFUSION COEFFICIENTS OF FIVE NAPHTHALIMIDE DISPERSE DYES ON POLYESTER FIBRES. *Can J Chem Eng*. 92: 553-562. <http://dx.doi.org/10.1002/cjce.21852>.
- Jang, J; Nam, S; Chung, D; Kim, S, eh; Yun, W; Park, C. (2010). High T-g Cyclic Olefin Copolymer Gate Dielectrics for N,N'-Ditridecyl Perylene Diimide Based Field-Effect Transistors: Improving Performance and Stability with Thermal Treatment. *Adv Funct Mater*. 20: 2611-2618. <http://dx.doi.org/10.1002/adfm.201000383>.
- Jang, J; Nam, S; Yun, W, onMin; Yang, C; Hwang, J; An, T, aeKyu; Chung, D, aeS; Park, CE, on. (2011). High T-g cyclic olefin copolymer/Al₂O₃ bilayer gate dielectrics for flexible organic complementary circuits with low-voltage and air-stable operation. *J Mater Chem*. 21: 12542-12546. <http://dx.doi.org/10.1039/c1jm11544h>.
- Jarczyk-Jedryka, A; Bijak, K; Sek, D; Siwy, M; Filapek, M; Malecki, G; Kula, S; Lewinska, G; Nowak, EM; Sanetra, J; Janecek, H; Smolarek, K; Mackowski, S; Schab-Balcerzak, E, wa. (2015). Unsymmetrical and symmetrical azines toward application in organic photovoltaic. *Optical Materials*. 39: 58-68. <http://dx.doi.org/10.1016/j.optmat.2014.10.065>.
- Jaunet-Lahary, T; Jacquemin, D; Legouin, B; Le Questel, JY; Cupif, JF; Toupet, L; Uriac, P; Graton, J. (2015). Dissymmetric Molecular Tweezers in Host-Guest Complexes: Internal or External Complexation? *J Phys Chem C*. 119: 3771-3779. <http://dx.doi.org/10.1021/jp511418d>.
- Jeon, HG, u; Oguma, N; Hirata, N; Ichikawa, M. (2013). Wet-processed n-type OTFTs utilizing highly-stable colloids of a perylene diimide derivative. *Organic Electronics*. 14: 19-25. <http://dx.doi.org/10.1016/j.orgel.2012.10.024>.
- Jeong, YJ; Jang, J; Nam, S; Kim, K; Kim, LH; Park, S; An, TK; Park, CE. (2014). High-performance organic complementary inverters using monolayer graphene electrodes. 6: 6816-6824. <http://dx.doi.org/10.1021/am500618g>.
- Jia, T; Fu, C; Huang, C; Yang, H; Jia, N. (2015). Highly sensitive naphthalimide-based fluorescence polarization probe for detecting cancer cells. 7: 10013-10021. <http://dx.doi.org/10.1021/acsmami.5b02429>.
- Jia, Y; Li, P; Song, W; Zhao, G; Zheng, D; Li, D; Wang, Y; Wang, J; Li, C; Han, K. (2016). Rational Design of a Profluorescent Substrate for S-adenosylhomocysteine Hydrolase and its Applications in Bioimaging and Inhibitor Screening. 8: 25818-25824. <http://dx.doi.org/10.1021/acsmami.6b09190>.
- Jiang, H; Hershtig, G; Richter, S; Jelinek, R. (2016). Light-Induced Conductivity in a Solution-Processed Film of Polydiacetylene and Perylene Diimide. *Journal of Physical Chemistry Letters*. 7: 1628-1631. <http://dx.doi.org/10.1021/acs.jpclett.6b00690>.
- Jiang, W, ei; Sun, Y; Wang, X; Wang, Q, i; Xu, W. (2008). Synthesis and photochemical properties of novel 4-diarylamine-1,8-naphthalimide derivatives. *Dyes and Pigments*. 77: 125-128. <http://dx.doi.org/10.1016/j.dyepig.2007.03.017>.
- Jiang, W, ei; Tang, J; Qi, Q, i; Sun, Y; Ye, H; Fu, D. (2009). An experimental and computational study of intramolecular charge transfer: Diarylamino derivatives of 7H-benzimidazo(2,1-a)benz(d,e)isoquinolin-7-ones. *Dyes and Pigments*. 80: 279-286. <http://dx.doi.org/10.1016/j.dyepig.2008.07.009>.
- Jiang, W, ei; Tang, J; Qi, Q, i; Wu, W; Sun, Y; Fu, D. (2009). The synthesis, crystal structure and photophysical properties of three novel naphthalimide dyes. *Dyes and Pigments*. 80: 11-16. <http://dx.doi.org/10.1016/j.dyepig.2008.04.005>.
- Jiang, XZ; Liu, YQ; Tian, H; Qiu, WF; Song, XQ; Zhu, DB. (1997). An electroluminescent device made with a new fluorescent dye containing 1,3,4-oxadiazole. *J Mater Chem*. 7: 1395-1398.
- Jiang, Y; Geng, H; Shi, W; Peng, Q; Zheng, X; Shuai, Z. (2014). Theoretical Prediction of Isotope Effects on Charge Transport in Organic Semiconductors. *Journal of Physical Chemistry Letters*. 5: 2267-2273. <http://dx.doi.org/10.1021/jz500825q>.
- Jin, J, iY; Kim, YM, o; Lee, SH, ee; Lee, YS, ik. (2009). Synthesis of an acrylic copolymer bearing fluorescent dye pendants and characterization as a luminescence conversion material in fabrication of a luminescence conversion light-emitting diode. *Synthetic Metals*. 159: 1804-1808. <http://dx.doi.org/10.1016/j.synthmet.2009.05.030>.
- Jin, Q; Feng, L; Wang, DD; Dai, ZR; Wang, P; Zou, LW; Liu, ZH; Wang, JY; Yu, Y; Ge, GB; Cui, JN; Yang, L. (2015). A Two-Photon Ratiometric Fluorescent Probe for Imaging Carboxylesterase 2 in Living Cells and Tissues. 7: 28474-28481. <http://dx.doi.org/10.1021/acsmami.5b09573>.
- Jin, W; Wu, L; Song, Y; Jiang, J; Zhu, X; Yang, D; Bai, C. (2011). Continuous intra-arterial blood pH monitoring by a fiber-optic fluorosensor. *IEEE Trans Biomed Eng*. 58: 1232-1238. <http://dx.doi.org/10.1109/TBME.2011.2107514>.
- Jones, BA; Facchetti, A; Wasielewski, MR; Marks, TJ. (2008). Effects of arylene diimide thin film growth conditions on n-channel OFET performance. *Adv Funct Mater*. 18: 1329-1339. <http://dx.doi.org/10.1002/adfm.200701045>.
- Jung, I, nH; Zhao, D; Jang, J; Chen, W, ei; Landry, ES; Lu, L; Talapin, DV; Yu, L. (2015). Development and Structure/Property Relationship of New Electron Accepting Polymers Based on Thieno[2 '3 ':4,5]pyrido[2,3-g]thieno[3,2-c]quinoline-4,10-dione for All-Polymer Solar Cells. *Chem Mater*. 27: 5941-5948. <http://dx.doi.org/10.1021/acs.chemmater.5b01928>.
- Kaji, T; Yamada, T; Ueda, R; Otomo, A. (2011). Enhanced Fluorescence Emission from Single Molecules on a Two-Dimensional Photonic Crystal Slab with Low Background Emission. *Journal of Physical Chemistry Letters*. 2: 1651-1656. <http://dx.doi.org/10.1021/jz2006989>.

Fate Literature Search Results

Off Topic

- Kalita, A; Hussain, S; Malik, AH; Subbarao, NVV; Iyer, PK. (2015). Vapor phase sensing of ammonia at the sub-ppm level using a perylene diimide thin film device. 3: 10767-10774. <http://dx.doi.org/10.1039/c5tc02521d>.
- Kamm, V; Battaglia, G; Howard, I, anA; Pisula, W; Mavrinsky, A; Li, C; Muellen, K; Laquai, F. (2011). Polythiophene:Perylene Diimide Solar Cells - the Impact of Alkyl-Substitution on the Photovoltaic Performance. 1: 297-302. <http://dx.doi.org/10.1002/aenm.201000006>.
- Kampen, TU; Salvan, G; Paraian, A; Himcinschi, C; Kobitski, AY; Friedrich, M; Zahn, DRT. (2003). Orientation of perylene derivatives on semiconductor surfaces. *Appl Surf Sci.* 212: 501-507. [http://dx.doi.org/10.1016/S0169-4332\(03\)00390-8](http://dx.doi.org/10.1016/S0169-4332(03)00390-8).
- Karamancheva, I; Tadjer, A; Philipova, T; Madjarova, G; Ivanova, C; Grozeva, T. (1998). Calculated and experimental spectra of some 1,8-naphthalimide derivatives. *Dyes and Pigments.* 36: 273-285.
- Kaunisto, KM; Vivo, P; Dubey, RK; Chukharev, VI; Efimov, A; Tkachenko, NV; Lemmettyinen, HJ. (2014). Charge-Transfer Dynamics in Poly(3-hexylthiophene):Perylenediimide-C-60 Blend Films Studied by Ultrafast Transient Absorption. *J Phys Chem C.* 118: 10625-10630. <http://dx.doi.org/10.1021/jp501605k>.
- Keivanidis, PE; Ho, PKH; Friend, RH; Greenham, NC. (2010). The Dependence of Device Dark Current on the Active-Layer Morphology of Solution-Processed Organic Photodetectors. *Adv Funct Mater.* 20: 3895-3903. <http://dx.doi.org/10.1002/adfm.201000967D>.
- Keivanidis, PE; Kamm, V; Zhang, W; Floudas, G; Laquai, F; Mcculloch, I; Bradley, DDC; Nelson, J. (2012). Correlating Emissive Non-Geminate Charge Recombination with Photocurrent Generation Efficiency in Polymer/Perylene Diimide Organic Photovoltaic Blend Films. *Adv Funct Mater.* 22: 2318-2326. <http://dx.doi.org/10.1002/adfm.201102871>.
- Khosravi, A; Moradian, S; Gharanjig, K; Taromi, FA. (2006). Synthesis and spectroscopic studies of some naphthalimide based disperse azo dyestuffs for the dyeing of polyester fibres. *Dyes and Pigments.* 69: 79-92. <http://dx.doi.org/10.1016/j.dyepig.2005.02.007>.
- Kiakhani, MS; Arami, M; Gharanjig, K; Mokhtari, J; Mahmoodi, NM. (2009). Synthesis and Evaluation of a Series of Novel Monoazo Disperse Dyes Derived from N-carboxylic Acid-1,8-naphthalimide on Poly(ethylene terphthalate). *Fibers and Polymers.* 10: 446-451. <http://dx.doi.org/10.1007/s12221-009-0446-5>.
- Kim, BJ; Yu, H; Oh, JH, ak; Kang, MS; Cho, JH, o. (2013). Electrical Transport through Single Nanowires of Dialkyl Perylene Diimide. *J Phys Chem C.* 117: 10743-10749. <http://dx.doi.org/10.1021/jp400807t>.
- Kim, I; Jabbour, GE. (2012). Effect of annealing on bulk heterojunction organic solar cells based on copper phthalocyanine and perylene derivative. *Synthetic Metals.* 162: 102-106. <http://dx.doi.org/10.1016/j.synthmet.2011.11.018>.
- Kim, JY; Chung, IJ; Lee, G; Kim, YC; Kim, JK; Yu, JW. (2005). Mobility of electrons and holes in an n-type organic semiconductor perylene diimide thin film. *Curr Appl Phys.* 5: 615-618. <http://dx.doi.org/10.1016/j.cap.2004.08.007>.
- Kim, K; An, T, aeKyu; Kim, J; Jeong, YJ, in; Jang, J; Kim, H; Baek, JY; Kim, Y, unHi; Kim, S, eH; Park, CE, on. (2014). Grafting Fluorinated Polymer Nano layer for Advancing the Electrical Stability of Organic Field-Effect Transistors. *Chem Mater.* 26: 6467-6476. <http://dx.doi.org/10.1021/cm5030266>.
- Kim, M, inSoo; Chang, J, iY. (2011). Preparation of multifunctional mesoporous silica particles: the use of an amphiphilic silica precursor with latent amine functionality in selective functionalization of the inner surface. *J Mater Chem.* 21: 8766-8771. <http://dx.doi.org/10.1039/c1jm10440c>.
- Kim, MH, ee; Cho, M, inJu; Kim, KH; Hoang, M, aiHa; Lee, T, aeWan; Jin, JI, I; Kang, N, amSu; Yu, J, aeW; Choi, DH. (2009). Organic donor-sigma-acceptor molecules based on 1,2,4,5-tetrakis((E)-2-(5'-hexyl-2,2'-bithiophen-5-yl)vinyl)benzene and perylene diimide derivative and their application to photovoltaic devices. *Organic Electronics.* 10: 1429-1441. <http://dx.doi.org/10.1016/j.orgel.2009.08.004>.
- Kim, YY; Ree, BJ; Kido, M; Ko, YG, i; Ishige, R; Hirai, T; Wi, D; Kim, J; Kim, W, onJ; Takahara, A; Ree, M. (2015). High-Performance n-Type Electrical Memory and Morphology-Induced Memory-Mode Tuning of a Well-Defined Brush Polymer Bearing Perylene Diimide Moieties. 1. <http://dx.doi.org/10.1002/aelm.201500197>.
- Kira, A; Umeyama, T; Matano, Y; Yoshida, K; Isoda, S; Isosomppi, M; Tkachenko, NV; Lemmettyinen, H; Imahori, H. (2006). Structure and photoelectrochemical properties of phthalocyanine and perylene diimide composite clusters deposited electrophoretically on nanostructured SnO₂ electrodes. *Langmuir.* 22: 5497-5503. <http://dx.doi.org/10.1021/la0533314>.
- Kirner, JT; Stracke, JJ; Gregg, BA; Finke, RG. (2014). Visible-light-assisted photoelectrochemical water oxidation by thin films of a phosphonate-functionalized perylene diimide plus CoOx cocatalyst. 6: 13367-13377. <http://dx.doi.org/10.1021/am405598w>.
- Kisnisci, Z; Yuksel, OF; Kus, M. (2014). Optical properties of perylene-monoimide (PMI) and perylene-diimide (PDI) organic semiconductor thin films. *Synthetic Metals.* 194: 193-197. <http://dx.doi.org/10.1016/j.synthmet.2014.05.003>.
- Konstantinova, T; Spirieva, A; Petkova, T. (2000). The synthesis, properties and application of some 1,8-naphthalimide dyes. *Dyes and Pigments.* 45: 125-129.
- Konstantinova, TN; Lazarova, RA. (2007). Synthesis of some polymerizable triazinylaminobenzotriazole stabilizers and benzanthrone dyes containing a stabilizer fragment. *Dyes and Pigments.* 74: 208-214. <http://dx.doi.org/10.1016/j.dyepig.2006.01.035>.
- Konstantinova, TN; Meallier, P; Grabchev, I. (1993). THE SYNTHESIS OF SOME 1,8-NAPHTHALIC ANHYDRIDE DERIVATIVES AS DYES FOR POLYMERIC MATERIALS. *Dyes and Pigments.* 22: 191-198.
- Kotowski, D; Luzzati, S; Scavia, G; Cavazzini, M; Bossi, A; Catellani, M; Kozma, E. (2015). The effect of perylene diimides chemical structure on the photovoltaic performance of P3HT/perylene diimides solar cells. *Dyes and Pigments.* 120: 57-64. <http://dx.doi.org/10.1016/j.dyepig.2015.04.006>.
- Kováčik, J; Babula, P; Hedbavny, J; Kryštofová, O; Provazník, I. (2015). Physiology and methodology of chromium toxicity using alga *Scenedesmus quadricauda* as model object. *Chemosphere.* 120: 23-30. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.074>.
- Kovacik, J; Babula, P; Klejdus, B; Hedbavny, J. (2013). Chromium Uptake and Consequences for Metabolism and Oxidative Stress in Chamomile Plants. *J Agric Food Chem.* 61: 7864-7873. <http://dx.doi.org/10.1021/jf401575a>.

Fate Literature Search Results

Off Topic

- Koyuncu, FB; Koyuncu, S; Ozdemir, E. (2011). A new donor-acceptor carbazole derivative: Electrochemical polymerization and photo-induced charge transfer properties. *Synthetic Metals*. 161: 1005-1013. <http://dx.doi.org/10.1016/j.synthmet.2011.03.008>.
- Kozma, E; Catellani, M. (2013). Perylene diimides based materials for organic solar cells. *Dyes and Pigments*. 98: 160-179. <http://www.sciencedirect.com/science/article/pii/S014372081300034X>.
- Kozma, E; Grisci, G; Mroz, W; Catellani, M; Eckstein-Andicsova, A; Pagano, K; Galeotti, F. (2016). Water-soluble aminoacid functionalized perylene diimides: The effect of aggregation on the optical properties in organic and aqueous media. *Dyes and Pigments*. 125: 201-209. <http://dx.doi.org/10.1016/j.dyepig.2015.10.019>.
- Kozma, E; Kotowski, D; Catellani, M; Luzzati, S; Famulari, A; Bertini, F. (2013). Synthesis and characterization of new electron acceptor perylene diimide molecules for photovoltaic applications. *Dyes and Pigments*. 99: 329-338. <http://dx.doi.org/10.1016/j.dyepig.2013.05.011>.
- Kozma, E; Mroz, W; Galeotti, F. (2015). A polystyrene bearing perylene diimide pendants with enhanced solid state emission for white hybrid light-emitting diodes. *Dyes and Pigments*. 114: 138-143. <http://dx.doi.org/10.1016/j.dyepig.2014.11.009>.
- Kozma, E; Munno, F; Kotowski, D; Bertini, F; Luzzati, S; Catellani, M. (2010). Synthesis and characterization of perylene-based donor-acceptor copolymers containing triple bonds. *Synthetic Metals*. 160: 996-1001. <http://dx.doi.org/10.1016/j.synthmet.2010.02.015>.
- Krause, S; Neumann, M; Froebe, M; Magerle, R; von Borczyskowski, C. (2016). Monitoring Nanoscale Deformations in a Drawn Polymer Melt with Single-Molecule Fluorescence Polarization Microscopy. *ACS Nano*. 10: 1908-1917. <http://dx.doi.org/10.1021/acsnano.5b05729>.
- Krlitz, A; Loeser, C; Mohr, GJ; Trupp, S. (2012). Covalent immobilization of a fluorescent pH-sensitive naphthalimide dye in sol-gel films. *Journal of Sol-Gel Science and Technology*. 63: 23-29. <http://dx.doi.org/10.1007/s10971-012-2757-z>.
- Kukhta, A; Kolesnik, E; Taoubi, M; Drozdova, D; Prokopchuk, N. (2001). Polynaphthalimide is a new polymer for organic electroluminescence devices. *Synthetic Metals*. 119: 129-130.
- Kumar, PSV; Suresh, L; Bhargavi, G; Basavoju, S; Chandramouli, GVP. (2015). Ionic Liquid-Promoted Green Protocol for the Synthesis of Novel Naphthalimide-Based Acridine-1,8-dione Derivatives via a Multicomponent Approach. 3: 2944-2950. <http://dx.doi.org/10.1021/acssuschemeng.5b00900>.
- Kumarasinghe, R; Higgins, ED; Ito, T; Higgins, DA. (2016). Spectroscopic and Polarization-Dependent Single-Molecule Tracking Reveal the One-Dimensional Diffusion Pathways in Surfactant-Templated Mesoporous Silica. *J Phys Chem C*. 120: 715-723. <http://dx.doi.org/10.1021/acs.jpcc.5b10152>.
- Kwon, O, hKy; Park, JH, wa; Park, S, ooY. (2016). An efficient nonfullerene acceptor for all-small-molecule solar cells with versatile processability in environmentally benign solvents. *Organic Electronics*. 30: 105-111. <http://dx.doi.org/10.1016/j.orgel.2015.12.017>.
- Kwon, O, hKy; Park, JH, wa; Park, SK, yu; Park, S, ooY. (2015). Soluble Dicyanodistyrylbenzene-Based Non-Fullerene Electron Acceptors with Optimized Aggregation Behavior for High-Efficiency Organic Solar Cells. 5. <http://dx.doi.org/10.1002/aenm.201400929>.
- Lambrecht, J; Saragi, TPI; Salbeck, J. (2011). Self-assembled organic micro-/nanowires from an air stable n-semiconducting perylenediimide derivative as building blocks for organic electronic devices. *J Mater Chem*. 21: 18266-18270. <http://dx.doi.org/10.1039/c1jm13998c>.
- Lebegue, E; Benoit, C; Brousse, T; Gaubicher, J; Cougnon, C. (2015). Effect of the Porous Texture of Activated Carbons on the Electrochemical Properties of Molecule-Grafted Carbon Products in Organic Media. *J Electrochem Soc*. 162: A2289-A2295. <http://dx.doi.org/10.1149/2.0481512jes>.
- Lebegue, E; Brousse, T; Gaubicher, J; Retoux, R; Cougnon, C. (2014). Toward fully organic rechargeable charge storage devices based on carbon electrodes grafted with redox molecules. 2: 8599-8602. <http://dx.doi.org/10.1039/c4ta00853g>.
- Lee, M; Jo, S; Lee, D; Xu, Z; Yoon, J. (2015). A new naphthalimide derivative as a selective fluorescent and colorimetric sensor for fluoride, cyanide and CO₂. *Dyes and Pigments*. 120: 288-292. <http://dx.doi.org/10.1016/j.dyepig.2015.04.029>.
- Lee, MH; Dunietz, BD; Geva, E. (2013). Calculation from First Principles of Intramolecular Golden-Rule Rate Constants for Photo-Induced Electron Transfer in Molecular Donor- Acceptor Systems. *J Phys Chem C*. 117: 23391-23401. <http://dx.doi.org/10.1021/jp4081417>.
- Li, C; Liu, S. (2010). Responsive nanogel-based dual fluorescent sensors for temperature and Hg²⁺ ions with enhanced detection sensitivity. *J Mater Chem*. 20: 10716-10723. <http://dx.doi.org/10.1039/c0jm01828g>.
- Li, C; Zhang, A; Feng, G; Yang, F, an; Jiang, X; Yu, Y; Xia, D; Li, W. (2016). A systematical investigation of non-fullerene solar cells based on dipytopyrrolopyrrole polymers as electron donor. *Organic Electronics*. 35: 112-117. <http://dx.doi.org/10.1016/j.orgel.2016.05.011>.
- Li, D; Munyentwali, A; Wang, G; Zhang, M; Xing, S. (2015). Light and temperature responsive block copolymer assemblies with tunable fluorescence emissions. *Dyes and Pigments*. 117: 92-99. <http://dx.doi.org/10.1016/j.dyepig.2015.02.009>.
- Li, DX; Zhang, JF; Jang, YH; Jang, YJ; Kim, DH; Kim, JS. (2012). Plasmonic-coupling-based sensing by the assembly and disassembly of dipicolylamine-tagged gold nanoparticles induced by complexing with cations and anions. *Small*. 8: 1442-1448. <http://dx.doi.org/10.1002/smll.201102335>.
- Li, H, ua; Li, N; Sun, R, u; Gu, H; Ge, J; Lu, J; Xu, Q; Xia, X; Wang, L. (2011). Dynamic Random Access Memory Devices Based on Functionalized Copolymers with Pendant Hydrazine Naphthalimide Group. *J Phys Chem C*. 115: 8288-8294. <http://dx.doi.org/10.1021/jp1111668>.
- Li, J; Li, P; Huo, F; Yin, C; Liu, T, ao; Chao, J; Zhang, Y. (2016). Ratiometric fluorescent probes for ClO⁻ and in vivo applications. *Dyes and Pigments*. 130: 209-215. <http://dx.doi.org/10.1016/j.dyepig.2016.02.024>.
- Li, J; Yin, C; Huo, F. (2016). Development of fluorescent zinc chemosensors based on various fluorophores and their applications in zinc recognition. *Dyes and Pigments*. 131: 100-133. <http://dx.doi.org/10.1016/j.dyepig.2016.03.043>.
- Li, K, aiBin; Zhou, D, an; He, XP; Chen, G, uoR. (2015). Ratiometric glyco-probe for transient determination of thiophenol in full aqueous solution and river water. *Dyes and Pigments*. 116: 52-57. <http://dx.doi.org/10.1016/j.dyepig.2015.01.013>.
- Li, S; Liu, W; Li, CZ, hi; Lau, T, szKi; Lu, X; Shi, M; Chen, H. (2016). A non-fullerene acceptor with a fully fused backbone for efficient polymer solar cells with a high open-circuit voltage. 4: 14983-14987. <http://dx.doi.org/10.1039/c6ta07368a>.

Fate Literature Search Results

Off Topic

- Li, S; Liu, W; Li, CZ, hi; Liu, F; Zhang, Y; Shi, M; Chen, H; Russell, TP. (2016). A simple perylene diimide derivative with a highly twisted geometry as an electron acceptor for efficient organic solar cells. 4: 10659-10665. <http://dx.doi.org/10.1039/c6ta04232e>.
- Li, S; Zhang, H, ao; Zhao, W; Ye, L; Yao, H; Yang, B, ei; Zhang, S; Hou, J. (2016). Green-Solvent-Processed All-Polymer Solar Cells Containing a Perylene Diimide-Based Acceptor with an Efficiency over 6.5%. 6. <http://dx.doi.org/10.1002/aenm.201501991>.
- Li, W; Cui, Z; Zhou, X; Zhang, S; Dai, L, ei; Xing, W, ei. (2008). Sulfonated poly(arylene-co-imide)s as water stable proton exchange membrane materials for fuel cells. *J Membr Sci.* 315: 172-179. <http://dx.doi.org/10.1016/j.memsci.2008.02.026>.
- Li, X; Shi, R; Jin, Y; Lou, Y, an; Ge, Q; Li, M; Kim, H; Son, YA. (2014). A Bisindolylmaleimide-Naphthalimide Building Block for the Construction of the Energy Transfer Cassette. *J Nanosci Nanotechnol.* 14: 8033-8037. <http://dx.doi.org/10.1166/jnn.2014.9397>.
- Li, X; Son, YA. (2015). Spectral Switching of Naphthalimide-Coumarin Induced by F. *J Nanosci Nanotechnol.* 15: 5370-5373. <http://dx.doi.org/10.1166/jnn.2015.10420>.
- Li, X; Zheng, C; Yuan, A; Yang, L, u; Wang, H, an; Wang, H. (2014). A highly selective ratiometric fluorescent sensor for Hg²⁺ based on 1,8-naphthalimide. *Color Technol.* 130: 236-242. <http://dx.doi.org/10.1111/cote.12081>.
- Li, Y; Yang, Y; Bao, X; Qiu, M; Liu, Z; Wang, N; Zhang, G; Yang, R; Zhang, D. (2016). New pi-conjugated polymers as acceptors designed for all polymer solar cells based on imide/amide-derivatives. 4: 185-192. <http://dx.doi.org/10.1039/c5tc02615f>.
- Li, Z; Zhou, Y; Yin, K, ai; Yu, Z, hu; Li, Y, an; Ren, J, un. (2014). A new fluorescence "turn-on" type chemosensor for Fe³⁺ based on naphthalimide and coumarin. *Dyes and Pigments.* 105: 7-11. <http://dx.doi.org/10.1016/j.dyepig.2013.12.032>.
- Li, ZW; Yang, QW; Chang, RX; Ma, GC; Chen, MX; Zhang, WQ. (2011). N-Heteroaryl-1,8-naphthalimide fluorescent sensor for water Molecular design, synthesis and properties. *Dyes and Pigments.* 88: 307-314. <http://dx.doi.org/10.1016/j.dyepig.2010.07.009>.
- Liang, N; Sun, K, ai; Zheng, Z; Yao, H; Gao, G; Meng, X; Wang, Z; Ma, W, ei; Hou, J. (2016). Perylene Diimide Trimers Based Bulk Heterojunction Organic Solar Cells with Efficiency over 7%. 6. <http://dx.doi.org/10.1002/aenm.201600060>.
- Liang, S; Liu, Y; Fu, T; Yang, F; Chen, X; Yan, G. (2016). A water-soluble and biocompatible polymeric nanolabel based on naphthalimide grafted poly(acrylic acid) for the two-photon fluorescence imaging of living cells and *C. elegans*. *Colloids Surf B Biointerfaces.* 148: 293-298. <http://dx.doi.org/10.1016/j.colsurfb.2016.09.001>.
- Liang, S; Liu, Y; Xiang, J; Qin, M; Yu, H; Yan, G. (2014). Fabrication of a new fluorescent polymeric nanoparticle containing naphthalimide and investigation on its interaction with bovine serum albumin. *Colloids Surf B Biointerfaces.* 116: 206-210. <http://dx.doi.org/10.1016/j.colsurfb.2014.01.005>.
- Liang, Z; Cormier, RA; Nardes, AM; Gregg, BA. (2011). Developing perylene diimide based acceptor polymers for organic photovoltaics. *Synthetic Metals.* 161: 1014-1021. <http://dx.doi.org/10.1016/j.synthmet.2011.03.009>.
- Liao, X, iaXia; Zhao, X; Zhang, Z, hiGuo; Wang, H, uiQ; Zhan, X; Li, Y; Wang, J; Zheng, J, inC. (2013). All-polymer solar cells based on side-chain-isolated polythiophenes and poly(perylene diimide-alt-dithienothiophene). *Solar Energy Materials and Solar Cells.* 117: 336-342. <http://dx.doi.org/10.1016/j.solmat.2013.06.035>.
- Lin, HH; Chan, YC; Chen, JW, ei; Chang, CC. (2011). Aggregation-induced emission enhancement characteristics of naphthalimide derivatives and their applications in cell imaging. *J Mater Chem.* 21: 3170-3177. <http://dx.doi.org/10.1039/c0jm02942d>.
- Lin, Q; Xiao, S; Li, R; Tan, R; Wang, S, a; Zhang, R. (2015). Intermolecular hydrogen bonding-assisted high contrast fluorescent switch in the solid state. *Dyes and Pigments.* 114: 33-39. <http://dx.doi.org/10.1016/j.dyepig.2014.11.001>.
- Lin, TN; Huang, JC; Shen, JL; Chu, CM; Yeh, JM; Chen-Yang, YW; Chiu, CH; Kuo, HC. (2015). Hybrid Dendrimer/Semiconductor Nanostructures with Efficient Energy Transfer via Optical Waveguiding. *J Phys Chem C.* 119: 5107-5112. <http://dx.doi.org/10.1021/jp5111949>.
- Lin, Y; Wang, J; Dai, S; Li, Y; Zhu, D; Zhan, X. (2014). A Twisted Dimeric Perylene Diimide Electron Acceptor for Efficient Organic Solar Cells. 4. <http://dx.doi.org/10.1002/aenm.201400420>.
- Lin, Y; Wang, Y; Wang, J; Hou, J; Li, Y; Zhu, D; Zhan, X. (2014). A star-shaped perylene diimide electron acceptor for high-performance organic solar cells. *Adv Mater Deerfield.* 26: 5137-5142. <http://dx.doi.org/10.1002/adma.201400525>.
- Lin, Y; Zhang, Z, hiGuo; Bai, H; Wang, J; Yao, Y; Li, Y; Zhu, D; Zhan, X. (2015). High-performance fullerene-free polymer solar cells with 6.31% efficiency. *Energ Environ Sci.* 8: 610-616. <http://dx.doi.org/10.1039/c4ee03424d>.
- Ling, MM; Erk, P; Gomez, M; Koenemann, M; Locklin, J; Bao, Z. (2007). Air-stable n-channel organic semiconductors based on perylene diimide derivatives without strong electron withdrawing groups. *Adv Mater Deerfield.* 19: 1123-1127. <http://onlinelibrary.wiley.com/doi/10.1002/adma.200601705/abstract>.
- Liu, B; Tian, H. (2005). A ratiometric fluorescent chemosensor for fluoride ions based on a proton transfer signaling mechanism. *J Mater Chem.* 15: 2681-2686. <http://dx.doi.org/10.1039/b501234a>.
- Liu, F; Xu, M; Chen, X; Yang, Y; Wang, H; Sun, G. (2015). Novel Strategy for Tracking the Microbial Degradation of Azo Dyes with Different Polarities in Living Cells. *Environ Sci Technol.* 49: 11356-11362. <http://dx.doi.org/10.1021/acs.est.5b02003>.
- Liu, J, un; Cao, J; Shao, S; Xie, Z; Cheng, Y; Geng, Y; Wang, L; Jing, X; Wang, F. (2008). Blue electroluminescent polymers with dopant-host systems and molecular dispersion features: polyfluorene as the deep blue host and 1,8-naphthalimide derivative units as the light blue dopants. *J Mater Chem.* 18: 1659-1666. <http://dx.doi.org/10.1039/b716234k>.
- Liu, J; Li, Y; Wang, Y, i; Sun, H; Lu, Z; Wu, H; Peng, J; Huang, Y, an. (2012). Synthesis and luminescent properties of blue sextuple-hydrogen-bond self-assembly molecular duplexes bearing 4-phenoxy-1,8-naphthalimide moieties. *Optical Materials.* 34: 1535-1542. <http://dx.doi.org/10.1016/j.optmat.2012.03.022>.
- Liu, J; Qian, Y. (2017). A novel naphthalimide-rhodamine dye: Intramolecular fluorescence resonance energy transfer and ratiometric chemodosimeter for Hg²⁺ and Fe³⁺. *Dyes and Pigments.* 136: 782-790. <http://dx.doi.org/10.1016/j.dyepig.2016.09.041>.

Fate Literature Search Results

Off Topic

- Liu, J; Tu, GL; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). Highly efficient green light emitting polyfluorene incorporated with 4-diphenylamino-1,8-naphthalimide as green dopant. *J Mater Chem.* 16: 1431-1438. <http://dx.doi.org/10.1039/b514359d>.
- Liu, J; Wang, Y, i; Lei, G; Peng, J; Huang, Y, an; Cao, Y; Xie, M; Pu, X; Lu, Z. (2009). A sextuple hydrogen bonding molecular duplex bearing 1,8-naphthalimide moieties and polymer light-emitting diode based on it. *J Mater Chem.* 19: 7753-7758. <http://dx.doi.org/10.1039/b910045h>.
- Liu, J; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). White electroluminescence from a single-polymer system with simultaneous two-color emission: Polyfluorene as the blue host and a 2,1,3-benzothiadiazole derivative as the orange dopant on the main chain. *Adv Funct Mater.* 16: 957-965. <http://dx.doi.org/10.1002/adfm.200500761>.
- Liu, N, an; Chen, HZ; Wang, M. (2008). Heterojunctions based on perylene diimide embedded into porous silicon. *Thin Solid Films.* 516: 4272-4276. <http://dx.doi.org/10.1016/j.tsf.2008.01.002>.
- Liu, N, an; Shi, M, inMin; Pan, XW, ei; Qiu, W, eiM; Zhu, JH, ui; He, H, aiP; Chen, HZ; Wang, M. (2008). Photoinduced electron transfer and enhancement of photoconductivity in silicon nanoparticles/perylene diimide composites in a polymer matrix. *J Phys Chem C.* 112: 15865-15869. <http://dx.doi.org/10.1021/jp802385g>.
- Liu, T; Zhang, X; Qiao, Q; Zou, C; Feng, L, ei; Cui, J; Xu, Z. (2013). A two-photon fluorescent probe for imaging hydrogen sulfide in living cells. *Dyes and Pigments.* 99: 537-542. <http://dx.doi.org/10.1016/j.dyepig.2013.06.031>.
- Liu, X, ia; Roberts, A; Ahmed, A; Wang, Z; Li, X, u; Zhang, H. (2015). Carbon nanofibers by pyrolysis of self-assembled perylene diimide derivative gels as supercapacitor electrode materials. 3: 15513-15522. <http://dx.doi.org/10.1039/c5ta03546e>.
- Liu, X; Zhang, Y; Pang, X; E, Y, ue; Zhang, Y; Yang, D; Tang, J; Li, J; Che, Y; Zhao, J. (2015). Nanocoiled Assembly of Asymmetric Perylene Diimides: Formulation of Structural Factors. *J Phys Chem C.* 119: 6446-6452. <http://dx.doi.org/10.1021/acs.jpcc.5b00720>.
- Liu, Y, ao; Larsen-Olsen, TT; Zhao, X; Andreasen, B; Sondergaard, RR; Helgesen, M; Norrman, K; Jorgensen, M; Krebs, FC; Zhan, X. (2013). All polymer photovoltaics: From small inverted devices to large roll-to-roll coated and printed solar cells. *Solar Energy Materials and Solar Cells.* 112: 157-162. <http://dx.doi.org/10.1016/j.solmat.2013.01.025>.
- Liu, Y; Lv, X, in; Zhao, Y, un; Chen, M; Liu, J; Wang, P, i; Guo, W, ei. (2012). A naphthalimide-rhodamine ratiometric fluorescent probe for Hg^{2+} based on fluorescence resonance energy transfer. *Dyes and Pigments.* 92: 909-915. <http://dx.doi.org/10.1016/j.dyepig.2011.07.020>.
- Liu, Y; Niu, F; Lian, J; Zeng, P; Niu, H. (2010). Synthesis and properties of starburst amorphous molecules: 1,3,5-Tris(1,8-naphthalimide-4-yl)benzenes. *Synthetic Metals.* 160: 2055-2060. <http://dx.doi.org/10.1016/j.synthmet.2010.07.020>.
- Liu, Y; Zhang, Z; Xia, Z; Zhang, J, ie; Liu, Y; Liang, F; Li, Y; Song, T, ao; Yu, X; Lee, ST; Sun, B. (2016). High Performance Nanostructured Silicon-Organic Quasi p-n Junction Solar Cells via Low-Temperature Deposited Hole and Electron Selective Layer. *ACS Nano.* 10: 704-712. <http://dx.doi.org/10.1021/acsnano.5b05732>.
- Liu, YQ; Yu, G; Li, HY; Tian, H; Zhu, DB. (2002). Electroluminescence properties of new multi-functional copolymers containing carbazole, naphthalimide and oxadiazole. *Thin Solid Films.* 417: 107-110.
- Liu, Z; Zhang, G; Cai, Z; Chen, X; Luo, H; Li, Y; Wang, J; Zhang, D. (2014). New organic semiconductors with imide/amide-containing molecular systems. *Adv Mater Deerfield.* 26: 6965-6977. <http://dx.doi.org/10.1002/adma.201305718>.
- Liu, ZQ; Gaskin, RE; Zabkiwicz, JA. (2004). Visualization of the effect of a surfactant on the uptake of xenobiotics into plant foliage by confocal laser scanning microscopy. *Weed Research.* 44: 237-243.
- Locklin, J; Li, DW; Mannsfeld, SCB; Borkent, EJ; Meng, H; Advincula, R; Bao, Z. (2005). Organic thin film transistors based on cyclohexyl-substituted organic semiconductors. *Chem Mater.* 17: 3366-3374. <http://dx.doi.org/10.1021/cm047851g>.
- Lu, C; Fujitsuka, M; Sugimoto, A; Majima, T. (2016). Unprecedented Intramolecular Electron Transfer from Excited Perylenediimide Radical Anion. *J Phys Chem C.* 120: 12734-12741. <http://dx.doi.org/10.1021/acs.jpcc.6b02454>.
- Lu, Z; Jiang, B, o; Zhang, X, in; Tang, A; Chen, L; Zhan, C; Yao, J. (2014). Perylene-Diimide Based Non-Fullerene Solar Cells with 4.34% Efficiency through Engineering Surface Donor/Acceptor Compositions. *Chem Mater.* 26: 2907-2914. <http://dx.doi.org/10.1021/cm5006339>.
- Lucenti, E; Botta, C; Cariati, E; Righetto, S; Scarpellini, M; Tordin, E; Ugo, R. (2013). New organic-inorganic hybrid materials based on perylene diimide-polyhedral oligomeric silsesquioxane dyes with reduced quenching of the emission in the solid state. *Dyes and Pigments.* 96: 748-755. <http://dx.doi.org/10.1016/j.dyepig.2012.11.015>.
- Luo, S; Lin, J, ie; Zhou, J, ie; Wang, Y, i; Liu, X; Huang, Y, an; Lu, Z; Hu, C. (2015). Novel 1,8-naphthalimide derivatives for standard-red organic light-emitting device applications. 3: 5259-5267. <http://dx.doi.org/10.1039/c5tc00409h>.
- Luo, Z; Xiong, W; Liu, T, ao; Cheng, W; Wu, K; Sun, Y; Yang, C. (2017). Triphenylamine-cored star-shape compounds as non-fullerene acceptor for high-efficiency organic solar cells: Tuning the optoelectronic properties by S/Se-annulated perylene diimide. *Organic Electronics.* 41: 166-172. <http://dx.doi.org/10.1016/j.orgel.2016.10.044>.
- Luo, Z; Yang, B, o; Zhong, C; Tang, F; Yuan, M; Xue, Y; Yao, G; Zhang, J; Zhang, Y. (2013). A dual-channel probe for selective fluoride determination and application in live cell imaging. *Dyes and Pigments.* 97: 52-57. <http://dx.doi.org/10.1016/j.dyepig.2012.11.016>.
- Ma, L; Wang, Q; Lu, G; Chen, R; Sun, X. (2010). Photochromic nanostructures based on diarylethenes with perylene diimide. *Langmuir.* 26: 6702-6707. <http://dx.doi.org/10.1021/la9040387>.
- Ma, Y; Shi, Z; Zhang, A; Li, J; Wei, X; Jiang, T; Li, Y; Wang, X. (2016). Self-assembly, optical and electrical properties of five membered O- or S-heterocyclic annulated perylene diimides. *Dyes and Pigments.* 135: 41-48. <http://dx.doi.org/10.1016/j.dyepig.2016.06.027>.
- Ma, Y; Zhang, F; Zhang, J; Jiang, T. (2015). A water-soluble perylene derivative for live-cell imaging. *Turkish Journal of Chemistry.* 39: 835-842. <http://dx.doi.org/10.3906/kim-1501-76>.
- Ma, Z; Zhang, P; Yu, X; Lan, H; Li, Y; Xie, D; Li, J; Yi, T, ao. (2015). Sugar based nanotube assembly for the construction of sonication triggered hydrogel: an application of the entrapment of tetracycline hydrochloride. 3: 7366-7371. <http://dx.doi.org/10.1039/c5tb01191d>.

Fate Literature Search Results

Off Topic

- Maltais, E; Malkondu, S; Uyar, P; Ozmen, M. (2015). Fluorescent labelling of DNA on superparamagnetic nanoparticles by a perylene bisimide derivative for cell imaging. *Mater Sci Eng C*. 48: 86-93. <http://dx.doi.org/10.1016/j.msec.2014.11.057>.
- Mao, P; Qian, XH; Zhang, HZ; Yao, W. (2004). Benzothioxanthene dyes as fluorescent label for DNA hybridization: synthesis and application. *Dyes and Pigments*. 60: 9-16. [http://dx.doi.org/10.1016/S0143-7208\(03\)00127-X](http://dx.doi.org/10.1016/S0143-7208(03)00127-X).
- Marcon, RO; dos Santos, JG; Figueiredo, KM; Brochsztain, S. (2006). Characterization of a novel water-soluble 3,4,9,10-perylenetetracarboxylic diimide in solution and in self-assembled zirconium phosphonate thin films. *Langmuir*. 22: 1680-1687. <http://dx.doi.org/10.1021/la052329+>.
- Martin, E; Torres-Costa, V; Martin-Palma, RJ; Bousono, C; Tutor-Sanchez, J; Martinez-Duart, JM. (2006). Photoluminescence of naphthalimide derivatives deposited onto nanostructured porous silicon. *J Electrochem Soc*. 153: D134-D137. <http://dx.doi.org/10.1149/1.2207988>.
- Mati, SS; Chall, S; Bhattacharya, SC. (2015). Aggregation-induced fabrication of fluorescent organic nanorings: selective biosensing of cysteine and application to molecular logic gate. *Langmuir*. 31: 5025-5032. <http://dx.doi.org/10.1021/acs.langmuir.5b00154>.
- May, B; Poteau, X; Yuan, DW; Brown, RG. (1999). A study of a highly efficient resonance energy transfer between 7-N,N-diethylamino-4-methylcoumarin and 9-butyl-4-butylamino-1,8-naphthalimide. *Dyes and Pigments*. 42: 79-84.
- Mcafee, SM; Topple, JM; Hill, I, anG; Welch, GC. (2015). Key components to the recent performance increases of solution processed non-fullerene small molecule acceptors. 3: 16393-16408. <http://dx.doi.org/10.1039/c5ta04310g>.
- Mckenna, MD; Grabchev, I, vo; Bosch, P. (2009). The synthesis of a novel 1,8-naphthalimide based PAMAM-type dendron and its potential for light-harvesting. *Dyes and Pigments*. 81: 180-186. <http://dx.doi.org/10.1016/j.dyepig.2008.09.008>.
- Megow, J; Körzdörfer, T; Renger, T; Sparenberg, M; Blumstengel, S; Henneberger, F; May, V. (2015). Calculating Optical Absorption Spectra of Thin Polycrystalline Organic Films: Structural Disorder and Site-Dependent van der Waals Interaction. *J Phys Chem C*. 119: 5747-5751. <http://dx.doi.org/10.1021/acs.jpcc.5b01587>.
- Meher, N; Chowdhurya, SR, oy; Iyer, PK. (2016). Aggregation induced emission enhancement and growth of naphthalimide nanoribbons via J-aggregation: insight into disaggregation induced unfolding and detection of ferritin at the nanomolar level. 4: 6023-6031. <http://dx.doi.org/10.1039/c6tb01746k>.
- Meng, Q; Zhang, X; He, C; He, G; Zhou, P; Duan, C. (2010). Multifunctional Mesoporous Silica Material Used for Detection and Adsorption of Cu²⁺ in Aqueous Solution and Biological Applications in vitro and in vivo. *Adv Funct Mater*. 20: 1903-1909. <http://dx.doi.org/10.1002/adfm.201000080>.
- Menon, SR; Shankarling, GS. (2011). The synthesis, photophysical and thermal properties of new anthrapyrimidine colorants. *Color Technol*. 127: 383-389. <http://dx.doi.org/10.1111/j.1478-4408.2011.00330.x>.
- Metivier, R; Badre, S; Meallet-Renault, R; Yu, P, ei; Pansu, RB; Nakatani, K. (2009). Fluorescence Photoswitching in Polymer Matrix: Mutual Influence between Photochromic and Fluorescent Molecules by Energy Transfer Processes. *J Phys Chem C*. 113: 11916-11926. <http://dx.doi.org/10.1021/jp902344x>.
- Miasojedovas, A; Kazlauskas, K; Armonaita, G; Sivamurugan, V; Valiyaveettil, S; Grazulevicius, JV; Jurunas, S. (2012). Concentration effects on emission of bay-substituted perylene diimide derivatives in a polymer matrix. *Dyes and Pigments*. 92: 1285-1291. <http://dx.doi.org/10.1016/j.dyepig.2011.09.017>.
- Mikroyannidis, JA; Ye, S; Liu, Y. (2009). Electroluminescent divinylen- and trivinylen-molecules with terminal naphthalimide or phthalimide segments. *Synthetic Metals*. 159: 492-500. <http://dx.doi.org/10.1016/j.synthmet.2008.11.009>.
- Mille, M; Lamère, JF; Rodrigues, F; Fery-Forgues, S. (2008). Spontaneous formation of fluorescent nanofibers from self-assembly of low-molecular-weight coumarin derivatives in water. *Langmuir*. 24: 2671-2679. <http://dx.doi.org/10.1021/la702197h>.
- Min, J, ie; Bronnbauer, C; Zhang, Z, hiGuo; Cui, C; Luponosov, YN; Ata, I; Schweizer, P; Przybilla, T; Guo, F, ei; Ameri, T; Forberich, K; Spiecker, E; Baueuerle, P; Ponomarenko, SA; Li, Y; Brabec, CJ. (2016). Fully Solution-Processed Small Molecule Semitransparent Solar Cells: Optimization of Transparent Cathode Architecture and Four Absorbing Layers. *Adv Funct Mater*. 26: 4543-4550. <http://dx.doi.org/10.1002/adfm.201505411>.
- Min, J, ie; Zhang, Z, hiGuo; Hou, Y, i; Quiroz, COR; Przybilla, T; Bronnbauer, C; Guo, F, ei; Forberich, K; Azimi, H; Ameri, T; Spiecker, E; Li, Y; Brabec, CJ. (2015). Interface Engineering of Perovskite Hybrid Solar Cells with Solution-Processed Perylene-Diimide Heterojunctions toward High Performance. *Chem Mater*. 27: 227-234. <http://dx.doi.org/10.1021/cm5037919>.
- Mohamad, DK; Fischereder, A; Yi, H; Cadby, AJ; Lidzey, DG; Iraqi, A. (2011). A novel 2,7-linked carbazole based "double cable" polymer with pendant perylene diimide functional groups: preparation, spectroscopy and photovoltaic properties. *J Mater Chem*. 21: 851-862. <http://dx.doi.org/10.1039/c0jm02673e>.
- Mohammadkhodaei, Z; Mokhtari, J; Nouri, M. (2010). Novel anti-bacterial acid dyes derived from naphthalimide: synthesis, characterisation and evaluation of their technical properties on nylon 6. *Color Technol*. 126: 81-85. <http://dx.doi.org/10.1111/j.1478-4408.2010.00230.x>.
- Mokhtari, J; Gharanjig, K; Arami, M; Mahmoodi, NM. (2008). Novel hydrolysable azo disperse dyes based on N-ester-1,8-naphthalimide: dyeing of polyester-cotton blends. *Color Technol*. 124: 295-300. <http://dx.doi.org/10.1111/j.1478-4408.2008.00155.x>.
- Mondal, S; Lin, W, eiH; Chen, Y, uChi; Huang, SH, an; Yang, R; Chen, B, oH; Yang, T, eF; Mao, SW, ei; Kuo, MY, u. (2015). Solution-processed single-crystal perylene diimide transistors with high electron mobility. *Organic Electronics*. 23: 64-69. <http://dx.doi.org/10.1016/j.orgel.2015.04.011>.
- Moniz, T; Queiros, C; Ferreira, R; Leite, A; Gameiro, P; Silva, A, naMG; Rangel, M. (2013). Design of a water soluble 1,8-naphthalimide/3-hydroxy-4-pyridinone conjugate: Investigation of its spectroscopic properties at variable pH and in the presence of Fe³⁺, Cu²⁺ and Zn²⁺. *Dyes and Pigments*. 98: 201-211. <http://dx.doi.org/10.1016/j.dyepig.2013.02.020>.
- Moreno-Lopez, JC; Grizzi, O; Martiarena, ML; Sanchez, EA. (2013). Initial Growth of N,N'-Bis(1-ethylpropyl)perylene-3,4,9,10-tetracarboxydiimide Films on Cu(100). *J Phys Chem C*. 117: 11679-11685. <http://dx.doi.org/10.1021/jp402494j>.

Fate Literature Search Results

Off Topic

- Moreno-Lopez, JC; Grizzi, O; Sanchez, EA. (2016). Thermal Stability of N,N'-Bis(1-ethylpropyl)perylene-3,4,9,10-tetracarboxdiimide Films on Cu(100). *J Phys Chem C.* 120: 19630-19635. <http://dx.doi.org/10.1021/acs.jpcc.6b04157>.
- Morgado, J; Gruner, J; Walcott, SP; Yong, TM; Cervini, R; Moratti, SC; Holmes, AB; Friend, RH. (1998). 4-AcNI - a new polymer for light-emitting diodes. *Synthetic Metals.* 95: 113-117.
- Moscatello, JP; Castaneda, CV; Zaidi, A; Cao, M; Usluer, O; Briseno, AL; Aidala, KE. (2017). Time-resolved kelvin probe force microscopy to study population and depopulation of traps in electron or hole majority organic semiconductors. *Organic Electronics.* 41: 26-32. <http://dx.doi.org/10.1016/j.orgel.2016.11.001>.
- Munger, KA; Downey, TM; Haberer, B; Pohlson, K; Marshall, LL; Utecht, RE. (2016). A novel photochemical cross-linking technology to improve luminal gain, vessel compliance, and buckling post-angioplasty in porcine arteries. *J Biomed Mater Res B Appl Biomater.* 104: 375-384. <http://dx.doi.org/10.1002/jbm.b.33373>.
- Munoz-Losa, A; Vukovic, S; Corni, S; Mennucci, B. (2009). Nonplasmonic Metal Particles as Excitation Energy Transfer Acceptors: an Unexpected Efficiency Revealed by Quantum Mechanics. *J Phys Chem C.* 113: 16364-16370. <http://dx.doi.org/10.1021/jp904366f>.
- Munro, NH; Hanton, LR; Robinson, BH; Simpson, J. (2008). Synthesis and characterisation of fluorescent chitosan derivatives containing substituted naphthalimides. *React Funct Polym.* 68: 671-678. <http://dx.doi.org/10.1016/j.reactfunctpolym.2007.11.003>.
- Murschell, AE; Sutherland, TC. (2010). Anthraquinone-based discotic liquid crystals. *Langmuir.* 26: 12859-12866. <http://dx.doi.org/10.1021/la101406s>.
- Muthuraj, B; Chowdhury, S; Iyer, PK. (2015). Modulation of Amyloid-beta Fibrils into Mature Microrod-Shaped Structure by Histidine Functionalized Water-Soluble Perylene Diimide. *ACS Applied Materials & Interfaces.* 7: 21226-21234. <http://dx.doi.org/10.1021/acsmami.5b07260>.
- Naab, BD; Gu, X; Kurosawa, T; To, JWF; Salleo, A; Bao, Z. (2016). Role of Polymer Structure on the Conductivity of N-Doped Polymers. 2. <http://dx.doi.org/10.1002/aelm.201600004>.
- Nagel, J; Pahner, FA; Zimmerer, C; Haertig, T; Gehde, M; Heinrich, G. (2014). Electrostatic Discharging Behaviour of Polycarbonate Parts Made by Process-Integrated Surface Modification. *Macromolecular Materials & Engineering.* 299: 1395-1402. <http://dx.doi.org/10.1002/mame.201400114>.
- Nakaya, K; Funabiki, K; Muramatsu, H; Shibata, K; Matsui, M. (1999). N-aryl-1,8-naphthalimides as highly sensitive fluorescent labeling reagents for carnitine. *Dyes and Pigments.* 43: 235-239.
- Nam, S; Hahn, S; ukGyu; Han, H; Seo, J; Kim, C; Kim, H; Marder, SR; Ree, M; Kim, Y. (2016). All-Polymer Solar Cells with Bulk Heterojunction Films Containing Electron-Accepting Triple Bond-Conjugated Perylene Diimide Polymer. 4: 767-774. <http://dx.doi.org/10.1021/acssuschemeng.5b00732>.
- Nath, JK; Kirillov, AM; Baruah, JB. (2015). Synthesis, Structure, and Topological Studies of Solvates and Salts of a Chiral Zwitterionic Host N-(2-Imidazol-5-yl-1-carboxyethyl)-1,8-naphthalimide. *Cryst Growth Des.* 15: 737-751. <http://dx.doi.org/10.1021/cg5018054>.
- Nath, JK; Mondal, A; Powell, AK; Baruah, JB. (2014). Structures, Magnetic Properties, and Photoluminescence of Dicarboxylate Coordination Polymers of Mn, Co, Ni, Cu Having N-(4-Pyridylmethyl)-1,8-naphthalimide. *Cryst Growth Des.* 14: 4735-4748. <http://dx.doi.org/10.1021/cg500882z>.
- Nolde, F; Pisula, W; Mueller, S; Kohl, C; Muellen, K. (2006). Synthesis and self-organization of core-extended perylene tetracarboxdiimides with branched alkyl substituents. *Chem Mater.* 18: 3715-3725. <http://dx.doi.org/10.1021/cm060742c>.
- Oekermann, T; Karuppuchamy, S; Yoshida, T; Schleittwein, D; Wohrle, D; Minoura, H. (2004). Electrochemical self-assembly of ZnO/SO₃E_tPTCDI hybrid photoelectrodes. *J Electrochem Soc.* 151: C62-C68. <http://dx.doi.org/10.1149/1.1630596>.
- Oh, JH, ak; Sun, Y, aSen; Schmidt, R; Toney, MF; Nordlund, D; Koenemann, M; Wuertner, F; Bao, Z. (2009). Interplay between Energetic and Kinetic Factors on the Ambient Stability of n-Channel Organic Transistors Based on Perylene Diimide Derivatives. *Chem Mater.* 21: 5508-5518. <http://dx.doi.org/10.1021/cm902531d>.
- Oner, I; Varlikli, C; Icli, S. (2011). The use of a perylenediimide derivative as a dopant in hole transport layer of an organic light emitting device. *Appl Surf Sci.* 257: 6089-6094. <http://dx.doi.org/10.1016/j.apsusc.2011.02.002>.
- Ortica, F; Scaino, JC; Pohlers, G; Cameron, JF; Zampini, A. (2000). Laser flash photolysis study of two aromatic N-oxyimidosulfonate photoacid generators. *Chem Mater.* 12: 414-420.
- Ozcan, O; Yukruk, F; Akkaya, EU; Uner, D. (2007). Dye sensitized artificial photosynthesis in the gas phase over thin and thick TiO₂ films under UV and visible light irradiation. *Appl Catal B-Environ.* 71: 291-297. <http://dx.doi.org/10.1016/j.apcatb.2006.09.015>.
- Ozdemir, S; Varlikli, C; Oner, I; Ocakoglu, K; Icli, S. (2010). The synthesis of 1,8-naphthalimide groups containing imidazolium salts/ionic liquids using I-, PF₆-, TFSI- anions and their photophysical, electrochemical and thermal properties. *Dyes and Pigments.* 86: 206-216. <http://dx.doi.org/10.1016/j.dyepig.2010.01.005>.
- Panchenko, PA; Fedorov, YV; Fedorova, OA; Jonusauskas, G. (2013). Comparative analysis of the PET and ICT sensor properties of 1,8-naphthalimides containing aza-15-crown-5 ether moiety. *Dyes and Pigments.* 98: 347-357. <http://dx.doi.org/10.1016/j.dyepig.2013.03.008>.
- Pang, X; Yu, X; Lan, H; Ge, X; Li, Y; Zhen, X; Yi, T, ao. (2015). Visual Recognition of Aliphatic and Aromatic Amines Using a Fluorescent Gel: Application of a Sonication-Triggered Organogel. *ACS Applied Materials & Interfaces.* 7: 13569-13577. <http://dx.doi.org/10.1021/acsami.5b03000>.
- Park, G, iEun; Choi, S; Lee, D, aeHee; Godumala, M; Uddin, MA; Woo, H, anY; Cho, M, inJu; Choi, DH. (2017). Perylene diimide isomers containing a simple sp(3)-core for non-fullerene-based polymer solar cells. 5: 663-671. <http://dx.doi.org/10.1039/c6ta09394a>.
- Park, H; Chang, S, ukKyu. (2015). Signaling of water content in organic solvents by solvatochromism of a hydroxynaphthalimide-based merocyanine dye. *Dyes and Pigments.* 122: 324-330. <http://dx.doi.org/10.1016/j.dyepig.2015.07.010>.

Fate Literature Search Results

Off Topic

- Park, HJ; So, MC; Gosztola, D; Wiederrecht, GP; Emery, JD; Martinson, AB; Er, S; Wilmer, CE; Vermeulen, NA; Aspuru-Guzik, A; Stoddart, JF; Farha, OK; Hupp, JT. (2016). Layer-by-Layer Assembled Films of Perylene Diimide- and Squaraine-Containing Metal-Organic Framework-like Materials: Solar Energy Capture and Directional Energy Transfer. *8*: 24983-24988. <http://dx.doi.org/10.1021/acsami.6b03307>.
- Park, SC; Ito, T; Higgins, DA. (2015). Dimensionality of Diffusion in Flow-Aligned Surfactant-Templated Mesoporous Silica: A Single Molecule Tracking Study of Pore Wall Permeability. *J Phys Chem C*. *119*: 26101-26110. <http://dx.doi.org/10.1021/acs.jpcc.5b06835>.
- Patrick, LGF; Whiting, A. (2002). Synthesis and application of some polycondensable fluorescent dyes. *Dyes and Pigments*. *52*: 137-143.
- Patrick, LGF; Whiting, A. (2002). Synthesis of some polymerisable fluorescent dyes. *Dyes and Pigments*. *55*: 123-132.
- Peebles, C; Wight, CD; Iverson, BL. (2015). Solution- and solid-state photophysical and stimuli-responsive behavior in conjugated monoalkoxynaphthalene-naphthalimide donor-acceptor dyads. *3*: 12156-12163. <http://dx.doi.org/10.1039/c5tc02397a>.
- Peng, QG; Zhai, J; Wang, WL; Yan, XL; Bai, FL. (2003). Fabrication of organic/inorganic hybrid nanocomposite of 1,8-naphthalimide and CdS in self-assembly film. *Cryst Growth Des*. *3*: 623-626. <http://dx.doi.org/10.1021/cg025584q>.
- Pensack, RD; Guo, C; Vakhshouri, K; Gomez, ED; Asbury, JB. (2012). Influence of Acceptor Structure on Barriers to Charge Separation in Organic Photovoltaic Materials. *J Phys Chem C*. *116*: 4824-4831. <http://dx.doi.org/10.1021/jp2083133>.
- Petit, M; Hayakawa, R; Wakayama, Y; Chikyow, T. (2007). Early stage of growth of a perylene diimide derivative thin film growth on various si(001) substrates. *J Phys Chem C*. *111*: 12747-12751. <http://dx.doi.org/10.1021/jp071876w>.
- Piris, J; de Haas, MP; Warman, JM; Mullen, K; Fechtenkotter, A; van de Craats, AM; Schmidt-Mende, L; Friend, RH. (2003). Photo-induced charge separation in a blend of perylenediimide and hexabenzocoronene derivatives studied by FP-TRMC. *Synthetic Metals*. *137*: 1375-1376. [http://dx.doi.org/10.1016/S0379-6779\(02\)01121-9](http://dx.doi.org/10.1016/S0379-6779(02)01121-9).
- Polkehn, M; Tamura, H; Eisenbrandt, P; Haacke, S; Méry, S; Burghardt, I. (2016). Molecular Packing Determines Charge Separation in a Liquid Crystalline Bithiophene-Perylene Diimide Donor-Acceptor Material. *Journal of Physical Chemistry Letters*. *7*: 1327-1334. <http://dx.doi.org/10.1021/acs.jpclett.6b00277>.
- Posokhov, Y; Alp, S; Koz, B; Dilgin, Y; Icli, S. (2004). Photophysical properties and electrochemistry of the N,N'-bis-n-butyl derivative of naphthalene diimide. *Turkish Journal of Chemistry*. *28*: 415-424.
- Poteau, X; Brown, Al; Brown, RG; Holmes, C; Matthew, D. (2000). Fluorescence switching in 4-amino-1,8-naphthalimides: "on-off-on" operation controlled by solvent and cations. *Dyes and Pigments*. *47*: 91-105.
- Pramanik, R; Ito, T; Higgins, DA. (2013). Molecular Length Dependence of Single Molecule Wobbling within Surfactant- and Solvent-Filled Silica Mesopores. *J Phys Chem C*. *117*: 15438-15446. <http://dx.doi.org/10.1021/jp404991m>.
- Pramanik, R; Ito, T; Higgins, DA. (2013). Single Molecule Wobbling in Cylindrical Mesopores. *J Phys Chem C*. *117*: 3668-3673. <http://dx.doi.org/10.1021/jp400479w>.
- Prezhdo, OV; Uspenskii, BV; Prezhdo, VV; Boszczyk, W; Distanov, VB. (2007). Synthesis and spectral-luminescent characteristics of N-substituted 1,8-naphthalimides. *Dyes and Pigments*. *72*: 42-46. <http://dx.doi.org/10.1016/j.dyepig.2005.07.022>.
- Puniredd, SR; Kiersnowski, A; Battagliarin, G; Zajaczkowski, W; Wong, WWH; Kirby, N; Muellen, K; Pisula, W. (2013). Polythiophene-perylene diimide heterojunction field-effect transistors. *1*: 2433-2440. <http://dx.doi.org/10.1039/c3tc00562c>.
- Qi, Q; Yuqiao, W; Yunqian, D; Yueming, S. (2016). Spectroscopic properties of carbazolyl and diphenylamino naphthalimide derivatives: the role of solvent and rotational relaxation. *Optoelectronics and Advanced Materials Rapid Communications*. *10*: 410-416.
- Qian, XH; Tang, J; Zhang, JD; Zhang, YL. (1994). SYNTHESIS OF FURONAPHTHALIMIDES WITH POTENTIAL PHOTOSENSITIZING BIOLOGICAL-ACTIVITY. *Dyes and Pigments*. *25*: 109-114.
- Qian, XH; Zhang, YL; Chen, KC; Tao, ZF; Shen, YG. (1996). A study on the relationship between Stoke's shift and low frequency half-value component of fluorescent compounds. *Dyes and Pigments*. *32*: 229-235.
- Qiu, B; Yuan, J; un; Xiao, X; He, D; Qiu, L; Zou, Y; Zhang, Z; Li, Y. (2015). Effect of Fluorine Substitution on Photovoltaic Properties of Alkoxyphenyl Substituted Benzo[1,2-b:4,5-b']dithiophene-Based Small Molecules. *ACS Applied Materials & Interfaces*. *7*: 25237-25246. <http://dx.doi.org/10.1021/acsami.5b07066>.
- Qu, J; Gao, B; Tian, H; Zhang, X; Wang, Y, an; Xie, Z; Wang, H; Geng, Y; Wang, F. (2014). Donor-spacer-acceptor monodisperse conjugated co-oligomers for efficient single-molecule photovoltaic cells based on non-fullerene acceptors. *2*: 3632-3640. <http://dx.doi.org/10.1039/c3ta14701k>.
- Qu, Z; Li, P; Zhang, X; Han, K. (2016). A turn-on fluorescent chemodosimeter based on detelluration for detecting ferrous iron (Fe^{2+}) in living cells. *4*: 887-892. <http://dx.doi.org/10.1039/c5tb02090e>.
- Rajaram, S; Armstrong, PB; Kim, BJ; Frechet, JMJ. (2009). Effect of Addition of a Diblock Copolymer on Blend Morphology and Performance of Poly(3-hexylthiophene):Perylene Diimide Solar Cells. *Chem Mater*. *21*: 1775-1777. <http://dx.doi.org/10.1021/cm900911x>.
- Ramakrishnan, R; Mallia, AR; Sethy, MAN, R; Hariharan, M. (2016). Columnar/Lamellar Packing in Cocrystals of Arylbpypyridines with Diiodoperfluorobenzene. *Cryst Growth Des*. *16*: 6327-6336. <http://dx.doi.org/10.1021/acs.cgd.6b00968>.
- Rao, KV; Halder, R; Kulkarni, C; Maji, TK; George, SJ. (2012). Perylene Based Porous Polyimides: Tunable, High Surface Area with Tetrahedral and Pyramidal Monomers. *Chem Mater*. *24*: 969-971. <http://dx.doi.org/10.1021/cm203599q>.
- Refiker, H; Icil, H. (2011). Amphiphilic and chiral unsymmetrical perylene dye for solid-state dye-sensitized solar cells. *Turkish Journal of Chemistry*. *35*: 847-859. <http://dx.doi.org/10.3906/kim-1107-39>.
- Reger, DL; Debreczeni, A; Horger, JJ; Smith, MD. (2011). Structures of Bifunctional Molecules Containing Two Very Different Supramolecular Synthons: Carboxylic Acid and Strong pi center dot center dot center dot pi Stacking 1,8-Naphthalimide Ring. *Cryst Growth Des*. *11*: 4068-4079. <http://dx.doi.org/10.1021/cg200636k>.

Fate Literature Search Results

Off Topic

- Reger, DL; Leitner, A; Smith, MD. (2015). Homochiral, Helical Coordination Complexes of Lanthanides(III) and Mixed-Metal Lanthanides(III): Impact of the 1,8-Naphthalimide Supramolecular Tecton on Structure, Magnetic Properties, and Luminescence. *Cryst Growth Des.* 15: 5637-5644. <http://dx.doi.org/10.1021/acs.cgd.5601387>.
- Reger, DL; Leitner, AP; Smith, MD. (2016). Supramolecular Metal-Organic Frameworks of s- and f-Block Metals: Impact of 1,8-Naphthalimide Functional Group. *Cryst Growth Des.* 16: 527-536. <http://dx.doi.org/10.1021/acs.cgd.5b01575>.
- Reger, DL; Semeniuc, RF; Elgin, JD; Rassolov, V; Smith, MD. (2006). 1,8-naphthalimide synthon in silver coordination chemistry: Control of supramolecular arrangement. *Cryst Growth Des.* 6: 2758-2768. <http://dx.doi.org/10.1021/cg060460p>.
- Reger, DL; Sirianni, E; Horger, JJ; Smith, MD; Semeniuc, RF. (2010). Supramolecular Architectures of Metal Complexes Controlled by a Strong pi center dot center dot center dot pi Stacking, 1,8-Naphthalimide Functionalized Third Generation Tris(pyrazolyl)methane Ligand. *Cryst Growth Des.* 10: 386-393. <http://dx.doi.org/10.1021/cg901000d>.
- Reilly, TH, III; Hains, AW; Chen, HY, u; Gregg, BA. (2012). A Self-Doping, O₂-Stable, n-Type Interfacial Layer for Organic Electronics. 2: 455-460. <http://dx.doi.org/10.1002/aenm.201100446>.
- Ren, J, un; Wu, Z; Zhou, Y; Li, Y, an; Xu, Z. (2011). Colorimetric fluoride sensor based on 1,8-naphthalimide derivatives. *Dyes and Pigments.* 91: 442-445. <http://dx.doi.org/10.1016/j.dyepig.2011.04.012>.
- Ren, J; Zhao, XL; Wang, QC; Ku, CF; Qu, DH; Chang, CP; Tian, H. (2005). Synthesis and fluorescence properties of novel co-facial folded naphthalimide dimers. *Dyes and Pigments.* 64: 179-186. <http://dx.doi.org/10.1016/j.dyepig.2004.05.011>.
- Ren, W; Zhuang, H, ao; Bao, Q; Miao, S; Li, H, ua; Lu, J; Wang, L. (2014). Enhancing the coplanarity of the donor moiety in a donor-acceptor molecule to improve the efficiency of switching phenomenon for flash memory devices. *Dyes and Pigments.* 100: 127-134. <http://dx.doi.org/10.1016/j.dyepig.2013.09.002>.
- Rieth, S; Li, Z; Hinkle, CE; Guzman, CX; Lee, JJ; Nehme, SI; Braunschweig, AB. (2013). Superstructures of Diketopyrrolopyrrole Donors and Perylenediimide Acceptors Formed by Hydrogen-Bonding and pi center dot center dot center dot pi Stacking. *J Phys Chem C.* 117: 11347-11356. <http://dx.doi.org/10.1021/jp400918z>.
- Rodríguez-Abreu, C; Auberry-Torres, C; Solans, C; López-Quintela, A; Tiddy, GJ. (2011). Characterization of perylene diimide dye self-assemblies and their use as templates for the synthesis of hybrid and supermicroporous nanotubes. 3: 4133-4141. <http://dx.doi.org/10.1021/am201016m>.
- Roeder, RD; Rungta, P; Tsyalkovsky, V; Bandera, Y; Foulger, SH. (2012). Colloidal templating: seeded emulsion polymerization of a soluble shell with a controlled alkyne surface density. *Soft Matter.* 8: 5493-5500. <http://dx.doi.org/10.1039/c2sm25070e>.
- Rungta, P; Bandera, YP; Tsyalkovsky, V; Foulger, SH. (2010). Designing fluoroprobes through Forster resonance energy transfer: surface modification of nanoparticles through "click" chemistry. *Soft Matter.* 6: 6083-6095. <http://dx.doi.org/10.1039/c0sm00470g>.
- Russ, B; Robb, MJ; Brunetti, FG; Miller, PL; Perry, EE; Patel, SN; Ho, V; Chang, WB; Urban, JJ; Chabinyc, ML; Hawker, CJ; Segalman, RA. (2014). Power factor enhancement in solution-processed organic n-type thermoelectrics through molecular design. *Adv Mater Deerfield.* 26: 3473-3477. <http://dx.doi.org/10.1002/adma.201306116>.
- Russell, JC; Blunt, MO; Goretzki, G; Phillips, AG; Champness, NR; Beton, PH. (2010). Solubilized derivatives of perylenetetracarboxylic dianhydride (PTCDA) adsorbed on highly oriented pyrolytic graphite. *Langmuir.* 26: 3972-3974. <http://dx.doi.org/10.1021/la903335v>.
- Sadeghi-Kiakhani, M; Gharanjig, K. (2015). Study of the Influence of Gemini Cationic Surfactants on the Dyeing and Fastness Properties of Polyester Fabrics Using Naphthalimide Dyes. *Journal of Surfactants and Detergents.* 18: 47-54. <http://dx.doi.org/10.1007/s11743-014-1622-1>.
- Sadeghi-Kiakhani, M; Gharanjig, K; Arami, M. (2014). Study on dyeing and fastness properties of wool-polyester blend fabrics using novel mono azo-naphthalimide dyes. *J Text Inst.* 105: 52-58. <http://dx.doi.org/10.1080/00405000.2013.810020>.
- Sadeghi-Kiakhani, M; Safapour, S. (2015). Improvement of the dyeing and fastness properties of a naphthalimide fluorescent dye using poly(amidoamine) dendrimer. *Color Technol.* 131: 142-148. <http://dx.doi.org/10.1111/cote.12132>.
- Safabakhsh, B; Khosravi, A; Gharanjig, K; Kowsari, E; Khorassani, M; Tafaghodi, S. (2012). Synthesis of a novel fluorescent coloured copolymer based on 4-butylthio-1,8-naphthalimide. *Color Technol.* 128: 218-222. <http://dx.doi.org/10.1111/j.1478-4408.2012.00366.x>.
- Sahin, Y; Alem, S; de Bettignies, R; Nunzi, JM. (2005). Development of air stable polymer solar cells using an inverted gold on top anode structure. *Thin Solid Films.* 476: 340-343. <http://dx.doi.org/10.1016/j.tsf.2004.10.018>.
- Sahoo, D; Tian, Y; Sforazzini, G; Anderson, HL; Scheblykin, IG. (2014). Photo-induced fluorescence quenching in conjugated polymers dispersed in solid matrices at low concentration. 2: 6601-6608. <http://dx.doi.org/10.1039/c4tc00831f>.
- Savage, RC; Orgiu, E; Mativetsky, JM; Pisula, W; Schnitzler, T; Eversloh, CL; Li, C; Müllen, K; Samori, P. (2012). Charge transport in fibre-based perylene-diimide transistors: effect of the alkyl substitution and processing technique. *Nanoscale.* 4: 2387-2393. <http://dx.doi.org/10.1039/c2nr30088e>.
- Schab-Balcerzak, E, wa; Iwan, A; Grucela-Zajac, M; Krompiec, M; Podgorna, M; Domanski, M; Siwy, M; Janeczek, H. (2011). Characterization, liquid crystalline behavior, optical and electrochemical study of new aliphatic-aromatic polyimide with naphthalene and perylene subunits. *Synthetic Metals.* 161: 1660-1670. <http://dx.doi.org/10.1016/j.synthmet.2011.05.036>.
- Schlicker, A; Peschke, P; Sinn, H; Hahn, EW. (2000). Albumin as a carrier system for delivering drugs to solid tumors. *PDA J Pharm Sci Technol.* 54: 442-448.
- Schmelzeisen, M; Zhao, Y; Klapper, M; Müllen, K; Kreiter, M. (2010). Fluorescence enhancement from individual plasmonic gap resonances. *ACS Nano.* 4: 3309-3317. <http://dx.doi.org/10.1021/nn901655v>.
- Schulz, A; Wotschadlo, J; Heinze, T; Mohr, GJ. (2010). Fluorescent nanoparticles for ratiometric pH-monitoring in the neutral range. *J Mater Chem.* 20: 1475-1482. <http://dx.doi.org/10.1039/b918427a>.

Fate Literature Search Results

Off Topic

- Schulz, B; Taeuber, D; Schuster, J; Baumgaertel, T; von Borczyskowski, C. (2011). Influence of mesoscopic structures on single molecule dynamics in thin smectic liquid crystal films. *Soft Matter.* 7: 7431-7440. <http://dx.doi.org/10.1039/c1sm05434a>.
- Schwarz, C; Milan, F; Hahn, T; Reichenberger, M; Kuemmel, S; Koehler, A. (2014). Ground State Bleaching at Donor-Acceptor Interfaces. *Adv Funct Mater.* 24: 6439-6448. <http://dx.doi.org/10.1002/adfm.201400297>.
- See, KC; Landis, C; Sarjeant, A, my; Katz, HE. (2008). Easily synthesized naphthalene tetracarboxylic diimide semiconductors with high electron mobility in air. *Chem Mater.* 20: 3609-3616. <http://dx.doi.org/10.1021/cm7032614>.
- SEKIGUCHI, T; Tanaka, M; Inoue, S; Ishida, K. (1971). STUDIES ON AZOMETHINE PIGMENTS .2. SYNTHESIS OF BISAZOMETHINE PIGMENTS FROM NAPHTHALIMIDE AND DIAMINES. 74: 428-&.
- Seo, S; Kim, Y; Zhou, Q; Clavier, G; Audebert, P; Kim, E. (2012). White Electrofluorescence Switching from Electrochemically Convertible Yellow Fluorescent Dyad. *Adv Funct Mater.* 22: 3556-3561. <http://dx.doi.org/10.1002/adfm.201102153>.
- Sghaier, T; Le Liepvre, S; Fiorini, C; Douillard, L; Charra, F. (2016). Optical absorption signature of a self-assembled dye monolayer on graphene. 7: 862-868. <http://dx.doi.org/10.3762/bjnano.7.78>.
- Shaki, H; Gharanjig, K; Khosravi, A. (2015). Spectral, dyeing and antimicrobial properties of some monoazo naphthalimide dyes on polyamide. *Indian Journal of Fibre & Textile Research.* 40: 425-430.
- Shaki, H; Gharanjig, K; Rouhani, S; Khosravi, A; Fakhar, J. (2012). Synthesis and application of some novel antimicrobial monoazonaphthalimide dyes: synthesis and characterisation. *Color Technol.* 128: 270-275. <http://dx.doi.org/10.1111/j.1478-4408.2012.00374.x>.
- Shaki, H; Khosravi, A; Gharaajig, K; Mahboubi, A. (2016). Investigation of synthesis, characterization, photophysical and biological properties of novel antimicrobial fluorescent naphthalimide derivatives. *Materials Technology.* 31: 322-331. <http://dx.doi.org/10.1179/1753555715Y.0000000058>.
- Sharenko, A; Gehrig, D; Laquai, F; Nguyen, T-Q. (2014). The Effect of Solvent Additive on the Charge Generation and Photovoltaic Performance of a Solution-Processed Small Molecule:Perylene Diimide Bulk Heterojunction Solar Cell. *Chem Mater.* 26: 4109-4118. <http://dx.doi.org/10.1021/cm5010483>.
- Sharenko, A; Proctor, CM; van der Poll, TS; Henson, ZB; Nguyen, TQ; Bazan, GC. (2013). A high-performing solution-processed small molecule:perylene diimide bulk heterojunction solar cell. *Adv Mater Deerfield.* 25: 4403-4406. <http://dx.doi.org/10.1002/adma.201301167>.
- Sharma, GD; Balraju, P; Mikroyannidis, JA; Stylianakis, MM. (2009). Bulk heterojunction organic photovoltaic devices based on low band gap small molecule BTD-TNP and perylene-anthracene diimide. *Solar Energy Materials and Solar Cells.* 93: 2025-2028. <http://dx.doi.org/10.1016/j.solmat.2009.08.003>.
- Shi, J; Wang, Y; Tang, X; Liu, W, ei; Jiang, H; Dou, W, ei; Liu, W. (2014). A colorimetric and fluorescent probe for thiols based on 1, 8-naphthalimide and its application for bioimaging. *Dyes and Pigments.* 100: 255-260. <http://dx.doi.org/10.1016/j.dyepig.2013.09.021>.
- Shi, M, inMin; Tung, VC; Nie, JJ; Chen, HZ; Yang, Y. (2014). Bulky rigid substitutions: A route to high electron mobility and high solid-state luminescence efficiency of perylene diimide. *Organic Electronics.* 15: 281-285. <http://dx.doi.org/10.1016/j.orgel.2013.11.011>.
- Shi, MM; Chen, HZ; Wang, M; Ye, J. (2003). Photoconductivity of fluoroperylene diimide/PVK composite. *Synthetic Metals.* 137: 1537-1538. [http://dx.doi.org/10.1016/S0379-6779\(02\)01225-0](http://dx.doi.org/10.1016/S0379-6779(02)01225-0).
- Shin, S; Chang, E; Lee, S, ujin; Cho, J, inKu; Jeong, KU, n. (2011). Color-tunable anisotropic optical films fabricated using perylene diimide mixed with naphthalene benzimidazole. *Thin Solid Films.* 520: 486-490. <http://dx.doi.org/10.1016/j.tsf.2011.06.105>.
- Shin, WS; Jeong, HH; Kim, MK; Jin, SH; Kim, MR; Lee, JK; Lee, JW; Gal, YS. (2006). Effects of functional groups at perylene diimide derivatives on organic photovoltaic device application. *J Mater Chem.* 16: 384-390. <http://dx.doi.org/10.1039/b512983d>.
- Shoaee, S; Clarke, TM; Eng, MP; Huang, C; Barlow, S; Espildora, E, va; Luis Delgado, J; Campo, B; Marder, SR; Heeney, M; Mcculloch, I; Martin, N; Vanderzande, D; Durrant, JR. (2012). Charge photogeneration in donor/acceptor organic solar cells. 2. <http://dx.doi.org/10.1117/1.JPE.2.021001>.
- Shoaee, S; Deledalle, F; Tuladhar, PS; Shivanna, R; Rajaram, S; Narayan, KS; Durrant, JR. (2015). A Comparison of Charge Separation Dynamics in Organic Blend Films Employing Fullerene and Perylene Diimide Electron Acceptors. *Journal of Physical Chemistry Letters.* 6: 201-205. <http://dx.doi.org/10.1021/jz502385n>.
- Shu, W, ei; Wang, Y; Wu, L, iu; Wang, Z; Duan, Q; Gao, Y; Liu, C; Zhu, B; Yan, L. (2016). Novel Carbonothioate-Based Colorimetric and Fluorescent Probe for Selective Detection of Mercury Ions. *Ind Eng Chem Res.* 55: 8713-8718. <http://dx.doi.org/10.1021/acs.iecr.6b02158>.
- Silva, BPG; de Florio, DZ; Brochsztain, S. (2014). Characterization of a Perylenediimide Self-Assembled Monolayer on Indium Tin Oxide Electrodes Using Electrochemical Impedance Spectroscopy. *J Phys Chem C.* 118: 4103-4112. <http://dx.doi.org/10.1021/jp409416b>.
- Singh, D; Baruah, JB. (2012). Metal(II) Complexes Derived from Conformation Flexible Cyclic Imide Tethered Carboxylic Acids: Syntheses, Supramolecular Structures, and Molecular Properties. *Cryst Growth Des.* 12: 2109-2121. <http://dx.doi.org/10.1021/cg300113f>.
- Singh, P; Mittal, LS; Vanita, V; Kumar, K; Walia, A; Bhargava, G; Kumar, S. (2016). Self-assembled vesicle and rod-like aggregates of functionalized perylene diimide: reaction-based near-IR intracellular fluorescent probe for selective detection of palladium. 4: 3750-3759. <http://dx.doi.org/10.1039/c6tb00512h>.
- Singh, R; Aluicio-Sarduy, E; Kan, Z; Ye, T; Mackenzie, RCI; Keivanidis, PE. (2014). Fullerene-free organic solar cells with an efficiency of 3.7% based on a low-cost geometrically planar perylene diimide monomer. 2: 14348-14353. <http://dx.doi.org/10.1039/c4ta02851a>.
- Singh, R; Giussani, E; Mroz, MM; Di Fonzo, F; Fazzi, D; Cabanillas-Gonzalez, J; Oldridge, L; Vaenas, N; Kontos, AG; Falaras, P; Grimsdale, AC; Jacob, J; Muellen, K; Keivanidis, PE. (2014). On the role of aggregation effects in the performance of perylene-diimide based solar cells. *Organic Electronics.* 15: 1347-1361. <http://dx.doi.org/10.1016/j.orgel.2014.03.044>.
- Singh, R; Lee, J; Kim, M; Keivanidis, PE; Cho, K. (2017). Control of the molecular geometry and nanoscale morphology in perylene diimide based bulk heterojunctions enables an efficient non-fullerene organic solar cell. 5: 210-220. <http://dx.doi.org/10.1039/c6ta08870h>.

Fate Literature Search Results

Off Topic

- Singh, R; Shivanna, R; Iosifidis, A; Butt, HJ; Floudas, G; Narayan, KS; Keivanidis, PE. (2015). Charge versus Energy Transfer Effects in High-Performance Perylene Diimide Photovoltaic Blend Films. *ACS Applied Materials & Interfaces*. 7: 24876-24886. <http://dx.doi.org/10.1021/acsmami.5b08224>.
- Singh, T, hB; Erten, S; Guenes, S; Zafer, C; Turkmen, G; Kuban, B; Teoman, Y; Sariciftci, NS; Icli, S. (2006). Soluble derivatives of perylene and naphthalene diimide for n-channel organic field-effect transistors. *Organic Electronics*. 7: 480-489. <http://dx.doi.org/10.1016/j.orgel.2006.06.010>.
- Sinks, LE; Rybtchinski, B; Iimura, M; Jones, BA; Goshe, AJ; Zuo, XB; Tiede, DM; Li, XY; Wasielewski, MR. (2005). Self-assembly of photofunctional cylindrical nanostructures based on perylene-3,4 : 9,10-bis(dicarboximide). *Chem Mater*. 17: 6295-6303. <http://dx.doi.org/10.1021/cm051461s>.
- Skurla, CP; Perera, A; Towe, CT; Robertson, PR; Healy, JL; Kane, RR. (2007). Development of photochemical method for meniscal repair: a preliminary study. *J Biomech*. 40: 220-224. <http://dx.doi.org/10.1016/j.jbiomech.2005.10.036>.
- Smieska, LM; Li, Z; Ley, D; Braunschweig, AB; Marohn, JA. (2016). Trap-clearing Spectroscopy in Perylene Diimide Derivatives. *Chem Mater*. 28: 813-820. <http://dx.doi.org/10.1021/acs.chemmater.5b04026>.
- Sommer, M; Lindner, SM; Thelakkat, M. (2007). Microphase-separated donor-acceptor diblock copolymers: Influence of HOMO energy levels and morphology on polymer solar cells. *Adv Funct Mater*. 17: 1493-1500. <http://dx.doi.org/10.1002/adfm.200600634>.
- Sriramulu, D; Valiyaveettil, S. (2016). Perylene derivatives as a fluorescent probe for sensing of amines in solution. *Dyes and Pigments*. 134: 306-314. <http://dx.doi.org/10.1016/j.dyepig.2016.07.028>.
- Staneva, D; Bosch, P; Asiri, AM; Taib, LA; Grabchev, I, vo. (2014). Studying pH dependence of the photophysical properties of a blue emitting fluorescent PAMAM dendrimer and evaluation of its sensor potential. *Dyes and Pigments*. 105: 114-120. <http://dx.doi.org/10.1016/j.dyepig.2014.01.018>.
- Staneva, D; Grabchev, I, vo; Betcheva, R. (2013). Sensor potential of 1,8-naphthalimide and its dyeing ability of cotton fabric. *Dyes and Pigments*. 98: 64-70. <http://dx.doi.org/10.1016/j.dyepig.2013.01.019>.
- Staneva, D; Grabchev, I, vo; Bosch, P. (2015). Fluorescent Hydrogel-Textile Composite Material Synthesized by Photopolymerization. *Int J Polym Mater*. 64: 838-847. <http://dx.doi.org/10.1080/00914037.2015.1030654>.
- Stappert, S; Li, C; Muellen, K. (2016). Synthesis of an Acceptor-Donor-Acceptor Multichromophore Consisting of Terrylene and Perylene Diimides for Multistep Energy Transfer Studies. *Chem Mater*. 28: 906-914. <http://dx.doi.org/10.1021/acs.chemmater.5b04602>.
- Stergiou, A; Tagmatarchis, N. (2016). Fluorene-Perylene Diimide Arrays onto Graphene Sheets for Photocatalysis. 8: 21576-21584. <http://dx.doi.org/10.1021/acsami.6b06797>.
- Stolarski, R. (2009). Fluorescent Naphthalimide Dyes for Polyester Fibres. 17: 91-95.
- Streiter, M; Krause, S; von Borczyskowski, C; Deibel, C. (2016). Dynamics of Single-Molecule Stokes Shifts: Influence of Conformation and Environment. *Journal of Physical Chemistry Letters*. 7: 4281-4284. <http://dx.doi.org/10.1021/acs.jpcllett.6b02102>.
- Su, JH; Tian, H; Chen, KC. (1996). Novel trichromophoric rhodamine dyes and their fluorescence properties. *Dyes and Pigments*. 31: 69-77.
- Su, JH; Xu, T; Chen, KC; Tian, H. (2000). Excited state properties of bis-1,8-naphthalimides. *Dyes and Pigments*. 44: 87-92.
- Subbarao, NNV; Gedda, M; Vasimalla, S; Iyer, PK; Goswami, DK. (2014). Effect of thickness of bilayer dielectric on 1,7-dibromo-N,N '-dioctadecyl-3,4,9,10-perylenetetracarboxylic diimide based organic field-effect transistors. *Physica Status Solidi A: Applications and Materials Science (Print)*. 211: 2403-2411. <http://dx.doi.org/10.1002/pssa.201431304>.
- Sun, J, onP; Hendsbee, AD; Dobson, AJ; Welch, GC; Hill, I, anG. (2016). Perylene diimide based all small-molecule organic solar cells: Impact of branched-alkyl side chains on solubility, photophysics, self-assembly, and photovoltaic parameters. *Organic Electronics*. 35: 151-157. <http://dx.doi.org/10.1016/j.orgel.2016.05.012>.
- Sun, M; Yin, W; Dong, X; Yang, W; Zhao, Y; Yin, M. (2016). Fluorescent supramolecular micelles for imaging-guided cancer therapy. *Nanoscale*. 8: 5302-5312. <http://dx.doi.org/10.1039/c6nr00450d>.
- Susarova, DK; Troshin, PA; Hoeglinder, D; Koeppen, R; Babenko, SD; Lyubovskaya, RN; Razumov, VF; Sariciftci, NS. (2010). Donor-acceptor complex formation in evaporated small molecular organic photovoltaic cells. *Solar Energy Materials and Solar Cells*. 94: 803-811. <http://dx.doi.org/10.1016/j.solmat.2009.12.027>.
- Takada, T; Takemura, M; Kawano, Y; Nakamura, M; Yamana, K. (2015). Photoresponsive DNA monolayer prepared by primer extension reaction on the electrode. *Langmuir*. 31: 3993-3998. <http://dx.doi.org/10.1021/la505013u>.
- Tan, L; Curtis, MD; Francis, AH. (2003). Characterization of organic p/n junction photodiodes based on poly(alkylthiophene)/perylene diimide bilayers. *Chem Mater*. 15: 2272-2279. <http://dx.doi.org/10.1021/cm034183a>.
- Tan, L; Curtis, MD; Francis, AH. (2004). Simulation of transient photoconduction in organic p-n junction bilayer photodiodes. *Chem Mater*. 16: 2134-2141. <http://dx.doi.org/10.1021/cm035102d>.
- Tan, W; Li, X, in; Zhang, J; Tian, H, e. (2011). A photochromic diarylethene dyad based on perylene diimide. *Dyes and Pigments*. 89: 260-265. <http://dx.doi.org/10.1016/j.dyepig.2010.03.020>.
- Tanaka, K; Nishio, S; Matsuura, Y; Yamabe, T. (1993). PREPARATION OF ORGANIC SEMICONDUCTIVE THIN-FILM BY PLASMA-POLYMERIZATION OF AROMATIC-COMPOUNDS AND THEIR DERIVATIVES. *Synthetic Metals*. 55: 896-901.
- Tang, J; Yang, H, ui; Liu, J; Wang, Y, ao; Yin, X; Wang, R, ui; Huang, L; Huang, Z. (2010). Ln(3+)-enhanced blue fluorescence from novel excimer of 1,8-naphthalimide-conjugated PAMAM. *Optical Materials*. 32: 1417-1422. <http://dx.doi.org/10.1016/j.optmat.2010.05.008>.
- Tang, S; Liang, D; Chen, G; Jin, R. (2015). Design of acceptors based on perylene diimide toward organic solar cell materials. *Materials Technology*. 30: 230-240. <http://dx.doi.org/10.1179/1753555714Y.0000000252>.
- Tang, T; Herrmann, A; Peneva, K; Müllen, K; Webber, SE. (2007). Energy transfer in molecular layer-by-layer films of water-soluble perylene diimides. *Langmuir*. 23: 4623-4628. <http://dx.doi.org/10.1021/la0634903>.

Fate Literature Search Results

Off Topic

- Tang, T; Qu, J; Müllen, K; Webber, SE. (2006). Molecular layer-by-layer self-assembly of water-soluble perylene diimides through pi-pi and electrostatic interactions. *Langmuir*. 22: 26-28. <http://dx.doi.org/10.1021/la052766o>.
- Tao, Y; Mcculloch, B; Kim, S; Segalman, RA. (2009). The relationship between morphology and performance of donor-acceptor rod-coil block copolymer solar cells. *Soft Matter*. 5: 4219-4230. <http://dx.doi.org/10.1039/b907836c>.
- Tao, ZF; Qian, XH. (1999). Naphthalimide hydroperoxides as photonucleases: substituent effects and structural basis. *Dyes and Pigments*. 43: 139-145.
- Tao, ZF; Qian, XH; Wei, DZ. (1996). 1,8-naphthalimide hydroperoxides as novel intercalating DNA cleavers. *Dyes and Pigments*. 31: 245-251.
- Taouri, A; Derbal, H; Nunzi, JM; Mountasser, R; Sylla, M. (2009). Two-Photon absorption cross-section measurement by thermal lens and nonlinear transmission methods in organic materials at 532 nm and 1064 nm laser excitations. *J Optoelect Adv Mater*. 11: 1696-1703.
- Tatemichi, S; Ichikawa, M; Kato, S; Koyama, T; Taniguchi, Y. (2008). Low-voltage, high-gain, and high-mobility organic complementary inverters based on N,N'-ditridecyl-3,4,9,10-perylenetetracarboxylic diimide and pentacene. *Physica Status Solidi Rapid Research Letters*. 2: 47-49. <http://dx.doi.org/10.1002/pssr.200701267>.
- Tatsumi, H; Wang, Y; Aizawa, Y; Tokita, M; Mori, T; Michinobu, T. (2016). Halogen Substitution Effects on the Molecular Packing and Thin Film Transistor Performances of Carbazoledioxazine Derivatives. *J Phys Chem C*. 120: 26686-26694. <http://dx.doi.org/10.1021/acs.jpcc.6b09888>.
- Telore, RD; Sekar, N. (2016). Carbazole-containing push-pull chromophore with viscosity and polarity sensitive emissions: Synthesis and photophysical properties. *Dyes and Pigments*. 129: 1-8. <http://dx.doi.org/10.1016/j.dyepig.2016.02.012>.
- Tian, H; Gan, J; Chen, KC; He, J; Song, QL; Hou, XY. (2002). Positive and negative fluorescent imaging induced by naphthalimide polymers. *J Mater Chem*. 12: 1262-1267. <http://dx.doi.org/10.1039/b200509c>.
- Tian, H; He, YJ; Chang, CP. (2000). Synthesis and spectral properties of novel laser copolymers based on modified rhodamine 6G and 1,8-naphthalimide. *J Mater Chem*. 10: 2049-2055.
- Tian, H; Su, JH; Chen, KC; Wong, TC; Gao, ZQ; Lee, CS; Lee, ST. (2000). Electroluminescent property and charge separation state of bis-naphthalimides. *Optical Materials*. 14: 91-94.
- Tian, H; Tang, YF; Chen, KC. (1994). BICHROMOPHORIC RHODAMINE DYES AND THEIR FLUORESCENCE PROPERTIES. *Dyes and Pigments*. 26: 159-165.
- Tian, Y; Su, F; Weber, W; Nandakumar, V; Shumway, BR; Jin, Y; Zhou, X; Holl, MR; Johnson, RH; Meldrum, DR. (2010). A series of naphthalimide derivatives as intra and extracellular pH sensors. *Biomaterials*. 31: 7411-7422. <http://dx.doi.org/10.1016/j.biomaterials.2010.06.023>.
- Tilley, AJ; Guo, C; Miltenburg, MB; Schon, TB; Yan, H, an; Li, Y; Seferos, DS. (2015). Thionation Enhances the Electron Mobility of Perylene Diimide for High Performance n-Channel Organic Field Effect Transistors. *Adv Funct Mater*. 25: 3321-3329. <http://dx.doi.org/10.1002/adfm.201500837>.
- Topple, JM; Burke, SA; Ji, W; Fostner, S; Tekiel, A; Gruetter, P. (2011). Tailoring the Morphology and Dewetting of an Organic Thin Film. *J Phys Chem C*. 115: 217-224. <http://dx.doi.org/10.1021/jp107644u>.
- Tozlu, C, em; Kus, M; Can, M; Ersoz, M. (2014). Solution processed white light photodetector based N, N '-di(2-ethylhexyl)-3,4,9,10-perylene diimide thin film phototransistor. *Thin Solid Films*. 569: 22-27. <http://dx.doi.org/10.1016/j.tsf.2014.07.055>.
- Trindade, F, deJ; Queiruga Rey, JF; Brochstain, S. (2011). Covalent attachment of 4-amino-1,8-naphthalimides onto the walls of mesoporous molecular sieves MCM-41 and SBA-15. *Dyes and Pigments*. 89: 97-104. <http://dx.doi.org/10.1016/j.dyepig.2010.09.009>.
- Trindade, F, deJ; Triboni, ER; Castanheira, B; Brochstain, S. (2015). Color-Tunable Fluorescence and White Light Emission from Mesoporous Organosilicas Based on Energy Transfer from 1,8-Naphthalimide Hosts to Perylenediimide Guests. *J Phys Chem C*. 119: 26989-26998. <http://dx.doi.org/10.1021/acs.jpcc.5b07912>.
- Trindade, FJ; Fernandes, GJT; Araujo, AS; Fernandes, VJ, Jr; Silva, BPG; Nagayasu, RY; Politi, MJ; Castro, FL; Brochstain, S. (2008). Covalent attachment of 3,4,9,10-perylenediimides onto the walls of mesoporous molecular sieves MCM-41 and SBA-15. *Microporous and Mesoporous Materials*. 113: 463-471. <http://dx.doi.org/10.1016/j.micromeso.2007.12.013>.
- Troeger, A; Ledendecker, M; Margraf, JT; Sgobba, V; Guldi, DM; Vieweg, BF; Spiecker, E; Suraru, SL; Wuerthner, F. (2012). p-Doped Multiwall Carbon Nanotube/Perylene Diimide Derivative Photoelectrochemical Cells for Photocurrent Generation. 2: 536-540. <http://dx.doi.org/10.1002/aenm.201100710>.
- Trofymchuk, K; Reisch, A; Shulov, I; Mély, Y; Klymchenko, AS. (2014). Tuning the color and photostability of perylene diimides inside polymer nanoparticles: towards biodegradable substitutes of quantum dots. *Nanoscale*. 6: 12934-12942. <http://dx.doi.org/10.1039/c4nr03718a>.
- Troshin, PA; Koeppe, R; Susarova, DK; Polyakova, NV; Peregovodov, AS; Razumov, VF; Sariciftci, NS; Lyubovskaya, RN. (2009). Trannulenes: a new class of photoactive materials for organic photovoltaic devices. *J Mater Chem*. 19: 7738-7744. <http://dx.doi.org/10.1039/b908377d>.
- Tsai, HY; Chen, K, ewYu. (2013). 1,7-Diaminoperylene bisimides: Synthesis, optical and electrochemical properties. *Dyes and Pigments*. 96: 319-327. <http://dx.doi.org/10.1016/j.dyepig.2012.09.003>.
- Tu, GL; Mei, CY; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). Highly efficient pure-white-light-emitting diodes from a single polymer: Polyfluorene with naphthalimide moieties. *Adv Funct Mater*. 16: 101-106. <http://dx.doi.org/10.1002/adfm.200500028>.
- Tu, GL; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2005). Synthesis and properties of polyfluorenes containing 1,8-naphthalimide moieties for white electroluminescence. *Synthetic Metals*. 152: 161-164. <http://dx.doi.org/10.1016/j.synthmet.2005.07.173>.
- Tugluoglu, N; Karadeniz, S; Baris, B. (2015). Analysis of relaxation time and density of interface trap on perylene-diimide (PDI)/p-Si (100) Schottky diodes. *Materials Science in Semiconductor Processing*. 33: 199-205. <http://dx.doi.org/10.1016/j.mssp.2015.01.031>.

Fate Literature Search Results

Off Topic

- Turkmen, G; Erten-Ela, S; Icli, S. (2009). Highly soluble perylene dyes: Synthesis, photophysical and electrochemical characterizations. *Dyes and Pigments.* 83: 297-303. <http://dx.doi.org/10.1016/j.dyepig.2009.05.014>.
- Ulla, H; Garudachari, B; Satyanarayan, MN; Umesh, G; Isloor, AM. (2014). Blue organic light emitting materials: Synthesis and characterization of novel 1,8-naphthalimide derivatives. *Optical Materials.* 36: 704-711. <http://dx.doi.org/10.1016/j.optmat.2013.11.017>.
- Ulla, H; Kiran, MR; Garudachari, B; Satyanarayan, MN; Umesh, G; Isloor, AM. (2014). Blue emitting halogen-phenoxy substituted 1,8-naphthalimides for potential organic light emitting diode applications. *Optical Materials.* 37: 311-321. <http://dx.doi.org/10.1016/j.optmat.2014.06.016>.
- Vajiravelu, S; Lygaitis, R; Grazulevicius, JV; Gaidelis, V; Jankauskas, V; Valiyaveettill, S. (2009). Effect of substituents on the electron transport properties of bay substituted perylene diimide derivatives. *J Mater Chem.* 19: 4268-4275. <http://dx.doi.org/10.1039/b901847f>.
- van der Boom, T; Evmenenko, G; Dutta, P; Wasielewski, MR. (2003). Self-assembly of photofunctional siloxane-based calix[4]arenes on oxide surfaces. *Chem Mater.* 15: 4068-4074. <http://dx.doi.org/10.1021/cm034247h>.
- Vasseur, K; Rolin, C; Vandezande, S; Temst, K; Froyen, L; Heremans, P. (2010). A Growth and Morphology Study of Organic Vapor Phase Deposited Perylene Diimide Thin Films for Transistor Applications. *J Phys Chem C.* 114: 2730-2737. <http://dx.doi.org/10.1021/jp909242n>.
- Veldkamp, BS; Han, W; onSik; Dyar, SM; Eaton, SW; Ratner, MA; Wasielewski, MR. (2013). Photoinitiated multi-step charge separation and ultrafast charge transfer induced dissociation in a pyridyl-linked photosensitizer-cobaloxime assembly. *Energ Environ Sci.* 6: 1917-1928. <http://dx.doi.org/10.1039/c3ee40378e>.
- Ventura, B; Bertocco, A; Braga, D; Catalano, L; D'Agostino, S; Grepioni, F; Taddei, P. (2014). Luminescence Properties of 1,8-Naphthalimide Derivatives in Solution, in Their Crystals, and in Co-crystals: Toward Room-Temperature Phosphorescence from Organic Materials. *J Phys Chem C.* 118: 18646-18658. <http://dx.doi.org/10.1021/jp5049309>.
- Vertsimakha, Y, a; Lutsyk, P; Palewska, K; Sworakowski, J; Lytvyn, O. (2007). Optical and photovoltaic properties of thin films of N,N'-dimethyl-3,4A 10-perylenetetracarboxylic acid diimide. *Thin Solid Films.* 515: 7950-7957. <http://dx.doi.org/10.1016/j.tsf.2007.03.048>.
- Vivo, P; Dubey, R; Lehtonen, E; Kivistö, H; Vuorinen, T; Lemmetyinen, H. (2013). Dipyrrolidinyl-substituted perylene diimide as additive for poly(3-hexylthiophene): [6,6]-Phenyl C61 butyric acid methylester bulk-heterojunction blends. *Thin Solid Films.* 548: 398-405. <http://dx.doi.org/10.1016/j.tsf.2013.08.106>.
- Wan, AS; Kushto, GP; Makinen, AJ. (2010). Monolayer structure of a liquid crystalline perylene derivative on bare and on thiol-terminated Au(111) surfaces. *Journal of Vacuum Science and Technology A.* 28: 1275-1278. <http://dx.doi.org/10.1116/1.3462036>.
- Wan, X; Liu, T; Liu, S. (2011). Thermoresponsive core cross-linked micelles for selective ratiometric fluorescent detection of Hg²⁺ ions. *Langmuir.* 27: 4082-4090. <http://dx.doi.org/10.1021/la104911r>.
- Wan, X; Wang, D; Liu, S. (2010). Fluorescent pH-sensing organic/inorganic hybrid mesoporous silica nanoparticles with tunable redox-responsive release capability. *Langmuir.* 26: 15574-15579. <http://dx.doi.org/10.1021/la102148x>.
- Wang, B; Hu, Y; Su, Z. (2008). Synthesis and photophysical behaviors of a blue fluorescent copolymer as chemosensor for protons and Ni²⁺ ion in aqueous solution. *React Funct Polym.* 68: 1137-1143. <http://dx.doi.org/10.1016/j.reactfunctpolym.2008.03.005>.
- Wang, DE; Zhao, L; Yuan, MS; Chen, SW; Li, T; Wang, J. (2016). Fabrication of Polydiacetylene Liposome Chemosensor with Enhanced Fluorescent Self-Amplification and Its Application for Selective Detection of Cationic Surfactants. <http://dx.doi.org/10.1021/acsami.6b10794>.
- Wang, H; Guo, L, inE; Li, X, ueMei; Zhang, L, iMei; Xu, Q, iuLin; Wu, G, aoFen; Zhou, Y; Zhang, J, unF. (2015). Coumarin-based turn-on fluorescence probes for highly selective detection of Pi in cell culture and *Caenorhabditis elegans*. *Dyes and Pigments.* 120: 293-298. <http://dx.doi.org/10.1016/j.dyepig.2015.04.031>.
- Wang, H, ua; Liang, Y, an; Xie, H; Lu, H; Zhao, S; Feng, S. (2016). Unexpected SiMe₃ effect on color-tunable and fluorescent probes of dendritic polyphenyl naphthalimides with aggregation-induced emission enhancement. 4: 745-750. <http://dx.doi.org/10.1039/c5tc03344f>.
- Wang, H; Schaefer, K; Pich, A; Moeller, M. (2011). Synthesis of Silica Encapsulated Perylenetetracarboxylic Diimide Core-Shell Nanoellipsoids. *Chem Mater.* 23: 4748-4755. <http://dx.doi.org/10.1021/cm2017328>.
- Wang, H; Zhao, L; Liu, X; Xu, J; Hou, W; Wang, J; He, E; Zhang, R; Zhang, H. (2017). Novel hydrogen bonding composite based on copper phthalocyanine/perylene diimide derivatives p-n heterojunction with improved photocatalytic activity. *Dyes and Pigments.* 137: 322-328. <http://dx.doi.org/10.1016/j.dyepig.2016.11.014>.
- Wang, H; Zhou, G; Mao, C; Chen, X. (2013). A fluorescent sensor bearing nitroolefin moiety for the detection of thiols and its biological imaging. *Dyes and Pigments.* 96: 232-236. <http://dx.doi.org/10.1016/j.dyepig.2012.07.013>.
- Wang, J; Liang, Z. (2016). Synergetic Solvent Engineering of Film Nanomorphology to Enhance Planar Perylene Diimide-Based Organic Photovoltaics. 8: 22418-22424. <http://dx.doi.org/10.1021/acsami.6b08284>.
- Wang, J, un; Shi, W, en; Liu, D, i; Zhang, Z; Zhu, Y; Wang, D. (2017). Supramolecular organic nanofibers with highly efficient and stable visible light photooxidation performance. *Appl Catal B-Environ.* 202: 289-297. <http://dx.doi.org/10.1016/j.apcatb.2016.09.037>.
- Wang, J; Yao, Y; Dai, S; Zhang, X; Wang, W, ei; He, Q; Han, L, ei; Lin, Y; Zhan, X. (2015). Oligothiophene-bridged perylene diimide dimers for fullerene-free polymer solar cells: effect of bridge length. 3: 13000-13010. <http://dx.doi.org/10.1039/c5ta02589c>.
- Wang, JB; Xiao, Y; Zhang, ZC; Qian, XH; Yang, YY; Xu, Q. (2005). A pH-resistant Zn(II) sensor derived from 4-aminonaphthalimide: design, synthesis and intracellular applications. *J Mater Chem.* 15: 2836-2839. <http://dx.doi.org/10.1039/b500766f>.
- Wang, KC; Huang, W; Xia, P; Gao, C; Yan, DY. (2002). Fluorescent polymer made from chemical modification of poly(styrene-co-maleic anhydride). *React Funct Polym.* 52: 143-148.
- Wang, L; Wang, T, ao; Jin, Y; Chen, P; Gong, Y; Zhao, Y; Yu, L, i. (2015). Based on charge-transfer interaction organic light-response materials: From sphere-like nanoparticles to fibers. *Curr Appl Phys.* 15: 920-924. <http://dx.doi.org/10.1016/j.cap.2015.04.012>.

Fate Literature Search Results

Off Topic

- Wang, M, in; Xu, Z; Wang, X, u; Cui, J. (2013). A fluorescent and colorimetric chemosensor for nitric oxide based on 1,8-naphthalimide. *Dyes and Pigments.* 96: 333-337. <http://dx.doi.org/10.1016/j.dyepig.2012.08.024>.
- Wang, Q, i; Wu, J; Gong, Z; Zou, Y; Yi, T, ao; Huang, C. (2010). From vesicles to solid spheres: terminal functional group induced morphology modification. *Soft Matter.* 6: 2679-2684. <http://dx.doi.org/10.1039/b927579g>.
- Wang, QC; Ren, J; Qu, DH; Zhao, XL; Chen, KC; Tian, H; Erk, P. (2003). Synthesis and luminescent properties of some novel naphthalimide dimers. *Dyes and Pigments.* 59: 143-152. [http://dx.doi.org/10.1016/S0143-7208\(03\)00112-8](http://dx.doi.org/10.1016/S0143-7208(03)00112-8).
- Wang, S; Dössel, L; Mavriniskiy, A; Gao, P; Feng, X; Pisula, W; Müllen, K. (2011). Self-assembly and microstructural control of a hexa-peri-hexabenzocoronene-perylene diimide dyad by solvent vapor diffusion. *Small.* 7: 2841-2846. <http://dx.doi.org/10.1002/smll.201100730>.
- Wang, S; Zeng, PJ; Liu, YQ; Yu, G; Sun, XB; Niu, HB; Zhu, DB. (2005). Luminescent properties of a novel naphthalimide-fluorene molecule. *Synthetic Metals.* 150: 33-38. <http://dx.doi.org/10.1016/j.synthmet.2004.12.019>.
- Wang, W; Yang, Q; Sun, L; Wang, H; Zhang, C; Fei, X; Sun, M; Li, Y. (2011). Preparation of fluorescent nanofibrous film as a sensing material and adsorbent for Cu²⁺ in aqueous solution via copolymerization and electrospinning. *J Hazard Mater.* 194: 185-192. <http://dx.doi.org/10.1016/j.jhazmat.2011.07.083>.
- Wang, X; Lv, L, ei; Li, L; Chen, Y; Zhang, K, ai; Chen, H; Dong, H; Huang, J; Shen, G; Yang, Z; Huang, H, ui. (2016). High-Performance All-Polymer Photoresponse Devices Based on Acceptor-Acceptor Conjugated Polymers. *Adv Funct Mater.* 26: 6306-6315. <http://dx.doi.org/10.1002/adfm.201601745>.
- Wang, Y; Chen, Y; Li, R; Wang, S; Su, W; Ma, P; Wasielewski, MR; Li, X; Jiang, J. (2007). Amphiphilic perylenetetracarboxyl diimide dimer and its application in field effect transistor. *Langmuir.* 23: 5836-5842. <http://dx.doi.org/10.1021/la063729f>.
- Wang, Y, i; Zhang, X; Han, B; Peng, J; Hou, S; Huang, Y, an; Sun, H; Xie, M; Lu, Z. (2010). The synthesis and photoluminescence characteristics of novel blue light-emitting naphthalimide derivatives. *Dyes and Pigments.* 86: 190-196. <http://dx.doi.org/10.1016/j.dyepig.2010.01.003>.
- Wang, Y; Zhao, X; Zhan, X. (2015). Layer by layer solution processed organic solar cells based on a small molecule donor and a polymer acceptor. 3: 447-452. <http://dx.doi.org/10.1039/c4tc02103g>.
- Wang, Y, i; Zhou, J, ie; Wang, X, u; Zheng, X; Lu, Z; Zhang, W, ei; Chen, Y; Huang, Y, an; Pu, X; Yu, J. (2014). An efficient guest/host fluorescent energy transfer pair based on the naphthalimide skeleton, and its application in heavily-doped red organic light-emitting diodes. *Dyes and Pigments.* 100: 87-96. <http://dx.doi.org/10.1016/j.dyepig.2013.08.021>.
- Wang, ZH; Tian, H; Chen, KC. (2001). Synthesis of novel dyes containing ferrocene. *Dyes and Pigments.* 51: 161-165.
- Wangatia, LM; Sun, B, in; Zeng, T; Zhu, M. (2015). Reactive bay functionalized perylene monoimide-polyhedral oligomeric silsesquioxane organic electronic dye. 33: 113-121. <http://dx.doi.org/10.1515/msp-2015-0016>.
- Weintraub, MT; Xhakaj, E; Austin, A; Szarko, JM. (2016). The effects of donor : acceptor intermolecular mixing and acceptor crystallization on the composition ratio of blended, spin coated organic thin films. 4: 7756-7765. <http://dx.doi.org/10.1039/c6tc01458e>.
- Weitzel, CR; Everett, TA; Higgins, DA. (2009). Aggregation and its influence on macroscopic in-plane organization in thin films of electrostatically self-assembled perylene-diimide/polyelectrolyte nanofibers. *Langmuir.* 25: 1188-1195. <http://dx.doi.org/10.1021/la803177n>.
- Wen, Y; Liu, Y; Di, C, an; Wang, Y; Sun, X; Guo, Y; Zheng, J; Wu, W; Ye, S; Yu, G, ui. (2009). Improvements in Stability and Performance of N,N'-Dialkyl Perylene Diimide-Based n-Type Thin-Film Transistors. *Adv Mater Deerfield.* 21: 1631-. <http://dx.doi.org/10.1002/adma.200802934>.
- Williams, RM. (2009). A highly soluble asymmetric perylene-bis (dicarboximide)-acceptor system incorporating a methylene bridged methoxybenzene-donor: solvent dependence of charge transfer interactions. *Turkish Journal of Chemistry.* 33: 727-737. <http://dx.doi.org/10.3906/kim-0811-33>.
- Wojciechowski, K. (1993). PROPERTIES AND STRUCTURE OF NAPHTHALIMIDE DYES DERIVED FROM PYRAZOLONES. *Dyes and Pigments.* 22: 239-254.
- Wojciechowski, K. (1993). SYNTHESIS AND PROPERTIES OF NAPHTHALIMIDE ACID DYES. *Dyes and Pigments.* 22: 117-130.
- Wojciechowski, K. (1997). Structure-property relationships in azo disperse dyes, derivatives of naphthalimide. *Dyes and Pigments.* 33: 149-165.
- Wolarz, E; Adamski, A; Chrzumnicka, E; Palusziewicz, J; Stolarski, R. (2013). Orientational properties of perylene tetracarboxylic diimide molecules in liquid-crystalline matrices. *Liquid Crystals.* 40: 1354-1363. <http://dx.doi.org/10.1080/02678292.2013.811551>.
- Woodhouse, M; Perkins, CL; Rawls, MT; Cormier, RA; Liang, Z; Nardes, AM; Gregg, BA. (2010). Non-Conjugated Polymers for Organic Photovoltaics: Physical and Optoelectronic Properties of Poly(perylene diimides). *J Phys Chem C.* 114: 6784-6790. <http://dx.doi.org/10.1021/jp910738a>.
- Wu, CH, ao; Chueh, C, huC; Xi, Y, uYin; Zhong, HL; Gao, GP; Wang, ZH, ui; Pozzo, LD; Wen, T, enC; Jen, AKY. (2015). Influence of Molecular Geometry of Perylene Diimide Dimers and Polymers on Bulk Heterojunction Morphology Toward High-Performance Nonfullerene Polymer Solar Cells. *Adv Funct Mater.* 25: 5326-5332. <http://dx.doi.org/10.1002/adfm.201501971>.
- Wu, N, a; Wang, C; Slattum, PM; Zhang, Y; Yang, X; Zang, L. (2016). Persistent Photoconductivity in Perylene Diimide Nanofiber Materials. 1: 906-912. <http://dx.doi.org/10.1021/acsenergylett.6b00422>.
- Wu, N; Zhang, Y; Wang, C; Slattum, PM; Yang, X; Zang, L. (2017). Thermoactivated Electrical Conductivity in Perylene Diimide Nanofiber Materials. *Journal of Physical Chemistry Letters.* 8: 292-298. <http://dx.doi.org/10.1021/acs.jpcllett.6b02639>.
- Wu, W; Huang, D; Yi, X; Zhao, J. (2013). Tridentate cyclometalated platinum(II) complexes with strong absorption of visible light and long-lived triplet excited states as photosensitizers for triplet-triplet annihilation upconversion. *Dyes and Pigments.* 96: 220-231. <http://dx.doi.org/10.1016/j.dyepig.2012.07.021>.
- Wu, W, eiB; Wang, ML; Sun, Y, ueM; Huang, W, ei; Cui, Y, iP; Xu, CX. (2008). Color-tuned FRET polystyrene microspheres by single wavelength excitation. *Optical Materials.* 30: 1803-1809. <http://dx.doi.org/10.1016/j.optmat.2007.11.031>.

Fate Literature Search Results

Off Topic

- Wu, W; Wu, W; Ji, S; Guo, H; Song, P; Han, K; Chi, L; Shao, J; Zhao, J. (2010). Tuning the emission properties of cyclometalated platinum(II) complexes by intramolecular electron-sink/arylethynylated ligands and its application for enhanced luminescent oxygen sensing. *J Mater Chem.* 20: 9775-9786. <http://dx.doi.org/10.1039/c0jm01794a>.
- Wu, YQ; Yang, TS; he; Li, X; un; Wu, J; unC; Yi, T; ao; Li, F; uYou; Huang, CH; ui; Fan, XL; in. (2011). Novel derivatives of niclosamide synthesis Its bioactivity and interaction with Schistosoma japonicum cercariae. *Dyes and Pigments.* 88: 326-332. <http://dx.doi.org/10.1016/j.dyepig.2010.08.002>.
- Xia, S; Yi, L; Sun, Z; Xiang, J; Hu, J; Wang, Y. (2013). Synthesis and characterisation of rubbing-resistant polyimides with naphthalimide side-chain for liquid-crystal alignment layers. *Liquid Crystals.* 40: 756-768. <http://dx.doi.org/10.1080/02678292.2013.783138>.
- Xia, T; Wang, L; Qu, Y; Rui, Y; Cao, J; Hu, Y; ue; Yang, J; i; Wu, J; Xu, J. (2016). A thermoresponsive fluorescent rotor based on a hinged naphthalimide for a viscometer and a viscosity-related thermometer. 4: 5696-5701. <http://dx.doi.org/10.1039/c6tc01241h>.
- Xiao, C; Jiang, W; Li, X; Hao, L; Liu, C; Wang, Z. (2014). Laterally expanded rylene diimides with uniform branched side chains for solution-processed air stable n-channel thin film transistors. 6: 18098-18103. <http://dx.doi.org/10.1021/am504984z>.
- Xie, A; Liu, B; Hall, JE; Barron, SL; Higgins, DA. (2005). Self-assembled photoactive polyelectrolyte/perylene-diimide composites. *Langmuir.* 21: 4149-4155. <http://dx.doi.org/10.1021/la0471700>.
- Xu, L; iQun; Zhang, B; in; Sun, M; Hong, L; Neoh, KG; ee; Kang, E; nT; Fu, G; uoD. (2013). CO₂-triggered fluorescence "turn-on" response of perylene diimide-containing poly(N,N-dimethylaminoethyl methacrylate). 1: 1207-1212. <http://dx.doi.org/10.1039/c2ta00482h>.
- Xu, Z; Deng, P; Tang, S; Li, J. (2016). Fluorescent molecularly imprinted polymers based on 1,8-naphthalimide derivatives for efficiently recognition of cholic acid. *Mater Sci Eng C.* 58: 558-567. <http://dx.doi.org/10.1016/j.msec.2015.08.060>.
- Xu, Z; Liu, S; Kang, Y; Wang, M. (2015). Glutathione- and pH-responsive nonporous silica prodrug nanoparticles for controlled release and cancer therapy. *Nanoscale.* 7: 5859-5868. <http://dx.doi.org/10.1039/c5nr00297d>.
- Xu, Z; Liu, S; Kang, Y; Wang, M. (2015). Glutathione-Responsive Polymeric Micelles Formed by a Biodegradable Amphiphilic Triblock Copolymer for Anticancer Drug Delivery and Controlled Release. 1: 585-592. <http://dx.doi.org/10.1021/acsbiomaterials.5b00119>.
- Xu, Z; Zhang, K; Hou, C; Wang, D; Liu, X; Guan, X; Zhang, X; Zhang, H. (2014). A novel nanoassembled doxorubicin prodrug with a high drug loading for anticancer drug delivery. 2: 3433-3437. <http://dx.doi.org/10.1039/c4tb00128a>.
- Xuan, Z; Lu, L. (2011). Facile synthesis of 1-(N-butyl-1,8-naphthalimide-4'-yl)-3-(4-methoxyl-phenyl)-5-phenyl-pyrazoline/polyaniline core-shell nanofibers and polyaniline nanotubes. *Mater Lett.* 65: 754-756. <http://dx.doi.org/10.1016/j.matlet.2010.11.023>.
- Xue, C; Birel, O; Xue, Y; Dai, L; Urbas, A; Li, Q. (2013). pH and Temperature Modulated Aggregation of Hydrophilic Gold Nanorods with Perylene Dyes and Carbon Nanotubes. *J Phys Chem C.* 117: 6752-6758. <http://dx.doi.org/10.1021/jp400788h>.
- Xue, C; Gutierrez-Cuevas, K; Gao, M; in; Urbas, A; Li, Q. (2013). Photomodulated Self-Assembly of Hydrophobic Thiol Monolayer-Protected Gold Nanorods and Their Alignment in Thermotropic Liquid Crystal. *J Phys Chem C.* 117: 21603-21608. <http://dx.doi.org/10.1021/jp408081q>.
- Xue, C; Xue, Y; Dai, L; Urbas, A; Li, Q. (2013). Size- and Shape-Dependent Fluorescence Quenching of Gold Nanoparticles on Perylene Dye. 1: 581-587. <http://dx.doi.org/10.1002/adom.201300175>.
- Yadav, RK; Kumar, A; Park, N; oJ; Kong, K; iJ; Baeg, J; inOok. (2016). A highly efficient covalent organic framework film photocatalyst for selective solar fuel production from CO₂. 4: 9413-9418. <http://dx.doi.org/10.1039/c6ta01625a>.
- Yan, W; Zhang, Q; Qin, Q; Ye, S; Lin, Y; Liu, Z; Bian, Z; Chen, Y; Huang, C. (2015). Design, synthesis and photophysical properties of A-D-A-D-A small molecules for photovoltaic application. *Dyes and Pigments.* 121: 99-108. <http://dx.doi.org/10.1016/j.dyepig.2015.05.009>.
- Yanagisawa, T; Kobayashi, N; Shimosasa, H; Kumai, Y; Miyatake, R; Oda, M. (2017). Synthesis and fluorescence property of 2,3-naphthalimide derivatives bearing phenyl substituents on the naphthalene skeleton. *Dyes and Pigments.* 136: 859-864. <http://dx.doi.org/10.1016/j.dyepig.2016.09.050>.
- Yang, DH; ui; Yao, ZQ; Wu, D; Zhang, YH; ui; Zhou, Z; Bu, XH; e. (2016). Structure-modulated crystalline covalent organic frameworks as high-rate cathodes for Li-ion batteries. 4: 18621-18627. <http://dx.doi.org/10.1039/c6ta07606h>.
- Yang, HX; Wang, XL; Wang, XM; Xu, LH. (2005). The synthesis and spectral properties of novel 4-phenylacetylene-1,8-naphthalimide derivatives. *Dyes and Pigments.* 66: 83-87. <http://dx.doi.org/10.1016/j.dyepig.2004.07.015>.
- Yang, JX; Wang, XL; Tusong; Xu, LH. (2005). Studies on the synthesis and spectral properties of novel 4-benzofuranyl-1,8-naphthalimide derivatives. *Dyes and Pigments.* 67: 27-33. <http://dx.doi.org/10.1016/j.dyepig.2004.09.017>.
- Yang, L; ei; Chen, Y; Chen, S; Dong, T; ao; Deng, W; ei; Lv, L; ei; Yang, S; Yan, H; e; Huang, H; ui. (2016). Achieving high performance non-fullerene organic solar cells through tuning the numbers of electron deficient building blocks of molecular acceptors. *J Power Sources.* 324: 538-546. <http://dx.doi.org/10.1016/j.jpowsour.2016.05.119>.
- Yang, L; Yang, W; en; Xu, D; Zhang, Z; Liu, A. (2013). A highly selective and sensitive Fe³⁺ fluorescent sensor by assembling three 1,8-naphthalimide fluorophores with a tris(aminoethylamine) ligand. *Dyes and Pigments.* 97: 168-174. <http://dx.doi.org/10.1016/j.dyepig.2012.12.016>.
- Yang, X; Liu, X; Meng, X; Wang, X; Li, G; en; Shu, C; Jiang, L; i; Wang, C. (2013). Self-assembly of highly dispersed Pt and PtRu nanoparticles on perylene diimide derivatives functionalized carbon nanotubes as enhanced catalysts for methanol electro-oxidation. *J Power Sources.* 240: 536-543. <http://dx.doi.org/10.1016/j.jpowsour.2013.04.084>.
- Yao, J; Fu, X; in; Zheng, X; iuLi; Cao, ZQ; i; Qu, D; aHui. (2015). Two functional [2]rotaxanes featuring efficient intercomponent interactions between chromophores. *Dyes and Pigments.* 121: 13-20. <http://dx.doi.org/10.1016/j.dyepig.2015.05.005>.
- Yao, Q; Zheng, Y; Cheng, W; Chen, M; Shen, J; ie; Yin, M. (2016). Difunctional fluorescent HSA modified CoFe₂O₄ magnetic nanoparticles for cell imaging. 4: 6344-6349. <http://dx.doi.org/10.1039/c6tb01787h>.

Fate Literature Search Results

Off Topic

- Yao, W; Qian, XH. (2001). Oxazolonaphthalimides and their hydroperoxides: photophysical and photobiological properties. *Dyes and Pigments.* 48: 43-47.
- Ye, F; Higgins, DA; Collinson, MM. (2007). Probing chemical interactions at the single-molecule level in mesoporous silica thin films. *J Phys Chem C.* 111: 6772-6780. <http://dx.doi.org/10.1021/jp068232t>.
- Ye, G, aoJie; Zhao, TT; Jin, ZN; Cu, P, eiY; Mao, J, iaY; Xu, QH, ua; Xu, QF; Lu, JM, ei; Li, N, ajun; Song, Y, inL. (2012). The synthesis and NLO properties of 1,8-naphthalimide derivatives for both femtosecond and nanosecond laser pulses. *Dyes and Pigments.* 94: 271-277. <http://dx.doi.org/10.1016/j.dyepig.2012.01.001>.
- Ye, T; Singh, R; Butt, HJ; Floudas, G; Keivanidis, PE. (2013). Effect of local and global structural order on the performance of perylene diimide excimeric solar cells. 5: 11844-11857. <http://dx.doi.org/10.1021/am4035416>.
- Yin, L; Wu, H; Zhu, M; Zou, Q; Yan, Q; Zhu, L. (2016). Sequential Block Copolymer Self-Assemblies Controlled by Metal-Ligand Stoichiometry. *Langmuir.* 32: 6429-6436. <http://dx.doi.org/10.1021/acs.langmuir.6b01787>.
- Yin, SG; Liu, XY; Li, CX; Huang, WQ; Li, WL; He, BL. (1998). Electroluminescent properties of naphthalimide derivative thin film devices. *Thin Solid Films.* 325: 268-270.
- Yong, X, ue; Zhang, J. (2011). A rational design strategy for donors in organic solar cells: the conjugated planar molecules possessing anisotropic multibranches and intramolecular charge transfer. *J Mater Chem.* 21: 11159-11166. <http://dx.doi.org/10.1039/c1jm11423a>.
- Yoon, KS; Lee, JY; Kim, T, aeHo; Yu, D, ukMan; Seo, DW, an; Hong, SK; Hong, YT. (2014). Synthesis and properties of densely sulfonated polyketones (sPKs) with rigid backbone structure for PEM fuel cell application. *J Ind Eng Chem.* 20: 2310-2316. <http://dx.doi.org/10.1016/j.jiec.2013.10.006>.
- You, S; Cai, Q; Zheng, Y; He, B; Shen, J; Yang, W; Yin, M. (2014). Perylene-cored star-shaped polycations for fluorescent gene vectors and bioimaging. 6: 16327-16334. <http://dx.doi.org/10.1021/am5045967>.
- Yu, A; Kurokawa, T; Chou, YH; Aoyagi, K; Shoji, Y, u; Higashihara, T; Ueda, M; Liu, CL; Chen, W. (2013). Tunable Electrical Memory Characteristics Using Polyimide:Polycyclic Aromatic Compound Blends on Flexible Substrates. *ACS Applied Materials & Interfaces.* 5: 4921-4929. <http://dx.doi.org/10.1021/am4006594>.
- Yu, H; Joo, P; Lee, D; Kim, BS, u; Oh, JH, ak. (2015). Photoinduced Charge-Carrier Dynamics of Phototransistors Based on Perylene Diimide/Reduced Graphene Oxide Core/Shell p-n Junction Nanowires. 3: 241-247. <http://dx.doi.org/10.1002/adom.201400346>.
- Yu, J; Xi, Y; Chueh, C, huC; Zhao, D; Lin, F; Pozzo, LD; Tang, W; Jen, AKY. (2016). A Room-Temperature Processable PDI-Based Electron-Transporting Layer for Enhanced Performance in PDI-Based Non-Fullerene Solar Cells. 3. <http://dx.doi.org/10.1002/admi.201600476>.
- Yu, L, ei; Hua, X, iuNi; Jiang, X, iJie; Qin, L, an; Yan, XZ, hi; Luo, L, aiHui; Han, L, ei. (2015). Histidine-Controlled Homochiral and Ferroelectric Metal-Organic Frameworks. *Cryst Growth Des.* 15: 687-694. <http://dx.doi.org/10.1021/cg5013796>.
- Yu, M; Du, W; Zhou, W, an; Li, H; Liu, C; Wei, L; Li, Z; Zhang, H. (2016). A 1,8-naphthalimide-based chemosensor with an off-on fluorescence and lifetime imaging response for intracellular Cr³⁺ and further for S²⁻. *Dyes and Pigments.* 126: 279-285. <http://dx.doi.org/10.1016/j.dyepig.2015.12.001>.
- Yu, X; Ge, X; Lan, H; Li, Y; Geng, L; Zhen, X; Yi, T. (2015). Tunable and Switchable Control of Luminescence through Multiple Physical Stimulation in Aggregation-Based Monocomponent Systems. 7: 24312-24321. <http://dx.doi.org/10.1021/acsami.5b08402>.
- Yuan, H, ao; Zhao, Y; Wu, F. (2012). Two-Photon Acid Generation Systems Based on Dibenzylidene Ketone Dyes Intermolecular Sensitization. *Chem Mater.* 24: 1371-1377. <http://dx.doi.org/10.1021/cm300148n>.
- Yuksel, OF; Kus, M; Yildirim, M. (2017). Capacitance and Conductance-Frequency Characteristics of Au/n-Si Schottky Structure with Perylene-Diimide (PDI) Organic Interlayer. *Journal of Electronic Materials.* 46: 882-887. <http://dx.doi.org/10.1007/s11664-016-4999-y>.
- Yuksel, OF; Tugluoglu, N; Safak, H; Nalcacigil, Z; Kus, M; Karadeniz, S. (2013). Analysis of temperature dependent electrical properties of Au/perylene-diimide/n-Si Schottky diodes. *Thin Solid Films.* 534: 614-620. <http://dx.doi.org/10.1016/j.tsf.2013.02.042>.
- Yun, W, onMin; Jang, J; Nam, S; Park, CE, on; Kim, S, eH; Chung, D, aeS. (2014). Organic Light-Emitting Diodes with Low Turn-On Voltages and Improved Stability Featuring a PTCDI-C13:CuPc Mixed Hole Injection Layer. 6: 1676-1680. <http://dx.doi.org/10.1166/sam.2014.1940>.
- Zahn, DRT; Kampen, TU; Mendez, H. (2003). Transport gap of organic semiconductors in organic modified Schottky contacts. *Appl Surf Sci.* 212: 423-427. [http://dx.doi.org/10.1016/S0169-4332\(03\)00125-9](http://dx.doi.org/10.1016/S0169-4332(03)00125-9).
- Zeng, X; Zhang, X; Zhu, B; Jia, H; Li, Y. (2012). A highly selective wavelength-ratiometric and colorimetric probe for cysteine. *Dyes and Pigments.* 94: 10-15. <http://dx.doi.org/10.1016/j.dyepig.2011.10.013>.
- Zhan, X; Tan, Z; Zhou, E; Li, Y; Misra, R; Grant, A; Domercq, B; Zhang, XH; An, Z; Zhang, X; Barlow, S; Kippelen, B; Marder, SR. (2009). Copolymers of perylene diimide with dithienothiophene and dithienopyrrole as electron-transport materials for all-polymer solar cells and field-effect transistors. *J Mater Chem.* 19: 5794-5803. <http://dx.doi.org/10.1039/b907163f>.
- Zhang, H; Kong, X; Tang, Y; Lin, W. (2016). Hydrogen Sulfide Triggered Charge-Reversal Micelles for Cancer-Targeted Drug Delivery and Imaging. 8: 16227-16239. <http://dx.doi.org/10.1021/acsami.6b03254>.
- Zhang, H, ua; Xue, L; Han, J; Fu, YQ; Shen, Y, an; Zhang, Z; Li, Y; Wang, M. (2016). New generation perovskite solar cells with solution-processed amino-substituted perylene diimide derivative as electron-transport Layer. 4: 8724-8733. <http://dx.doi.org/10.1039/c6ta03119f>.
- Zhang, J; Li, G; Kang, C; Lu, H; Zhao, X; Li, C; Li, W; Bo, Z. (2015). Synthesis of star-shaped small molecules carrying peripheral 1,8-naphthalimide functional groups and their applications in organic solar cells. *Dyes and Pigments.* 115: 181-189. <http://dx.doi.org/10.1016/j.dyepig.2015.01.002>.
- Zhang, J; Li, H; Chen, P; Sun, W; Gao, T; Yan, P. (2015). A new strategy for achieving white-light emission of lanthanide complexes: effective control of energy transfer from blue-emissive fluorophore to Eu(III) centres. 3: 1799-1806. <http://dx.doi.org/10.1039/c4tc02512a>.
- Zhang, J; Riskin, M; Tel-Vered, R; Tian, H; Willner, I. (2011). Optically activated uptake and release of Cu²⁺ or Ag⁺ ions by or from a photoisomerizable monolayer-modified electrode. *Langmuir.* 27: 1380-1386. <http://dx.doi.org/10.1021/la1040807>.

Fate Literature Search Results

Off Topic

- Zhang, J; Singh, S; Hwang, D, oK; Barlow, S; Kippelen, B; Marder, SR. (2013). 2-Bromo perylene diimide: synthesis using C-H activation and use in the synthesis of bis(perylenediimide)-donor electron-transport materials. 1: 5093-5100. <http://dx.doi.org/10.1039/c3tc30918e>.
- Zhang, J; Xiao, H; Zhang, X; Wu, Y; Li, G; Li, C; Chen, X; Ma, W, ei; Bo, Z. (2016). 1,8-Naphthalimide-based nonfullerene acceptors for wide optical band gap polymer solar cells with an ultrathin active layer thickness of 35 nm. 4: 5656-5663. <http://dx.doi.org/10.1039/c6tc01438k>.
- Zhang, J; Zhang, X; Xiao, H; Li, G; Liu, Y; Li, C; Huang, H; Chen, X; Bo, Z. (2016). 1,8-Naphthalimide-Based Planar Small Molecular Acceptor for Organic Solar Cells. 8: 5475-5483. <http://dx.doi.org/10.1021/acsami.5b10211>.
- Zhang, W; Liu, X; Zhang, H; Feng, C; Liu, C; Yu, M; Wei, L; Li, Z. (2015). A fluorescent probe for benzenethiols and its application on test paper, in water samples and living cells. 3: 8248-8254. <http://dx.doi.org/10.1039/c5tc01363a>.
- Zhang, X; Hu, Z; Pu, Y; Chen, S; Ling, J; Bi, H; Chen, S; Wang, L; Okamoto, K, enl. (2012). Preparation and properties of novel sulfonated poly(p-phenylene-co-aryl ether ketone)s for polymer electrolyte fuel cell applications. J Power Sources. 216: 261-268. <http://dx.doi.org/10.1016/j.jpowsour.2012.05.016>.
- Zhang, X; Jiang, B, o; Zhang, X, in; Tang, A; Huang, J; Zhan, C; Yao, J. (2014). Cooperatively Tuning Phase Size and Absorption of Near IR Photons in P3HT: Perylene Diimide Solar Cells by Bay-Modifications on the Acceptor. J Phys Chem C. 118: 24212-24220. <http://dx.doi.org/10.1021/jp5093674>.
- Zhang, X; Lu, Z; Ye, L; Zhan, C; Hou, J; Zhang, S; Jiang, B; Zhao, Y; Huang, J; Zhang, S; Liu, Y; Shi, Q; Liu, Y; Yao, J. (2013). A potential perylene diimide dimer-based acceptor material for highly efficient solution-processed non-fullerene organic solar cells with 4.03% efficiency. Adv Mater Deerfield. 25: 5791-5797. <http://dx.doi.org/10.1002/adma.201300897>.
- Zhang, X; Zhang, J; Lu, H; Wu, J; Li, G; Li, C; Li, S; Bo, Z. (2015). A 1,8-naphthalimide based small molecular acceptor for polymer solar cells with high open circuit voltage. 3: 6979-6985. <http://dx.doi.org/10.1039/c5tc01148e>.
- Zhang, XF, an; Zhang, T, ao; Shen, S, hiLi; Miao, J, unY; Zhao, B, aoX. (2015). A ratiometric lysosomal pH probe based on the naphthalimide-rhodamine system. 3: 3260-3266. <http://dx.doi.org/10.1039/c4tb02082k>.
- Zhang, XT; Wang, S; Xing, GW. (2016). Aggregates-Based Boronlectins with Pyrene as Fluorophore: Multichannel Discriminative Sensing of Monosaccharides and Their Applications. 8: 12007-12017. <http://dx.doi.org/10.1021/acsami.6b01940>.
- Zhang, Y; Guo, X, ia; Su, W; Guo, B; Xu, Z; Zhang, M; Li, Y. (2017). Perylene diimide-benzodithiophene D-A copolymers as acceptor in all-polymer solar cells. Organic Electronics. 41: 49-55. <http://dx.doi.org/10.1016/j.orgel.2016.11.038>.
- Zhang, Y; Peng, C; Cui, B; Wang, Z; Pang, X; Ma, R; Liu, F; Che, Y; Zhao, J. (2016). Direction-Controlled Light-Driven Movement of Microribbons. Adv Mater Deerfield. 28: 8538-8545. <http://dx.doi.org/10.1002/adma.201602411>.
- Zhang, Y; Wan, Q, un; Guo, X, ia; Li, W; Guo, B; Zhang, M; Li, Y. (2015). Synthesis and photovoltaic properties of an n-type two-dimension-conjugated polymer based on perylene diimide and benzodithiophene with thiophene conjugated side chains. 3: 18442-18449. <http://dx.doi.org/10.1039/c5ta05014f>.
- Zhang, Y; Wang, H; Xiao, Y; Wang, L; Shi, D; Cheng, C. (2013). Liquid crystalline perylene diimide outperforming nonliquid crystalline counterpart: higher power conversion efficiencies (PCEs) in bulk heterojunction (BHJ) cells and higher electron mobility in space charge limited current (SCLC) devices. 5: 11093-11100. <http://dx.doi.org/10.1021/am4033185>.
- Zhang, Y, uMo; Xie, F; Li, W, en; Wang, Y; Zhang, W; Wang, X; Li, M; Zhang, SXA, n. (2016). A methyl ketone bridged molecule as a multi-stimuli-responsive color switch for electrochromic devices. 4: 4662-4667. <http://dx.doi.org/10.1039/c5tc04236d>.
- Zhang, YC; Zhu, WH; Wang, WJ; Tian, H; Su, JH; Wang, WC. (2002). Synthesis and nonlinear optical properties of rod-like luminescent materials containing Schiff-base and naphthalimide units. J Mater Chem. 12: 1294-1300. <http://dx.doi.org/10.1039/b109384n>.
- Zhang, Z; Zhang, X, in; Zhan, C; Lu, Z; Ding, X; He, S; Yao, J. (2013). The leverage effect of the relative strength of molecular solvophobicity vs. solvophilicity on fine-tuning nanomorphologies of perylene diimide bolaamphiphiles. Soft Matter. 9: 3089-3097. <http://dx.doi.org/10.1039/c2sm27674g>.
- Zhao, CS; Liu, XL, i; Yang, M; Fang, JY; Zhang, JJ, un; Liu, FQ, i. (2009). The preparation of copolymerized fluorescent microspheres of styrene using detergent-free emulsion polymerization. Dyes and Pigments. 82: 134-141. <http://dx.doi.org/10.1016/j.dyepig.2008.12.006>.
- Zhao, D; Wu, Q; Cai, Z; Zheng, T; Chen, W, ei; Lu, J; Yu, L. (2016). Electron Acceptors Based on alpha-Substituted Perylene Diimide (PDI) for Organic Solar Cells. Chem Mater. 28: 1139-1146. <http://dx.doi.org/10.1021/acs.chemmater.5b04570>.
- Zhao, H; Zhang, YY; Xu, H; He, EF; Zhang, ZL; Peng, QM; Zhang, RJ; Zhang, HQ. (2015). Perylene diimide dye/layered carbide charge transfer composite: Design, synthesis, and photophysical properties. Mater Lett. 161: 208-211. <http://dx.doi.org/10.1016/j.matlet.2015.08.076>.
- Zhao, J; Li, Y; Zhang, J; Zhang, L, u; Lai, JY, ukLin; Jiang, K, ui; Mu, C; Li, Z; Chan, CL, amC; Hunt, A; Mukherjee, S; Ade, H; Huang, X; Yan, H, e. (2015). The influence of spacer units on molecular properties and solar cell performance of non-fullerene acceptors. 3: 20108-20112. <http://dx.doi.org/10.1039/c5ta05339k>.
- Zhao, L; Ma, T; Bai, H; Lu, G; Li, C; Shi, G. (2008). Layer-by-layer deposited multilayer films of oligo(pyrenebutyric acid) and a perylene diimide derivative: structure and photovoltaic properties. Langmuir. 24: 4380-4387. <http://dx.doi.org/10.1021/la703884d>.
- Zhao, M, eiXia; Zeng, E, rZao; Li, Y; Wang, CJ, ie. (2014). A study on effects of naphthalimide derivative-capped quantum dots on the cellular internalization, proliferation, and apoptosis ability. 2: 7351-7359. <http://dx.doi.org/10.1039/c4tb01048e>.
- Zhao, T; Liu, R, ui; Shi, H; Shu, M; Hu, J; Li, H; Zhu, H. (2016). Synthesis, tunable photophysics and nonlinear absorption of terpyridyl Pt(II) complexes bearing different acetylidy ligands. Dyes and Pigments. 126: 165-172. <http://dx.doi.org/10.1016/j.dyepig.2015.11.021>.
- Zhao, Z; He, J; Wang, J; Chen, W; Wang, N; Zhang, Y; Yang, R. (2015). A water/alcohol-soluble copolymer based on fluorene and perylene diimide as a cathode interlayer for inverted polymer solar cells. 3: 4515-4521. <http://dx.doi.org/10.1039/c5tc00450k>.

Fate Literature Search Results

Off Topic

- Zheng, X; Peng, Q; Lin, J, ie; Wang, Y, i; Zhou, J, ie; Jiao, Y, an; Bai, Y; Huang, Y, an; Li, F; Liu, X; Pu, X; Lu, Z. (2015). Simultaneous harvesting of triplet excitons in OLEDs by both guest and host materials with an intramolecular charge-transfer feature via triplet-triplet annihilation. 3: 6970-6978. <http://dx.doi.org/10.1039/c5tc00779h>.
- Zheng, X; Zhu, W; Liu, D; Ai, H; Huang, Y; Lu, Z. (2014). Highly selective colorimetric/fluorometric dual-channel fluoride ion probe, and its capability of differentiating cancer cells [Letter]. 6: 7996-8000. <http://dx.doi.org/10.1021/am501546h>.
- Zheng, Y; Jradi, FM; Parker, TC; Barlow, S; Marder, SR; Saavedra, SS. (2016). Influence of Molecular Aggregation on Electron Transfer at the Perylene Diimide/Indium-Tin Oxide Interface. 8: 34089-34097. <http://dx.doi.org/10.1021/acsm.6b10731>.
- Zhengneng, J; Najun, L; Chuanfeng, W; Huaijiang, J; Jianmei, L; Qizhong, Z. (2013). Synthesis and fluorescence property of some novel 1,8-naphthalimide derivatives containing a thiophene ring at the C-4 position. Dyes and Pigments. 96: 204-210. <http://dx.doi.org/10.1016/j.dyepig.2012.07.018>.
- Zhong, Y; Sun, X; Wang, S; Peng, F; Bao, F; Su, Y; Li, Y; Lee, ST; He, Y. (2015). Facile, Large-Quantity Synthesis of Stable, Tunable-Color Silicon Nanoparticles and Their Application for Long-Term Cellular Imaging. ACS Nano. 9: 5958-5967. <http://dx.doi.org/10.1021/acsnano.5b00683>.
- Zhou, E; Tajima, K; Yang, C; Hashimoto, K. (2010). Band gap and molecular energy level control of perylene diimide-based donor-acceptor copolymers for all-polymer solar cells. J Mater Chem. 20: 2362-2368. <http://dx.doi.org/10.1039/b923452g>.
- Zhou, J, in; Fang, C; Chang, T; Liu, X; Shangguan, D. (2013). A pH sensitive ratiometric fluorophore and its application for monitoring the intracellular and extracellular pHs simultaneously. 1: 661-667. <http://dx.doi.org/10.1039/c2tb00179a>.
- Zhou, J, in; Liu, H; Jin, B; Liu, X; Fu, H; Shangguan, D. (2013). A guanidine derivative of naphthalimide with excited-state deprotonation coupled intramolecular charge transfer properties and its application. 1: 4427-4436. <http://dx.doi.org/10.1039/c3tc30853g>.
- Zhou, Q; Audebert, P; Clavier, G; Meallet-Renault, R; Miomandre, F; Shaukat, Z; Vu, T-T; Tang, J, ie. (2011). New Tetrazines Functionalized with Electrochemically and Optically Active Groups: Electrochemical and Photoluminescence Properties. J Phys Chem C. 115: 21899-21906. <http://dx.doi.org/10.1021/jp204917m>.
- Zhou, X; Su, F; Gao, W; Tian, Y; Youngbull, C; Johnson, RH; Meldrum, DR. (2011). Triazacryptand-based fluorescent sensors for extracellular and intracellular K⁺ sensing. Biomaterials. 32: 8574-8583. <http://dx.doi.org/10.1016/j.biomaterials.2011.07.081>.
- Zhou, X; Su, F; Lu, H; Senechal-Willis, P; Tian, Y; Johnson, RH; Meldrum, DR. (2012). An FRET-based ratiometric chemosensor for in vitro cellular fluorescence analyses of pH. Biomaterials. 33: 171-180. <http://dx.doi.org/10.1016/j.biomaterials.2011.09.053>.
- Zhou, Z; Brusso, JL; Holdcroft, S. (2010). Directed Growth of 1D Assemblies of Perylene Diimide from a Conjugated Polymer. Chem Mater. 22: 2287-2296. <http://dx.doi.org/10.1021/cm903166f>.
- Zhu, B; Zhao, J, ie; Yu, H; Yan, L; Wei, Q, in; Du, B, in. (2013). Development of novel naphthalimide-functionalized magnetic fluorescent nanoparticle for simultaneous determination and removal of Hg²⁺. Optical Materials. 35: 2220-2225. <http://dx.doi.org/10.1016/j.optmat.2013.06.006>.
- Zhu, B; Zhao, J, ie; Yu, H; Yan, L; Wei, Q, in; Du, B, in. (2013). Naphthalimide-functionalized Fe₃O₄@SiO₂ core/shell nanoparticles for selective and sensitive adsorption and detection of Hg²⁺. Chem Eng J. 219: 411-418. <http://dx.doi.org/10.1016/j.cej.2012.12.068>.
- Zhu, M; Aryal, GH; Zhang, N, an; Zhang, H; Su, X; Schmehl, R; Liu, X, ue; Hu, J, in; Wei, J; Jayawickramarajah, J. (2015). Host-Guest Interactions Derived Multilayer Perylene Diimide Thin Film Constructed on a Scaffolding Porphyrin Monolayer. Langmuir. 31: 578-586. <http://dx.doi.org/10.1021/la504297w>.
- Zhu, WH; Hu, C; Chen, KC; Tian, H. (1998). Luminescent properties of copolymeric dyad compounds containing 1,8-naphthalimide and 1,3,4-oxadiazole. Synthetic Metals. 96: 151-154.
- Zhu, WH; Hu, M; Wu, YQ; Tian, H; Sun, RG; Epstein, AJ. (2001). Novel luminescent carbazole-naphthalimide dyads for single-layer electroluminescent device. Synthetic Metals. 119: 547-548.
- Zhu, WH; Hu, YB; Tian, H. (2000). Synthesis and luminescent properties of novel condensed copolymers. Synthetic Metals. 111: 477-479.
- Zhu, WH; Minami, N; Kazaoui, S; Kim, Y. (2003). Fluorescent chromophore functionalized single-wall carbon nanotubes with minimal alteration to their characteristic one-dimensional electronic states. J Mater Chem. 13: 2196-2201. <http://dx.doi.org/10.1039/b303885h>.
- Zhu, WH; Yao, R; Tian, H. (2002). Synthesis of novel electro-transporting emitting compounds. Dyes and Pigments. 54: 147-154.
- Zhu, YY; Gu, SX, i. (2014). Reduction of the 3,4,9,10-perylenediimides and the formation of electrodeposited films based on their radical anions. 1. <http://dx.doi.org/10.1088/2053-1591/1/3/035102>.
- Zhuang, H; Zhou, Q; Li, Y; Zhang, Q; Li, H; Xu, Q; Li, N; Lu, J; Wang, L. (2014). Adjustment of ON-state retention ability based on new donor-acceptor imides through structural tailoring for volatile device applications. 6: 94-100. <http://dx.doi.org/10.1021/am405000c>.
- Zschieschang, U, te; Amsharov, K; Jansen, M; Kern, K; Klauk, H; Weitz, RT. (2015). Separating the impact of oxygen and water on the long-term stability of n-channel perylene diimide thin-film transistors. Organic Electronics. 26: 340-344. <http://dx.doi.org/10.1016/j.orgel.2015.07.060>.

Engineering/Occupational Exposure Literature Search Results

On Topic

- Guillermet, O; Mossayan-Deneux, M; Giorgi, M; Glachant, A; Mossayan, JC. (2006). Structural study of vapour phase deposited 3,4,9,10-peryrene tetracarboxylic acid diimide: Comparison between single crystal and ultra thin films grown on Pt(100). Thin Solid Films. 514: 25-32. <http://www.sciencedirect.com/science/article/pii/S0040609006002586>.

Engineering/Occupational Exposure Literature Search Results

On Topic

- Kozma, E; Catellani, M. (2013). Perylene diimides based materials for organic solar cells. *Dyes and Pigments*. 98: 160-179.
<http://www.sciencedirect.com/science/article/pii/S014372081300034X>.
- Ling, MM; Erk, P; Gomez, M; Koenemann, M; Locklin, J; Bao, Z. (2007). Air-stable n-channel organic semiconductors based on perylene diimide derivatives without strong electron withdrawing groups. *Adv Mater Deerfield*. 19: 1123-1127.
<http://onlinelibrary.wiley.com/doi/10.1002/adma.200601705/abstract>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Aguilera-Sigalat, J; Pais, VF; Domenech-Carbo, A; Pischel, U, we; Galian, RE; Perez-Prieto, J. (2013). Unconventional Fluorescence Quenching in Naphthalimide-Capped CdSe/ZnS Nanoparticles. *J Phys Chem C*. 117: 7365-7375. <http://dx.doi.org/10.1021/jp3128252>.
- Ahmed, R; Simbrunner, C; Baig, MA; Sitter, H. (2015). Grain Size and Interface Dependence of Bias Stress Stability of n-Type Organic Field Effect Transistors. *ACS Applied Materials & Interfaces*. 7: 22380-22384. <http://dx.doi.org/10.1021/acsmami.5b06210>.
- Ahrens, MJ; Fuller, MJ; Wasielewski, MR. (2003). Cyanated perylene-3,4-dicarboximides and perylene-3,4 : 9,10-bis(dicarboximide): Facile chromophoric oxidants for organic photonics and electronics. *Chem Mater*. 15: 2684-2686. <http://dx.doi.org/10.1021/cm034140u>.
- Alcalá, MA; Shade, CM; Uh, H; Kwan, SY; Bischof, M; Thompson, ZP; Gogick, KA; Meier, AR; Strein, TG; Bartlett, DL; Modzelewski, RA; Lee, YJ; Petoud, S; Brown, CK. (2011). Preferential accumulation within tumors and in vivo imaging by functionalized luminescent dendrimer lanthanide complexes. *Biomaterials*. 32: 9343-9352. <http://dx.doi.org/10.1016/j.biomaterials.2011.07.076>.
- Al-Hussein, M; Hesse, HC; Weickert, J; Doessel, L; Feng, X; Muellen, K; Schmidt-Mende, L. (2011). Structural properties of the active layer of discotic hexabenzocoronene/perylene diimide bulk hetero junction photovoltaic devices: The role of alkyl side chain length. *Thin Solid Films*. 520: 307-313. <http://dx.doi.org/10.1016/j.tsf.2011.06.044>.
- Alkhalifah, MS; Lei, C; Myers, SA; O'Neill, M; Kitney, SP; Kelly, SM. (2014). Solution-processed bilayer photovoltaic devices with nematic liquid crystals. *Liquid Crystals*. 41: 402-417. <http://dx.doi.org/10.1080/02678292.2013.834082>.
- Aluicio-Sarduy, E; Singh, R; Kan, Z; Ye, T; Baidak, A; Calloni, A; Berti, G; Duo, L; Iosifidis, A; Beaupre, S; Leclerc, M; Butt, HJ; Floudas, G; Keivanidis, PE. (2015). Elucidating the Impact of Molecular Packing and Device Architecture on the Performance of Nanostructured Perylene Diimide Solar Cells. *ACS Applied Materials & Interfaces*. 7: 8687-8698. <http://dx.doi.org/10.1021/acsmami.5b00827>.
- An, ZS; Yu, JS; Jones, SC; Barlow, S; Yoo, S; Domercq, B; Prins, P; Siebbeles, LDA; Kippelen, B; Marder, SR. (2005). High electron mobility in room-temperature discotic liquid-crystalline perylene diimides. *Adv Mater Deerfield*. 17: 2580-+. <http://dx.doi.org/10.1002/adma.200500027>.
- Antohe, S; Tomozeiu, N; Gogonea, S. (1991). PROPERTIES OF THE ORGANIC-ON-INORGANIC SEMICONDUCTOR BARRIER CONTACT DIODES IN/PTCDI/P-SI AND AG/CUPC/P-SI. 125: 397-408.
- Antohe, S; Vonsovici, A. (1991). SEMICONDUCTOR ANALYSIS USING THE CUPC P-SI AND PTCDI P-SI ORGANIC-ON-INORGANIC CONTACT BARRIERS. 124: 583-593.
- Bai, R; Ouyang, M; Zhou, RJ; Shi, MM; Wang, M; Chen, HZ. (2008). Well-defined nanoarrays from an n-type organic perylene-diimide derivative for photoconductive devices. *Nanotechnology*. 19: 055604. <http://dx.doi.org/10.1088/0957-4484/19/05/055604>.
- Banal, JL; Soleimaninejad, H; Jradi, FM; Liu, M; White, JM; Blakers, AW; Cooper, MW; Jones, DJ; Ghiggino, KP; Marder, SR; Smith, TA; Wong, WWH. (2016). Energy Migration in Organic Solar Concentrators with a Molecularly Insulated Perylene Diimide. *J Phys Chem C*. 120: 12952-12958. <http://dx.doi.org/10.1021/acs.jpcc.6b04479>.
- Banthia, S; Samanta, A. (2006). Long and short brick network architecture: Role of water molecules acting as three-connecting spacers. *Cryst Growth Des*. 6: 360-362. <http://dx.doi.org/10.1021/cg050517s>.
- Bao, Q; Goh, BM; Yan, B; Yu, T; Shen, Z; Loh, KP. (2010). Polarized emission and optical waveguide in crystalline perylene diimide microwires. *Adv Mater Deerfield*. 22: 3661-3666. <http://dx.doi.org/10.1002/adma.201000731>.
- Bardajee, GR. (2013). Microwave-assisted solvent-free synthesis of fluorescent naphthalimide dyes. *Dyes and Pigments*. 99: 52-58. <http://dx.doi.org/10.1016/j.dyepig.2013.04.004>.
- Bardajee, GR; Li, AY; Haley, JC; Winnik, MA. (2008). The synthesis and spectroscopic properties fluorescent naphthalimide of novel, functional dyes. *Dyes and Pigments*. 79: 24-32. <http://dx.doi.org/10.1016/j.dyepig.2007.12.012>.
- Barra, M; Di Girolamo, FV; Chiarella, F; Salluzzo, M; Chen, Z; Facchetti, A; Anderson, L; Cassinese, A. (2010). Transport Property and Charge Trap Comparison for N-Channel Perylene Diimide Transistors with Different Air-Stability. *J Phys Chem C*. 114: 20387-20393. <http://dx.doi.org/10.1021/jp103555x>.
- Bauer, J; Behrens, P; Speckbacher, M; Langhals, H. (2003). Composites of perylene chromophores and layered double hydroxides: Direct synthesis, characterization, and photo- and chemical stability. *Adv Funct Mater*. 13: 241-248.
- Bhosale, ME; Krishnamoorthy, K. (2015). Chemically Reduced Organic Small-Molecule-Based Lithium Battery with Improved Efficiency. *Chem Mater*. 27: 2121-2126. <http://dx.doi.org/10.1021/cm5046786>.
- Bian, B; Ji, SJ, un; Shi, H, aiBin. (2008). Synthesis and fluorescent property of some novel bischromophore compounds containing pyrazoline and naphthalimide groups. *Dyes and Pigments*. 76: 348-352. <http://dx.doi.org/10.1016/j.dyepig.2006.08.050>.
- Bielejewska, N; Chrzumnicka, E; Stolarski, R; Bauman, D. (2010). Spectral properties of naphthalimide dyes mixed with 4-heptyl-4'-cyanobiphenyl (7CB) in Langmuir-Blodgett films. *Opto-Electronics Review*. 18: 197-207. <http://dx.doi.org/10.2478/s11772-010-0005-z>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Bijak, K; Filapek, M; Wiacek, M; Janeczek, H; Grucela, M; Smolarek, K; Mackowski, S; Schab-Balcerzak, E, wa. (2016). Preparation and characterization of new aliphatic-tailed five- and six-membered azomethine-diimides. *Mater Chem Phys.* 171: 97-108. <http://dx.doi.org/10.1016/j.matchemphys.2015.12.005>.
- Bijak, K; Grucela-Zajac, M; Janeczek, H; Wiacek, M; Schab-Balcerzak, E, wa. (2013). New azomethine-phthalic diimides: Synthesis and thermal, optical and electrochemical characterization. *Synthetic Metals.* 175: 146-154. <http://dx.doi.org/10.1016/j.synthmet.2013.05.017>.
- Biniek, L; Schwartz, PO; Zaborova, E; Heinrich, B; Leclerc, N; Mery, S; Brinkman, M. (2015). Zipper-like molecular packing of donor-acceptor conjugated co-oligomers based on perylenediimide. 3: 3342-3349. <http://dx.doi.org/10.1039/c5tc00221d>.
- Bodapati, JB; Icil, H. (2008). Highly soluble perylene diimide and oligomeric diimide dyes combining perylene and hexa(ethylene glycol) units: Synthesis, characterization, optical and electrochemical properties. *Dyes and Pigments.* 79: 224-235. <http://dx.doi.org/10.1016/j.dyepig.2008.02.009>.
- Bojinov, V; Grabchev, I. (2001). A new method for synthesis of 4-allyloxy-1,8-naphthalimide derivatives for use as fluorescent brighteners. *Dyes and Pigments.* 51: 57-61.
- Bojinov, V; Grabchev, I. (2003). Synthesis of new polymerizable 1,8-naphthalimide dyes containing a 2-hydroxyphenylbenzotriazole fragment. *Dyes and Pigments.* 59: 277-283. [http://dx.doi.org/10.1016/S0143-7208\(03\)00113-X](http://dx.doi.org/10.1016/S0143-7208(03)00113-X).
- Bojinov, V; Ivanova, G; Chovelon, JM; Grabchev, I. (2003). Photophysical and photochemical properties of some 3-bromo-4-alkylamino-N-alkyl-1,8-naphthalimides. *Dyes and Pigments.* 58: 65-71. [http://dx.doi.org/10.1016/S0143-7208\(03\)00036-6](http://dx.doi.org/10.1016/S0143-7208(03)00036-6).
- Bojinov, V; Konstantinova, T. (2002). Synthesis of polymerizable 1,8-naphthalimide dyes containing hindered amine fragment. *Dyes and Pigments.* 54: 239-245.
- Bojinov, VB; Panova, IP. (2007). Synthesis and absorption properties of new yellow-green emitting benzo[de]isoquinoline-1,3-diones containing hindered amine and 2-hydroxyphenylbenzotriazole fragments. *Dyes and Pigments.* 74: 551-560. <http://dx.doi.org/10.1016/j.dyepig.2006.03.016>.
- Bojinov, VB; Panova, IP. (2009). Novel 4-(2,2,6,6-tetramethylpiperidin-4-ylamino)-1,8-naphthalimide based yellow-green emitting fluorescence sensors for transition metal ions and protons. *Dyes and Pigments.* 80: 61-66. <http://dx.doi.org/10.1016/j.dyepig.2008.05.007>.
- Bojinov, VB; Panova, IP; Grabchev, I, voK. (2007). Novel polymerizable light emitting dyes - combination of a hindered amine with a 9-phenylxanthene fluorophore. *Synthesis and photophysical investigations.* Dyes and Pigments. 74: 187-194. <http://dx.doi.org/10.1016/j.dyepig.2006.01.034>.
- Bojinov, VB; Panova, IP; Simeonov, DB. (2008). Design and synthesis of polymerizable, yellow-green emitting 1,8-naphthalimides containing built-in s-triazine UV absorber and hindered amine light stabilizer fragments. *Dyes and Pigments.* 78: 101-110. <http://dx.doi.org/10.1016/j.dyepig.2007.10.010>
- <http://www.sciencedirect.com/science/article/pii/S0143720807002276>.
- Bojinov, VB; Simeonov, DB; Georgiev, NI. (2008). A novel blue fluorescent 4-(1,2,2,6,6-pentamethylpiperidin-4-yloxy)-1,8-naphthalimide pH chemosensor based on photoinduced electron transfer. *Dyes and Pigments.* 76: 41-46. <http://dx.doi.org/10.1016/j.dyepig.2006.08.006>.
- Bonetti, S; Prosa, M; Pistone, A; Favaretto, L; Sagnella, A; Grisin, I; Zambianchi, M; Karges, S; Lorenzoni, A; Posati, T; Zamboni, R; Camaioni, N; Mercuri, F; Muccini, M; Melucci, M; Benfenati, V. (2016). A self-assembled lysinated perylene diimide film as a multifunctional material for neural interfacing. 4: 2921-2932. <http://dx.doi.org/10.1039/c5tb02299a>.
- Bonnet, JP; Tran-Van, F; Chevrot, C. (2006). Photoactive ionic assemblies between n dopable perylene and p dopable carbazole derivatives. *Synthetic Metals.* 156: 1292-1298. <http://dx.doi.org/10.1016/j.synthmet.2006.09.013>.
- Boobalan, G; Imran, PKM; Manoharan, C; Nagarajan, S. (2015). Optical and Electrical Properties of New Perylene Diimide Thin Films. *Journal of Electronic Materials.* 44: 4000-4005. <http://dx.doi.org/10.1007/s11664-015-3870-x>.
- Bouche, CM; Berdague, P; Facoetti, H; Robin, P; Lebarny, P; Schott, M. (1996). Side-chain electroluminescent polymers. *Synthetic Metals.* 81: 191-195.
- Brennaman, MK; Norris, MR; Gish, MK; Grumstrup, EM; Alibabaei, L; Ashford, DL; Lapides, AM; Papanikolas, JM; Templeton, JL; Meyer, TJ. (2015). Ultrafast, Light-Induced Electron Transfer in a Perylene Diimide Chromophore-Donor Assembly on TiO₂. *Journal of Physical Chemistry Letters.* 6: 4736-4742. <http://dx.doi.org/10.1021/acs.jpclett.5b02194>.
- Brochsstain, S; Politi, MJ. (1999). Solubilization of 1,4,5,8-naphthalenediimides and 1,8-naphthalimides through the formation of novel host-guest complexes with alpha-cyclodextrin. *Langmuir.* 15: 4486-4494.
- Brus, VV; Proctor, CM; Ran, NA; Nguyen, T-Q. (2016). Capacitance Spectroscopy for Quantifying Recombination Losses in Nonfullerene Small-Molecule Bulk Heterojunction Solar Cells. 6. <http://dx.doi.org/10.1002/aenm.201502250>.
- Bryaskova, R; Georgiev, NI; Dimov, SM; Tzoneva, R; Detrembleur, C; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Novel nanosized water soluble fluorescent micelles with embedded perylene diimide fluorophores for potential biomedical applications: Cell permeability, localization and cytotoxicity. *Mater Sci Eng C.* 51: 7-15. <http://dx.doi.org/10.1016/j.msec.2015.02.035>.
- Bu, L; Dawson, TJ; Hayward, RC. (2015). Tailoring Ultrasound-Induced Growth of Perylene Diimide Nanowire Crystals from Solution by Modification with Poly(3-hexyl thiophene). *ACS Nano.* 9: 1878-1885. <http://dx.doi.org/10.1021/nn506795q>.
- Bujdak, J; Danko, M; Chorvat, D, Jr; Czimerova, A; Sykora, J; Lang, K. (2012). Selective modification of layered silicate nanoparticle edges with fluorophores. *Appl Clay Sci.* 65-66: 152-157. <http://dx.doi.org/10.1016/j.clay.2012.04.029>.
- Buzio, R; Gerbi, A; Marre, D; Barra, M; Cassinese, A. (2015). Electron injection barrier and energy-level alignment at the Au/PDI8-CN2 interface via current-voltage measurements and ballistic emission microscopy. *Organic Electronics.* 18: 44-52. <http://dx.doi.org/10.1016/j.orgel.2015.01.007>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Buzio, R; Gerbi, A; Marre, D; Barra, M; Cassinese, A. (2016). Ballistic electron and photocurrent transport in Au/organic/Si(001) diodes with PDI8-CN2 interlayers. *Journal of Vacuum Science and Technology Part B Microelectronics and Nanometer Structures*. 34. <http://dx.doi.org/10.1116/1.4950733>.
- Cacialli, F; Bouche, CM; Le Barny, P; Friend, RH; Facoetti, H; Soyer, F; Robin, P. (1998). Naphthalimide polymers for organic light-emitting diodes. *Optical Materials*. 9: 163-167.
- Cai, P; Jia, H; Chen, J; Cao, Y. (2015). Organic/Organic Cathode Bi-Interlayers Based on a Water-Soluble Nonconjugated Polymer and an Alcohol-Soluble Conjugated Polymer for High Efficiency Inverted Polymer Solar Cells. *ACS Applied Materials & Interfaces*. 7: 27871-27877. <http://dx.doi.org/10.1021/acsmami.5b09744>.
- Cai, Y; Gao, Y, a; Luo, Q; Li, M; Zhang, J; Tian, H, e; Zhu, W, eiH. (2016). Ferrocene-Grafted Photochromic Triads Based on a Sterically Hindered Ethene Bridge: Redox-Switchable Fluorescence and Gated Photochromism. 4: 1410-1416. <http://dx.doi.org/10.1002/adom.201600229>.
- Cai, Y; Guo, X; Sun, X; Wei, D; Yu, M; Huo, L; Sun, Y. (2016). A twisted monomeric perylenediimide electron acceptor for efficient organic solar cells. 59: 427-434. <http://dx.doi.org/10.1007/s40843-016-5063-3>.
- Camurlu, P; Karagoren, N. (2013). Both p and n-Dopable, Multichromic, Naphthalineimide Clicked Poly(2,5-dithienylpyrrole) Derivatives. *J Electrochem Soc*. 160: H560-H567. <http://dx.doi.org/10.1149/2.043309jes>.
- Canning, J; Ast, S; Hossain, M, dA; Chan, H; Rutledge, PJ; Jamalipour, A. (2015). Bend and twist intramolecular charge transfer and emission for selective metal ion sensing. 5: 2675-2681. <http://dx.doi.org/10.1364/OME.5.002675>.
- Cao, JX; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2005). Polyfluorenes containing 1,8-naphthalimide dye as endcapping groups. *Synthetic Metals*. 152: 237-240. <http://dx.doi.org/10.1016/j.synthmet.2005.07.239>.
- Cao, X; Meng, L; Li, Z; Mao, Y; Lan, H; Chen, L; Fan, Y; Yi, T, ao. (2014). Large Red-Shifted Fluorescent Emission via Intermolecular pi-pi Stacking in 4-Ethynyl-1,8-naphthalimide-Based Supramolecular Assemblies. *Langmuir*. 30: 11753-11760. <http://dx.doi.org/10.1021/la503299j>.
- Cao, X; Wu, Y; Liu, K; Yu, X; Wu, B, o; Wu, H; Gong, Z; Yi, T, ao. (2012). Iridium complex triggered white-light-emitting gel and its response to cysteine. *J Mater Chem*. 22: 2650-2657. <http://dx.doi.org/10.1039/c2jm13826c>.
- Cao, X; Zhao, N; Gao, A; Lv, H; Jia, Y; Wu, R; Wu, Y. (2017). Bis-naphthalimides self-assembly organogel formation and application in detection of p-phenylenediamine. *Mater Sci Eng C*. 70: 216-222. <http://dx.doi.org/10.1016/j.msec.2016.08.079>.
- Cao, X; Zhou, J; Zou, Y; Zhang, M; Yu, X; Zhang, S; Yi, T; Huang, C. (2011). Fluorescence and morphology modulation in a photochromic diarylethene self-assembly system. *Langmuir*. 27: 5090-5097. <http://dx.doi.org/10.1021/la200419v>.
- Castro-Carranza, A; Nolasco, JC; Estrada, M; Gwoziecki, R; Benwadih, M; Xu, Y; Cerdeira, A; Marsal, LF; Ghibaudo, G; Iniguez, B; Pallares, J. (2012). Effect of Density of States on Mobility in Small-Molecule n-Type Organic Thin-Film Transistors Based on a Perylene Diimide. *I E E Electron Device Letters*. 33: 1201-1203. <http://dx.doi.org/10.1109/LED.2012.2201441>.
- Centore, R; Ricciotti, L; Carella, A; Roviello, A; Causa, M; Barra, M; Ciccullo, F; Cassinese, A. (2012). Perylene diimides functionalized with N-thiadiazole substituents: Synthesis and electronic properties in OFET devices. *Organic Electronics*. 13: 2083-2093. <http://dx.doi.org/10.1016/j.orgel.2012.06.002>.
- Chall, S; Pramanik, S; Dhar, S; Saha, A; Bhattacharya, SC. (2012). Facile room temperature synthesis of lanthanum oxalate nanorods and their interaction with antioxidative naphthalimide derivative. *J Nanosci Nanotechnol*. 12: 2229-2238. <http://dx.doi.org/10.1166/jnn.2012.5695>.
- Chan, CY, iu; Wong, Y, iC; Wong, H, okLai; Chan, M, eiYee; Yam, VWW, ah. (2014). A new class of three-dimensional, p-type, spirobifluorene-modified perylene diimide derivatives for small molecular-based bulk heterojunction organic photovoltaic devices. 2: 7656-7665. <http://dx.doi.org/10.1039/c4tc01001a>.
- Chang, DM, in; Kwon, DY; Kim, YS, ik. (2014). Novel Ru(II) Complex with 3-(2'-pyridyl)-1,8-Naphthalimide Derivative for Dye-Sensitized Solar Cells. *J Nanosci Nanotechnol*. 14: 9335-9339. <http://dx.doi.org/10.1166/jnn.2014.10127>.
- Chang, SC; Utecht, RE; Lewis, DE. (1999). Synthesis and bromination of 4-alkylamino-N-alkyl-1,8-naphthalimides. *Dyes and Pigments*. 43: 83-94.
- Chen, G; Song, J; Zhang, H; Jiang, Y; Liu, W; Zhang, W; Wang, B. (2015). Pd nanoparticles encapsulated in magnetic carbon nanocages: an efficient nanoenzyme for the selective detection and multicolor imaging of cancer cells. *Nanoscale*. 7: 14393-14400. <http://dx.doi.org/10.1039/c5nr03421c>.
- Chen, G; Wang, L; Zhang, J; Chen, F; Anpo, M. (2009). Photophysical properties of a naphthalimide derivative encapsulated within Si-MCM-41, Ce-MCM-41 and Al-MCM-41. *Dyes and Pigments*. 81: 119-123. <http://dx.doi.org/10.1016/j.dyepig.2008.09.013>.
- Chen, H; Liu, Z; Zhao, Z; Zheng, L; Tan, S; Yin, Z; Zhu, C; Liu, Y. (2016). Synthesis, Structural Characterization, and Field-Effect Transistor Properties of n-Channel Semiconducting Polymers Containing Five-Membered Heterocyclic Acceptors: Superiority of Thiadiazole Compared with Oxadiazole. 8: 33051-33059. <http://dx.doi.org/10.1021/acsami.6b12540>.
- Chen, HZ; Ling, MM; Mo, X; Shi, MM; Wang, M; Bao, Z. (2007). Air stable n-channel organic semiconductors for thin film transistors based on fluorinated derivatives of perylene diimides. *Chem Mater*. 19: 816-824. <http://dx.doi.org/10.1021/cm062352w>.
- Chen, HZ; Shi, MM; Aernouts, T; Wang, M; Borghs, G; Heremans, P. (2005). A novel organic n-type material: fluorinated perylene diimide. *Solar Energy Materials and Solar Cells*. 87: 521-527. <http://dx.doi.org/10.1016/j.solmat.2004.07.056>.
- Chen, K, ewYu; Chang, C, heWei. (2014). 1,7-Bis-(N,N-dialkylamino)perylene Bisimides: Facile Synthesis and Characterization as Near-Infrared Fluorescent Dyes. *Materials*. 7: 7548-7565. <http://dx.doi.org/10.3390/ma7117548>.
- Chen, L, in; Yang, L; Yang, Z; Shi, M; Wang, M; Chen, H; Zhang, W; Xu, F. (2009). Carrier Transport in Zinc Phthalocyanine Doped with a Fluorinated Perylene Derivative: Bulk Conductivity versus Interfacial Injection. *J Phys Chem C*. 113: 17160-17169. <http://dx.doi.org/10.1021/jp903381n>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Chen, Q; un; Zhang, D; Zhang, G; Yang, X; Feng, Y; u; Fan, Q; Zhu, D. (2010). Multicolor Tunable Emission from Organogels Containing Tetraphenylethene, Perylenediimide, and Spiropyran Derivatives. *Adv Funct Mater.* 20: 3244-3251. <http://dx.doi.org/10.1002/adfm.201000590>.
- Chen, S; Wang, C; Bunes, BR; Li, Y; Wang, C; Zang, L. (2015). Enhancement of visible-light-driven photocatalytic H₂ evolution from water over g-C₃N₄ through combination with perylene diimide aggregates. *Appl Catal A-Gen.* 498: 63-68. <http://dx.doi.org/10.1016/j.apcata.2015.03.026>.
- Chen, W; Yang, X; Long, G; Wan, X; Chen, Y; Zhang, Q. (2015). A perylene diimide (PDI)-based small molecule with tetrahedral configuration as a non-fullerene acceptor for organic solar cells. 3: 4698-4705. <http://dx.doi.org/10.1039/c5tc00865d>.
- Chen, Y; Chang, H; ao; Tian, H; Bao, C; Li, W; Yan, D; Geng, Y; Wang, F. (2012). An easily made thienoacene comprising seven fused rings for ambient-stable organic thin film transistors. *Organic Electronics.* 13: 3268-3275. <http://dx.doi.org/10.1016/j.orgel.2012.09.041>.
- Chen, Y; Chen, L; Qi, G; Wu, H; Zhang, Y; Xue, L; Zhu, P; Ma, P; Li, X. (2010). Self-assembled organic-inorganic hybrid nanocomposite of a perylenetetracarboxylic diimide derivative and CdS. *Langmuir.* 26: 12473-12478. <http://dx.doi.org/10.1021/la102094d>.
- Chen, Y; Tang, A; Zhang, X, in; Lu, Z; Huang, J; Zhan, C; Yao, J. (2014). A new solution-processed diketopyrrolopyrrole donor for non-fullerene small-molecule solar cells. 2: 1869-1876. <http://dx.doi.org/10.1039/c3ta14335j>.
- Chen, Y; Zhang, X, in; Zhan, C; Yao, J. (2015). In-depth understanding of photocurrent enhancement in solution-processed small-molecule:perylene diimide non-fullerene organic solar cells. *Physica Status Solidi A: Applications and Materials Science (Print).* 212: 1961-1968. <http://dx.doi.org/10.1002/pssa.201532102>.
- Chen, Z, hiJun; Wang, L, iMin; Zou, G; Zhang, L; Zhang, GJ, un; Cai, XF, ei; Teng, MS. (2012). Colorimetric and ratiometric fluorescent chemosensor for fluoride ion based on perylene diimide derivatives. *Dyes and Pigments.* 94: 410-415. <http://dx.doi.org/10.1016/j.dyepig.2012.01.024>.
- Cheng, H; Huai, J; Cao, L, i; Li, Z. (2016). Novel self-assembled phosphonic acids monolayers applied in N-channel perylene diimide (PDI) organic field effect transistors. *Appl Surf Sci.* 378: 545-551. <http://dx.doi.org/10.1016/j.apsusc.2016.03.228>.
- Cheng, H, ren; Qian, Y. (2015). Synthesis and intramolecular FRET of perylenediimide-naphthalimide dendrons. *Dyes and Pigments.* 112: 317-326. <http://dx.doi.org/10.1016/j.dyepig.2014.07.005>.
- Cheng, P, ei; Zhao, X; Zhou, W; Hou, J; Li, Y; Zhan, X. (2014). Towards high-efficiency non-fullerene organic solar cells: Matching small molecule/polymer donor/acceptor. *Organic Electronics.* 15: 2270-2276. <http://dx.doi.org/10.1016/j.orgel.2014.06.025>.
- Cheriya, RT; Mallia, AR; Hariharan, M. (2014). Light harvesting vesicular donor-acceptor scaffold limits the rate of charge recombination in the presence of an electron donor. *Energ Environ Sci.* 7: 1661-1669. <http://dx.doi.org/10.1039/c3ee43293a>.
- Cheyns, D; Vasseur, K; Rolin, C; Genoe, J; Poortmans, J; Heremans, P. (2008). Nanoimprinted semiconducting polymer films with 50 nm features and their application to organic heterojunction solar cells. *Nanotechnology.* 19: 424016. <http://dx.doi.org/10.1088/0957-4484/19/42/424016>.
- Chiarella, F; Barra, M; Carella, A; Parlato, L; Sarnelli, E; Cassinese, A. (2016). Contact-resistance effects in PDI8-CN2 n-type thin-film transistors investigated by Kelvin-probe potentiometry. *Organic Electronics.* 28: 299-305. <http://dx.doi.org/10.1016/j.orgel.2015.11.009>.
- Chiarella, F; Chianese, F; Barra, M; Parlato, L; Toccoli, T; Cassinese, A. (2016). Spontaneous Wetting Dynamics in Perylene Diimide n-Type Thin Films Deposited at Room Temperature by Supersonic Molecular Beam. *J Phys Chem C.* 120: 26076-26082. <http://dx.doi.org/10.1021/acs.jpcc.6b07310>.
- Chinapang, P; Ruangpornvisuti, V; Sukwattanasinitt, M; Rashatasakhon, P. (2015). Ferrocenyl derivative of 1,8-naphthalimide as a new turn-on fluorescent sensor for Au(III) ion. *Dyes and Pigments.* 112: 236-238. <http://dx.doi.org/10.1016/j.dyepig.2014.07.013>.
- Chiu, TL; Chuang, K, aiH; Lin, C, hiF; Ho, Y, uH; Lee, JH, aw; Chao, CC; Leung, M, anKit; Wan, D, eHui; Li, CY, u; Chen, HL, i. (2009). Low reflection and photo-sensitive organic light-emitting device with perylene diimide and double-metal structure. *Thin Solid Films.* 517: 3712-3716. <http://dx.doi.org/10.1016/j.tsf.2008.12.037>.
- Choi, J, aeH; Kwon, O, htak; Lee, HY; Towns, AD; Yoon, C. (2010). Synthesis and spectroscopic properties of novel phthalimide-derived monoazo disperse dyes containing ester groups. *Color Technol.* 126: 237-242. <http://dx.doi.org/10.1111/j.1478-4408.2010.00252.x>.
- Choi, W; Ko, HC; Moon, B; Lee, H. (2004). Electrochemical deposition of a pyrrole-1-yl substituted perylene diimide for photoluminescence and electrochromism. *J Electrochem Soc.* 151: E80-E83. <http://dx.doi.org/10.1149/1.1640629>.
- Choppawa, T; Sukwattanasinitt, M; Sahasithiwat, S; Ruangpornvisuti, V; Rashatasakhon, P. (2014). Substituent effect on quantum efficiency in 4-aryloxy-N-(2',6'-diisopropylphenyl)-1,8-naphthalimides: Experimental and computational investigations. *Dyes and Pigments.* 109: 175-180. <http://dx.doi.org/10.1016/j.dyepig.2014.05.007>.
- Chou, W, eiY; Lin, Y, iS; Kuo, LL; Liu, SJ; Cheng, HL; Tang, F, uC. (2014). Light sensing in photosensitive, flexible n-type organic thin-film transistors. 2: 626-632. <http://dx.doi.org/10.1039/c3tc31966k>.
- Chung, YC; Yang, K; Choi, J, aeWon; Chun, BC. (2014). Characterisation and application of polyurethane copolymers grafted with photoluminescent dyes. *Color Technol.* 130: 305-313. <http://dx.doi.org/10.1111/cote.12097>.
- Cormier, RA; Gregg, BA. (1998). Synthesis and characterization of liquid crystalline perylene diimides. *Chem Mater.* 10: 1309-1319.
- Coya, C; Luis Alvarez, A; Ramos, M, ar; Gomez, R; Seoane, C; Luis Segura, J. (2012). Highly efficient solution-processed white organic light-emitting diodes based on novel copolymer single layer. *Synthetic Metals.* 161: 2580-2584. <http://dx.doi.org/10.1016/j.synthmet.2011.08.010>.
- Dahan, E; Sundararajan, PR. (2014). Thermo-reversible gelation of rod-coil and coil-rod-coil molecules based on poly(dimethyl siloxane) and perylene imides and self-sorting of the homologous pair. *Soft Matter.* 10: 5337-5349. <http://dx.doi.org/10.1039/c4sm00999a>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Dai, G; Chang, J; Wu, J; Chi, C. (2012). Dithieno-naphthalimide based copolymers for air-stable field effect transistors: synthesis, characterization and device performance. *J Mater Chem.* 22: 21201-21209. <http://dx.doi.org/10.1039/c2jm34251k>.
- Dai, S; Lin, Y; Cheng, P; ei; Wang, Y; Zhao, X; Ling, Q; Zhan, X. (2015). Perylene diimide-thienylenevinylene-based small molecule and polymer acceptors for solution-processed fullerene-free organic solar cells. *Dyes and Pigments.* 114: 283-289. <http://dx.doi.org/10.1016/j.dyepig.2014.11.022>.
- Dang, D; Zhi, Y; Wang, X; Zhao, B; Gao, C; Meng, L. (2017). A(1)-A-A(1) type small molecules terminated with naphthalimide building blocks for efficient non-fullerene organic solar cells. *Dyes and Pigments.* 137: 43-49. <http://dx.doi.org/10.1016/j.dyepig.2016.09.059>.
- Davarpanah, S; Mahmoodi, NM; Arami, M; Bahrami, H; Mazaheri, F. (2009). Environmentally friendly surface modification of silk fiber: Chitosan grafting and dyeing. *Appl Surf Sci.* 255: 4171-4176. <http://dx.doi.org/10.1016/j.apsusc.2008.11.001>.
- Davis, NJL, K; Macqueen, RW; Roberts, DA; Danos, A; Dehn, S; Perrier, S; Schmidt, TW. (2016). Energy transfer in pendant perylene diimide copolymers. 4: 8270-8275. <http://dx.doi.org/10.1039/c6tc02555b>.
- de Castro, FL; Santos, JG; Turolla Fernandes, GJ; de Araujo, AS; Fernandes, VJ, Jr; Politi, MJ; Brochsztain, S. (2007). Solid state fluorescence of a 3,4,9,10-perylenetetracarboxylic diimide derivative encapsulated in the pores of mesoporous silica MCM-41. *Microporous and Mesoporous Materials.* 102: 258-264. <http://dx.doi.org/10.1016/j.micromeso.2006.12.042>.
- De Los Cobos, O; Fousseret, B; Lejeune, M; Rossignol, F; Dutreilh-Colas, M; Carrion, C; Boissiere, C; Ribot, F; Sanchez, C; Cattoen, X; Man, MWC, hi; Durand, JO. (2012). Tunable Multifunctional Mesoporous Silica Microdots Arrays by Combination of Inkjet Printing, EISA, and Click Chemistry. *Chem Mater.* 24: 4337-4342. <http://dx.doi.org/10.1021/cm3022769>.
- De Luca, G; Liscio, A; Melucci, M; Schnitzler, T; Pisula, W; Clark, CG, Jr; Scolaro, LM; Palermo, V; Muellen, K; Samori, P. (2010). Phase separation and affinity between a fluorinated perylene diimide dye and an alkyl-substituted hexa-peri-hexabenzocoronene. *J Mater Chem.* 20: 71-82. <http://dx.doi.org/10.1039/b915484a>.
- Decker, A; Suraru, SL; Rubio-Pons, O; Mankel, E; Bockstedte, M; Thoss, M; Wuerthner, F; Mayer, T; Jaegermann, W. (2011). Toward Functional Inorganic/Organic Hybrids: Phenoxy-allyl-PTCDI Synthesis, Experimentally and Theoretically Determined Properties of the Isolated Molecule, Layer Characteristics, and the Interface Formation of Phenoxy-allyl-PTCDI on Si(111):H Determined by SXPS and DFT. *J Phys Chem C.* 115: 21139-21150. <http://dx.doi.org/10.1021/jp205294h>.
- del Cano, T; Parra, V; Rodriguez-Mendez, ML; Aroca, R; de Saja, JA. (2004). Molecular stacking and emission properties in Langmuir-Blodgett films of two alkyl substituted perylene tetracarboxylic diimides. *Organic Electronics.* 5: 107-114. <http://dx.doi.org/10.1016/j.orgel.2003.11.004>.
- Deng, D, an; Gu, L, i. (2013). Synthesis and characterization of cyclopentadithiophene-based low bandgap copolymers for all-polymer solar cells. *Journal of Materials Science: Materials in Electronics.* 24: 507-513. <http://dx.doi.org/10.1007/s10854-012-0930-3>.
- Deng, W; Shen, Y; Qian, J; Cao, Y; Yang, H. (2015). A Perylene Diimide Crystal with High Capacity and Stable Cyclability for Na-Ion Batteries. *ACS Applied Materials & Interfaces.* 7: 21095-21099. <http://dx.doi.org/10.1021/acsami.5b04325>.
- Díez-Pérez, I; Li, Z; Guo, S; Madden, C; Huang, H; Che, Y; Yang, X; Zang, L; Tao, N. (2012). Ambipolar transport in an electrochemically gated single-molecule field-effect transistor. *ACS Nano.* 6: 7044-7052. <http://dx.doi.org/10.1021/nn302090t>.
- Dimitrov, SD; Durrant, JR. (2014). Materials Design Considerations for Charge Generation in Organic Solar Cells. *Chem Mater.* 26: 616-630. <http://dx.doi.org/10.1021/cm402403z>.
- Dincalp, H; Askar, Z; Zafer, C; Icli, S. (2011). Effect of side chain substituents on the electron injection abilities of unsymmetrical perylene diimide dyes. *Dyes and Pigments.* 91: 182-191. <http://dx.doi.org/10.1016/j.dyepig.2011.03.022>.
- Dincalp, H; Cimen, O; Saltan, GM; Icli, S. (2015). Functionalized bay-substituted perylene diimide additives for inverted organic photovoltaic devices based on P3HT/PCBM. *J Optoelect Adv Mater.* 17: 579-589.
- Dincalp, H; Kizilok, S; Icli, S. (2010). Fluorescent macromolecular perylene diimides containing pyrene or indole units in bay positions. *Dyes and Pigments.* 86: 32-41. <http://dx.doi.org/10.1016/j.dyepig.2009.11.005>.
- Distanov, VB; Beranova, VF; Gurkalo, YA; Prezhdo, VV. (2001). An alternative approach to the production of fluorescent colored fibres. *Dyes and Pigments.* 48: 159-163.
- Dodangeh, M; Gharanjig, K; Arami, M. (2014). Synthesis, Characterization, and Photo-Physical Properties of Dendrimers Modified With 1,8-Naphthalimide Derivatives as Novel Fluorescent pH Sensors. *IEEE Sens J.* 14. <http://dx.doi.org/10.1109/JSEN.2014.2319293>.
- Dong, S; Zhang, X; Zhou, Y; Jiang, J; Bian, Y. (2011). Perylene diimide-appended mixed (phthalocyaninato)(porphyrinato) europium(III) double-decker complex: Synthesis, spectroscopy and electrochemical properties. *Dyes and Pigments.* 91: 99-104. <http://dx.doi.org/10.1016/j.dyepig.2011.03.010>.
- dos Santos, ER; Pina, J; Venancio, T; Serpa, C; Martinho, JMG; Carlos, RM. (2016). Photoinduced Energy and Electron-Transfer Reactions by Polypyridine Ruthenium(II) Complexes Containing a Derivatized Perylene Diimide. *J Phys Chem C.* 120: 22831-22843. <http://dx.doi.org/10.1021/acs.jpcc.6b06693>.
- Du, P; Li, C; Li, SF; Zhu, WH; Tian, H. (2003). Novel luminescent metal complexes. *Synthetic Metals.* 137: 1131-1132. [http://dx.doi.org/10.1016/S0379-6779\(02\)00959-1](http://dx.doi.org/10.1016/S0379-6779(02)00959-1).
- Dubey, RK; Efimov, A; Lemmetyinen, H. (2011). 1,7- And 1,6-Regiosomers of Diphenoxyl and Dipyrrolyl Substituted Perylene Diimides: Synthesis, Separation, Characterization, and Comparison of Electrochemical and Optical Properties. *Chem Mater.* 23: 778-788. <http://dx.doi.org/10.1021/cm1018647>.
- Dutta, AK; Vanoppen, P; Jeuris, K; Grim, PCM; Pevenage, D; Salesse, C; De Schryver, FC. (1999). Spectroscopic, AFM, and NSOM studies of 3D crystallites in mixed Langmuir-Blodgett films of N,N'-bis(2,6-dimethylphenyl) 3,4,9,10-perylenetetracarboxylic diimide and stearic acid. *Langmuir.* 15: 607-612.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Dwivedi, AK; Pandeeswar, M; Govindaraju, T. (2014). Assembly modulation of PDI derivative as a supramolecular fluorescence switching probe for detection of cationic surfactant and metal ions in aqueous media. 6: 21369-21379. <http://dx.doi.org/10.1021/am5063844>.
- Dworak, L; Matylitsky, VV; Ren, T; Basche, T; Wachtveitl, J. (2014). Acceptor Concentration Dependence of Forster Resonance Energy Transfer Dynamics in Dye-Quantum Dot Complexes. *J Phys Chem C*. 118: 4396-4402. <http://dx.doi.org/10.1021/jp409807x>.
- Echue, G; Hamley, I; Lloyd Jones, GC; Faul, CF. (2016). Chiral Perylene Materials by Ionic Self-Assembly. *Langmuir*. 32: 9023-9032. <http://dx.doi.org/10.1021/acs.langmuir.6b02201>.
- Everett, TA; Higgins, DA. (2009). Electrostatic self-assembly of ordered perylene-diimide/polyelectrolyte nanofibers in fluidic devices: from nematic domains to macroscopic alignment. *Langmuir*. 25: 13045-13051. <http://dx.doi.org/10.1021/la9019298>.
- Everett, TA; Twite, A, myA; Xie, A; Battina, SK; Hua, D, uyH; Higgins, DA. (2006). Preparation and characterization of nanofibrous perylene-diimide - Polyelectrolyte composite thin films. *Chem Mater*. 18: 5937-5943. <http://dx.doi.org/10.1021/cm061695r>.
- Fakis, M; Fililis, I; Stefanatos, S; Vellis, P; Mikroyannidis, J; Giannetas, V; Persephonis, P. (2009). The photophysics and two-photon absorption of a series of quadrupolar and tribranched molecules: The role of the edge substituent. *Dyes and Pigments*. 81: 63-68. <http://dx.doi.org/10.1016/j.dyepig.2008.08.014>.
- Fan, J; Lin, C; Li, H; Zhan, P; Wang, J; Cui, S; Hu, M; Cheng, G; Peng, X. (2013). A ratiometric lysosomal pH chemosensor based on fluorescence resonance energy transfer. *Dyes and Pigments*. 99: 620-626. <http://dx.doi.org/10.1016/j.dyepig.2013.06.032>.
- Fan, Q; Cheng, K; Yang, Z; Zhang, R; Yang, M; Hu, X; Ma, X; Bu, L; Lu, X; Xiong, X; Huang, W; Zhao, H; Cheng, Z. (2015). Perylene-diimide-based nanoparticles as highly efficient photoacoustic agents for deep brain tumor imaging in living mice. *Adv Mater Deerfield*. 27: 843-847. <http://dx.doi.org/10.1002/adma.201402972>.
- Felip-Leon, C; Diaz-Oltra, S; Galindo, F; Miravet, JF. (2016). Chameleonic, Light Harvesting Photonic Gels Based on Orthogonal Molecular Fibrillization. *Chem Mater*. 28: 7964-7972. <http://dx.doi.org/10.1021/acs.chemmater.6b03137>.
- Feng, X; An, Y; Yao, Z; Li, C; Shi, G. (2012). A turn-on fluorescent sensor for pyrophosphate based on the disassembly of Cu²⁺-mediated perylene diimide aggregates. 4: 614-618. <http://dx.doi.org/10.1021/am201616r>.
- Feng, Y; Feng, W, ei. (2008). Photo-responsive perylene diimid-azobenzene dyad: Photochemistry and its morphology control by self-assembly. *Optical Materials*. 30: 876-880. <http://dx.doi.org/10.1016/j.optmat.2007.03.009>.
- Fernandez-Alonso, S; Corrales, T; Pablos, JL; Catalina, F. (2016). Surface modification of poly(ethylene-butyl acrylate) copolymers by microwave methodology and functionalization with 4-dimethylamino-N-(2-hydroxyethyl)-1,8-naphthalimide for acidity sensing. *React Funct Polym*. 107: 78-86. <http://dx.doi.org/10.1016/j.reactfunctpolym.2016.08.009>.
- Ferreira, R; Remon, P; Pischel, U, we. (2009). Multivalued Logic with a Tristable Fluorescent Switch. *J Phys Chem C*. 113: 5805-5811. <http://dx.doi.org/10.1021/jp809527d>.
- Fleming, CL; Ashton, TD; Pfeffer, FM. (2014). Synthesis of 4-amino substituted 1,8-naphthalimide derivatives using palladium-mediated amination. *Dyes and Pigments*. 109: 135-143. <http://dx.doi.org/10.1016/j.dyepig.2014.05.006>.
- Fleming, CL; Nalder, T, imD; Doeven, EH; Barrow, CJ; Pfeffer, FM; Ashton, TD. (2016). Synthesis of N-substituted 4-hydroxynaphthalimides using palladium-catalysed hydroxylation. *Dyes and Pigments*. 126: 118-120. <http://dx.doi.org/10.1016/j.dyepig.2015.11.007>.
- Flors, C; Oesterling, I; Schnitzler, T; Fron, E; Schweitzer, G; Sliwa, M; Herrmann, A; van Der Auweraer, M; de Schryver, FC; Muellen, K; Hofkens, J. (2007). Energy and electron transfer in ethynylene bridged perylene diimide multichromophores. *J Phys Chem C*. 111: 4861-4870. <http://dx.doi.org/10.1021/jp068877t>.
- Frisenda, R; Parlato, L; Barra, M; van Der Zant, HSJ; Cassinese, A. (2015). Single-Molecule Break Junctions Based on a Perylene-Diimide Cyano-Functionalized (PDI8-CN2) Derivative. *Nanoscale Res Lett*. 10: 1011. <http://dx.doi.org/10.1186/s11671-015-1011-3>.
- Fu, Y; Yang, Q; Deng, Y; Jiang, W, ei; Wang, Z; Geng, Y; Xie, Z. (2015). Suppressed charge recombination in polymer solar cells based on perylene diimide derivative acceptors via solvent vapor annealing. *Organic Electronics*. 18: 24-31. <http://dx.doi.org/10.1016/j.orgel.2015.01.008>.
- Fu, Y; Zhang, J; Wang, H; Chen, J, iaLi; Zhao, P; Chen, G, uoR; He, XP. (2016). Intracellular pH sensing and targeted imaging of lysosome by a galactosyl naphthalimide-piperazine probe. *Dyes and Pigments*. 133: 372-379. <http://dx.doi.org/10.1016/j.dyepig.2016.06.022>.
- Fujiki, A; Miyake, Y; Oshikane, Y; Akai-Kasaya, M; Saito, A; Kuwahara, Y. (2011). STM-induced light emission from thin films of perylene derivatives on the HOPG and Au substrates. *Nanoscale Res Lett*. 6: 347. <http://dx.doi.org/10.1186/1556-276X-6-347>.
- Fujiwara, S; Yamamoto, T; Tezuka, Y; Habuchi, S. (2014). Synthesis of core-fluorescent four-armed star and dicyclic 8-shaped poly(THF)s by electrostatic self-assembly and covalent fixation (ESA-CF) protocol. *React Funct Polym*. 80: 3-8. <http://dx.doi.org/10.1016/j.reactfunctpolym.2013.11.007>.
- Gan, J; Chen, KC; Chang, CP; Tian, H. (2003). Luminescent properties and photo-induced electron transfer of naphthalimides with piperazine substituent. *Dyes and Pigments*. 57: 21-28. [http://dx.doi.org/10.1016/S0143-7208\(02\)00162-6](http://dx.doi.org/10.1016/S0143-7208(02)00162-6).
- Gehrig, DW; Roland, S; Howard, I, anA; Kamm, V; Mangold, H; Neher, D; Laquai, F. (2014). Efficiency-Limiting Processes in Low-Bandgap Polymer:Perylene Diimide Photovoltaic Blends. *J Phys Chem C*. 118: 20077-20085. <http://dx.doi.org/10.1021/jp503366m>.
- Geng, Y, un; Li, H, aiBin; Wu, SX; Su, ZM, in. (2012). The interplay of intermolecular interactions, packing motifs and electron transport properties in perylene diimide related materials: a theoretical perspective. *J Mater Chem*. 22: 20840-20851. <http://dx.doi.org/10.1039/c2jm33369d>.
- Georgiev, NI; Asiri, AM; Qusti, AH; Alamry, KA; Bojinov, VB. (2014). A pH sensitive and selective ratiometric PAMAM wavelength-shifting bichromophoric system based on PET, FRET and ICT. *Dyes and Pigments*. 102: 35-45. <http://dx.doi.org/10.1016/j.dyepig.2013.10.007>.
- Georgiev, NI; Bojinov, VB. (2010). The design and synthesis of a novel 1,8-naphthalimide PAMAM light-harvesting dendron with fluorescence "off-on" switching core. *Dyes and Pigments*. 84: 249-256. <http://dx.doi.org/10.1016/j.dyepig.2009.09.013>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Georgiev, NI; Bojinov, VB; Nikolov, PS. (2009). Design and synthesis of a novel pH sensitive core and peripherally 1,8-naphthalimide-labeled PAMAM dendron as light harvesting antenna. *Dyes and Pigments*. 81: 18-26. <http://dx.doi.org/10.1016/j.dyepig.2008.08.009>.
- Georgiev, NI; Bojinov, VB; Nikolov, PS. (2011). The design, synthesis and photophysical properties of two novel 1,8-naphthalimide fluorescent pH sensors based on PET and ICT. *Dyes and Pigments*. 88: 350-357. <http://dx.doi.org/10.1016/j.dyepig.2010.08.004>.
- Georgiev, NI; Dimitrova, MD; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Synthesis, sensor activity and logic behaviour of a novel bichromophoric system based on rhodamine 6G and 1,8-naphthalimide. *Dyes and Pigments*. 115: 172-180. <http://dx.doi.org/10.1016/j.dyepig.2015.01.001>.
- Georgiev, NI; Dimitrova, MD; Todorova, YD; Bojinov, VB. (2016). Synthesis, chemosensing properties and logic behaviour of a novel ratiometric 1,8-naphthalimide probe based on ICT and PET. *Dyes and Pigments*. 131: 9-17. <http://dx.doi.org/10.1016/j.dyepig.2016.03.051>.
- Georgiev, NI; Sakr, AR; Bojinov, VB. (2011). Design and synthesis of novel fluorescence sensing perylene diimides based on photoinduced electron transfer. *Dyes and Pigments*. 91: 332-339. <http://dx.doi.org/10.1016/j.dyepig.2011.04.015>.
- Gharanjig, K; Arami, M; Bahrami, H; Movassagh, B; Mahmoodi, NM; Rouhani, S. (2008). Synthesis, spectral properties and application of novel monoazo disperse dyes derived from N-ester-1,8-naphthalimide to polyester. *Dyes and Pigments*. 76: 684-689. <http://dx.doi.org/10.1016/j.dyepig.2007.01.024>.
- Gharanjig, K; Sadeghi-Kiakhani, M; Arami, M; Mahmoodi, NM; Khosravi, A. (2010). Solubilisation kinetics of some monoazo naphthalimide disperse dyes containing butyric acid and investigation of fastness properties of the dyes on polyester. *Color Technol.* 126: 37-41. <http://dx.doi.org/10.1111/j.1478-4408.2010.00225.x>.
- Gharanjig, K; Sadeghi-Kiakhani, M; Tehrani-Batha, AR; Khosravi, A; Menger, FM. (2011). Solubility of Two Disperse Dyes Derived from N-Alkyl and N-Carboxylic Acid Naphthalimides in the Presence of Gemini Cationic Surfactants. *Journal of Surfactants and Detergents*. 14: 381-389. <http://dx.doi.org/10.1007/s11743-011-1253-8>.
- Giri, D; Ashraf, KM; Collinson, MM; Higgins, DA. (2015). Single-Molecule Perspective on Mass Transport in Condensed Water Layers over Gradient Self-Assembled Monolayers. *J Phys Chem C*. 119: 9418-9428. <http://dx.doi.org/10.1021/acs.jpcc.5b01958>.
- Glaz, MS; Biberdorf, JD; Nguyen, MT; Travis, JJ; Holliday, BJ; Vanden Bout, DA. (2013). Perylene diimide functionalized polynorbornene: a macromolecular scaffold for supramolecular self-assembly. 1: 8060-8065. <http://dx.doi.org/10.1039/c3tc31861c>.
- Gommans, H; Aernouts, T; Verreet, B; Heremans, P; Medina, A; Claessens, CG; Torres, T. (2009). Perfluorinated Subphthalocyanine as a New Acceptor Material in a Small-Molecule Bilayer Organic Solar Cell. *Adv Funct Mater*. 19: 3435-3439. <http://dx.doi.org/10.1002/adfm.200900524>.
- Gong, R; Mu, H; Sun, Y; Fang, X; Xue, P; Fu, E. (2013). The first fluorescent sensor for medium-chain fatty acids in water: design, synthesis and sensing properties of an organic-inorganic hybrid material. 1: 2038-2047. <http://dx.doi.org/10.1039/c3tb00355h>.
- Gopikrishna, P; Das, D; Iyer, PK. (2015). Synthesis and characterization of color tunable, highly electroluminescent copolymers of polyfluorene by incorporating the N-phenyl-1,8-naphthalimide moiety into the main chain. 3: 9318-9326. <http://dx.doi.org/10.1039/c5tc01899d>.
- Grabchev, I. (1998). Photophysical characteristics of polymerizable 1,8-naphthalimide dyes and their copolymers with styrene or methylmethacrylate. *Dyes and Pigments*. 38: 219-226.
- Grabchev, I; Bojinov, V; Petkov, C. (2001). Synthesis and photophysical properties of polymerizable 1,8-naphthalimide dyes and their copolymers with styrene. *Dyes and Pigments*. 51: 1-8.
- Grabchev, I; Chovelon, JM. (2008). New blue fluorescent sensors for metal cations and protons based on 1,8-naphthalimide. *Dyes and Pigments*. 77: 1-6. <http://dx.doi.org/10.1016/j.dyepig.2007.02.012>.
- Grabchev, I; Dumas, S; Chovelon, JM. (2009). A polyamidoamine dendrimer as a selective colorimetric and ratiometric fluorescent sensor for Li⁺ cations in alkali media. *Dyes and Pigments*. 82: 336-340. <http://dx.doi.org/10.1016/j.dyepig.2009.02.003>.
- Grabchev, I; Konstantinova, T. (1997). Synthesis of some polymerisable 1,8-naphthalimide derivatives for use as fluorescent brighteners. *Dyes and Pigments*. 33: 197-203.
- Grabchev, I; Meallier, P; Konstantinova, T; Popova, M. (1995). SYNTHESIS OF SOME UNSATURATED 1,8-NAPHTHALIMIDE DYES. *Dyes and Pigments*. 28: 41-46.
- Grabchev, I; Moneva, I; Betcheva, R; Elyashevich, G. (2002). Colored microporous polyethylene films: effect of porous structure on dye adsorption. *Mater Res Innovat*. 6: 34-37. <http://dx.doi.org/10.1007/s10019-001-0154-2>.
- Grabchev, I; Moneva, I; Bojinov, V; Guittoneau, S. (2000). Synthesis and properties of fluorescent 1,8-naphthalimide dyes for application in liquid crystal displays. *J Mater Chem*. 10: 1291-1296.
- Grabchev, I; Moneva, I; Kozlov, A; Elyashevich, G. (2001). Orientation of pores in microporous polyethylene films as determined by polarized absorption spectroscopy. *Mater Res Innovat*. 4: 301-305.
- Grabchev, I; Petkov, C; Bojinov, V. (2001). Synthesis and absorption properties of some new bis-1,8-naphthalimides. *Dyes and Pigments*. 48: 239-244.
- Grabchev, I; Petkov, C; Bojinov, V. (2002). 1,8-naphthalimides as blue emitting fluorophores for polymer materials. *Macromolecular Materials & Engineering*. 287: 904-908.
- Grabchev, I; Petkov, C; Bojinov, V. (2004). Infrared spectral characterization of poly(amidoamine) dendrimers peripherally modified with 1,8-naphthalimides. *Dyes and Pigments*. 62: 229-234. <http://dx.doi.org/10.1016/j.dyepig.2003.12.004>.
- Grabchev, I; Staneva, D; Chovelon, JM. (2010). Photophysical investigations on the sensor potential of novel, poly(propylenamine) dendrimers modified with 1,8-naphthalimide units. *Dyes and Pigments*. 85: 189-193. <http://dx.doi.org/10.1016/j.dyepig.2009.10.023>.
- Grabtchev, I; Philipova, T; Meallier, P; Guittoneau, S. (1996). Influence of substituents on the spectroscopic and photochemical properties of naphthalimide derivatives. *Dyes and Pigments*. 31: 31-34.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Gregg, BA; Kose, ME. (2008). Reversible Switching between Molecular and Charge Transfer Phases in a Liquid Crystalline Organic Semiconductor. *Chem Mater.* 20: 5235-5239. <http://dx.doi.org/10.1021/cm800813h>.
- Greiner, R; Schlueter, T; Zgela, D; Langhals, H. (2016). Fluorescent aryl naphthalene dicarboximides with large Stokes shifts and strong solvatochromism controlled by dynamics and molecular geometry. 4: 11244-11252. <http://dx.doi.org/10.1039/c6tc04453k>.
- Grepioni, F; D'Agostino, S; Braga, D; Bertocco, A; Catalano, I; Ventura, B. (2015). Fluorescent crystals and co-crystals of 1,8-naphthalimide derivatives: synthesis, structure determination and photophysical characterization. 3: 9425-9434. <http://dx.doi.org/10.1039/c5tc01518a>.
- Grimaldi, IA; Barra, M; Carella, A; Di Girolamo, FV; Loffredo, F; Minarini, C; Villani, F; Cassinese, A. (2013). Bias stress effects investigated in charge depletion and accumulation regimes for inkjet-printed perylene diimide organic transistors. *Synthetic Metals.* 176: 121-127. <http://dx.doi.org/10.1016/j.synthmet.2013.05.030>.
- Grimaldi, IA; Barra, M; Del Mauro, AD, eG; Loffredo, F; Cassinese, A; Villani, F; Minarini, C. (2012). Inkjet printed perylene diimide based OTFTs: Effect of the solvent mixture and the printing parameters on film morphology. *Synthetic Metals.* 161: 2618-2622. <http://dx.doi.org/10.1016/j.synthmet.2011.08.004>.
- Gross, AJ; Haddad, R; Travelet, C; Reynaud, E; Audebert, P; Borsali, R; Cosnier, S. (2016). Redox-Active Carbohydrate-Coated Nanoparticles: Self-Assembly of a Cyclodextrin-Polystyrene Glycopolymers with Tetrazine-Naphthalimide. *Langmuir.* 32: 11939-11945. <http://dx.doi.org/10.1021/acs.langmuir.6b03512>.
- Gruenewald, M; Kleinlein, J; Syrowatka, F; Wuerthner, F; Molenkamp, LW; Schmidt, G. (2013). Large room-temperature magnetoresistance in lateral organic spin valves fabricated by in situ shadow evaporation. *Organic Electronics.* 14: 2082-2086. <http://dx.doi.org/10.1016/j.orgel.2013.04.049>.
- Gu, P, eiY; Lu, C, aiJ; Hu, Z, hijun; Li, N, ajun; Zhao, TT; Xu, QF; Xu, QH, ua; Zhang, JD; Lu, JM, ei. (2013). The AIEE effect and two-photon absorption (TPA) enhancement induced by polymerization: synthesis of a monomer with ICT and AIE effects and its homopolymer by ATRP and a study of their photophysical properties. 1: 2599-2606. <http://dx.doi.org/10.1039/c3tc00738c>.
- Guarisco, C; Palmisano, G; Calogero, G; Ciriminna, R; Di Marco, G; Loddo, V; Pagliaro, M; Parrino, F. (2014). Visible-light driven oxidation of gaseous aliphatic alcohols to the corresponding carbonyls via TiO₂ sensitized by a perylene derivative. *Environ Sci Pollut Res Int.* 21: 11135-11141. <http://dx.doi.org/10.1007/s11356-014-2546-z>.
- Gudeika, D; Grazulevicius, JV; Sini, G; Bucinskas, A; Jankauskas, V; Miasojedovas, A; Jursenas, S. (2014). New derivatives of triphenylamine and naphthalimide as ambipolar organic semiconductors: Experimental and theoretical approach. *Dyes and Pigments.* 106: 58-70. <http://dx.doi.org/10.1016/j.dyepig.2014.02.023>.
- Gudeika, D; Grazulevicius, JV; Volyniuk, D; Butkute, R; Juska, G; Miasojedovas, A; Gruodis, A; Jursenas, S. (2015). Structure-properties relationship of the derivatives of carbazole and 1,8-naphthalimide: Effects of the substitution and the linking topology. *Dyes and Pigments.* 114: 239-252. <http://dx.doi.org/10.1016/j.dyepig.2014.11.013>.
- Gudeika, D; Grazulevicius, JV; Volyniuk, D; Juska, G; Jankauskas, V; Sini, G. (2015). Effect of Ethynyl Linkages on the Properties of the Derivatives of Triphenylamine and 1,8-Naphthalimide. *J Phys Chem C.* 119: 28335-28346. <http://dx.doi.org/10.1021/acs.jpcc.5b10163>.
- Gudeika, D; Michaleviciute, A; Grazulevicius, JV; Lygaitis, R; Grigalevicius, S; Jankauskas, V; Miasojedovas, A; Jursenas, S; Sini, G. (2012). Structure Properties Relationship of Donor-Acceptor Derivatives of Triphenylamine and 1,8-Naphthalimide. *J Phys Chem C.* 116: 14811-14819. <http://dx.doi.org/10.1021/jp303172b>.
- Gudeika, D; Reghu, RR; Grazulevicius, JV; Buika, G; Simokaitiene, J; Miasojedovas, A; Jursenas, S; Jankauskas, V. (2013). Electron-transporting naphthalimide-substituted derivatives of fluorene. *Dyes and Pigments.* 99: 895-902. <http://dx.doi.org/10.1016/j.dyepig.2013.07.016>.
- Guo, H; Li, Q; Ma, L; Zhao, J. (2012). Fluorene as pi-conjugation linker in N boolean AND N Pt(II) bisacetylidene complexes and their applications for triplet-triplet annihilation based upconversion. *J Mater Chem.* 22: 15757-15768. <http://dx.doi.org/10.1039/c2jm32074f>. <http://pubs.rsc.org/en/Content/ArticleLanding/2012/JM/c2jm32074f>.
- Guo, X, in; Tu, D; Liu, X. (2015). Recent advances in rylene diimide polymer acceptors for all-polymer solar cells. 24: 675-685. <http://dx.doi.org/10.1016/j.jechem.2015.11.003>.
- Guo, XF; Zhang, DQ; Zhu, DB. (2004). Logic control of the fluorescence of a new dyad, spiropyran-perylene diimide-spiropyran, with light, ferric ion, and proton: Construction of a new three-input "AND" logic gate. *Adv Mater Deerfield.* 16: 125-+. <http://dx.doi.org/10.1002/adma.200306102>.
- Guo, Y; Zhang, J, i; Yu, G, ui; Zheng, J; Zhang, L, ei; Zhao, Y, an; Wen, Y; Liu, Y. (2012). Lowering programmed voltage of organic memory transistors based on polymer gate electrets through heterojunction fabrication. *Organic Electronics.* 13: 1969-1974. <http://dx.doi.org/10.1016/j.orgel.2012.05.007>.
- Guthrie, JT; Konstantinova, T; Ginova, E. (1997). Polymers of acrylonitrile and the naphthalimide derivatives of some fluorescent dyes. *Dyes and Pigments.* 34: 287-296.
- Hadmojo, WT; Nam, S, oY; Shin, T, aeJoo; Yoon, SC; Jang, SY; Jung, I, nh. (2016). Geometrically controlled organic small molecule acceptors for efficient fullerene-free organic photovoltaic devices. 4: 12308-12318. <http://dx.doi.org/10.1039/c6ta04344e>.
- Haines, C; Chen, M; Ghiggino, KP. (2012). The effect of perylene diimide aggregation on the light collection efficiency of luminescent concentrators. *Solar Energy Materials and Solar Cells.* 105: 287-292. <http://dx.doi.org/10.1016/j.solmat.2012.06.030>.
- Hains, AW; Chen, HY; Reilly, TH; Gregg, BA. (2011). Cross-linked perylene diimide-based n-type interfacial layer for inverted organic photovoltaic devices. 3: 4381-4387. <http://dx.doi.org/10.1021/am201027j>.
- Hamel, M; Simic, V; Normand, S. (2008). Fluorescent 1,8-naphthalimides-containing polymers as plastic scintillators. An attempt for neutron-gamma discrimination. *React Funct Polym.* 68: 1671-1681. <http://dx.doi.org/10.1016/j.reactfunctpolym.2008.09.005>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Han, BG; Kim, JS, oo. (2015). The Luminescent Solar Concentrators with the H-aggregate of Perylene Diimide Dye Imbedded into PMMA. *Fibers and Polymers.* 16: 752-760. <http://dx.doi.org/10.1007/s12221-015-0752-z>.
- Han, C; Huang, T; Liu, Q, i; Xu, H; Zhuang, Y; Li, J; Hu, J; Wang, A; Xu, K, ai. (2014). Design and synthesis of a highly sensitive "Turn-On" fluorescent organic nanoprobe for iron(III) detection and imaging. 2: 9077-9082. <http://dx.doi.org/10.1039/c4tc01759e>.
- Hao, L; Xiao, C; Zhang, J; Jiang, W, ei; Xu, W, ei; Wang, Z. (2013). Perpendicularly entangled perylene diimides for high performance electron transport materials. 1: 7812-7818. <http://dx.doi.org/10.1039/c3tc31912a>.
- He, E; Wang, J; Liu, H; He, Z; Zhao, H; Bao, W; Zhang, R; Zhang, H. (2016). Facile synthesis of an isolable and ambient stable bay-substituted perylene diimide radical anion salt and its optical response to base-acid and metal ions. *Journal of Materials Science.* 51: 9229-9238. <http://dx.doi.org/10.1007/s10853-016-0168-1>.
- He, E; Wang, J; Xu, H, ai; He, Z; Wang, H; Zhao, H; Zhang, Y; Zhang, R; Zhang, H. (2016). Facile synthesis of graphene oxide sheet-immobilized perylene diimide radical anion salt and its optical response to different solvents and pH values. *Journal of Materials Science.* 51: 6583-6589. <http://dx.doi.org/10.1007/s10853-016-9885-8>.
- He, Q; Li, T; Yan, C; Liu, Y; Wang, J; Wang, M; Lin, Y; Zhan, X. (2016). Cracking perylene diimide backbone for fullerene-free polymer solar cells. *Dyes and Pigments.* 128: 226-234. <http://dx.doi.org/10.1016/j.dyepig.2016.01.034>.
- He, X; Zhou, W; Li, Y; Liu, X; Li, C; Liu, H; Zhu, D. (2008). Tuning morphology and fluorescence of aggregated nanostructures of derived perylene diimide molecules. *J Nanosci Nanotechnol.* 8: 2005-2010. <http://dx.doi.org/10.1166/jnn.2008.042>.
- Hendsbee, AD; Mcafee, SM; Sun, J, onP; McCormick, TM; Hill, I, anG; Welch, GC. (2015). Phthalimide-based pi-conjugated small molecules with tailored electronic energy levels for use as acceptors in organic solar cells. 3: 8904-8915. <http://dx.doi.org/10.1039/c5tc01877c>.
- Hendsbee, AD; Sun, J, onP; Law, W, aiKit; Yan, H, e; Hill, I, anG; Spasuk, DM; Welch, GC. (2016). Synthesis, Self-Assembly, and Solar Cell Performance of N-Annulated Perylene Diimide Non-Fullerene Acceptors. *Chem Mater.* 28: 7098-7109. <http://dx.doi.org/10.1021/acs.chemmater.6b03292>.
- Hendsbee, AD; Sun, J, onP; Rutledge, LR; Hill, I, anG; Welch, GC. (2014). Electron deficient diketopyrrolopyrrole dyes for organic electronics: synthesis by direct arylation, optoelectronic characterization, and charge carrier mobility. 2: 4198-4207. <http://dx.doi.org/10.1039/c3ta14414c>.
- Herrmann, R; Rennhak, M; Reller, A. (2014). Synthesis and characterization of fluorescence-labelled silica core-shell and noble metal-decorated ceria nanoparticles [Review]. 5: 2413-2423. <http://dx.doi.org/10.3762/bjnano.5.251>.
- Ho, Y, uhWen; Yao, W, eiHua. (2009). The synthesis and spectral characteristics of novel 6-(2-substituted-1,3,4-oxadiazol-5-yl)-2-phenylthieno[2,3-d]pyrimidine fluorescent compounds derived from 5-cyano-1,6-dihydro-4-methyl-2-phenyl-6-thioxopyrimidine. *Dyes and Pigments.* 82: 6-12. <http://dx.doi.org/10.1016/j.dyepig.2008.09.014>.
- Hong, K; Kim, S, eH; Yang, C; An, T, aeKyu; Cha, H; Park, C; Park, CE, on. (2011). Photopatternable, highly conductive and low work function polymer electrodes for high-performance n-type bottom contact organic transistors. *Organic Electronics.* 12: 516-519. <http://dx.doi.org/10.1016/j.orgel.2010.12.022>.
- Horowitz, G; Kouki, F; Spearman, P; Fichou, D; Nogues, C; Pan, X; Garnier, F. (1996). Evidence for n-type conduction in a perylene tetracarboxylic diimide derivative. *Adv Mater Deerfield.* 8: 242-&.
- Hosseini, S; Madden, C; Hihath, J; Guo, S; Zang, L; Li, Z. (2016). Single -Molecule Charge Transport and Electrochemical Gating in Redox-Active Perylene Diimide Junctions. *J Phys Chem C.* 120: 22646-22654. <http://dx.doi.org/10.1021/acs.jpcc.6b06229>.
- Hou, J; Zhang, Q; Li, X; Tang, Y; Cao, MR; Bai, F; Shi, Q; Yang, CH; Kong, DL; Bai, G. (2011). Synthesis of novel folate conjugated fluorescent nanoparticles for tumor imaging. *J Biomed Mater Res A.* 99: 684-689. <http://dx.doi.org/10.1002/jbm.a.33187>.
- Hou, R, an; Feng, S; Gong, X, ue; Liu, Y; Zhang, J; Li, C; Bo, Z. (2016). Side chain effect of nonfullerene acceptors on the photovoltaic performance of wide band gap polymer solar cells. *Synthetic Metals.* 220: 578-584. <http://dx.doi.org/10.1016/j.synthmet.2016.07.015>.
- Hou, X; Yu, Q; Zeng, F; Ye, J; Wu, S. (2015). A ratiometric fluorescent probe for in vivo tracking of alkaline phosphatase level variation resulting from drug-induced organ damage. 3: 1042-1048. <http://dx.doi.org/10.1039/c4tb01744g>.
- Houari, Y; Laurent, AD; Jacquemin, D. (2013). Spectral Signatures of Perylene Diimide Derivatives: Insights From Theory. *J Phys Chem C.* 117: 21682-21691. <http://dx.doi.org/10.1021/jp407104m>.
- Hsu, Y, uYi; Yeh, SC; Lin, SH; Chen, CT, i; Tung, SH; Jeng, R, uJ. (2016). Dendrons with urea/malonamide linkages for gate insulators of n-channel organic thin film transistors. *React Funct Polym.* 108: 86-93. <http://dx.doi.org/10.1016/j.reactfunctpolym.2016.05.008>.
- Hu, C; Zhu, WH; Lin, WQ; Tian, H. (1999). Synthesis and luminescence of novel emitting copolymers. *Synthetic Metals.* 102: 1129-1130.
- Hu, G; Lv, L; Li, L; Zhang, Q; Li, X; Tian, Y; Wu, J; Jin, B; Zhou, H; Yang, J; Zhang, S. (2011). Design, synthesis, photoluminescence and electrochemiluminescence properties of naphthalimide derivative and its silver complex. *Dyes and Pigments.* 89: 105-110. <http://dx.doi.org/10.1016/j.dyepig.2010.09.011>
- <http://www.sciencedirect.com/science/article/pii/S0143720810002159>.
- Hu, JC; Kuang, WF; Deng, K; Zou, WJ; Huang, YW; Wei, ZX; Faul, CFJ. (2012). Self-Assembled Sugar-Substituted Perylene Diimide Nanostructures with Homochirality and High Gas Sensitivity. *Adv Funct Mater.* 22: 4149-4158. <http://dx.doi.org/10.1002/adfm.201200973>.
- Hu, X; Zuo, L; Pan, H; Hao, F; Pan, J; Fu, L, ei; Shi, M; Chen, H. (2012). Synthesis and photovoltaic properties of n-type conjugated polymers alternating 2,7-carbazole and arylene diimides. *Solar Energy Materials and Solar Cells.* 103: 157-163. <http://dx.doi.org/10.1016/j.solmat.2012.04.041>
- <http://www.sciencedirect.com/science/article/pii/S0927024812002176>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Hu, Y; Chen, L; Jung, H; Zeng, Y; Lee, S; Swamy, KMK; Zhou, X, in; Kim, M; Yoon, J. (2016). Effective Strategy for Colorimetric and Fluorescence Sensing of Phosgene Based on Small Organic Dyes and Nanofiber Platforms. *ACS Applied Materials & Interfaces*. 8: 22246-22252. <http://dx.doi.org/10.1021/acsmami.6b07138>.
- Hu, Y; Wang, K; Zhang, Q; Li, F; Wu, T; Niu, L. (2012). Decorated graphene sheets for label-free DNA impedance biosensing. *Biomaterials*. 33: 1097-1106. <http://dx.doi.org/10.1016/j.biomaterials.2011.10.045>.
- Hu, Y; Zeng, F. (2017). A theranostic prodrug based on FRET for real-time drug release monitoring in response to biothiols. *Mater Sci Eng C*. 72: 77-85. <http://dx.doi.org/10.1016/j.msec.2016.11.056>.
- Hu, Z; Xu, R; Dong, S; Lin, K, ai; Liu, J; Huang, F, ei; Cao, Y. (2017). Quaternisation-polymerized N-type polyelectrolytes: synthesis, characterisation and application in high-performance polymer solar cells. 4: 88-97. <http://dx.doi.org/10.1039/c6mh00434b>.
- Huang, C; Sartin, MM; Siegel, N; Cozzuol, M; Zhang, Y; Hales, JM; Barlow, S; Perry, JW; Marder, SR. (2011). Photo-induced charge transfer and nonlinear absorption in dyads composed of a two-photon-absorbing donor and a perylene diimide acceptor. *J Mater Chem*. 21: 16119-16128. <http://dx.doi.org/10.1039/c1jm12566d>
- <http://pubs.rsc.org/en/Content/ArticleLanding/2011/JM/c1jm12566d>.
- Huang, J; Wang, X; Zhang, X; Niu, Z; Lu, Z; Jiang, B; Sun, Y; Zhan, C; Yao, J. (2014). Additive-assisted control over phase-separated nanostructures by manipulating alkylthienyl position at donor backbone for solution-processed, non-fullerene, all-small-molecule solar cells. 6: 3853-3862. <http://dx.doi.org/10.1021/am406050j>.
- Huang, L; Zhu, F; Liu, C; Wang, H; Geng, Y; Yan, D. (2010). Heteroepitaxy growth high performance films of perylene diimide derivatives. *Organic Electronics*. 11: 195-201. <http://dx.doi.org/10.1016/j.orgel.2009.10.014>.
- Huang, W; Markwart, JC; Briseno, AL; Hayward, RC. (2016). Orthogonal Ambipolar Semiconductor Nanostructures for Complementary Logic Gates. *ACS Nano*. 10: 8610-8619. <http://dx.doi.org/10.1021/acsnano.6b03942>.
- Huang, X; Fang, Y, i; Li, X, in; Xie, Y; Zhu, W. (2011). Novel dyes based on naphthalimide moiety as electron acceptor for efficient dye-sensitized solar cells. *Dyes and Pigments*. 90: 297-303. <http://dx.doi.org/10.1016/j.dyepig.2011.01.010>.
- Hussain, M; Shamey, R; Hinks, D; El-Shafei, A; Ali, SI. (2012). Synthesis of novel stilbene-alkoxysilane fluorescent brighteners, and their performance on cotton fiber as fluorescent brightening and ultraviolet absorbing agents. *Dyes and Pigments*. 92: 1231-1240. <http://dx.doi.org/10.1016/j.dyepig.2011.06.034>.
- Hwang, Y, eJin; Courtright, BAE; Jenekhe, SA. (2015). Ternary blend all-polymer solar cells: enhanced performance and evidence of parallel-like bulk heterojunction mechanism. 5: 229-234. <http://dx.doi.org/10.1557/mrc.2015.36>.
- Ichikawa, M; Deguchi, S; Onoguchi, T; Jeon, HG, u; Banoukepa, G, deR. (2013). N,N'-diphenylperylene diimide functioning as a sensitizing light absorber based on excitation transfer for organic thin-film solar cells. *Organic Electronics*. 14: 464-468. <http://dx.doi.org/10.1016/j.orgel.2012.12.004>
- <http://www.sciencedirect.com/science/article/pii/S156611991200554X>.
- Icli, S; Icil, H; Gurol, I. (1997). High rates of fluorescence quenching between perylene dodecyldiimide and certain pi-electron donors. *Turkish Journal of Chemistry*. 21: 363-368.
- Im, P; Kang, D; Kim, D; Choi, Y; Yoon, W; Lee, MH; Lee, I, nH; Lee, CR, o; Jeong, KU, n. (2016). Flexible and Patterned Thin Film Polarizer: Photopolymerization of Peryl-ene-based Lyotropic Chromonic Reactive Mesogens. *ACS Applied Materials & Interfaces*. 8: 762-771. <http://dx.doi.org/10.1021/acsmami.5609995>.
- Inal, S; Koelsch, JD; Chiappisi, L; Janietz, D; Gradzielski, M; Laschewsky, A; Neher, D. (2013). Structure-related differences in the temperature-regulated fluorescence response of LCST type polymers. 1: 6603-6612. <http://dx.doi.org/10.1039/c3tc31304b>.
- Iverson, IK; Casey, SM; Seo, W; Tam-Chang, SW; Pindzola, BA. (2002). Controlling molecular orientation in solid films via self-organization in the liquid-crystalline phase. *Langmuir*. 18: 3510-3516. <http://dx.doi.org/10.1021/la011499t>.
- Iwan, A; Schab-Balcerzak, E, wa; Siwy, M; Sikora, A; Palewicz, M; Janecek, H; Sibinski, M. (2011). New aliphatic-aromatic tetraphenylphthalic-based diimides: Thermal, optical and electrical study. *Optical Materials*. 33: 958-967. <http://dx.doi.org/10.1016/j.optmat.2010.12.017>.
- Jafari, S; Khosravi, A; Gharanjig, K; Moradian, S; Pourmahdian, S. (2014). A NOVEL UTILISATION OF PRINCIPAL COMPONENT ANALYSIS TO OPTIMISE SORPTION ISOTHERMS AND DETERMINE DIFFUSION COEFFICIENTS OF FIVE NAPHTHALIMIDE DISPERSE DYES ON POLYESTER FIBRES. *Can J Chem Eng*. 92: 553-562. <http://dx.doi.org/10.1002/cjce.21852>.
- Jang, J; Nam, S; Chung, D; Kim, S, eh; Yun, W; Park, C. (2010). High T-g Cyclic Olefin Copolymer Gate Dielectrics for N,N'-Ditridecyl Perylene Diimide Based Field-Effect Transistors: Improving Performance and Stability with Thermal Treatment. *Adv Funct Mater*. 20: 2611-2618. <http://dx.doi.org/10.1002/adfm.201000383>.
- Jang, J; Nam, S; Yun, W, onMin; Yang, C; Hwang, J; An, T, aeKyu; Chung, D, aeS; Park, CE, on. (2011). High T-g cyclic olefin copolymer/Al₂O₃ bilayer gate dielectrics for flexible organic complementary circuits with low-voltage and air-stable operation. *J Mater Chem*. 21: 12542-12546. <http://dx.doi.org/10.1039/c1jm11544h>.
- Jarczyk-Jedryka, A; Bijak, K; Sek, D; Siwy, M; Filapek, M; Malecki, G; Kula, S; Lewinska, G; Nowak, EM; Sanetra, J; Janecek, H; Smolarek, K; Mackowski, S; Schab-Balcerzak, E, wa. (2015). Unsymmetrical and symmetrical azines toward application in organic photovoltaic. *Optical Materials*. 39: 58-68. <http://dx.doi.org/10.1016/j.optmat.2014.10.065>.
- Jaunet-Lahary, T; Jacquemin, D; Legouin, B; Le Questel, JY; Cupif, JF; Toupet, I; Uriac, P; Graton, J. (2015). Dissymmetric Molecular Tweezers in Host-Guest Complexes: Internal or External Complexation? *J Phys Chem C*. 119: 3771-3779. <http://dx.doi.org/10.1021/jp511418d>.
- Jeon, HG, u; Oguma, N; Hirata, N; Ichikawa, M. (2013). Wet-processed n-type OTFTs utilizing highly-stable colloids of a perylene diimide derivative. *Organic Electronics*. 14: 19-25. <http://dx.doi.org/10.1016/j.orgel.2012.10.024>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Jeong, YJ; Jang, J; Nam, S; Kim, K; Kim, LH; Park, S; An, TK; Park, CE. (2014). High-performance organic complementary inverters using monolayer graphene electrodes. 6: 6816-6824. <http://dx.doi.org/10.1021/am500618g>.
- Jia, T; Fu, C; Huang, C; Yang, H; Jia, N. (2015). Highly sensitive naphthalimide-based fluorescence polarization probe for detecting cancer cells. 7: 10013-10021. <http://dx.doi.org/10.1021/acsami.5b02429>.
- Jia, Y; Li, P; Song, W; Zhao, G; Zheng, D; Li, D; Wang, Y; Wang, J; Li, C; Han, K. (2016). Rational Design of a Profluorescent Substrate for S-adenosylhomocysteine Hydrolase and its Applications in Bioimaging and Inhibitor Screening. 8: 25818-25824. <http://dx.doi.org/10.1021/acsami.6b09190>.
- Jiang, H; Hershtig, G; Richter, S; Jelinek, R. (2016). Light-Induced Conductivity in a Solution-Processed Film of Polydiacetylene and Perylene Diimide. *Journal of Physical Chemistry Letters*. 7: 1628-1631. <http://dx.doi.org/10.1021/jpclett.6b00690>.
- Jiang, W, ei; Sun, Y; Wang, X; Wang, Q, i; Xu, W. (2008). Synthesis and photochemical properties of novel 4-diarylamine-1,8-naphthalimide derivatives. *Dyes and Pigments*. 77: 125-128. <http://dx.doi.org/10.1016/j.dyepig.2007.03.017>.
- Jiang, W, ei; Tang, J; Qi, Q, i; Sun, Y; Ye, H; Fu, D. (2009). An experimental and computational study of intramolecular charge transfer: Diaryl amino derivatives of 7H-benzimidazo(2,1-a)benz(d,e)isoquinolin-7-ones. *Dyes and Pigments*. 80: 279-286. <http://dx.doi.org/10.1016/j.dyepig.2008.07.009>.
- Jiang, W, ei; Tang, J; Qi, Q, i; Wu, W; Sun, Y; Fu, D. (2009). The synthesis, crystal structure and photophysical properties of three novel naphthalimide dyes. *Dyes and Pigments*. 80: 11-16. <http://dx.doi.org/10.1016/j.dyepig.2008.04.005> <http://www.sciencedirect.com/science/article/pii/S0143720808000600>.
- Jiang, XZ; Liu, YQ; Tian, H; Qiu, WF; Song, XQ; Zhu, DB. (1997). An electroluminescent device made with a new fluorescent dye containing 1,3,4-oxadiazole. *J Mater Chem*. 7: 1395-1398.
- Jiang, Y; Geng, H; Shi, W; Peng, Q; Zheng, X; Shuai, Z. (2014). Theoretical Prediction of Isotope Effects on Charge Transport in Organic Semiconductors. *Journal of Physical Chemistry Letters*. 5: 2267-2273. <http://dx.doi.org/10.1021/jz500825q>.
- Jin, J, iY; Kim, YM, o; Lee, SH, ee; Lee, YS, ik. (2009). Synthesis of an acrylic copolymer bearing fluorescent dye pendants and characterization as a luminescence conversion material in fabrication of a luminescence conversion light-emitting diode. *Synthetic Metals*. 159: 1804-1808. <http://dx.doi.org/10.1016/j.synthmet.2009.05.030>.
- Jin, Q; Feng, L; Wang, DD; Dai, ZR; Wang, P; Zou, LW; Liu, ZH; Wang, JY; Yu, Y; Ge, GB; Cui, JN; Yang, L. (2015). A Two-Photon Ratiometric Fluorescent Probe for Imaging Carboxylesterase 2 in Living Cells and Tissues. 7: 28474-28481. <http://dx.doi.org/10.1021/acsami.5b09573>.
- Jin, W; Wu, L; Song, Y; Jiang, J; Zhu, X; Yang, D; Bai, C. (2011). Continuous intra-arterial blood pH monitoring by a fiber-optic fluorosensor. *IEEE Trans Biomed Eng*. 58: 1232-1238. <http://dx.doi.org/10.1109/TBME.2011.2107514>.
- Jones, BA; Facchetti, A; Wasielewski, MR; Marks, TJ. (2008). Effects of arylene diimide thin film growth conditions on n-channel OFET performance. *Adv Funct Mater*. 18: 1329-1339. <http://dx.doi.org/10.1002/adfm.200701045>.
- Jung, I, nH; Zhao, D; Jang, J; Chen, W, ei; Landry, ES; Lu, L; Talapin, DV; Yu, L. (2015). Development and Structure/Property Relationship of New Electron Accepting Polymers Based on Thieno[2 '3 ':4,5]pyrido[2,3-g]thieno[3,2-c]quinoline-4,10-dione for All-Polymer Solar Cells. *Chem Mater*. 27: 5941-5948. <http://dx.doi.org/10.1021/acs.chemmater.5b01928>.
- Kaji, T; Yamada, T; Ueda, R; Otomo, A. (2011). Enhanced Fluorescence Emission from Single Molecules on a Two-Dimensional Photonic Crystal Slab with Low Background Emission. *Journal of Physical Chemistry Letters*. 2: 1651-1656. <http://dx.doi.org/10.1021/jz2006989>.
- Kalita, A; Hussain, S; Malik, AH; Subbarao, NVV; Iyer, PK. (2015). Vapor phase sensing of ammonia at the sub-ppm level using a perylene diimide thin film device. 3: 10767-10774. <http://dx.doi.org/10.1039/c5tc02521d>.
- Kamm, V; Battagliarin, G; Howard, I, anA; Pisula, W; Mavrinsky, A; Li, C; Muellen, K; Laquai, F. (2011). Polythiophene:Perylene Diimide Solar Cells - the Impact of Alkyl-Substitution on the Photovoltaic Performance. 1: 297-302. <http://dx.doi.org/10.1002/aenm.201000006>.
- Kampen, TU; Salvan, G; Paraiyan, A; Himcinschi, C; Kobitski, AY; Friedrich, M; Zahn, DRT. (2003). Orientation of perylene derivatives on semiconductor surfaces. *Appl Surf Sci*. 212: 501-507. [http://dx.doi.org/10.1016/S0169-4332\(03\)00390-8](http://dx.doi.org/10.1016/S0169-4332(03)00390-8).
- Karamancheva, I; Tadjer, A; Philipova, T; Madjarova, G; Ivanova, C; Grozeva, T. (1998). Calculated and experimental spectra of some 1,8-naphthalimide derivatives. *Dyes and Pigments*. 36: 273-285.
- Kaunisto, KM; Vivo, P; Dubey, RK; Chukharev, VI; Efimov, A; Tkachenko, NV; Lemmetyinen, HJ. (2014). Charge-Transfer Dynamics in Poly(3-hexylthiophene):Perylenediimide-C-60 Blend Films Studied by Ultrafast Transient Absorption. *J Phys Chem C*. 118: 10625-10630. <http://dx.doi.org/10.1021/jp501605k>.
- Keivanidis, PE; Ho, PKH; Friend, RH; Greenham, NC. (2010). The Dependence of Device Dark Current on the Active-Layer Morphology of Solution-Processed Organic Photodetectors. *Adv Funct Mater*. 20: 3895-3903. <http://dx.doi.org/10.1002/adfm.201000967D>.
- Keivanidis, PE; Kamm, V; Zhang, W; Floudas, G; Laquai, F; Mcculloch, I; Bradley, DDC; Nelson, J. (2012). Correlating Emissive Non-Geminate Charge Recombination with Photocurrent Generation Efficiency in Polymer/Perylene Diimide Organic Photovoltaic Blend Films. *Adv Funct Mater*. 22: 2318-2326. <http://dx.doi.org/10.1002/adfm.201102871>.
- Khosravi, A; Moradian, S; Gharanjig, K; Taromi, FA. (2006). Synthesis and spectroscopic studies of some naphthalimide based disperse azo dyestuffs for the dyeing of polyester fibres. *Dyes and Pigments*. 69: 79-92. <http://dx.doi.org/10.1016/j.dyepig.2005.02.007>.
- Kiakhani, MS; Arami, M; Gharanjig, K; Mokhtari, J; Mahmoodi, NM. (2009). Synthesis and Evaluation of a Series of Novel Monoazo Disperse Dyes Derived from N-carboxylic Acid-1,8-naphthalimide on Poly(ethylene terphthalate). *Fibers and Polymers*. 10: 446-451. <http://dx.doi.org/10.1007/s12221-009-0446-5>.
- Kim, BJ; Yu, H; Oh, JH, ak; Kang, MS; Cho, JH, o. (2013). Electrical Transport through Single Nanowires of Dialkyl Perylene Diimide. *J Phys Chem C*. 117: 10743-10749. <http://dx.doi.org/10.1021/jp400807t>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Kim, I; Jabbour, GE. (2012). Effect of annealing on bulk heterojunction organic solar cells based on copper phthalocyanine and perylene derivative. *Synthetic Metals*. 162: 102-106. <http://dx.doi.org/10.1016/j.synthmet.2011.11.018>.
- Kim, JY; Chung, IJ; Lee, G; Kim, YC; Kim, JK; Yu, JW. (2005). Mobility of electrons and holes in an n-type organic semiconductor perylene diimide thin film. *Curr Appl Phys*. 5: 615-618. <http://dx.doi.org/10.1016/j.cap.2004.08.007>.
- Kim, K; An, T, aeKyu; Kim, J; Jeong, YJ, in; Jang, J; Kim, H; Baek, JY; Kim, Y, unHi; Kim, S, eH; Park, CE, on. (2014). Grafting Fluorinated Polymer Nano layer for Advancing the Electrical Stability of Organic Field-Effect Transistors. *Chem Mater*. 26: 6467-6476. <http://dx.doi.org/10.1021/cm5030266>.
- Kim, M, inSoo; Chang, J, IY. (2011). Preparation of multifunctional mesoporous silica particles: the use of an amphiphilic silica precursor with latent amine functionality in selective functionalization of the inner surface. *J Mater Chem*. 21: 8766-8771. <http://dx.doi.org/10.1039/c1jm10440c>.
- Kim, MH, ee; Cho, M, inJu; Kim, KH; Hoang, M, aiHa; Lee, T, aeWan; Jin, JI, I; Kang, N, amSu; Yu, J, aeW; Choi, DH. (2009). Organic donor-sigma-acceptor molecules based on 1,2,4,5-tetrakis((E)-2-(5'-hexyl-2,2'-bithiophen-5-yl)vinyl)benzene and perylene diimide derivative and their application to photovoltaic devices. *Organic Electronics*. 10: 1429-1441. <http://dx.doi.org/10.1016/j.orgel.2009.08.004>.
- Kim, YY; Ree, BJ; Kido, M; Ko, YG, i; Ishige, R; Hirai, T; Wi, D; Kim, J; Kim, W, onJ; Takahara, A; Ree, M. (2015). High-Performance n-Type Electrical Memory and Morphology-Induced Memory-Mode Tuning of a Well-Defined Brush Polymer Bearing Perylene Diimide Moieties. 1. <http://dx.doi.org/10.1002/aelm.201500197>.
- Kira, A; Umeysama, T; Matano, Y; Yoshida, K; Isoda, S; Isosomppi, M; Tkachenko, NV; Lemmettyinen, H; Imahori, H. (2006). Structure and photoelectrochemical properties of phthalocyanine and perylene diimide composite clusters deposited electrophoretically on nanostructured SnO₂ electrodes. *Langmuir*. 22: 5497-5503. <http://dx.doi.org/10.1021/la0533314>.
- Kirner, JT; Stracke, JJ; Gregg, BA; Finke, RG. (2014). Visible-light-assisted photoelectrochemical water oxidation by thin films of a phosphonate-functionalized perylene diimide plus CoOx cocatalyst. 6: 13367-13377. <http://dx.doi.org/10.1021/am405598w>.
- Kisnisci, Z; Yuksel, OF; Kus, M. (2014). Optical properties of perylene-monoimide (PMI) and perylene-diimide (PDI) organic semiconductor thin films. *Synthetic Metals*. 194: 193-197. <http://dx.doi.org/10.1016/j.synthmet.2014.05.003>.
- Konstantinova, T; Spirieva, A; Petkova, T. (2000). The synthesis, properties and application of some 1,8-naphthalimide dyes. *Dyes and Pigments*. 45: 125-129.
- Konstantinova, TN; Lazarova, RA. (2007). Synthesis of some polymerizable triazinylaminobenzotriazole stabilizers and benzanthrone dyes containing a stabilizer fragment. *Dyes and Pigments*. 74: 208-214. <http://dx.doi.org/10.1016/j.dyepig.2006.01.035>.
- Konstantinova, TN; Meallier, P; Grabchev, I. (1993). THE SYNTHESIS OF SOME 1,8-NAPHTHALIC ANHYDRIDE DERIVATIVES AS DYES FOR POLYMERIC MATERIALS. *Dyes and Pigments*. 22: 191-198.
- Kotowski, D; Luzzati, S; Scavia, G; Cavazzini, M; Bossi, A; Catellani, M; Kozma, E. (2015). The effect of perylene diimides chemical structure on the photovoltaic performance of P3HT/perylene diimides solar cells. *Dyes and Pigments*. 120: 57-64. <http://dx.doi.org/10.1016/j.dyepig.2015.04.006>.
- Kováčik, J; Babula, P; Hedbavny, J; Kryštofová, O; Provazník, I. (2015). Physiology and methodology of chromium toxicity using alga *Scenedesmus quadricauda* as model object. *Chemosphere*. 120: 23-30. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.074>.
- Kovacik, J; Babula, P; Klejdus, B; Hedbavny, J. (2013). Chromium Uptake and Consequences for Metabolism and Oxidative Stress in Chamomile Plants. *J Agric Food Chem*. 61: 7864-7873. <http://dx.doi.org/10.1021/jf401575a>.
- Koyuncu, FB; Koyuncu, S; Ozdemir, E. (2011). A new donor-acceptor carbazole derivative: Electrochemical polymerization and photo-induced charge transfer properties. *Synthetic Metals*. 161: 1005-1013. <http://dx.doi.org/10.1016/j.synthmet.2011.03.008> <http://www.sciencedirect.com/science/article/pii/S0379677911000944>.
- Kozma, E; Grisci, G; Mroz, W; Catellani, M; Eckstein-Andicsova, A; Pagano, K; Galeotti, F. (2016). Water-soluble aminoacid functionalized perylene diimides: The effect of aggregation on the optical properties in organic and aqueous media. *Dyes and Pigments*. 125: 201-209. <http://dx.doi.org/10.1016/j.dyepig.2015.10.019>.
- Kozma, E; Kotowski, D; Catellani, M; Luzzati, S; Famulari, A; Bertini, F. (2013). Synthesis and characterization of new electron acceptor perylene diimide molecules for photovoltaic applications. *Dyes and Pigments*. 99: 329-338. <http://dx.doi.org/10.1016/j.dyepig.2013.05.011>.
- Kozma, E; Mroz, W; Galeotti, F. (2015). A polystyrene bearing perylene diimide pendants with enhanced solid state emission for white hybrid light-emitting diodes. *Dyes and Pigments*. 114: 138-143. <http://dx.doi.org/10.1016/j.dyepig.2014.11.009>.
- Kozma, E; Munno, F; Kotowski, D; Bertini, F; Luzzati, S; Catellani, M. (2010). Synthesis and characterization of perylene-based donor-acceptor copolymers containing triple bonds. *Synthetic Metals*. 160: 996-1001. <http://dx.doi.org/10.1016/j.synthmet.2010.02.015>.
- Krause, S; Neumann, M; Froebe, M; Magerle, R; von Borczyskowski, C. (2016). Monitoring Nanoscale Deformations in a Drawn Polymer Melt with Single-Molecule Fluorescence Polarization Microscopy. *ACS Nano*. 10: 1908-1917. <http://dx.doi.org/10.1021/acsnano.5b05729>.
- Kriltz, A; Loeser, C; Mohr, GJ; Trupp, S. (2012). Covalent immobilization of a fluorescent pH-sensitive naphthalimide dye in sol-gel films. *Journal of Sol-Gel Science and Technology*. 63: 23-29. <http://dx.doi.org/10.1007/s10971-012-2757-z>.
- Kukhta, A; Kolesnik, E; Taoubi, M; Drozdova, D; Prokopchuk, N. (2001). Polynaphthalimide is a new polymer for organic electroluminescence devices. *Synthetic Metals*. 119: 129-130.
- Kumar, PSV; Suresh, L; Bhargavi, G; Basavojju, S; Chandramouli, GVP. (2015). Ionic Liquid-Promoted Green Protocol for the Synthesis of Novel Naphthalimide-Based Acridine-1,8-dione Derivatives via a Multicomponent Approach. 3: 2944-2950. <http://dx.doi.org/10.1021/acssuschemeng.5b00900>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Kumarasinghe, R; Higgins, ED; Ito, T; Higgins, DA. (2016). Spectroscopic and Polarization-Dependent Single-Molecule Tracking Reveal the One-Dimensional Diffusion Pathways in Surfactant-Templated Mesoporous Silica. *J Phys Chem C.* 120: 715-723. <http://dx.doi.org/10.1021/acs.jpcc.5b10152>.
- Kwon, O, hKyu; Park, JH, wa; Park, S, ooY. (2016). An efficient nonfullerene acceptor for all-small-molecule solar cells with versatile processability in environmentally benign solvents. *Organic Electronics.* 30: 105-111. <http://dx.doi.org/10.1016/j.orgel.2015.12.017>.
- Kwon, O, hKyu; Park, JH, wa; Park, SK, yu; Park, S, ooY. (2015). Soluble Dicyanodistyrylbenzene-Based Non-Fullerene Electron Acceptors with Optimized Aggregation Behavior for High-Efficiency Organic Solar Cells. 5. <http://dx.doi.org/10.1002/aenm.201400929>.
- Lambrecht, J; Saragi, TPI; Salbeck, J. (2011). Self-assembled organic micro-/nanowires from an air stable n-semiconducting perylenediimide derivative as building blocks for organic electronic devices. *J Mater Chem.* 21: 18266-18270. <http://dx.doi.org/10.1039/c1jm13998c>.
- Lebegue, E; Benoit, C; Brousse, T; Gaubicher, J; Cougnon, C. (2015). Effect of the Porous Texture of Activated Carbons on the Electrochemical Properties of Molecule-Grafted Carbon Products in Organic Media. *J Electrochem Soc.* 162: A2289-A2295. <http://dx.doi.org/10.1149/2.0481512jes>.
- Lebegue, E; Brousse, T; Gaubicher, J; Retoux, R; Cougnon, C. (2014). Toward fully organic rechargeable charge storage devices based on carbon electrodes grafted with redox molecules. 2: 8599-8602. <http://dx.doi.org/10.1039/c4ta00853g>.
- Lee, M; Jo, S; Lee, D; Xu, Z; Yoon, J. (2015). A new naphthalimide derivative as a selective fluorescent and colorimetric sensor for fluoride, cyanide and CO₂. *Dyes and Pigments.* 120: 288-292. <http://dx.doi.org/10.1016/j.dyepig.2015.04.029>.
- Lee, MH; Dunietz, BD; Geva, E. (2013). Calculation from First Principles of Intramolecular Golden-Rule Rate Constants for Photo-Induced Electron Transfer in Molecular Donor- Acceptor Systems. *J Phys Chem C.* 117: 23391-23401. <http://dx.doi.org/10.1021/jp4081417>.
- Li, C; Liu, S. (2010). Responsive nanogel-based dual fluorescent sensors for temperature and Hg²⁺ ions with enhanced detection sensitivity. *J Mater Chem.* 20: 10716-10723. <http://dx.doi.org/10.1039/c0jm01828g>.
- Li, C; Zhang, A; Feng, G; Yang, F, an; Jiang, X; Yu, Y; Xia, D; Li, W. (2016). A systematical investigation of non-fullerene solar cells based on diketopyrrolopyrrole polymers as electron donor. *Organic Electronics.* 35: 112-117. <http://dx.doi.org/10.1016/j.orgel.2016.05.011>.
- Li, D; Munyentwali, A; Wang, G; Zhang, M; Xing, S. (2015). Light and temperature responsive block copolymer assemblies with tunable fluorescence emissions. *Dyes and Pigments.* 117: 92-99. <http://dx.doi.org/10.1016/j.dyepig.2015.02.009>.
- Li, DX; Zhang, JF; Jang, YH; Jang, YJ; Kim, DH; Kim, JS. (2012). Plasmonic-coupling-based sensing by the assembly and disassembly of dipicolylamine-tagged gold nanoparticles induced by complexing with cations and anions. *Small.* 8: 1442-1448. <http://dx.doi.org/10.1002/smll.201102335>.
- Li, H, ua; Li, N; Sun, R, u; Gu, H; Ge, J; Lu, J; Xu, Q; Xia, X; Wang, L. (2011). Dynamic Random Access Memory Devices Based on Functionalized Copolymers with Pendant Hydrazine Naphthalimide Group. *J Phys Chem C.* 115: 8288-8294. <http://dx.doi.org/10.1021/jp1111668>
- Li, J; Li, P; Huo, F; Yin, C; Liu, T, ao; Chao, J; Zhang, Y. (2016). Ratiometric fluorescent probes for ClO⁻ and in vivo applications. *Dyes and Pigments.* 130: 209-215. <http://dx.doi.org/10.1016/j.dyepig.2016.02.024>.
- Li, J; Yin, C; Huo, F. (2016). Development of fluorescent zinc chemosensors based on various fluorophores and their applications in zinc recognition. *Dyes and Pigments.* 131: 100-133. <http://dx.doi.org/10.1016/j.dyepig.2016.03.043>.
- Li, K, aiBin; Zhou, D, an; He, XP; Chen, G, uoR. (2015). Ratiometric glyco-probe for transient determination of thiophenol in full aqueous solution and river water. *Dyes and Pigments.* 116: 52-57. <http://dx.doi.org/10.1016/j.dyepig.2015.01.013>.
- Li, S; Liu, W; Li, CZ, hi; Lau, T, szKi; Lu, X; Shi, M; Chen, H. (2016). A non-fullerene acceptor with a fully fused backbone for efficient polymer solar cells with a high open-circuit voltage. 4: 14983-14987. <http://dx.doi.org/10.1039/c6ta07368a>.
- Li, S; Liu, W; Li, CZ, hi; Liu, F; Zhang, Y; Shi, M; Chen, H; Russell, TP. (2016). A simple perylene diimide derivative with a highly twisted geometry as an electron acceptor for efficient organic solar cells. 4: 10659-10665. <http://dx.doi.org/10.1039/c6ta04232e>.
- Li, S; Zhang, H, ao; Zhao, W; Ye, L; Yao, H; Yang, B, ei; Zhang, S; Hou, J. (2016). Green-Solvent-Processed All-Polymer Solar Cells Containing a Perylene Diimide-Based Acceptor with an Efficiency over 6.5%. 6. <http://dx.doi.org/10.1002/aenm.201501991>.
- Li, W; Cui, Z; Zhou, X; Zhang, S; Dai, L, ei; Xing, W, ei. (2008). Sulfonated poly(arylene-co-imide)s as water stable proton exchange membrane materials for fuel cells. *J Membr Sci.* 315: 172-179. <http://dx.doi.org/10.1016/j.memsci.2008.02.026>.
- Li, X; Shi, R; Jin, Y; Lou, Y, an; Ge, Q; Li, M; Kim, H; Son, YA. (2014). A Bisindolylmaleimide-Naphthalimide Building Block for the Construction of the Energy Transfer Cassette. *J Nanosci Nanotechnol.* 14: 8033-8037. <http://dx.doi.org/10.1166/jnn.2014.9397>.
- Li, X; Son, YA. (2015). Spectral Switching of Naphthalimide-Coumarin Induced by F. *J Nanosci Nanotechnol.* 15: 5370-5373. <http://dx.doi.org/10.1166/jnn.2015.10420>.
- Li, X; Zheng, C; Yuan, A; Yang, L, u; Wang, H, an; Wang, H. (2014). A highly selective ratiometric fluorescent sensor for Hg²⁺ based on 1,8-naphthalimide. *Color Technol.* 130: 236-242. <http://dx.doi.org/10.1111/cote.12081>.
- Li, Y; Yang, Y; Bao, X; Qiu, M; Liu, Z; Wang, N; Zhang, G; Yang, R; Zhang, D. (2016). New pi-conjugated polymers as acceptors designed for all polymer solar cells based on imide/amide-derivatives. 4: 185-192. <http://dx.doi.org/10.1039/c5tc02615f>.
- Li, Z; Zhou, Y; Yin, K, ai; Yu, Z, hu; Li, Y, an; Ren, J, un. (2014). A new fluorescence "turn-on" type chemosensor for Fe³⁺ based on naphthalimide and coumarin. *Dyes and Pigments.* 105: 7-11. <http://dx.doi.org/10.1016/j.dyepig.2013.12.032>.
- Li, ZW; Yang, QW; Chang, RX; Ma, GC; Chen, MX; Zhang, WQ. (2011). N-Heteroaryl-1,8-naphthalimide fluorescent sensor for water Molecular design, synthesis and properties. *Dyes and Pigments.* 88: 307-314. <http://dx.doi.org/10.1016/j.dyepig.2010.07.009>
- Liang, N; Sun, K, ai; Zheng, Z; Yao, H; Gao, G; Meng, X; Wang, Z; Ma, W, ei; Hou, J. (2016). Perylene Diimide Trimers Based Bulk Heterojunction Organic Solar Cells with Efficiency over 7%. 6. <http://dx.doi.org/10.1002/aenm.201600060>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Liang, S; Liu, Y; Fu, T; Yang, F; Chen, X; Yan, G. (2016). A water-soluble and biocompatible polymeric nanolabel based on naphthalimide grafted poly(acrylic acid) for the two-photon fluorescence imaging of living cells and *C. elegans*. *Colloids Surf B Biointerfaces*. 148: 293-298. <http://dx.doi.org/10.1016/j.colsurfb.2016.09.001>.
- Liang, S; Liu, Y; Xiang, J; Qin, M; Yu, H; Yan, G. (2014). Fabrication of a new fluorescent polymeric nanoparticle containing naphthalimide and investigation on its interaction with bovine serum albumin. *Colloids Surf B Biointerfaces*. 116: 206-210. <http://dx.doi.org/10.1016/j.colsurfb.2014.01.005>.
- Liang, Z; Cormier, RA; Nardes, AM; Gregg, BA. (2011). Developing perylene diimide based acceptor polymers for organic photovoltaics. *Synthetic Metals*. 161: 1014-1021. <http://dx.doi.org/10.1016/j.synthmet.2011.03.009>.
- Liao, X; iaXia; Zhao, X; Zhang, Z; hiGuo; Wang, H; uiQ; Zhan, X; Li, Y; Wang, J; Zheng, J, inC. (2013). All-polymer solar cells based on side-chain-isolated polythiophenes and poly(perylenediimide-alt-dithienothiophene). *Solar Energy Materials and Solar Cells*. 117: 336-342. <http://dx.doi.org/10.1016/j.solmat.2013.06.035>.
- Lin, HH; Chan, YC; Chen, JW, ei; Chang, CC. (2011). Aggregation-induced emission enhancement characteristics of naphthalimide derivatives and their applications in cell imaging. *J Mater Chem*. 21: 3170-3177. <http://dx.doi.org/10.1039/c0jm02942d>.
- Lin, Q; Xiao, S; Li, R; Tan, R; Wang, S, a; Zhang, R. (2015). Intermolecular hydrogen bonding-assisted high contrast fluorescent switch in the solid state. *Dyes and Pigments*. 114: 33-39. <http://dx.doi.org/10.1016/j.dyepig.2014.11.001>.
- Lin, TN; Huang, JC; Shen, JL; Chu, CM; Yeh, JM; Chen-Yang, YW; Chiu, CH; Kuo, HC. (2015). Hybrid Dendrimer/Semiconductor Nanostructures with Efficient Energy Transfer via Optical Waveguiding. *J Phys Chem C*. 119: 5107-5112. <http://dx.doi.org/10.1021/jp5111949>.
- Lin, Y; Wang, J; Dai, S; Li, Y; Zhu, D; Zhan, X. (2014). A Twisted Dimeric Perylene Diimide Electron Acceptor for Efficient Organic Solar Cells. 4. <http://dx.doi.org/10.1002/aenm.201400420>.
- Lin, Y; Wang, Y; Wang, J; Hou, J; Li, Y; Zhu, D; Zhan, X. (2014). A star-shaped perylene diimide electron acceptor for high-performance organic solar cells. *Adv Mater Deerfield*. 26: 5137-5142. <http://dx.doi.org/10.1002/adma.201400525>.
- Lin, Y; Zhang, Z; hiGuo; Bai, H; Wang, J; Yao, Y; Li, Y; Zhu, D; Zhan, X. (2015). High-performance fullerene-free polymer solar cells with 6.31% efficiency. *Energ Environ Sci*. 8: 610-616. <http://dx.doi.org/10.1039/c4ee03424d>.
- Liu, B; Tian, H. (2005). A ratiometric fluorescent chemosensor for fluoride ions based on a proton transfer signaling mechanism. *J Mater Chem*. 15: 2681-2686. <http://dx.doi.org/10.1039/b501234a>.
- Liu, F; Xu, M; Chen, X; Yang, Y; Wang, H; Sun, G. (2015). Novel Strategy for Tracking the Microbial Degradation of Azo Dyes with Different Polarities in Living Cells. *Environ Sci Technol*. 49: 11356-11362. <http://dx.doi.org/10.1021/acs.est.5b02003>.
- Liu, J; un; Cao, J; Shao, S; Xie, Z; Cheng, Y; Geng, Y; Wang, L; Jing, X; Wang, F. (2008). Blue electroluminescent polymers with dopant-host systems and molecular dispersion features: polyfluorene as the deep blue host and 1,8-naphthalimide derivative units as the light blue dopants. *J Mater Chem*. 18: 1659-1666. <http://dx.doi.org/10.1039/b716234k>.
- Liu, J; Li, Y; Wang, Y, i; Sun, H; Lu, Z; Wu, H; Peng, J; Huang, Y, an. (2012). Synthesis and luminescent properties of blue sextuple-hydrogen-bond self-assembly molecular duplexes bearing 4-phenoxy-1,8-naphthalimide moieties. *Optical Materials*. 34: 1535-1542. <http://dx.doi.org/10.1016/j.optmat.2012.03.022>.
- Liu, J; Qian, Y. (2017). A novel naphthalimide-rhodamine dye: Intramolecular fluorescence resonance energy transfer and ratiometric chemodosimeter for Hg^{2+} and Fe^{3+} . *Dyes and Pigments*. 136: 782-790. <http://dx.doi.org/10.1016/j.dyepig.2016.09.041>.
- Liu, J; Tu, GL; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). Highly efficient green light emitting polyfluorene incorporated with 4-diphenylamino-1,8-naphthalimide as green dopant. *J Mater Chem*. 16: 1431-1438. <http://dx.doi.org/10.1039/b514359d>.
- Liu, J; Wang, Y, i; Lei, G; Peng, J; Huang, Y, an; Cao, Y; Xie, M; Pu, X; Lu, Z. (2009). A sextuple hydrogen bonding molecular duplex bearing 1,8-naphthalimide moieties and polymer light-emitting diode based on it. *J Mater Chem*. 19: 7753-7758. <http://dx.doi.org/10.1039/b910045h>.
- Liu, J; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). White electroluminescence from a single-polymer system with simultaneous two-color emission: Polyfluorene as the blue host and a 2,1,3-benzothiadiazole derivative as the orange dopant on the main chain. *Adv Funct Mater*. 16: 957-965. <http://dx.doi.org/10.1002/adfm.200500761>.
- Liu, N, an; Chen, HZ; Wang, M. (2008). Heterojunctions based on perylene diimide embedded into porous silicon. *Thin Solid Films*. 516: 4272-4276. <http://dx.doi.org/10.1016/j.tsf.2008.01.002>.
- Liu, N, an; Shi, M, inMin; Pan, XW, ei; Qiu, W, eiM; Zhu, JH, ui; He, H, aiP; Chen, HZ; Wang, M. (2008). Photoinduced electron transfer and enhancement of photoconductivity in silicon nanoparticles/perylene diimide composites in a polymer matrix. *J Phys Chem C*. 112: 15865-15869. <http://dx.doi.org/10.1021/jp802385g>.
- Liu, T; Zhang, X; Qiao, Q; Zou, C; Feng, L, ei; Cui, J; Xu, Z. (2013). A two-photon fluorescent probe for imaging hydrogen sulfide in living cells. *Dyes and Pigments*. 99: 537-542. <http://dx.doi.org/10.1016/j.dyepig.2013.06.031>.
- Liu, X, ia; Roberts, A; Ahmed, A; Wang, Z; Li, X, u; Zhang, H. (2015). Carbon nanofibers by pyrolysis of self-assembled perylene diimide derivative gels as supercapacitor electrode materials. 3: 15513-15522. <http://dx.doi.org/10.1039/c5ta03546e>.
- Liu, X; Zhang, Y; Pang, X; E, Y, ue; Zhang, Y; Yang, D; Tang, J; Li, J; Che, Y; Zhao, J. (2015). Nanocoiled Assembly of Asymmetric Perylene Diimides: Formulation of Structural Factors. *J Phys Chem C*. 119: 6446-6452. <http://dx.doi.org/10.1021/acs.jpcc.5b00720>.
- Liu, Y, ao; Larsen-Olsen, TT; Zhao, X; Andreasen, B; Sondergaard, RR; Helgesen, M; Norrman, K; Jorgensen, M; Krebs, FC; Zhan, X. (2013). All polymer photovoltaics: From small inverted devices to large roll-to-roll coated and printed solar cells. *Solar Energy Materials and Solar Cells*. 112: 157-162. <http://dx.doi.org/10.1016/j.solmat.2013.01.025>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Liu, Y; Lv, X, in; Zhao, Y, un; Chen, M; Liu, J; Wang, P, i; Guo, W, ei. (2012). A naphthalimide-rhodamine ratiometric fluorescent probe for Hg²⁺ based on fluorescence resonance energy transfer. *Dyes and Pigments.* 92: 909-915. <http://dx.doi.org/10.1016/j.dyepig.2011.07.020>.
- Liu, Y; Niu, F; Lian, J; Zeng, P; Niu, H. (2010). Synthesis and properties of starburst amorphous molecules: 1,3,5-Tris(1,8-naphthalimide-4-yl)benzenes. *Synthetic Metals.* 160: 2055-2060. <http://dx.doi.org/10.1016/j.synthmet.2010.07.020>.
- Liu, Y; Zhang, Z; Xia, Z; Zhang, J, ie; Liu, Y; Liang, F; Li, Y; Song, T, ao; Yu, X; Lee, ST; Sun, B. (2016). High Performance Nanostructured Silicon-Organic Quasi p-n Junction Solar Cells via Low-Temperature Deposited Hole and Electron Selective Layer. *ACS Nano.* 10: 704-712. <http://dx.doi.org/10.1021/acsnano.5b05732>.
- Liu, YQ; Yu, G; Li, HY; Tian, H; Zhu, DB. (2002). Electroluminescence properties of new multi-functional copolymers containing carbazole, naphthalimide and oxadiazole. *Thin Solid Films.* 417: 107-110.
- Liu, Z; Zhang, G; Cai, Z; Chen, X; Luo, H; Li, Y; Wang, J; Zhang, D. (2014). New organic semiconductors with imide/amide-containing molecular systems. *Adv Mater Deerfield.* 26: 6965-6977. <http://dx.doi.org/10.1002/adma.201305718>.
- Liu, ZQ; Gaskin, RE; Zabkiwicz, JA. (2004). Visualization of the effect of a surfactant on the uptake of xenobiotics into plant foliage by confocal laser scanning microscopy. *Weed Research.* 44: 237-243.
- Locklin, J; Li, DW; Mannsfeld, SCB; Borkent, EJ; Meng, H; Advincula, R; Bao, Z. (2005). Organic thin film transistors based on cyclohexyl-substituted organic semiconductors. *Chem Mater.* 17: 3366-3374. <http://dx.doi.org/10.1021/cm047851g>.
- Lu, C; Fujitsuka, M; Sugimoto, A; Majima, T. (2016). Unprecedented Intramolecular Electron Transfer from Excited Perylenediimide Radical Anion. *J Phys Chem C.* 120: 12734-12741. <http://dx.doi.org/10.1021/acs.jpcc.6b02454>.
- Lu, Z; Jiang, B, o; Zhang, X, in; Tang, A; Chen, L; Zhan, C; Yao, J. (2014). Perylene-Diimide Based Non-Fullerene Solar Cells with 4.34% Efficiency through Engineering Surface Donor/Acceptor Compositions. *Chem Mater.* 26: 2907-2914. <http://dx.doi.org/10.1021/cm5006339>.
- Lucenti, E; Botta, C; Cariati, E; Righetto, S; Scarpellini, M; Tordin, E; Ugo, R. (2013). New organic-inorganic hybrid materials based on perylene diimide-polyhedral oligomeric silsesquioxane dyes with reduced quenching of the emission in the solid state. *Dyes and Pigments.* 96: 748-755. <http://dx.doi.org/10.1016/j.dyepig.2012.11.015>.
- Luo, S; Lin, J, ie; Zhou, J, ie; Wang, Y, i; Liu, X; Huang, Y, an; Lu, Z; Hu, C. (2015). Novel 1,8-naphthalimide derivatives for standard-red organic light-emitting device applications. 3: 5259-5267. <http://dx.doi.org/10.1039/c5tc00409h>.
- Luo, Z; Xiong, W; Liu, T, ao; Cheng, W; Wu, K; Sun, Y; Yang, C. (2017). Triphenylamine-cored star-shape compounds as non-fullerene acceptor for high-efficiency organic solar cells: Tuning the optoelectronic properties by S/Se-annulated perylene diimide. *Organic Electronics.* 41: 166-172. <http://dx.doi.org/10.1016/j.orgel.2016.10.044>.
- Luo, Z; Yang, B, o; Zhong, C; Tang, F; Yuan, M; Xue, Y; Yao, G; Zhang, J; Zhang, Y. (2013). A dual-channel probe for selective fluoride determination and application in live cell imaging. *Dyes and Pigments.* 97: 52-57. <http://dx.doi.org/10.1016/j.dyepig.2012.11.016>.
- Ma, L; Wang, Q; Lu, G; Chen, R; Sun, X. (2010). Photochromic nanostructures based on diarylethenes with perylene diimide. *Langmuir.* 26: 6702-6707. <http://dx.doi.org/10.1021/la9040387>.
- Ma, Y; Shi, Z; Zhang, A; Li, J; Wei, X; Jiang, T; Li, Y; Wang, X. (2016). Self-assembly, optical and electrical properties of five membered O- or S-heterocyclic annulated perylene diimides. *Dyes and Pigments.* 135: 41-48. <http://dx.doi.org/10.1016/j.dyepig.2016.06.027>.
- Ma, Y; Zhang, F; Zhang, J; Jiang, T. (2015). A water-soluble perylene derivative for live-cell imaging. *Turkish Journal of Chemistry.* 39: 835-842. <http://dx.doi.org/10.3906/kim-1501-76>.
- Ma, Z; Zhang, P; Yu, X; Lan, H; Li, Y; Xie, D; Li, J; Yi, T, ao. (2015). Sugar based nanotube assembly for the construction of sonication triggered hydrogel: an application of the entrapment of tetracycline hydrochloride. 3: 7366-7371. <http://dx.doi.org/10.1039/c5tb01191d>.
- Maltas, E; Malkondu, S; Uyar, P; Ozmen, M. (2015). Fluorescent labelling of DNA on superparamagnetic nanoparticles by a perylene bisimide derivative for cell imaging. *Mater Sci Eng C.* 48: 86-93. <http://dx.doi.org/10.1016/j.msec.2014.11.057>.
- Mao, P; Qian, XH; Zhang, HZ; Yao, W. (2004). Benzothioxanthene dyes as fluorescent label for DNA hybridization: synthesis and application. *Dyes and Pigments.* 60: 9-16. [http://dx.doi.org/10.1016/S0143-7208\(03\)00127-X](http://dx.doi.org/10.1016/S0143-7208(03)00127-X).
- Marcon, RO; dos Santos, JG; Figueiredo, KM; Brochstain, S. (2006). Characterization of a novel water-soluble 3,4,9,10-perylenetetracarboxylic diimide in solution and in self-assembled zirconium phosphonate thin films. *Langmuir.* 22: 1680-1687. <http://dx.doi.org/10.1021/la052329+>.
- Martin, E; Torres-Costa, V; Martin-Palma, RJ; Bousono, C; Tutor-Sanchez, J; Martinez-Duart, JM. (2006). Photoluminescence of naphthalimide derivatives deposited onto nanostructured porous silicon. *J Electrochem Soc.* 153: D134-D137. <http://dx.doi.org/10.1149/1.2207988>.
- Mati, SS; Chall, S; Bhattacharya, SC. (2015). Aggregation-induced fabrication of fluorescent organic nanorings: selective biosensing of cysteine and application to molecular logic gate. *Langmuir.* 31: 5025-5032. <http://dx.doi.org/10.1021/acs.langmuir.5b00154>.
- May, B; Poteau, X; Yuan, DW; Brown, RG. (1999). A study of a highly efficient resonance energy transfer between 7-N,N-diethylamino-4-methylcoumarin and 9-butyl-4-butylamino-1,8-naphthalimide. *Dyes and Pigments.* 42: 79-84.
- Mcafee, SM; Topple, JM; Hill, I, anG; Welch, GC. (2015). Key components to the recent performance increases of solution processed non-fullerene small molecule acceptors. 3: 16393-16408. <http://dx.doi.org/10.1039/c5ta04310g>.
- Mckenna, MD; Grabchev, I, vo; Bosch, P. (2009). The synthesis of a novel 1,8-naphthalimide based PAMAM-type dendron and its potential for light-harvesting. *Dyes and Pigments.* 81: 180-186. <http://dx.doi.org/10.1016/j.dyepig.2008.09.008>.
- Megow, J; Körzdörfer, T; Renger, T; Sparenberg, M; Blumstengel, S; Henneberger, F; May, V. (2015). Calculating Optical Absorption Spectra of Thin Polycrystalline Organic Films: Structural Disorder and Site-Dependent van der Waals Interaction. *J Phys Chem C.* 119: 5747-5751. <http://dx.doi.org/10.1021/acs.jpcc.5b01587>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Meher, N; Chowdhurya, SR, oy; Iyer, PK. (2016). Aggregation induced emission enhancement and growth of naphthalimide nanoribbons via J-aggregation: insight into disaggregation induced unfolding and detection of ferritin at the nanomolar level. *4*: 6023-6031. <http://dx.doi.org/10.1039/c6tb01746k>.
- Meng, Q; Zhang, X; He, C; He, G; Zhou, P; Duan, C. (2010). Multifunctional Mesoporous Silica Material Used for Detection and Adsorption of Cu²⁺ in Aqueous Solution and Biological Applications in vitro and in vivo. *Adv Funct Mater.* *20*: 1903-1909. <http://dx.doi.org/10.1002/adfm.201000080>.
- Menon, SR; Shankarling, GS. (2011). The synthesis, photophysical and thermal properties of new anthrapyrimidine colorants. *Color Technol.* *127*: 383-389. <http://dx.doi.org/10.1111/j.1478-4408.2011.00330.x>.
- Metivier, R; Badre, S; Meallet-Renault, R; Yu, P, ei; Pansu, RB; Nakatani, K. (2009). Fluorescence Photoswitching in Polymer Matrix: Mutual Influence between Photochromic and Fluorescent Molecules by Energy Transfer Processes. *J Phys Chem C.* *113*: 11916-11926. <http://dx.doi.org/10.1021/jp902344x>.
- Miasojedovas, A; Kazlauskas, K; Armonaitė, G; Sivamurugan, V; Valiyaveettil, S; Grazulevicius, JV; Juršėnas, S. (2012). Concentration effects on emission of bay-substituted perylene diimide derivatives in a polymer matrix. *Dyes and Pigments.* *92*: 1285-1291. <http://dx.doi.org/10.1016/j.dyepig.2011.09.017>.
- Mikroyannidis, JA; Ye, S; Liu, Y. (2009). Electroluminescent divinylene- and trivinylene-molecules with terminal naphthalimide or phthalimide segments. *Synthetic Metals.* *159*: 492-500. <http://dx.doi.org/10.1016/j.synthmet.2008.11.009>.
- Mille, M; Lamère, JF; Rodrigues, F; Ferry-Forgues, S. (2008). Spontaneous formation of fluorescent nanofibers from self-assembly of low-molecular-weight coumarin derivatives in water. *Langmuir.* *24*: 2671-2679. <http://dx.doi.org/10.1021/la702197h>.
- Min, J, ie; Brönnbauer, C; Zhang, Z, hiGuo; Cui, C; Luposov, YN; Ata, I; Schweizer, P; Przybilla, T; Guo, F, ei; Ameri, T; Forberich, K; Spiecker, E; Baeuerle, P; Ponomarenko, SA; Li, Y; Brabec, CJ. (2016). Fully Solution-Processed Small Molecule Semitransparent Solar Cells: Optimization of Transparent Cathode Architecture and Four Absorbing Layers. *Adv Funct Mater.* *26*: 4543-4550. <http://dx.doi.org/10.1002/adfm.201505411>.
- Min, J, ie; Zhang, Z, hiGuo; Hou, Y, i; Quiroz, COR; Przybilla, T; Brönnbauer, C; Guo, F, ei; Forberich, K; Azimi, H; Ameri, T; Spiecker, E; Li, Y; Brabec, CJ. (2015). Interface Engineering of Perovskite Hybrid Solar Cells with Solution-Processed Perylene-Diimide Heterojunctions toward High Performance. *Chem Mater.* *27*: 227-234. <http://dx.doi.org/10.1021/cm5037919>.
- Mohamad, DK; Fischereder, A; Yi, H; Cadby, AJ; Lidzey, DG; Iraqi, A. (2011). A novel 2,7-linked carbazole based "double cable" polymer with pendant perylene diimide functional groups: preparation, spectroscopy and photovoltaic properties. *J Mater Chem.* *21*: 851-862. <http://dx.doi.org/10.1039/c0jm02673e>
- <http://pubs.rsc.org/en/Content/ArticleLanding/2011/JM/C0JM02673E>.
- Mohammadkhodaei, Z; Mokhtari, J; Nouri, M. (2010). Novel anti-bacterial acid dyes derived from naphthalimide: synthesis, characterisation and evaluation of their technical properties on nylon 6. *Color Technol.* *126*: 81-85. <http://dx.doi.org/10.1111/j.1478-4408.2010.00230.x>.
- Mokhtari, J; Gharanjig, K; Arami, M; Mahmoodi, NM. (2008). Novel hydrolysable azo disperse dyes based on N-ester-1,8-naphthalimide: dyeing of polyester-cotton blends. *Color Technol.* *124*: 295-300. <http://dx.doi.org/10.1111/j.1478-4408.2008.00155.x>.
- Mondal, S; Lin, W, eiH; Chen, Y, uChi; Huang, SH, an; Yang, R; Chen, B, oH; Yang, T, eF; Mao, SW, ei; Kuo, MY, u. (2015). Solution-processed single-crystal perylene diimide transistors with high electron mobility. *Organic Electronics.* *23*: 64-69. <http://dx.doi.org/10.1016/j.orgel.2015.04.011>.
- Moniz, T; Queiros, C; Ferreira, R; Leite, A; Gameiro, P; Silva, A, naMG; Rangel, M. (2013). Design of a water soluble 1,8-naphthalimide/3-hydroxy-4-pyridinone conjugate: Investigation of its spectroscopic properties at variable pH and in the presence of Fe³⁺, Cu²⁺ and Zn²⁺. *Dyes and Pigments.* *98*: 201-211. <http://dx.doi.org/10.1016/j.dyepig.2013.02.020>.
- Moreno-Lopez, JC; Grizzi, O; Martiarena, ML; Sanchez, EA. (2013). Initial Growth of N,N'-Bis(1-ethylpropyl)perylene-3,4,9,10-tetracarboxdiimide Films on Cu(100). *J Phys Chem C.* *117*: 11679-11685. <http://dx.doi.org/10.1021/jp402494j>.
- Moreno-Lopez, JC; Grizzi, O; Sanchez, EA. (2016). Thermal Stability of N,N'-Bis(1-ethylpropyl)perylene-3,4,9,10-tetracarboxdiimide Films on Cu(100). *J Phys Chem C.* *120*: 19630-19635. <http://dx.doi.org/10.1021/acs.jpcc.6b04157>.
- Morgado, J; Gruner, J; Walcott, SP; Yong, TM; Cervini, R; Moratti, SC; Holmes, AB; Friend, RH. (1998). 4-AcNI - a new polymer for light-emitting diodes. *Synthetic Metals.* *95*: 113-117.
- Moscatoello, JP; Castaneda, CV; Zaidi, A; Cao, M; Usluer, O; Briseno, AL; Aidala, KE. (2017). Time-resolved kelvin probe force microscopy to study population and depopulation of traps in electron or hole majority organic semiconductors. *Organic Electronics.* *41*: 26-32. <http://dx.doi.org/10.1016/j.orgel.2016.11.001>.
- Munger, KA; Downey, TM; Haberer, B; Pohlson, K; Marshall, LL; Utecht, RE. (2016). A novel photochemical cross-linking technology to improve luminal gain, vessel compliance, and buckling post-angioplasty in porcine arteries. *J Biomed Mater Res B Appl Biomater.* *104*: 375-384. <http://dx.doi.org/10.1002/jbm.b.33373>.
- Munoz-Losa, A; Vukovic, S; Corni, S; Mennucci, B. (2009). Nonplasmonic Metal Particles as Excitation Energy Transfer Acceptors: an Unexpected Efficiency Revealed by Quantum Mechanics. *J Phys Chem C.* *113*: 16364-16370. <http://dx.doi.org/10.1021/jp904366f>.
- Munro, NH; Hanton, LR; Robinson, BH; Simpson, J. (2008). Synthesis and characterisation of fluorescent chitosan derivatives containing substituted naphthalimides. *React Funct Polym.* *68*: 671-678. <http://dx.doi.org/10.1016/j.reactfunctpolym.2007.11.003>.
- Murschell, AE; Sutherland, TC. (2010). Anthraquinone-based discotic liquid crystals. *Langmuir.* *26*: 12859-12866. <http://dx.doi.org/10.1021/la101406s>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Muthuraj, B; Chowdhury, S; Iyer, PK. (2015). Modulation of Amyloid-beta Fibrils into Mature Microrod-Shaped Structure by Histidine Functionalized Water-Soluble Perylene Diimide. *ACS Applied Materials & Interfaces*. 7: 21226-21234. <http://dx.doi.org/10.1021/acsmami.5b07260>.
- Naab, BD; Gu, X; Kurosawa, T; To, JWF; Salleo, A; Bao, Z. (2016). Role of Polymer Structure on the Conductivity of N-Doped Polymers. 2. <http://dx.doi.org/10.1002/aelm.201600004>.
- Nagel, J; Pahner, FA; Zimmerer, C; Haertig, T; Gehde, M; Heinrich, G. (2014). Electrostatic Discharging Behaviour of Polycarbonate Parts Made by Process-Integrated Surface Modification. *Macromolecular Materials & Engineering*. 299: 1395-1402. <http://dx.doi.org/10.1002/mame.201400114>.
- Nakaya, K; Funabiki, K; Muramatsu, H; Shibata, K; Matsui, M. (1999). N-aryl-1,8-naphthalimides as highly sensitive fluorescent labeling reagents for carnitine. *Dyes and Pigments*. 43: 235-239.
- Nam, S; Hahn, S; ukGyu; Han, H; Seo, J; Kim, C; Kim, H; Marder, SR; Ree, M; Kim, Y. (2016). All-Polymer Solar Cells with Bulk Heterojunction Films Containing Electron-Accepting Triple Bond-Conjugated Perylene Diimide Polymer. 4: 767-774. <http://dx.doi.org/10.1021/acssuschemeng.5b00732>.
- Nath, JK; Kirillov, AM; Baruah, JB. (2015). Synthesis, Structure, and Topological Studies of Solvates and Salts of a Chiral Zwitterionic Host N-(2-Imidazol-5-yl-1-carboxyethyl)-1,8-naphthalimide. *Cryst Growth Des*. 15: 737-751. <http://dx.doi.org/10.1021/cg5018054>.
- Nath, JK; Mondal, A; Powell, AK; Baruah, JB. (2014). Structures, Magnetic Properties, and Photoluminescence of Dicarboxylate Coordination Polymers of Mn, Co, Ni, Cu Having N-(4-Pyridylmethyl)-1,8-naphthalimide. *Cryst Growth Des*. 14: 4735-4748. <http://dx.doi.org/10.1021/cg500882z>.
- Nolde, F; Pisula, W; Mueller, S; Kohl, C; Muellen, K. (2006). Synthesis and self-organization of core-extended perylene tetracarboxdiimides with branched alkyl substituents. *Chem Mater*. 18: 3715-3725. <http://dx.doi.org/10.1021/cm060742c>.
- Oekermann, T; Karuppuchamy, S; Yoshida, T; Schlettwein, D; Wohrle, D; Minoura, H. (2004). Electrochemical self-assembly of ZnO/SO₃E_tPTCDI hybrid photoelectrodes. *J Electrochem Soc*. 151: C62-C68. <http://dx.doi.org/10.1149/1.1630596>.
- Oh, JH, ak; Sun, Y, aSen; Schmidt, R; Toney, MF; Nordlund, D; Koenemann, M; Wuerthner, F; Bao, Z. (2009). Interplay between Energetic and Kinetic Factors on the Ambient Stability of n-Channel Organic Transistors Based on Perylene Diimide Derivatives. *Chem Mater*. 21: 5508-5518. <http://dx.doi.org/10.1021/cm902531d>.
- Oner, I; Varlikli, C; Icli, S. (2011). The use of a perylenediimide derivative as a dopant in hole transport layer of an organic light emitting device. *Appl Surf Sci*. 257: 6089-6094. <http://dx.doi.org/10.1016/j.apsusc.2011.02.002>.
- Ortica, F; Scaiano, JC; Pohlers, G; Cameron, JF; Zampini, A. (2000). Laser flash photolysis study of two aromatic N-oxyimidosulfonate photoacid generators. *Chem Mater*. 12: 414-420.
- Ozcan, O; Yukruk, F; Akkaya, EU; Uner, D. (2007). Dye sensitized artificial photosynthesis in the gas phase over thin and thick TiO₂ films under UV and visible light irradiation. *Appl Catal B-Environ*. 71: 291-297. <http://dx.doi.org/10.1016/j.apcatb.2006.09.015>.
- Ozdemir, S; Varlikli, C; Oner, I; Ocakoglu, K; Icli, S. (2010). The synthesis of 1,8-naphthalimide groups containing imidazolium salts/ionic liquids using I-, PF₆-, TFSI- anions and their photophysical, electrochemical and thermal properties. *Dyes and Pigments*. 86: 206-216. <http://dx.doi.org/10.1016/j.dyepig.2010.01.005>.
- Panchenko, PA; Fedorov, YV; Fedorova, OA; Jonusauskas, G. (2013). Comparative analysis of the PET and ICT sensor properties of 1,8-naphthalimides containing aza-15-crown-5 ether moiety. *Dyes and Pigments*. 98: 347-357. <http://dx.doi.org/10.1016/j.dyepig.2013.03.008>.
- Pang, X; Yu, X; Lan, H; Ge, X; Li, Y; Zhen, X; Yi, T, ao. (2015). Visual Recognition of Aliphatic and Aromatic Amines Using a Fluorescent Gel: Application of a Sonication-Triggered Organogel. *ACS Applied Materials & Interfaces*. 7: 13569-13577. <http://dx.doi.org/10.1021/acsmami.5b03000>.
- Park, G, iEun; Choi, S; Lee, D, aeHee; Godumala, M; Uddin, MA; Woo, H, anY; Cho, M, inJu; Choi, DH. (2017). Perylene diimide isomers containing a simple sp(3)-core for non-fullerene-based polymer solar cells. 5: 663-671. <http://dx.doi.org/10.1039/c6ta09394a>.
- Park, H; Chang, S, ukKyu. (2015). Signaling of water content in organic solvents by solvatochromism of a hydroxynaphthalimide-based merocyanine dye. *Dyes and Pigments*. 122: 324-330. <http://dx.doi.org/10.1016/j.dyepig.2015.07.010>.
- Park, HJ; So, MC; Gosztola, D; Wiederrecht, GP; Emery, JD; Martinson, AB; Er, S; Wilmer, CE; Vermeulen, NA; Aspuru-Guzik, A; Stoddart, JF; Farha, OK; Hupp, JT. (2016). Layer-by-Layer Assembled Films of Perylene Diimide- and Squaraine-Containing Metal-Organic Framework-like Materials: Solar Energy Capture and Directional Energy Transfer. 8: 24983-24988. <http://dx.doi.org/10.1021/acsmami.6b03307>.
- Park, SC; Ito, T; Higgins, DA. (2015). Dimensionality of Diffusion in Flow-Aligned Surfactant-Templated Mesoporous Silica: A Single Molecule Tracking Study of Pore Wall Permeability. *J Phys Chem C*. 119: 26101-26110. <http://dx.doi.org/10.1021/acs.jpcc.5b06835>.
- Patrick, LGF; Whiting, A. (2002). Synthesis and application of some polycondensable fluorescent dyes. *Dyes and Pigments*. 52: 137-143.
- Patrick, LGF; Whiting, A. (2002). Synthesis of some polymerisable fluorescent dyes. *Dyes and Pigments*. 55: 123-132.
- Peebles, C; Wight, CD; Iverson, BL. (2015). Solution- and solid-state photophysical and stimuli-responsive behavior in conjugated monoalkoxyxanthene-naphthalimide donor-acceptor dyads. 3: 12156-12163. <http://dx.doi.org/10.1039/c5tc02397a>.
- Peng, QG; Zhai, J; Wang, WL; Yan, XL; Bai, FL. (2003). Fabrication of organic/inorganic hybrid nanocomposite of 1,8-naphthalimide and CdS in self-assembly film. *Cryst Growth Des*. 3: 623-626. <http://dx.doi.org/10.1021/cg025584q>.
- Pensack, RD; Guo, C; Vakhshouri, K; Gomez, ED; Asbury, JB. (2012). Influence of Acceptor Structure on Barriers to Charge Separation in Organic Photovoltaic Materials. *J Phys Chem C*. 116: 4824-4831. <http://dx.doi.org/10.1021/jp2083133>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Petit, M; Hayakawa, R; Wakayama, Y; Chikyow, T. (2007). Early stage of growth of a perylene diimide derivative thin film growth on various $\text{Si}(001)$ substrates. *J Phys Chem C*. 111: 12747-12751. <http://dx.doi.org/10.1021/jp071876w>.
- Piris, J; de Haas, MP; Warman, JM; Mullen, K; Fechtenkotter, A; van de Craats, AM; Schmidt-Mende, L; Friend, RH. (2003). Photo-induced charge separation in a blend of perylenediimide and hexabenzocoronene derivatives studied by FP-TRMC. *Synthetic Metals*. 137: 1375-1376. [http://dx.doi.org/10.1016/S0379-6779\(02\)01121-9](http://dx.doi.org/10.1016/S0379-6779(02)01121-9).
- Polkehn, M; Tamura, H; Eisenbrandt, P; Haacke, S; Méry, S; Burghardt, I. (2016). Molecular Packing Determines Charge Separation in a Liquid Crystalline Bithiophene-Perylene Diimide Donor-Acceptor Material. *Journal of Physical Chemistry Letters*. 7: 1327-1334. <http://dx.doi.org/10.1021/acs.jpclett.6b00277>.
- Posokhov, Y; Alp, S; Koz, B; Dilgin, Y; Icli, S. (2004). Photophysical properties and electrochemistry of the N,N' -bis-n-butyl derivative of naphthalene diimide. *Turkish Journal of Chemistry*. 28: 415-424.
- Poteau, X; Brown, AI; Brown, RG; Holmes, C; Matthew, D. (2000). Fluorescence switching in 4-amino-1,8-naphthalimides: "on-off-on" operation controlled by solvent and cations. *Dyes and Pigments*. 47: 91-105.
- Pramanik, R; Ito, T; Higgins, DA. (2013). Molecular Length Dependence of Single Molecule Wobbling within Surfactant- and Solvent-Filled Silica Mesopores. *J Phys Chem C*. 117: 15438-15446. <http://dx.doi.org/10.1021/jp404991m>.
- Pramanik, R; Ito, T; Higgins, DA. (2013). Single Molecule Wobbling in Cylindrical Mesopores. *J Phys Chem C*. 117: 3668-3673. <http://dx.doi.org/10.1021/jp400479w>.
- Prezhdo, OV; Uspenskii, BV; Prezhdo, VV; Boszczyk, W; Distanov, VB. (2007). Synthesis and spectral-luminescent characteristics of N-substituted 1,8-naphthalimides. *Dyes and Pigments*. 72: 42-46. <http://dx.doi.org/10.1016/j.dyepig.2005.07.022>.
- Puniredd, SR; Kiersnowski, A; Battaglia, G; Zajaczkowski, W; Wong, WWH; Kirby, N; Muellen, K; Pisula, W. (2013). Polythiophene-perylene diimide heterojunction field-effect transistors. 1: 2433-2440. <http://dx.doi.org/10.1039/c3tc00562c>.
- Qi, Q; Yuqiao, W; Yunqian, D; Yueming, S. (2016). Spectroscopic properties of carbazolyl and diphenylamino naphthalimide derivatives: the role of solvent and rotational relaxation. *Optoelectronics and Advanced Materials Rapid Communications*. 10: 410-416.
- Qian, XH; Tang, J; Zhang, JD; Zhang, YL. (1994). SYNTHESIS OF FURONAPHTHALIMIDES WITH POTENTIAL PHOTOSENSITIZING BIOLOGICAL-ACTIVITY. *Dyes and Pigments*. 25: 109-114.
- Qian, XH; Zhang, YL; Chen, KC; Tao, ZF; Shen, YG. (1996). A study on the relationship between Stoke's shift and low frequency half-value component of fluorescent compounds. *Dyes and Pigments*. 32: 229-235.
- Qiu, B; Yuan, J, un; Xiao, X; He, D; Qiu, L; Zou, Y; Zhang, Z; Li, Y. (2015). Effect of Fluorine Substitution on Photovoltaic Properties of Alkoxyphenyl Substituted Benzo[1,2-b:4,5-b']dithiophene-Based Small Molecules. *ACS Applied Materials & Interfaces*. 7: 25237-25246. <http://dx.doi.org/10.1021/acsmami.5b07066>.
- Qu, J; Gao, B; Tian, H; Zhang, X; Wang, Y, an; Xie, Z; Wang, H; Geng, Y; Wang, F. (2014). Donor-spacer-acceptor monodisperse conjugated co-oligomers for efficient single-molecule photovoltaic cells based on non-fullerene acceptors. 2: 3632-3640. <http://dx.doi.org/10.1039/c3ta14701k>.
- Qu, Z; Li, P; Zhang, X; Han, K. (2016). A turn-on fluorescent chemodosimeter based on detelluration for detecting ferrous iron (Fe^{2+}) in living cells. 4: 887-892. <http://dx.doi.org/10.1039/c5tb02090e>.
- Rajaram, S; Armstrong, PB; Kim, BJ; Frechet, JMJ. (2009). Effect of Addition of a Diblock Copolymer on Blend Morphology and Performance of Poly(3-hexylthiophene):Perylene Diimide Solar Cells. *Chem Mater*. 21: 1775-1777. <http://dx.doi.org/10.1021/cm900911x>.
- Ramakrishnan, R; Mallia, AR; Sethy, MAN, R; Hariharan, M. (2016). Columnar/Lamellar Packing in Cocrystals of Arylbipyridines with Diiodoperfluorobenzene. *Cryst Growth Des*. 16: 6327-6336. <http://dx.doi.org/10.1021/acs.cgd.6b00968>.
- Rao, KV; Haldar, R; Kulkarni, C; Maji, TK; George, SJ. (2012). Perylene Based Porous Polyimides: Tunable, High Surface Area with Tetrahedral and Pyramidal Monomers. *Chem Mater*. 24: 969-971. <http://dx.doi.org/10.1021/cm203599q>.
- Refiker, H; Icil, H. (2011). Amphiphilic and chiral unsymmetrical perylene dye for solid-state dye-sensitized solar cells. *Turkish Journal of Chemistry*. 35: 847-859. <http://dx.doi.org/10.3906/kim-1107-39>.
- Reger, DL; Debreczeni, A; Horger, JJ; Smith, MD. (2011). Structures of Bifunctional Molecules Containing Two Very Different Supramolecular Synthons: Carboxylic Acid and Strong π center dot center dot center dot pi Stacking 1,8-Naphthalimide Ring. *Cryst Growth Des*. 11: 4068-4079. <http://dx.doi.org/10.1021/cg200636k>.
- Reger, DL; Leitner, A; Smith, MD. (2015). Homochiral, Helical Coordination Complexes of Lanthanides(III) and Mixed-Metal Lanthanides(III): Impact of the 1,8-Naphthalimide Supramolecular Tecton on Structure, Magnetic Properties, and Luminescence. *Cryst Growth Des*. 15: 5637-5644. <http://dx.doi.org/10.1021/acs.cgd.5601387>.
- Reger, DL; Leitner, AP; Smith, MD. (2016). Supramolecular Metal-Organic Frameworks of s- and f-Block Metals: Impact of 1,8-Naphthalimide Functional Group. *Cryst Growth Des*. 16: 527-536. <http://dx.doi.org/10.1021/acs.cgd.5b01575>.
- Reger, DL; Semeniuc, RF; Elgin, JD; Rassolov, V; Smith, MD. (2006). 1,8-naphthalimide synthon in silver coordination chemistry: Control of supramolecular arrangement. *Cryst Growth Des*. 6: 2758-2768. <http://dx.doi.org/10.1021/cg060460p>.
- Reger, DL; Sirianni, E; Horger, JJ; Smith, MD; Semeniuc, RF. (2010). Supramolecular Architectures of Metal Complexes Controlled by a Strong π center dot center dot center dot pi Stacking, 1,8-Naphthalimide Functionalized Third Generation Tris(pyrazolyl)methane Ligand. *Cryst Growth Des*. 10: 386-393. <http://dx.doi.org/10.1021/cg901000d>.
- Reilly, TH, III; Hains, AW; Chen, HY, u; Gregg, BA. (2012). A Self-Doping, O₂-Stable, n-Type Interfacial Layer for Organic Electronics. 2: 455-460. <http://dx.doi.org/10.1002/aenm.201100446>.
- Ren, J, un; Wu, Z; Zhou, Y; Li, Y, an; Xu, Z. (2011). Colorimetric fluoride sensor based on 1,8-naphthalimide derivatives. *Dyes and Pigments*. 91: 442-445. <http://dx.doi.org/10.1016/j.dyepig.2011.04.012>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Ren, J; Zhao, XL; Wang, QC; Ku, CF; Qu, DH; Chang, CP; Tian, H. (2005). Synthesis and fluorescence properties of novel co-facial folded naphthalimide dimers. *Dyes and Pigments*. 64: 179-186. <http://dx.doi.org/10.1016/j.dyepig.2004.05.011>.
- Ren, W; Zhuang, H; ao; Bao, Q; Miao, S; Li, H; ua; Lu, J; Wang, L. (2014). Enhancing the coplanarity of the donor moiety in a donor-acceptor molecule to improve the efficiency of switching phenomenon for flash memory devices. *Dyes and Pigments*. 100: 127-134. <http://dx.doi.org/10.1016/j.dyepig.2013.09.002>.
- Rieth, S; Li, Z; Hinkle, CE; Guzman, CX; Lee, JJ; Nehme, SI; Braunschweig, AB. (2013). Superstructures of Diketopyrrolopyrrole Donors and Perylenediimide Acceptors Formed by Hydrogen-Bonding and pi center dot center dot center dot pi Stacking. *J Phys Chem C*. 117: 11347-11356. <http://dx.doi.org/10.1021/jp400918z>.
- Rodríguez-Abreu, C; Auberry-Torres, C; Solans, C; López-Quintela, A; Tiddy, GJ. (2011). Characterization of perylene diimide dye self-assemblies and their use as templates for the synthesis of hybrid and supermicroporous nanotubules. 3: 4133-4141. <http://dx.doi.org/10.1021/am201016m>.
- Roeder, RD; Rungta, P; Tsyalkovsky, V; Bandera, Y; Foulger, SH. (2012). Colloidal templating: seeded emulsion polymerization of a soluble shell with a controlled alkyne surface density. *Soft Matter*. 8: 5493-5500. <http://dx.doi.org/10.1039/c2sm25070e>.
- Rungta, P; Bandera, YP; Tsyalkovsky, V; Foulger, SH. (2010). Designing fluoroprobes through Forster resonance energy transfer: surface modification of nanoparticles through "click" chemistry. *Soft Matter*. 6: 6083-6095. <http://dx.doi.org/10.1039/c0sm00470g> <http://pubs.rsc.org/en/Content/ArticleLanding/2010/SM/c0sm00470g>
- Russ, B; Robb, MJ; Brunetti, FG; Miller, PL; Perry, EE; Patel, SN; Ho, V; Chang, WB; Urban, JJ; Chabiny, ML; Hawker, CJ; Segalman, RA. (2014). Power factor enhancement in solution-processed organic n-type thermoelectrics through molecular design. *Adv Mater Deerfield*. 26: 3473-3477. <http://dx.doi.org/10.1002/adma.201306116>.
- Russell, JC; Blunt, MO; Goretzki, G; Phillips, AG; Champness, NR; Beton, PH. (2010). Solubilized derivatives of perylenetetracarboxylic dianhydride (PTCDA) adsorbed on highly oriented pyrolytic graphite. *Langmuir*. 26: 3972-3974. <http://dx.doi.org/10.1021/la903335v>.
- Sadeghi-Kiakhani, M; Gharanjig, K. (2015). Study of the Influence of Gemini Cationic Surfactants on the Dyeing and Fastness Properties of Polyester Fabrics Using Naphthalimide Dyes. *Journal of Surfactants and Detergents*. 18: 47-54. <http://dx.doi.org/10.1007/s11743-014-1622-1>.
- Sadeghi-Kiakhani, M; Gharanjig, K; Arami, M. (2014). Study on dyeing and fastness properties of wool-polyester blend fabrics using novel mono azo-naphthalimide dyes. *J Text Inst*. 105: 52-58. <http://dx.doi.org/10.1080/00405000.2013.810020>.
- Sadeghi-Kiakhani, M; Safapour, S. (2015). Improvement of the dyeing and fastness properties of a naphthalimide fluorescent dye using poly(amidoamine) dendrimer. *Color Technol*. 131: 142-148. <http://dx.doi.org/10.1111/cote.12132>.
- Safabakhsh, B; Khosravi, A; Gharanjig, K; Kowsari, E; Khorassani, M; Tafaghodi, S. (2012). Synthesis of a novel fluorescent coloured copolymer based on 4-butylthio-1,8-naphthalimide. *Color Technol*. 128: 218-222. <http://dx.doi.org/10.1111/j.1478-4408.2012.00366.x>.
- Sahin, Y; Alem, S; de Bettignies, R; Nunzi, JM. (2005). Development of air stable polymer solar cells using an inverted gold on top anode structure. *Thin Solid Films*. 476: 340-343. <http://dx.doi.org/10.1016/j.tsf.2004.10.018>.
- Sahoo, D; Tian, Y; Sforazzini, G; Anderson, HL; Scheblykin, IG. (2014). Photo-induced fluorescence quenching in conjugated polymers dispersed in solid matrices at low concentration. 2: 6601-6608. <http://dx.doi.org/10.1039/c4tc00831f>.
- Savage, RC; Orgiu, E; Mativetsky, JM; Pisula, W; Schnitzler, T; Eversloh, CL; Li, C; Müllen, K; Samori, P. (2012). Charge transport in fibre-based perylene-diimide transistors: effect of the alkyl substitution and processing technique. *Nanoscale*. 4: 2387-2393. <http://dx.doi.org/10.1039/c2nr30088e>.
- Schab-Balcerzak, E; wa; Iwan, A; Grucela-Zajac, M; Krompiec, M; Podgorna, M; Domanski, M; Siwy, M; Janeczek, H. (2011). Characterization, liquid crystalline behavior, optical and electrochemical study of new aliphatic-aromatic polyimide with naphthalene and perylene subunits. *Synthetic Metals*. 161: 1660-1670. <http://dx.doi.org/10.1016/j.synthmet.2011.05.036>.
- Schlicker, A; Peschke, P; Sinn, H; Hahn, EW. (2000). Albumin as a carrier system for delivering drugs to solid tumors. *PDA J Pharm Sci Technol*. 54: 442-448.
- Schmelzeisen, M; Zhao, Y; Klapper, M; Müllen, K; Kreiter, M. (2010). Fluorescence enhancement from individual plasmonic gap resonances. *ACS Nano*. 4: 3309-3317. <http://dx.doi.org/10.1021/nn901655v>.
- Schulz, A; Wotschadlo, J; Heinze, T; Mohr, GJ. (2010). Fluorescent nanoparticles for ratiometric pH-monitoring in the neutral range. *J Mater Chem*. 20: 1475-1482. <http://dx.doi.org/10.1039/b918427a>.
- Schulz, B; Taeuber, D; Schuster, J; Baumgaertel, T; von Borczyskowski, C. (2011). Influence of mesoscopic structures on single molecule dynamics in thin smectic liquid crystal films. *Soft Matter*. 7: 7431-7440. <http://dx.doi.org/10.1039/c1sm05434a>.
- Schwarz, C; Milan, F; Hahn, T; Reichenberger, M; Kuemmel, S; Koehler, A. (2014). Ground State Bleaching at Donor-Acceptor Interfaces. *Adv Funct Mater*. 24: 6439-6448. <http://dx.doi.org/10.1002/adfm.201400297>.
- See, KC; Landis, C; Sarjeant, A; my; Katz, HE. (2008). Easily synthesized naphthalene tetracarboxylic diimide semiconductors with high electron mobility in air. *Chem Mater*. 20: 3609-3616. <http://dx.doi.org/10.1021/cm7032614>.
- SEKIGUCHI, T; Tanaka, M; Inoue, S; Ishida, K. (1971). STUDIES ON AZOMETHINE PIGMENTS .2. SYNTHESIS OF BISAZOMETHINE PIGMENTS FROM NAPHTHALIMIDE AND DIAMINES. 74: 428-&.
- Seo, S; Kim, Y; Zhou, Q; Clavier, G; Audebert, P; Kim, E. (2012). White Electrofluorescence Switching from Electrochemically Convertible Yellow Fluorescent Dyad. *Adv Funct Mater*. 22: 3556-3561. <http://dx.doi.org/10.1002/adfm.201102153>.
- Sghaier, T; Le Liepvre, S; Fiorini, C; Douillard, L; Charra, F. (2016). Optical absorption signature of a self-assembled dye monolayer on graphene. 7: 862-868. <http://dx.doi.org/10.3762/bjnano.7.78>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Shaki, H; Gharanjig, K; Khosravi, A. (2015). Spectral, dyeing and antimicrobial properties of some monoazo naphthalimide dyes on polyamide. Indian Journal of Fibre & Textile Research. 40: 425-430.
- Shaki, H; Gharanjig, K; Rouhani, S; Khosravi, A; Fakhar, J. (2012). Synthesis and application of some novel antimicrobial monoazonaphthalimide dyes: synthesis and characterisation. Color Technol. 128: 270-275. <http://dx.doi.org/10.1111/j.1478-4408.2012.00374.x>.
- Shaki, H; Khosravi, A; Gharanjig, K; Mahboubi, A. (2016). Investigation of synthesis, characterization, photophysical and biological properties of novel antimicrobial fluorescent naphthalimide derivatives. Materials Technology. 31: 322-331. <http://dx.doi.org/10.1179/1753555715Y.0000000058>.
- Sharenko, A; Gehrig, D; Laquai, F; Nguyen, T-Q. (2014). The Effect of Solvent Additive on the Charge Generation and Photovoltaic Performance of a Solution-Processed Small Molecule:Perylene Diimide Bulk Heterojunction Solar Cell. Chem Mater. 26: 4109-4118. <http://dx.doi.org/10.1021/cm5010483>.
- Sharenko, A; Proctor, CM; van der Poll, TS; Henson, ZB; Nguyen, TQ; Bazan, GC. (2013). A high-performing solution-processed small molecule:perylene diimide bulk heterojunction solar cell. Adv Mater Deerfield. 25: 4403-4406. <http://dx.doi.org/10.1002/adma.201301167>.
- Sharma, GD; Balraju, P; Mikroyannidis, JA; Stylianakis, MM. (2009). Bulk heterojunction organic photovoltaic devices based on low band gap small molecule BTD-TNP and perylene-anthracene diimide. Solar Energy Materials and Solar Cells. 93: 2025-2028. <http://dx.doi.org/10.1016/j.solmat.2009.08.003>.
- Shi, J; Wang, Y; Tang, X; Liu, W, ei; Jiang, H; Dou, W, ei; Liu, W. (2014). A colorimetric and fluorescent probe for thiols based on 1, 8-naphthalimide and its application for bioimaging. Dyes and Pigments. 100: 255-260. <http://dx.doi.org/10.1016/j.dyepig.2013.09.021>.
- Shi, M, inMin; Tung, VC; Nie, JJ; Chen, HZ; Yang, Y. (2014). Bulky rigid substitutions: A route to high electron mobility and high solid-state luminescence efficiency of perylene diimide. Organic Electronics. 15: 281-285. <http://dx.doi.org/10.1016/j.orgel.2013.11.011>.
- Shi, MM; Chen, HZ; Wang, M; Ye, J. (2003). Photoconductivity of fluoroperylene diimide/PVK composite. Synthetic Metals. 137: 1537-1538. [http://dx.doi.org/10.1016/S0379-6779\(02\)01225-0](http://dx.doi.org/10.1016/S0379-6779(02)01225-0).
- Shin, S; Chang, E; Lee, S, ujin; Cho, J, inKu; Jeong, KU, n. (2011). Color-tunable anisotropic optical films fabricated using perylene diimide mixed with naphthalene benzimidazole. Thin Solid Films. 520: 486-490. <http://dx.doi.org/10.1016/j.tsf.2011.06.105>.
- Shin, WS; Jeong, HH; Kim, MK; Jin, SH; Kim, MR; Lee, JK; Lee, JW; Gal, YS. (2006). Effects of functional groups at perylene diimide derivatives on organic photovoltaic device application. J Mater Chem. 16: 384-390. <http://dx.doi.org/10.1039/b512983d>.
- Shoaee, S; Clarke, TM; Eng, MP; Huang, C; Barlow, S; Espildora, E, va; Luis Delgado, J; Campo, B; Marder, SR; Heeney, M; McCulloch, I; Martin, N; Vanderzande, D; Durrant, JR. (2012). Charge photogeneration in donor/acceptor organic solar cells. 2. <http://dx.doi.org/10.1111/1.JPE.2.021001>.
- Shoaee, S; Deledalle, F; Tuladhar, PS; Shivanna, R; Rajaram, S; Narayan, KS; Durrant, JR. (2015). A Comparison of Charge Separation Dynamics in Organic Blend Films Employing Fullerene and Perylene Diimide Electron Acceptors. Journal of Physical Chemistry Letters. 6: 201-205. <http://dx.doi.org/10.1021/jz502385n>.
- Shu, W, ei; Wang, Y; Wu, L, iu; Wang, Z; Duan, Q; Gao, Y; Liu, C; Zhu, B; Yan, L. (2016). Novel Carbonothioate-Based Colorimetric and Fluorescent Probe for Selective Detection of Mercury Ions. Ind Eng Chem Res. 55: 8713-8718. <http://dx.doi.org/10.1021/acs.iecr.6b02158>.
- Silva, BPG; de Florio, DZ; Brochsztain, S. (2014). Characterization of a Perylenediimide Self-Assembled Monolayer on Indium Tin Oxide Electrodes Using Electrochemical Impedance Spectroscopy. J Phys Chem C. 118: 4103-4112. <http://dx.doi.org/10.1021/jp409416b>.
- Singh, D; Baruah, JB. (2012). Metal(II) Complexes Derived from Conformation Flexible Cyclic Imide Tethered Carboxylic Acids: Syntheses, Supramolecular Structures, and Molecular Properties. Cryst Growth Des. 12: 2109-2121. <http://dx.doi.org/10.1021/cg300113f>.
- Singh, P; Mittal, LS; Vanita, V; Kumar, K; Walia, A; Bhargava, G; Kumar, S. (2016). Self-assembled vesicle and rod-like aggregates of functionalized perylene diimide: reaction-based near-IR intracellular fluorescent probe for selective detection of palladium. 4: 3750-3759. <http://dx.doi.org/10.1039/c6tb00512h>.
- Singh, R; Aluicio-Sarduy, E; Kan, Z; Ye, T; Mackenzie, RCI; Keivanidis, PE. (2014). Fullerene-free organic solar cells with an efficiency of 3.7% based on a low-cost geometrically planar perylene diimide monomer. 2: 14348-14353. <http://dx.doi.org/10.1039/c4ta02851a>.
- Singh, R; Giussani, E; Mroz, MM; Di Fonzo, F; Fazzi, D; Cabanillas-Gonzalez, J; Oldridge, L; Vaenas, N; Kontos, AG; Falaras, P; Grimsdale, AC; Jacob, J; Muellen, K; Keivanidis, PE. (2014). On the role of aggregation effects in the performance of perylene-diimide based solar cells. Organic Electronics. 15: 1347-1361. <http://dx.doi.org/10.1016/j.orgel.2014.03.044>.
- Singh, R; Lee, J; Kim, M; Keivanidis, PE; Cho, K. (2017). Control of the molecular geometry and nanoscale morphology in perylene diimide based bulk heterojunctions enables an efficient non-fullerene organic solar cell. 5: 210-220. <http://dx.doi.org/10.1039/c6ta08870h>.
- Singh, R; Shivanna, R; Iosifidis, A; Butt, HJ; Floudas, G; Narayan, KS; Keivanidis, PE. (2015). Charge versus Energy Transfer Effects in High-Performance Perylene Diimide Photovoltaic Blend Films. ACS Applied Materials & Interfaces. 7: 24876-24886. <http://dx.doi.org/10.1021/acsami.5b08224>.
- Singh, T, hB; Erten, S; Guenes, S; Zafer, C; Turkmen, G; Kuban, B; Teoman, Y; Sariciftci, NS; Icli, S. (2006). Soluble derivatives of perylene and naphthalene diimide for n-channel organic field-effect transistors. Organic Electronics. 7: 480-489. <http://dx.doi.org/10.1016/j.orgel.2006.06.010>.
- Sinks, LE; Rybtchinski, B; Iimura, M; Jones, BA; Goshe, AJ; Zuo, XB; Tiede, DM; Li, XY; Wasielewski, MR. (2005). Self-assembly of photofunctional cylindrical nanostructures based on perylene-3,4 : 9,10-bis(dicarboximide). Chem Mater. 17: 6295-6303. <http://dx.doi.org/10.1021/cm051461s>.
- Skurla, CP; Perera, A; Towe, CT; Robertson, PR; Healy, JL; Kane, RR. (2007). Development of photochemical method for meniscal repair: a preliminary study. J Biomech. 40: 220-224. <http://dx.doi.org/10.1016/j.jbiomech.2005.10.036>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Smieska, LM; Li, Z; Ley, D; Braunschweig, AB; Marohn, JA. (2016). Trap-clearing Spectroscopy in Perylene Diimide Derivatives. *Chem Mater.* 28: 813-820. <http://dx.doi.org/10.1021/acs.chemmater.5b04026>.
- Sommer, M; Lindner, SM; Thelakkat, M. (2007). Microphase-separated donor-acceptor diblock copolymers: Influence of HOMO energy levels and morphology on polymer solar cells. *Adv Funct Mater.* 17: 1493-1500. <http://dx.doi.org/10.1002/adfm.200600634>.
- Sriramulu, D; Valiyaveettil, S. (2016). Perylene derivatives as a fluorescent probe for sensing of amines in solution. *Dyes and Pigments.* 134: 306-314. <http://dx.doi.org/10.1016/j.dyepig.2016.07.028>.
- Staneva, D; Bosch, P; Asiri, AM; Taib, LA; Grabchev, I, vo. (2014). Studying pH dependence of the photophysical properties of a blue emitting fluorescent PAMAM dendrimer and evaluation of its sensor potential. *Dyes and Pigments.* 105: 114-120. <http://dx.doi.org/10.1016/j.dyepig.2014.01.018>.
- Staneva, D; Grabchev, I, vo; Betcheva, R. (2013). Sensor potential of 1,8-naphthalimide and its dyeing ability of cotton fabric. *Dyes and Pigments.* 98: 64-70. <http://dx.doi.org/10.1016/j.dyepig.2013.01.019>.
- Staneva, D; Grabchev, I, vo; Bosch, P. (2015). Fluorescent Hydrogel-Textile Composite Material Synthesized by Photopolymerization. *Int J Polym Mater.* 64: 838-847. <http://dx.doi.org/10.1080/00914037.2015.1030654>.
- Stappert, S; Li, C; Muellen, K. (2016). Synthesis of an Acceptor-Donor-Acceptor Multichromophore Consisting of Terrylene and Perylene Diimides for Multistep Energy Transfer Studies. *Chem Mater.* 28: 906-914. <http://dx.doi.org/10.1021/acs.chemmater.5b04602>.
- Stergiou, A; Tagmatarchis, N. (2016). Fluorene-Perylene Diimide Arrays onto Graphene Sheets for Photocatalysis. 8: 21576-21584. <http://dx.doi.org/10.1021/acsmami.6b06797>.
- Stolarski, R. (2009). Fluorescent Naphthalimide Dyes for Polyester Fibres. 17: 91-95.
- Streiter, M; Krause, S; von Borczyskowski, C; Deibel, C. (2016). Dynamics of Single-Molecule Stokes Shifts: Influence of Conformation and Environment. *Journal of Physical Chemistry Letters.* 7: 4281-4284. <http://dx.doi.org/10.1021/acs.jpclett.6b02102>.
- Su, JH; Tian, H; Chen, KC. (1996). Novel trichromophoric rhodamine dyes and their fluorescence properties. *Dyes and Pigments.* 31: 69-77.
- Su, JH; Xu, T; Chen, KC; Tian, H. (2000). Excited state properties of bis-1,8-naphthalimides. *Dyes and Pigments.* 44: 87-92.
- Subbarao, NVV; Gedda, M; Vasimalla, S; Iyer, PK; Goswami, DK. (2014). Effect of thickness of bilayer dielectric on 1,7-dibromo-N,N'-dioctadecyl-3,4,9,10-perylenetetracarboxylic diimide based organic field-effect transistors. *Physica Status Solidi A: Applications and Materials Science (Print).* 211: 2403-2411. <http://dx.doi.org/10.1002/pssa.201431304>.
- Sun, J, onP; Hendsbee, AD; Dobson, AJ; Welch, GC; Hill, I, anG. (2016). Perylene diimide based all small-molecule organic solar cells: Impact of branched-alkyl side chains on solubility, photophysics, self-assembly, and photovoltaic parameters. *Organic Electronics.* 35: 151-157. <http://dx.doi.org/10.1016/j.orgel.2016.05.012>.
- Sun, M; Yin, W; Dong, X; Yang, W; Zhao, Y; Yin, M. (2016). Fluorescent supramolecular micelles for imaging-guided cancer therapy. *Nanoscale.* 8: 5302-5312. <http://dx.doi.org/10.1039/c6nr00450d>.
- Susarova, DK; Troshin, PA; Hoeglinder, D; Koeppe, R; Babenko, SD; Lyubovskaya, RN; Razumov, VF; Sariciftci, NS. (2010). Donor-acceptor complex formation in evaporated small molecular organic photovoltaic cells. *Solar Energy Materials and Solar Cells.* 94: 803-811. <http://dx.doi.org/10.1016/j.solmat.2009.12.027>.
- Takada, T; Takemura, M; Kawano, Y; Nakamura, M; Yamana, K. (2015). Photoresponsive DNA monolayer prepared by primer extension reaction on the electrode. *Langmuir.* 31: 3993-3998. <http://dx.doi.org/10.1021/la505013u>.
- Tan, L; Curtis, MD; Francis, AH. (2003). Characterization of organic p/n junction photodiodes based on poly(alkylthiophene)/perylene diimide bilayers. *Chem Mater.* 15: 2272-2279. <http://dx.doi.org/10.1021/cm034183a>.
- Tan, L; Curtis, MD; Francis, AH. (2004). Simulation of transient photoconduction in organic p-n junction bilayer photodiodes. *Chem Mater.* 16: 2134-2141. <http://dx.doi.org/10.1021/cm035102d>.
- Tan, W; Li, X, in; Zhang, J; Tian, H, e. (2011). A photochromic diarylethene dyad based on perylene diimide. *Dyes and Pigments.* 89: 260-265. <http://dx.doi.org/10.1016/j.dyepig.2010.03.020>.
- Tanaka, K; Nishio, S; Matsuura, Y; Yamabe, T. (1993). PREPARATION OF ORGANIC SEMICONDUCTIVE THIN-FILM BY PLASMA-POLYMERIZATION OF AROMATIC-COMPOUNDS AND THEIR DERIVATIVES. *Synthetic Metals.* 55: 896-901.
- Tang, J; Yang, H, ui; Liu, J; Wang, Y, ao; Yin, X; Wang, R, ui; Huang, L; Huang, Z. (2010). Ln(3+)-enhanced blue fluorescence from novel excimer of 1,8-naphthalimide-conjugated PAMAM. *Optical Materials.* 32: 1417-1422. <http://dx.doi.org/10.1016/j.optmat.2010.05.008>.
- Tang, S; Liang, D; Chen, G; Jin, R. (2015). Design of acceptors based on perylene diimide toward organic solar cell materials. *Materials Technology.* 30: 230-240. <http://dx.doi.org/10.1179/1753555714Y.0000000252>.
- Tang, T; Herrmann, A; Peneva, K; Müllen, K; Webber, SE. (2007). Energy transfer in molecular layer-by-layer films of water-soluble perylene diimides. *Langmuir.* 23: 4623-4628. <http://dx.doi.org/10.1021/la0634903>.
- Tang, T; Qu, J; Müllen, K; Webber, SE. (2006). Molecular layer-by-layer self-assembly of water-soluble perylene diimides through pi-pi and electrostatic interactions. *Langmuir.* 22: 26-28. <http://dx.doi.org/10.1021/la052766o>.
- Tao, Y; McCulloch, B; Kim, S; Segalman, RA. (2009). The relationship between morphology and performance of donor-acceptor rod-coil block copolymer solar cells. *Soft Matter.* 5: 4219-4230. <http://dx.doi.org/10.1039/b907836c>.
- Tao, ZF; Qian, XH. (1999). Naphthalimide hydroperoxides as photonucleases: substituent effects and structural basis. *Dyes and Pigments.* 43: 139-145.
- Tao, ZF; Qian, XH; Wei, DZ. (1996). 1,8-naphthalimide hydroperoxides as novel intercalating DNA cleavers. *Dyes and Pigments.* 31: 245-251.
- Taouri, A; Derbal, H; Nunzi, JM; Mountasser, R; Sylla, M. (2009). Two-Photon absorption cross-section measurement by thermal lens and nonlinear transmission methods in organic materials at 532 nm and 1064 nm laser excitations. *J Optoelect Adv Mater.* 11: 1696-1703.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Tatemichi, S; Ichikawa, M; Kato, S; Koyama, T; Taniguchi, Y. (2008). Low-voltage, high-gain, and high-mobility organic complementary inverters based on N,N'-ditridecyl-3,4,9,10-perylenetetracarboxylic diimide and pentacene. *Physica Status Solidi Rapid Research Letters*. 2: 47-49. <http://dx.doi.org/10.1002/pssr.200701267>.
- Tatsumi, H; Wang, Y; Aizawa, Y; Tokita, M; Mori, T; Michinobu, T. (2016). Halogen Substitution Effects on the Molecular Packing and Thin Film Transistor Performances of Carbazoledioxazine Derivatives. *J Phys Chem C*. 120: 26686-26694. <http://dx.doi.org/10.1021/acs.jpcc.6b09888>.
- Telore, RD; Sekar, N. (2016). Carbazole-containing push-pull chromophore with viscosity and polarity sensitive emissions: Synthesis and photophysical properties. *Dyes and Pigments*. 129: 1-8. <http://dx.doi.org/10.1016/j.dyepig.2016.02.012>.
- Tian, H; Gan, J; Chen, KC; He, J; Song, QL; Hou, XY. (2002). Positive and negative fluorescent imaging induced by naphthalimide polymers. *J Mater Chem*. 12: 1262-1267. <http://dx.doi.org/10.1039/b200509c>.
- Tian, H; He, YJ; Chang, CP. (2000). Synthesis and spectral properties of novel laser copolymers based on modified rhodamine 6G and 1,8-naphthalimide. *J Mater Chem*. 10: 2049-2055.
- Tian, H; Su, JH; Chen, KC; Wong, TC; Gao, ZQ; Lee, CS; Lee, ST. (2000). Electroluminescent property and charge separation state of bis-naphthalimides. *Optical Materials*. 14: 91-94.
- Tian, H; Tang, YF; Chen, KC. (1994). BICHROMOPHORIC RHODAMINE DYES AND THEIR FLUORESCENCE PROPERTIES. *Dyes and Pigments*. 26: 159-165.
- Tian, Y; Su, F; Weber, W; Nandakumar, V; Shumway, BR; Jin, Y; Zhou, X; Holl, MR; Johnson, RH; Meldrum, DR. (2010). A series of naphthalimide derivatives as intra and extracellular pH sensors. *Biomaterials*. 31: 7411-7422. <http://dx.doi.org/10.1016/j.biomaterials.2010.06.023>.
- Tilley, AJ; Guo, C; Miltenburg, MB; Schon, TB; Yan, H, an; Li, Y; Seferos, DS. (2015). Thionation Enhances the Electron Mobility of Perylene Diimide for High Performance n-Channel Organic Field Effect Transistors. *Adv Funct Mater*. 25: 3321-3329. <http://dx.doi.org/10.1002/adfm.201500837>.
- Topple, JM; Burke, SA; Ji, W; Fostner, S; Tekiel, A; Gruetter, P. (2011). Tailoring the Morphology and Dewetting of an Organic Thin Film. *J Phys Chem C*. 115: 217-224. <http://dx.doi.org/10.1021/jp107644u>.
- Tozlu, C, em; Kus, M; Can, M; Ersoz, M. (2014). Solution processed white light photodetector based N, N'-di(2-ethylhexyl)-3,4,9,10-perylene diimide thin film phototransistor. *Thin Solid Films*. 569: 22-27. <http://dx.doi.org/10.1016/j.tsf.2014.07.055>.
- Trindade, F, deJ; Queiruga Rey, JF; Brochstain, S. (2011). Covalent attachment of 4-amino-1,8-naphthalimides onto the walls of mesoporous molecular sieves MCM-41 and SBA-15. *Dyes and Pigments*. 89: 97-104. <http://dx.doi.org/10.1016/j.dyepig.2010.09.009>.
- Trindade, F, deJ; Triboni, ER; Castanheira, B; Brochstain, S. (2015). Color-Tunable Fluorescence and White Light Emission from Mesoporous Organosilicas Based on Energy Transfer from 1,8-Naphthalimide Hosts to Perylenediimide Guests. *J Phys Chem C*. 119: 26989-26998. <http://dx.doi.org/10.1021/acs.jpcc.5b07912>.
- Trindade, FJ; Fernandes, GJT; Araujo, AS; Fernandes, VJ, Jr; Silva, BPG; Nagayasu, RY; Politi, MJ; Castro, FL; Brochstain, S. (2008). Covalent attachment of 3,4,9,10-perylenediimides onto the walls of mesoporous molecular sieves MCM-41 and SBA-15. *Microporous and Mesoporous Materials*. 113: 463-471. <http://dx.doi.org/10.1016/j.micromeso.2007.12.013>.
- Troeger, A; Ledendecker, M; Margraf, JT; Sgobba, V; Guldi, DM; Vieweg, BF; Spiecker, E; Suraru, SL; Wuerthner, F. (2012). p-Doped Multiwall Carbon Nanotube/Perylene Diimide Derivative Photoelectrochemical Cells for Photocurrent Generation. 2: 536-540. <http://dx.doi.org/10.1002/aenm.201100710>.
- Trofymchuk, K; Reisch, A; Shulov, I; Mély, Y; Klymchenko, AS. (2014). Tuning the color and photostability of perylene diimides inside polymer nanoparticles: towards biodegradable substitutes of quantum dots. *Nanoscale*. 6: 12934-12942. <http://dx.doi.org/10.1039/c4nr03718a>.
- Troshin, PA; Koeppke, R; Susarova, DK; Polyakova, NV; Peregudov, AS; Razumov, VF; Sariciftci, NS; Lyubovskaya, RN. (2009). Trannulenes: a new class of photoactive materials for organic photovoltaic devices. *J Mater Chem*. 19: 7738-7744. <http://dx.doi.org/10.1039/b908377d>.
- Tsai, HY; Chen, K, ewYu. (2013). 1,7-Diaminoperylene bisimides: Synthesis, optical and electrochemical properties. *Dyes and Pigments*. 96: 319-327. <http://dx.doi.org/10.1016/j.dyepig.2012.09.003>.
- Tu, GL; Mei, CY; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). Highly efficient pure-white-light-emitting diodes from a single polymer: Polyfluorene with naphthalimide moieties. *Adv Funct Mater*. 16: 101-106. <http://dx.doi.org/10.1002/adfm.200500028>.
- Tu, GL; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2005). Synthesis and properties of polyfluorenes containing 1,8-naphthalimide moieties for white electroluminescence. *Synthetic Metals*. 152: 161-164. <http://dx.doi.org/10.1016/j.synthmet.2005.07.173>.
- Tugluoglu, N; Karadeniz, S; Baris, B. (2015). Analysis of relaxation time and density of interface trap on perylene-diimide (PDI)/p-Si (100) Schottky diodes. *Materials Science in Semiconductor Processing*. 33: 199-205. <http://dx.doi.org/10.1016/j.mssp.2015.01.031>.
- Turkmen, G; Erten-Ela, S; Icli, S. (2009). Highly soluble perylene dyes: Synthesis, photophysical and electrochemical characterizations. *Dyes and Pigments*. 83: 297-303. <http://dx.doi.org/10.1016/j.dyepig.2009.05.014>.
- Ulla, H; Garudachari, B; Satyanarayan, MN; Umesh, G; Islloor, AM. (2014). Blue organic light emitting materials: Synthesis and characterization of novel 1,8-naphthalimide derivatives. *Optical Materials*. 36: 704-711. <http://dx.doi.org/10.1016/j.optmat.2013.11.017>.
- Ulla, H; Kiran, MR; Garudachari, B; Satyanarayan, MN; Umesh, G; Islloor, AM. (2014). Blue emitting halogen-phenoxy substituted 1,8-naphthalimides for potential organic light emitting diode applications. *Optical Materials*. 37: 311-321. <http://dx.doi.org/10.1016/j.optmat.2014.06.016>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Vajiravelu, S; Lygaitis, R; Grazulevicius, JV; Gaidelis, V; Jankauskas, V; Valiyaveettil, S. (2009). Effect of substituents on the electron transport properties of bay substituted perylene diimide derivatives. *J Mater Chem.* 19: 4268-4275. <http://dx.doi.org/10.1039/b901847f>.
- van der Boom, T; Evmenenko, G; Dutta, P; Wasielewski, MR. (2003). Self-assembly of photofunctional siloxane-based calix[4]arenes on oxide surfaces. *Chem Mater.* 15: 4068-4074. <http://dx.doi.org/10.1021/cm034247h>.
- Vasseur, K; Rolin, C; Vandezande, S; Temst, K; Froyen, L; Heremans, P. (2010). A Growth and Morphology Study of Organic Vapor Phase Deposited Perylene Diimide Thin Films for Transistor Applications. *J Phys Chem C.* 114: 2730-2737. <http://dx.doi.org/10.1021/jp909242n> <http://pubs.acs.org/doi/abs/10.1021/jp909242n>.
- Veldkamp, BS; Han, W; onSik; Dyar, SM; Eaton, SW; Ratner, MA; Wasielewski, MR. (2013). Photoinitiated multi-step charge separation and ultrafast charge transfer induced dissociation in a pyridyl-linked photosensitizer-cobaloxime assembly. *Energ Environ Sci.* 6: 1917-1928. <http://dx.doi.org/10.1039/c3ee40378e>.
- Ventura, B; Bertocco, A; Braga, D; Catalano, L; D'Agostino, S; Grepioni, F; Taddei, P. (2014). Luminescence Properties of 1,8-Naphthalimide Derivatives in Solution, in Their Crystals, and in Co-crystals: Toward Room-Temperature Phosphorescence from Organic Materials. *J Phys Chem C.* 118: 18646-18658. <http://dx.doi.org/10.1021/jp5049309>.
- Vertsimakha, Y, a; Lutsyk, P; Palewska, K; Sworakowski, J; Lytvyn, O. (2007). Optical and photovoltaic properties of thin films of N,N'-dimethyl-3,4A 10-perylenetetracarboxylic acid diimide. *Thin Solid Films.* 515: 7950-7957. <http://dx.doi.org/10.1016/j.tsf.2007.03.048>.
- Vivo, P; Dubey, R; Lehtonen, E; Kivistö, H; Vuorinen, T; Lemmetyinen, H. (2013). Dipyrroldinyl-substituted perylene diimide as additive for poly(3-hexylthiophene): [6,6]-Phenyl C61 butyric acid methylester bulk-heterojunction blends. *Thin Solid Films.* 548: 398-405. <http://dx.doi.org/10.1016/j.tsf.2013.08.106>.
- Wan, AS; Kushto, GP; Makinen, AJ. (2010). Monolayer structure of a liquid crystalline perylene derivative on bare and on thiol-terminated Au(111) surfaces. *Journal of Vacuum Science and Technology A.* 28: 1275-1278. <http://dx.doi.org/10.1116/1.3462036>.
- Wan, X; Liu, T; Liu, S. (2011). Thermoresponsive core cross-linked micelles for selective ratiometric fluorescent detection of Hg²⁺ ions. *Langmuir.* 27: 4082-4090. <http://dx.doi.org/10.1021/la104911r> <http://pubs.acs.org/doi/abs/10.1021/la104911r>.
- Wan, X; Wang, D; Liu, S. (2010). Fluorescent pH-sensing organic/inorganic hybrid mesoporous silica nanoparticles with tunable redox-responsive release capability. *Langmuir.* 26: 15574-15579. <http://dx.doi.org/10.1021/la102148x>.
- Wang, B; Hu, Y; Su, Z. (2008). Synthesis and photophysical behaviors of a blue fluorescent copolymer as chemosensor for protons and Ni²⁺ ion in aqueous solution. *React Funct Polym.* 68: 1137-1143. <http://dx.doi.org/10.1016/j.reactfunctpolym.2008.03.005>.
- Wang, DE; Zhao, L; Yuan, MS; Chen, SW; Li, T; Wang, J. (2016). Fabrication of Polydiacetylene Liposome Chemosensor with Enhanced Fluorescent Self-Amplification and Its Application for Selective Detection of Cationic Surfactants. <http://dx.doi.org/10.1021/acsami.6b10794>.
- Wang, H; Guo, L, inE; Li, X, ueMei; Zhang, L, iMei; Xu, Q, iuLin; Wu, G, aoFen; Zhou, Y; Zhang, J, unF. (2015). Coumarin-based turn-on fluorescence probes for highly selective detection of Pi in cell culture and *Caenorhabditis elegans*. *Dyes and Pigments.* 120: 293-298. <http://dx.doi.org/10.1016/j.dyepig.2015.04.031>.
- Wang, H, ua; Liang, Y, an; Xie, H; Lu, H; Zhao, S; Feng, S. (2016). Unexpected SiMe₃ effect on color-tunable and fluorescent probes of dendritic polyphenyl naphthalimides with aggregation-induced emission enhancement. 4: 745-750. <http://dx.doi.org/10.1039/c5tc03344f>.
- Wang, H; Schaefer, K; Pich, A; Moeller, M. (2011). Synthesis of Silica Encapsulated Perylenetetracarboxylic Diimide Core-Shell Nanoellipsoids. *Chem Mater.* 23: 4748-4755. <http://dx.doi.org/10.1021/cm2017328>.
- Wang, H; Zhao, L; Liu, X; Xu, J; Hou, W; Wang, J; He, E; Zhang, R; Zhang, H. (2017). Novel hydrogen bonding composite based on copper phthalocyanine/perylene diimide derivatives p-n heterojunction with improved photocatalytic activity. *Dyes and Pigments.* 137: 322-328. <http://dx.doi.org/10.1016/j.dyepig.2016.11.014>.
- Wang, H; Zhou, G; Mao, C; Chen, X. (2013). A fluorescent sensor bearing nitroolefin moiety for the detection of thiols and its biological imaging. *Dyes and Pigments.* 96: 232-236. <http://dx.doi.org/10.1016/j.dyepig.2012.07.013>.
- Wang, J; Liang, Z. (2016). Synergetic Solvent Engineering of Film Nanomorphology to Enhance Planar Perylene Diimide-Based Organic Photovoltaics. 8: 22418-22424. <http://dx.doi.org/10.1021/acsami.6b08284>.
- Wang, J, un; Shi, W, en; Liu, D, i; Zhang, Z; Zhu, Y; Wang, D. (2017). Supramolecular organic nanofibers with highly efficient and stable visible light photooxidation performance. *Appl Catal B-Environ.* 202: 289-297. <http://dx.doi.org/10.1016/j.apcatb.2016.09.037>.
- Wang, J; Yao, Y; Dai, S; Zhang, X; Wang, W, ei; He, Q; Han, L, ei; Lin, Y; Zhan, X. (2015). Oligothiophene-bridged perylene diimide dimers for fullerene-free polymer solar cells: effect of bridge length. 3: 13000-13010. <http://dx.doi.org/10.1039/c5ta02589c>.
- Wang, JB; Xiao, Y; Zhang, ZC; Qian, XH; Yang, YY; Xu, Q. (2005). A pH-resistant Zn(II) sensor derived from 4-aminonaphthalimide: design, synthesis and intracellular applications. *J Mater Chem.* 15: 2836-2839. <http://dx.doi.org/10.1039/b500766f>.
- Wang, KC; Huang, W; Xia, P; Gao, C; Yan, DY. (2002). Fluorescent polymer made from chemical modification of poly(styrene-co-maleic anhydride). *React Funct Polym.* 52: 143-148.
- Wang, L; Wang, T, ao; Jin, Y; Chen, P; Gong, Y; Zhao, Y; Yu, L, i. (2015). Based on charge-transfer interaction organic light-response materials: From sphere-like nanoparticles to fibers. *Curr Appl Phys.* 15: 920-924. <http://dx.doi.org/10.1016/j.cap.2015.04.012>.
- Wang, M, in; Xu, Z; Wang, X, u; Cui, J. (2013). A fluorescent and colorimetric chemosensor for nitric oxide based on 1,8-naphthalimide. *Dyes and Pigments.* 96: 333-337. <http://dx.doi.org/10.1016/j.dyepig.2012.08.024> <http://www.sciencedirect.com/science/article/pii/S0143720812002537>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Wang, Q, i; Wu, J; Gong, Z; Zou, Y; Yi, T, ao; Huang, C. (2010). From vesicles to solid spheres: terminal functional group induced morphology modification. *Soft Matter*. 6: 2679-2684. <http://dx.doi.org/10.1039/b927579g>.
- Wang, QC; Ren, J; Qu, DH; Zhao, XL; Chen, KC; Tian, H; Erk, P. (2003). Synthesis and luminescent properties of some novel naphthalimide dimers. *Dyes and Pigments*. 59: 143-152. [http://dx.doi.org/10.1016/S0143-7208\(03\)00112-8](http://dx.doi.org/10.1016/S0143-7208(03)00112-8).
- Wang, S; Dössel, L; Mavriniskiy, A; Gao, P; Feng, X; Pisula, W; Müllen, K. (2011). Self-assembly and microstructural control of a hexa-peri-hexabenzocoronene-perylene diimide dyad by solvent vapor diffusion. *Small*. 7: 2841-2846. <http://dx.doi.org/10.1002/smll.201100730>.
- Wang, S; Zeng, PJ; Liu, YQ; Yu, G; Sun, XB; Niu, HB; Zhu, DB. (2005). Luminescent properties of a novel naphthalimide-fluorene molecule. *Synthetic Metals*. 150: 33-38. <http://dx.doi.org/10.1016/j.synthmet.2004.12.019>.
- Wang, W; Yang, Q; Sun, L; Wang, H; Zhang, C; Fei, X; Sun, M; Li, Y. (2011). Preparation of fluorescent nanofibrous film as a sensing material and adsorbent for Cu²⁺ in aqueous solution via copolymerization and electrospinning. *J Hazard Mater*. 194: 185-192. <http://dx.doi.org/10.1016/j.jhazmat.2011.07.083>.
- Wang, X; Lv, L, ei; Li, L; Chen, Y; Zhang, K, ai; Chen, H; Dong, H; Huang, J; Shen, G; Yang, Z; Huang, H, ui. (2016). High-Performance All-Polymer Photoresponse Devices Based on Acceptor-Acceptor Conjugated Polymers. *Adv Funct Mater*. 26: 6306-6315. <http://dx.doi.org/10.1002/adfm.201601745>.
- Wang, Y; Chen, Y; Li, R; Wang, S; Su, W; Ma, P; Wasielewski, MR; Li, X; Jiang, J. (2007). Amphiphilic perylenetetracarboxyl diimide dimer and its application in field effect transistor. *Langmuir*. 23: 5836-5842. <http://dx.doi.org/10.1021/la063729f>.
- Wang, Y, i; Zhang, X; Han, B; Peng, J; Hou, S; Huang, Y, an; Sun, H; Xie, M; Lu, Z. (2010). The synthesis and photoluminescence characteristics of novel blue light-emitting naphthalimide derivatives. *Dyes and Pigments*. 86: 190-196. <http://dx.doi.org/10.1016/j.dyepig.2010.01.003>.
- Wang, Y; Zhao, X; Zhan, X. (2015). Layer by layer solution processed organic solar cells based on a small molecule donor and a polymer acceptor. 3: 447-452. <http://dx.doi.org/10.1039/c4tc02103g>.
- Wang, Y, i; Zhou, J, ie; Wang, X, u; Zheng, X; Lu, Z; Zhang, W, ei; Chen, Y; Huang, Y, an; Pu, X; Yu, J. (2014). An efficient guest/host fluorescent energy transfer pair based on the naphthalimide skeleton, and its application in heavily-doped red organic light-emitting diodes. *Dyes and Pigments*. 100: 87-96. <http://dx.doi.org/10.1016/j.dyepig.2013.08.021>.
- Wang, ZH; Tian, H; Chen, KC. (2001). Synthesis of novel dyes containing ferrocene. *Dyes and Pigments*. 51: 161-165.
- Wangatia, LM; Sun, B, in; Zeng, T; Zhu, M. (2015). Reactive bay functionalized perylene monoimide-polyhedral oligomeric silsesquioxane organic electronic dye. 33: 113-121. <http://dx.doi.org/10.1515/msp-2015-0016>.
- Weintraub, MT; Xhakaj, E; Austin, A; Szarko, JM. (2016). The effects of donor : acceptor intermolecular mixing and acceptor crystallization on the composition ratio of blended, spin coated organic thin films. 4: 7756-7765. <http://dx.doi.org/10.1039/c6tc01458e>.
- Weitzel, CR; Everett, TA; Higgins, DA. (2009). Aggregation and its influence on macroscopic in-plane organization in thin films of electrostatically self-assembled perylene-diimide/polyelectrolyte nanofibers. *Langmuir*. 25: 1188-1195. <http://dx.doi.org/10.1021/la803177n>.
- Wen, Y; Liu, Y; Di, C, an; Wang, Y; Sun, X; Guo, Y; Zheng, J; Wu, W; Ye, S; Yu, G, ui. (2009). Improvements in Stability and Performance of N,N'-Dialkyl Perylene Diimide-Based n-Type Thin-Film Transistors. *Adv Mater Deerfield*. 21: 1631-+. <http://dx.doi.org/10.1002/adma.200802934>.
- Williams, RM. (2009). A highly soluble asymmetric perylene-bis (dicarboximide)-acceptor system incorporating a methylene bridged methoxybenzene-donor: solvent dependence of charge transfer interactions. *Turkish Journal of Chemistry*. 33: 727-737. <http://dx.doi.org/10.3906/kim-0811-33>.
- Wojciechowski, K. (1993). PROPERTIES AND STRUCTURE OF NAPHTHALIMIDE DYES DERIVED FROM PYRAZOLONES. *Dyes and Pigments*. 22: 239-254.
- Wojciechowski, K. (1993). SYNTHESIS AND PROPERTIES OF NAPHTHALIMIDE ACID DYES. *Dyes and Pigments*. 22: 117-130.
- Wojciechowski, K. (1997). Structure-property relationships in azo disperse dyes, derivatives of naphthalimide. *Dyes and Pigments*. 33: 149-165.
- Wolarz, E; Adamski, A; Chrzumnicka, E; Paluszakiewicz, J; Stolarski, R. (2013). Orientational properties of perylene tetracarboxylic diimide molecules in liquid-crystalline matrices. *Liquid Crystals*. 40: 1354-1363. <http://dx.doi.org/10.1080/02678292.2013.811551>.
- Woodhouse, M; Perkins, CL; Rawls, MT; Cormier, RA; Liang, Z; Nardes, AM; Gregg, BA. (2010). Non-Conjugated Polymers for Organic Photovoltaics: Physical and Optoelectronic Properties of Poly(perylene diimides). *J Phys Chem C*. 114: 6784-6790. <http://dx.doi.org/10.1021/jp910738a>.
- Wu, CH, ao; Chueh, C, huC; Xi, Y, uYin; Zhong, HL; Gao, GP; Wang, ZH, ui; Pozzo, LD; Wen, T, enC; Jen, AKY. (2015). Influence of Molecular Geometry of Perylene Diimide Dimers and Polymers on Bulk Heterojunction Morphology Toward High-Performance Nonfullerene Polymer Solar Cells. *Adv Funct Mater*. 25: 5326-5332. <http://dx.doi.org/10.1002/adfm.201501971>.
- Wu, N, a; Wang, C; Slattum, PM; Zhang, Y; Yang, X; Zang, L. (2016). Persistent Photoconductivity in Perylene Diimide Nanofiber Materials. 1: 906-912. <http://dx.doi.org/10.1021/acsenergylett.6b00422>.
- Wu, N; Zhang, Y; Wang, C; Slattum, PM; Yang, X; Zang, L. (2017). Thermoactivated Electrical Conductivity in Perylene Diimide Nanofiber Materials. *Journal of Physical Chemistry Letters*. 8: 292-298. <http://dx.doi.org/10.1021/acs.jpclett.6b02639>.
- Wu, W; Huang, D; Yi, X; Zhao, J. (2013). Tridentate cyclometalated platinum(II) complexes with strong absorption of visible light and long-lived triplet excited states as photosensitizers for triplet-triplet annihilation upconversion. *Dyes and Pigments*. 96: 220-231. <http://dx.doi.org/10.1016/j.dyepig.2012.07.021>.
- Wu, W, eiB; Wang, ML; Sun, Y, ueM; Huang, W, ei; Cui, Y, iP; Xu, CX. (2008). Color-tuned FRET polystyrene microspheres by single wavelength excitation. *Optical Materials*. 30: 1803-1809. <http://dx.doi.org/10.1016/j.optmat.2007.11.031>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Wu, W; Wu, W; Ji, S; Guo, H; Song, P; Han, K; Chi, L; Shao, J; Zhao, J. (2010). Tuning the emission properties of cyclometalated platinum(II) complexes by intramolecular electron-sink/arylethynylated ligands and its application for enhanced luminescent oxygen sensing. *J Mater Chem.* 20: 9775-9786. <http://dx.doi.org/10.1039/c0jm01794a>.
- Wu, YQ; Yang, TS; he, Li, X; un; Wu, J; unC; Yi, T; ao; Li, F; uYou; Huang, CH; ui; Fan, XL; in. (2011). Novel derivatives of niclosamide synthesis Its bioactivity and interaction with Schistosoma japonicum cercariae. *Dyes and Pigments.* 88: 326-332. <http://dx.doi.org/10.1016/j.dyepig.2010.08.002>.
- Xia, S; Yi, L; Sun, Z; Xiang, J; Hu, J; Wang, Y. (2013). Synthesis and characterisation of rubbing-resistant polyimides with naphthalimide side-chain for liquid-crystal alignment layers. *Liquid Crystals.* 40: 756-768. <http://dx.doi.org/10.1080/02678292.2013.783138>.
- Xia, T; Wang, L; Qu, Y; i; Rui, Y; Cao, J; Hu, Y; ue; Yang, J; i; Wu, J; Xu, J. (2016). A thermoresponsive fluorescent rotor based on a hinged naphthalimide for a viscometer and a viscosity-related thermometer. 4: 5696-5701. <http://dx.doi.org/10.1039/c6tc01241h>.
- Xiao, C; Jiang, W; Li, X; Hao, L; Liu, C; Wang, Z. (2014). Laterally expanded rylene diimides with uniform branched side chains for solution-processed air stable n-channel thin film transistors. 6: 18098-18103. <http://dx.doi.org/10.1021/am504984z>.
- Xie, A; Liu, B; Hall, JE; Barron, SL; Higgins, DA. (2005). Self-assembled photoactive polyelectrolyte/perylene-diimide composites. *Langmuir.* 21: 4149-4155. <http://dx.doi.org/10.1021/la0471700>.
- Xu, L; iQun; Zhang, B; in; Sun, M; Hong, L; Neoh, KG; ee; Kang, E; nT; Fu, G; uoD. (2013). CO₂-triggered fluorescence "turn-on" response of perylene diimide-containing poly(N,N-dimethylaminoethyl methacrylate). 1: 1207-1212. <http://dx.doi.org/10.1039/c2ta00482h>.
- Xu, Z; Deng, P; Tang, S; Li, J. (2016). Fluorescent molecularly imprinted polymers based on 1,8-naphthalimide derivatives for efficiently recognition of cholic acid. *Mater Sci Eng C.* 58: 558-567. <http://dx.doi.org/10.1016/j.msec.2015.08.060>.
- Xu, Z; Liu, S; Kang, Y; Wang, M. (2015). Glutathione- and pH-responsive nonporous silica prodrug nanoparticles for controlled release and cancer therapy. *Nanoscale.* 7: 5859-5868. <http://dx.doi.org/10.1039/c5nr00297d>.
- Xu, Z; Liu, S; Kang, Y; Wang, M. (2015). Glutathione-Responsive Polymeric Micelles Formed by a Biodegradable Amphiphilic Triblock Copolymer for Anticancer Drug Delivery and Controlled Release. 1: 585-592. <http://dx.doi.org/10.1021/acsbiomaterials.5b00119>.
- Xu, Z; Zhang, K; Hou, C; Wang, D; Liu, X; Guan, X; Zhang, X; Zhang, H. (2014). A novel nanoassembled doxorubicin prodrug with a high drug loading for anticancer drug delivery. 2: 3433-3437. <http://dx.doi.org/10.1039/c4tb00128a>.
- Xuan, Z; Lu, L. (2011). Facile synthesis of 1-(N-butyl-1,8-naphthalimide-4'-yl)-3-(4-methoxyl-phenyl)-5-phenyl-pyrazoline/polyaniline core-shell nanofibers and polyaniline nanotubes. *Mater Lett.* 65: 754-756. <http://dx.doi.org/10.1016/j.matlet.2010.11.023>.
- Xue, C; Birel, O; Xue, Y; Dai, L; Urbas, A; Li, Q. (2013). pH and Temperature Modulated Aggregation of Hydrophilic Gold Nanorods with Perylene Dyes and Carbon Nanotubes. *J Phys Chem C.* 117: 6752-6758. <http://dx.doi.org/10.1021/jp400788h>.
- Xue, C; Gutierrez-Cuevas, K; Gao, M; in; Urbas, A; Li, Q. (2013). Photomodulated Self-Assembly of Hydrophobic Thiol Monolayer-Protected Gold Nanorods and Their Alignment in Thermotropic Liquid Crystal. *J Phys Chem C.* 117: 21603-21608. <http://dx.doi.org/10.1021/jp408081q>.
- Xue, C; Xue, Y; Dai, L; Urbas, A; Li, Q. (2013). Size- and Shape-Dependent Fluorescence Quenching of Gold Nanoparticles on Perylene Dye. 1: 581-587. <http://dx.doi.org/10.1002/adom.201300175>.
- Yadav, RK; Kumar, A; Park, N; oJ; Kong, K; iU; Baeg, J; inOok. (2016). A highly efficient covalent organic framework film photocatalyst for selective solar fuel production from CO₂. 4: 9413-9418. <http://dx.doi.org/10.1039/c6ta01625a>.
- Yan, W; Zhang, Q; Qin, Q; Ye, S; Lin, Y; Liu, Z; Bian, Z; Chen, Y; Huang, C. (2015). Design, synthesis and photophysical properties of A-D-A-D-A small molecules for photovoltaic application. *Dyes and Pigments.* 121: 99-108. <http://dx.doi.org/10.1016/j.dyepig.2015.05.009>.
- Yanagisawa, T; Kobayashi, N; Shimosasa, H; Kumai, Y; Miyatake, R; Oda, M. (2017). Synthesis and fluorescence property of 2,3-naphthalimide derivatives bearing phenyl substituents on the naphthalene skeleton. *Dyes and Pigments.* 136: 859-864. <http://dx.doi.org/10.1016/j.dyepig.2016.09.050>.
- Yang, DH; ui; Yao, ZQ; Wu, D; Zhang, YH; ui; Zhou, Z; Bu, XH; e. (2016). Structure-modulated crystalline covalent organic frameworks as high-rate cathodes for Li-ion batteries. 4: 18621-18627. <http://dx.doi.org/10.1039/c6ta07606h>.
- Yang, HX; Wang, XL; Wang, XM; Xu, LH. (2005). The synthesis and spectral properties of novel 4-phenylacetylene-1,8-naphthalimide derivatives. *Dyes and Pigments.* 66: 83-87. <http://dx.doi.org/10.1016/j.dyepig.2004.07.015>.
- Yang, JX; Wang, XL; Tusong; Xu, LH. (2005). Studies on the synthesis and spectral properties of novel 4-benzofuranyl-1,8-naphthalimide derivatives. *Dyes and Pigments.* 67: 27-33. <http://dx.doi.org/10.1016/j.dyepig.2004.09.017>.
- Yang, L, ei; Chen, Y; Chen, S; Dong, T; ao; Deng, W, ei; Lv, L, ei; Yang, S; Yan, H, e; Huang, H, ui. (2016). Achieving high performance non-fullerene organic solar cells through tuning the numbers of electron deficient building blocks of molecular acceptors. *J Power Sources.* 324: 538-546. <http://dx.doi.org/10.1016/j.jpowsour.2016.05.119>.
- Yang, L; Yang, W; en; Xu, D; Zhang, Z; Liu, A. (2013). A highly selective and sensitive Fe³⁺ fluorescent sensor by assembling three 1,8-naphthalimide fluorophores with a tris(aminoethylamine) ligand. *Dyes and Pigments.* 97: 168-174. <http://dx.doi.org/10.1016/j.dyepig.2012.12.016>.
- Yang, X; Liu, X; Meng, X; Wang, X; Li, G; en; Shu, C; Jiang, L; i; Wang, C. (2013). Self-assembly of highly dispersed Pt and PtRu nanoparticles on perylene diimide derivatives functionalized carbon nanotubes as enhanced catalysts for methanol electro-oxidation. *J Power Sources.* 240: 536-543. <http://dx.doi.org/10.1016/j.jpowsour.2013.04.084>.
- Yao, J; Fu, X; in; Zheng, X; iuLi; Cao, ZQ; i; Qu, D; aHui. (2015). Two functional [2]rotaxanes featuring efficient intercomponent interactions between chromophores. *Dyes and Pigments.* 121: 13-20. <http://dx.doi.org/10.1016/j.dyepig.2015.05.005>.
- Yao, Q; Zheng, Y; Cheng, W; Chen, M; Shen, J; ie; Yin, M. (2016). Difunctional fluorescent HSA modified CoFe₂O₄ magnetic nanoparticles for cell imaging. 4: 6344-6349. <http://dx.doi.org/10.1039/c6tb01787h>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Yao, W; Qian, XH. (2001). Oxazolonaphthalimides and their hydroperoxides: photophysical and photobiological properties. *Dyes and Pigments.* 48: 43-47.
- Ye, F; Higgins, DA; Collinson, MM. (2007). Probing chemical interactions at the single-molecule level in mesoporous silica thin films. *J Phys Chem C.* 111: 6772-6780. <http://dx.doi.org/10.1021/jp068232t>.
- Ye, G, aoJie; Zhao, TT; Jin, ZN; Cu, P, eiY; Mao, J, iaY; Xu, QH, ua; Xu, QF; Lu, JM, ei; Li, N, aJUN; Song, Y, inL. (2012). The synthesis and NLO properties of 1,8-naphthalimide derivatives for both femtosecond and nanosecond laser pulses. *Dyes and Pigments.* 94: 271-277. <http://dx.doi.org/10.1016/j.dyepig.2012.01.001>.
- Ye, T; Singh, R; Butt, HJ; Floudas, G; Keivanidis, PE. (2013). Effect of local and global structural order on the performance of perylene diimide excimeric solar cells. 5: 11844-11857. <http://dx.doi.org/10.1021/am4035416>.
- Yin, L; Wu, H; Zhu, M; Zou, Q; Yan, Q; Zhu, L. (2016). Sequential Block Copolymer Self-Assemblies Controlled by Metal-Ligand Stoichiometry. *Langmuir.* 32: 6429-6436. <http://dx.doi.org/10.1021/acs.langmuir.6b01787>.
- Yin, SG; Liu, XY; Li, CX; Huang, WQ; Li, WL; He, BL. (1998). Electroluminescent properties of naphthalimide derivative thin film devices. *Thin Solid Films.* 325: 268-270.
- Yong, X, ue; Zhang, J. (2011). A rational design strategy for donors in organic solar cells: the conjugated planar molecules possessing anisotropic multibranches and intramolecular charge transfer. *J Mater Chem.* 21: 11159-11166. <http://dx.doi.org/10.1039/c1jm11423a>.
- Yoon, KS; Lee, JY; Kim, T, aeHo; Yu, D, ukMan; Seo, DW, an; Hong, SK; Hong, YT. (2014). Synthesis and properties of densely sulfonated polyketones (sPKs) with rigid backbone structure for PEM fuel cell application. *J Ind Eng Chem.* 20: 2310-2316. <http://dx.doi.org/10.1016/j.jiec.2013.10.006>.
- You, S; Cai, Q; Zheng, Y; He, B; Shen, J; Yang, W; Yin, M. (2014). Perylene-cored star-shaped polycations for fluorescent gene vectors and bioimaging. 6: 16327-16334. <http://dx.doi.org/10.1021/am5045967>.
- Yu, A; Kurosawa, T; Chou, YH; Aoyagi, K; Shoji, Y, u; Higashihara, T; Ueda, M; Liu, CL; Chen, W. (2013). Tunable Electrical Memory Characteristics Using Polyimide:Polycyclic Aromatic Compound Blends on Flexible Substrates. *ACS Applied Materials & Interfaces.* 5: 4921-4929. <http://dx.doi.org/10.1021/am4006594>.
- Yu, H; Joo, P; Lee, D; Kim, BS, u; Oh, JH, ak. (2015). Photoinduced Charge-Carrier Dynamics of Phototransistors Based on Perylene Diimide/Reduced Graphene Oxide Core/Shell p-n Junction Nanowires. 3: 241-247. <http://dx.doi.org/10.1002/adom.201400346>.
- Yu, J; Xi, Y; Chueh, C, huC; Zhao, D; Lin, F; Pozzo, LD; Tang, W; Jen, AKY. (2016). A Room-Temperature Processable PDI-Based Electron-Transporting Layer for Enhanced Performance in PDI-Based Non-Fullerene Solar Cells. 3. <http://dx.doi.org/10.1002/admi.201600476>.
- Yu, L, ei; Hua, X, iuNi; Jiang, X, iJie; Qin, L, an; Yan, XZ, hi; Luo, L, aiHui; Han, L, ei. (2015). Histidine-Controlled Homochiral and Ferroelectric Metal-Organic Frameworks. *Cryst Growth Des.* 15: 687-694. <http://dx.doi.org/10.1021/cg5013796>.
- Yu, M; Du, W; Zhou, W, an; Li, H; Liu, C; Wei, L; Li, Z; Zhang, H. (2016). A 1,8-naphthalimide-based chemosensor with an off-on fluorescence and lifetime imaging response for intracellular Cr³⁺ and further for S²⁻. *Dyes and Pigments.* 126: 279-285. <http://dx.doi.org/10.1016/j.dyepig.2015.12.001>.
- Yu, X; Ge, X; Lan, H; Li, Y; Geng, L; Zhen, X; Yi, T. (2015). Tunable and Switchable Control of Luminescence through Multiple Physical Stimulations in Aggregation-Based Monocomponent Systems. 7: 24312-24321. <http://dx.doi.org/10.1021/acsm.5b08402>.
- Yuan, H, ao; Zhao, Y; Wu, F. (2012). Two-Photon Acid Generation Systems Based on Dibenzylidene Ketone Dyes Intermolecular Sensitization. *Chem Mater.* 24: 1371-1377. <http://dx.doi.org/10.1021/cm300148n>.
- Yuksel, OF; Kus, M; Yildirim, M. (2017). Capacitance and Conductance-Frequency Characteristics of Au/n-Si Schottky Structure with Perylene-Diimide (PDI) Organic Interlayer. *Journal of Electronic Materials.* 46: 882-887. <http://dx.doi.org/10.1007/s11664-016-4999-y>.
- Yuksel, OF; Tugluoglu, N; Safak, H; Nalcacigil, Z; Kus, M; Karadeniz, S. (2013). Analysis of temperature dependent electrical properties of Au/perylene-diimide/n-Si Schottky diodes. *Thin Solid Films.* 534: 614-620. <http://dx.doi.org/10.1016/j.tsf.2013.02.042>.
- Yun, W, onMin; Jang, J; Nam, S; Park, CE, on; Kim, S, eH; Chung, D, aE. (2014). Organic Light-Emitting Diodes with Low Turn-On Voltages and Improved Stability Featuring a PTCDI-C13:CuPc Mixed Hole Injection Layer. 6: 1676-1680. <http://dx.doi.org/10.1166/sam.2014.1940>.
- Zahn, DRT; Kampen, TU; Mendez, H. (2003). Transport gap of organic semiconductors in organic modified Schottky contacts. *Appl Surf Sci.* 212: 423-427. [http://dx.doi.org/10.1016/S0169-4332\(03\)00125-9](http://dx.doi.org/10.1016/S0169-4332(03)00125-9).
- Zeng, X; Zhang, X; Zhu, B; Jia, H; Li, Y. (2012). A highly selective wavelength-ratiometric and colorimetric probe for cysteine. *Dyes and Pigments.* 94: 10-15. <http://dx.doi.org/10.1016/j.dyepig.2011.10.013>.
- Zhan, X; Tan, Z; Zhou, E; Li, Y; Misra, R; Grant, A; Domercq, B; Zhang, XH; An, Z; Zhang, X; Barlow, S; Kippelen, B; Marder, SR. (2009). Copolymers of perylene diimide with dithienothiophene and dithienopyrrole as electron-transport materials for all-polymer solar cells and field-effect transistors. *J Mater Chem.* 19: 5794-5803. <http://dx.doi.org/10.1039/b907163f>.
- Zhang, H; Kong, X; Tang, Y; Lin, W. (2016). Hydrogen Sulfide Triggered Charge-Reversal Micelles for Cancer-Targeted Drug Delivery and Imaging. 8: 16227-16239. <http://dx.doi.org/10.1021/acsami.6b03254>.
- Zhang, H, ua; Xue, L; Han, J; Fu, YQ; Shen, Y, an; Zhang, Z; Li, Y; Wang, M. (2016). New generation perovskite solar cells with solution-processed amino-substituted perylene diimide derivative as electron-transport Layer. 4: 8724-8733. <http://dx.doi.org/10.1039/c6ta03119f>.
- Zhang, J; Li, G; Kang, C; Lu, H; Zhao, X; Li, C; Li, W; Bo, Z. (2015). Synthesis of star-shaped small molecules carrying peripheral 1,8-naphthalimide functional groups and their applications in organic solar cells. *Dyes and Pigments.* 115: 181-189. <http://dx.doi.org/10.1016/j.dyepig.2015.01.002>.
- Zhang, J; Li, H; Chen, P; Sun, W; Gao, T; Yan, P. (2015). A new strategy for achieving white-light emission of lanthanide complexes: effective control of energy transfer from blue-emissive fluorophore to Eu(III) centres. 3: 1799-1806. <http://dx.doi.org/10.1039/c4tc02512a>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Zhang, J; Riskin, M; Tel-Vered, R; Tian, H; Willner, I. (2011). Optically activated uptake and release of Cu²⁺ or Ag⁺ ions by or from a photoisomerizable monolayer-modified electrode. *Langmuir*. 27: 1380-1386. <http://dx.doi.org/10.1021/la1040807> <http://pubs.acs.org/doi/abs/10.1021/la1040807>.
- Zhang, J; Singh, S; Hwang, D, oK; Barlow, S; Kippelen, B; Marder, SR. (2013). 2-Bromo perylene diimide: synthesis using C-H activation and use in the synthesis of bis(perylene diimide)-donor electron-transport materials. 1: 5093-5100. <http://dx.doi.org/10.1039/c3tc30918e>.
- Zhang, J; Xiao, H; Zhang, X; Wu, Y; Li, G; Li, C; Chen, X; Ma, W, ei; Bo, Z. (2016). 1,8-Naphthalimide-based nonfullerene acceptors for wide optical band gap polymer solar cells with an ultrathin active layer thickness of 35 nm. 4: 5656-5663. <http://dx.doi.org/10.1039/c6tc01438k>.
- Zhang, J; Zhang, X; Xiao, H; Li, G; Liu, Y; Li, C; Huang, H; Chen, X; Bo, Z. (2016). 1,8-Naphthalimide-Based Planar Small Molecular Acceptor for Organic Solar Cells. 8: 5475-5483. <http://dx.doi.org/10.1021/acsmami.5b10211>.
- Zhang, W; Liu, X; Zhang, H; Feng, C; Liu, C; Yu, M; Wei, L; Li, Z. (2015). A fluorescent probe for benzenethiols and its application on test paper, in water samples and living cells. 3: 8248-8254. <http://dx.doi.org/10.1039/c5tc01363a>.
- Zhang, X; Hu, Z; Pu, Y; Chen, S; Ling, J; Bi, H; Chen, S; Wang, L; Okamoto, K, enl. (2012). Preparation and properties of novel sulfonated poly(p-phenylene-co-aryl ether ketone)s for polymer electrolyte fuel cell applications. *J Power Sources*. 216: 261-268. <http://dx.doi.org/10.1016/j.jpowsour.2012.05.016>.
- Zhang, X; Jiang, B, o; Zhang, X, in; Tang, A; Huang, J; Zhan, C; Yao, J. (2014). Cooperatively Tuning Phase Size and Absorption of Near IR Photons in P3HT:Perylene Diimide Solar Cells by Bay-Modifications on the Acceptor. *J Phys Chem C*. 118: 24212-24220. <http://dx.doi.org/10.1021/jp5093674>.
- Zhang, X; Lu, Z; Ye, L; Zhan, C; Hou, J; Zhang, S; Jiang, B; Zhao, Y; Huang, J; Zhang, S; Liu, Y; Shi, Q; Liu, Y; Yao, J. (2013). A potential perylene diimide dimer-based acceptor material for highly efficient solution-processed non-fullerene organic solar cells with 4.03% efficiency. *Adv Mater Deerfield*. 25: 5791-5797. <http://dx.doi.org/10.1002/adma.201300897>.
- Zhang, X; Zhang, J; Lu, H; Wu, J; Li, G; Li, C; Li, S; Bo, Z. (2015). A 1,8-naphthalimide based small molecular acceptor for polymer solar cells with high open circuit voltage. 3: 6979-6985. <http://dx.doi.org/10.1039/c5tc01148e>.
- Zhang, XF, an; Zhang, T, ao; Shen, S, hiLi; Miao, J, unY; Zhao, B, aoX. (2015). A ratiometric lysosomal pH probe based on the naphthalimide-rhodamine system. 3: 3260-3266. <http://dx.doi.org/10.1039/c4tb02082k>.
- Zhang, XT; Wang, S; Xing, GW. (2016). Aggregates-Based Boronlectins with Pyrene as Fluorophore: Multichannel Discriminative Sensing of Monosaccharides and Their Applications. 8: 12007-12017. <http://dx.doi.org/10.1021/acsmami.6b01940>.
- Zhang, Y; Guo, X, ia; Su, W; Guo, B; Xu, Z; Zhang, M; Li, Y. (2017). Perylene diimide-benzodithiophene D-A copolymers as acceptor in all-polymer solar cells. *Organic Electronics*. 41: 49-55. <http://dx.doi.org/10.1016/j.orgel.2016.11.038>.
- Zhang, Y; Peng, C; Cui, B; Wang, Z; Pang, X; Ma, R; Liu, F; Che, Y; Zhao, J. (2016). Direction-Controlled Light-Driven Movement of Microribbons. *Adv Mater Deerfield*. 28: 8538-8545. <http://dx.doi.org/10.1002/adma.201602411>.
- Zhang, Y; Wan, Q, un; Guo, X, ia; Li, W; Guo, B; Zhang, M; Li, Y. (2015). Synthesis and photovoltaic properties of an n-type two-dimension-conjugated polymer based on perylene diimide and benzodithiophene with thiophene conjugated side chains. 3: 18442-18449. <http://dx.doi.org/10.1039/c5ta05014f>.
- Zhang, Y; Wang, H; Xiao, Y; Wang, L; Shi, D; Cheng, C. (2013). Liquid crystalline perylene diimide outperforming nonliquid crystalline counterpart: higher power conversion efficiencies (PCEs) in bulk heterojunction (BHJ) cells and higher electron mobility in space charge limited current (SCLC) devices. 5: 11093-11100. <http://dx.doi.org/10.1021/am4033185>.
- Zhang, Y, uMo; Xie, F; Li, W, en; Wang, Y; Zhang, W; Wang, X; Li, M; Zhang, SXA, n. (2016). A methyl ketone bridged molecule as a multi-stimuli-responsive color switch for electrochromic devices. 4: 4662-4667. <http://dx.doi.org/10.1039/c5tc04236d>.
- Zhang, YC; Zhu, WH; Wang, WJ; Tian, H; Su, JH; Wang, WC. (2002). Synthesis and nonlinear optical properties of rod-like luminescent materials containing Schiff-base and naphthalimide units. *J Mater Chem*. 12: 1294-1300. <http://dx.doi.org/10.1039/b109384n>.
- Zhang, Z; Zhang, X, in; Zhan, C; Lu, Z; Ding, X; He, S; Yao, J. (2013). The leverage effect of the relative strength of molecular solvophobicity vs. solvophilicity on fine-tuning nanomorphologies of perylene diimide bolaamphiphiles. *Soft Matter*. 9: 3089-3097. <http://dx.doi.org/10.1039/c2sm27674g>.
- Zhao, CS; Liu, XL, i; Yang, M; Fang, JY; Zhang, JJ, un; Liu, FQ, i. (2009). The preparation of copolymerized fluorescent microspheres of styrene using detergent-free emulsion polymerization. *Dyes and Pigments*. 82: 134-141. <http://dx.doi.org/10.1016/j.dyepig.2008.12.006>.
- Zhao, D; Wu, Q; Cai, Z; Zheng, T; Chen, W, ei; Lu, J; Yu, L. (2016). Electron Acceptors Based on alpha-Substituted Perylene Diimide (PDI) for Organic Solar Cells. *Chem Mater*. 28: 1139-1146. <http://dx.doi.org/10.1021/acs.chemmater.5b04570>.
- Zhao, H; Zhang, YY; Xu, H; He, EF; Zhang, ZL; Peng, QM; Zhang, RJ; Zhang, HQ. (2015). Perylene diimide dye/layered carbide charge transfer composite: Design, synthesis, and photophysical properties. *Mater Lett*. 161: 208-211. <http://dx.doi.org/10.1016/j.matlet.2015.08.076>.
- Zhao, J; Li, Y; Zhang, J; Zhang, L, u; Lai, JY, ukLin; Jiang, K, ui; Mu, C; Li, Z; Chan, CL, amC; Hunt, A; Mukherjee, S; Ade, H; Huang, X; Yan, H, e. (2015). The influence of spacer units on molecular properties and solar cell performance of non-fullerene acceptors. 3: 20108-20112. <http://dx.doi.org/10.1039/c5ta05339k>.
- Zhao, L; Ma, T; Bai, H; Lu, G; Li, C; Shi, G. (2008). Layer-by-layer deposited multilayer films of oligo(pyrenebutyric acid) and a perylene diimide derivative: structure and photovoltaic properties. *Langmuir*. 24: 4380-4387. <http://dx.doi.org/10.1021/la703884d>.
- Zhao, M, eiXia; Zeng, E, rZao; Li, Y; Wang, CJ, ie. (2014). A study on effects of naphthalimide derivative-capped quantum dots on the cellular internalization, proliferation, and apoptosis ability. 2: 7351-7359. <http://dx.doi.org/10.1039/c4tb01048e>.
- Zhao, T; Liu, R, ui; Shi, H; Shu, M; Hu, J; Li, H; Zhu, H. (2016). Synthesis, tunable photophysics and nonlinear absorption of terpyridyl Pt(II) complexes bearing different acetyllide ligands. *Dyes and Pigments*. 126: 165-172. <http://dx.doi.org/10.1016/j.dyepig.2015.11.021>.

Engineering/Occupational Exposure Literature Search Results

Off Topic

- Zhao, Z; He, J; Wang, J; Chen, W; Wang, N; Zhang, Y; Yang, R. (2015). A water/alcohol-soluble copolymer based on fluorene and perylene diimide as a cathode interlayer for inverted polymer solar cells. 3: 4515-4521. <http://dx.doi.org/10.1039/c5tc00450k>.
- Zheng, X; Peng, Q; Lin, J, ie; Wang, Y, i; Zhou, J, ie; Jiao, Y, an; Bai, Y; Huang, Y, an; Li, F; Liu, X; Pu, X; Lu, Z. (2015). Simultaneous harvesting of triplet excitons in OLEDs by both guest and host materials with an intramolecular charge-transfer feature via triplet-triplet annihilation. 3: 6970-6978. <http://dx.doi.org/10.1039/c5tc00779h>.
- Zheng, X; Zhu, W; Liu, D; Ai, H; Huang, Y; Lu, Z. (2014). Highly selective colorimetric/fluorometric dual-channel fluoride ion probe, and its capability of differentiating cancer cells [Letter]. 6: 7996-8000. <http://dx.doi.org/10.1021/am501546h>.
- Zheng, Y; Jradi, FM; Parker, TC; Barlow, S; Marder, SR; Saavedra, SS. (2016). Influence of Molecular Aggregation on Electron Transfer at the Perylene Diimide/Indium-Tin Oxide Interface. 8: 34089-34097. <http://dx.doi.org/10.1021/acsami.6b10731>.
- Zhengneng, J; Najun, L; Chuanfeng, W; Huaijiang, J; Jianmei, L; Qizhong, Z. (2013). Synthesis and fluorescence property of some novel 1,8-naphthalimide derivatives containing a thiophene ring at the C-4 position. Dyes and Pigments. 96: 204-210. <http://dx.doi.org/10.1016/j.dyepig.2012.07.018>.
- Zhong, Y; Sun, X; Wang, S; Peng, F; Bao, F; Su, Y; Li, Y; Lee, ST; He, Y. (2015). Facile, Large-Quantity Synthesis of Stable, Tunable-Color Silicon Nanoparticles and Their Application for Long-Term Cellular Imaging. ACS Nano. 9: 5958-5967. <http://dx.doi.org/10.1021/acsnano.5b00683>.
- Zhou, E; Tajima, K; Yang, C; Hashimoto, K. (2010). Band gap and molecular energy level control of perylene diimide-based donor-acceptor copolymers for all-polymer solar cells. J Mater Chem. 20: 2362-2368. <http://dx.doi.org/10.1039/b923452g>.
- Zhou, J, in; Fang, C; Chang, T; Liu, X; Shangguan, D. (2013). A pH sensitive ratiometric fluorophore and its application for monitoring the intracellular and extracellular pHs simultaneously. 1: 661-667. <http://dx.doi.org/10.1039/c2tb00179a>.
- Zhou, J, in; Liu, H; Jin, B; Liu, X; Fu, H; Shangguan, D. (2013). A guanidine derivative of naphthalimide with excited-state deprotonation coupled intramolecular charge transfer properties and its application. 1: 4427-4436. <http://dx.doi.org/10.1039/c3tc30853g> <http://pubs.rsc.org/en/Content/ArticleLanding/2013/TC/c3tc30853g>.
- Zhou, Q; Audebert, P; Clavier, G; Meallet-Renault, R; Miomandre, F; Shaukat, Z; Vu, T-T; Tang, J, ie. (2011). New Tetrazines Functionalized with Electrochemically and Optically Active Groups: Electrochemical and Photoluminescence Properties. J Phys Chem C. 115: 21899-21906. <http://dx.doi.org/10.1021/jp204917m>.
- Zhou, X; Su, F; Gao, W; Tian, Y; Youngbull, C; Johnson, RH; Meldrum, DR. (2011). Triazacryptand-based fluorescent sensors for extracellular and intracellular K⁺ sensing. Biomaterials. 32: 8574-8583. <http://dx.doi.org/10.1016/j.biomaterials.2011.07.081>.
- Zhou, X; Su, F; Lu, H; Senechal-Willis, P; Tian, Y; Johnson, RH; Meldrum, DR. (2012). An FRET-based ratiometric chemosensor for in vitro cellular fluorescence analyses of pH. Biomaterials. 33: 171-180. <http://dx.doi.org/10.1016/j.biomaterials.2011.09.053>.
- Zhou, Z; Brusso, JL; Holdcroft, S. (2010). Directed Growth of 1D Assemblies of Perylene Diimide from a Conjugated Polymer. Chem Mater. 22: 2287-2296. <http://dx.doi.org/10.1021/cm903166f>.
- Zhu, B; Zhao, J, ie; Yu, H; Yan, L; Wei, Q, in; Du, B, in. (2013). Development of novel naphthalimide-functionalized magnetic fluorescent nanoparticle for simultaneous determination and removal of Hg²⁺. Optical Materials. 35: 2220-2225. <http://dx.doi.org/10.1016/j.optmat.2013.06.006>.
- Zhu, B; Zhao, J, ie; Yu, H; Yan, L; Wei, Q, in; Du, B, in. (2013). Naphthalimide-functionalized Fe₃O₄@SiO₂ core/shell nanoparticles for selective and sensitive adsorption and detection of Hg²⁺. Chem Eng J. 219: 411-418. <http://dx.doi.org/10.1016/j.cej.2012.12.068>.
- Zhu, M; Aryal, GH; Zhang, N, an; Zhang, H; Su, X; Schmehl, R; Liu, X, ue; Hu, J, in; Wei, J; Jayawickramarajah, J. (2015). Host-Guest Interactions Derived Multilayer Perylene Diimide Thin Film Constructed on a Scaffolding Porphyrin Monolayer. Langmuir. 31: 578-586. <http://dx.doi.org/10.1021/la504297w>.
- Zhu, WH; Hu, C; Chen, KC; Tian, H. (1998). Luminescent properties of copolymeric dyad compounds containing 1,8-naphthalimide and 1,3,4-oxadiazole. Synthetic Metals. 96: 151-154.
- Zhu, WH; Hu, M; Wu, YQ; Tian, H; Sun, RG; Epstein, AJ. (2001). Novel luminescent carbazole-naphthalimide dyads for single-layer electroluminescent device. Synthetic Metals. 119: 547-548.
- Zhu, WH; Hu, YB; Tian, H. (2000). Synthesis and luminescent properties of novel condensed copolymers. Synthetic Metals. 111: 477-479.
- Zhu, WH; Minami, N; Kazaoui, S; Kim, Y. (2003). Fluorescent chromophore functionalized single-wall carbon nanotubes with minimal alteration to their characteristic one-dimensional electronic states. J Mater Chem. 13: 2196-2201. <http://dx.doi.org/10.1039/b303885h>.
- Zhu, WH; Yao, R; Tian, H. (2002). Synthesis of novel electro-transporting emitting compounds. Dyes and Pigments. 54: 147-154.
- Zhu, YY; Gu, SX, i. (2014). Reduction of the 3,4,9,10-perylenediimides and the formation of eletrodeposited films based on their radical anions. 1. <http://dx.doi.org/10.1088/2053-1591/1/3/035102>.
- Zhuang, H; Zhou, Q; Li, Y; Zhang, Q; Li, H; Xu, Q; Li, N; Lu, J; Wang, L. (2014). Adjustment of ON-state retention ability based on new donor-acceptor imides through structural tailoring for volatile device applications. 6: 94-100. <http://dx.doi.org/10.1021/am405000c>.
- Zschieschang, U, te; Amsharov, K; Jansen, M; Kern, K; Klauk, H; Weitz, RT. (2015). Separating the impact of oxygen and water on the long-term stability of n-channel perylene diimide thin-film transistors. Organic Electronics. 26: 340-344. <http://dx.doi.org/10.1016/j.orgel.2015.07.060>.

Exposure Literature Search Results

On Topic

No on topic exposure references

Exposure Literature Search Results

Off Topic

- Aguilera-Sigalat, J; Pais, VF; Domenech-Carbo, A; Pischel, U; we; Galian, RE; Perez-Prieto, J. (2013). Unconventional Fluorescence Quenching in Naphthalimide-Capped CdSe/ZnS Nanoparticles. *J Phys Chem C.* 117: 7365-7375. <http://dx.doi.org/10.1021/jp3128252>.
- Ahmed, R; Simbrunner, C; Baig, MA; Sitter, H. (2015). Grain Size and Interface Dependence of Bias Stress Stability of n-Type Organic Field Effect Transistors. *ACS Applied Materials & Interfaces.* 7: 22380-22384. <http://dx.doi.org/10.1021/acsami.5b06210>.
- Ahrens, MJ; Fuller, MJ; Wasielewski, MR. (2003). Cyanated perylene-3,4-dicarboximides and perylene-3,4 : 9,10-bis(dicarboximide): Facile chromophoric oxidants for organic photonics and electronics. *Chem Mater.* 15: 2684-2686. <http://dx.doi.org/10.1021/cm034140u>.
- Alcala, MA; Shade, CM; Uh, H; Kwan, SY; Bischof, M; Thompson, ZP; Gogick, KA; Meier, AR; Strein, TG; Bartlett, DL; Modzelewski, RA; Lee, YJ; Petoud, S; Brown, CK. (2011). Preferential accumulation within tumors and in vivo imaging by functionalized luminescent dendrimer lanthanide complexes. *Biomaterials.* 32: 9343-9352. <http://dx.doi.org/10.1016/j.biomaterials.2011.07.076>.
- Al-Hussein, M; Hesse, HC; Weickert, J; Doessel, L; Feng, X; Muellen, K; Schmidt-Mende, L. (2011). Structural properties of the active layer of discotic hexabenzocoronene/perylene diimide bulk hetero junction photovoltaic devices: The role of alkyl side chain length. *Thin Solid Films.* 520: 307-313. <http://dx.doi.org/10.1016/j.tsf.2011.06.044>.
- Alkhalifah, MS; Lei, C; Myers, SA; O'Neill, M; Kitney, SP; Kelly, SM. (2014). Solution-processed bilayer photovoltaic devices with nematic liquid crystals. *Liquid Crystals.* 41: 402-417. <http://dx.doi.org/10.1080/02678292.2013.834082>.
- Aluicio-Sarduy, E; Singh, R; Kan, Z; Ye, T; Baidak, A; Calloni, A; Berti, G; Duo, L; Iosifidis, A; Beaupre, S; Leclerc, M; Butt, HJ; Floudas, G; Keivanidis, PE. (2015). Elucidating the Impact of Molecular Packing and Device Architecture on the Performance of Nanostructured Perylene Diimide Solar Cells. *ACS Applied Materials & Interfaces.* 7: 8687-8698. <http://dx.doi.org/10.1021/acsami.5b00827>.
- An, ZS; Yu, JS; Jones, SC; Barlow, S; Yoo, S; Domercq, B; Prins, P; Siebbeles, LDA; Kippelen, B; Marder, SR. (2005). High electron mobility in room-temperature discotic liquid-crystalline perylene diimides. *Adv Mater Deerfield.* 17: 2580-. <http://dx.doi.org/10.1002/adma.200500027>.
- Antohe, S; Tomozeiu, N; Gogonea, S. (1991). PROPERTIES OF THE ORGANIC-ON-INORGANIC SEMICONDUCTOR BARRIER CONTACT DIODES IN/PTCDI/P-SI AND AG/CUPC/P-SI. 125: 397-408.
- Antohe, S; Vonsovici, A. (1991). SEMICONDUCTOR ANALYSIS USING THE CUPC P-SI AND PTCDI P-SI ORGANIC-ON-INORGANIC CONTACT BARRIERS. 124: 583-593.
- Bai, R; Ouyang, M; Zhou, RJ; Shi, MM; Wang, M; Chen, HZ. (2008). Well-defined nanoarrays from an n-type organic perylene-diimide derivative for photoconductive devices. *Nanotechnology.* 19: 055604. <http://dx.doi.org/10.1088/0957-4448/19/05/055604>.
- Banal, JL; Soleimaninejad, H; Jradi, FM; Liu, M; White, JM; Blakers, AW; Cooper, MW; Jones, DJ; Ghiggino, KP; Marder, SR; Smith, TA; Wong, WWH. (2016). Energy Migration in Organic Solar Concentrators with a Molecularly Insulated Perylene Diimide. *J Phys Chem C.* 120: 12952-12958. <http://dx.doi.org/10.1021/acs.jpcc.6b04479>.
- Banthia, S; Samanta, A. (2006). Long and short brick network architecture: Role of water molecules acting as three-connecting spacers. *Cryst Growth Des.* 6: 360-362. <http://dx.doi.org/10.1021/cg050517s>.
- Bao, Q; Goh, BM; Yan, B; Yu, T; Shen, Z; Loh, KP. (2010). Polarized emission and optical waveguide in crystalline perylene diimide microwires. *Adv Mater Deerfield.* 22: 3661-3666. <http://dx.doi.org/10.1002/adma.201000731>.
- Bardajee, GR. (2013). Microwave-assisted solvent-free synthesis of fluorescent naphthalimide dyes. *Dyes and Pigments.* 99: 52-58. <http://dx.doi.org/10.1016/j.dyepig.2013.04.004>.
- Bardajee, GR; Li, AY; Haley, JC; Winnik, MA. (2008). The synthesis and spectroscopic properties fluorescent naphthalimide of novel, functional dyes. *Dyes and Pigments.* 79: 24-32. <http://dx.doi.org/10.1016/j.dyepig.2007.12.012>.
- Barra, M; Di Girolamo, FV; Chiarella, F; Salluzzo, M; Chen, Z; Facchetti, A; Anderson, L; Cassinese, A. (2010). Transport Property and Charge Trap Comparison for N-Channel Perylene Diimide Transistors with Different Air-Stability. *J Phys Chem C.* 114: 20387-20393. <http://dx.doi.org/10.1021/jp103555x>.
- Bauer, J; Behrens, P; Speckbacher, M; Langhals, H. (2003). Composites of perylene chromophores and layered double hydroxides: Direct synthesis, characterization; and photo- and chemical stability. *Adv Funct Mater.* 13: 241-248.
- Bhosale, ME; Krishnamoorthy, K. (2015). Chemically Reduced Organic Small-Molecule-Based Lithium Battery with Improved Efficiency. *Chem Mater.* 27: 2121-2126. <http://dx.doi.org/10.1021/cm5046786>.
- Bian, B; Ji, SJ; un; Shi, H; aiBin. (2008). Synthesis and fluorescent property of some novel bischromophore compounds containing pyrazoline and naphthalimide groups. *Dyes and Pigments.* 76: 348-352. <http://dx.doi.org/10.1016/j.dyepig.2006.08.050>.
- Bielejewska, N; Chrzumnicka, E; Stolarski, R; Bauman, D. (2010). Spectral properties of naphthalimide dyes mixed with 4-heptyl-4'-cyanobiphenyl (7CB) in Langmuir-Blodgett films. *Opto-Electronics Review.* 18: 197-207. <http://dx.doi.org/10.2478/s11772-010-0005-z>.
- Bijak, K; Filapek, M; Wiacek, M; Janecek, H; Grucela, M; Smolarek, K; Mackowski, S; Schab-Balcerzak, E; wa. (2016). Preparation and characterization of new aliphatic-tailed five- and six-membered azomethine-diimides. *Mater Chem Phys.* 171: 97-108. <http://dx.doi.org/10.1016/j.matchemphys.2015.12.005>.

Exposure Literature Search Results

Off Topic

- Bijak, K; Grucela-Zajac, M; Janeczek, H; Wiacek, M; Schab-Balcerzak, E, wa. (2013). New azomethine-phthalic diimides: Synthesis and thermal, optical and electrochemical characterization. *Synthetic Metals.* 175: 146-154. <http://dx.doi.org/10.1016/j.synthmet.2013.05.017>.
- Biniek, L; Schwartz, PO; Zaborova, E; Heinrich, B; Leclerc, N; Mery, S; Brinkman, M. (2015). Zipper-like molecular packing of donor-acceptor conjugated co-oligomers based on perylenediimide. 3: 3342-3349. <http://dx.doi.org/10.1039/c5tc00221d>.
- Bodapati, JB; Icil, H. (2008). Highly soluble perylene diimide and oligomeric diimide dyes combining perylene and hexa(ethylene glycol) units: Synthesis, characterization, optical and electrochemical properties. *Dyes and Pigments.* 79: 224-235. <http://dx.doi.org/10.1016/j.dyepig.2008.02.009>.
- Bojinov, V; Grabchev, I. (2001). A new method for synthesis of 4-allyloxy-1,8-naphthalimide derivatives for use as fluorescent brighteners. *Dyes and Pigments.* 51: 57-61.
- Bojinov, V; Grabchev, I. (2003). Synthesis of new polymerizable 1,8-naphthalimide dyes containing a 2-hydroxyphenylbenzotriazole fragment. *Dyes and Pigments.* 59: 277-283. [http://dx.doi.org/10.1016/S0143-7208\(03\)00113-X](http://dx.doi.org/10.1016/S0143-7208(03)00113-X).
- Bojinov, V; Ivanova, G; Chovelon, JM; Grabchev, I. (2003). Photophysical and photochemical properties of some 3-bromo-4-alkylamino-N-alkyl-1,8-naphthalimides. *Dyes and Pigments.* 58: 65-71. [http://dx.doi.org/10.1016/S0143-7208\(03\)00036-6](http://dx.doi.org/10.1016/S0143-7208(03)00036-6).
- Bojinov, V; Konstantinova, T. (2002). Synthesis of polymerizable 1,8-naphthalimide dyes containing hindered amine fragment. *Dyes and Pigments.* 54: 239-245.
- Bojinov, VB; Panova, IP. (2007). Synthesis and absorption properties of new yellow-green emitting benzo[de]isoquinoline-1,3-diones containing hindered amine and 2-hydroxyphenylbenzotriazole fragments. *Dyes and Pigments.* 74: 551-560. <http://dx.doi.org/10.1016/j.dyepig.2006.03.016>.
- Bojinov, VB; Panova, IP. (2009). Novel 4-(2,2,6,6-tetramethylpiperidin-4-ylamino)-1,8-naphthalimide based yellow-green emitting fluorescence sensors for transition metal ions and protons. *Dyes and Pigments.* 80: 61-66. <http://dx.doi.org/10.1016/j.dyepig.2008.05.007>.
- Bojinov, VB; Panova, IP; Grabchev, I, voK. (2007). Novel polymerizable light emitting dyes - combination of a hindered amine with a 9-phenylxanthene fluorophore. *Synthesis and photophysical investigations.* *Dyes and Pigments.* 74: 187-194. <http://dx.doi.org/10.1016/j.dyepig.2006.01.034>.
- Bojinov, VB; Panova, IP; Simeonov, DB. (2008). Design and synthesis of polymerizable, yellow-green emitting 1,8-naphthalimides containing built-in s-triazine UV absorber and hindered amine light stabilizer fragments. *Dyes and Pigments.* 78: 101-110. <http://dx.doi.org/10.1016/j.dyepig.2007.10.010>.
- Bojinov, VB; Simeonov, DB; Georgiev, NI. (2008). A novel blue fluorescent 4-(1,2,2,6,6-pentamethylpiperidin-4-yloxy)-1,8-naphthalimide pH chemosensor based on photoinduced electron transfer. *Dyes and Pigments.* 76: 41-46. <http://dx.doi.org/10.1016/j.dyepig.2006.08.006>.
- Bonetti, S; Prosa, M; Pistone, A; Favaretto, L; Sagnella, A; Grisin, I; Zambianchi, M; Karges, S; Lorenzoni, A; Posati, T; Zamboni, R; Camaioni, N; Mercuri, F; Muccini, M; Melucci, M; Benfenati, V. (2016). A self-assembled lysinated perylene diimide film as a multifunctional material for neural interfacing. 4: 2921-2932. <http://dx.doi.org/10.1039/c5tb02299a>.
- Bonnet, JP; Tran-Van, F; Chevrot, C. (2006). Photoactive ionic assemblies between n dopable perylene and p dopable carbazole derivatives. *Synthetic Metals.* 156: 1292-1298. <http://dx.doi.org/10.1016/j.synthmet.2006.09.013>.
- Boobalan, G; Imran, PKM; Manoharan, C; Nagarajan, S. (2015). Optical and Electrical Properties of New Perylene Diimide Thin Films. *Journal of Electronic Materials.* 44: 4000-4005. <http://dx.doi.org/10.1007/s11664-015-3870-x>.
- Bouche, CM; Berdague, P; Facoetti, H; Robin, P; Lebarny, P; Schott, M. (1996). Side-chain electroluminescent polymers. *Synthetic Metals.* 81: 191-195.
- Brennaman, MK; Norris, MR; Gish, MK; Grumstrup, EM; Alibabaei, L; Ashford, DL; Lapides, AM; Papanikolas, JM; Templeton, JL; Meyer, TJ. (2015). Ultrafast, Light-Induced Electron Transfer in a Perylene Diimide Chromophore-Donor Assembly on TiO₂. *Journal of Physical Chemistry Letters.* 6: 4736-4742. <http://dx.doi.org/10.1021/acs.jpclett.5b02194>.
- Brochsstain, S; Politi, MJ. (1999). Solubilization of 1,4,5,8-naphthalenediimides and 1,8-naphthalimides through the formation of novel host-guest complexes with alpha-cyclodextrin. *Langmuir.* 15: 4486-4494.
- Brus, VV; Proctor, CM; Ran, NA; Nguyen, T-Q. (2016). Capacitance Spectroscopy for Quantifying Recombination Losses in Nonfullerene Small-Molecule Bulk Heterojunction Solar Cells. 6. <http://dx.doi.org/10.1002/aenm.201502250>.
- Bryaskova, R; Georgiev, NI; Dimov, SM; Tzoneva, R; Detrembleur, C; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Novel nanosized water soluble fluorescent micelles with embedded perylene diimide fluorophores for potential biomedical applications: Cell permeability, localization and cytotoxicity. *Mater Sci Eng C.* 51: 7-15. <http://dx.doi.org/10.1016/j.msec.2015.02.035>.
- Bu, L; Dawson, TJ; Hayward, RC. (2015). Tailoring Ultrasound-Induced Growth of Perylene Diimide Nanowire Crystals from Solution by Modification with Poly(3-hexyl thiophene). *ACS Nano.* 9: 1878-1885. <http://dx.doi.org/10.1021/nn506795q>.
- Bujdak, J; Danko, M; Chorvat, D, Jr; Czimerova, A; Sykora, J; Lang, K. (2012). Selective modification of layered silicate nanoparticle edges with fluorophores. *Appl Clay Sci.* 65-66: 152-157. <http://dx.doi.org/10.1016/j.clay.2012.04.029>.
- Buzio, R; Gerbi, A; Marre, D; Barra, M; Cassinese, A. (2015). Electron injection barrier and energy-level alignment at the Au/PDI8-CN2 interface via current-voltage measurements and ballistic emission microscopy. *Organic Electronics.* 18: 44-52. <http://dx.doi.org/10.1016/j.orgel.2015.01.007>.
- Buzio, R; Gerbi, A; Marre, D; Barra, M; Cassinese, A. (2016). Ballistic electron and photocurrent transport in Au/organic/Si(001) diodes with PDI8-CN2 interlayers. *Journal of Vacuum Science and Technology Part B Microelectronics and Nanometer Structures.* 34. <http://dx.doi.org/10.1116/1.4950733>.

Exposure Literature Search Results

Off Topic

- Cacialli, F; Bouche, CM; Le Barny, P; Friend, RH; Facoetti, H; Soyer, F; Robin, P. (1998). Naphthalimide polymers for organic light-emitting diodes. *Optical Materials.* 9: 163-167.
- Cai, P; Jia, H; Chen, J; Cao, Y. (2015). Organic/Organic Cathode Bi-Interlayers Based on a Water-Soluble Nonconjugated Polymer and an Alcohol-Soluble Conjugated Polymer for High Efficiency Inverted Polymer Solar Cells. *ACS Applied Materials & Interfaces.* 7: 27871-27877. <http://dx.doi.org/10.1021/acsmami.5b09744>.
- Cai, Y; Gao, Y, a; Luo, Q; Li, M; Zhang, J; Tian, H, e; Zhu, W, eiH. (2016). Ferrocene-Grafted Photochromic Triads Based on a Sterically Hindered Ethene Bridge: Redox-Switchable Fluorescence and Gated Photochromism. 4: 1410-1416. <http://dx.doi.org/10.1002/adom.201600229>.
- Cai, Y; Guo, X; Sun, X; Wei, D; Yu, M; Huo, L; Sun, Y. (2016). A twisted monomeric perylenediimide electron acceptor for efficient organic solar cells. 59: 427-434. <http://dx.doi.org/10.1007/s40843-016-5063-3>.
- Camurlu, P; Karagoren, N. (2013). Both p and n-Dopable, Multichromic, Naphthalineimide Clicked Poly(2,5-dithienylpyrrole) Derivatives. *J Electrochem Soc.* 160: H560-H567. <http://dx.doi.org/10.1149/2.043309jes>.
- Canning, J; Ast, S; Hossain, M, dA; Chan, H; Rutledge, PJ; Jamalipour, A. (2015). Bend and twist intramolecular charge transfer and emission for selective metal ion sensing. 5: 2675-2681. <http://dx.doi.org/10.1364/OME.5.002675>.
- Cao, JX; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2005). Polyfluorenes containing 1,8-naphthalimide dye as endcapping groups. *Synthetic Metals.* 152: 237-240. <http://dx.doi.org/10.1016/j.synthmet.2005.07.239>.
- Cao, X; Meng, L; Li, Z; Mao, Y; Lan, H; Chen, L; Fan, Y; Yi, T, ao. (2014). Large Red-Shifted Fluorescent Emission via Intermolecular pi-pi Stacking in 4-Ethyne-1,8-naphthalimide-Based Supramolecular Assemblies. *Langmuir.* 30: 11753-11760. <http://dx.doi.org/10.1021/la503299j>.
- Cao, X; Wu, Y; Liu, K; Yu, X; Wu, B, o; Wu, H; Gong, Z; Yi, T, ao. (2012). Iridium complex triggered white-light-emitting gel and its response to cysteine. *J Mater Chem.* 22: 2650-2657. <http://dx.doi.org/10.1039/c2jm13826c>.
- Cao, X; Zhao, N; Gao, A; Lv, H; Jia, Y; Wu, R; Wu, Y. (2017). Bis-naphthalimides self-assembly organogel formation and application in detection of p-phenylenediamine. *Mater Sci Eng C.* 70: 216-222. <http://dx.doi.org/10.1016/j.msec.2016.08.079>.
- Cao, X; Zhou, J; Zou, Y; Zhang, M; Yu, X; Zhang, S; Yi, T; Huang, C. (2011). Fluorescence and morphology modulation in a photochromic diarylethene self-assembly system. *Langmuir.* 27: 5090-5097. <http://dx.doi.org/10.1021/la200419v>.
- Castro-Carranza, A; Nolasco, JC; Estrada, M; Gwoziecki, R; Benwadih, M; Xu, Y; Cerdeira, A; Marsal, LF; Ghibaudo, G; Iniguez, B; Pallares, J. (2012). Effect of Density of States on Mobility in Small-Molecule n-Type Organic Thin-Film Transistors Based on a Perylene Diimide. *I E E Electron Device Letters.* 33: 1201-1203. <http://dx.doi.org/10.1109/LED.2012.2201441>.
- Centore, R; Ricciotti, L; Carella, A; Roviello, A; Causa, M; Barra, M; Ciccullo, F; Cassinese, A. (2012). Perylene diimides functionalized with N-thiadiazole substituents: Synthesis and electronic properties in OFET devices. *Organic Electronics.* 13: 2083-2093. <http://dx.doi.org/10.1016/j.orgel.2012.06.002>.
- Chall, S; Pramanik, S; Dhar, S; Saha, A; Bhattacharya, SC. (2012). Facile room temperature synthesis of lanthanum oxalate nanorods and their interaction with antioxidative naphthalimide derivative. *J Nanosci Nanotechnol.* 12: 2229-2238. <http://dx.doi.org/10.1166/jnn.2012.5695>.
- Chan, CY, iu; Wong, Y, iC; Wong, H, okLai; Chan, M, eiYee; Yam, VWW, ah. (2014). A new class of three-dimensional, p-type, spirobifluorene-modified perylene diimide derivatives for small molecular-based bulk heterojunction organic photovoltaic devices. 2: 7656-7665. <http://dx.doi.org/10.1039/c4tc01001a>.
- Chang, DM, in; Kwon, DY; Kim, YS, ik. (2014). Novel Ru(II) Complex with 3-(2'-pyridyl)-1,8-Naphthalimide Derivative for Dye-Sensitized Solar Cells. *J Nanosci Nanotechnol.* 14: 9335-9339. <http://dx.doi.org/10.1166/jnn.2014.10127>.
- Chang, SC; Utecht, RE; Lewis, DE. (1999). Synthesis and bromination of 4-alkylamino-N-alkyl-1,8-naphthalimides. *Dyes and Pigments.* 43: 83-94.
- Chen, G; Song, J; Zhang, H; Jiang, Y; Liu, W; Zhang, W; Wang, B. (2015). Pd nanoparticles encapsulated in magnetic carbon nanocages: an efficient nanoenzyme for the selective detection and multicolor imaging of cancer cells. *Nanoscale.* 7: 14393-14400. <http://dx.doi.org/10.1039/c5nr03421c>.
- Chen, G; Wang, L; Zhang, J; Chen, F; Anpo, M. (2009). Photophysical properties of a naphthalimide derivative encapsulated within Si-MCM-41, Ce-MCM-41 and Al-MCM-41. *Dyes and Pigments.* 81: 119-123. <http://dx.doi.org/10.1016/j.dyepig.2008.09.013>.
- Chen, H; Liu, Z; Zhao, Z; Zheng, L; Tan, S; Yin, Z; Zhu, C; Liu, Y. (2016). Synthesis, Structural Characterization, and Field-Effect Transistor Properties of n-Channel Semiconducting Polymers Containing Five-Membered Heterocyclic Acceptors: Superiority of Thiadiazole Compared with Oxadiazole. 8: 33051-33059. <http://dx.doi.org/10.1021/acsmami.6b12540>.
- Chen, HZ; Ling, MM; Mo, X; Shi, MM; Wang, M; Bao, Z. (2007). Air stable n-channel organic semiconductors for thin film transistors based on fluorinated derivatives of perylene diimides. *Chem Mater.* 19: 816-824. <http://dx.doi.org/10.1021/cm062352w>.
- Chen, HZ; Shi, MM; Aernouts, T; Wang, M; Borghs, G; Heremans, P. (2005). A novel organic n-type material: fluorinated perylene diimide. *Solar Energy Materials and Solar Cells.* 87: 521-527. <http://dx.doi.org/10.1016/j.solmat.2004.07.056>.
- Chen, K, ewYu; Chang, C, heWei. (2014). 1,7-Bis-(N,N-dialkylamino)perylene Bisimides: Facile Synthesis and Characterization as Near-Infrared Fluorescent Dyes. *Materials.* 7: 7548-7565. <http://dx.doi.org/10.3390/ma7117548>.
- Chen, L, in; Yang, L; Yang, Z; Shi, M; Wang, M; Chen, H; Zhang, W; Xu, F. (2009). Carrier Transport in Zinc Phthalocyanine Doped with a Fluorinated Perylene Derivative: Bulk Conductivity versus Interfacial Injection. *J Phys Chem C.* 113: 17160-17169. <http://dx.doi.org/10.1021/jp903381n>.
- Chen, Q, un; Zhang, D; Zhang, G; Yang, X; Feng, Y, u; Fan, Q; Zhu, D. (2010). Multicolor Tunable Emission from Organogels Containing Tetraphenylethene, Perylenediimide, and Spiropyran Derivatives. *Adv Funct Mater.* 20: 3244-3251. <http://dx.doi.org/10.1002/adfm.201000590>.

Exposure Literature Search Results

Off Topic

- Chen, S; Wang, C; Bunes, BR; Li, Y; Wang, C; Zang, L. (2015). Enhancement of visible-light-driven photocatalytic H₂ evolution from water over g-C₃N₄ through combination with perylene diimide aggregates. *Appl Catal A-Gen.* 498: 63-68. <http://dx.doi.org/10.1016/j.apcata.2015.03.026>.
- Chen, W; Yang, X; Long, G; Wan, X; Chen, Y; Zhang, Q. (2015). A perylene diimide (PDI)-based small molecule with tetrahedral configuration as a non-fullerene acceptor for organic solar cells. 3: 4698-4705. <http://dx.doi.org/10.1039/c5tc00865d>.
- Chen, Y; Chang, H, ao; Tian, H; Bao, C; Li, W; Yan, D; Geng, Y; Wang, F. (2012). An easily made thienoacene comprising seven fused rings for ambient-stable organic thin film transistors. *Organic Electronics.* 13: 3268-3275. <http://dx.doi.org/10.1016/j.orgel.2012.09.041>.
- Chen, Y; Chen, L; Qi, G; Wu, H; Zhang, Y; Xue, L; Zhu, P; Ma, P; Li, X. (2010). Self-assembled organic-inorganic hybrid nanocomposite of a perylenetetracarboxylic diimide derivative and CdS. *Langmuir.* 26: 12473-12478. <http://dx.doi.org/10.1021/la102094d>.
- Chen, Y; Tang, A; Zhang, X, in; Lu, Z; Huang, J; Zhan, C; Yao, J. (2014). A new solution-processed diketopyrrolopyrrole donor for non-fullerene small-molecule solar cells. 2: 1869-1876. <http://dx.doi.org/10.1039/c3ta14335j>.
- Chen, Y; Zhang, X, in; Zhan, C; Yao, J. (2015). In-depth understanding of photocurrent enhancement in solution-processed small-molecule:perylene diimide non-fullerene organic solar cells. *Physica Status Solidi A: Applications and Materials Science (Print).* 212: 1961-1968. <http://dx.doi.org/10.1002/pssa.201532102>.
- Chen, Z, hiJun; Wang, L, iMin; Zou, G; Zhang, L; Zhang, GJ, un; Cai, XF, ei; Teng, MS. (2012). Colorimetric and ratiometric fluorescent chemosensor for fluoride ion based on perylene diimide derivatives. *Dyes and Pigments.* 94: 410-415. <http://dx.doi.org/10.1016/j.dyepig.2012.01.024>.
- Cheng, H; Huai, J; Cao, L, i; Li, Z. (2016). Novel self-assembled phosphonic acids monolayers applied in N-channel perylene diimide (PDI) organic field effect transistors. *Appl Surf Sci.* 378: 545-551. <http://dx.doi.org/10.1016/j.apsusc.2016.03.228>.
- Cheng, H, ren; Qian, Y. (2015). Synthesis and intramolecular FRET of perylenediimide-naphthalimide dendrons. *Dyes and Pigments.* 112: 317-326. <http://dx.doi.org/10.1016/j.dyepig.2014.07.005>.
- Cheng, P, ei; Zhao, X; Zhou, W; Hou, J; Li, Y; Zhan, X. (2014). Towards high-efficiency non-fullerene organic solar cells: Matching small molecule/polymer donor/acceptor. *Organic Electronics.* 15: 2270-2276. <http://dx.doi.org/10.1016/j.orgel.2014.06.025>.
- Cheriya, RT; Mallia, AR; Hariharan, M. (2014). Light harvesting vesicular donor-acceptor scaffold limits the rate of charge recombination in the presence of an electron donor. *Energ Environ Sci.* 7: 1661-1669. <http://dx.doi.org/10.1039/c3ee43293a>.
- Cheyns, D; Vasseur, K; Rolin, C; Genoe, J; Poortmans, J; Heremans, P. (2008). Nanoimprinted semiconducting polymer films with 50 nm features and their application to organic heterojunction solar cells. *Nanotechnology.* 19: 424016. <http://dx.doi.org/10.1088/0957-4484/19/42/424016>.
- Chiarella, F; Barra, M; Carella, A; Parlato, L; Sarnelli, E; Cassinese, A. (2016). Contact-resistance effects in PDI8-CN2 n-type thin-film transistors investigated by Kelvin-probe potentiometry. *Organic Electronics.* 28: 299-305. <http://dx.doi.org/10.1016/j.orgel.2015.11.009>.
- Chiarella, F; Chianese, F; Barra, M; Parlato, L; Toccoli, T; Cassinese, A. (2016). Spontaneous Wetting Dynamics in Perylene Diimide n-Type Thin Films Deposited at Room Temperature by Supersonic Molecular Beam. *J Phys Chem C.* 120: 26076-26082. <http://dx.doi.org/10.1021/acs.jpcc.6b07310>.
- Chinapang, P; Ruangpornvisuti, V; Sukwattanasinitt, M; Rashatasakhon, P. (2015). Ferrocenyl derivative of 1,8-naphthalimide as a new turn-on fluorescent sensor for Au(III) ion. *Dyes and Pigments.* 112: 236-238. <http://dx.doi.org/10.1016/j.dyepig.2014.07.013>.
- Chiu, TL; Chuang, K, aiH; Lin, C, hiF; Ho, Y, uH; Lee, JH, aw; Chao, CC; Leung, M, anKit; Wan, D, eHui; Li, CY, u; Chen, HL, i. (2009). Low reflection and photo-sensitive organic light-emitting device with perylene diimide and double-metal structure. *Thin Solid Films.* 517: 3712-3716. <http://dx.doi.org/10.1016/j.tsf.2008.12.037>.
- Choi, J, aeH; Kwon, O, htak; Lee, HY; Towns, AD; Yoon, C. (2010). Synthesis and spectroscopic properties of novel phthalimide-derived monoazo disperse dyes containing ester groups. *Color Technol.* 126: 237-242. <http://dx.doi.org/10.1111/j.1478-4408.2010.00252.x>.
- Choi, W; Ko, HC; Moon, B; Lee, H. (2004). Electrochemical deposition of a pyrrole-1-yl substituted perylene diimide for photoluminescence and electrochromism. *J Electrochim Soc.* 151: E80-E83. <http://dx.doi.org/10.1149/1.1640629>.
- Choppawa, T; Sukwattanasinitt, M; Sahasithiwat, S; Ruangpornvisuti, V; Rashatasakhon, P. (2014). Substituent effect on quantum efficiency in 4-aryloxy-N-(2',6'-diisopropylphenyl)-1,8-naphthalimides: Experimental and computational investigations. *Dyes and Pigments.* 109: 175-180. <http://dx.doi.org/10.1016/j.dyepig.2014.05.007>.
- Chou, W, eiY; Lin, Y, iS; Kuo, LL; Liu, SJ; Cheng, HL; Tang, F, uC. (2014). Light sensing in photosensitive, flexible n-type organic thin-film transistors. 2: 626-632. <http://dx.doi.org/10.1039/c3tc31966k>.
- Chung, YC; Yang, K; Choi, J, aeWon; Chun, BC. (2014). Characterisation and application of polyurethane copolymers grafted with photoluminescent dyes. *Color Technol.* 130: 305-313. <http://dx.doi.org/10.1111/cote.12097>.
- Cormier, RA; Gregg, BA. (1998). Synthesis and characterization of liquid crystalline perylene diimides. *Chem Mater.* 10: 1309-1319.
- Coya, C; Luis Alvarez, A; Ramos, M, ar; Gomez, R; Seoane, C; Luis Segura, J. (2012). Highly efficient solution-processed white organic light-emitting diodes based on novel copolymer single layer. *Synthetic Metals.* 161: 2580-2584. <http://dx.doi.org/10.1016/j.synthmet.2011.08.010>.
- Dahan, E; Sundararajan, PR. (2014). Thermo-reversible gelation of rod-coil and coil-rod-coil molecules based on poly(dimethyl siloxane) and perylene imides and self-sorting of the homologous pair. *Soft Matter.* 10: 5337-5349. <http://dx.doi.org/10.1039/c4sm00999a>.
- Dai, G; Chang, J; Wu, J; Chi, C. (2012). Dithieno-naphthalimide based copolymers for air-stable field effect transistors: synthesis, characterization and device performance. *J Mater Chem.* 22: 21201-21209. <http://dx.doi.org/10.1039/c2jm34251k>.

Exposure Literature Search Results

Off Topic

- Dai, S; Lin, Y; Cheng, P, ei; Wang, Y; Zhao, X; Ling, Q; Zhan, X. (2015). Perylene diimide-thienylenevinylene-based small molecule and polymer acceptors for solution-processed fullerene-free organic solar cells. *Dyes and Pigments.* 114: 283-289. <http://dx.doi.org/10.1016/j.dyepig.2014.11.022>.
- Dang, D; Zhi, Y; Wang, X; Zhao, B; Gao, C; Meng, L. (2017). A(1)-A-A(1) type small molecules terminated with naphthalimide building blocks for efficient non-fullerene organic solar cells. *Dyes and Pigments.* 137: 43-49. <http://dx.doi.org/10.1016/j.dyepig.2016.09.059>.
- Davarpanah, S; Mahmoodi, NM; Arami, M; Bahrami, H; Mazaheri, F. (2009). Environmentally friendly surface modification of silk fiber: Chitosan grafting and dyeing. *Appl Surf Sci.* 255: 4171-4176. <http://dx.doi.org/10.1016/j.apsusc.2008.11.001>.
- Davis, NJL, K; Macqueen, RW; Roberts, DA; Danos, A; Dehn, S; Perrier, S; Schmidt, TW. (2016). Energy transfer in pendant perylene diimide copolymers. 4: 8270-8275. <http://dx.doi.org/10.1039/c6tc02555b>.
- de Castro, FL; Santos, JG; Turolla Fernandes, GJ; de Araujo, AS; Fernandes, VJ, Jr; Politi, MJ; Brochsztaín, S. (2007). Solid state fluorescence of a 3,4,9,10-perylenetetracarboxylic diimide derivative encapsulated in the pores of mesoporous silica MCM-41. *Microporous and Mesoporous Materials.* 102: 258-264. <http://dx.doi.org/10.1016/j.micromeso.2006.12.042>.
- De Los Cobos, O; Fousseret, B; Lejeune, M; Rossignol, F; Dutreilh-Colas, M; Carrión, C; Boissiere, C; Ribot, F; Sanchez, C; Cattoen, X; Man, MWC, hi; Durand, JO. (2012). Tunable Multifunctional Mesoporous Silica Microdots Arrays by Combination of Inkjet Printing, EISA, and Click Chemistry. *Chem Mater.* 24: 4337-4342. <http://dx.doi.org/10.1021/cm3022769>.
- De Luca, G; Liscio, A; Melucci, M; Schnitzler, T; Pisula, W; Clark, CG, Jr; Scolaro, LM; Palermo, V; Muellen, K; Samori, P. (2010). Phase separation and affinity between a fluorinated perylene diimide dye and an alkyl-substituted hexa-peri-hexabenzocoronene. *J Mater Chem.* 20: 71-82. <http://dx.doi.org/10.1039/b915484a>.
- Decker, A; Suraru, SL; Rubio-Pons, O; Mankel, E; Bockstedte, M; Thoss, M; Wuerthner, F; Mayer, T; Jaegermann, W. (2011). Toward Functional Inorganic/Organic Hybrids: Phenoxy-allyl-PTCDI Synthesis, Experimentally and Theoretically Determined Properties of the Isolated Molecule, Layer Characteristics, and the Interface Formation of Phenoxy-allyl-PTCDI on Si(111):H Determined by SXPS and DFT. *J Phys Chem C.* 115: 21139-21150. <http://dx.doi.org/10.1021/jp205294h>.
- del Cano, T; Parra, V; Rodriguez-Mendez, ML; Aroca, R; de Saja, JA. (2004). Molecular stacking and emission properties in Langmuir-Blodgett films of two alkyl substituted perylene tetracarboxylic diimides. *Organic Electronics.* 5: 107-114. <http://dx.doi.org/10.1016/j.orgel.2003.11.004>.
- Deng, D, an; Gu, L, i. (2013). Synthesis and characterization of cyclopentadithiophene-based low bandgap copolymers for all-polymer solar cells. *Journal of Materials Science: Materials in Electronics.* 24: 507-513. <http://dx.doi.org/10.1007/s10854-012-0930-3>.
- Deng, W; Shen, Y; Qian, J; Cao, Y; Yang, H. (2015). A Perylene Diimide Crystal with High Capacity and Stable Cyclability for Na-Ion Batteries. *ACS Applied Materials & Interfaces.* 7: 21095-21099. <http://dx.doi.org/10.1021/acsmami.5b04325>.
- Díez-Pérez, I; Li, Z; Guo, S; Madden, C; Huang, H; Che, Y; Yang, X; Zang, L; Tao, N. (2012). Ambipolar transport in an electrochemically gated single-molecule field-effect transistor. *ACS Nano.* 6: 7044-7052. <http://dx.doi.org/10.1021/nn302090t>.
- Dimitrov, SD; Durrant, JR. (2014). Materials Design Considerations for Charge Generation in Organic Solar Cells. *Chem Mater.* 26: 616-630. <http://dx.doi.org/10.1021/cm402403z>.
- Dincalp, H; Askar, Z; Zafer, C; Icli, S. (2011). Effect of side chain substituents on the electron injection abilities of unsymmetrical perylene diimide dyes. *Dyes and Pigments.* 91: 182-191. <http://dx.doi.org/10.1016/j.dyepig.2011.03.022>.
- Dincalp, H; Cimen, O; Saltan, GM; Icli, S. (2015). Functionalized bay-substituted perylene diimide additives for inverted organic photovoltaic devices based on P3HT/PCBM. *J Optoelect Adv Mater.* 17: 579-589.
- Dincalp, H; Kizilok, S; Icli, S. (2010). Fluorescent macromolecular perylene diimides containing pyrene or indole units in bay positions. *Dyes and Pigments.* 86: 32-41. <http://dx.doi.org/10.1016/j.dyepig.2009.11.005>.
- Distanov, VB; Berdanova, VF; Gurkalo, YA; Prezhdo, VV. (2001). An alternative approach to the production of fluorescent colored fibres. *Dyes and Pigments.* 48: 159-163.
- Dodangeh, M; Gharanjig, K; Arami, M. (2014). Synthesis, Characterization, and Photo-Physical Properties of Dendrimers Modified With 1,8-Naphthalimide Derivatives as Novel Fluorescent pH Sensors. *IEEE Sens J.* 14. <http://dx.doi.org/10.1109/JSEN.2014.2319293>.
- Dong, S; Zhang, X; Zhou, Y; Jiang, J; Bian, Y. (2011). Perylene diimide-appended mixed (phthalocyaninato)(porphyrinato) europium(III) double-decker complex: Synthesis, spectroscopy and electrochemical properties. *Dyes and Pigments.* 91: 99-104. <http://dx.doi.org/10.1016/j.dyepig.2011.03.010>.
- dos Santos, ER; Pina, J; Venancio, T; Serpa, C; Martinho, JMG; Carlos, RM. (2016). Photoinduced Energy and Electron-Transfer Reactions by Polypyridine Ruthenium(II) Complexes Containing a Derivatized Perylene Diimide. *J Phys Chem C.* 120: 22831-22843. <http://dx.doi.org/10.1021/acs.jpcc.6b06693>.
- Du, P; Li, C; Li, SF; Zhu, WH; Tian, H. (2003). Novel luminescent metal complexes. *Synthetic Metals.* 137: 1131-1132. [http://dx.doi.org/10.1016/S0379-6779\(02\)00959-1](http://dx.doi.org/10.1016/S0379-6779(02)00959-1).
- Dubey, RK; Efimov, A; Lemmetyinen, H. (2011). 1,7- And 1,6-Regiosomers of Diphenoxyl and Dipyrrolidinyl Substituted Perylene Diimides: Synthesis, Separation, Characterization, and Comparison of Electrochemical and Optical Properties. *Chem Mater.* 23: 778-788. <http://dx.doi.org/10.1021/cm1018647>.
- Dutta, AK; Vanoppen, P; Jeuris, K; Grim, PCM; Pevenage, D; Salesse, C; De Schryver, FC. (1999). Spectroscopic, AFM, and NSOM studies of 3D crystallites in mixed Langmuir-Blodgett films of N,N'-bis(2,6-dimethylphenyl) 3,4,9,10-perylenetetracarboxylic diimide and stearic acid. *Langmuir.* 15: 607-612.
- Dwivedi, AK; Pandeeswar, M; Govindaraju, T. (2014). Assembly modulation of PDI derivative as a supramolecular fluorescence switching probe for detection of cationic surfactant and metal ions in aqueous media. 6: 21369-21379. <http://dx.doi.org/10.1021/am5063844>.

Exposure Literature Search Results

Off Topic

- Dworak, L; Matylitsky, VV; Ren, T; Basche, T; Wachtveitl, J. (2014). Acceptor Concentration Dependence of Forster Resonance Energy Transfer Dynamics in Dye-Quantum Dot Complexes. *J Phys Chem C.* 118: 4396-4402. <http://dx.doi.org/10.1021/jp409807x>.
- Echue, G; Hamley, I; Lloyd Jones, GC; Faul, CF. (2016). Chiral Perylene Materials by Ionic Self-Assembly. *Langmuir.* 32: 9023-9032. <http://dx.doi.org/10.1021/acs.langmuir.6b02201>.
- Everett, TA; Higgins, DA. (2009). Electrostatic self-assembly of ordered perylene-diimide/polyelectrolyte nanofibers in fluidic devices: from nematic domains to macroscopic alignment. *Langmuir.* 25: 13045-13051. <http://dx.doi.org/10.1021/la9019298>.
- Everett, TA; Twite, A, myA; Xie, A; Battina, SK; Hua, D, uyH; Higgins, DA. (2006). Preparation and characterization of nanofibrous perylene-diimide - Polyelectrolyte composite thin films. *Chem Mater.* 18: 5937-5943. <http://dx.doi.org/10.1021/cm061695r>.
- Fakis, M; Fililis, I; Stefanatos, S; Vellis, P; Mikroyannidis, J; Giannetas, V; Persephonis, P. (2009). The photophysics and two-photon absorption of a series of quadrupolar and tribranched molecules: The role of the edge substituent. *Dyes and Pigments.* 81: 63-68. <http://dx.doi.org/10.1016/j.dyepig.2008.08.014>.
- Fan, J; Lin, C; Li, H; Zhan, P; Wang, J; Cui, S; Hu, M; Cheng, G; Peng, X. (2013). A ratiometric lysosomal pH chemosensor based on fluorescence resonance energy transfer. *Dyes and Pigments.* 99: 620-626. <http://dx.doi.org/10.1016/j.dyepig.2013.06.032>.
- Fan, Q; Cheng, K; Yang, Z; Zhang, R; Yang, M; Hu, X; Ma, X; Bu, L; Lu, X; Xiong, X; Huang, W; Zhao, H; Cheng, Z. (2015). Perylene-diimide-based nanoparticles as highly efficient photoacoustic agents for deep brain tumor imaging in living mice. *Adv Mater Deerfield.* 27: 843-847. <http://dx.doi.org/10.1002/adma.201402972>.
- Felip-Leon, C; Diaz-Oltra, S; Galindo, F; Miravet, JF. (2016). Chameleonic, Light Harvesting Photonic Gels Based on Orthogonal Molecular Fibrillization. *Chem Mater.* 28: 7964-7972. <http://dx.doi.org/10.1021/acs.chemmater.6b03137>.
- Feng, X; An, Y; Yao, Z; Li, C; Shi, G. (2012). A turn-on fluorescent sensor for pyrophosphate based on the disassembly of Cu²⁺-mediated perylene diimide aggregates. *4:* 614-618. <http://dx.doi.org/10.1021/am201616r>.
- Feng, Y; Feng, W, ei. (2008). Photo-responsive perylene diimid-azobenzene dyad: Photochemistry and its morphology control by self-assembly. *Optical Materials.* 30: 876-880. <http://dx.doi.org/10.1016/j.optmat.2007.03.009>.
- Fernandez-Alonso, S; Corrales, T; Pablos, JL; Catalina, F. (2016). Surface modification of poly(ethylene-butyl acrylate) copolymers by microwave methodology and functionalization with 4-dimethylamino-N-(2-hydroxyethyl)-1,8-naphthalimide for acidity sensing. *React Funct Polym.* 107: 78-86. <http://dx.doi.org/10.1016/j.reactfunctpolym.2016.08.009>.
- Ferreira, R; Remon, P; Pischel, U, we. (2009). Multivalued Logic with a Tristable Fluorescent Switch. *J Phys Chem C.* 113: 5805-5811. <http://dx.doi.org/10.1021/jp809527d>.
- Fleming, CL; Ashton, TD; Pfeffer, FM. (2014). Synthesis of 4-amino substituted 1,8-naphthalimide derivatives using palladium-mediated amination. *Dyes and Pigments.* 109: 135-143. <http://dx.doi.org/10.1016/j.dyepig.2014.05.006>.
- Fleming, CL; Nalder, T, imD; Doeven, EH; Barrow, CJ; Pfeffer, FM; Ashton, TD. (2016). Synthesis of N-substituted 4-hydroxynaphthalimides using palladium-catalysed hydroxylation. *Dyes and Pigments.* 126: 118-120. <http://dx.doi.org/10.1016/j.dyepig.2015.11.007>.
- Flors, C; Oesterling, I; Schnitzler, T; Fron, E; Schweitzer, G; Sliwa, M; Herrmann, A; van Der Auweraer, M; de Schryver, FC; Muellen, K; Hofkens, J. (2007). Energy and electron transfer in ethynylene bridged perylene diimide multichromophores. *J Phys Chem C.* 111: 4861-4870. <http://dx.doi.org/10.1021/jp068877t>.
- Frisenda, R; Parlato, L; Barra, M; van Der Zant, HSJ; Cassinese, A. (2015). Single-Molecule Break Junctions Based on a Perylene-Diimide Cyano-Functionalized (PDI8-CN2) Derivative. *Nanoscale Res Lett.* 10: 1011. <http://dx.doi.org/10.1186/s11671-015-1011-3>.
- Fu, Y; Yang, Q; Deng, Y; Jiang, W, ei; Wang, Z; Geng, Y; Xie, Z. (2015). Suppressed charge recombination in polymer solar cells based on perylene diimide derivative acceptors via solvent vapor annealing. *Organic Electronics.* 18: 24-31. <http://dx.doi.org/10.1016/j.orgel.2015.01.008>.
- Fu, Y; Zhang, J; Wang, H; Chen, J, iaiLi; Zhao, P; Chen, G, uoR; He, XP. (2016). Intracellular pH sensing and targeted imaging of lysosome by a galactosyl naphthalimide-piperazine probe. *Dyes and Pigments.* 133: 372-379. <http://dx.doi.org/10.1016/j.dyepig.2016.06.022>.
- Fujiki, A; Miyake, Y; Oshikane, Y; Akai-Kasaya, M; Saito, A; Kuwahara, Y. (2011). STM-induced light emission from thin films of perylene derivatives on the HOPG and Au substrates. *Nanoscale Res Lett.* 6: 347. <http://dx.doi.org/10.1186/1556-276X-6-347>.
- Fujiwara, S; Yamamoto, T; Tezuka, Y; Habuchi, S. (2014). Synthesis of core-fluorescent four-armed star and dicyclic 8-shaped poly(THF)s by electrostatic self-assembly and covalent fixation (ESA-CF) protocol. *React Funct Polym.* 80: 3-8. <http://dx.doi.org/10.1016/j.reactfunctpolym.2013.11.007>.
- Gan, J; Chen, KC; Chang, CP; Tian, H. (2003). Luminescent properties and photo-induced electron transfer of naphthalimides with piperazine substituent. *Dyes and Pigments.* 57: 21-28. [http://dx.doi.org/10.1016/S0143-7208\(02\)00162-6](http://dx.doi.org/10.1016/S0143-7208(02)00162-6).
- Gehrig, DW; Roland, S; Howard, I, anA; Kamm, V; Mangold, H; Neher, D; Laquai, F. (2014). Efficiency-Limiting Processes in Low-Bandgap Polymer:Perylene Diimide Photovoltaic Blends. *J Phys Chem C.* 118: 20077-20085. <http://dx.doi.org/10.1021/jp503366m>.
- Geng, Y, un; Li, H, aiBin; Wu, SX; Su, ZM, in. (2012). The interplay of intermolecular interactions, packing motifs and electron transport properties in perylene diimide related materials: a theoretical perspective. *J Mater Chem.* 22: 20840-20851. <http://dx.doi.org/10.1039/c2jm33369d>.
- Georgiev, NI; Asiri, AM; Qusti, AH; Alamry, KA; Bojinov, VB. (2014). A pH sensitive and selective ratiometric PAMAM wavelength-shifting bichromophoric system based on PET, FRET and ICT. *Dyes and Pigments.* 102: 35-45. <http://dx.doi.org/10.1016/j.dyepig.2013.10.007>.
- Georgiev, NI; Bojinov, VB. (2010). The design and synthesis of a novel 1,8-naphthalimide PAMAM light-harvesting dendron with fluorescence "off-on" switching core. *Dyes and Pigments.* 84: 249-256. <http://dx.doi.org/10.1016/j.dyepig.2009.09.013>.
- Georgiev, NI; Bojinov, VB; Nikolov, PS. (2009). Design and synthesis of a novel pH sensitive core and peripherally 1,8-naphthalimide-labeled PAMAM dendron as light harvesting antenna. *Dyes and Pigments.* 81: 18-26. <http://dx.doi.org/10.1016/j.dyepig.2008.08.009>.

Exposure Literature Search Results

Off Topic

- Georgiev, NI; Bojinov, VB; Nikolov, PS. (2011). The design, synthesis and photophysical properties of two novel 1,8-naphthalimide fluorescent pH sensors based on PET and ICT. *Dyes and Pigments.* 88: 350-357. <http://dx.doi.org/10.1016/j.dyepig.2010.08.004>.
- Georgiev, NI; Dimitrova, MD; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Synthesis, sensor activity and logic behaviour of a novel bichromophoric system based on rhodamine 6G and 1,8-naphthalimide. *Dyes and Pigments.* 115: 172-180. <http://dx.doi.org/10.1016/j.dyepig.2015.01.001>.
- Georgiev, NI; Dimitrova, MD; Todorova, YD; Bojinov, VB. (2016). Synthesis, chemosensing properties and logic behaviour of a novel ratiometric 1,8-naphthalimide probe based on ICT and PET. *Dyes and Pigments.* 131: 9-17. <http://dx.doi.org/10.1016/j.dyepig.2016.03.051>.
- Georgiev, NI; Sakr, AR; Bojinov, VB. (2011). Design and synthesis of novel fluorescence sensing perylene diimides based on photoinduced electron transfer. *Dyes and Pigments.* 91: 332-339. <http://dx.doi.org/10.1016/j.dyepig.2011.04.015>.
- Gharanjig, K; Arami, M; Bahrami, H; Movassagh, B; Mahmoodi, NM; Rouhani, S. (2008). Synthesis, spectral properties and application of novel monoazo disperse dyes derived from N-ester-1,8-naphthalimide to polyester. *Dyes and Pigments.* 76: 684-689. <http://dx.doi.org/10.1016/j.dyepig.2007.01.024>.
- Gharanjig, K; Sadeghi-Kiakhani, M; Arami, M; Mahmoodi, NM; Khosravi, A. (2010). Solubilisation kinetics of some monoazo naphthalimide disperse dyes containing butyric acid and investigation of fastness properties of the dyes on polyester. *Color Technol.* 126: 37-41. <http://dx.doi.org/10.1111/j.1478-4408.2010.00225.x>.
- Gharanjig, K; Sadeghi-Kiakhani, M; Tehrani-Bagha, AR; Khosravi, A; Menger, FM. (2011). Solubility of Two Disperse Dyes Derived from N-Alkyl and N-Carboxylic Acid Naphthalimides in the Presence of Gemini Cationic Surfactants. *Journal of Surfactants and Detergents.* 14: 381-389. <http://dx.doi.org/10.1007/s11743-011-1253-8>.
- Giri, D; Ashraf, KM; Collinson, MM; Higgins, DA. (2015). Single-Molecule Perspective on Mass Transport in Condensed Water Layers over Gradient Self-Assembled Monolayers. *J Phys Chem C.* 119: 9418-9428. <http://dx.doi.org/10.1021/acs.jpcc.5b01958>.
- Glaz, MS; Biberdorf, JD; Nguyen, MT; Travis, JJ; Holliday, BJ; Vanden Bout, DA. (2013). Perylene diimide functionalized polynorbornene: a macromolecular scaffold for supramolecular self-assembly. 1: 8060-8065. <http://dx.doi.org/10.1039/c3tc31861c>.
- Gommans, H; Aernouts, T; Verreet, B; Heremans, P; Medina, A; Claessens, CG; Torres, T. (2009). Perfluorinated Subphthalocyanine as a New Acceptor Material in a Small-Molecule Bilayer Organic Solar Cell. *Adv Funct Mater.* 19: 3435-3439. <http://dx.doi.org/10.1002/adfm.200900524>.
- Gong, R; Mu, H; Sun, Y; Fang, X; Xue, P; Fu, E. (2013). The first fluorescent sensor for medium-chain fatty acids in water: design, synthesis and sensing properties of an organic-inorganic hybrid material. 1: 2038-2047. <http://dx.doi.org/10.1039/c3tb00355h>.
- Gopikrishna, P; Das, D; Iyer, PK. (2015). Synthesis and characterization of color tunable, highly electroluminescent copolymers of polyfluorene by incorporating the N-phenyl-1,8-naphthalimide moiety into the main chain. 3: 9318-9326. <http://dx.doi.org/10.1039/c5tc01899d>.
- Grabchev, I. (1998). Photophysical characteristics of polymerizable 1,8-naphthalimide dyes and their copolymers with styrene or methylmethacrylate. *Dyes and Pigments.* 38: 219-226.
- Grabchev, I; Bojinov, V; Petkov, C. (2001). Synthesis and photophysical properties of polymerizable 1,8-naphthalimide dyes and their copolymers with styrene. *Dyes and Pigments.* 51: 1-8.
- Grabchev, I; Chovelon, JM. (2008). New blue fluorescent sensors for metal cations and protons based on 1,8-naphthalimide. *Dyes and Pigments.* 77: 1-6. <http://dx.doi.org/10.1016/j.dyepig.2007.02.012>.
- Grabchev, I; Dumas, S; Chovelon, JM. (2009). A polyamidoamine dendrimer as a selective colorimetric and ratiometric fluorescent sensor for Li⁺ cations in alkali media. *Dyes and Pigments.* 82: 336-340. <http://dx.doi.org/10.1016/j.dyepig.2009.02.003>.
- Grabchev, I; Konstantinova, T. (1997). Synthesis of some polymerisable 1,8-naphthalimide derivatives for use as fluorescent brighteners. *Dyes and Pigments.* 33: 197-203.
- Grabchev, I; Meallier, P; Konstantinova, T; Popova, M. (1995). SYNTHESIS OF SOME UNSATURATED 1,8-NAPHTHALIMIDE DYES. *Dyes and Pigments.* 28: 41-46.
- Grabchev, I; Moneva, I; Betcheva, R; Elyashevich, G. (2002). Colored microporous polyethylene films: effect of porous structure on dye adsorption. *Mater Res Innovat.* 6: 34-37. <http://dx.doi.org/10.1007/s10019-001-0154-2>.
- Grabchev, I; Moneva, I; Bojinov, V; Guittonneau, S. (2000). Synthesis and properties of fluorescent 1,8-naphthalimide dyes for application in liquid crystal displays. *J Mater Chem.* 10: 1291-1296.
- Grabchev, I; Moneva, I; Kozlov, A; Elyashevich, G. (2001). Orientation of pores in microporous polyethylene films as determined by polarized absorption spectroscopy. *Mater Res Innovat.* 4: 301-305.
- Grabchev, I; Petkov, C; Bojinov, V. (2001). Synthesis and absorption properties of some new bis-1,8-naphthalimides. *Dyes and Pigments.* 48: 239-244.
- Grabchev, I; Petkov, C; Bojinov, V. (2002). 1,8-naphthalimides as blue emitting fluorophores for polymer materials. *Macromolecular Materials & Engineering.* 287: 904-908.
- Grabchev, I; Petkov, C; Bojinov, V. (2004). Infrared spectral characterization of poly(amidoamine) dendrimers peripherally modified with 1,8-naphthalimides. *Dyes and Pigments.* 62: 229-234. <http://dx.doi.org/10.1016/j.dyepig.2003.12.004>.
- Grabchev, I; Staneva, D; Chovelon, JM. (2010). Photophysical investigations on the sensor potential of novel, poly(propylenamine) dendrimers modified with 1,8-naphthalimide units. *Dyes and Pigments.* 85: 189-193. <http://dx.doi.org/10.1016/j.dyepig.2009.10.023>.
- Grabtchev, I; Philipova, T; Meallier, P; Guittonneau, S. (1996). Influence of substituents on the spectroscopic and photochemical properties of naphthalimide derivatives. *Dyes and Pigments.* 31: 31-34.
- Gregg, BA; Kose, ME. (2008). Reversible Switching between Molecular and Charge Transfer Phases in a Liquid Crystalline Organic Semiconductor. *Chem Mater.* 20: 5235-5239. <http://dx.doi.org/10.1021/cm800813h>.

Exposure Literature Search Results

Off Topic

- Greiner, R; Schluecker, T; Zgela, D; Langhals, H. (2016). Fluorescent aryl naphthalene dicarboximides with large Stokes shifts and strong solvatochromism controlled by dynamics and molecular geometry. 4: 11244-11252. <http://dx.doi.org/10.1039/c6tc04453k>.
- Grepioni, F; D'Agostino, S; Braga, D; Bertocco, A; Catalano, L; Ventura, B. (2015). Fluorescent crystals and co-crystals of 1,8-naphthalimide derivatives: synthesis, structure determination and photophysical characterization. 3: 9425-9434. <http://dx.doi.org/10.1039/c5tc01518a>.
- Grimaldi, IA; Barra, M; Carella, A; Di Girolamo, FV; Loffredo, F; Minarini, C; Villani, F; Cassinese, A. (2013). Bias stress effects investigated in charge depletion and accumulation regimes for inkjet-printed perylene diimide organic transistors. Synthetic Metals. 176: 121-127. <http://dx.doi.org/10.1016/j.synthmet.2013.05.030>.
- Grimaldi, IA; Barra, M; Del Mauro, AD, eG; Loffredo, F; Cassinese, A; Villani, F; Minarini, C. (2012). Inkjet printed perylene diimide based OTFTs: Effect of the solvent mixture and the printing parameters on film morphology. Synthetic Metals. 161: 2618-2622. <http://dx.doi.org/10.1016/j.synthmet.2011.08.004>.
- Gross, AJ; Haddad, R; Travelet, C; Reynaud, E; Audebert, P; Borsali, R; Cosnier, S. (2016). Redox-Active Carbohydrate-Coated Nanoparticles: Self-Assembly of a Cyclodextrin-Polystyrene Glycopolymers with Tetrazine-Naphthalimide. Langmuir. 32: 11939-11945. <http://dx.doi.org/10.1021/acs.langmuir.6b03512>.
- Gruenewald, M; Kleinlein, J; Syrowatka, F; Wuerthner, F; Molenkamp, LW; Schmidt, G. (2013). Large room-temperature magnetoresistance in lateral organic spin valves fabricated by *in situ* shadow evaporation. Organic Electronics. 14: 2082-2086. <http://dx.doi.org/10.1016/j.orgel.2013.04.049>.
- Gu, P, eiY; Lu, C, aiJ; Hu, Z, hiJun; Li, N, ajun; Zhao, TT; Xu, QF; Xu, QH, ua; Zhang, JD; Lu, JM, ei. (2013). The AIEE effect and two-photon absorption (TPA) enhancement induced by polymerization: synthesis of a monomer with ICT and AIE effects and its homopolymer by ATRP and a study of their photophysical properties. 1: 2599-2606. <http://dx.doi.org/10.1039/c3tc00738c>.
- Guarisco, C; Palmisano, G; Calogero, G; Ciriminna, R; Di Marco, G; Loddio, V; Pagliaro, M; Parrino, F. (2014). Visible-light driven oxidation of gaseous aliphatic alcohols to the corresponding carbonyls via TiO₂ sensitized by a perylene derivative. Environ Sci Pollut Res Int. 21: 11135-11141. <http://dx.doi.org/10.1007/s11356-014-2546-z>.
- Gudeika, D; Grazulevicius, JV; Sini, G; Bucinskas, A; Jankauskas, V; Miasojedovas, A; Jursenas, S. (2014). New derivatives of triphenylamine and naphthalimide as ambipolar organic semiconductors: Experimental and theoretical approach. Dyes and Pigments. 106: 58-70. <http://dx.doi.org/10.1016/j.dyepig.2014.02.023>.
- Gudeika, D; Grazulevicius, JV; Volyniuk, D; Butkute, R; Juska, G; Miasojedovas, A; Gruodis, A; Jursenas, S. (2015). Structure-properties relationship of the derivatives of carbazole and 1,8-naphthalimide: Effects of the substitution and the linking topology. Dyes and Pigments. 114: 239-252. <http://dx.doi.org/10.1016/j.dyepig.2014.11.013>.
- Gudeika, D; Grazulevicius, JV; Volyniuk, D; Juska, G; Jankauskas, V; Sini, G. (2015). Effect of Ethynyl Linkages on the Properties of the Derivatives of Triphenylamine and 1,8-Naphthalimide. J Phys Chem C. 119: 28335-28346. <http://dx.doi.org/10.1021/acs.jpcc.5b10163>.
- Gudeika, D; Michaleviciute, A; Grazulevicius, JV; Lygaitis, R; Grigalevicius, S; Jankauskas, V; Miasojedovas, A; Jursenas, S; Sini, G. (2012). Structure Properties Relationship of Donor-Acceptor Derivatives of Triphenylamine and 1,8-Naphthalimide. J Phys Chem C. 116: 14811-14819. <http://dx.doi.org/10.1021/jp303172b>.
- Gudeika, D; Reghu, RR; Grazulevicius, JV; Buika, G; Simokaitiene, J; Miasojedovas, A; Jursenas, S; Jankauskas, V. (2013). Electron-transporting naphthalimide-substituted derivatives of fluorene. Dyes and Pigments. 99: 895-902. <http://dx.doi.org/10.1016/j.dyepig.2013.07.016>.
- Guillermet, O; Mossyan-Deneux, M; Giorgi, M; Glachant, A; Mossyan, JC. (2006). Structural study of vapour phase deposited 3,4,9,10-perylene tetracarboxylic acid diimide: Comparison between single crystal and ultra thin films grown on Pt(100). Thin Solid Films. 514: 25-32. <http://www.sciencedirect.com/science/article/pii/S0040609006002586>.
- Guo, H; Li, Q; Ma, L; Zhao, J. (2012). Fluorene as pi-conjugation linker in N boolean AND N Pt(II) bisacetylide complexes and their applications for triplet-triplet annihilation based upconversion. J Mater Chem. 22: 15757-15768. <http://dx.doi.org/10.1039/c2jm32074f>.
- Guo, X, in; Tu, D; Liu, X. (2015). Recent advances in rylene diimide polymer acceptors for all-polymer solar cells. 24: 675-685. <http://dx.doi.org/10.1016/j.jechem.2015.11.003>.
- Guo, XF; Zhang, DQ; Zhu, DB. (2004). Logic control of the fluorescence of a new dyad, spiropyran-perylene diimide-spiropyran, with light, ferric ion, and proton: Construction of a new three-input "AND" logic gate. Adv Mater Deerfield. 16: 125-+. <http://dx.doi.org/10.1002/adma.200306102>.
- Guo, Y; Zhang, J, i; Yu, G, ui; Zheng, J; Zhang, L, ei; Zhao, Y, an; Wen, Y; Liu, Y. (2012). Lowering programmed voltage of organic memory transistors based on polymer gate electrets through heterojunction fabrication. Organic Electronics. 13: 1969-1974. <http://dx.doi.org/10.1016/j.orgel.2012.05.007>.
- Guthrie, JT; Konstantinova, T; Ginova, E. (1997). Polymers of acrylonitrile and the naphthalimide derivatives of some fluorescent dyes. Dyes and Pigments. 34: 287-296.
- Hadmojo, WT; Nam, S, oY; Shin, T, aeJoo; Yoon, SC; Jang, SY; Jung, I, nh. (2016). Geometrically controlled organic small molecule acceptors for efficient fullerene-free organic photovoltaic devices. 4: 12308-12318. <http://dx.doi.org/10.1039/c6ta04344e>.
- Haines, C; Chen, M; Ghiggino, KP. (2012). The effect of perylene diimide aggregation on the light collection efficiency of luminescent concentrators. Solar Energy Materials and Solar Cells. 105: 287-292. <http://dx.doi.org/10.1016/j.solmat.2012.06.030>.
- Hains, AW; Chen, HY; Reilly, TH; Gregg, BA. (2011). Cross-linked perylene diimide-based n-type interfacial layer for inverted organic photovoltaic devices. 3: 4381-4387. <http://dx.doi.org/10.1021/am201027j>.
- Hamel, M; Simic, V; Normand, S. (2008). Fluorescent 1,8-naphthalimides-containing polymers as plastic scintillators. An attempt for neutron-gamma discrimination. React Funct Polym. 68: 1671-1681. <http://dx.doi.org/10.1016/j.reactfunctpolym.2008.09.005>.

Exposure Literature Search Results

Off Topic

- Han, BG; Kim, JS, oo. (2015). The Luminescent Solar Concentrators with the H-aggregate of Perylene Diimide Dye Imbedded into PMMA. *Fibers and Polymers.* 16: 752-760. <http://dx.doi.org/10.1007/s12221-015-0752-z>.
- Han, C; Huang, T; Liu, Q, i; Xu, H; Zhuang, Y; Li, J; Hu, J; Wang, A; Xu, K, ai. (2014). Design and synthesis of a highly sensitive "Turn-On" fluorescent organic nanoprobe for iron(III) detection and imaging. 2: 9077-9082. <http://dx.doi.org/10.1039/c4tc01759e>.
- Hao, L; Xiao, C; Zhang, J; Jiang, W, ei; Xu, W, ei; Wang, Z. (2013). Perpendicularly entangled perylene diimides for high performance electron transport materials. 1: 7812-7818. <http://dx.doi.org/10.1039/c3tc31912a>.
- He, E; Wang, J; Liu, H; He, Z; Zhao, H; Bao, W; Zhang, R; Zhang, H. (2016). Facile synthesis of an isolable and ambient stable bay-substituted perylene diimide radical anion salt and its optical response to base-acid and metal ions. *Journal of Materials Science.* 51: 9229-9238. <http://dx.doi.org/10.1007/s10853-016-0168-1>.
- He, E; Wang, J; Xu, H, ai; He, Z; Wang, H; Zhao, H; Zhang, Y; Zhang, R; Zhang, H. (2016). Facile synthesis of graphene oxide sheet-immobilized perylene diimide radical anion salt and its optical response to different solvents and pH values. *Journal of Materials Science.* 51: 6583-6589. <http://dx.doi.org/10.1007/s10853-016-9885-8>.
- He, Q; Li, T; Yan, C; Liu, Y; Wang, J; Wang, M; Lin, Y; Zhan, X. (2016). Cracking perylene diimide backbone for fullerene-free polymer solar cells. *Dyes and Pigments.* 128: 226-234. <http://dx.doi.org/10.1016/j.dyepig.2016.01.034>.
- He, X; Zhou, W; Li, Y; Liu, X; Li, C; Liu, H; Zhu, D. (2008). Tuning morphology and fluorescence of aggregated nanostructures of derived perylene diimide molecules. *J Nanosci Nanotechnol.* 8: 2005-2010. <http://dx.doi.org/10.1166/jnn.2008.042>.
- Hendsbee, AD; McAfee, SM; Sun, J, onP; McCormick, TM; Hill, I, anG; Welch, GC. (2015). Phthalimide-based pi-conjugated small molecules with tailored electronic energy levels for use as acceptors in organic solar cells. 3: 8904-8915. <http://dx.doi.org/10.1039/c5tc01877c>.
- Hendsbee, AD; Sun, J, onP; Law, W, aiKit; Yan, H, e; Hill, I, anG; Spasuk, DM; Welch, GC. (2016). Synthesis, Self-Assembly, and Solar Cell Performance of N-Annulated Perylene Diimide Non-Fullerene Acceptors. *Chem Mater.* 28: 7098-7109. <http://dx.doi.org/10.1021/acs.chemmater.6b03292>.
- Hendsbee, AD; Sun, J, onP; Rutledge, LR; Hill, I, anG; Welch, GC. (2014). Electron deficient diketopyrrolopyrrole dyes for organic electronics: synthesis by direct arylation, optoelectronic characterization, and charge carrier mobility. 2: 4198-4207. <http://dx.doi.org/10.1039/c3ta14414c>.
- Herrmann, R; Rennhak, M; Reller, A. (2014). Synthesis and characterization of fluorescence-labelled silica core-shell and noble metal-decorated ceria nanoparticles [Review]. 5: 2413-2423. <http://dx.doi.org/10.3762/bjnano.5.251>.
- Ho, Y, uhWen; Yao, W, eiHua. (2009). The synthesis and spectral characteristics of novel 6-(2-substituted-1,3,4-oxadiazol-5-yl)-2-phenylthieno[2,3-d]pyrimidine fluorescent compounds derived from 5-cyano-1,6-dihydro-4-methyl-2-phenyl-6-thioxopyrimidine. *Dyes and Pigments.* 82: 6-12. <http://dx.doi.org/10.1016/j.dyepig.2008.09.014>.
- Hong, K; Kim, S, eH; Yang, C; An, T, aeKyu; Cha, H; Park, C; Park, CE, on. (2011). Photopatternable, highly conductive and low work function polymer electrodes for high-performance n-type bottom contact organic transistors. *Organic Electronics.* 12: 516-519. <http://dx.doi.org/10.1016/j.orgel.2010.12.022>.
- Horowitz, G; Kouki, F; Spearman, P; Fichou, D; Nogues, C; Pan, X; Garnier, F. (1996). Evidence for n-type conduction in a perylene tetracarboxylic diimide derivative. *Adv Mater Deerfield.* 8: 242-&.
- Hosseini, S; Madden, C; Hihath, J; Guo, S; Zang, L; Li, Z. (2016). Single -Molecule Charge Transport and Electrochemical Gating in Redox-Active Perylene Diimide Junctions. *J Phys Chem C.* 120: 22646-22654. <http://dx.doi.org/10.1021/acs.jpcc.6b06229>.
- Hou, J; Zhang, Q; Li, X; Tang, Y; Cao, MR; Bai, F; Shi, Q; Yang, CH; Kong, DL; Bai, G. (2011). Synthesis of novel folate conjugated fluorescent nanoparticles for tumor imaging. *J Biomed Mater Res A.* 99: 684-689. <http://dx.doi.org/10.1002/jbm.a.33187>.
- Hou, R, an; Feng, S; Gong, X, ue; Liu, Y; Zhang, J; Li, C; Bo, Z. (2016). Side chain effect of nonfullerene acceptors on the photovoltaic performance of wide band gap polymer solar cells. *Synthetic Metals.* 220: 578-584. <http://dx.doi.org/10.1016/j.synthmet.2016.07.015>.
- Hou, X; Yu, Q; Zeng, F; Ye, J; Wu, S. (2015). A ratiometric fluorescent probe for in vivo tracking of alkaline phosphatase level variation resulting from drug-induced organ damage. 3: 1042-1048. <http://dx.doi.org/10.1039/c4tb01744g>.
- Houari, Y; Laurent, AD; Jacquemin, D. (2013). Spectral Signatures of Perylene Diimide Derivatives: Insights From Theory. *J Phys Chem C.* 117: 21682-21691. <http://dx.doi.org/10.1021/jp407104m>.
- Hsu, Y, uYi; Yeh, SC; Lin, SH; Chen, CT, i; Tung, SH; Jeng, R, uJ. (2016). Dendrons with urea/malonamide linkages for gate insulators of n-channel organic thin film transistors. *React Funct Polym.* 108: 86-93. <http://dx.doi.org/10.1016/j.reactfunctpolym.2016.05.008>.
- Hu, C; Zhu, WH; Lin, WQ; Tian, H. (1999). Synthesis and luminescence of novel emitting copolymers. *Synthetic Metals.* 102: 1129-1130.
- Hu, G; Lv, L; Li, L; Zhang, Q; Li, X; Tian, Y; Wu, J; Jin, B; Zhou, H; Yang, J; Zhang, S. (2011). Design, synthesis, photoluminescence and electrochemiluminescence properties of naphthalimide derivative and its silver complex. *Dyes and Pigments.* 89: 105-110. <http://dx.doi.org/10.1016/j.dyepig.2010.09.011>.
- Hu, JC; Kuang, WF; Deng, K; Zou, WJ; Huang, YW; Wei, ZX; Faul, CFJ. (2012). Self-Assembled Sugar-Substituted Perylene Diimide Nanostructures with Homochirality and High Gas Sensitivity. *Adv Funct Mater.* 22: 4149-4158. <http://dx.doi.org/10.1002/adfm.201200973>.
- Hu, X; Zuo, L; Pan, H; Hao, F; Pan, J; Fu, L, ei; Shi, M; Chen, H. (2012). Synthesis and photovoltaic properties of n-type conjugated polymers alternating 2,7-carbazole and arylene diimides. *Solar Energy Materials and Solar Cells.* 103: 157-163. <http://dx.doi.org/10.1016/j.solmat.2012.04.041>.
- Hu, Y; Chen, L; Jung, H; Zeng, Y; Lee, S; Swamy, KMK; Zhou, X, in; Kim, M; Yoon, J. (2016). Effective Strategy for Colorimetric and Fluorescence Sensing of Phosgene Based on Small Organic Dyes and Nanofiber Platforms. *ACS Applied Materials & Interfaces.* 8: 22246-22252. <http://dx.doi.org/10.1021/acsami.6b07138>.

Exposure Literature Search Results

Off Topic

- Hu, Y; Wang, K; Zhang, Q; Li, F; Wu, T; Niu, L. (2012). Decorated graphene sheets for label-free DNA impedance biosensing. *Biomaterials*. 33: 1097-1106. <http://dx.doi.org/10.1016/j.biomaterials.2011.10.045>.
- Hu, Y; Zeng, F. (2017). A theranostic prodrug based on FRET for real-time drug release monitoring in response to biothiols. *Mater Sci Eng C*. 72: 77-85. <http://dx.doi.org/10.1016/j.msec.2016.11.056>.
- Hu, Z; Xu, R; Dong, S; Lin, K, ai; Liu, J; Huang, F, ei; Cao, Y. (2017). Quaternisation-polymerized N-type polyelectrolytes: synthesis, characterisation and application in high-performance polymer solar cells. 4: 88-97. <http://dx.doi.org/10.1039/c6mh00434b>.
- Huang, C; Sartin, MM; Siegel, N; Cozzuol, M; Zhang, Y; Hales, JM; Barlow, S; Perry, JW; Marder, SR. (2011). Photo-induced charge transfer and nonlinear absorption in dyads composed of a two-photon-absorbing donor and a perylene diimide acceptor. *J Mater Chem*. 21: 16119-16128. <http://dx.doi.org/10.1039/c1jm12566d>.
- Huang, J; Wang, X; Zhang, X; Niu, Z; Lu, Z; Jiang, B; Sun, Y; Zhan, C; Yao, J. (2014). Additive-assisted control over phase-separated nanostructures by manipulating alkylthienyl position at donor backbone for solution-processed, non-fullerene, all-small-molecule solar cells. 6: 3853-3862. <http://dx.doi.org/10.1021/am406050j>.
- Huang, L; Zhu, F; Liu, C; Wang, H; Geng, Y; Yan, D. (2010). Heteroepitaxy growth high performance films of perylene diimide derivatives. *Organic Electronics*. 11: 195-201. <http://dx.doi.org/10.1016/j.orgel.2009.10.014>.
- Huang, W; Markwart, JC; Briseno, AL; Hayward, RC. (2016). Orthogonal Ambipolar Semiconductor Nanostructures for Complementary Logic Gates. *ACS Nano*. 10: 8610-8619. <http://dx.doi.org/10.1021/acsnano.6b03942>.
- Huang, X; Fang, Y, i; Li, X, in; Xie, Y; Zhu, W. (2011). Novel dyes based on naphthalimide moiety as electron acceptor for efficient dye-sensitized solar cells. *Dyes and Pigments*. 90: 297-303. <http://dx.doi.org/10.1016/j.dyepig.2011.01.010>.
- Hussain, M; Shamey, R; Hinks, D; El-Shafei, A; Ali, SI. (2012). Synthesis of novel stilbene-alkoxysilane fluorescent brighteners, and their performance on cotton fiber as fluorescent brightening and ultraviolet absorbing agents. *Dyes and Pigments*. 92: 1231-1240. <http://dx.doi.org/10.1016/j.dyepig.2011.06.034>.
- Hwang, Y, eJin; Courtright, BAE; Jenekhe, SA. (2015). Ternary blend all-polymer solar cells: enhanced performance and evidence of parallel-like bulk heterojunction mechanism. 5: 229-234. <http://dx.doi.org/10.1557/mrc.2015.36>.
- Ichikawa, M; Deguchi, S; Onoguchi, T; Jeon, HG, u; Banoukepa, G, deR. (2013). N,N'-diphenylperylene diimide functioning as a sensitizing light absorber based on excitation transfer for organic thin-film solar cells. *Organic Electronics*. 14: 464-468. <http://dx.doi.org/10.1016/j.orgel.2012.12.004>.
- Icli, S; Icil, H; Gurol, I. (1997). High rates of fluorescence quenching between perylene dodecyldiimide and certain pi-electron donors. *Turkish Journal of Chemistry*. 21: 363-368.
- Im, P; Kang, D; Kim, D; Choi, Y; Yoon, W; Lee, MH; Lee, I, nH; Lee, CR, o; Jeong, KU, n. (2016). Flexible and Patterned Thin Film Polarizer: Photopolymerization of Perylene-based Lyotropic Chromonic Reactive Mesogens. *ACS Applied Materials & Interfaces*. 8: 762-771. <http://dx.doi.org/10.1021/acsmami.5609995>.
- Inal, S; Koelsch, JD; Chiappisi, L; Janietz, D; Gradielski, M; Laschewsky, A; Neher, D. (2013). Structure-related differences in the temperature-regulated fluorescence response of LCST type polymers. 1: 6603-6612. <http://dx.doi.org/10.1039/c3tc31304b>.
- Iverson, IK; Casey, SM; Seo, W; Tam-Chang, SW; Pindzola, BA. (2002). Controlling molecular orientation in solid films via self-organization in the liquid-crystalline phase. *Langmuir*. 18: 3510-3516. <http://dx.doi.org/10.1021/la011499t>.
- Iwan, A; Schab-Balcerzak, E, wa; Siwy, M; Sikora, A; Palewicz, M; Janeczek, H; Sibinski, M. (2011). New aliphatic-aromatic tetraphenylphthalic-based diimides: Thermal, optical and electrical study. *Optical Materials*. 33: 958-967. <http://dx.doi.org/10.1016/j.optmat.2010.12.017>.
- Jafari, S; Khosravi, A; Gharanjig, K; Moradian, S; Pourmahdian, S. (2014). A NOVEL UTILISATION OF PRINCIPAL COMPONENT ANALYSIS TO OPTIMISE SORPTION ISOTHERMS AND DETERMINE DIFFUSION COEFFICIENTS OF FIVE NAPHTHALIMIDE DISPERSE DYES ON POLYESTER FIBRES. *Can J Chem Eng*. 92: 553-562. <http://dx.doi.org/10.1002/cjce.21852>.
- Jang, J; Nam, S; Chung, D; Kim, S, eH; Yun, W; Park, C. (2010). High T-g Cyclic Olefin Copolymer Gate Dielectrics for N,N'-Ditridecyl Perylene Diimide Based Field-Effect Transistors: Improving Performance and Stability with Thermal Treatment. *Adv Funct Mater*. 20: 2611-2618. <http://dx.doi.org/10.1002/adfm.201000383>.
- Jang, J; Nam, S; Yun, W, onMin; Yang, C; Hwang, J; An, T, aeKyu; Chung, D, aeS; Park, CE, on. (2011). High T-g cyclic olefin copolymer/Al₂O₃ bilayer gate dielectrics for flexible organic complementary circuits with low-voltage and air-stable operation. *J Mater Chem*. 21: 12542-12546. <http://dx.doi.org/10.1039/c1jm11544h>.
- Jarczyk-Jedryka, A; Bijak, K; Sek, D; Siwy, M; Filapek, M; Malecki, G; Kula, S; Lewinska, G; Nowak, EM; Sanetra, J; Janeczek, H; Smolarek, K; Mackowski, S; Schab-Balcerzak, E, wa. (2015). Unsymmetrical and symmetrical azines toward application in organic photovoltaic. *Optical Materials*. 39: 58-68. <http://dx.doi.org/10.1016/j.optmat.2014.10.065>.
- Jaunet-Lahary, T; Jacquemin, D; Legouin, B; Le Questel, JY; Cupif, JF; Toupet, L; Uriac, P; Graton, J. (2015). Dissymmetric Molecular Tweezers in Host-Guest Complexes: Internal or External Complexation? *J Phys Chem C*. 119: 3771-3779. <http://dx.doi.org/10.1021/jp511418d>.
- Jeon, HG, u; Oguma, N; Hirata, N; Ichikawa, M. (2013). Wet-processed n-type OTFTs utilizing highly-stable colloids of a perylene diimide derivative. *Organic Electronics*. 14: 19-25. <http://dx.doi.org/10.1016/j.orgel.2012.10.024>.
- Jeong, YJ; Jang, J; Nam, S; Kim, K; Kim, LH; Park, S; An, TK; Park, CE. (2014). High-performance organic complementary inverters using monolayer graphene electrodes. 6: 6816-6824. <http://dx.doi.org/10.1021/am500618g>.
- Jia, T; Fu, C; Huang, C; Yang, H; Jia, N. (2015). Highly sensitive naphthalimide-based fluorescence polarization probe for detecting cancer cells. 7: 10013-10021. <http://dx.doi.org/10.1021/acsmami.5b02429>.

Exposure Literature Search Results

Off Topic

- Jia, Y; Li, P; Song, W; Zhao, G; Zheng, D; Li, D; Wang, Y; Wang, J; Li, C; Han, K. (2016). Rational Design of a Profluorescent Substrate for S-adenosylhomocysteine Hydrolase and its Applications in Bioimaging and Inhibitor Screening. *8*: 25818-25824. <http://dx.doi.org/10.1021/acsami.6b09190>.
- Jiang, H; Hershtig, G; Richter, S; Jelinek, R. (2016). Light-Induced Conductivity in a Solution-Processed Film of Polydiacetylene and Perylene Diimide. *Journal of Physical Chemistry Letters*. *7*: 1628-1631. <http://dx.doi.org/10.1021/jpclett.6b00690>.
- Jiang, W, ei; Sun, Y; Wang, X; Wang, Q, i; Xu, W. (2008). Synthesis and photochemical properties of novel 4-diarylamine-1,8-naphthalimide derivatives. *Dyes and Pigments*. *77*: 125-128. <http://dx.doi.org/10.1016/j.dyepig.2007.03.017>.
- Jiang, W, ei; Tang, J; Qi, Q, i; Sun, Y; Ye, H; Fu, D. (2009). An experimental and computational study of intramolecular charge transfer: Diarylamino derivatives of 7H-benzimidazo(2,1-a)benz(d,e)isoquinolin-7-ones. *Dyes and Pigments*. *80*: 279-286. <http://dx.doi.org/10.1016/j.dyepig.2008.07.009>.
- Jiang, W, ei; Tang, J; Qi, Q, i; Wu, W; Sun, Y; Fu, D. (2009). The synthesis, crystal structure and photophysical properties of three novel naphthalimide dyes. *Dyes and Pigments*. *80*: 11-16. <http://dx.doi.org/10.1016/j.dyepig.2008.04.005>.
- Jiang, XZ; Liu, YQ; Tian, H; Qiu, WF; Song, XQ; Zhu, DB. (1997). An electroluminescent device made with a new fluorescent dye containing 1,3,4-oxadiazole. *J Mater Chem*. *7*: 1395-1398.
- Jiang, Y; Geng, H; Shi, W; Peng, Q; Zheng, X; Shuai, Z. (2014). Theoretical Prediction of Isotope Effects on Charge Transport in Organic Semiconductors. *Journal of Physical Chemistry Letters*. *5*: 2267-2273. <http://dx.doi.org/10.1021/jz500825q>.
- Jin, J, IY; Kim, YM, o; Lee, SH, ee; Lee, YS, ik. (2009). Synthesis of an acrylic copolymer bearing fluorescent dye pendants and characterization as a luminescence conversion material in fabrication of a luminescence conversion light-emitting diode. *Synthetic Metals*. *159*: 1804-1808. <http://dx.doi.org/10.1016/j.synthmet.2009.05.030>.
- Jin, Q; Feng, L; Wang, DD; Dai, ZR; Wang, P; Zou, LW; Liu, ZH; Wang, JY; Yu, Y; Ge, GB; Cui, JN; Yang, L. (2015). A Two-Photon Ratiometric Fluorescent Probe for Imaging Carboxylesterase 2 in Living Cells and Tissues. *7*: 28474-28481. <http://dx.doi.org/10.1021/acsami.5b09573>.
- Jin, W; Wu, L; Song, Y; Jiang, J; Zhu, X; Yang, D; Bai, C. (2011). Continuous intra-arterial blood pH monitoring by a fiber-optic fluorosensor. *IEEE Trans Biomed Eng*. *58*: 1232-1238. <http://dx.doi.org/10.1109/TBME.2011.2107514>.
- Jones, BA; Facchetti, A; Wasielewski, MR; Marks, TJ. (2008). Effects of arylene diimide thin film growth conditions on n-channel OFET performance. *Adv Funct Mater*. *18*: 1329-1339. <http://dx.doi.org/10.1002/adfm.200701045>.
- Jung, I, nH; Zhao, D; Jang, J; Chen, W, ei; Landry, ES; Lu, L; Talapin, DV; Yu, L. (2015). Development and Structure/Property Relationship of New Electron Accepting Polymers Based on Thieno[2 '3 ':4,5]pyrido[2,3-g]thieno[3,2-c]quinoline-4,10-dione for All-Polymer Solar Cells. *Chem Mater*. *27*: 5941-5948. <http://dx.doi.org/10.1021/acs.chemmater.5b01928>.
- Kaji, T; Yamada, T; Ueda, R; Otomo, A. (2011). Enhanced Fluorescence Emission from Single Molecules on a Two-Dimensional Photonic Crystal Slab with Low Background Emission. *Journal of Physical Chemistry Letters*. *2*: 1651-1656. <http://dx.doi.org/10.1021/jz2006989>.
- Kalita, A; Hussain, S; Malik, AH; Subbarao, NVV; Iyer, PK. (2015). Vapor phase sensing of ammonia at the sub-ppm level using a perylene diimide thin film device. *3*: 10767-10774. <http://dx.doi.org/10.1039/c5tc02521d>.
- Kamm, V; Battagliarin, G; Howard, I, anA; Pisula, W; Mavrinckiy, A; Li, C; Muellen, K; Laquai, F. (2011). Polythiophene:Perylene Diimide Solar Cells - the Impact of Alkyl-Substitution on the Photovoltaic Performance. *1*: 297-302. <http://dx.doi.org/10.1002/aenm.201000006>.
- Kampen, TU; Salvan, G; Paraian, A; Himcinschi, C; Kobitski, AY; Friedrich, M; Zahn, DRT. (2003). Orientation of perylene derivatives on semiconductor surfaces. *Appl Surf Sci*. *212*: 501-507. [http://dx.doi.org/10.1016/S0169-4332\(03\)00390-8](http://dx.doi.org/10.1016/S0169-4332(03)00390-8).
- Karamancheva, I; Tadjer, A; Philipova, T; Madjarova, G; Ivanova, C; Grozeva, T. (1998). Calculated and experimental spectra of some 1,8-naphthalimide derivatives. *Dyes and Pigments*. *36*: 273-285.
- Kaunisto, KM; Vivo, P; Dubey, RK; Chukharev, VI; Efimov, A; Tkachenko, NV; Lemmetyinen, HJ. (2014). Charge-Transfer Dynamics in Poly(3-hexylthiophene):Perylenediimide-C-60 Blend Films Studied by Ultrafast Transient Absorption. *J Phys Chem C*. *118*: 10625-10630. <http://dx.doi.org/10.1021/jp501605k>.
- Keivanidis, PE; Ho, PKH; Friend, RH; Greenham, NC. (2010). The Dependence of Device Dark Current on the Active-Layer Morphology of Solution-Processed Organic Photodetectors. *Adv Funct Mater*. *20*: 3895-3903. <http://dx.doi.org/10.1002/adfm.201000967D>.
- Keivanidis, PE; Kamm, V; Zhang, W; Floudas, G; Laquai, F; Mcculloch, I; Bradley, DDC; Nelson, J. (2012). Correlating Emissive Non-Geminate Charge Recombination with Photocurrent Generation Efficiency in Polymer/Perylene Diimide Organic Photovoltaic Blend Films. *Adv Funct Mater*. *22*: 2318-2326. <http://dx.doi.org/10.1002/adfm.201102871>.
- Khosravi, A; Moradian, S; Gharanjig, K; Taromi, FA. (2006). Synthesis and spectroscopic studies of some naphthalimide based disperse azo dyestuffs for the dyeing of polyester fibres. *Dyes and Pigments*. *69*: 79-92. <http://dx.doi.org/10.1016/j.dyepig.2005.02.007>.
- Kiakhani, MS; Arami, M; Gharanjig, K; Mokhtari, J; Mahmoodi, NM. (2009). Synthesis and Evaluation of a Series of Novel Monoazo Disperse Dyes Derived from N-carboxylic Acid-1,8-naphthalimide on Poly(ethylene terphthalate). *Fibers and Polymers*. *10*: 446-451. <http://dx.doi.org/10.1007/s12221-009-0446-5>.
- Kim, BJ; Yu, H; Oh, JH, ak; Kang, MS; Cho, JH, o. (2013). Electrical Transport through Single Nanowires of Dialkyl Perylene Diimide. *J Phys Chem C*. *117*: 10743-10749. <http://dx.doi.org/10.1021/jp400807t>.
- Kim, I; Jabbour, GE. (2012). Effect of annealing on bulk heterojunction organic solar cells based on copper phthalocyanine and perylene derivative. *Synthetic Metals*. *162*: 102-106. <http://dx.doi.org/10.1016/j.synthmet.2011.11.018>.
- Kim, JY; Chung, IJ; Lee, G; Kim, YC; Kim, JK; Yu, JW. (2005). Mobility of electrons and holes in an n-type organic semiconductor perylene diimide thin film. *Curr Appl Phys*. *5*: 615-618. <http://dx.doi.org/10.1016/j.cap.2004.08.007>.

Exposure Literature Search Results

Off Topic

- Kim, K; An, T, aeKyu; Kim, J; Jeong, YJ, in; Jang, J; Kim, H; Baek, JY; Kim, Y, unHi; Kim, S, eH; Park, CE, on. (2014). Grafting Fluorinated Polymer Nano layer for Advancing the Electrical Stability of Organic Field-Effect Transistors. *Chem Mater.* 26: 6467-6476. <http://dx.doi.org/10.1021/cm5030266>.
- Kim, M, inSoo; Chang, J, iY. (2011). Preparation of multifunctional mesoporous silica particles: the use of an amphiphilic silica precursor with latent amine functionality in selective functionalization of the inner surface. *J Mater Chem.* 21: 8766-8771. <http://dx.doi.org/10.1039/c1jm10440c>.
- Kim, MH, ee; Cho, M, inJu; Kim, KH; Hoang, M, aiHa; Lee, T, aeWan; Jin, Ji, I; Kang, N, amSu; Yu, J, aeW; Choi, DH. (2009). Organic donor-sigma-acceptor molecules based on 1,2,4,5-tetrakis((E)-2-(5'-hexyl-2,2'-bithiophen-5-yl)vinyl)benzene and perylene diimide derivative and their application to photovoltaic devices. *Organic Electronics.* 10: 1429-1441. <http://dx.doi.org/10.1016/j.orgel.2009.08.004>.
- Kim, YY; Ree, BJ; Kido, M; Ko, YG, i; Ishige, R; Hirai, T; Wi, D; Kim, J; Kim, W, onJ; Takahara, A; Ree, M. (2015). High-Performance n-Type Electrical Memory and Morphology-Induced Memory-Mode Tuning of a Well-Defined Brush Polymer Bearing Perylene Diimide Moieties. 1. <http://dx.doi.org/10.1002/aelm.201500197>.
- Kira, A; Umeyama, T; Matano, Y; Yoshida, K; Isoda, S; Isosomppi, M; Tkachenko, NV; Lemmetyinen, H; Imahori, H. (2006). Structure and photoelectrochemical properties of phthalocyanine and perylene diimide composite clusters deposited electrophoretically on nanostructured SnO₂ electrodes. *Langmuir.* 22: 5497-5503. <http://dx.doi.org/10.1021/la0533314>.
- Kirner, JT; Stracke, JJ; Gregg, BA; Finke, RG. (2014). Visible-light-assisted photoelectrochemical water oxidation by thin films of a phosphonate-functionalized perylene diimide plus CoOx cocatalyst. 6: 13367-13377. <http://dx.doi.org/10.1021/am405598w>.
- Kisnisci, Z; Yuksel, OF; Kus, M. (2014). Optical properties of perylene-monoimide (PMI) and perylene-diimide (PDI) organic semiconductor thin films. *Synthetic Metals.* 194: 193-197. <http://dx.doi.org/10.1016/j.synthmet.2014.05.003>.
- Konstantinova, T; Spirieva, A; Petkova, T. (2000). The synthesis, properties and application of some 1,8-naphthalimide dyes. *Dyes and Pigments.* 45: 125-129.
- Konstantinova, TN; Lazarova, RA. (2007). Synthesis of some polymerizable triazinylaminobenzotriazole stabilizers and benzanthrone dyes containing a stabilizer fragment. *Dyes and Pigments.* 74: 208-214. <http://dx.doi.org/10.1016/j.dyepig.2006.01.035>.
- Konstantinova, TN; Meallier, P; Grabchev, I. (1993). THE SYNTHESIS OF SOME 1,8-NAPHTHALIC ANHYDRIDE DERIVATIVES AS DYES FOR POLYMERIC MATERIALS. *Dyes and Pigments.* 22: 191-198.
- Kotowski, D; Luzzati, S; Scavia, G; Cavazzini, M; Bossi, A; Catellani, M; Kozma, E. (2015). The effect of perylene diimides chemical structure on the photovoltaic performance of P3HT/perylene diimides solar cells. *Dyes and Pigments.* 120: 57-64. <http://dx.doi.org/10.1016/j.dyepig.2015.04.006>.
- Kováčik, J; Babula, P; Hedbavny, J; Kryštofová, O; Provazník, I. (2015). Physiology and methodology of chromium toxicity using alga *Scenedesmus quadricauda* as model object. *Chemosphere.* 120: 23-30. <http://dx.doi.org/10.1016/j.chemosphere.2014.05.074>.
- Kovacik, J; Babula, P; Klejdus, B; Hedbavny, J. (2013). Chromium Uptake and Consequences for Metabolism and Oxidative Stress in Chamomile Plants. *J Agric Food Chem.* 61: 7864-7873. <http://dx.doi.org/10.1021/fd401575a>.
- Koyuncu, FB; Koyuncu, S; Ozdemir, E. (2011). A new donor-acceptor carbazole derivative: Electrochemical polymerization and photo-induced charge transfer properties. *Synthetic Metals.* 161: 1005-1013. <http://dx.doi.org/10.1016/j.synthmet.2011.03.008>.
- Kozma, E; Catellani, M. (2013). Perylene diimides based materials for organic solar cells. *Dyes and Pigments.* 98: 160-179. <http://www.sciencedirect.com/science/article/pii/S014372081300034X>.
- Kozma, E; Grisci, G; Mroz, W; Catellani, M; Eckstein-Andicsova, A; Pagano, K; Galeotti, F. (2016). Water-soluble aminoacid functionalized perylene diimides: The effect of aggregation on the optical properties in organic and aqueous media. *Dyes and Pigments.* 125: 201-209. <http://dx.doi.org/10.1016/j.dyepig.2015.10.019>.
- Kozma, E; Kotowski, D; Catellani, M; Luzzati, S; Famulari, A; Bertini, F. (2013). Synthesis and characterization of new electron acceptor perylene diimide molecules for photovoltaic applications. *Dyes and Pigments.* 99: 329-338. <http://dx.doi.org/10.1016/j.dyepig.2013.05.011>.
- Kozma, E; Mroz, W; Galeotti, F. (2015). A polystyrene bearing perylene diimide pendants with enhanced solid state emission for white hybrid light-emitting diodes. *Dyes and Pigments.* 114: 138-143. <http://dx.doi.org/10.1016/j.dyepig.2014.11.009>.
- Kozma, E; Munno, F; Kotowski, D; Bertini, F; Luzzati, S; Catellani, M. (2010). Synthesis and characterization of perylene-based donor-acceptor copolymers containing triple bonds. *Synthetic Metals.* 160: 996-1001. <http://dx.doi.org/10.1016/j.synthmet.2010.02.015>.
- Krause, S; Neumann, M; Froebe, M; Magerle, R; von Borczyskowski, C. (2016). Monitoring Nanoscale Deformations in a Drawn Polymer Melt with Single-Molecule Fluorescence Polarization Microscopy. *ACS Nano.* 10: 1908-1917. <http://dx.doi.org/10.1021/acsnano.5b05729>.
- Krlitz, A; Loeser, C; Mohr, GJ; Trupp, S. (2012). Covalent immobilization of a fluorescent pH-sensitive naphthalimide dye in sol-gel films. *Journal of Sol-Gel Science and Technology.* 63: 23-29. <http://dx.doi.org/10.1007/s10971-012-2757-z>.
- Kukhta, A; Kolesnik, E; Taoubi, M; Drozdova, D; Prokopchuk, N. (2001). Polynaphthalimide is a new polymer for organic electroluminescence devices. *Synthetic Metals.* 119: 129-130.
- Kumar, PSV; Suresh, L; Bhargavi, G; Basavoju, S; Chandramouli, GVP. (2015). Ionic Liquid-Promoted Green Protocol for the Synthesis of Novel Naphthalimide-Based Acridine-1,8-dione Derivatives via a Multicomponent Approach. 3: 2944-2950. <http://dx.doi.org/10.1021/acssuschemeng.5b00900>.
- Kumarasinghe, R; Higgins, ED; Ito, T; Higgins, DA. (2016). Spectroscopic and Polarization-Dependent Single-Molecule Tracking Reveal the One-Dimensional Diffusion Pathways in Surfactant-Templated Mesoporous Silica. *J Phys Chem C.* 120: 715-723. <http://dx.doi.org/10.1021/acs.jpcc.5b10152>.
- Kwon, O, hKy; Park, JH, wa; Park, S, ooY. (2016). An efficient nonfullerene acceptor for all-small-molecule solar cells with versatile processability in environmentally benign solvents. *Organic Electronics.* 30: 105-111. <http://dx.doi.org/10.1016/j.orgel.2015.12.017>.

Exposure Literature Search Results

Off Topic

- Kwon, O, hKyu; Park, JH, wa; Park, SK, yu; Park, S, ooY. (2015). Soluble Dicyanodistyrylbenzene-Based Non-Fullerene Electron Acceptors with Optimized Aggregation Behavior for High-Efficiency Organic Solar Cells. 5. <http://dx.doi.org/10.1002/aenm.201400929>.
- Lambrecht, J; Saragi, TPI; Salbeck, J. (2011). Self-assembled organic micro-/nanowires from an air stable n-semiconducting perylenediimide derivative as building blocks for organic electronic devices. *J Mater Chem.* 21: 18266-18270. <http://dx.doi.org/10.1039/c1jm13998c>.
- Lebegue, E; Benoit, C; Brousse, T; Gaubicher, J; Cougnon, C. (2015). Effect of the Porous Texture of Activated Carbons on the Electrochemical Properties of Molecule-Grafted Carbon Products in Organic Media. *J Electrochem Soc.* 162: A2289-A2295. <http://dx.doi.org/10.1149/2.0481512jes>.
- Lebegue, E; Brousse, T; Gaubicher, J; Retoux, R; Cougnon, C. (2014). Toward fully organic rechargeable charge storage devices based on carbon electrodes grafted with redox molecules. 2: 8599-8602. <http://dx.doi.org/10.1039/c4ta00853g>.
- Lee, M; Jo, S; Lee, D; Xu, Z; Yoon, J. (2015). A new naphthalimide derivative as a selective fluorescent and colorimetric sensor for fluoride, cyanide and CO₂. *Dyes and Pigments.* 120: 288-292. <http://dx.doi.org/10.1016/j.dyepig.2015.04.029>.
- Lee, MH; Dunietz, BD; Geva, E. (2013). Calculation from First Principles of Intramolecular Golden-Rule Rate Constants for Photo-Induced Electron Transfer in Molecular Donor- Acceptor Systems. *J Phys Chem C.* 117: 23391-23401. <http://dx.doi.org/10.1021/jp4081417>.
- Li, C; Liu, S. (2010). Responsive nanogel-based dual fluorescent sensors for temperature and Hg²⁺ ions with enhanced detection sensitivity. *J Mater Chem.* 20: 10716-10723. <http://dx.doi.org/10.1039/c0jm01828g>.
- Li, C; Zhang, A; Feng, G; Yang, F, an; Jiang, X; Yu, Y; Xia, D; Li, W. (2016). A systematical investigation of non-fullerene solar cells based on diketopyrrolopyrrole polymers as electron donor. *Organic Electronics.* 35: 112-117. <http://dx.doi.org/10.1016/j.orgel.2016.05.011>.
- Li, D; Munyentwali, A; Wang, G; Zhang, M; Xing, S. (2015). Light and temperature responsive block copolymer assemblies with tunable fluorescence emissions. *Dyes and Pigments.* 117: 92-99. <http://dx.doi.org/10.1016/j.dyepig.2015.02.009>.
- Li, DX; Zhang, JF; Jang, YH; Jang, YJ; Kim, DH; Kim, JS. (2012). Plasmonic-coupling-based sensing by the assembly and disassembly of dipicolylamine-tagged gold nanoparticles induced by complexing with cations and anions. *Small.* 8: 1442-1448. <http://dx.doi.org/10.1002/smll.201102335>.
- Li, H, ua; Li, N; Sun, R, u; Gu, H; Ge, J; Lu, J; Xu, Q; Xia, X; Wang, L. (2011). Dynamic Random Access Memory Devices Based on Functionalized Copolymers with Pendant Hydrazine Naphthalimide Group. *J Phys Chem C.* 115: 8288-8294. <http://dx.doi.org/10.1021/jp1111668>.
- Li, J; Li, P; Huo, F; Yin, C; Liu, T, ao; Chao, J; Zhang, Y. (2016). Ratiometric fluorescent probes for ClO⁻ and in vivo applications. *Dyes and Pigments.* 130: 209-215. <http://dx.doi.org/10.1016/j.dyepig.2016.02.024>.
- Li, J; Yin, C; Huo, F. (2016). Development of fluorescent zinc chemosensors based on various fluorophores and their applications in zinc recognition. *Dyes and Pigments.* 131: 100-133. <http://dx.doi.org/10.1016/j.dyepig.2016.03.043>.
- Li, K, aiBin; Zhou, D, an; He, XP; Chen, G, uoR. (2015). Ratiometric glyco-probe for transient determination of thiophenol in full aqueous solution and river water. *Dyes and Pigments.* 116: 52-57. <http://dx.doi.org/10.1016/j.dyepig.2015.01.013>.
- Li, S; Liu, W; Li, CZ, hi; Lau, T, szKi; Lu, X; Shi, M; Chen, H. (2016). A non-fullerene acceptor with a fully fused backbone for efficient polymer solar cells with a high open-circuit voltage. 4: 14983-14987. <http://dx.doi.org/10.1039/c6ta07368a>.
- Li, S; Liu, W; Li, CZ, hi; Liu, F; Zhang, Y; Shi, M; Chen, H; Russell, TP. (2016). A simple perylene diimide derivative with a highly twisted geometry as an electron acceptor for efficient organic solar cells. 4: 10659-10665. <http://dx.doi.org/10.1039/c6ta04232e>.
- Li, S; Zhang, H, ao; Zhao, W; Ye, L; Yao, H; Yang, B, ei; Zhang, S; Hou, J. (2016). Green-Solvent-Processed All-Polymer Solar Cells Containing a Perylene Diimide-Based Acceptor with an Efficiency over 6.5%. 6. <http://dx.doi.org/10.1002/aenm.201501991>.
- Li, W; Cui, Z; Zhou, X; Zhang, S; Dai, L, ei; Xing, W, ei. (2008). Sulfonated poly(arylene-co-imide)s as water stable proton exchange membrane materials for fuel cells. *J Membr Sci.* 315: 172-179. <http://dx.doi.org/10.1016/j.memsci.2008.02.026>.
- Li, X; Shi, R; Jin, Y; Lou, Y, an; Ge, Q; Li, M; Kim, H; Son, YA. (2014). A Bisindolylmaleimide-Naphthalimide Building Block for the Construction of the Energy Transfer Cassette. *J Nanosci Nanotechnol.* 14: 8033-8037. <http://dx.doi.org/10.1166/jnn.2014.9397>.
- Li, X; Son, YA. (2015). Spectral Switching of Naphthalimide-Coumarin Induced by F. *J Nanosci Nanotechnol.* 15: 5370-5373. <http://dx.doi.org/10.1166/jnn.2015.10420>.
- Li, X; Zheng, C; Yuan, A; Yang, L, u; Wang, H, an; Wang, H. (2014). A highly selective ratiometric fluorescent sensor for Hg²⁺ based on 1,8-naphthalimide. *Color Technol.* 130: 236-242. <http://dx.doi.org/10.1111/cote.12081>.
- Li, Y; Yang, Y; Bao, X; Qiu, M; Liu, Z; Wang, N; Zhang, G; Yang, R; Zhang, D. (2016). New pi-conjugated polymers as acceptors designed for all polymer solar cells based on imide/amide-derivatives. 4: 185-192. <http://dx.doi.org/10.1039/c5tc02615f>.
- Li, Z; Zhou, Y; Yin, K, ai; Yu, Z, hu; Li, Y, an; Ren, J, un. (2014). A new fluorescence "turn-on" type chemosensor for Fe³⁺ based on naphthalimide and coumarin. *Dyes and Pigments.* 105: 7-11. <http://dx.doi.org/10.1016/j.dyepig.2013.12.032>.
- Li, ZW; Yang, QW; Chang, RX; Ma, GC; Chen, MX; Zhang, WQ. (2011). N-Heteroaryl-1,8-naphthalimide fluorescent sensor for water Molecular design, synthesis and properties. *Dyes and Pigments.* 88: 307-314. <http://dx.doi.org/10.1016/j.dyepig.2010.07.009>.
- Liang, N; Sun, K, ai; Zheng, Z; Yao, H; Gao, G; Meng, X; Wang, Z; Ma, W, ei; Hou, J. (2016). Perylene Diimide Trimers Based Bulk Heterojunction Organic Solar Cells with Efficiency over 7%. 6. <http://dx.doi.org/10.1002/aenm.201600060>.
- Liang, S; Liu, Y; Fu, T; Yang, F; Chen, X; Yan, G. (2016). A water-soluble and biocompatible polymeric nanolabel based on naphthalimide grafted poly(acrylic acid) for the two-photon fluorescence imaging of living cells and *C. elegans*. *Colloids Surf B Biointerfaces.* 148: 293-298. <http://dx.doi.org/10.1016/j.colsurfb.2016.09.001>.
- Liang, S; Liu, Y; Xiang, J; Qin, M; Yu, H; Yan, G. (2014). Fabrication of a new fluorescent polymeric nanoparticle containing naphthalimide and investigation on its interaction with bovine serum albumin. *Colloids Surf B Biointerfaces.* 116: 206-210. <http://dx.doi.org/10.1016/j.colsurfb.2014.01.005>.

Exposure Literature Search Results

Off Topic

- Liang, Z; Cormier, RA; Nardes, AM; Gregg, BA. (2011). Developing perylene diimide based acceptor polymers for organic photovoltaics. *Synthetic Metals*. 161: 1014-1021. <http://dx.doi.org/10.1016/j.synthmet.2011.03.009>.
- Liao, X, iaXia; Zhao, X; Zhang, Z, hiGuo; Wang, H, uiQ; Zhan, X; Li, Y; Wang, J; Zheng, J, inC. (2013). All-polymer solar cells based on side-chain-isolated polythiophenes and poly(perylene diimide-alt-dithienothiophene). *Solar Energy Materials and Solar Cells*. 117: 336-342. <http://dx.doi.org/10.1016/j.solmat.2013.06.035>.
- Lin, HH; Chan, YC; Chen, JW, ei; Chang, CC. (2011). Aggregation-induced emission enhancement characteristics of naphthalimide derivatives and their applications in cell imaging. *J Mater Chem*. 21: 3170-3177. <http://dx.doi.org/10.1039/c0jm02942d>.
- Lin, Q; Xiao, S; Li, R; Tan, R; Wang, S, a; Zhang, R. (2015). Intermolecular hydrogen bonding-assisted high contrast fluorescent switch in the solid state. *Dyes and Pigments*. 114: 33-39. <http://dx.doi.org/10.1016/j.dyepig.2014.11.001>.
- Lin, TN; Huang, JC; Shen, JL; Chu, CM; Yeh, JM; Chen-Yang, YW; Chiu, CH; Kuo, HC. (2015). Hybrid Dendrimer/Semiconductor Nanostructures with Efficient Energy Transfer via Optical Waveguiding. *J Phys Chem C*. 119: 5107-5112. <http://dx.doi.org/10.1021/jp5111949>.
- Lin, Y; Wang, J; Dai, S; Li, Y; Zhu, D; Zhan, X. (2014). A Twisted Dimeric Perylene Diimide Electron Acceptor for Efficient Organic Solar Cells. 4. <http://dx.doi.org/10.1002/aenm.201400420>.
- Lin, Y; Wang, Y; Wang, J; Hou, J; Li, Y; Zhu, D; Zhan, X. (2014). A star-shaped perylene diimide electron acceptor for high-performance organic solar cells. *Adv Mater Deerfield*. 26: 5137-5142. <http://dx.doi.org/10.1002/adma.201400525>.
- Lin, Y; Zhang, Z, hiGuo; Bai, H; Wang, J; Yao, Y; Li, Y; Zhu, D; Zhan, X. (2015). High-performance fullerene-free polymer solar cells with 6.31% efficiency. *Energ Environ Sci*. 8: 610-616. <http://dx.doi.org/10.1039/c4ee03424d>.
- Ling, MM; Erk, P; Gomez, M; Koenemann, M; Locklin, J; Bao, Z. (2007). Air-stable n-channel organic semiconductors based on perylene diimide derivatives without strong electron withdrawing groups. *Adv Mater Deerfield*. 19: 1123-1127. <http://onlinelibrary.wiley.com/doi/10.1002/adma.200601705/abstract>.
- Liu, B; Tian, H. (2005). A ratiometric fluorescent chemosensor for fluoride ions based on a proton transfer signaling mechanism. *J Mater Chem*. 15: 2681-2686. <http://dx.doi.org/10.1039/b501234a>.
- Liu, F; Xu, M; Chen, X; Yang, Y; Wang, H; Sun, G. (2015). Novel Strategy for Tracking the Microbial Degradation of Azo Dyes with Different Polarities in Living Cells. *Environ Sci Technol*. 49: 11356-11362. <http://dx.doi.org/10.1021/acs.est.5b02003>.
- Liu, J, un; Cao, J; Shao, S; Xie, Z; Cheng, Y; Geng, Y; Wang, L; Jing, X; Wang, F. (2008). Blue electroluminescent polymers with dopant-host systems and molecular dispersion features: polyfluorene as the deep blue host and 1,8-naphthalimide derivative units as the light blue dopants. *J Mater Chem*. 18: 1659-1666. <http://dx.doi.org/10.1039/b716234k>.
- Liu, J; Li, Y; Wang, Y, i; Sun, H; Lu, Z; Wu, H; Peng, J; Huang, Y, an. (2012). Synthesis and luminescent properties of blue sextuple-hydrogen-bond self-assembly molecular duplexes bearing 4-phenoxy-1,8-naphthalimide moieties. *Optical Materials*. 34: 1535-1542. <http://dx.doi.org/10.1016/j.optmat.2012.03.022>.
- Liu, J; Qian, Y. (2017). A novel naphthalimide-rhodamine dye: Intramolecular fluorescence resonance energy transfer and ratiometric chemodosimeter for Hg²⁺ and Fe³⁺. *Dyes and Pigments*. 136: 782-790. <http://dx.doi.org/10.1016/j.dyepig.2016.09.041>.
- Liu, J; Tu, GL; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). Highly efficient green light emitting polyfluorene incorporated with 4-diphenylamino-1,8-naphthalimide as green dopant. *J Mater Chem*. 16: 1431-1438. <http://dx.doi.org/10.1039/b514359d>.
- Liu, J; Wang, Y, i; Lei, G; Peng, J; Huang, Y, an; Cao, Y; Xie, M; Pu, X; Lu, Z. (2009). A sextuple hydrogen bonding molecular duplex bearing 1,8-naphthalimide moieties and polymer light-emitting diode based on it. *J Mater Chem*. 19: 7753-7758. <http://dx.doi.org/10.1039/b910045h>.
- Liu, J; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). White electroluminescence from a single-polymer system with simultaneous two-color emission: Polyfluorene as the blue host and a 2,1,3-benzothiadiazole derivative as the orange dopant on the main chain. *Adv Funct Mater*. 16: 957-965. <http://dx.doi.org/10.1002/adfm.200500761>.
- Liu, N, an; Chen, HZ; Wang, M. (2008). Heterojunctions based on perylene diimide embedded into porous silicon. *Thin Solid Films*. 516: 4272-4276. <http://dx.doi.org/10.1016/j.tsf.2008.01.002>.
- Liu, N, an; Shi, M, inMin; Pan, XW, ei; Qiu, W, eiM; Zhu, JH, ui; He, H, aiP; Chen, HZ; Wang, M. (2008). Photoinduced electron transfer and enhancement of photoconductivity in silicon nanoparticles/perylene diimide composites in a polymer matrix. *J Phys Chem C*. 112: 15865-15869. <http://dx.doi.org/10.1021/jp802385g>.
- Liu, T; Zhang, X; Qiao, Q; Zou, C; Feng, L, ei; Cui, J; Xu, Z. (2013). A two-photon fluorescent probe for imaging hydrogen sulfide in living cells. *Dyes and Pigments*. 99: 537-542. <http://dx.doi.org/10.1016/j.dyepig.2013.06.031>.
- Liu, X, ia; Roberts, A; Ahmed, A; Wang, Z; Li, X, u; Zhang, H. (2015). Carbon nanofibers by pyrolysis of self-assembled perylene diimide derivative gels as supercapacitor electrode materials. 3: 15513-15522. <http://dx.doi.org/10.1039/c5ta03546e>.
- Liu, X; Zhang, Y; Pang, X; E, Y, ue; Zhang, Y; Yang, D; Tang, J; Li, J; Che, Y; Zhao, J. (2015). Nanocoiled Assembly of Asymmetric Perylene Diimides: Formulation of Structural Factors. *J Phys Chem C*. 119: 6446-6452. <http://dx.doi.org/10.1021/acs.jpcc.5b00720>.
- Liu, Y, ao; Larsen-Olsen, TT; Zhao, X; Andreasen, B; Sondergaard, RR; Helgesen, M; Norrman, K; Jorgensen, M; Krebs, FC; Zhan, X. (2013). All polymer photovoltaics: From small inverted devices to large roll-to-roll coated and printed solar cells. *Solar Energy Materials and Solar Cells*. 112: 157-162. <http://dx.doi.org/10.1016/j.solmat.2013.01.025>.
- Liu, Y; Lv, X, in; Zhao, Y, un; Chen, M; Liu, J; Wang, P, i; Guo, W, ei. (2012). A naphthalimide-rhodamine ratiometric fluorescent probe for Hg²⁺ based on fluorescence resonance energy transfer. *Dyes and Pigments*. 92: 909-915. <http://dx.doi.org/10.1016/j.dyepig.2011.07.020>.
- Liu, Y; Niu, F; Lian, J; Zeng, P; Niu, H. (2010). Synthesis and properties of starburst amorphous molecules: 1,3,5-Tris(1,8-naphthalimide-4-yl)benzenes. *Synthetic Metals*. 160: 2055-2060. <http://dx.doi.org/10.1016/j.synthmet.2010.07.020>.

Exposure Literature Search Results

Off Topic

- Liu, Y; Zhang, Z; Xia, Z; Zhang, J, ie; Liu, Y; Liang, F; Li, Y; Song, T, ao; Yu, X; Lee, ST; Sun, B. (2016). High Performance Nanostructured Silicon-Organic Quasi p-n Junction Solar Cells via Low-Temperature Deposited Hole and Electron Selective Layer. *ACS Nano.* 10: 704-712. <http://dx.doi.org/10.1021/acsnano.5b05732>.
- Liu, YQ; Yu, G; Li, HY; Tian, H; Zhu, DB. (2002). Electroluminescence properties of new multi-functional copolymers containing carbazole, naphthalimide and oxadiazole. *Thin Solid Films.* 417: 107-110.
- Liu, Z; Zhang, G; Cai, Z; Chen, X; Luo, H; Li, Y; Wang, J; Zhang, D. (2014). New organic semiconductors with imide/amide-containing molecular systems. *Adv Mater Deerfield.* 26: 6965-6977. <http://dx.doi.org/10.1002/adma.201305718>.
- Liu, ZQ; Gaskin, RE; Zabkiwicz, JA. (2004). Visualization of the effect of a surfactant on the uptake of xenobiotics into plant foliage by confocal laser scanning microscopy. *Weed Research.* 44: 237-243.
- Locklin, J; Li, DW; Mannsfeld, SCB; Borkent, EJ; Meng, H; Advincula, R; Bao, Z. (2005). Organic thin film transistors based on cyclohexyl-substituted organic semiconductors. *Chem Mater.* 17: 3366-3374. <http://dx.doi.org/10.1021/cm047851g>.
- Lu, C; Fujitsuka, M; Sugimoto, A; Majima, T. (2016). Unprecedented Intramolecular Electron Transfer from Excited Perylenediimide Radical Anion. *J Phys Chem C.* 120: 12734-12741. <http://dx.doi.org/10.1021/acs.jpcc.6b02454>.
- Lu, Z; Jiang, B, o; Zhang, X, in; Tang, A; Chen, L; Zhan, C; Yao, J. (2014). Perylene-Diimide Based Non-Fullerene Solar Cells with 4.34% Efficiency through Engineering Surface Donor/Acceptor Compositions. *Chem Mater.* 26: 2907-2914. <http://dx.doi.org/10.1021/cm5006339>.
- Lucenti, E; Botta, C; Cariati, E; Righetto, S; Scarpellini, M; Tordin, E; Ugo, R. (2013). New organic-inorganic hybrid materials based on perylene diimide-polyhedral oligomeric silsesquioxane dyes with reduced quenching of the emission in the solid state. *Dyes and Pigments.* 96: 748-755. <http://dx.doi.org/10.1016/j.dyepig.2012.11.015>.
- Luo, S; Lin, J, ie; Zhou, J, ie; Wang, Y, i; Liu, X; Huang, Y, an; Lu, Z; Hu, C. (2015). Novel 1,8-naphthalimide derivatives for standard-red organic light-emitting device applications. 3: 5259-5267. <http://dx.doi.org/10.1039/c5tc00409h>.
- Luo, Z; Xiong, W; Liu, T, ao; Cheng, W; Wu, K; Sun, Y; Yang, C. (2017). Triphenylamine-cored star-shape compounds as non-fullerene acceptor for high-efficiency organic solar cells: Tuning the optoelectronic properties by S/Se-annulated perylene diimide. *Organic Electronics.* 41: 166-172. <http://dx.doi.org/10.1016/j.orgel.2016.10.044>.
- Luo, Z; Yang, B, o; Zhong, C; Tang, F; Yuan, M; Xue, Y; Yao, G; Zhang, J; Zhang, Y. (2013). A dual-channel probe for selective fluoride determination and application in live cell imaging. *Dyes and Pigments.* 97: 52-57. <http://dx.doi.org/10.1016/j.dyepig.2012.11.016>.
- Ma, L; Wang, Q; Lu, G; Chen, R; Sun, X. (2010). Photochromic nanostructures based on diarylethenes with perylene diimide. *Langmuir.* 26: 6702-6707. <http://dx.doi.org/10.1021/la9040387>.
- Ma, Y; Shi, Z; Zhang, A; Li, J; Wei, X; Jiang, T; Li, Y; Wang, X. (2016). Self-assembly, optical and electrical properties of five membered O- or S-heterocyclic annulated perylene diimides. *Dyes and Pigments.* 135: 41-48. <http://dx.doi.org/10.1016/j.dyepig.2016.06.027>.
- Ma, Y; Zhang, F; Zhang, J; Jiang, T. (2015). A water-soluble perylene derivative for live-cell imaging. *Turkish Journal of Chemistry.* 39: 835-842. <http://dx.doi.org/10.3906/kim-1501-76>.
- Ma, Z; Zhang, P; Yu, X; Lan, H; Li, Y; Xie, D; Li, J; Yi, T, ao. (2015). Sugar based nanotube assembly for the construction of sonication triggered hydrogel: an application of the entrapment of tetracycline hydrochloride. 3: 7366-7371. <http://dx.doi.org/10.1039/c5tb01191d>.
- Maltas, E; Malkondu, S; Uyar, P; Ozmen, M. (2015). Fluorescent labelling of DNA on superparamagnetic nanoparticles by a perylene bisimide derivative for cell imaging. *Mater Sci Eng C.* 48: 86-93. <http://dx.doi.org/10.1016/j.msec.2014.11.057>.
- Mao, P; Qian, XH; Zhang, HZ; Yao, W. (2004). Benzothioxanthene dyes as fluorescent label for DNA hybridization: synthesis and application. *Dyes and Pigments.* 60: 9-16. [http://dx.doi.org/10.1016/S0143-7208\(03\)00127-X](http://dx.doi.org/10.1016/S0143-7208(03)00127-X).
- Marcon, RO; dos Santos, JG; Figueiredo, KM; Brochsztajn, S. (2006). Characterization of a novel water-soluble 3,4,9,10-perylenetetracarboxylic diimide in solution and in self-assembled zirconium phosphonate thin films. *Langmuir.* 22: 1680-1687. <http://dx.doi.org/10.1021/la052329+>.
- Martin, E; Torres-Costa, V; Martin-Palma, RJ; Bousono, C; Tutor-Sanchez, J; Martinez-Duart, JM. (2006). Photoluminescence of naphthalimide derivatives deposited onto nanostructured porous silicon. *J Electrochem Soc.* 153: D134-D137. <http://dx.doi.org/10.1149/1.2207988>.
- Mati, SS; Chall, S; Bhattacharya, SC. (2015). Aggregation-induced fabrication of fluorescent organic nanorings: selective biosensing of cysteine and application to molecular logic gate. *Langmuir.* 31: 5025-5032. <http://dx.doi.org/10.1021/acs.langmuir.5b00154>.
- May, B; Poteau, X; Yuan, DW; Brown, RG. (1999). A study of a highly efficient resonance energy transfer between 7-N,N-diethylamino-4-methylcoumarin and 9-butyl-4-butylamino-1,8-naphthalimide. *Dyes and Pigments.* 42: 79-84.
- Mcafee, SM; Topple, JM; Hill, I, anG; Welch, GC. (2015). Key components to the recent performance increases of solution processed non-fullerene small molecule acceptors. 3: 16393-16408. <http://dx.doi.org/10.1039/c5ta04310g>.
- Mckenna, MD; Grabchev, I, vo; Bosch, P. (2009). The synthesis of a novel 1,8-naphthalimide based PAMAM-type dendron and its potential for light-harvesting. *Dyes and Pigments.* 81: 180-186. <http://dx.doi.org/10.1016/j.dyepig.2008.09.008>.
- Megow, J; Körzdörfer, T; Renger, T; Sparenberg, M; Blumstengel, S; Henneberger, F; May, V. (2015). Calculating Optical Absorption Spectra of Thin Polycrystalline Organic Films: Structural Disorder and Site-Dependent van der Waals Interaction. *J Phys Chem C.* 119: 5747-5751. <http://dx.doi.org/10.1021/acs.jpcc.5b01587>.
- Meher, N; Chowdhurya, SR, oy; Iyer, PK. (2016). Aggregation induced emission enhancement and growth of naphthalimide nanoribbons via J-aggregation: insight into disaggregation induced unfolding and detection of ferritin at the nanomolar level. 4: 6023-6031. <http://dx.doi.org/10.1039/c6tb01746k>.
- Meng, Q; Zhang, X; He, C; He, G; Zhou, P; Duan, C. (2010). Multifunctional Mesoporous Silica Material Used for Detection and Adsorption of Cu²⁺ in Aqueous Solution and Biological Applications in vitro and in vivo. *Adv Funct Mater.* 20: 1903-1909. <http://dx.doi.org/10.1002/adfm.201000080>.

Exposure Literature Search Results

Off Topic

- Menon, SR; Shankarling, GS. (2011). The synthesis, photophysical and thermal properties of new anthrapyrimidine colorants. *Color Technol.* 127: 383-389. <http://dx.doi.org/10.1111/j.1478-4408.2011.00330.x>.
- Metivier, R; Badre, S; Meallet-Renault, R; Yu, P, ei; Pansu, RB; Nakatani, K. (2009). Fluorescence Photoswitching in Polymer Matrix: Mutual Influence between Photochromic and Fluorescent Molecules by Energy Transfer Processes. *J Phys Chem C.* 113: 11916-11926. <http://dx.doi.org/10.1021/jp902344x>.
- Miasojedovas, A; Kazlauskas, K; Armonaitė, G; Sivamurugan, V; Valiyaveettil, S; Grazulevicius, JV; Jursenas, S. (2012). Concentration effects on emission of bay-substituted perylene diimide derivatives in a polymer matrix. *Dyes and Pigments.* 92: 1285-1291. <http://dx.doi.org/10.1016/j.dyepig.2011.09.017>.
- Mikroyannidis, JA; Ye, S; Liu, Y. (2009). Electroluminescent divinylene- and trivinylene-molecules with terminal naphthalimide or phthalimide segments. *Synthetic Metals.* 159: 492-500. <http://dx.doi.org/10.1016/j.synthmet.2008.11.009>.
- Mille, M; Lamère, JF; Rodrigues, F; Fery-Forgues, S. (2008). Spontaneous formation of fluorescent nanofibers from self-assembly of low-molecular-weight coumarin derivatives in water. *Langmuir.* 24: 2671-2679. <http://dx.doi.org/10.1021/la702197h>.
- Min, J, ie; Bronnbauer, C; Zhang, Z, hiGuo; Cui, C; Lupinosov, YN; Ata, I; Schweizer, P; Przybilla, T; Guo, F, ei; Ameri, T; Forberich, K; Spiecker, E; Baeuerle, P; Ponomarenko, SA; Li, Y; Brabec, CJ. (2016). Fully Solution-Processed Small Molecule Semitransparent Solar Cells: Optimization of Transparent Cathode Architecture and Four Absorbing Layers. *Adv Funct Mater.* 26: 4543-4550. <http://dx.doi.org/10.1002/adfm.201505411>.
- Min, J, ie; Zhang, Z, hiGuo; Hou, Y, I; Quiroz, COR; Przybilla, T; Bronnbauer, C; Guo, F, ei; Forberich, K; Azimi, H; Ameri, T; Spiecker, E; Li, Y; Brabec, CJ. (2015). Interface Engineering of Perovskite Hybrid Solar Cells with Solution-Processed Perylene-Diimide Heterojunctions toward High Performance. *Chem Mater.* 27: 227-234. <http://dx.doi.org/10.1021/cm5037919>.
- Mohamad, DK; Fischereder, A; Yi, H; Cadby, AJ; Lidzey, DG; Iraqi, A. (2011). A novel 2,7-linked carbazole based "double cable" polymer with pendant perylene diimide functional groups: preparation, spectroscopy and photovoltaic properties. *J Mater Chem.* 21: 851-862. <http://dx.doi.org/10.1039/c0jm02673e>.
- Mohammadkhodaei, Z; Mokhtari, J; Nouri, M. (2010). Novel anti-bacterial acid dyes derived from naphthalimide: synthesis, characterisation and evaluation of their technical properties on nylon 6. *Color Technol.* 126: 81-85. <http://dx.doi.org/10.1111/j.1478-4408.2010.00230.x>.
- Mokhtari, J; Gharanjig, K; Arami, M; Mahmoodi, NM. (2008). Novel hydrolysable azo disperse dyes based on N-ester-1,8-naphthalimide: dyeing of polyester-cotton blends. *Color Technol.* 124: 295-300. <http://dx.doi.org/10.1111/j.1478-4408.2008.00155.x>.
- Mondal, S; Lin, W, eiH; Chen, Y, uChi; Huang, SH, an; Yang, R; Chen, B, oH; Yang, T, eF; Mao, SW, ei; Kuo, MY, u. (2015). Solution-processed single-crystal perylene diimide transistors with high electron mobility. *Organic Electronics.* 23: 64-69. <http://dx.doi.org/10.1016/j.orgel.2015.04.011>.
- Moniz, T; Queiros, C; Ferreira, R; Leite, A; Gameiro, P; Silva, A, naMG; Rangel, M. (2013). Design of a water soluble 1,8-naphthalimide/3-hydroxy-4-pyridinone conjugate: Investigation of its spectroscopic properties at variable pH and in the presence of Fe³⁺, Cu²⁺ and Zn²⁺. *Dyes and Pigments.* 98: 201-211. <http://dx.doi.org/10.1016/j.dyepig.2013.02.020>.
- Moreno-Lopez, JC; Grizzi, O; Martiarena, ML; Sanchez, EA. (2013). Initial Growth of N,N'-Bis(1-ethylpropyl)perylene-3,4,9,10-tetracarboxdiimide Films on Cu(100). *J Phys Chem C.* 117: 11679-11685. <http://dx.doi.org/10.1021/jp402494j>.
- Moreno-Lopez, JC; Grizzi, O; Sanchez, EA. (2016). Thermal Stability of N,N'-Bis(1-ethylpropyl)perylene-3,4,9,10-tetracarboxdiimide Films on Cu(100). *J Phys Chem C.* 120: 19630-19635. <http://dx.doi.org/10.1021/acs.jpcc.6b04157>.
- Morgado, J; Gruner, J; Walcott, SP; Yong, TM; Cervini, R; Moratti, SC; Holmes, AB; Friend, RH. (1998). 4-AcNI - a new polymer for light-emitting diodes. *Synthetic Metals.* 95: 113-117.
- Moscatello, JP; Castaneda, CV; Zaidi, A; Cao, M; Usluer, O; Briseno, AL; Aidala, KE. (2017). Time-resolved kelvin probe force microscopy to study population and depopulation of traps in electron or hole majority organic semiconductors. *Organic Electronics.* 41: 26-32. <http://dx.doi.org/10.1016/j.orgel.2016.11.001>.
- Munger, KA; Downey, TM; Haberer, B; Pohlson, K; Marshall, LL; Utecht, RE. (2016). A novel photochemical cross-linking technology to improve luminal gain, vessel compliance, and buckling post-angioplasty in porcine arteries. *J Biomed Mater Res B Appl Biomater.* 104: 375-384. <http://dx.doi.org/10.1002/jbm.b.33373>.
- Munoz-Losa, A; Vukovic, S; Corni, S; Mennucci, B. (2009). Nonplasmonic Metal Particles as Excitation Energy Transfer Acceptors: an Unexpected Efficiency Revealed by Quantum Mechanics. *J Phys Chem C.* 113: 16364-16370. <http://dx.doi.org/10.1021/jp904366f>.
- Munro, NH; Hanton, LR; Robinson, BH; Simpson, J. (2008). Synthesis and characterisation of fluorescent chitosan derivatives containing substituted naphthalimides. *React Funct Polym.* 68: 671-678. <http://dx.doi.org/10.1016/j.reactfunctpolym.2007.11.003>.
- Murschell, AE; Sutherland, TC. (2010). Anthraquinone-based discotic liquid crystals. *Langmuir.* 26: 12859-12866. <http://dx.doi.org/10.1021/la101406s>.
- Muthuraj, B; Chowdhury, S; Iyer, PK. (2015). Modulation of Amyloid-beta Fibrils into Mature Microrod-Shaped Structure by Histidine Functionalized Water-Soluble Perylene Diimide. *ACS Applied Materials & Interfaces.* 7: 21226-21234. <http://dx.doi.org/10.1021/acsmami.5b07260>.
- Naab, BD; Gu, X; Kurosawa, T; To, JWF; Salleo, A; Bao, Z. (2016). Role of Polymer Structure on the Conductivity of N-Doped Polymers. 2. <http://dx.doi.org/10.1002/aelm.201600004>.
- Nagel, J; Pahner, FA; Zimmerer, C; Haertig, T; Gehde, M; Heinrich, G. (2014). Electrostatic Discharging Behaviour of Polycarbonate Parts Made by Process-Integrated Surface Modification. *Macromolecular Materials & Engineering.* 299: 1395-1402. <http://dx.doi.org/10.1002/mame.201400114>.

Exposure Literature Search Results

Off Topic

- Nakaya, K; Funabiki, K; Muramatsu, H; Shibata, K; Matsui, M. (1999). N-aryl-1,8-naphthalimides as highly sensitive fluorescent labeling reagents for carnitine. *Dyes and Pigments*. 43: 235-239.
- Nam, S; Hahm, S; ukGyu; Han, H; Seo, J; Kim, C; Kim, H; Marder, SR; Ree, M; Kim, Y. (2016). All-Polymer Solar Cells with Bulk Heterojunction Films Containing Electron-Accepting Triple Bond-Conjugated Perylene Diimide Polymer. 4: 767-774.
<http://dx.doi.org/10.1021/acssuschemeng.5b00732>.
- Nath, JK; Kirillov, AM; Baruah, JB. (2015). Synthesis, Structure, and Topological Studies of Solvates and Salts of a Chiral Zwitterionic Host N-(2-Imidazol-5-yl-1-carboxyethyl)-1,8-naphthalimide. *Cryst Growth Des*. 15: 737-751. <http://dx.doi.org/10.1021/cg5018054>.
- Nath, JK; Mondal, A; Powell, AK; Baruah, JB. (2014). Structures, Magnetic Properties, and Photoluminescence of Dicarboxylate Coordination Polymers of Mn, Co, Ni, Cu Having N-(4-Pyridylmethyl)-1,8-naphthalimide. *Cryst Growth Des*. 14: 4735-4748.
<http://dx.doi.org/10.1021/cg500882z>.
- Nolde, F; Pisula, W; Mueller, S; Kohl, C; Muellen, K. (2006). Synthesis and self-organization of core-extended perylene tetracarboxdiimides with branched alkyl substituents. *Chem Mater*. 18: 3715-3725. <http://dx.doi.org/10.1021/cm060742c>.
- Oekermann, T; Karuppuchamy, S; Yoshida, T; Schlettwein, D; Wohrle, D; Minoura, H. (2004). Electrochemical self-assembly of ZnO/SO₃EtPTCDI hybrid photoelectrodes. *J Electrochem Soc*. 151: C62-C68. <http://dx.doi.org/10.1149/1.1630596>.
- Oh, JH, ak; Sun, Y, aSen; Schmidt, R; Toney, MF; Nordlund, D; Koenemann, M; Wuerthner, F; Bao, Z. (2009). Interplay between Energetic and Kinetic Factors on the Ambient Stability of n-Channel Organic Transistors Based on Perylene Diimide Derivatives. *Chem Mater*. 21: 5508-5518. <http://dx.doi.org/10.1021/cm902531d>.
- Oner, I; Varlikli, C; Icli, S. (2011). The use of a perylenediimide derivative as a dopant in hole transport layer of an organic light emitting device. *Appl Surf Sci*. 257: 6089-6094. <http://dx.doi.org/10.1016/j.apsusc.2011.02.002>.
- Ortica, F; Scaiano, JC; Pohlers, G; Cameron, JF; Zampini, A. (2000). Laser flash photolysis study of two aromatic N-oxyimidosulfonate photoacid generators. *Chem Mater*. 12: 414-420.
- Ozcan, O; Yukruk, F; Akkaya, EU; Uner, D. (2007). Dye sensitized artificial photosynthesis in the gas phase over thin and thick TiO₂ films under UV and visible light irradiation. *Appl Catal B-Environ*. 71: 291-297. <http://dx.doi.org/10.1016/j.apcatb.2006.09.015>.
- Ozdemir, S; Varlikli, C; Oner, I; Ocakoglu, K; Icli, S. (2010). The synthesis of 1,8-naphthalimide groups containing imidazolium salts/ionic liquids using I-, PF₆-, TFSI- anions and their photophysical, electrochemical and thermal properties. *Dyes and Pigments*. 86: 206-216.
<http://dx.doi.org/10.1016/j.dyepig.2010.01.005>.
- Panchenko, PA; Fedorov, YV; Fedorova, OA; Jonusauskas, G. (2013). Comparative analysis of the PET and ICT sensor properties of 1,8-naphthalimides containing aza-15-crown-5 ether moiety. *Dyes and Pigments*. 98: 347-357.
<http://dx.doi.org/10.1016/j.dyepig.2013.03.008>.
- Pang, X; Yu, X; Lan, H; Ge, X; Li, Y; Zhen, X; Yi, T, ao. (2015). Visual Recognition of Aliphatic and Aromatic Amines Using a Fluorescent Gel: Application of a Sonication-Triggered Organogel. *ACS Applied Materials & Interfaces*. 7: 13569-13577.
<http://dx.doi.org/10.1021/acsami.5b03000>.
- Park, G, iEun; Choi, S; Lee, D, aeHee; Godumala, M; Uddin, MA; Woo, H, anY; Cho, M, inJu; Choi, DH. (2017). Perylene diimide isomers containing a simple sp(3)-core for non-fullerene-based polymer solar cells. 5: 663-671. <http://dx.doi.org/10.1039/c6ta09394a>.
- Park, H; Chang, S, ukKyu. (2015). Signaling of water content in organic solvents by solvatochromism of a hydroxynaphthalimide-based merocyanine dye. *Dyes and Pigments*. 122: 324-330. <http://dx.doi.org/10.1016/j.dyepig.2015.07.010>.
- Park, HJ; So, MC; Gosztola, D; Wiederrecht, GP; Emery, JD; Martinson, AB; Er, S; Wilmer, CE; Vermeulen, NA; Aspuru-Guzik, A; Stoddart, JF; Farha, OK; Hupp, JT. (2016). Layer-by-Layer Assembled Films of Perylene Diimide- and Squaraine-Containing Metal-Organic Framework-like Materials: Solar Energy Capture and Directional Energy Transfer. 8: 24983-24988.
<http://dx.doi.org/10.1021/acsami.6b03307>.
- Park, SC; Ito, T; Higgins, DA. (2015). Dimensionality of Diffusion in Flow-Aligned Surfactant-Templated Mesoporous Silica: A Single Molecule Tracking Study of Pore Wall Permeability. *J Phys Chem C*. 119: 26101-26110. <http://dx.doi.org/10.1021/acs.jpcc.5b06835>.
- Patrick, LGF; Whiting, A. (2002). Synthesis and application of some polycondensable fluorescent dyes. *Dyes and Pigments*. 52: 137-143.
- Patrick, LGF; Whiting, A. (2002). Synthesis of some polymerisable fluorescent dyes. *Dyes and Pigments*. 55: 123-132.
- Peebles, C; Wight, CD; Iverson, BL. (2015). Solution- and solid-state photophysical and stimuli-responsive behavior in conjugated monoalkoxynaphthalene-naphthalimide donor-acceptor dyads. 3: 12156-12163. <http://dx.doi.org/10.1039/c5tc02397a>.
- Peng, QG; Zhai, J; Wang, WL; Yan, XL; Bai, FL. (2003). Fabrication of organic/inorganic hybrid nanocomposite of 1,8-naphthalimide and CdS in self-assembly film. *Cryst Growth Des*. 3: 623-626. <http://dx.doi.org/10.1021/cg025584q>.
- Pensack, RD; Guo, C; Vakhshouri, K; Gomez, ED; Asbury, JB. (2012). Influence of Acceptor Structure on Barriers to Charge Separation in Organic Photovoltaic Materials. *J Phys Chem C*. 116: 4824-4831. <http://dx.doi.org/10.1021/jp2083133>.
- Petit, M; Hayakawa, R; Wakayama, Y; Chikyow, T. (2007). Early stage of growth of a perylene diimide derivative thin film growth on various si(001) substrates. *J Phys Chem C*. 111: 12747-12751. <http://dx.doi.org/10.1021/jp071876w>.
- Piris, J; de Haas, MP; Warman, JM; Mullen, K; Fechtenkotter, A; van de Craats, AM; Schmidt-Mende, L; Friend, RH. (2003). Photo-induced charge separation in a blend of perylenediimide and hexabenzocoronene derivatives studied by FP-TRMC. *Synthetic Metals*. 137: 1375-1376.
[http://dx.doi.org/10.1016/S0379-6779\(02\)01121-9](http://dx.doi.org/10.1016/S0379-6779(02)01121-9).
- Polkehn, M; Tamura, H; Eisenbrandt, P; Haacke, S; Méry, S; Burghardt, I. (2016). Molecular Packing Determines Charge Separation in a Liquid Crystalline Bithiophene-Perylene Diimide Donor-Acceptor Material. *Journal of Physical Chemistry Letters*. 7: 1327-1334.
<http://dx.doi.org/10.1021/acs.jpclett.6b00277>.

Exposure Literature Search Results

Off Topic

- Posokhov, Y; Alp, S; Koz, B; Dilgin, Y; Icli, S. (2004). Photophysical properties and electrochemistry of the N,N'-bis-n-butyl derivative of naphthalene diimide. *Turkish Journal of Chemistry*. 28: 415-424.
- Poteau, X; Brown, Al; Brown, RG; Holmes, C; Matthew, D. (2000). Fluorescence switching in 4-amino-1,8-naphthalimides: "on-off-on" operation controlled by solvent and cations. *Dyes and Pigments*. 47: 91-105.
- Pramanik, R; Ito, T; Higgins, DA. (2013). Molecular Length Dependence of Single Molecule Wobbling within Surfactant- and Solvent-Filled Silica Mesopores. *J Phys Chem C*. 117: 15438-15446. <http://dx.doi.org/10.1021/jp404991m>.
- Pramanik, R; Ito, T; Higgins, DA. (2013). Single Molecule Wobbling in Cylindrical Mesopores. *J Phys Chem C*. 117: 3668-3673. <http://dx.doi.org/10.1021/jp400479w>.
- Prezhdo, OV; Uspenskii, BV; Prezhdo, VV; Boszczyk, W; Distanov, VB. (2007). Synthesis and spectral-luminescent characteristics of N-substituted 1,8-naphthalimides. *Dyes and Pigments*. 72: 42-46. <http://dx.doi.org/10.1016/j.dyepig.2005.07.022>.
- Puniredd, SR; Kiersnowski, A; Battagliarin, G; Zajaczkowski, W; Wong, WWH; Kirby, N; Muellen, K; Pisula, W. (2013). Polythiophene-perylene diimide heterojunction field-effect transistors. 1: 2433-2440. <http://dx.doi.org/10.1039/c3tc00562c>.
- Qi, Q; Yuqiao, W; Yunqian, D; Yueming, S. (2016). Spectroscopic properties of carbazolyl and diphenylamino naphthalimide derivatives: the role of solvent and rotational relaxation. *Optoelectronics and Advanced Materials Rapid Communications*. 10: 410-416.
- Qian, XH; Tang, J; Zhang, JD; Zhang, YL. (1994). SYNTHESIS OF FURONAPHTHALIMIDES WITH POTENTIAL PHOTOSENSITIZING BIOLOGICAL-ACTIVITY. *Dyes and Pigments*. 25: 109-114.
- Qian, XH; Zhang, YL; Chen, KC; Tao, ZF; Shen, YG. (1996). A study on the relationship between Stoke's shift and low frequency half-value component of fluorescent compounds. *Dyes and Pigments*. 32: 229-235.
- Qiu, B; Yuan, J; un; Xiao, X; He, D; Qiu, L; Zou, Y; Zhang, Z; Li, Y. (2015). Effect of Fluorine Substitution on Photovoltaic Properties of Alkoxyphenyl Substituted Benzo[1,2-b:4,5-b']dithiophene-Based Small Molecules. *ACS Applied Materials & Interfaces*. 7: 25237-25246. <http://dx.doi.org/10.1021/acsmami.5b07066>.
- Qu, J; Gao, B; Tian, H; Zhang, X; Wang, Y; an; Xie, Z; Wang, H; Geng, Y; Wang, F. (2014). Donor-spacer-acceptor monodisperse conjugated co-oligomers for efficient single-molecule photovoltaic cells based on non-fullerene acceptors. 2: 3632-3640. <http://dx.doi.org/10.1039/c3ta14701k>.
- Qu, Z; Li, P; Zhang, X; Han, K. (2016). A turn-on fluorescent chemodosimeter based on detelluration for detecting ferrous iron (Fe²⁺) in living cells. 4: 887-892. <http://dx.doi.org/10.1039/c5tb02090e>.
- Rajaram, S; Armstrong, PB; Kim, BJ; Frechet, JMJ. (2009). Effect of Addition of a Diblock Copolymer on Blend Morphology and Performance of Poly(3-hexylthiophene):Perylene Diimide Solar Cells. *Chem Mater*. 21: 1775-1777. <http://dx.doi.org/10.1021/cm900911x>.
- Ramakrishnan, R; Mallia, AR; Sethy, MAN, R; Hariharan, M. (2016). Columnar/Lamellar Packing in Cocrystals of Arylbipyridines with Diodoperfluorobenzene. *Cryst Growth Des*. 16: 6327-6336. <http://dx.doi.org/10.1021/acs.cgd.6b00968>.
- Rao, KV; Haldar, R; Kulkarni, C; Maji, TK; George, SJ. (2012). Perylene Based Porous Polyimides: Tunable, High Surface Area with Tetrahedral and Pyramidal Monomers. *Chem Mater*. 24: 969-971. <http://dx.doi.org/10.1021/cm203599q>.
- Refiker, H; Icil, H. (2011). Amphiphilic and chiral unsymmetrical perylene dye for solid-state dye-sensitized solar cells. *Turkish Journal of Chemistry*. 35: 847-859. <http://dx.doi.org/10.3906/kim-1107-39>.
- Reger, DL; Debreczeni, A; Horger, JJ; Smith, MD. (2011). Structures of Bifunctional Molecules Containing Two Very Different Supramolecular Synthons: Carboxylic Acid and Strong pi center dot center dot center dot pi Stacking 1,8-Naphthalimide Ring. *Cryst Growth Des*. 11: 4068-4079. <http://dx.doi.org/10.1021/cg200636k>.
- Reger, DL; Leitner, A; Smith, MD. (2015). Homochiral, Helical Coordination Complexes of Lanthanides(III) and Mixed-Metal Lanthanides(III): Impact of the 1,8-Naphthalimide Supramolecular Tecton on Structure, Magnetic Properties, and Luminescence. *Cryst Growth Des*. 15: 5637-5644. <http://dx.doi.org/10.1021/acs.cgd.5601387>.
- Reger, DL; Leitner, AP; Smith, MD. (2016). Supramolecular Metal-Organic Frameworks of s- and f-Block Metals: Impact of 1,8-Naphthalimide Functional Group. *Cryst Growth Des*. 16: 527-536. <http://dx.doi.org/10.1021/acs.cgd.5b01575>.
- Reger, DL; Semeniuc, RF; Elgin, JD; Rassolov, V; Smith, MD. (2006). 1,8-naphthalimide synthon in silver coordination chemistry: Control of supramolecular arrangement. *Cryst Growth Des*. 6: 2758-2768. <http://dx.doi.org/10.1021/cg060460p>.
- Reger, DL; Sirianni, E; Horger, JJ; Smith, MD; Semeniuc, RF. (2010). Supramolecular Architectures of Metal Complexes Controlled by a Strong pi center dot center dot center dot pi Stacking, 1,8-Naphthalimide Functionalized Third Generation Tris(pyrazolyl)methane Ligand. *Cryst Growth Des*. 10: 386-393. <http://dx.doi.org/10.1021/cg901000d>.
- Reilly, TH, III; Hains, AW; Chen, HY, u; Gregg, BA. (2012). A Self-Doping, O₂-Stable, n-Type Interfacial Layer for Organic Electronics. 2: 455-460. <http://dx.doi.org/10.1002/aenm.201100446>.
- Ren, J, un; Wu, Z; Zhou, Y; Li, Y, an; Xu, Z. (2011). Colorimetric fluoride sensor based on 1,8-naphthalimide derivatives. *Dyes and Pigments*. 91: 442-445. <http://dx.doi.org/10.1016/j.dyepig.2011.04.012>.
- Ren, J; Zhao, XL; Wang, QC; Ku, CF; Qu, DH; Chang, CP; Tian, H. (2005). Synthesis and fluorescence properties of novel co-facial folded naphthalimide dimers. *Dyes and Pigments*. 64: 179-186. <http://dx.doi.org/10.1016/j.dyepig.2004.05.011>.
- Ren, W; Zhuang, H, ao; Bao, Q; Miao, S; Li, H, ua; Lu, J; Wang, L. (2014). Enhancing the coplanarity of the donor moiety in a donor-acceptor molecule to improve the efficiency of switching phenomenon for flash memory devices. *Dyes and Pigments*. 100: 127-134. <http://dx.doi.org/10.1016/j.dyepig.2013.09.002>.
- Rieth, S; Li, Z; Hinkle, CE; Guzman, CX; Lee, JJ; Nehme, SI; Braunschweig, AB. (2013). Superstructures of Diketopyrrolopyrrole Donors and Perylenediimide Acceptors Formed by Hydrogen-Bonding and pi center dot center dot center dot pi Stacking. *J Phys Chem C*. 117: 11347-11356. <http://dx.doi.org/10.1021/jp400918z>.

Exposure Literature Search Results

Off Topic

- Rodríguez-Abreu, C; Aubery-Torres, C; Solans, C; López-Quintela, A; Tiddy, GJ. (2011). Characterization of perylene diimide dye self-assemblies and their use as templates for the synthesis of hybrid and supermicroporous nanotubules. 3: 4133-4141. <http://dx.doi.org/10.1021/am201016m>.
- Roeder, RD; Rungta, P; Tsyalovskyy, V; Bandera, Y; Foulger, SH. (2012). Colloidal templating: seeded emulsion polymerization of a soluble shell with a controlled alkyne surface density. Soft Matter. 8: 5493-5500. <http://dx.doi.org/10.1039/c2sm25070e>.
- Rungta, P; Bandera, YP; Tsyalovskyy, V; Foulger, SH. (2010). Designing fluoroprobes through Förster resonance energy transfer: surface modification of nanoparticles through "click" chemistry. Soft Matter. 6: 6083-6095. <http://dx.doi.org/10.1039/c0sm00470g>.
- Russ, B; Robb, MJ; Brunetti, FG; Miller, PL; Perry, EE; Patel, SN; Ho, V; Chang, WB; Urban, JJ; Chabinyc, ML; Hawker, CJ; Segalman, RA. (2014). Power factor enhancement in solution-processed organic n-type thermoelectrics through molecular design. Adv Mater Deerfield. 26: 3473-3477. <http://dx.doi.org/10.1002/adma.201306116>.
- Russell, JC; Blunt, MO; Goretzki, G; Phillips, AG; Champness, NR; Beton, PH. (2010). Solubilized derivatives of perylenetetracarboxylic dianhydride (PTCDA) adsorbed on highly oriented pyrolytic graphite. Langmuir. 26: 3972-3974. <http://dx.doi.org/10.1021/la903335v>.
- Sadeghi-Kiakhani, M; Gharanjig, K. (2015). Study of the Influence of Gemini Cationic Surfactants on the Dyeing and Fastness Properties of Polyester Fabrics Using Naphthalimide Dyes. Journal of Surfactants and Detergents. 18: 47-54. <http://dx.doi.org/10.1007/s11743-014-1622-1>.
- Sadeghi-Kiakhani, M; Gharanjig, K; Arami, M. (2014). Study on dyeing and fastness properties of wool-polyester blend fabrics using novel mono azo-naphthalimide dyes. J Text Inst. 105: 52-58. <http://dx.doi.org/10.1080/00405000.2013.810020>.
- Sadeghi-Kiakhani, M; Safapour, S. (2015). Improvement of the dyeing and fastness properties of a naphthalimide fluorescent dye using poly(amidoamine) dendrimer. Color Technol. 131: 142-148. <http://dx.doi.org/10.1111/cote.12132>.
- Safabakhsh, B; Khosravi, A; Gharanjig, K; Kowsari, E; Khorassani, M; Tafaghodi, S. (2012). Synthesis of a novel fluorescent coloured copolymer based on 4-butylthio-1,8-naphthalimide. Color Technol. 128: 218-222. <http://dx.doi.org/10.1111/j.1478-4408.2012.00366.x>.
- Sahin, Y; Alem, S; de Bettignies, R; Nunzi, JM. (2005). Development of air stable polymer solar cells using an inverted gold on top anode structure. Thin Solid Films. 476: 340-343. <http://dx.doi.org/10.1016/j.tsf.2004.10.018>.
- Sahoo, D; Tian, Y; Sforazzini, G; Anderson, HL; Scheblykin, IG. (2014). Photo-induced fluorescence quenching in conjugated polymers dispersed in solid matrices at low concentration. 2: 6601-6608. <http://dx.doi.org/10.1039/c4tc00831f>.
- Savage, RC; Orgiu, E; Mativetsky, JM; Pisula, W; Schnitzler, T; Eversloh, CL; Li, C; Müllen, K; Samorì, P. (2012). Charge transport in fibre-based perylene-diimide transistors: effect of the alkyl substitution and processing technique. Nanoscale. 4: 2387-2393. <http://dx.doi.org/10.1039/c2nr30088e>.
- Schab-Balcerzak, E; wa; Iwan, A; Grucela-Zajac, M; Krompiec, M; Podgorna, M; Domanski, M; Siwy, M; Janeczek, H. (2011). Characterization, liquid crystalline behavior, optical and electrochemical study of new aliphatic-aromatic polyimide with naphthalene and perylene subunits. Synthetic Metals. 161: 1660-1670. <http://dx.doi.org/10.1016/j.synthmet.2011.05.036>.
- Schlicker, A; Peschke, P; Sinn, H; Hahn, EW. (2000). Albumin as a carrier system for delivering drugs to solid tumors. PDA J Pharm Sci Technol. 54: 442-448.
- Schmelzeisen, M; Zhao, Y; Klapper, M; Müllen, K; Kreiter, M. (2010). Fluorescence enhancement from individual plasmonic gap resonances. ACS Nano. 4: 3309-3317. <http://dx.doi.org/10.1021/nn901655v>.
- Schulz, A; Wotschadlo, J; Heinze, T; Mohr, GJ. (2010). Fluorescent nanoparticles for ratiometric pH-monitoring in the neutral range. J Mater Chem. 20: 1475-1482. <http://dx.doi.org/10.1039/b918427a>.
- Schulz, B; Taeuber, D; Schuster, J; Baumgaertel, T; von Borczyskowski, C. (2011). Influence of mesoscopic structures on single molecule dynamics in thin smectic liquid crystal films. Soft Matter. 7: 7431-7440. <http://dx.doi.org/10.1039/c1sm05434a>.
- Schwarz, C; Milan, F; Hahn, T; Reichenberger, M; Kuemmel, S; Koehler, A. (2014). Ground State Bleaching at Donor-Acceptor Interfaces. Adv Funct Mater. 24: 6439-6448. <http://dx.doi.org/10.1002/adfm.201400297>.
- See, KC; Landis, C; Sarjeant, A, my; Katz, HE. (2008). Easily synthesized naphthalene tetracarboxylic diimide semiconductors with high electron mobility in air. Chem Mater. 20: 3609-3616. <http://dx.doi.org/10.1021/cm7032614>.
- SEKIGUCHI, T; Tanaka, M; Inoue, S; Ishida, K. (1971). STUDIES ON AZOMETHINE PIGMENTS .2. SYNTHESIS OF BISAZOMETHINE PIGMENTS FROM NAPHTHALIMIDE AND DIAMINES. 74: 428-&.
- Seo, S; Kim, Y; Zhou, Q; Clavier, G; Audebert, P; Kim, E. (2012). White Electrofluorescence Switching from Electrochemically Convertible Yellow Fluorescent Dyad. Adv Funct Mater. 22: 3556-3561. <http://dx.doi.org/10.1002/adfm.201102153>.
- Sghaier, T; Le Liepvre, S; Fiorini, C; Douillard, L; Charra, F. (2016). Optical absorption signature of a self-assembled dye monolayer on graphene. 7: 862-868. <http://dx.doi.org/10.3762/bjnano.7.78>.
- Shaki, H; Gharanjig, K; Khosravi, A. (2015). Spectral, dyeing and antimicrobial properties of some monoazo naphthalimide dyes on polyamide. Indian Journal of Fibre & Textile Research. 40: 425-430.
- Shaki, H; Gharanjig, K; Rouhani, S; Khosravi, A; Fakhar, J. (2012). Synthesis and application of some novel antimicrobial monoazonaphthalimide dyes: synthesis and characterisation. Color Technol. 128: 270-275. <http://dx.doi.org/10.1111/j.1478-4408.2012.00374.x>.
- Shaki, H; Khosravi, A; Gharanjig, K; Mahboubi, A. (2016). Investigation of synthesis, characterization, photophysical and biological properties of novel antimicrobial fluorescent naphthalimide derivatives. Materials Technology. 31: 322-331. <http://dx.doi.org/10.1179/1753555715Y.0000000058>.
- Sharenko, A; Gehrig, D; Laquai, F; Nguyen, T-Q. (2014). The Effect of Solvent Additive on the Charge Generation and Photovoltaic Performance of a Solution-Processed Small Molecule:Perylene Diimide Bulk Heterojunction Solar Cell. Chem Mater. 26: 4109-4118. <http://dx.doi.org/10.1021/cm5010483>.

Exposure Literature Search Results

Off Topic

- Shareko, A; Proctor, CM; van der Poll, TS; Henson, ZB; Nguyen, TQ; Bazan, GC. (2013). A high-performing solution-processed small molecule:perylene diimide bulk heterojunction solar cell. *Adv Mater Deerfield.* 25: 4403-4406. <http://dx.doi.org/10.1002/adma.201301167>.
- Sharma, GD; Balraju, P; Mikroyannidis, JA; Stylianakis, MM. (2009). Bulk heterojunction organic photovoltaic devices based on low band gap small molecule BTD-TNP and perylene-anthracene diimide. *Solar Energy Materials and Solar Cells.* 93: 2025-2028. <http://dx.doi.org/10.1016/j.solmat.2009.08.003>.
- Shi, J; Wang, Y; Tang, X; Liu, W, ei; Jiang, H; Dou, W, ei; Liu, W. (2014). A colorimetric and fluorescent probe for thiols based on 1, 8-naphthalimide and its application for bioimaging. *Dyes and Pigments.* 100: 255-260. <http://dx.doi.org/10.1016/j.dyepig.2013.09.021>.
- Shi, M, inMin; Tung, VC; Nie, JJ; Chen, HZ; Yang, Y. (2014). Bulky rigid substitutions: A route to high electron mobility and high solid-state luminescence efficiency of perylene diimide. *Organic Electronics.* 15: 281-285. <http://dx.doi.org/10.1016/j.orgel.2013.11.011>.
- Shi, MM; Chen, HZ; Wang, M; Ye, J. (2003). Photoconductivity of fluoroperylene diimide/PVK composite. *Synthetic Metals.* 137: 1537-1538. [http://dx.doi.org/10.1016/S0379-6779\(02\)01225-0](http://dx.doi.org/10.1016/S0379-6779(02)01225-0).
- Shin, S; Chang, E; Lee, S, ujin; Cho, J, inKu; Jeong, KU, n. (2011). Color-tunable anisotropic optical films fabricated using perylene diimide mixed with naphthalene benzimidazole. *Thin Solid Films.* 520: 486-490. <http://dx.doi.org/10.1016/j.tsf.2011.06.105>.
- Shin, WS; Jeong, HH; Kim, MK; Jin, SH; Kim, MR; Lee, JK; Lee, JW; Gal, YS. (2006). Effects of functional groups at perylene diimide derivatives on organic photovoltaic device application. *J Mater Chem.* 16: 384-390. <http://dx.doi.org/10.1039/b512983d>.
- Shoaee, S; Clarke, TM; Eng, MP; Huang, C; Barlow, S; Espildora, E, va; Luis Delgado, J; Campo, B; Marder, SR; Heeney, M; Mcculloch, I; Martin, N; Vanderzande, D; Durrant, JR. (2012). Charge photogeneration in donor/acceptor organic solar cells. 2. <http://dx.doi.org/10.1117/1.JPE.2.021001>.
- Shoaee, S; Deledalle, F; Tuladhar, PS; Shivanna, R; Rajaram, S; Narayan, KS; Durrant, JR. (2015). A Comparison of Charge Separation Dynamics in Organic Blend Films Employing Fullerene and Perylene Diimide Electron Acceptors. *Journal of Physical Chemistry Letters.* 6: 201-205. <http://dx.doi.org/10.1021/jz502385n>.
- Shu, W, ei; Wang, Y; Wu, L, iu; Wang, Z; Duan, Q; Gao, Y; Liu, C; Zhu, B; Yan, L. (2016). Novel Carbonothioate-Based Colorimetric and Fluorescent Probe for Selective Detection of Mercury Ions. *Ind Eng Chem Res.* 55: 8713-8718. <http://dx.doi.org/10.1021/acs.iecr.6b02158>.
- Silva, BPG; de Florio, DZ; Brochsztain, S. (2014). Characterization of a Perylenediimide Self-Assembled Monolayer on Indium Tin Oxide Electrodes Using Electrochemical Impedance Spectroscopy. *J Phys Chem C.* 118: 4103-4112. <http://dx.doi.org/10.1021/jp409416b>.
- Singh, D; Baruah, JB. (2012). Metal(II) Complexes Derived from Conformation Flexible Cyclic Imide Tethered Carboxylic Acids: Syntheses, Supramolecular Structures, and Molecular Properties. *Cryst Growth Des.* 12: 2109-2121. <http://dx.doi.org/10.1021/cg300113f>.
- Singh, P; Mittal, LS; Vanita, V; Kumar, K; Walia, A; Bhargava, G; Kumar, S. (2016). Self-assembled vesicle and rod-like aggregates of functionalized perylene diimide: reaction-based near-IR intracellular fluorescent probe for selective detection of palladium. 4: 3750-3759. <http://dx.doi.org/10.1039/c6tb00512h>.
- Singh, R; Aluicio-Sarduy, E; Kan, Z; Ye, T; Mackenzie, RCI; Keivanidis, PE. (2014). Fullerene-free organic solar cells with an efficiency of 3.7% based on a low-cost geometrically planar perylene diimide monomer. 2: 14348-14353. <http://dx.doi.org/10.1039/c4ta02851a>.
- Singh, R; Giussani, E; Mroz, MM; Di Fonzo, F; Fazzi, D; Cabanillas-Gonzalez, J; Oldridge, L; Vaenas, N; Kontos, AG; Falaras, P; Grimsdale, AC; Jacob, J; Muellen, K; Keivanidis, PE. (2014). On the role of aggregation effects in the performance of perylene-diimide based solar cells. *Organic Electronics.* 15: 1347-1361. <http://dx.doi.org/10.1016/j.orgel.2014.03.044>.
- Singh, R; Lee, J; Kim, M; Keivanidis, PE; Cho, K. (2017). Control of the molecular geometry and nanoscale morphology in perylene diimide based bulk heterojunctions enables an efficient non-fullerene organic solar cell. 5: 210-220. <http://dx.doi.org/10.1039/c6ta08870h>.
- Singh, R; Shivanna, R; Iosifidis, A; Butt, HJ; Floudas, G; Narayan, KS; Keivanidis, PE. (2015). Charge versus Energy Transfer Effects in High-Performance Perylene Diimide Photovoltaic Blend Films. *ACS Applied Materials & Interfaces.* 7: 24876-24886. <http://dx.doi.org/10.1021/acsmami.5b08224>.
- Singh, T, hB; Erten, S; Guenes, S; Zafer, C; Turkmen, G; Kuban, B; Teoman, Y; Sariciftci, NS; Icli, S. (2006). Soluble derivatives of perylene and naphthalene diimide for n-channel organic field-effect transistors. *Organic Electronics.* 7: 480-489. <http://dx.doi.org/10.1016/j.orgel.2006.06.010>.
- Sinks, LE; Rybtchinski, B; Iimura, M; Jones, BA; Goshe, AJ; Zuo, XB; Tiede, DM; Li, XY; Wasielewski, MR. (2005). Self-assembly of photofunctional cylindrical nanostructures based on perylene-3,4 : 9,10-bis(dicarboximide). *Chem Mater.* 17: 6295-6303. <http://dx.doi.org/10.1021/cm051461s>.
- Skurla, CP; Perera, A; Towe, CT; Robertson, PR; Healy, JL; Kane, RR. (2007). Development of photochemical method for meniscal repair: a preliminary study. *J Biomech.* 40: 220-224. <http://dx.doi.org/10.1016/j.jbiomech.2005.10.036>.
- Smieska, LM; Li, Z; Ley, D; Braunschweig, AB; Marohn, JA. (2016). Trap-clearing Spectroscopy in Perylene Diimide Derivatives. *Chem Mater.* 28: 813-820. <http://dx.doi.org/10.1021/acs.chemmater.5b04026>.
- Sommer, M; Lindner, SM; Thelakkat, M. (2007). Microphase-separated donor-acceptor diblock copolymers: Influence of HOMO energy levels and morphology on polymer solar cells. *Adv Funct Mater.* 17: 1493-1500. <http://dx.doi.org/10.1002/adfm.200600634>.
- Sriramulu, D; Valiyaveettil, S. (2016). Perylene derivatives as a fluorescent probe for sensing of amines in solution. *Dyes and Pigments.* 134: 306-314. <http://dx.doi.org/10.1016/j.dyepig.2016.07.028>.
- Staneva, D; Bosch, P; Asiri, AM; Taib, LA; Grabchev, I, vo. (2014). Studying pH dependence of the photophysical properties of a blue emitting fluorescent PAMAM dendrimer and evaluation of its sensor potential. *Dyes and Pigments.* 105: 114-120. <http://dx.doi.org/10.1016/j.dyepig.2014.01.018>.

Exposure Literature Search Results

Off Topic

- Staneva, D; Grabchev, I, vo; Betcheva, R. (2013). Sensor potential of 1,8-naphthalimide and its dyeing ability of cotton fabric. *Dyes and Pigments.* 98: 64-70. <http://dx.doi.org/10.1016/j.dyepig.2013.01.019>.
- Staneva, D; Grabchev, I, vo; Bosch, P. (2015). Fluorescent Hydrogel-Textile Composite Material Synthesized by Photopolymerization. *Int J Polym Mater.* 64: 838-847. <http://dx.doi.org/10.1080/00914037.2015.1030654>.
- Stappert, S; Li, C; Muellen, K. (2016). Synthesis of an Acceptor-Donor-Acceptor Multichromophore Consisting of Terrylene and Perylene Diimides for Multistep Energy Transfer Studies. *Chem Mater.* 28: 906-914. <http://dx.doi.org/10.1021/acs.chemmater.5b04602>.
- Stergiou, A; Tagmatarchis, N. (2016). Fluorene-Perylene Diimide Arrays onto Graphene Sheets for Photocatalysis. 8: 21576-21584. <http://dx.doi.org/10.1021/acsami.6b06797>.
- Stolarski, R. (2009). Fluorescent Naphthalimide Dyes for Polyester Fibres. 17: 91-95.
- Streiter, M; Krause, S; von Borczyskowski, C; Deibel, C. (2016). Dynamics of Single-Molecule Stokes Shifts: Influence of Conformation and Environment. *Journal of Physical Chemistry Letters.* 7: 4281-4284. <http://dx.doi.org/10.1021/acs.jpclett.6b02102>.
- Su, JH; Tian, H; Chen, KC. (1996). Novel trichromophoric rhodamine dyes and their fluorescence properties. *Dyes and Pigments.* 31: 69-77.
- Su, JH; Xu, T; Chen, KC; Tian, H. (2000). Excited state properties of bis-1,8-naphthalimides. *Dyes and Pigments.* 44: 87-92.
- Subbarao, NNV; Gedda, M; Vasimalla, S; Iyer, PK; Goswami, DK. (2014). Effect of thickness of bilayer dielectric on 1,7-dibromo-N,N'-dioctadecyl-3,4,9,10-perylenetetracarboxylic diimide based organic field-effect transistors. *Physica Status Solidi A: Applications and Materials Science (Print).* 211: 2403-2411. <http://dx.doi.org/10.1002/pssa.201431304>.
- Sun, J, onP; Hendsbee, AD; Dobson, AJ; Welch, GC; Hill, I, anG. (2016). Perylene diimide based all small-molecule organic solar cells: Impact of branched-alkyl side chains on solubility, photophysics, self-assembly, and photovoltaic parameters. *Organic Electronics.* 35: 151-157. <http://dx.doi.org/10.1016/j.orgel.2016.05.012>.
- Sun, M; Yin, W; Dong, X; Yang, W; Zhao, Y; Yin, M. (2016). Fluorescent supramolecular micelles for imaging-guided cancer therapy. *Nanoscale.* 8: 5302-5312. <http://dx.doi.org/10.1039/c6nr00450d>.
- Susarova, DK; Troshin, PA; Hoeglinder, D; Koeppen, R; Babenko, SD; Lyubovskaya, RN; Razumov, VF; Sariciftci, NS. (2010). Donor-acceptor complex formation in evaporated small molecular organic photovoltaic cells. *Solar Energy Materials and Solar Cells.* 94: 803-811. <http://dx.doi.org/10.1016/j.solmat.2009.12.027>.
- Takada, T; Takemura, M; Kawano, Y; Nakamura, M; Yamana, K. (2015). Photoresponsive DNA monolayer prepared by primer extension reaction on the electrode. *Langmuir.* 31: 3993-3998. <http://dx.doi.org/10.1021/la505013u>.
- Tan, L; Curtis, MD; Francis, AH. (2003). Characterization of organic p/n junction photodiodes based on poly(alkylthiophene)/perylene diimide bilayers. *Chem Mater.* 15: 2272-2279. <http://dx.doi.org/10.1021/cm034183a>.
- Tan, L; Curtis, MD; Francis, AH. (2004). Simulation of transient photoconduction in organic p-n junction bilayer photodiodes. *Chem Mater.* 16: 2134-2141. <http://dx.doi.org/10.1021/cm035102d>.
- Tan, W; Li, X, in; Zhang, J; Tian, H, e. (2011). A photochromic diarylethene dyad based on perylene diimide. *Dyes and Pigments.* 89: 260-265. <http://dx.doi.org/10.1016/j.dyepig.2010.03.020>.
- Tanaka, K; Nishio, S; Matsuura, Y; Yamabe, T. (1993). PREPARATION OF ORGANIC SEMICONDUCTIVE THIN-FILM BY PLASMA-POLYMERIZATION OF AROMATIC-COMPOUNDS AND THEIR DERIVATIVES. *Synthetic Metals.* 55: 896-901.
- Tang, J; Yang, H, ui; Liu, J; Wang, Y, ao; Yin, X; Wang, R, ui; Huang, L; Huang, Z. (2010). Ln(3+)-enhanced blue fluorescence from novel excimer of 1,8-naphthalimide-conjugated PAMAM. *Optical Materials.* 32: 1417-1422. <http://dx.doi.org/10.1016/j.optmat.2010.05.008>.
- Tang, S; Liang, D; Chen, G; Jin, R. (2015). Design of acceptors based on perylene diimide toward organic solar cell materials. *Materials Technology.* 30: 230-240. <http://dx.doi.org/10.1179/1753555714Y.0000000252>.
- Tang, T; Herrmann, A; Peneva, K; Müllen, K; Webber, SE. (2007). Energy transfer in molecular layer-by-layer films of water-soluble perylene diimides. *Langmuir.* 23: 4623-4628. <http://dx.doi.org/10.1021/la0634903>.
- Tang, T; Qu, J; Müllen, K; Webber, SE. (2006). Molecular layer-by-layer self-assembly of water-soluble perylene diimides through pi-pi and electrostatic interactions. *Langmuir.* 22: 26-28. <http://dx.doi.org/10.1021/la0527660>.
- Tao, Y; McCulloch, B; Kim, S; Segalman, RA. (2009). The relationship between morphology and performance of donor-acceptor rod-coil block copolymer solar cells. *Soft Matter.* 5: 4219-4230. <http://dx.doi.org/10.1039/b907836c>.
- Tao, ZF; Qian, XH. (1999). Naphthalimide hydroperoxides as photonucleases: substituent effects and structural basis. *Dyes and Pigments.* 43: 139-145.
- Tao, ZF; Qian, XH; Wei, DZ. (1996). 1,8-naphthalimide hydroperoxides as novel intercalating DNA cleavers. *Dyes and Pigments.* 31: 245-251.
- Taouri, A; Derbal, H; Nunzi, JM; Mountasser, R; Sylla, M. (2009). Two-Photon absorption cross-section measurement by thermal lens and nonlinear transmission methods in organic materials at 532 nm and 1064 nm laser excitations. *J Optoelect Adv Mater.* 11: 1696-1703.
- Tatemichi, S; Ichikawa, M; Kato, S; Koyama, T; Taniguchi, Y. (2008). Low-voltage, high-gain, and high-mobility organic complementary inverters based on N,N'-ditridecyl-3,4,9,10-perylenetetracarboxylic diimide and pentacene. *Physica Status Solidi Rapid Research Letters.* 2: 47-49. <http://dx.doi.org/10.1002/pssr.200701267>.
- Tatsumi, H; Wang, Y; Aizawa, Y; Tokita, M; Mori, T; Michinobu, T. (2016). Halogen Substitution Effects on the Molecular Packing and Thin Film Transistor Performances of Carbazoleoledioxazine Derivatives. *J Phys Chem C.* 120: 26686-26694. <http://dx.doi.org/10.1021/acs.jpcc.6b09888>.
- Telore, RD; Sekar, N. (2016). Carbazole-containing push-pull chromophore with viscosity and polarity sensitive emissions: Synthesis and photophysical properties. *Dyes and Pigments.* 129: 1-8. <http://dx.doi.org/10.1016/j.dyepig.2016.02.012>.
- Tian, H; Gan, J; Chen, KC; He, J; Song, QL; Hou, XY. (2002). Positive and negative fluorescent imaging induced by naphthalimide polymers. *J Mater Chem.* 12: 1262-1267. <http://dx.doi.org/10.1039/b200509c>.

Exposure Literature Search Results

Off Topic

- Tian, H; He, YJ; Chang, CP. (2000). Synthesis and spectral properties of novel laser copolymers based on modified rhodamine 6G and 1,8-naphthalimide. *J Mater Chem.* 10: 2049-2055.
- Tian, H; Su, JH; Chen, KC; Wong, TC; Gao, ZQ; Lee, CS; Lee, ST. (2000). Electroluminescent property and charge separation state of bis-naphthalimides. *Optical Materials.* 14: 91-94.
- Tian, H; Tang, YF; Chen, KC. (1994). BICHROMOPHORIC RHODAMINE DYES AND THEIR FLUORESCENCE PROPERTIES. *Dyes and Pigments.* 26: 159-165.
- Tian, Y; Su, F; Weber, W; Nandakumar, V; Shumway, BR; Jin, Y; Zhou, X; Holl, MR; Johnson, RH; Meldrum, DR. (2010). A series of naphthalimide derivatives as intra and extracellular pH sensors. *Biomaterials.* 31: 7411-7422. <http://dx.doi.org/10.1016/j.biomaterials.2010.06.023>.
- Tilley, AJ; Guo, C; Miltenburg, MB; Schon, TB; Yan, H, an; Li, Y; Seferos, DS. (2015). Thionation Enhances the Electron Mobility of Perylene Diimide for High Performance n-Channel Organic Field Effect Transistors. *Adv Funct Mater.* 25: 3321-3329. <http://dx.doi.org/10.1002/adfm.201500837>.
- Topple, JM; Burke, SA; Ji, W; Fostner, S; Tekiel, A; Gruetter, P. (2011). Tailoring the Morphology and Dewetting of an Organic Thin Film. *J Phys Chem C.* 115: 217-224. <http://dx.doi.org/10.1021/jp107644u>.
- Tozlu, C, em; Kus, M; Can, M; Ersoz, M. (2014). Solution processed white light photodetector based N, N'-di(2-ethylhexyl)-3,4,9,10-perylene diimide thin film phototransistor. *Thin Solid Films.* 569: 22-27. <http://dx.doi.org/10.1016/j.tsf.2014.07.055>.
- Trindade, F, deJ; Queiruga Rey, JF; Brochsztajn, S. (2011). Covalent attachment of 4-amino-1,8-naphthalimides onto the walls of mesoporous molecular sieves MCM-41 and SBA-15. *Dyes and Pigments.* 89: 97-104. <http://dx.doi.org/10.1016/j.dyepig.2010.09.009>.
- Trindade, F, deJ; Triboni, ER; Castanheira, B; Brochsztajn, S. (2015). Color-Tunable Fluorescence and White Light Emission from Mesoporous Organosilicas Based on Energy Transfer from 1,8-Naphthalimide Hosts to Perylenediimide Guests. *J Phys Chem C.* 119: 26989-26998. <http://dx.doi.org/10.1021/acs.jpcc.5b07912>.
- Trindade, FJ; Fernandes, GJT; Araujo, AS; Fernandes, VJ, Jr; Silva, BPG; Nagayasu, RY; Politi, MJ; Castro, FL; Brochsztajn, S. (2008). Covalent attachment of 3,4,9,10-perylenediimides onto the walls of mesoporous molecular sieves MCM-41 and SBA-15. *Microporous and Mesoporous Materials.* 113: 463-471. <http://dx.doi.org/10.1016/j.micromeso.2007.12.013>.
- Troeger, A; Ledendecker, M; Margraf, JT; Sgobba, V; Guldi, DM; Vieweg, BF; Spiecker, E; Suraru, SL; Wuerthner, F. (2012). p-Doped Multiwall Carbon Nanotube/Perylene Diimide Derivative Photoelectrochemical Cells for Photocurrent Generation. 2: 536-540. <http://dx.doi.org/10.1002/aenm.201100710>.
- Trofymchuk, K; Reisch, A; Shulov, I; Mély, Y; Klymchenko, AS. (2014). Tuning the color and photostability of perylene diimides inside polymer nanoparticles: towards biodegradable substitutes of quantum dots. *Nanoscale.* 6: 12934-12942. <http://dx.doi.org/10.1039/c4nr03718a>.
- Troshin, PA; Koeppke, R; Susarova, DK; Polyakova, NV; Peregovodov, AS; Razumov, VF; Sariciftci, NS; Lyubovskaya, RN. (2009). Trannulenes: a new class of photoactive materials for organic photovoltaic devices. *J Mater Chem.* 19: 7738-7744. <http://dx.doi.org/10.1039/b908377d>.
- Tsai, HY; Chen, K, ewYu. (2013). 1,7-Diaminoperylene bisimides: Synthesis, optical and electrochemical properties. *Dyes and Pigments.* 96: 319-327. <http://dx.doi.org/10.1016/j.dyepig.2012.09.003>.
- Tu, GL; Mei, CY; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2006). Highly efficient pure-white-light-emitting diodes from a single polymer: Polyfluorene with naphthalimide moieties. *Adv Funct Mater.* 16: 101-106. <http://dx.doi.org/10.1002/adfm.200500028>.
- Tu, GL; Zhou, QG; Cheng, YX; Geng, YH; Wang, LX; Ma, DG; Jing, XB; Wang, FS. (2005). Synthesis and properties of polyfluorenes containing 1,8-naphthalimide moieties for white electroluminescence. *Synthetic Metals.* 152: 161-164. <http://dx.doi.org/10.1016/j.synthmet.2005.07.173>.
- Tugluoglu, N; Karadeniz, S; Baris, B. (2015). Analysis of relaxation time and density of interface trap on perylene-diimide (PDI)/p-Si (100) Schottky diodes. *Materials Science in Semiconductor Processing.* 33: 199-205. <http://dx.doi.org/10.1016/j.mssp.2015.01.031>.
- Turkmen, G; Erten-Ela, S; Icli, S. (2009). Highly soluble perylene dyes: Synthesis, photophysical and electrochemical characterizations. *Dyes and Pigments.* 83: 297-303. <http://dx.doi.org/10.1016/j.dyepig.2009.05.014>.
- Ulla, H; Garudachari, B; Satyanarayan, MN; Umesh, G; Isloor, AM. (2014). Blue organic light emitting materials: Synthesis and characterization of novel 1,8-naphthalimide derivatives. *Optical Materials.* 36: 704-711. <http://dx.doi.org/10.1016/j.optmat.2013.11.017>.
- Ulla, H; Kiran, MR; Garudachari, B; Satyanarayan, MN; Umesh, G; Isloor, AM. (2014). Blue emitting halogen-phenoxy substituted 1,8-naphthalimides for potential organic light emitting diode applications. *Optical Materials.* 37: 311-321. <http://dx.doi.org/10.1016/j.optmat.2014.06.016>.
- Vajiravelu, S; Lygaitis, R; Grazulevicius, JV; Gaidelis, V; Jankauskas, V; Valiyaveettil, S. (2009). Effect of substituents on the electron transport properties of bay substituted perylene diimide derivatives. *J Mater Chem.* 19: 4268-4275. <http://dx.doi.org/10.1039/b901847f>.
- van der Boom, T; Evmenenko, G; Dutta, P; Wasielewski, MR. (2003). Self-assembly of photofunctional siloxane-based calix[4]arenes on oxide surfaces. *Chem Mater.* 15: 4068-4074. <http://dx.doi.org/10.1021/cm034247h>.
- Vasseur, K; Rolin, C; Vandezande, S; Temst, K; Froyen, L; Heremans, P. (2010). A Growth and Morphology Study of Organic Vapor Phase Deposited Perylene Diimide Thin Films for Transistor Applications. *J Phys Chem C.* 114: 2730-2737. <http://dx.doi.org/10.1021/jp909242n>.
- Veldkamp, BS; Han, W, onSik; Dyar, SM; Eaton, SW; Ratner, MA; Wasielewski, MR. (2013). Photoinitiated multi-step charge separation and ultrafast charge transfer induced dissociation in a pyridyl-linked photosensitizer-cobaloxime assembly. *Energ Environ Sci.* 6: 1917-1928. <http://dx.doi.org/10.1039/c3ee40378e>.

Exposure Literature Search Results

Off Topic

- Ventura, B; Bertocco, A; Braga, D; Catalano, L; D'Agostino, S; Grepioni, F; Taddei, P. (2014). Luminescence Properties of 1,8-Naphthalimide Derivatives in Solution, in Their Crystals, and in Co-crystals: Toward Room-Temperature Phosphorescence from Organic Materials. *J Phys Chem C.* 118: 18646-18658. <http://dx.doi.org/10.1021/jp5049309>.
- Vertsimakha, Y, a; Lutsyk, P; Palewska, K; Sworakowski, J; Lytvyn, O. (2007). Optical and photovoltaic properties of thin films of N,N'-dimethyl-3,4A 10-perylenetetracarboxylic acid diimide. *Thin Solid Films.* 515: 7950-7957. <http://dx.doi.org/10.1016/j.tsf.2007.03.048>.
- Vivo, P; Dubey, R; Lehtonen, E; Kivistö, H; Vuorinen, T; Lemmetyinen, H. (2013). Dipyrroolidinyl-substituted perylene diimide as additive for poly(3-hexylthiophene): [6,6]-Phenyl C61 butyric acid methylester bulk-heterojunction blends. *Thin Solid Films.* 548: 398-405. <http://dx.doi.org/10.1016/j.tsf.2013.08.106>.
- Wan, AS; Kushto, GP; Makinen, AJ. (2010). Monolayer structure of a liquid crystalline perylene derivative on bare and on thiol-terminated Au(111) surfaces. *Journal of Vacuum Science and Technology A.* 28: 1275-1278. <http://dx.doi.org/10.1116/1.3462036>.
- Wan, X; Liu, T; Liu, S. (2011). Thermoresponsive core cross-linked micelles for selective ratiometric fluorescent detection of Hg²⁺ ions. *Langmuir.* 27: 4082-4090. <http://dx.doi.org/10.1021/la104911r>.
- Wan, X; Wang, D; Liu, S. (2010). Fluorescent pH-sensing organic/inorganic hybrid mesoporous silica nanoparticles with tunable redox-responsive release capability. *Langmuir.* 26: 15574-15579. <http://dx.doi.org/10.1021/la102148x>.
- Wang, B; Hu, Y; Su, Z. (2008). Synthesis and photophysical behaviors of a blue fluorescent copolymer as chemosensor for protons and Ni²⁺ ion in aqueous solution. *React Funct Polym.* 68: 1137-1143. <http://dx.doi.org/10.1016/j.reactfunctpolym.2008.03.005>.
- Wang, DE; Zhao, L; Yuan, MS; Chen, SW; Li, T; Wang, J. (2016). Fabrication of Polydiacetylene Liposome Chemosensor with Enhanced Fluorescent Self-Amplification and Its Application for Selective Detection of Cationic Surfactants. <http://dx.doi.org/10.1021/acsmami.6b10794>.
- Wang, H; Guo, L, inE; Li, X, ueMei; Zhang, L, iMei; Xu, Q, iuLin; Wu, G, aoFen; Zhou, Y; Zhang, J, unF. (2015). Coumarin-based turn-on fluorescence probes for highly selective detection of Pi in cell culture and *Caenorhabditis elegans*. *Dyes and Pigments.* 120: 293-298. <http://dx.doi.org/10.1016/j.dyepig.2015.04.031>.
- Wang, H, ua; Liang, Y, an; Xie, H; Lu, H; Zhao, S; Feng, S. (2016). Unexpected SiMe₃ effect on color-tunable and fluorescent probes of dendritic polyphenyl naphthalimides with aggregation-induced emission enhancement. 4: 745-750. <http://dx.doi.org/10.1039/c5tc03344f>.
- Wang, H; Schaefer, K; Pich, A; Moeller, M. (2011). Synthesis of Silica Encapsulated Perylenetetracarboxylic Diimide Core-Shell Nanoellipsoids. *Chem Mater.* 23: 4748-4755. <http://dx.doi.org/10.1021/cm2017328>.
- Wang, H; Zhao, L; Liu, X; Xu, J; Hou, W; Wang, J; He, E; Zhang, R; Zhang, H. (2017). Novel hydrogen bonding composite based on copper phthalocyanine/perylene diimide derivatives p-n heterojunction with improved photocatalytic activity. *Dyes and Pigments.* 137: 322-328. <http://dx.doi.org/10.1016/j.dyepig.2016.11.014>.
- Wang, H; Zhou, G; Mao, C; Chen, X. (2013). A fluorescent sensor bearing nitroolefin moiety for the detection of thiols and its biological imaging. *Dyes and Pigments.* 96: 232-236. <http://dx.doi.org/10.1016/j.dyepig.2012.07.013>.
- Wang, J; Liang, Z. (2016). Synergetic Solvent Engineering of Film Nanomorphology to Enhance Planar Perylene Diimide-Based Organic Photovoltaics. 8: 22418-22424. <http://dx.doi.org/10.1021/acsmami.6b08284>.
- Wang, J, un; Shi, W, en; Liu, D, i; Zhang, Z; Zhu, Y; Wang, D. (2017). Supramolecular organic nanofibers with highly efficient and stable visible light photooxidation performance. *Appl Catal B-Environ.* 202: 289-297. <http://dx.doi.org/10.1016/j.apcatb.2016.09.037>.
- Wang, J; Yao, Y; Dai, S; Zhang, X; Wang, W, ei; He, Q; Han, L, ei; Lin, Y; Zhan, X. (2015). Oligothiophene-bridged perylene diimide dimers for fullerene-free polymer solar cells: effect of bridge length. 3: 13000-13010. <http://dx.doi.org/10.1039/c5ta02589c>.
- Wang, JB; Xiao, Y; Zhang, ZC; Qian, XH; Yang, YY; Xu, Q. (2005). A pH-resistant Zn(II) sensor derived from 4-aminonaphthalimide: design, synthesis and intracellular applications. *J Mater Chem.* 15: 2836-2839. <http://dx.doi.org/10.1039/b500766f>.
- Wang, KC; Huang, W; Xia, P; Gao, C; Yan, DY. (2002). Fluorescent polymer made from chemical modification of poly(styrene-co-maleic anhydride). *React Funct Polym.* 52: 143-148.
- Wang, L; Wang, T, ao; Jin, Y; Chen, P; Gong, Y; Zhao, Y; Yu, L, i. (2015). Based on charge-transfer interaction organic light-response materials: From sphere-like nanoparticles to fibers. *Curr Appl Phys.* 15: 920-924. <http://dx.doi.org/10.1016/j.cap.2015.04.012>.
- Wang, M, in; Xu, Z; Wang, X, u; Cui, J. (2013). A fluorescent and colorimetric chemosensor for nitric oxide based on 1,8-naphthalimide. *Dyes and Pigments.* 96: 333-337. <http://dx.doi.org/10.1016/j.dyepig.2012.08.024>.
- Wang, Q, i; Wu, J; Gong, Z; Zou, Y; Yi, T, ao; Huang, C. (2010). From vesicles to solid spheres: terminal functional group induced morphology modification. *Soft Matter.* 6: 2679-2684. <http://dx.doi.org/10.1039/b927579g>.
- Wang, QC; Ren, J; Qu, DH; Zhao, XL; Chen, KC; Tian, H; Erk, P. (2003). Synthesis and luminescent properties of some novel naphthalimide dimers. *Dyes and Pigments.* 59: 143-152. [http://dx.doi.org/10.1016/S0143-7208\(03\)00112-8](http://dx.doi.org/10.1016/S0143-7208(03)00112-8).
- Wang, S; Dössel, L; Mavrinckij, A; Gao, P; Feng, X; Pisula, W; Müllen, K. (2011). Self-assembly and microstructural control of a hexa-peri-hexabenzocoronene-perylene diimide dyad by solvent vapor diffusion. *Small.* 7: 2841-2846. <http://dx.doi.org/10.1002/smll.201100730>.
- Wang, S; Zeng, PJ; Liu, YQ; Yu, G; Sun, XB; Niu, HB; Zhu, DB. (2005). Luminescent properties of a novel naphthalimide-fluorene molecule. *Synthetic Metals.* 150: 33-38. <http://dx.doi.org/10.1016/j.synthmet.2004.12.019>.
- Wang, W; Yang, Q; Sun, L; Wang, H; Zhang, C; Fei, X; Sun, M; Li, Y. (2011). Preparation of fluorescent nanofibrous film as a sensing material and adsorbent for Cu²⁺ in aqueous solution via copolymerization and electrospinning. *J Hazard Mater.* 194: 185-192. <http://dx.doi.org/10.1016/j.jhazmat.2011.07.083>.

Exposure Literature Search Results

Off Topic

- Wang, X; Lv, L, ei; Li, L; Chen, Y; Zhang, K, ai; Chen, H; Dong, H; Huang, J; Shen, G; Yang, Z; Huang, H, ui. (2016). High-Performance All-Polymer Photoresponse Devices Based on Acceptor-Acceptor Conjugated Polymers. *Adv Funct Mater.* 26: 6306-6315. <http://dx.doi.org/10.1002/adfm.201601745>.
- Wang, Y; Chen, Y; Li, R; Wang, S; Su, W; Ma, P; Wasielewski, MR; Li, X; Jiang, J. (2007). Amphiphilic perylenetetracarboxyl diimide dimer and its application in field effect transistor. *Langmuir.* 23: 5836-5842. <http://dx.doi.org/10.1021/la063729f>.
- Wang, Y, i; Zhang, X; Han, B; Peng, J; Hou, S; Huang, Y, an; Sun, H; Xie, M; Lu, Z. (2010). The synthesis and photoluminescence characteristics of novel blue light-emitting naphthalimide derivatives. *Dyes and Pigments.* 86: 190-196. <http://dx.doi.org/10.1016/j.dyepig.2010.01.003>.
- Wang, Y; Zhao, X; Zhan, X. (2015). Layer by layer solution processed organic solar cells based on a small molecule donor and a polymer acceptor. 3: 447-452. <http://dx.doi.org/10.1039/c4tc02103g>.
- Wang, Y, i; Zhou, J, ie; Wang, X, u; Zheng, X; Lu, Z; Zhang, W, ei; Chen, Y; Huang, Y, an; Pu, X; Yu, J. (2014). An efficient guest/host fluorescent energy transfer pair based on the naphthalimide skeleton, and its application in heavily-doped red organic light-emitting diodes. *Dyes and Pigments.* 100: 87-96. <http://dx.doi.org/10.1016/j.dyepig.2013.08.021>.
- Wang, ZH; Tian, H; Chen, KC. (2001). Synthesis of novel dyes containing ferrocene. *Dyes and Pigments.* 51: 161-165.
- Wangatia, LM; Sun, B, in; Zeng, T; Zhu, M. (2015). Reactive bay functionalized perylene monoimide-polyhedral oligomeric silsesquioxane organic electronic dye. 33: 113-121. <http://dx.doi.org/10.1515/msp-2015-0016>.
- Weintraub, MT; Xhakaj, E; Austin, A; Szarko, JM. (2016). The effects of donor : acceptor intermolecular mixing and acceptor crystallization on the composition ratio of blended, spin coated organic thin films. 4: 7756-7765. <http://dx.doi.org/10.1039/c6tc01458e>.
- Weitzel, CR; Everett, TA; Higgins, DA. (2009). Aggregation and its influence on macroscopic in-plane organization in thin films of electrostatically self-assembled perylene-diimide/polyelectrolyte nanofibers. *Langmuir.* 25: 1188-1195. <http://dx.doi.org/10.1021/la803177n>.
- Wen, Y; Liu, Y; Di, C, an; Wang, Y; Sun, X; Guo, Y; Zheng, J; Wu, W; Ye, S; Yu, G, ui. (2009). Improvements in Stability and Performance of N,N'-Dialkyl Perylene Diimide-Based n-Type Thin-Film Transistors. *Adv Mater Deerfield.* 21: 1631-+. <http://dx.doi.org/10.1002/adma.200802934>.
- Williams, RM. (2009). A highly soluble asymmetric perylene-bis (dicarboximide)-acceptor system incorporating a methylene bridged methoxybenzene-donor: solvent dependence of charge transfer interactions. *Turkish Journal of Chemistry.* 33: 727-737. <http://dx.doi.org/10.3906/kim-0811-33>.
- Wojciechowski, K. (1993). PROPERTIES AND STRUCTURE OF NAPHTHALIMIDE DYES DERIVED FROM PYRAZOLONES. *Dyes and Pigments.* 22: 239-254.
- Wojciechowski, K. (1993). SYNTHESIS AND PROPERTIES OF NAPHTHALIMIDE ACID DYES. *Dyes and Pigments.* 22: 117-130.
- Wojciechowski, K. (1997). Structure-property relationships in azo disperse dyes, derivatives of naphthalimide. *Dyes and Pigments.* 33: 149-165.
- Wolarz, E; Adamski, A; Chrzumnicka, E; Paluszakiewicz, J; Stolarski, R. (2013). Orientational properties of perylene tetracarboxylic diimide molecules in liquid-crystalline matrices. *Liquid Crystals.* 40: 1354-1363. <http://dx.doi.org/10.1080/02678292.2013.811551>.
- Woodhouse, M; Perkins, CL; Rawls, MT; Cormier, RA; Liang, Z; Nardes, AM; Gregg, BA. (2010). Non-Conjugated Polymers for Organic Photovoltaics: Physical and Optoelectronic Properties of Poly(perylene diimides). *J Phys Chem C.* 114: 6784-6790. <http://dx.doi.org/10.1021/jp910738a>.
- Wu, CH, ao; Chueh, C, huC; Xi, Y, uYin; Zhong, HL; Gao, GP; Wang, ZH, ui; Pozzo, LD; Wen, T, enC; Jen, AKY. (2015). Influence of Molecular Geometry of Perylene Diimide Dimers and Polymers on Bulk Heterojunction Morphology Toward High-Performance Nonfullerene Polymer Solar Cells. *Adv Funct Mater.* 25: 5326-5332. <http://dx.doi.org/10.1002/adfm.201501971>.
- Wu, N, a; Wang, C; Slattum, PM; Zhang, Y; Yang, X; Zang, L. (2016). Persistent Photoconductivity in Perylene Diimide Nanofiber Materials. 1: 906-912. <http://dx.doi.org/10.1021/acsenergylett.6b00422>.
- Wu, N; Zhang, Y; Wang, C; Slattum, PM; Yang, X; Zang, L. (2017). Thermoactivated Electrical Conductivity in Perylene Diimide Nanofiber Materials. *Journal of Physical Chemistry Letters.* 8: 292-298. <http://dx.doi.org/10.1021/acs.jpclett.6b02639>.
- Wu, W; Huang, D; Yi, X; Zhao, J. (2013). Tridentate cyclometalated platinum(II) complexes with strong absorption of visible light and long-lived triplet excited states as photosensitizers for triplet-triplet annihilation upconversion. *Dyes and Pigments.* 96: 220-231. <http://dx.doi.org/10.1016/j.dyepig.2012.07.021>.
- Wu, W, eiB; Wang, ML; Sun, Y, ueM; Huang, W, ei; Cui, Y, iP; Xu, CX. (2008). Color-tuned FRET polystyrene microspheres by single wavelength excitation. *Optical Materials.* 30: 1803-1809. <http://dx.doi.org/10.1016/j.optmat.2007.11.031>.
- Wu, W; Wu, W; Ji, S; Guo, H; Song, P; Han, K; Chi, L; Shao, J; Zhao, J. (2010). Tuning the emission properties of cyclometalated platinum(II) complexes by intramolecular electron-sink/arylethynylated ligands and its application for enhanced luminescent oxygen sensing. *J Mater Chem.* 20: 9775-9786. <http://dx.doi.org/10.1039/c0jm01794a>.
- Wu, YQ; Yang, TS, he; Li, X, un; Wu, J, unC; Yi, T, ao; Li, F, uYou; Huang, CH, ui; Fan, XL, in. (2011). Novel derivatives of niclosamide synthesis Its bioactivity and interaction with Schistosoma japonicum cercariae. *Dyes and Pigments.* 88: 326-332. <http://dx.doi.org/10.1016/j.dyepig.2010.08.002>.
- Xia, S; Yi, L; Sun, Z; Xiang, J; Hu, J; Wang, Y. (2013). Synthesis and characterisation of rubbing-resistant polyimides with naphthalimide side-chain for liquid-crystal alignment layers. *Liquid Crystals.* 40: 756-768. <http://dx.doi.org/10.1080/02678292.2013.783138>.
- Xia, T; Wang, L; Qu, Y, i; Rui, Y; Cao, J; Hu, Y, ue; Yang, J, i; Wu, J; Xu, J. (2016). A thermoresponsive fluorescent rotor based on a hinged naphthalimide for a viscometer and a viscosity-related thermometer. 4: 5696-5701. <http://dx.doi.org/10.1039/c6tc01241h>.
- Xiao, C; Jiang, W; Li, X; Hao, L; Liu, C; Wang, Z. (2014). Laterally expanded rylene diimides with uniform branched side chains for solution-processed air stable n-channel thin film transistors. 6: 18098-18103. <http://dx.doi.org/10.1021/am504984z>.

Exposure Literature Search Results

Off Topic

- Xie, A; Liu, B; Hall, JE; Barron, SL; Higgins, DA. (2005). Self-assembled photoactive polyelectrolyte/perylene-diimide composites. *Langmuir*. 21: 4149-4155. <http://dx.doi.org/10.1021/la0471700>.
- Xu, L; iQun; Zhang, B; in; Sun, M; Hong, L; Neoh, KG; ee; Kang, E, nT; Fu, G, uoD. (2013). CO₂-triggered fluorescence "turn-on" response of perylene diimide-containing poly(N,N-dimethylaminoethyl methacrylate). 1: 1207-1212. <http://dx.doi.org/10.1039/c2ta00482h>.
- Xu, Z; Deng, P; Tang, S; Li, J. (2016). Fluorescent molecularly imprinted polymers based on 1,8-naphthalimide derivatives for efficiently recognition of cholic acid. *Mater Sci Eng C*. 58: 558-567. <http://dx.doi.org/10.1016/j.msec.2015.08.060>.
- Xu, Z; Liu, S; Kang, Y; Wang, M. (2015). Glutathione- and pH-responsive nonporous silica prodrug nanoparticles for controlled release and cancer therapy. *Nanoscale*. 7: 5859-5868. <http://dx.doi.org/10.1039/c5nr00297d>.
- Xu, Z; Liu, S; Kang, Y; Wang, M. (2015). Glutathione-Responsive Polymeric Micelles Formed by a Biodegradable Amphiphilic Triblock Copolymer for Anticancer Drug Delivery and Controlled Release. 1: 585-592. <http://dx.doi.org/10.1021/acsbiomaterials.5b00119>.
- Xu, Z; Zhang, K; Hou, C; Wang, D; Liu, X; Guan, X; Zhang, X; Zhang, H. (2014). A novel nanoassembled doxorubicin prodrug with a high drug loading for anticancer drug delivery. 2: 3433-3437. <http://dx.doi.org/10.1039/c4tb00128a>.
- Xuan, Z; Lu, L. (2011). Facile synthesis of 1-(N-butyl-1,8-naphthalimide-4'-yl)-3-(4-methoxy-phenyl)-5-phenyl-pyrazoline/polyaniline core-shell nanofibers and polyaniline nanotubes. *Mater Lett*. 65: 754-756. <http://dx.doi.org/10.1016/j.matlet.2010.11.023>.
- Xue, C; Birel, O; Xue, Y; Dai, L; Urbas, A; Li, Q. (2013). pH and Temperature Modulated Aggregation of Hydrophilic Gold Nanorods with Perylene Dyes and Carbon Nanotubes. *J Phys Chem C*. 117: 6752-6758. <http://dx.doi.org/10.1021/jp400788h>.
- Xue, C; Gutierrez-Cuevas, K; Gao, M, in; Urbas, A; Li, Q. (2013). Photomodulated Self-Assembly of Hydrophobic Thiol Monolayer-Protected Gold Nanorods and Their Alignment in Thermotropic Liquid Crystal. *J Phys Chem C*. 117: 21603-21608. <http://dx.doi.org/10.1021/jp408081q>.
- Xue, C; Xue, Y; Dai, L; Urbas, A; Li, Q. (2013). Size- and Shape-Dependent Fluorescence Quenching of Gold Nanoparticles on Perylene Dye. 1: 581-587. <http://dx.doi.org/10.1002/adom.201300175>.
- Yadav, RK; Kumar, A; Park, N, oJ; Kong, K, iJ; Baeg, J, inOok. (2016). A highly efficient covalent organic framework film photocatalyst for selective solar fuel production from CO₂. 4: 9413-9418. <http://dx.doi.org/10.1039/c6ta01625a>.
- Yan, W; Zhang, Q; Qin, Q; Ye, S; Lin, Y; Liu, Z; Bian, Z; Chen, Y; Huang, C. (2015). Design, synthesis and photophysical properties of A-D-A-D-A small molecules for photovoltaic application. *Dyes and Pigments*. 121: 99-108. <http://dx.doi.org/10.1016/j.dyepig.2015.05.009>.
- Yanagisawa, T; Kobayashi, N; Shimosasa, H; Kumai, Y; Miyatake, R; Oda, M. (2017). Synthesis and fluorescence property of 2,3-naphthalimide derivatives bearing phenyl substituents on the naphthalene skeleton. *Dyes and Pigments*. 136: 859-864. <http://dx.doi.org/10.1016/j.dyepig.2016.09.050>.
- Yang, DH, ui; Yao, ZQ; Wu, D; Zhang, YH, ui; Zhou, Z; Bu, XH, e. (2016). Structure-modulated crystalline covalent organic frameworks as high-rate cathodes for Li-ion batteries. 4: 18621-18627. <http://dx.doi.org/10.1039/c6ta07606h>.
- Yang, HX; Wang, XL; Wang, XM; Xu, LH. (2005). The synthesis and spectral properties of novel 4-phenylacetylene-1,8-naphthalimide derivatives. *Dyes and Pigments*. 66: 83-87. <http://dx.doi.org/10.1016/j.dyepig.2004.07.015>.
- Yang, JX; Wang, XL; Tusong; Xu, LH. (2005). Studies on the synthesis and spectral properties of novel 4-benzofuranyl-1,8-naphthalimide derivatives. *Dyes and Pigments*. 67: 27-33. <http://dx.doi.org/10.1016/j.dyepig.2004.09.017>.
- Yang, L, ei; Chen, Y; Chen, S; Dong, T, ao; Deng, W, ei; Lv, L, ei; Yang, S; Yan, H, e; Huang, H, ui. (2016). Achieving high performance non-fullerene organic solar cells through tuning the numbers of electron deficient building blocks of molecular acceptors. *J Power Sources*. 324: 538-546. <http://dx.doi.org/10.1016/j.jpowsour.2016.05.119>.
- Yang, L; Yang, W, en; Xu, D; Zhang, Z; Liu, A. (2013). A highly selective and sensitive Fe³⁺ fluorescent sensor by assembling three 1,8-naphthalimide fluorophores with a tris(aminoethylamine) ligand. *Dyes and Pigments*. 97: 168-174. <http://dx.doi.org/10.1016/j.dyepig.2012.12.016>.
- Yang, X; Liu, X; Meng, X; Wang, X; Li, G, en; Shu, C; Jiang, L, i; Wang, C. (2013). Self-assembly of highly dispersed Pt and PtRu nanoparticles on perylene diimide derivatives functionalized carbon nanotubes as enhanced catalysts for methanol electro-oxidation. *J Power Sources*. 240: 536-543. <http://dx.doi.org/10.1016/j.jpowsour.2013.04.084>.
- Yao, J; Fu, X, in; Zheng, X, iuLi; Cao, ZQ, i; Qu, D, aHui. (2015). Two functional [2]rotaxanes featuring efficient intercomponent interactions between chromophores. *Dyes and Pigments*. 121: 13-20. <http://dx.doi.org/10.1016/j.dyepig.2015.05.005>.
- Yao, Q; Zheng, Y; Cheng, W; Chen, M; Shen, J, ie; Yin, M. (2016). Difunctional fluorescent HSA modified CoFe₂O₄ magnetic nanoparticles for cell imaging. 4: 6344-6349. <http://dx.doi.org/10.1039/c6tb01787h>.
- Yao, W; Qian, XH. (2001). Oxazolonaphthalimides and their hydroperoxides: photophysical and photobiological properties. *Dyes and Pigments*. 48: 43-47.
- Ye, F; Higgins, DA; Collinson, MM. (2007). Probing chemical interactions at the single-molecule level in mesoporous silica thin films. *J Phys Chem C*. 111: 6772-6780. <http://dx.doi.org/10.1021/jp068232t>.
- Ye, G, aoJie; Zhao, TT; Jin, ZN; Cu, P, eiY; Mao, J, iaY; Xu, QH, ua; Xu, QF; Lu, JM, ei; Li, N, aJun; Song, Y, inL. (2012). The synthesis and NLO properties of 1,8-naphthalimide derivatives for both femtosecond and nanosecond laser pulses. *Dyes and Pigments*. 94: 271-277. <http://dx.doi.org/10.1016/j.dyepig.2012.01.001>.
- Ye, T; Singh, R; Butt, HJ; Floudas, G; Keivanidis, PE. (2013). Effect of local and global structural order on the performance of perylene diimide excimeric solar cells. 5: 11844-11857. <http://dx.doi.org/10.1021/am4035416>.
- Yin, L; Wu, H; Zhu, M; Zou, Q; Yan, Q; Zhu, L. (2016). Sequential Block Copolymer Self-Assemblies Controlled by Metal-Ligand Stoichiometry. *Langmuir*. 32: 6429-6436. <http://dx.doi.org/10.1021/acs.langmuir.6b01787>.

Exposure Literature Search Results

Off Topic

- Yin, SG; Liu, XY; Li, CX; Huang, WQ; Li, WL; He, BL. (1998). Electroluminescent properties of naphthalimide derivative thin film devices. *Thin Solid Films.* 325: 268-270.
- Yong, X; ue; Zhang, J. (2011). A rational design strategy for donors in organic solar cells: the conjugated planar molecules possessing anisotropic multibranched and intramolecular charge transfer. *J Mater Chem.* 21: 11159-11166. <http://dx.doi.org/10.1039/c1jm11423a>.
- Yoon, KS; Lee, JY; Kim, T; aeHo; Yu, D; ukMan; Seo, DW; an; Hong, SK; Hong, YT. (2014). Synthesis and properties of densely sulfonated polyketones (sPKs) with rigid backbone structure for PEM fuel cell application. *J Ind Eng Chem.* 20: 2310-2316. <http://dx.doi.org/10.1016/j.jiec.2013.10.006>.
- You, S; Cai, Q; Zheng, Y; He, B; Shen, J; Yang, W; Yin, M. (2014). Perylene-cored star-shaped polycations for fluorescent gene vectors and bioimaging. 6: 16327-16334. <http://dx.doi.org/10.1021/am5045967>.
- Yu, A; Kurosawa, T; Chou, YH; Aoyagi, K; Shoji, Y; u; Higashihara, T; Ueda, M; Liu, CL; Chen, W. (2013). Tunable Electrical Memory Characteristics Using Polyimide: Polycyclic Aromatic Compound Blends on Flexible Substrates. *ACS Applied Materials & Interfaces.* 5: 4921-4929. <http://dx.doi.org/10.1021/am4006594>.
- Yu, H; Joo, P; Lee, D; Kim, BS; u; Oh, JH; ak. (2015). Photoinduced Charge-Carrier Dynamics of Phototransistors Based on Perylene Diimide/Reduced Graphene Oxide Core/Shell p-n Junction Nanowires. 3: 241-247. <http://dx.doi.org/10.1002/adom.201400346>.
- Yu, J; Xi, Y; Chueh, C; huC; Zhao, D; Lin, F; Pozzo, LD; Tang, W; Jen, AKY. (2016). A Room-Temperature Processable PDI-Based Electron-Transporting Layer for Enhanced Performance in PDI-Based Non-Fullerene Solar Cells. 3. <http://dx.doi.org/10.1002/admi.201600476>.
- Yu, L; ei; Hua, X; iuNi; Jiang, X; iIie; Qin, L; an; Yan, XZ; hi; Luo, L; aiHui; Han, L; ei. (2015). Histidine-Controlled Homochiral and Ferroelectric Metal-Organic Frameworks. *Cryst Growth Des.* 15: 687-694. <http://dx.doi.org/10.1021/cg5013796>.
- Yu, M; Du, W; Zhou, W; an; Li, H; Liu, C; Wei, L; Li, Z; Zhang, H. (2016). A 1,8-naphthalimide-based chemosensor with an off-on fluorescence and lifetime imaging response for intracellular Cr³⁺ and further for S₂. *Dyes and Pigments.* 126: 279-285. <http://dx.doi.org/10.1016/j.dyepig.2015.12.001>.
- Yu, X; Ge, X; Lan, H; Li, Y; Geng, L; Zhen, X; Yi, T. (2015). Tunable and Switchable Control of Luminescence through Multiple Physical Stimulations in Aggregation-Based Monocomponent Systems. 7: 24312-24321. <http://dx.doi.org/10.1021/acsmami.5b08402>.
- Yuan, H; ao; Zhao, Y; Wu, F. (2012). Two-Photon Acid Generation Systems Based on Dibenzylidene Ketone Dyes Intermolecular Sensitization. *Chem Mater.* 24: 1371-1377. <http://dx.doi.org/10.1021/cm300148n>.
- Yuksel, OF; Kus, M; Yildirim, M. (2017). Capacitance and Conductance-Frequency Characteristics of Au/n-Si Schottky Structure with Perylene-Diimide (PDI) Organic Interlayer. *Journal of Electronic Materials.* 46: 882-887. <http://dx.doi.org/10.1007/s11664-016-4999-y>.
- Yuksel, OF; Tugluoglu, N; Safak, H; Nalcacigil, Z; Kus, M; Karadeniz, S. (2013). Analysis of temperature dependent electrical properties of Au/perylene-diimide/n-Si Schottky diodes. *Thin Solid Films.* 534: 614-620. <http://dx.doi.org/10.1016/j.tsf.2013.02.042>.
- Yun, W; onMin; Jang, J; Nam, S; Park, CE; on; Kim, S; eH; Chung, D; aeS. (2014). Organic Light-Emitting Diodes with Low Turn-On Voltages and Improved Stability Featuring a PTCDI-C13:CuPc Mixed Hole Injection Layer. 6: 1676-1680. <http://dx.doi.org/10.1166/sam.2014.1940>.
- Zahn, DRT; Kampen, TU; Mendez, H. (2003). Transport gap of organic semiconductors in organic modified Schottky contacts. *Appl Surf Sci.* 212: 423-427. [http://dx.doi.org/10.1016/S0169-4332\(03\)00125-9](http://dx.doi.org/10.1016/S0169-4332(03)00125-9).
- Zeng, X; Zhang, X; Zhu, B; Jia, H; Li, Y. (2012). A highly selective wavelength-ratiometric and colorimetric probe for cysteine. *Dyes and Pigments.* 94: 10-15. <http://dx.doi.org/10.1016/j.dyepig.2011.10.013>.
- Zhan, X; Tan, Z; Zhou, E; Li, Y; Misra, R; Grant, A; Domercq, B; Zhang, XH; An, Z; Zhang, X; Barlow, S; Kippelen, B; Marder, SR. (2009). Copolymers of perylene diimide with dithienothiophene and dithienopyrrole as electron-transport materials for all-polymer solar cells and field-effect transistors. *J Mater Chem.* 19: 5794-5803. <http://dx.doi.org/10.1039/b907163f>.
- Zhang, H; Kong, X; Tang, Y; Lin, W. (2016). Hydrogen Sulfide Triggered Charge-Reversal Micelles for Cancer-Targeted Drug Delivery and Imaging. 8: 16227-16239. <http://dx.doi.org/10.1021/acsmami.6b03254>.
- Zhang, H; ua; Xue, L; Han, J; Fu, YQ; Shen, Y; an; Zhang, Z; Li, Y; Wang, M. (2016). New generation perovskite solar cells with solution-processed amino-substituted perylene diimide derivative as electron-transport Layer. 4: 8724-8733. <http://dx.doi.org/10.1039/c6ta03119f>.
- Zhang, J; Li, G; Kang, C; Lu, H; Zhao, X; Li, C; Li, W; Bo, Z. (2015). Synthesis of star-shaped small molecules carrying peripheral 1,8-naphthalimide functional groups and their applications in organic solar cells. *Dyes and Pigments.* 115: 181-189. <http://dx.doi.org/10.1016/j.dyepig.2015.01.002>.
- Zhang, J; Li, H; Chen, P; Sun, W; Gao, T; Yan, P. (2015). A new strategy for achieving white-light emission of lanthanide complexes: effective control of energy transfer from blue-emissive fluorophore to Eu(III) centres. 3: 1799-1806. <http://dx.doi.org/10.1039/c4tc02512a>.
- Zhang, J; Riskin, M; Tel-Vered, R; Tian, H; Willner, I. (2011). Optically activated uptake and release of Cu²⁺ or Ag⁺ ions by or from a photoisomerizable monolayer-modified electrode. *Langmuir.* 27: 1380-1386. <http://dx.doi.org/10.1021/la1040807>.
- Zhang, J; Singh, S; Hwang, D; oK; Barlow, S; Kippelen, B; Marder, SR. (2013). 2-Bromo perylene diimide: synthesis using C-H activation and use in the synthesis of bis(perylene diimide)-donor electron-transport materials. 1: 5093-5100. <http://dx.doi.org/10.1039/c3tc30918e>.
- Zhang, J; Xiao, H; Zhang, X; Wu, Y; Li, G; Li, C; Chen, X; Ma, W; ei; Bo, Z. (2016). 1,8-Naphthalimide-based nonfullerene acceptors for wide optical band gap polymer solar cells with an ultrathin active layer thickness of 35 nm. 4: 5656-5663. <http://dx.doi.org/10.1039/c6tc01438k>.
- Zhang, J; Zhang, X; Xiao, H; Li, G; Liu, Y; Li, C; Huang, H; Chen, X; Bo, Z. (2016). 1,8-Naphthalimide-Based Planar Small Molecular Acceptor for Organic Solar Cells. 8: 5475-5483. <http://dx.doi.org/10.1021/acsmami.5b10211>.
- Zhang, W; Liu, X; Zhang, H; Feng, C; Liu, C; Yu, M; Wei, L; Li, Z. (2015). A fluorescent probe for benzenethiols and its application on test paper, in water samples and living cells. 3: 8248-8254. <http://dx.doi.org/10.1039/c5tc01363a>.

Exposure Literature Search Results

Off Topic

- Zhang, X; Hu, Z; Pu, Y; Chen, S; Ling, J; Bi, H; Chen, S; Wang, L; Okamoto, K, enl. (2012). Preparation and properties of novel sulfonated poly(p-phenylene-co-aryl ether ketone)s for polymer electrolyte fuel cell applications. *J Power Sources.* 216: 261-268. <http://dx.doi.org/10.1016/j.jpowsour.2012.05.016>.
- Zhang, X; Jiang, B, o; Zhang, X, in; Tang, A; Huang, J; Zhan, C; Yao, J. (2014). Cooperatively Tuning Phase Size and Absorption of Near IR Photons in P3HT:Perylene Diimide Solar Cells by Bay-Modifications on the Acceptor. *J Phys Chem C.* 118: 24212-24220. <http://dx.doi.org/10.1021/jp5093674>.
- Zhang, X; Lu, Z; Ye, L; Zhan, C; Hou, J; Zhang, S; Jiang, B; Zhao, Y; Huang, J; Zhang, S; Liu, Y; Shi, Q; Liu, Y; Yao, J. (2013). A potential perylene diimide dimer-based acceptor material for highly efficient solution-processed non-fullerene organic solar cells with 4.03% efficiency. *Adv Mater Deerfield.* 25: 5791-5797. <http://dx.doi.org/10.1002/adma.201300897>.
- Zhang, X; Zhang, J; Lu, H; Wu, J; Li, G; Li, C; Li, S; Bo, Z. (2015). A 1,8-naphthalimide based small molecular acceptor for polymer solar cells with high open circuit voltage. 3: 6979-6985. <http://dx.doi.org/10.1039/c5tc01148e>.
- Zhang, XF, an; Zhang, T, ao; Shen, S, hiLi; Miao, J, unY; Zhao, B, aoX. (2015). A ratiometric lysosomal pH probe based on the naphthalimide-rhodamine system. 3: 3260-3266. <http://dx.doi.org/10.1039/c4tb02082k>.
- Zhang, XT; Wang, S; Xing, GW. (2016). Aggregates-Based Boronlectins with Pyrene as Fluorophore: Multichannel Discriminative Sensing of Monosaccharides and Their Applications. 8: 12007-12017. <http://dx.doi.org/10.1021/acsmami.6b01940>.
- Zhang, Y; Guo, X, ia; Su, W; Guo, B; Xu, Z; Zhang, M; Li, Y. (2017). Perylene diimide-benzodithiophene D-A copolymers as acceptor in all-polymer solar cells. *Organic Electronics.* 41: 49-55. <http://dx.doi.org/10.1016/j.orgel.2016.11.038>.
- Zhang, Y; Peng, C; Cui, B; Wang, Z; Pang, X; Ma, R; Liu, F; Che, Y; Zhao, J. (2016). Direction-Controlled Light-Driven Movement of Microribbons. *Adv Mater Deerfield.* 28: 8538-8545. <http://dx.doi.org/10.1002/adma.201602411>.
- Zhang, Y; Wan, Q, un; Guo, X, ia; Li, W; Guo, B; Zhang, M; Li, Y. (2015). Synthesis and photovoltaic properties of an n-type two-dimension-conjugated polymer based on perylene diimide and benzodithiophene with thiophene conjugated side chains. 3: 18442-18449. <http://dx.doi.org/10.1039/c5ta05014f>.
- Zhang, Y; Wang, H; Xiao, Y; Wang, L; Shi, D; Cheng, C. (2013). Liquid crystalline perylene diimide outperforming nonliquid crystalline counterpart: higher power conversion efficiencies (PCEs) in bulk heterojunction (BHJ) cells and higher electron mobility in space charge limited current (SCLC) devices. 5: 11093-11100. <http://dx.doi.org/10.1021/am4033185>.
- Zhang, Y, uMo; Xie, F; Li, W, en; Wang, Y; Zhang, W; Wang, X; Li, M; Zhang, SXA, n. (2016). A methyl ketone bridged molecule as a multi-stimuli-responsive color switch for electrochromic devices. 4: 4662-4667. <http://dx.doi.org/10.1039/c5tc04236d>.
- Zhang, YC; Zhu, WH; Wang, WJ; Tian, H; Su, JH; Wang, WC. (2002). Synthesis and nonlinear optical properties of rod-like luminescent materials containing Schiff-base and naphthalimide units. *J Mater Chem.* 12: 1294-1300. <http://dx.doi.org/10.1039/b109384n>.
- Zhang, Z; Zhang, X, in; Zhan, C; Lu, Z; Ding, X; He, S; Yao, J. (2013). The leverage effect of the relative strength of molecular solvophobicity vs. solvophilicity on fine-tuning nanomorphologies of perylene diimide bolaamphiphiles. *Soft Matter.* 9: 3089-3097. <http://dx.doi.org/10.1039/c2sm27674g>.
- Zhao, CS; Liu, XL, i; Yang, M; Fang, JY; Zhang, JJ, un; Liu, FQ, i. (2009). The preparation of copolymerized fluorescent microspheres of styrene using detergent-free emulsion polymerization. *Dyes and Pigments.* 82: 134-141. <http://dx.doi.org/10.1016/j.dyepig.2008.12.006>.
- Zhao, D; Wu, Q; Cai, Z; Zheng, T; Chen, W, ei; Lu, J; Yu, L. (2016). Electron Acceptors Based on alpha-Substituted Perylene Diimide (PDI) for Organic Solar Cells. *Chem Mater.* 28: 1139-1146. <http://dx.doi.org/10.1021/acs.chemmater.5b04570>.
- Zhao, H; Zhang, YY; Xu, H; He, EF; Zhang, ZL; Peng, QM; Zhang, RJ; Zhang, HQ. (2015). Perylene diimide dye/layered carbide charge transfer composite: Design, synthesis, and photophysical properties. *Mater Lett.* 161: 208-211. <http://dx.doi.org/10.1016/j.matlet.2015.08.076>.
- Zhao, J; Li, Y; Zhang, J; Zhang, L, u; Lai, JY, ukLin; Jiang, K, ui; Mu, C; Li, Z; Chan, CL, amC; Hunt, A; Mukherjee, S; Ade, H; Huang, X; Yan, H, e. (2015). The influence of spacer units on molecular properties and solar cell performance of non-fullerene acceptors. 3: 20108-20112. <http://dx.doi.org/10.1039/c5ta05339k>.
- Zhao, L; Ma, T; Bai, H; Lu, G; Li, C; Shi, G. (2008). Layer-by-layer deposited multilayer films of oligo(pyrenebutyric acid) and a perylene diimide derivative: structure and photovoltaic properties. *Langmuir.* 24: 4380-4387. <http://dx.doi.org/10.1021/la703884d>.
- Zhao, M, eiXia; Zeng, E, rZao; Li, Y; Wang, CJ, ie. (2014). A study on effects of naphthalimide derivative-capped quantum dots on the cellular internalization, proliferation, and apoptosis ability. 2: 7351-7359. <http://dx.doi.org/10.1039/c4tb01048e>.
- Zhao, T; Liu, R, ui; Shi, H; Shu, M; Hu, J; Li, H; Zhu, H. (2016). Synthesis, tunable photophysics and nonlinear absorption of terpyridyl Pt(II) complexes bearing different acetylidy ligands. *Dyes and Pigments.* 126: 165-172. <http://dx.doi.org/10.1016/j.dyepig.2015.11.021>.
- Zhao, Z; He, J; Wang, J; Chen, W; Wang, N; Zhang, Y; Yang, R. (2015). A water/alcohol-soluble copolymer based on fluorene and perylene diimide as a cathode interlayer for inverted polymer solar cells. 3: 4515-4521. <http://dx.doi.org/10.1039/c5tc00450k>.
- Zheng, X; Peng, Q; Lin, J, ie; Wang, Y, i; Zhou, J, ie; Jiao, Y, an; Bai, Y; Huang, Y, an; Li, F; Liu, X; Pu, X; Lu, Z. (2015). Simultaneous harvesting of triplet excitons in OLEDs by both guest and host materials with an intramolecular charge-transfer feature via triplet-triplet annihilation. 3: 6970-6978. <http://dx.doi.org/10.1039/c5tc00779h>.
- Zheng, X; Zhu, W; Liu, D; Ai, H; Huang, Y; Lu, Z. (2014). Highly selective colorimetric/fluorometric dual-channel fluoride ion probe, and its capability of differentiating cancer cells [Letter]. 6: 7996-8000. <http://dx.doi.org/10.1021/am501546h>.
- Zheng, Y; Jradi, FM; Parker, TC; Barlow, S; Marder, SR; Saavedra, SS. (2016). Influence of Molecular Aggregation on Electron Transfer at the Perylene Diimide/Indium-Tin Oxide Interface. 8: 34089-34097. <http://dx.doi.org/10.1021/acsami.6b10731>.

Exposure Literature Search Results

Off Topic

- Zhengneng, J; Najun, L; Chuanfeng, W; Huaijiang, J; Jianmei, L; Qizhong, Z. (2013). Synthesis and fluorescence property of some novel 1,8-naphthalimide derivatives containing a thiophene ring at the C-4 position. *Dyes and Pigments*. 96: 204-210. <http://dx.doi.org/10.1016/j.dyepig.2012.07.018>.
- Zhong, Y; Sun, X; Wang, S; Peng, F; Bao, F; Su, Y; Li, Y; Lee, ST; He, Y. (2015). Facile, Large-Quantity Synthesis of Stable, Tunable-Color Silicon Nanoparticles and Their Application for Long-Term Cellular Imaging. *ACS Nano*. 9: 5958-5967. <http://dx.doi.org/10.1021/acsnano.5b00683>.
- Zhou, E; Tajima, K; Yang, C; Hashimoto, K. (2010). Band gap and molecular energy level control of perylene diimide-based donor-acceptor copolymers for all-polymer solar cells. *J Mater Chem*. 20: 2362-2368. <http://dx.doi.org/10.1039/b923452g>.
- Zhou, J, in; Fang, C; Chang, T; Liu, X; Shangguan, D. (2013). A pH sensitive ratiometric fluorophore and its application for monitoring the intracellular and extracellular pHs simultaneously. 1: 661-667. <http://dx.doi.org/10.1039/c2tb00179a>.
- Zhou, J, in; Liu, H; Jin, B; Liu, X; Fu, H; Shangguan, D. (2013). A guanidine derivative of naphthalimide with excited-state deprotonation coupled intramolecular charge transfer properties and its application. 1: 4427-4436. <http://dx.doi.org/10.1039/c3tc30853g>.
- Zhou, Q; Audebert, P; Clavier, G; Meallet-Renault, R; Miomandre, F; Shaukat, Z; Vu, T-T; Tang, J, ie. (2011). New Tetrazines Functionalized with Electrochemically and Optically Active Groups: Electrochemical and Photoluminescence Properties. *J Phys Chem C*. 115: 21899-21906. <http://dx.doi.org/10.1021/jp204917m>.
- Zhou, X; Su, F; Gao, W; Tian, Y; Youngbull, C; Johnson, RH; Meldrum, DR. (2011). Triazacryptand-based fluorescent sensors for extracellular and intracellular K⁺ sensing. *Biomaterials*. 32: 8574-8583. <http://dx.doi.org/10.1016/j.biomaterials.2011.07.081>.
- Zhou, X; Su, F; Lu, H; Senechal-Willis, P; Tian, Y; Johnson, RH; Meldrum, DR. (2012). An FRET-based ratiometric chemosensor for in vitro cellular fluorescence analyses of pH. *Biomaterials*. 33: 171-180. <http://dx.doi.org/10.1016/j.biomaterials.2011.09.053>.
- Zhou, Z; Brusso, JL; Holdcroft, S. (2010). Directed Growth of 1D Assemblies of Perylene Diimide from a Conjugated Polymer. *Chem Mater*. 22: 2287-2296. <http://dx.doi.org/10.1021/cm903166f>.
- Zhu, B; Zhao, J, ie; Yu, H; Yan, L; Wei, Q, in; Du, B, in. (2013). Development of novel naphthalimide-functionalized magnetic fluorescent nanoparticle for simultaneous determination and removal of Hg²⁺. *Optical Materials*. 35: 2220-2225. <http://dx.doi.org/10.1016/j.optmat.2013.06.006>.
- Zhu, B; Zhao, J, ie; Yu, H; Yan, L; Wei, Q, in; Du, B, in. (2013). Naphthalimide-functionalized Fe₃O₄@SiO₂ core/shell nanoparticles for selective and sensitive adsorption and detection of Hg²⁺. *Chem Eng J*. 219: 411-418. <http://dx.doi.org/10.1016/j.cej.2012.12.068>.
- Zhu, M; Aryal, GH; Zhang, N, an; Zhang, H; Su, X; Schmehl, R; Liu, X, ue; Hu, J, in; Wei, J; Jayawickramarajah, J. (2015). Host-Guest Interactions Derived Multilayer Perylene Diimide Thin Film Constructed on a Scaffolding Porphyrin Monolayer. *Langmuir*. 31: 578-586. <http://dx.doi.org/10.1021/la504297w>.
- Zhu, WH; Hu, C; Chen, KC; Tian, H. (1998). Luminescent properties of copolymeric dyad compounds containing 1,8-naphthalimide and 1,3,4-oxadiazole. *Synthetic Metals*. 96: 151-154.
- Zhu, WH; Hu, M; Wu, YQ; Tian, H; Sun, RG; Epstein, AJ. (2001). Novel luminescent carbazole-naphthalimide dyads for single-layer electroluminescent device. *Synthetic Metals*. 119: 547-548.
- Zhu, WH; Hu, YB; Tian, H. (2000). Synthesis and luminescent properties of novel condensed copolymers. *Synthetic Metals*. 111: 477-479.
- Zhu, WH; Minami, N; Kazaoui, S; Kim, Y. (2003). Fluorescent chromophore functionalized single-wall carbon nanotubes with minimal alteration to their characteristic one-dimensional electronic states. *J Mater Chem*. 13: 2196-2201. <http://dx.doi.org/10.1039/b303885h>.
- Zhu, WH; Yao, R; Tian, H. (2002). Synthesis of novel electro-transporting emitting compounds. *Dyes and Pigments*. 54: 147-154.
- Zhu, YY; Gu, SX, i. (2014). Reduction of the 3,4,9,10-perylenediimides and the formation of eletrodeposited films based on their radical anions. 1. <http://dx.doi.org/10.1088/2053-1591/1/3/035102>.
- Zhuang, H; Zhou, Q; Li, Y; Zhang, Q; Li, H; Xu, Q; Li, N; Lu, J; Wang, L. (2014). Adjustment of ON-state retention ability based on new donor-acceptor imides through structural tailoring for volatile device applications. 6: 94-100. <http://dx.doi.org/10.1021/am405000c>.
- Zschieschang, U, te; Amsharov, K; Jansen, M; Kern, K; Klauk, H; Weitz, RT. (2015). Separating the impact of oxygen and water on the long-term stability of n-channel perylene diimide thin-film transistors. *Organic Electronics*. 26: 340-344. <http://dx.doi.org/10.1016/j.orgel.2015.07.060>.

Environmental Hazard Literature Search Results

On Topic

No on topic environmental hazard references

Environmental Hazard Literature Search Results

Off Topic

- Alloway, DMA, N. R. (2009). Organic heterojunctions of layered perylene and phthalocyanine dyes: characterization with UV-photoelectron spectroscopy and luminescence quenching. 95: 209-218.
- Balakrishnan, KD, A. Oitker, R. Chen, H. Zuo, J. M. Zang, L. (2005). Nanobelt self-assembly from an organic n-type semiconductor: Propoxyethyl-PTCDI. 127: 10496-10497.

Environmental Hazard Literature Search Results

Off Topic

- Barra, MB, F. Cassinese, A. Di Girolamo, F. V. Vicari, L. (2009). Photoinduced long-term memory effects in n-type organic perylene transistors. 106: 26105-26105.
- Boobalan, GI, P. M. Nagarajan, S. (2011). Self-Assembly, Optical, and Electrical Properties of a Novel Water-Soluble Perylene Bisimide. 40: 2392-2397.
- Boobalan, GI, P. K. Manoharan, C. Nagarajan, S. (2013). Fabrication of highly fluorescent perylene bisimide nanofibers through interfacial self-assembly. J Colloid Interface Sci. 393: 377-383. <http://dx.doi.org/10.1016/j.jcis.2012.10.053>.
- Boobalan, GI, P. K. M. Manoharan, C. Nagarajan, S. (2015). Optical and Electrical Properties of New Perylene Diimide Thin Films. Journal of Electronic Materials. 44: 4000-4005. <http://dx.doi.org/10.1007/s11664-015-3870-x>.
- Bordo, KS, M. Rubahn, H. G. (2014). Nanowires and nanotubes from pi-conjugated organic materials fabricated by template wetting. 114: 1067-1074.
- Boudrioua, OY, H. Sonnet, P. Stauffer, L. Mayne, A. J. Comtet, G. Dujardin, G. Kuk, Y. Nagarajan, S. Gourdon, A. Duverger, E. (2012). Large organic molecule chemisorption on the SiC(0001) surface. 85: 5423-5423.
- Briseno, ALT, R. J. Li, S. H. Chu, C. W. Yang, Y. Falcao, E. H. L. Wudl, F. Ling, M. M. Chen, H. Z. Bao, Z. N. Meng, H. Kloc, C. (2006). Organic single-crystal complementary inverter. 89: 22111-22111.
- Cao, HJ, J. Ma, J. Luo, Y. (2008). Temperature-dependent statistical behavior of single molecular conductance in aqueous solution. 130: 6674-+.
- Che, YKD, A. Balakrishnan, K. Zang, L. (2007). Ultralong nanobelts self-assembled from an asymmetric perylene tetracarboxylic diimide. 129: 7234-+.
- Chesterfield, RJ. (2004). New n -channel organic semiconductors for thin film transistors.
- Chesterfield, RJM, J. C. Newman, C. R. Frisbie, C. D. Ewbank, P. C. Mann, K. R. Miller, L. L. (2004). Variable temperature film and contact resistance measurements on operating n-channel organic thin film transistors. 95: 6396-6405.
- Chiăÿ, VM, G. Åžtiufuc, R. Leopold, N. Oltean, M. (2009). Vibrational and electronic structure of PTCDI and melamine-“PTCDI complexes. 924â€”926: 47-53.
- Chou, YHL, W. Chen, W. (2012). Self-Assembled Nanowires of Organic n-Type Semiconductor for Nonvolatile Transistor Memory Devices. Adv Funct Mater. 22: 4352-4359. <http://dx.doi.org/10.1002/adfm.201200706>.
- Clark, AEQ, C. Y. Li, A. D. Q. (2007). Beyond exciton theory: A time-dependent DFT and Franck-Condon study of perylene diimide and its chromophoric dimer. 129: 7586-7595.
- Delgado, MCRK, E. G. Da Silva, D. A. Bredas, J. L. (2010). Tuning the Charge-Transport Parameters of Perylene Diimide Single Crystals via End and/or Core Functionalization: A Density Functional Theory Investigation. 132: 3375-3387.
- Fendrich, MK, T. (2007). Organic molecular nanowires: N,N(')-dimethylperylene-3,4,9,10-bis(dicarboximide) on KBr(001). 91: 23101-23101.
- Fendrich, ML, M. Weiss, C. Kunstmann, T. Moller, R. (2009). N,N '-dimethylperylene-3,4,9,10-bis(dicarboximide) on alkali halide (001) surfaces. 105: 94311-94311.
- Friedrich, MG, G. Himcinschi, C. Kampen, T. U. Kobitski, A. Y. Mendez, H. Salvan, G. Cerrillo, I. Mendez, J. Nicoara, N. Baro, A. M. Zahn, D. R. T. (2003). Optical properties and molecular orientation in organic thin films. 15: S2699-S2718.
- Gavrila, GNM, H. Kampen, T. U. Zahn, D. R. T. Vyalikh, D. V. Braun, W. (2004). Energy band dispersion in well ordered N,N '-dimethyl-3,4,9,10-perylenetetracarboxylic diimide films. 85: 4657-4659.
- Gundlach, DJP, K. P. Wilckens, G. Gruter, M. Haas, S. Batlogg, B. (2005). High mobility n-channel organic thin-film transistors and complementary inverters. 98: 64502-64502.
- Hu, JCK, W. F. Deng, K. Zou, W. J. Huang, Y. W. Wei, Z. X. Faul, C. F. J. (2012). Self-Assembled Sugar-Substituted Perylene Diimide Nanostructures with Homochirality and High Gas Sensitivity. Adv Funct Mater. 22: 4149-4158. <http://dx.doi.org/10.1002/adfm.201200973>.
- Hu, YSL, Q. P. Li, H. Zhang, N. Liu, X. Y. (2013). Low-Voltage, High-Mobility Air-Stable Ambipolar Organic Field-Effect Transistors with a Voltage-Dependent Off-Current State and Modest Operational Stability. 6: 51602-51602.
- Hu, YSZ, N. Lin, J. Qin, L. Liu, X. Y. (2012). Improvements of Bilayer Ambipolar Organic Field-Effect Transistors Based on Pentacene and N,N '-Ditridecylperylene-3,4,9,10-tetracarboxylic Di-imide by Changing Growth Rate Method. 5: 95601-95601.
- Huang, HC, C. E. Che, Y. Li, L. Wang, C. Yang, X. Peng, Z. Zang, L. (2013). Morphology control of nanofibril donor-acceptor heterojunction to achieve high photoconductivity: exploration of new molecular design rule. J Am Chem Soc. 135: 16490-16496. <http://dx.doi.org/10.1021/ja407024u>.
- Huang, HLC, Y. K. Zang, L. (2010). Direct synthesis of highly pure perylene tetracarboxylic monoimide. 51: 6651-6653.
- Huang, YW, J. Fu, L. Kuang, W. Shi, J. (2013). Effect of core-substituted groups on sensing properties based on single micro/nanorod of perylenediimide derivatives. 188: 411-416.
- Islam, MRD, E. Saimani, S. Sundararajan, P. R. (2012). Preclusion of nano scale self-assembly in block-selective non-aqueous solvents for rodâ€œcoil and coilâ€œrodâ€œcoil macromolecular surfactants based on perylene tetracarboxylic diimide. 48: 1538-1554.
- Itoh, EI, M. Burghard, M. Roth, S. (2000). Ultraviolet photoelectron spectroscopy and surface potential of pi-conjugated Langmuir-Blodgett films on gold metal electrode. 39: 5146-5150.
- Jang, JN, S. Chung, D. Kim, S.,eH Yun, W. Park, C. (2010). High T-g Cyclic Olefin Copolymer Gate Dielectrics for N,N '-Ditridecyl Perylene Diimide Based Field-Effect Transistors: Improving Performance and Stability with Thermal Treatment. Adv Funct Mater. 20: 2611-2618. <http://dx.doi.org/10.1002/adfm.201000383>.
- Jeon, HGH, J. Kato, S. Oguma, N. Hirata, N. Taniguchi, Y. Ichikawa, M. (2010). Thermal treatment effects on N-alkyl perylene diimide thin-film transistors with different alkyl chain. 108: 24512-24512.

Environmental Hazard Literature Search Results

Off Topic

- Jeon, HGY, Y. Hattori, J. Oguma, N. Hirata, N. Suzuki, T. Ichikawa, M. (2012). Novel Perylene Derivative having an Ether Group in the Side Chains for Solution-Processible n-Channel Transistors with Very High Electron Mobility. 5: 41602-41602.
- Ji, HFM, R. Yang, X. Xu, X. H. More, K. (2008). Self-assembly of perylenedilmide and naphthalenediimide nanostructures on glass substrates through deposition from the gas phase. 130: 10056-+.
- Kaake, LGZ, Y. Panzer, M. J. Frisbie, C. D. Zhu, X. Y. (2007). Vibrational spectroscopy reveals electrostatic and electrochemical doping in organic thin film transistors gated with a polymer electrolyte dielectric. 129: 7824-7830.
- Kampen, TUG, G. Mendez, H. Zahn, D. R. T. Vearey-Roberts, A. R. Evans, D. A. Wells, J. McGovern, I. Braun, W. (2003). Electronic properties of interfaces between perylene derivatives and GaAs(001) surfaces. 15: S2679-S2692.
- Karmel, HJ. (2015). Investigating the Self-Assembly and Nanopatterning Characteristics of Organic Molecular Adlayers on Silicon and Graphene via Scanning Tunneling Microscopy.
- Kern, JTK, S. M. (2002). The aggregation and G-quadruplex DNA selectivity of charged 3,4,9,10-perylenetetracarboxylic acid diimides. Bioorg Med Chem Lett. 12: 3395-3398.
- Kim, IH, H. M. Wang, Z. X. Madakuni, S. Li, J. Jabbour, G. E. (2009). Effect of molecular packing on interfacial recombination of organic solar cells based on palladium phthalocyanine and perylene derivatives. 95: 23305-23305.
- Kozlov, SMVE, F. Gäßling, A. (2012). On the interaction of polycyclic aromatic compounds with graphene. 50: 2482-2492.
- Kumar, AP, A. K. Yang, D. Cho, S. Park, S.,un Pyo, S. (2014). Rubidium carbonate modified gold electrodes for efficient electron injection in n-type organic field-effect transistors. J Phys Appl Phys. 47: 55101-55101. <http://dx.doi.org/10.1088/0022-3727/47/35/355101>.
- Lehmann, DZ, D. R. T. (2009). The electrical and dielectrical behavior of n-conducting perylene tetracarboxylic diimide derivatives. 95: 203-207.
- Li, HS, X. (2011). Application of 3,4,9,10-perylenetetracarboxylic diimide microfibers as a fluorescent sensing platform for biomolecular detection. Anal Chim Acta. 702: 109-113. <http://dx.doi.org/10.1016/j.aca.2011.06.035>.
- Ling, MMB, Z. N. Erk, P. Koenemann, M. Gomez, M. (2007). Complementary inverter using high mobility air-stable perylene di-imide derivatives. 90: 93508-93508.
- Loske, FR, M. Kuhnle, A. (2011). Deposition Sequence Determines Morphology of C(60) and 3,4,9,10-Perylenetetracarboxylic Diimide Islands on CaF(2)(111). 50: LB807-LB807.
- Lv, ZL, J. Bai, W. Yang, S. Chen, A. (2015). A simple and sensitive label-free fluorescent approach for protein detection based on a Perylene probe and aptamer. Biosens Bioelectron. 64: 530-534. <http://dx.doi.org/10.1016/j.bios.2014.09.095>.
- Maennig, BD, J. Gebeyehu, D. Simon, P. Kozlowski, F. Werner, A. Li, F. Grundmann, S. Sonntag, S. Koch, M. Leo, K. Pfeiffer, M. Hoppe, H. Meissner, D. Sariciftci, N. S. Riedel, I. Dyakonov, V. Parisi, J. (2004). Organic p-i-n solar cells. 79: 1-14.
- Makinen, AJX, S. Zhang, Z. Diol, S. J. Gao, Y. L. Mason, M. G. Muenter, A. A. Mantell, D. A. Melnyk, A. R. (1999). The effect of disorder on excited state dynamics in organic molecular films. 74: 1296-1298.
- Malenfant, PRLD, C. D. Gelorme, J. D. Kosbar, L. L. Graham, T. O. Curioni, A. Andreoni, W. (2002). N-type organic thin-film transistor with high field-effect mobility based on a N,N'-(dialkyl)-3,4,9,10-peryrene tetracarboxylic diimide derivative. 80: 2517-2519.
- Mendez, HT, I. Zahn, D. R. T. (2007). Experimental study of charge transport mechanisms in a hybrid metal/organic/inorganic device. 75: 5321-5321.
- Mishima, RL, N. T. Tada, H. (2012). Electrostatic Properties of Organic Monolayers on Silicon Oxides Studied by Kelvin Probe Force Microscopy. 51: 45702-45702.
- Monestier, FP, A. K. Simon, J. J. Torchio, P. Escoubas, L. Nunzi, J. M. (2007). Optical modeling of the ultimate efficiency of pentacene: N, N'-ditridecylperylene-3, 4, 9, 10-tetracarboxylic diimide-blend solar cells. 102: 34512-34512.
- Nakayama, KI, M. Yokoyama, M. (2009). Improvement in Mobility and Stability of n-Type Organic Field-Effect Transistors with a Hole Transporting Interfacial Layer. 2: 21501-21501.
- Ng, AM, anC; Djurisic, AB; Tam, K, aiH; Cheng, K, aiW; Chan, W, aiKin; Tam, H, oiLam; Cheah, K, okWal; Lu, AW; Chan, J; Rakic, AD. (2008). 3,4,9,10-Perlylenetetracarboxylicdiimide as an interlayer for ultraviolet organic light emitting diodes. Optic Comm. 281: 2498-2503. <http://dx.doi.org/10.1016/j.optcom.2007.12.089>.
- Ng, AMCD, A. B. Tam, K. H. Kwok, W. M. Chan, W. K. Tam, W. Y. Phillips, D. L. Cheah, K. W. (2008). Organic nanoclusters on inorganic nanostructures for tailoring the emission properties of organic materials. 18: 566-574.
- Nowakowski, RS, C. Fuchs, H. (2001). Ordered structures of a nonplanar derivative of PTCDI on Ag(110): STM and LEED investigations. 6319: 5418-5418.
- O'Brien, DB. (2014). Solving the two-interface problem in vibrational sum frequency generation spectroscopy applied to multilayer thin film systems. 410.
- Oku, SN, T. Nagamatsu, S. Takashima, W. Kaneto, K. (2010). Comparative Study on Gate Insulators of Polymers and SiO(2) in Transport Properties of p- and n-Type Organic Field-Effect Transistors. 49: AB114-AB114.
- Pandey, AKD-S, S. Nunzi, J. M. (2006). Pentacene: PTCDI-C13H27 molecular blends efficiently harvest light for solar cell applications. 89: 13506-13506.
- Papadopoulos, NPM, A. Picos, R. Puigdollers, J. Hatzopoulos, A. A. (2012). Simulation of organic inverter. 68: 18-21.
- Rahimi, RK, S. Korakakis, D. (2013). Effect of dielectric/organic interface properties on charge transport in organic thin film transistors. 113: NIL_297-NIL_300.
- Rahimi, RR, A. Narang, V. Korakakis, D. (2013). Investigate the role of the active layers' structures and morphology in the performance of the organic solar cell devices. 102: 73105-73105.

Environmental Hazard Literature Search Results

Off Topic

- Ramesh, ML, H. C. Chu, C. W. (2013). Organic thin film transistors as selective sensing platforms for Hg^{2+} ions and the amino acid cysteine. 42: 76-79.
- Rolin, CV, K. Schols, S. Jouk, M. Duhoux, G. Muller, R. Genoe, J. Heremans, P. (2008). High mobility electron-conducting thin-film transistors by organic vapor phase deposition. 93: 33305-33305.
- Rost, CG, D. J. Karg, S. Riess, W. (2004). Ambipolar organic field-effect transistor based on an organic heterostructure. 95: 5782-5787.
- Rothlaender, TP, U. Stadlober, B. Haase, A. Gold, H. Palfinger, C. Domann, G. Kraxner, J. Jakopic, G. Hartmann, P. (2011). Nanoimprinted complementary organic electronics: Single transistors and inverters. 26: 2470-2478.
- Salvan, GP, B. A. Silaghi, S. Zahn, D. R. T. (2005). Deposition of silver, indium, and magnesium onto organic semiconductor layers: Reactivity, indiffusion and metal morphology. 82: 228-235.
- Schafer, AHS, C. Fuchs, H. (2001). LEED and optical spectroscopy study of an organic epitaxial multilayer film. 11: 193-+.
- Schmidt, RO, J. H. Sun, Y. S. Deppisch, M. Krause, A. M. Radacki, K. Braunschweig, H. Könemann, M. Erk, P. Bao, Z. Würthner, F. (2009). High-performance air-stable n-channel organic thin film transistors based on halogenated perylene bisimide semiconductors. *J Am Chem Soc.* 131: 6215-6228. <http://dx.doi.org/10.1021/ja901077a>.
- Schols, SV, S. Rolin, C. Cheyns, D. Genoe, J. Heremans, P. (2008). An organic light-emitting diode with field-effect electron transport. 18: 136-144.
- Shijeesh, MRV, L. S. Jayaraj, M. K. Puigdollers, J. (2014). Degradation study and calculation of density-of-states in PTCDI-C8 channel layer from the electrical characteristics of thin-film transistors. 116: 24507-24507.
- Sicot, LG, B. Lorin, A. Raimond, P. Sentein, C. Nunzi, J. M. (2001). Photovoltaic properties of Schottky and p-n type solar cells based on polythiophene. 90: 1047-1054.
- Silly, FS, A. Q. Porfyrikis, K. Briggs, G. A. D. Castell, M. R. (2007). Pairs and heptamers of C(70) molecules ordered via PTCDI-melamine supramolecular networks. 91: 53109-53109.
- Slater, AGD, E. S. Argent, S. P. Lewis, W. Blake, A. J. McMaster, J. Champness, N. R. (2013). Bis-thioether-Substituted Perylene Diimides: Structural, Electrochemical, and Spectroelectrochemical Properties. 78: 2853-2862.
- Slater, AGP, L. M. Beton, P. H. Champness, N. R. (2014). Surface-based supramolecular chemistry using hydrogen bonds. *Acc Chem Res.* 47: 3417-3427. <http://dx.doi.org/10.1021/ar5001378>.
- Stakhira, PYC, V. V. Volynyuk, D. Y. (2009). Properties of heterojunction based on pentacene and perylene derivatives. 43: 192-196.
- Tanigaki, NM, H. Mo, X. L. Mizokuro, T. Hiraga, T. Taima, T. Yase, K. (2005). Dye doping of poly(p-phenylenevinylene)s by vapor transportation for photovoltaic application. 44: 630-632.
- Tatemichi, SI, M. Koyama, T. Taniguchi, Y. (2006). High mobility n-type thin-film transistors based on N,N'-ditridecyl perylene diimide with thermal treatments. 89: 12108-12108.
- Topple, JMB, S. A. Fostner, S. Grutter, P. (2009). Thin film evolution: Dewetting dynamics of a bimodal molecular system. 79: 5414-5414.
- Triyana, KY, T. Fujita, K. Tsutsui, T. (2005). Improvement of heterojunction donor/acceptor organic photovoltaic devices by employing additional active layer. 44: 1974-1977.
- Walser, MPK, W. L. Mathis, T. Batlogg, B. (2009). Low-voltage organic transistors and inverters with ultrathin fluoropolymer gate dielectric. 95: 33301-33301.
- Walser, MPK, W. L. Mathis, T. Brenner, T. J. Batlogg, B. (2009). Stable complementary inverters with organic field-effect transistors on Cytop fluoropolymer gate dielectric. 94: 53303-53303.
- Wan, ASK, G. P. Makinen, A. J. (2010). Monolayer structure of a liquid crystalline perylene derivative on bare and on thiol-terminated Au(111) surfaces. *Journal of Vacuum Science and Technology A.* 28: 1275-1278. <http://dx.doi.org/10.1116/1.3462036>.
- Weber, UKB, V. M. Perdigao, L. M. A. Fawcett, R. H. J. Beton, P. H. Champness, N. R. Jefferson, J. H. Briggs, G. A. D. Pettifor, D. G. (2008). Role of interaction anisotropy in the formation and stability of molecular templates. 100: 6101-6101.
- Wu, SHL, W. L. Chu, B. Su, Z. S. Zhang, F. Lee, C. S. (2011). High performance small molecule photodetector with broad spectral response range from 200 to 900 nm. 99: 23305-23305.
- Yu, HB, Z. A. Oh, J. H. (2013). High-Performance Phototransistors Based on Single-Crystalline n-Channel Organic Nanowires and Photogenerated Charge-Carrier Behaviors. 23: 629-639.
- Zahn, DRTS, G. Paez, B. A. Scholz, R. (2004). Interaction between metals and organic semiconductors studied by Raman spectroscopy. 22: 1482-1487.
- Zang, LC, Y. Moore, J. S. (2008). One-dimensional self-assembly of planar pi-conjugated molecules: adaptable building blocks for organic nanodevices. *Acc Chem Res.* 41: 1596-1608. <http://dx.doi.org/10.1021/ar800030w>.
- Zhang, NH, Y. S. Lin, J. Li, Y. T. Liu, X. Y. (2016). Transparent ambipolar organic thin film transistors based on multilayer transparent source-drain electrodes. 109: 63301-63301.
- Zhao, CZ, Y. Li, R. Li, X. Jiang, J. (2007). Di(alkoxy)- and di(alkylthio)-substituted perylene-3,4; 9,10-tetracarboxy diimides with tunable electrochemical and photophysical properties. *J Org Chem.* 72: 2402-2410. <http://dx.doi.org/10.1021/jo062150j>.
- Zheng, GHD, Z. X. Zhang, Y. Y. Dong, Y. Q. Ma, Y. Q. Li, G. (2012). Molecular rectification of thiol-linked Au vertical bar PTCDI-CH₂ n vertical bar Au junctions. 152: 1535-1540.

Human Health Hazard Literature Search Results

On Topic

No on topic human health references

Human Health Hazard Literature Search Results

Off Topic

- Abellán, G; Lloret, V; Mundloch, U; Marcia, M; Neiss, C; Görling, A; Varela, M; Hauke, F; Hirsch, A. (2016). Noncovalent Functionalization of Black Phosphorus. *Angew Chem Int Ed Engl.* 55: 14557-14562. <http://dx.doi.org/10.1002/anie.201604784>.
- Achary, BS; Gokulnath, S; Ghosh, S; Mrinalini, M; Prasanthkumar, S; Giribabu, L. (2016). Unprecedented Charge-Transfer Complex of Fused Diporphyrin as Near-Infrared Absorption-Induced High-Aspect-Ratio Nanorods. *Chem Asian J.* 11: 3498-3502. <http://dx.doi.org/10.1002/asia.201601363>.
- Alberding, BG; Brown-Xu, SE; Chisholm, MH; Epstein, AJ; Gustafson, TL; Lewis, SA; Min, Y. (2013). Photoinduced charge transfer involving a MoMo quadruply bonded complex to a perylene diimide. *Dalton Transactions (Online)*. 42: 5275-5280. <http://dx.doi.org/10.1039/c3dt32750g>.
- Aluicio-Sarduy, E; Singh, R; Kan, Z; Ye, T; Baidak, A; Calloni, A; Berti, G; Duo, L; Iosifidis, A; Beaupre, S; Leclerc, M; Butt, HJ; Floudas, G; Keivanidis, PE. (2015). Elucidating the Impact of Molecular Packing and Device Architecture on the Performance of Nanostructured Perylene Diimide Solar Cells. *ACS Applied Materials & Interfaces.* 7: 8687-8698. <http://dx.doi.org/10.1021/acsmami.5b00827>.
- Amiralaei, S; Uzun, D; Icil, H. (2008). Chiral substituent containing perylene monoanhydride monoimide and its highly soluble symmetrical diimide: synthesis, photophysics and electrochemistry from dilute solution to solid state. *Photochem Photobiol Sci.* 7: 936-947. <http://dx.doi.org/10.1039/b803211d>.
- Arramel; Yin, X; Wang, Q; Zheng, YJ; Song, Z; Bin Hassan, MH; Qi, D; Wu, J; Rusydi, A; Wee, AT. (2017). Molecular Alignment and Electronic Structure of N,N'-Dibutyl-3,4,9,10-perylene-tetracarboxylic-diimide Molecules on MoS₂ Surfaces. 9: 5566-5573. <http://dx.doi.org/10.1021/acsmami.6b14000>.
- Austin, A; Hestand, NJ; McKendry, IG; Zhong, C; Zhu, X; Zdilla, MJ; Spano, FC; Szarko, JM. (2017). Enhanced Davydov Splitting in Crystals of a Perylene Diimide Derivative. *Journal of Physical Chemistry Letters.* <http://dx.doi.org/10.1021/acs.jpclett.7b00283>.
- Bagale, SM; Brown, AS; Gonzalez, MM; Vitores, A; Micotto, TL; Kumar, NS; Hentall, ID; Wilson, JN. (2011). Fluorescent reporters of monoamine transporter distribution and function. 21: 7387-7391. <http://dx.doi.org/10.1016/j.bmcl.2011.10.007>.
- Baggerman, J; Jagesar, DC; Vallée, RA; Hofkens, J; De Schryver, FC; Schelhase, F; Vögtle, F; Brouwer, AM. (2007). Fluorescent perylene diimide rotaxanes: spectroscopic signatures of wheel-chromophore interactions. *Chemistry.* 13: 1291-1299. <http://dx.doi.org/10.1002/chem.200601014>.
- Bagui, M; Dutta, T; Chakraborty, S; Melinger, JS; Zhong, H; Keightley, A; Peng, Z. (2011). Synthesis and optical properties of triphenylene-based dendritic donor perylene diimide acceptor systems. *J Phys Chem A.* 115: 1579-1592. <http://dx.doi.org/10.1021/jp1085334>.
- Balakrishnan, K; Datar, A; Naddo, T; Huang, J; Oitker, R; Yen, M; Zhao, J; Zang, L. (2006). Effect of side-chain substituents on self-assembly of perylene diimide molecules: morphology control. *J Am Chem Soc.* 128: 7390-7398. <http://dx.doi.org/10.1021/ja061810z>.
- Ball, M; Fowler, B; Li, P; Joyce, L; Li, F; Liu, T; Paley, D; Zhong, Y; Li, H; Xiao, S; Ng, F; Steigerwald, ML; Nuckolls, C. (2015). Chiral Conjugated Corrals. *J Am Chem Soc.* 137: 9982-9987. <http://dx.doi.org/10.1021/jacs.5b05698>.
- Banal, JL; Zhang, B; Jones, DJ; Ghiggino, KP; Wong, WW. (2017). Emissive Molecular Aggregates and Energy Migration in Luminescent Solar Concentrators. *Acc Chem Res.* 50: 49-57. <http://dx.doi.org/10.1021/acs.accounts.6b00432>.
- Bandela, A; Chinta, JP; Hinge, VK; Dikundwar, AG; Row, TN; Rao, CP. (2011). Recognition of polycyclic aromatic hydrocarbons and their derivatives by the 1,3-dinaphthalimide conjugate of calix[4]arene: emission, absorption, crystal structures, and computational studies. *J Org Chem.* 76: 1742-1750. <http://dx.doi.org/10.1021/jo1023409>.
- Baram, J; Weissman, H; Rybtchinski, B. (2014). Supramolecular polymer transformation: a kinetic study. *J Phys Chem B.* 118: 12068-12073. <http://dx.doi.org/10.1021/jp507945t>.
- Bhosale, S; Sisson, AL; Talukdar, P; Fürstenberg, A; Banerji, N; Vauthey, E; Bollot, G; Mareda, J; Röger, C; Würthner, F; Sakai, N; Matile, S. (2006). Photoproduction of proton gradients with pi-stacked fluorophore scaffolds in lipid bilayers. *Science.* 313: 84-86. <http://dx.doi.org/10.1126/science.1126524>.
- Biner, SM; Häner, R. (2011). A two-color, self-controlled molecular beacon. *Chembiochem.* 12: 2733-2736. <http://dx.doi.org/10.1002/cbic.201100651>.
- Brennaman, MK; Norris, MR; Gish, MK; Grumstrup, EM; Alibabaei, L; Ashford, DL; Lapides, AM; Papanikolas, JM; Templeton, JL; Meyer, TJ. (2015). Ultrafast, Light-Induced Electron Transfer in a Perylene Diimide Chromophore-Donor Assembly on TiO₂. *Journal of Physical Chemistry Letters.* 6: 4736-4742. <http://dx.doi.org/10.1021/acs.jpclett.5b02194>.
- Bryaskova, R; Georgiev, NI; Dimov, SM; Tzoneva, R; Detrembleur, C; Asiri, AM; Alamry, KA; Bojinov, VB. (2015). Novel nanosized water soluble fluorescent micelles with embedded perylene diimide fluorophores for potential biomedical applications: Cell permeability, localization and cytotoxicity. *Mater Sci Eng C.* 51: 7-15. <http://dx.doi.org/10.1016/j.msec.2015.02.035>.
- Bu, L; Guo, X; Yu, B; Qu, Y; Xie, Z; Yan, D; Geng, Y; Wang, F. (2009). Monodisperse co-oligomer approach toward nanostructured films with alternating donor-acceptor lamellae. *J Am Chem Soc.* 131: 13242-13243. <http://dx.doi.org/10.1021/ja905980w>.

Human Health Hazard Literature Search Results

Off Topic

- Cao, P; Khorev, O; Devaux, A; Sägesser, L; Kunzmann, A; Ecker, A; Häner, R; Brühwiler, D; Calzaferri, G; Belser, P. (2016). Supramolecular Organization of Dye Molecules in Zeolite L Channels: Synthesis, Properties, and Composite Materials. *Chemistry*. 22: 4046-4060. <http://dx.doi.org/10.1002/chem.201504404>.
- Chang, T; Liu, X; Cheng, X; Qi, C; Mei, H; Shangguan, D. (2012). Selective isolation of G-quadruplexes by affinity chromatography. *J Chromatogr A*. 1246: 62-68. <http://dx.doi.org/10.1016/j.chroma.2012.02.026>.
- Chao, CC; Leung, MK; Su, YO; Chiu, KY; Lin, TH; Shieh, SJ; Lin, SC. (2005). Photophysical and electrochemical properties of 1,7-diaryl-substituted perylene diimides. *J Org Chem*. 70: 4323-4331. <http://dx.doi.org/10.1021/jo05001f>.
- Chatterjee, PK; Sternberg, NL. (1995). USING CELL-FRACTIONATION AND PHOTOCHEMICAL CROSS-LINKING METHODS TO DETERMINE THE CELLULAR-BINDING SITE(S) OF THE ANTITUMOR DRUG DMP-840. *Photochem Photobiol*. 61: 360-366.
- Chen, HC; Hsu, CP; Reek, JNH; Williams, RM; Brouwer, AM. (2015). Highly Soluble Benzo[ghi]peryleneetriimide Derivatives: Stable and Air-Insensitive Electron Acceptors for Artificial Photosynthesis. *ChemSusChem*. 8: 3639-3650. <http://dx.doi.org/10.1002/cssc.201500950>.
- Chen, Y; Feng, Y; Gao, J; Bouvet, M. (2012). Self-assembled aggregates of amphiphilic perylene diimide-based semiconductor molecules: effect of morphology on conductivity. *J Colloid Interface Sci*. 368: 387-394. <http://dx.doi.org/10.1016/j.jcis.2011.10.076>.
- Cheyns, D; Vasseur, K; Rolin, C; Genoe, J; Poortmans, J; Heremans, P. (2008). Nanoimprinted semiconducting polymer films with 50 nm features and their application to organic heterojunction solar cells. *Nanotechnology*. 19: 424016. <http://dx.doi.org/10.1088/0957-4484/19/42/424016>.
- Choi, MJ; Smoother, T; Martin, AA; Mcdonagh, AM; Maynard, PJ; Lennard, C; Roux, C. (2007). Fluorescent TiO₂ powders prepared using a new perylene diimide dye: applications in latent fingermark detection. *Forensic Sci Int*. 173: 154-160. <http://dx.doi.org/10.1016/j.forsciint.2006.09.014>.
- Chou, WY; Chang, J; Yen, CT; Lin, YS; Tang, FC; Liu, SJ; Cheng, HL; Hsu, SL; Chen, JS. (2012). The importance of p-n junction interfaces for efficient small molecule-based organic solar cells. *Phys Chem Chem Phys*. 14: 5284-5288. <http://dx.doi.org/10.1039/c2cp24047e>.
- Ciccullo, F; Savu, SA; Gerbi, A; Bauer, M; Ovsyannikov, R; Cassinese, A; Chasse, T; Casu, MB. (2015). Chemisorption, Morphology, and Structure of a n-Type Perylene Diimide Derivative at the Interface with Gold: Influence on Devices from Thin Films to Single Molecules. *Chemistry*. 21: 3766-3771. <http://dx.doi.org/10.1002/chem.201404901>.
- Cordes, T; Vogelsang, J; Anaya, M; Spagnuolo, C; Gietl, A; Summerer, W; Herrmann, A; Müllen, K; Tinnefeld, P. (2010). Single-molecule redox blinking of perylene diimide derivatives in water. *J Am Chem Soc*. 132: 2404-2409. <http://dx.doi.org/10.1021/ja9099714>.
- Curutchet, C; Mennucci, B; Scholes, GD; Beljonne, D. (2008). Does Förster theory predict the rate of electronic energy transfer for a model dyad at low temperature? *J Phys Chem B*. 112: 3759-3766. <http://dx.doi.org/10.1021/jp7106507>.
- Cyphersmith, A; Surampudi, S; Casey, MJ; Jankowski, K; Venkataraman, D; Barnes, MD. (2012). Chiroptical dissymmetries in fluorescence excitation from single molecules of (M-2) helicene dimers. *J Phys Chem A*. 116: 5349-5352. <http://dx.doi.org/10.1021/jp300352n>.
- D'Ambrosio, D; Reichenbach, P; Micheli, E; Alvino, A; Franceschin, M; Savino, M; Lingner, J. (2012). Specific binding of telomeric G-quadruplexes by hydrosoluble perylene derivatives inhibits repeat addition processivity of human telomerase. *Biochimie*. 94: 854-863. <http://dx.doi.org/10.1016/j.biochi.2011.12.004>.
- Daneshpazhooh, M; Chams-Davatchi, C; Khamesipour, A; Mansoori, P; Taheri, A; Firooz, A; Mortazavi, H; Esmaili, N; Dowlati, Y. (2007). Desmoglein 1 and 3 enzyme-linked immunosorbent assay in Iranian patients with pemphigus vulgaris: correlation with phenotype, severity, and disease activity. *J Eur Acad Dermatol Venereol*. 21: 1319-1324. <http://dx.doi.org/10.1111/j.1468-3083.2007.02254.x>.
- Deng, W; Shen, Y; Qian, J; Cao, Y; Yang, H. (2015). A Perylene Diimide Crystal with High Capacity and Stable Cyclability for Na-Ion Batteries. *ACS Applied Materials & Interfaces*. 7: 21095-21099. <http://dx.doi.org/10.1021/acsmami.5b04325>.
- Díez-Pérez, I; Li, Z; Guo, S; Madden, C; Huang, H; Che, Y; Yang, X; Zang, L; Tao, N. (2012). Ambipolar transport in an electrochemically gated single-molecule field-effect transistor. *ACS Nano*. 6: 7044-7052. <http://dx.doi.org/10.1021/nn302090t>.
- Dinçalp, H; Çimen, O; Ameri, T; Brabec, CJ; İçli, S. (2014). Synthesis, characterization and optoelectronic properties of a new perylene diimide-benzimidazole type solar light harvesting dye. *Spectrochim Acta A Mol Biomol Spectrosc*. 128: 197-206. <http://dx.doi.org/10.1016/j.saa.2014.02.131>.
- Dinçalp, H; Kızılık, Ş; İçli, S. (2014). Targeted singlet oxygen generation using different DNA-interacting perylene diimide type photosensitizers. *J Fluoresc*. 24: 917-924. <http://dx.doi.org/10.1007/s10895-014-1372-5>.
- Donati, F; Pucci, A; Ruggeri, G. (2009). Temperature and chemical environment effects on the aggregation extent of water soluble perylene dye into vinyl alcohol-containing polymers. *Phys Chem Chem Phys*. 11: 6276-6282. <http://dx.doi.org/10.1039/b903120k>.
- Dössel, LF; Kamm, V; Howard, IA; Laquai, F; Pisula, W; Feng, X; Li, C; Takase, M; Kudernac, T; De Feyter, S; Müllen, K. (2012). Synthesis and controlled self-assembly of covalently linked hexa-peri-hexabenzocoronene/perylene diimide dyads as models to study fundamental energy and electron transfer processes. *J Am Chem Soc*. 134: 5876-5886. <http://dx.doi.org/10.1021/ja211504a>.
- Duan, Y; Xu, X; Yan, H; Wu, W; Li, Z; Peng, Q. (2017). Pronounced Effects of a Triazine Core on Photovoltaic Performance-Efficient Organic Solar Cells Enabled by a PDI Trimer-Based Small Molecular Acceptor. *Adv Mater Deerfield*. 29. <http://dx.doi.org/10.1002/adma.201605115>.
- Dubey, RK; Niemi, M; Kaunisto, K; Efimov, A; Tkachenko, NV; Lemmetyinen, H. (2013). Direct evidence of significantly different chemical behavior and excited-state dynamics of 1,7- and 1,6-regioisomers of pyrrolidinyl-substituted perylene diimide. *Chemistry*. 19: 6791-6806. <http://dx.doi.org/10.1002/chem.201203387>.
- Dubey, RK; Niemi, M; Kaunisto, K; Stranius, K; Efimov, A; Tkachenko, NV; Lemmetyinen, H. (2013). Excited-state interaction of red and green perylene diimides with luminescent Ru(II) polypyridine complex. *Inorg Chem*. 52: 9761-9773. <http://dx.doi.org/10.1021/ic400474b>.
- Dwivedi, AK; Pandeeswar, M; Govindaraju, T. (2014). Assembly modulation of PDI derivative as a supramolecular fluorescence switching probe for detection of cationic surfactant and metal ions in aqueous media. 6: 21369-21379. <http://dx.doi.org/10.1021/am5063844>.

Human Health Hazard Literature Search Results

Off Topic

- Eakins, GL; Gallaher, JK; Keyzers, RA; Falber, A; Webb, JE; Laos, A; Tidhar, Y; Weissman, H; Rybtchinski, B; Thordarson, P; Hodgkiss, JM. (2014). Thermodynamic factors impacting the peptide-driven self-assembly of perylene diimide nanofibers. *J Phys Chem B.* 118: 8642-8651. <http://dx.doi.org/10.1021/jp504564s>.
- Edelman, KR; Holliday, BJ. (2010). Metal-interrupted perylene diimide: toward a new class of tunable n-type inorganic-organic hybrid semiconductors. *Inorg Chem.* 49: 6787-6789. <http://dx.doi.org/10.1021/ic100785r>.
- El-Daly, SA; Salem, IA; Hussein, MA; Asiri, AM. (2015). Fluorescence Quenching N,N-Bis(2,6-Dimethylphenyl)-3,4:9,10-Perylenetetracarboxylic Dimide (BDPD) Laser Dye by Colloidal Silver Nanoparticles. *J Fluoresc.* 25: 379-385. <http://dx.doi.org/10.1007/s10895-015-1523-3>.
- Everett, TA; Higgins, DA. (2009). Electrostatic self-assembly of ordered perylene-diimide/polyelectrolyte nanofibers in fluidic devices: from nematic domains to macroscopic alignment. *Langmuir.* 25: 13045-13051. <http://dx.doi.org/10.1021/la9019298>.
- Fan, Q; Cheng, K; Yang, Z; Zhang, R; Yang, M; Hu, X; Ma, X; Bu, L; Lu, X; Xiong, X; Huang, W; Zhao, H; Cheng, Z. (2015). Perylene-diimide-based nanoparticles as highly efficient photoacoustic agents for deep brain tumor imaging in living mice. *Adv Mater Deerfield.* 27: 843-847. <http://dx.doi.org/10.1002/adma.201402972>.
- Farooqi, MJ; Penick, MA; Burch, J; Negrete, GR; Brancaleon, L. (2016). Characterization of novel perylene diimides containing aromatic amino acid side chains. *Spectrochim Acta A Mol Biomol Spectrosc.* 153: 124-131. <http://dx.doi.org/10.1016/j.saa.2015.08.013>.
- Fedoroff, OY; Salazar, M; Han, H; Chemeris, VV; Kerwin, SM; Hurley, LH. (1998). NMR-Based model of a telomerase-inhibiting compound bound to G-quadruplex DNA. *Biochemistry.* 37: 12367-12374. <http://dx.doi.org/10.1021/bi981330n>.
- Feng, X; An, Y; Yao, Z; Li, C; Shi, G. (2012). A turn-on fluorescent sensor for pyrophosphate based on the disassembly of Cu²⁺-mediated perylene diimide aggregates. 4: 614-618. <http://dx.doi.org/10.1021/am201616r>.
- Flier, BM; Baier, MC; Huber, J; Müllen, K; Mecking, S; Zumbusch, A; Wöll, D. (2012). Heterogeneous diffusion in thin polymer films as observed by high-temperature single-molecule fluorescence microscopy. *J Am Chem Soc.* 134: 480-488. <http://dx.doi.org/10.1021/ja208581r>.
- Fujikawa, R; Watanabe, S; Ohtsuka, K; Sato, S; Takenaka, S. (2008). Synthesis of a perylene diimide derivative having two ferrocene moieties as an electrochemical indicator for human telomeric DNA tetraplex. 241-242. <http://dx.doi.org/10.1093/nass/nrn122>.
- Fujiki, A; Miyake, Y; Oshikane, Y; Akai-Kasaya, M; Saito, A; Kuwahara, Y. (2011). STM-induced light emission from thin films of perylene derivatives on the HOPG and Au substrates. *Nanoscale Res Lett.* 6: 347. <http://dx.doi.org/10.1186/1556-276X-6-347>.
- Ghosh, P; Bhattacharjee, A; Basu, A; Roy, SS; Bhattacharya, S. (2015). Attenuation of cyclophosphamide-induced pulmonary toxicity in Swiss albino mice by naphthalimide-based organoselenium compound 2-(5-selenocyanatopentyl)-benzo[de]isoquinoline 1,3-dione. *Pharmaceutical Biology.* 53: 524-532. <http://dx.doi.org/10.3109/13880209.2014.931440>.
- Ghosh, P; Roy, SS; Chakraborty, P; Ghosh, S; Bhattacharya, S. (2013). Effects of organoselenium compound 2-(5-selenocyanato-pentyl)-benzo[de]isoquinoline 1,3-dione on cisplatin induced nephrotoxicity and genotoxicity: an investigation of the influence of the compound on oxidative stress and antioxidant enzyme system. *Biometals.* 26: 61-73. <http://dx.doi.org/10.1007/s10534-012-9594-y>.
- Ghosh, P; Singha Roy, S; Basu, A; Bhattacharjee, A; Bhattacharya, S. (2015). Sensitization of cisplatin therapy by a naphthalimide based organoselenium compound through modulation of antioxidant enzymes and p53 mediated apoptosis. *Free Radic Res.* 49: 453-471. <http://dx.doi.org/10.3109/10715762.2015.1012079>.
- Ghosh, SK; Hossain, SU; Bhattacharya, S; Bhattacharya, SC. (2005). 2-(2-Selenocyanic acid ethyl ester)-1H-benz[de] isoquinoline-1,3-(2H)-dione, synthesis photophysics and interaction with bovine serum albumin: A spectroscopic approach. *J Photochem Photobiol B.* 81: 121-128. <http://dx.doi.org/10.1016/j.jphotobiol.2005.07.004>.
- Guarisco, C; Palmisano, G; Calogero, G; Ciriminna, R; Di Marco, G; Loddo, V; Pagliaro, M; Parrino, F. (2014). Visible-light driven oxidation of gaseous aliphatic alcohols to the corresponding carbonyls via TiO₂ sensitized by a perylene derivative. *Environ Sci Pollut Res Int.* 21: 11135-11141. <http://dx.doi.org/10.1007/s11356-014-2546-z>.
- Guthmuller, J; Zutterman, F; Champagne, B. (2009). Multimode simulation of dimer absorption spectra from first principles calculations: application to the 3,4,9,10-perylenetetracarboxylic diimide dimer. *J Chem Phys.* 131: 154302. <http://dx.doi.org/10.1063/1.3245403>.
- Haase, M; Hübner, CG; Nolde, F; Müllen, K; Basché, T. (2011). Photoblinking and photobleaching of rylene diimide dyes. *Phys Chem Chem Phys.* 13: 1776-1785. <http://dx.doi.org/10.1039/c0cp01814g>.
- Habuchi, S; Fujiwara, S; Yamamoto, T; Vacha, M; Tezuka, Y. (2013). Single-molecule study on polymer diffusion in a melt state: effect of chain topology. *Anal Chem.* 85: 7369-7376. <http://dx.doi.org/10.1021/ac401272a>.
- Han, H; Bennett, RJ; Hurley, LH. (2000). Inhibition of unwinding of G-quadruplex structures by Sgs1 helicase in the presence of N,N'-bis[2-(1-piperidino)ethyl]-3,4,9,10-perylenetetracarboxylic diimide, a G-quadruplex-interactive ligand. *Biochemistry.* 39: 9311-9316.
- Hariharan, PS; Pitchaimani, J; Madhu, V; Anthony, SP. (2016). Perylene Diimide Based Fluorescent Dyes for Selective Sensing of Nitroaromatic Compounds: Selective Sensing in Aqueous Medium Across Wide pH Range. *J Fluoresc.* 26: 395-401. <http://dx.doi.org/10.1007/s10895-015-1725-8>.
- Herrmann, A; Weil, T; Sinigersky, V; Wiesler, UM; Vosch, T; Hofkens, J; De Schryver, FC; Müllen, K. (2001). Polyphenylene dendrimers with perylene diimide as a luminescent core. *Chemistry.* 7: 4844-4853.
- Herrmann, R; Rennhak, M; Reller, A. (2014). Synthesis and characterization of fluorescence-labelled silica core-shell and noble metal-decorated ceria nanoparticles [Review]. 5: 2413-2423. <http://dx.doi.org/10.3762/bjnano.5.251>.
- Hoogenboom, JP; Hernando, J; van Dijk, EM; van Hulst, NF; García-Parajó, MF. (2007). Power-law blinking in the fluorescence of single organic molecules. *Chemphyschem.* 8: 823-833. <http://dx.doi.org/10.1002/cphc.200600783>.
- Houghton, PJ; Cheshire, PJ; Hallman, JC; Gross, JL; McRipley, RJ; Sun, JH; Behrens, CH; Dexter, DL; Houghton, JA. (1994). EVALUATION OF A NOVEL BIS-NAPHTHALIMIDE ANTICANCER AGENT, DMP-840, AGAINST HUMAN XENOGRAFTS DERIVED FROM ADULT, JUVENILE, AND PEDIATRIC CANCERS. *Cancer Chemother Pharmacol.* 33: 265-272.

Human Health Hazard Literature Search Results

Off Topic

- Hu, R; Liu, T; Zhang, XB; Huan, SY; Wu, C; Fu, T; Tan, W. (2014). Multicolor fluorescent biosensor for multiplexed detection of DNA. *Anal Chem.* 86: 5009-5016. <http://dx.doi.org/10.1021/ac500618v>.
- Hu, R; Zhang, X; Xu, Q; Lu, DQ; Yang, YH; Xu, QQ; Ruan, Q; Mo, LT; Zhang, XB. (2017). A universal aptameric biosensor: Multiplexed detection of small analytes via aggregated perylene-based broad-spectrum quencher. *92:* 40-46. <http://dx.doi.org/10.1016/j.bios.2017.01.051>.
- Hu, Y; Han, D; Zhang, Q; Wu, T; Li, F; Niu, L. (2012). Perylene ligand wrapping G-quadruplex DNA for label-free fluorescence potassium recognition. *38:* 396-401. <http://dx.doi.org/10.1016/j.bios.2012.06.042>.
- Hu, Y; Wang, K; Zhang, Q; Li, F; Wu, T; Niu, L. (2012). Decorated graphene sheets for label-free DNA impedance biosensing. *Biomaterials.* 33: 1097-1106. <http://dx.doi.org/10.1016/j.biomaterials.2011.10.045>.
- Huang, J; Wang, X; Zhang, X; Niu, Z; Lu, Z; Jiang, B; Sun, Y; Zhan, C; Yao, J. (2014). Additive-assisted control over phase-separated nanostructures by manipulating alkylthienyl position at donor backbone for solution-processed, non-fullerene, all-small-molecule solar cells. *6:* 3853-3862. <http://dx.doi.org/10.1021/am406050j>.
- Huang, J; Wu, Y; Fu, H; Zhan, X; Yao, J; Barlow, S; Marder, SR. (2009). Photoinduced intramolecular electron transfer in conjugated perylene bisimide-dithienothiophene systems: a comparative study of a small molecule and a polymer. *J Phys Chem A.* 113: 5039-5046. <http://dx.doi.org/10.1021/jp8107655>.
- Hwang, YJ; Earmme, T; Courtright, BA; Eberle, FN; Jenekhe, SA. (2015). n-Type semiconducting naphthalene diimide-perylene diimide copolymers: controlling crystallinity, blend morphology, and compatibility toward high-performance all-polymer solar cells. *J Am Chem Soc.* 137: 4424-4434. <http://dx.doi.org/10.1021/ja513260w>.
- Ilhan, G, ul; Karakus, S; Sahin, FI. (2012). JAK 2V617F Mutation: Frequency and Relation to Clinical and Laboratory Features of BCR-ABL Negative Myeloproliferative Diseases. *U H O D.* 22: 77-84. <http://dx.doi.org/10.4999/uhod.10064>.
- Im, P; Kang, D; Kim, D; Choi, Y; Yoon, W; Lee, MH; Lee, I, NH; Lee, CR, o; Jeong, KU, n. (2016). Flexible and Patterned Thin Film Polarizer: Photopolymerization of Perylene-based Lyotropic Chromonic Reactive Mesogens. *ACS Applied Materials & Interfaces.* 8: 762-771. <http://dx.doi.org/10.1021/acsmami.5609995>.
- Ivanov, I; Tasheva, D; Todorova, R; Dimitrova, M. (2009). Synthesis and use of 4-peptidylhydrazido-N-hexyl-1,8-naphthalimides as fluorogenic histochemical substrates for dipeptidyl peptidase IV and tripeptidyl peptidase I. *Eur J Med Chem.* 44: 384-392. <http://dx.doi.org/10.1016/j.ejmecm.2008.02.036>.
- Jalilov, AS; Nilewski, LG; Berka, V; Zhang, C; Yakovenko, AA; Wu, G; Kent, TA; Tsai, AL; Tour, JM. (2017). Perylene Diimide as a Precise Graphene-like Superoxide Dismutase Mimetic. *ACS Nano.* <http://dx.doi.org/10.1021/acsnano.6b08211>.
- Jeong, YJ; Jang, J; Nam, S; Kim, K; Kim, LH; Park, S; An, TK; Park, CE. (2014). High-performance organic complementary inverters using monolayer graphene electrodes. *6:* 6816-6824. <http://dx.doi.org/10.1021/am500618g>.
- Jiang, W; Li, Y; Wang, Z. (2014). Tailor-made rylene arrays for high performance n-channel semiconductors. *Acc Chem Res.* 47: 3135-3147. <http://dx.doi.org/10.1021/ar500240e>.
- Jiang, Y; Geng, H; Shi, W; Peng, Q; Zheng, X; Shuai, Z. (2014). Theoretical Prediction of Isotope Effects on Charge Transport in Organic Semiconductors. *Journal of Physical Chemistry Letters.* 5: 2267-2273. <http://dx.doi.org/10.1021/jz500825q>.
- Jin, S; Supur, M; Addicoat, M; Furukawa, K; Chen, L; Nakamura, T; Fukuzumi, S; Irle, S; Jiang, D. (2015). Creation of Superheterojunction Polymers via Direct Polycondensation: Segregated and Bicontinuous Donor-Acceptor π -Columnar Arrays in Covalent Organic Frameworks for Long-Lived Charge Separation. *J Am Chem Soc.* 137: 7817-7827. <http://dx.doi.org/10.1021/jacs.5b03553>.
- Kern, JT; Kerwin, SM. (2002). The aggregation and G-quadruplex DNA selectivity of charged 3,4,9,10-perylenetetracarboxylic acid diimides. *Bioorg Med Chem Lett.* 12: 3395-3398.
- Kern, JT; Thomas, PW; Kerwin, SM. (2002). The relationship between ligand aggregation and G-quadruplex DNA selectivity in a series of 3,4,9,10-perylenetetracarboxylic acid diimides. *Biochemistry.* 41: 11379-11389.
- Kerwin, SM; Chen, G; Kern, JT; Thomas, PW. (2002). Perylene diimide G-quadruplex DNA binding selectivity is mediated by ligand aggregation. *Bioorg Med Chem Lett.* 12: 447-450.
- Kim, HN; Puhl, L; Nolde, F; Li, C; Chen, L; Basché, T; Müllen, K. (2013). Energy transfer at the single-molecule level: synthesis of a donor-acceptor dyad from perylene and terrylene diimides. *Chemistry.* 19: 9160-9166. <http://dx.doi.org/10.1002/chem.201300439>.
- Kira, A; Umeyama, T; Matano, Y; Yoshida, K; Isoda, S; Isosomppi, M; Tkachenko, NV; Lemmetyinen, H; Imahori, H. (2006). Structure and photoelectrochemical properties of phthalocyanine and perylene diimide composite clusters deposited electrophoretically on nanostructured SnO₂ electrodes. *Langmuir.* 22: 5497-5503. <http://dx.doi.org/10.1021/la0533314>.
- Kirkeminde, AW; Torres, T; Ito, T; Higgins, DA. (2011). Multiple diffusion pathways in Pluronic F127 mesophases revealed by single molecule tracking and fluorescence correlation spectroscopy. *J Phys Chem B.* 115: 12736-12743. <http://dx.doi.org/10.1021/jp208234b>.
- Kirshenbaum, MR; Chen, SF; Behrens, CH; Papp, LM; Stafford, MM; Sun, JH; Behrens, DL; Fredericks, J. R.; Polkus, ST; Sipple, P; Patten, AD; Dexter, D; Seitz, SP; Gross, JL. (1994). (R,R)-2,2'-[1,2-ETHANEDIYL]BIS[IMINO(1-METHYL-2,1-ETHANEDIYL)]-BIS[5-NITRO-1H-BENZ[DE]ISOQUINOLINE-1,3-(2H)-DIONE] DIMETHANESULFONATE (DMP-840), A NOVEL BIS-NAPHTHALIMIDE WITH POTENT NONSELECTIVE TUMORICIDAL ACTIVITY IN-VITRO. *Cancer Res.* 54: 2199-2206.
- Kistler, KA; Pochas, CM; Yamagata, H; Matsika, S; Spano, FC. (2012). Absorption, circular dichroism, and photoluminescence in perylene diimide bichromophores: polarization-dependent H- and J-aggregate behavior. *J Phys Chem B.* 116: 77-86. <http://dx.doi.org/10.1021/jp208794t>.
- Koelle, P; Pugliesi, I; Langhals, H; Wilcken, R; Esterbauer, AJ; de Vivie-Riedle, R; Riedle, E. (2015). Hole-transfer induced energy transfer in perylene diimide dyads with a donor-spacer-acceptor motif. *Phys Chem Chem Phys.* 17: 25061-25072. <http://dx.doi.org/10.1039/c5cp02981c>.

Human Health Hazard Literature Search Results

Off Topic

- Korolkov, VV; Mullin, N; Allen, S; Roberts, CJ; Hobbs, JK; Tendler, SJ. (2012). The structure and formation of hydrogen-bonded molecular networks on Au(111) surfaces revealed by scanning tunnelling and torsional-tapping atomic force microscopy. *Phys Chem Chem Phys.* 14: 15909-15916. <http://dx.doi.org/10.1039/c2cp43199h>.
- Krause, S; Neumann, M; Froebe, M; Magerle, R; von Borczyskowski, C. (2016). Monitoring Nanoscale Deformations in a Drawn Polymer Melt with Single-Molecule Fluorescence Polarization Microscopy. *ACS Nano.* 10: 1908-1917. <http://dx.doi.org/10.1021/acsnano.5b05729>.
- Krieg, E; Shirman, E; Weissman, H; Shimoni, E; Wolf, SG; Pinkas, I; Rybtchinski, B. (2009). Supramolecular gel based on a perylene diimide dye: multiple stimuli responsiveness, robustness, and photofunction. *J Am Chem Soc.* 131: 14365-14373. <http://dx.doi.org/10.1021/ja903938g>.
- Krieg, E; Weissman, H; Shimoni, E; Bar On Ustinov, A; Rybtchinski, B. (2014). Understanding the effect of fluorocarbons in aqueous supramolecular polymerization: ultrastrong noncovalent binding and cooperativity. *J Am Chem Soc.* 136: 9443-9452. <http://dx.doi.org/10.1021/ja503906p>.
- Kundu, A; Pitchaimani, J; Madhu, V; Sakthivel, P; Ganesamoorthy, R; Anthony, SP. (2016). Bay Functionalized Perylenediimide with Pyridine Positional Isomers: NIR Absorption and Selective Colorimetric/Fluorescent Sensing of Fe(3+) and Al(3+) Ions. *J Fluoresc.* <http://dx.doi.org/10.1007/s10895-016-1976-z>.
- Lacivita, E; Leopoldo, M; Masotti, AC; Inglese, C; Berardi, F; Perrone, R; Ganguly, S; Jafurulla, M; Chattopadhyay, A. (2009). Synthesis and characterization of environment-sensitive fluorescent ligands for human 5-HT1A receptors with 1-arylpiperazine structure. *J Med Chem.* 52: 7892-7896. <http://dx.doi.org/10.1021/jm900706d>.
- Lange, JJ; Collinson, MM; Culbertson, CT; Higgins, DA. (2009). Single-molecule studies of oligomer extraction and uptake of dyes in poly(dimethylsiloxane) films. *Anal Chem.* 81: 10089-10096. <http://dx.doi.org/10.1021/ac902250p>.
- Lange, JJ; Culbertson, CT; Higgins, DA. (2008). Single molecule studies of solvent-dependent diffusion and entrapment in poly(dimethylsiloxane) thin films. *Anal Chem.* 80: 9726-9734. <http://dx.doi.org/10.1021/ac8017179>.
- Lasitha, P; Prasad, E. (2016). Host-Guest Chemistry between Perylene Diimide (PDI) Derivatives and 18-Crown-6: Enhancement in Luminescence Quantum Yield and Electrical Conductivity. *Chemistry.* 22: 10558-10564. <http://dx.doi.org/10.1002/chem.201600709>.
- Lee, KJ; Woo, JH; Kim, E; Xiao, Y; Su, X; Mazur, LM; Attias, AJ; Fages, F; Cregut, O; Barsella, A; Mathevett, F; Mager, L; Wu, JW; D'Aleo, A; Ribierre, JC. (2016). Electronic energy and electron transfer processes in photoexcited donor-acceptor dyad and triad molecular systems based on triphenylene and perylene diimide units. *Phys Chem Chem Phys.* 18: 7875-7887. <http://dx.doi.org/10.1039/c5cp06279a>.
- Leone, LM; Kaufman, LJ. (2013). Single molecule probe reports of dynamic heterogeneity in supercooled ortho-terphenyl. *J Chem Phys.* 138: 12A524. <http://dx.doi.org/10.1063/1.4773889>.
- Letsinger, RL; Wu, T; Yang, JS; Lewis, FD. (2008). DNA-templated formation and luminescence of diphenylacetylene dimeric and trimeric complexes. *Photochem Photobiol Sci.* 7: 854-859. <http://dx.doi.org/10.1039/b805452e>.
- Li, H; Sun, X. (2011). Application of 3,4,9,10-perylenetetracarboxylic diimide microfibers as a fluorescent sensing platform for biomolecular detection. *Anal Chim Acta.* 702: 109-113. <http://dx.doi.org/10.1016/j.aca.2011.06.035>.
- Li, M; Wang, L; Liu, J; Zhou, K; Yu, X; Xing, R; Geng, Y; Han, Y. (2014). Cooperative effects of solvent and polymer acceptor co-additives in P3HT:PDI solar cells: simultaneous optimization in lateral and vertical phase separation. *Phys Chem Chem Phys.* 16: 4528-4537. <http://dx.doi.org/10.1039/c3cp55075c>.
- Li, Y; Shao, J; Shen, K; Xu, Y; Liu, J; Qian, X. (2012). E2F1-dependent pathways are involved in amonafide analogue 7-d-induced DNA damage, G2/M arrest, and apoptosis in p53-deficient K562 cells. *J Cell Biochem.* 113: 3165-3177. <http://dx.doi.org/10.1002/jcb.24194>.
- Lin, B; Chen, Z; Xu, Y; Zhang, H; Liu, J; Qian, X. (2011). 7-b, a novel amonafide analogue, cause growth inhibition and apoptosis in Raji cells via a ROS-mediated mitochondrial pathway. *Leuk Res.* 35: 646-656. <http://dx.doi.org/10.1016/j.leukres.2011.01.029>.
- Lin, Y; Wang, Y; Wang, J; Hou, J; Li, Y; Zhu, D; Zhan, X. (2014). A star-shaped perylene diimide electron acceptor for high-performance organic solar cells. *Adv Mater Deerfield.* 26: 5137-5142. <http://dx.doi.org/10.1002/adma.201400525>.
- Liu, F; Mu, J; Wu, X; Bhattacharjya, S; Yeow, EK; Xing, B. (2014). Peptide-perylene diimide functionalized magnetic nano-platforms for fluorescence turn-on detection and clearance of bacterial lipopolysaccharides. *Chem Commun (Camb).* 50: 6200-6203. <http://dx.doi.org/10.1039/c4cc01266f>.
- Liu, L; Eisenbrandt, P; Roland, T; Polkeln, M; Schwartz, PO; Bruchlos, K; Omiecienski, B; Ludwigs, S; Leclerc, N; Zaborova, E; Léonard, J; Méry, S; Burghardt, I; Haacke, S. (2016). Controlling charge separation and recombination by chemical design in donor-acceptor dyads. *Phys Chem Chem Phys.* 18: 18536-18548. <http://dx.doi.org/10.1039/c6cp00644b>.
- Liu, XT; Zhao, Y; Ren, AM; Feng, JK. (2011). A comparative study of one- and two-photon absorption properties of pyrene and perylene diimide derivatives. *J Mol Model.* 17: 1413-1425. <http://dx.doi.org/10.1007/s00894-010-0839-9>.
- Liu, Y; Zhang, Z; Xia, Z; Zhang, J, ie; Liu, Y; Liang, F; Li, Y; Song, T, ao; Yu, X; Lee, ST; Sun, B. (2016). High Performance Nanostructured Silicon-Organic Quasi p-n Junction Solar Cells via Low-Temperature Deposited Hole and Electron Selective Layer. *ACS Nano.* 10: 704-712. <http://dx.doi.org/10.1021/acsnano.5b05732>.
- Liu, Z; Zhang, G; Cai, Z; Chen, X; Luo, H; Li, Y; Wang, J; Zhang, D. (2014). New organic semiconductors with imide/amide-containing molecular systems. *Adv Mater Deerfield.* 26: 6965-6977. <http://dx.doi.org/10.1002/adma.201305718>.
- Liu, ZR; Rill, RL. (1996). N,N'-bis[3,3'-(dimethylamino)propylamine]-3,4,9, 10-perylenetetracarboxylic diimide, a dicationic perylene dye for rapid precipitation and quantitation of trace amounts of DNA. *Anal Biochem.* 236: 139-145. <http://dx.doi.org/10.1006/abio.1996.0142>.
- Llewellyn, B; Davies, ES; Pfeiffer, CR; Cooper, M; Lewis, W; Champness, NR. (2016). Thionated perylene diimides with intense absorbance in the near-IR. *Chem Commun (Camb).* 52: 2099-2102. <http://dx.doi.org/10.1039/c5cc09962e>.

Human Health Hazard Literature Search Results

Off Topic

- Llewellyn, BA; Slater, AG; Goretzki, G; Easun, TL; Sun, XZ; Davies, ES; Argent, SP; Lewis, W; Beeby, A; George, MW; Champness, NR. (2014). Photophysics and electrochemistry of a platinum-acetylide disubstituted perylenediimide. *Dalton Transactions (Online)*. 43: 85-94. <http://dx.doi.org/10.1039/c3dt50874a>.
- Lu, Z; Zhang, X; Zhan, C; Jiang, B; Zhang, X; Chen, L; Yao, J. (2013). Impact of molecular solvophobicity vs. solvophilicity on device performances of dimeric perylene diimide based solution-processed non-fullerene organic solar cells. *Phys Chem Chem Phys*. 15: 11375-11385. <http://dx.doi.org/10.1039/c3cp51475g>.
- Lv, M, in; Xu, H, ui. (2009). Overview of Naphthalimide Analogs as Anticancer Agents. *Curr Med Chem*. 16: 4797-4813.
- Lv, X; Li, Z; Li, S; Luan, G; Liang, D; Tang, S; Jin, R. (2016). Design of Acceptors with Suitable Frontier Molecular Orbitals to Match Donors via Substitutions on Perylene Diimide for Organic Solar Cells. *International Journal of Molecular Sciences*. 17. <http://dx.doi.org/10.3390/ijms17050721>.
- Ma, L; Wang, Q; Lu, G; Chen, R; Sun, X. (2010). Photochromic nanostructures based on diarylethenes with perylene diimide. *Langmuir*. 26: 6702-6707. <http://dx.doi.org/10.1021/la9040387>.
- Machado, KE; Oliveira, KN; Santos-Bubniak, L; Licínio, MA; Nunes, RJ; Santos-Silva, MC. (2011). Evaluation of apoptotic effect of cyclic imide derivatives on murine B16F10 melanoma cells. *Bioorg Med Chem*. 19: 6285-6291. <http://dx.doi.org/10.1016/j.bmc.2011.09.008>.
- Maltas, E; Malkondu, S; Uyar, P; Ozmen, M. (2015). Fluorescent labelling of DNA on superparamagnetic nanoparticles by a perylene bisimide derivative for cell imaging. *Mater Sci Eng C*. 48: 86-93. <http://dx.doi.org/10.1016/j.msec.2014.11.057>.
- Marcon, RO; dos Santos, JG; Figueiredo, KM; Brochstain, S. (2006). Characterization of a novel water-soluble 3,4,9,10-perylenetetracarboxylic diimide in solution and in self-assembled zirconium phosphonate thin films. *Langmuir*. 22: 1680-1687. <http://dx.doi.org/10.1021/la052329+>.
- Mazzitelli, CL; Brodbelt, JS; Kern, JT; Rodriguez, M; Kerwin, SM. (2006). Evaluation of binding of perylene diimide and benzannulated perylene diimide ligands to DNA by electrospray ionization mass spectrometry. *J Am Soc Mass Spectrom*. 17: 593-604. <http://dx.doi.org/10.1016/j.jasms.2005.12.011>.
- Medrano, CR; Oviedo, MB; Sánchez, CG. (2016). Photoinduced charge-transfer dynamics simulations in noncovalently bonded molecular aggregates. *Phys Chem Chem Phys*. 18: 14840-14849. <http://dx.doi.org/10.1039/c6cp00231e>.
- Megow, J; Körzdörfer, T; Renger, T; Sparenberg, M; Blumstengel, S; Henneberger, F; May, V. (2015). Calculating Optical Absorption Spectra of Thin Polycrystalline Organic Films: Structural Disorder and Site-Dependent van der Waals Interaction. *J Phys Chem C*. 119: 5747-5751. <http://dx.doi.org/10.1021/acs.jpcc.5b01587>.
- Meng, L; Shang, Y; Li, Q; Li, Y; Zhan, X; Shuai, Z; Kimber, RG; Walker, AB. (2010). Dynamic Monte Carlo simulation for highly efficient polymer blend photovoltaics. *J Phys Chem B*. 114: 36-41. <http://dx.doi.org/10.1021/jp907167u>.
- Mitsui, M; Fukui, H; Takahashi, R; Takakura, Y; Mizukami, T. (2017). Single-Molecule Fluorescence Spectroscopy of Perylene Diimide Dyes in a γ -Cyclodextrin Film: Manifestation of Photoinduced H-Atom Transfer via Higher Triplet (n, π^*) Excited States. *J Phys Chem A*. <http://dx.doi.org/10.1021/acs.jpca.6b11353>.
- Montalti, M; Battistelli, G; Cantelli, A; Genovese, D. (2014). Photo-tunable multicolour fluorescence imaging based on self-assembled fluorogenic nanoparticles. *Chem Commun (Camb)*. 50: 5326-5329. <http://dx.doi.org/10.1039/c3cc48464e>.
- Muthuraj, B; Chowdhury, S; Iyer, PK. (2015). Modulation of Amyloid-beta Fibrils into Mature Microrod-Shaped Structure by Histidine Functionalized Water-Soluble Perylene Diimide. *ACS Applied Materials & Interfaces*. 7: 21226-21234. <http://dx.doi.org/10.1021/acsami.5b07260>.
- Muthuraj, B; Mukherjee, S; Chowdhury, SR; Patra, CR; Iyer, PK. (2015). An efficient strategy to assemble water soluble histidine-perylene diimide and graphene oxide for the detection of PPi in physiological conditions and in vitro. 89: 636-644. <http://dx.doi.org/10.1016/j.bios.2015.12.036>.
- Namepetra, A; Kitching, E; Eftaiha, AF; Hill, IG; Welch, GC. (2016). Understanding the morphology of solution processed fullerene-free small molecule bulk heterojunction blends. *Phys Chem Chem Phys*. 18: 12476-12485. <http://dx.doi.org/10.1039/c6cp01269h>.
- Nayak, KC; Kumar, S; Gupta, B, alK; Kumar, S; Gupta, A; Prakash, P; Koehar, DK. (2014). Clinical and histopathological profile of acute renal failure caused by falciparum and vivax mono-infection : An observational study from Bikaner, northwest zone of Rajasthan, India. *J Vector Borne Dis*. 51: 40-46.
- Neugebauer, J; Curutchet, C; Muñoz-Losa, A; Mennucci, B. (2010). A Subsystem TDDFT Approach for Solvent Screening Effects on Excitation Energy Transfer Couplings. *Journal of Chemical Theory and Computation*. 6: 1843-1851. <http://dx.doi.org/10.1021/ct100138k>.
- Nielsen, CB; Holliday, S; Chen, HY; Cryer, SJ; McCulloch, I. (2015). Non-Fullerene Electron Acceptors for Use in Organic Solar Cells. *Acc Chem Res*. 48: 2803-2812. <http://dx.doi.org/10.1021/acs.accounts.5b00199>.
- Nitiss, JL; Zhou, JF; Rose, A; Hsiung, YC; Gale, KC; Osheroff, N. (1998). The bis(naphthalimide) DMP-840 causes cytotoxicity by its action against eukaryotic topoisomerase II. *Biochemistry*. 37: 3078-3085.
- Oesterling, I; Müllen, K. (2007). Multichromophoric polyphenylene dendrimers: toward brilliant light emitters with an increased number of fluorophores. *J Am Chem Soc*. 129: 4595-4605. <http://dx.doi.org/10.1021/ja067174m>.
- Ono, RJ; Todd, AD; Hu, Z; Vanden Bout, DA; Bielawski, CW. (2014). Synthesis of a donor-acceptor diblock copolymer via two mechanistically distinct, sequential polymerizations using a single catalyst. *Macromol Rapid Comm*. 35: 204-209. <http://dx.doi.org/10.1002/marc.201300440>.
- Ozdal, D; Aydinlik, NP; Bodapati, JB; Icil, H. (2017). Self-assembly, optical, thermal and electrochemical properties of bis-N-benzyl perylene diimide dye. *Photochem Photobiol Sci*. 16: 262-270. <http://dx.doi.org/10.1039/c6pp00348f>.

Human Health Hazard Literature Search Results

Off Topic

- Park, GE; Kim, HJ; Choi, S; Lee, DH; Uddin, MA; Woo, HY; Cho, MJ; Choi, DH. (2016). New M- and V-shaped perylene diimide small molecules for high-performance nonfullerene polymer solar cells. *Chem Commun (Camb)*. 52: 8873-8876. <http://dx.doi.org/10.1039/c6cc04229e>.
- Park, HJ; So, MC; Gosztola, D; Wiederrecht, GP; Emery, JD; Martinson, AB; Er, S; Wilmer, CE; Vermeulen, NA; Aspuru-Guzik, A; Stoddart, JF; Farha, OK; Hupp, JT. (2016). Layer-by-Layer Assembled Films of Perylene Diimide- and Squaraine-Containing Metal-Organic Framework-like Materials: Solar Energy Capture and Directional Energy Transfer. 8: 24983-24988. <http://dx.doi.org/10.1021/acsami.6b03307>.
- Pekdemir, F; Kurnali, S; Sengul, A; Altindal, A; Ozkaya, A; Salih, B; Bekaroglu, O. (2015). A conformationally stressed novel ball-type perylenediimide appended zinc(II) phthalocyanine hybrid: spectroelectrochemical, electrocolorimetric and photovoltaic properties. *Dalton Trans.* 44: 158-166. <http://dx.doi.org/10.1039/c4dt01761g>.
- Pochas, CM; Kistler, KA; Yamagata, H; Matsika, S; Spano, FC. (2013). Contrasting photophysical properties of star-shaped vs linear perylene diimide complexes. *J Am Chem Soc.* 135: 3056-3066. <http://dx.doi.org/10.1021/ja3087449>.
- Qiu, B; Yuan, J; un; Xiao, X; He, D; Qiu, L; Zou, Y; Zhang, Z; Li, Y. (2015). Effect of Fluorine Substitution on Photovoltaic Properties of Alkoxyphenyl Substituted Benzo[1,2-b:4,5-b']dithiophene-Based Small Molecules. *ACS Applied Materials & Interfaces.* 7: 25237-25246. <http://dx.doi.org/10.1021/acsami.5b07066>.
- Randi, ML; Meneghin, C; Zerbiniati, P; Sbarai, A; Rampin, E; Pasini, R; Zanin, L; Girolami, A; Cella, G. (1999). Soluble plasma thrombomodulin levels in patients with chronic myeloproliferative disorder. *Clin Appl Thromb Hemost.* 5: 43-47.
- Rao, L; Dworkin, JD; Nell, WE; Bierbach, U. (2011). Interactions of a platinum-modified perylene derivative with the human telomeric g-quadruplex. *J Phys Chem B.* 115: 13701-13712. <http://dx.doi.org/10.1021/jp207265s>.
- Rodríguez-Abreu, C; Aubrey-Torres, C; Solans, C; López-Quintela, A; Tiddy, GJ. (2011). Characterization of perylene diimide dye self-assemblies and their use as templates for the synthesis of hybrid and supermicroporous nanotubes. 3: 4133-4141. <http://dx.doi.org/10.1021/am201016m>.
- Rossetti, L; D'Isa, G; Mauriello, C; Varra, M; De Santis, P; Mayol, L; Savino, M. (2007). A model for triple helix formation on human telomerase reverse transcriptase (hTERT) promoter and stabilization by specific interactions with the water soluble perylene derivative, DAPER. *Biophys Chem.* 129: 70-81. <http://dx.doi.org/10.1016/j.bpc.2007.05.009>.
- Roy, SS; Chakraborty, P; Biswas, J; Bhattacharya, S. (2014). 2-[5-Selenocyanato-pentyl]-6-amino-benzo[de]isoquinoline-1,3-dione inhibits angiogenesis, induces p53 dependent mitochondrial apoptosis and enhances therapeutic efficacy of cyclophosphamide. *Biochimie.* 105: 137-148. <http://dx.doi.org/10.1016/j.biochi.2014.07.010>.
- Santosh, G; Shirman, E; Weissman, H; Shimoni, E; Pinkas, I; Rudich, Y; Rybtchinski, B. (2010). Photofunctional self-assembled nanostructures formed by perylene diimide-gold nanoparticle hybrids. *J Phys Chem B.* 114: 14389-14396. <http://dx.doi.org/10.1021/jp100662b>.
- Sartin, MM; Huang, C; Marshall, AS; Makarov, N; Barlow, S; Marder, SR; Perry, JW. (2014). Nonlinear optical pulse suppression via ultrafast photoinduced electron transfer in an aggregated perylene diimide/oligothiophene molecular triad. *J Phys Chem A.* 118: 110-121. <http://dx.doi.org/10.1021/jp409065b>.
- Sato, D; Sato, T; Urata, Y; Okajima, T; Kawamura, S; Kurita, M; Takahashi, K; Nanno, M; Watahiki, A; Kokubun, S; Shimizu, Y; Kasahara, E; Shoji, N; Sasano, T; Ichikawa, H. (2014). Distribution of TRPVs, P2X3, and parvalbumin in the human nodose ganglion. *Cell Mol Neurobiol.* 34: 851-858. <http://dx.doi.org/10.1007/s10571-014-0062-9>.
- Savage, RC; Orgiu, E; Mativetsky, JM; Pisula, W; Schnitzler, T; Eversloh, CL; Li, C; Müllen, K; Samori, P. (2012). Charge transport in fibre-based perylene-diimide transistors: effect of the alkyl substitution and processing technique. *Nanoscale.* 4: 2387-2393. <http://dx.doi.org/10.1039/c2nr30088e>.
- Savaraj, N; Liang, J; Lu, K; Loo, TL; Hsu, TC. (1986). GENOTOXICITY OF 1H-BENZ DE ISOQUINOLINE-1,3(2H)-DIONE,5 AMINO-2-(DIMETHYAMINO) ETHYL (BIDA) IN HUMAN-LYMPHOCYTES. *Proc Am Assoc Cancer Res.* 27: 283-283.
- Schoonover, M; Kerwin, SM. (2012). G-quadruplex DNA cleavage preference and identification of a perylene diimide G-quadruplex photocleavage agent using a rapid fluorescent assay. *Bioorg Med Chem.* 20: 6904-6918. <http://dx.doi.org/10.1016/j.bmc.2012.10.017>.
- Shabir, G; Saeed, A; Arshad, M; Zahid, M. (2016). Multichromic Bis-Axially Extended Perylene Chromophore with Schiff Bases: Synthesis, Characterization and Electrochemical Studies. *J Fluoresc.* 26: 2247-2255. <http://dx.doi.org/10.1007/s10895-016-1920-2>.
- Shahar, C; Dutta, S; Weissman, H; Shimon, LJW; Ott, H; Rybtchinski, B. (2016). Precrystalline Aggregates Enable Control over Organic Crystallization in Solution. *Angew Chem Int Ed Engl.* 55: 179-182. <http://dx.doi.org/10.1002/anie.201507659>.
- Sharenko, A; Proctor, CM; van der Poll, TS; Henson, ZB; Nguyen, TQ; Bazan, GC. (2013). A high-performing solution-processed small molecule:perylene diimide bulk heterojunction solar cell. *Adv Mater Deerfield.* 25: 4403-4406. <http://dx.doi.org/10.1002/adma.201301167>.
- She, N; Moncelet, D; Gilberg, L; Lu, X; Sindelar, V; Briken, V; Isaacs, L. (2016). Glycoluril-Derived Molecular Clips are Potent and Selective Receptors for Cationic Dyes in Water. *Chemistry.* 22: 15270-15279. <http://dx.doi.org/10.1002/chem.201601796>.
- Shibano, Y; Umeyama, T; Matano, Y; Tkachenko, NV; Lemmetyinen, H; Imahori, H. (2006). Synthesis and photophysical properties of electron-rich perylenediimide-fullerene dyad. *Org Lett.* 8: 4425-4428. <http://dx.doi.org/10.1021/o1061506a>.
- Shirman, E; Ustinov, A; Ben-Shitrit, N; Weissman, H; Iron, MA; Cohen, R; Rybtchinski, B. (2008). Stable Aromatic Dianion in Water [Letter]. *J Phys Chem B.* 112: 8855-8858. <http://dx.doi.org/10.1021/jp8029743>.
- Shoaee, S; An, Z; Zhang, X; Barlow, S; Marder, S. R.; Duffy, W; Heeney, M; McCulloch, I; Durrant, J. R. (2009). Charge photogeneration in polythiophene-perylene diimide blend films. *Chem Commun (Camb)* 5445-5447. <http://dx.doi.org/10.1039/b909071a>.
- Shoaee, S; Clarke, TM; Huang, C; Barlow, S; Marder, S. R.; Heeney, M; McCulloch, I; Durrant, J. R. (2010). Acceptor energy level control of charge photogeneration in organic donor/acceptor blends. *J Am Chem Soc.* 132: 12919-12926. <http://dx.doi.org/10.1021/ja1042726>.

Human Health Hazard Literature Search Results

Off Topic

- Singh, P; Mittal, LS; Kumar, S; Bhargava, G; Kumar, S. (2014). Perylene diimide appended with 8-hydroxyquinoline for ratiometric detection of Cu²⁺ ions and metal displacement driven "turn on" cyanide sensing. *J Fluoresc.* 24: 909-915. <http://dx.doi.org/10.1007/s10895-014-1371-6>.
- Singh, R; Shivanna, R; Iosifidis, A; Butt, HJ; Floudas, G; Narayan, KS; Keivanidis, PE. (2015). Charge versus Energy Transfer Effects in High-Performance Perylene Diimide Photovoltaic Blend Films. *ACS Applied Materials & Interfaces.* 7: 24876-24886. <http://dx.doi.org/10.1021/acsmami.5b08224>.
- Sriramulu, D; Reed, EL; Annamalai, M; Venkatesan, TV; Valiyaveettil, S. (2016). Synthesis and Characterization of Superhydrophobic, Self-cleaning NIR-reflective Silica Nanoparticles. *Sci Rep.* 6: 35993. <http://dx.doi.org/10.1038/srep35993>.
- Stergiou, A; Tagmatarchis, N. (2016). Fluorene-Perylene Diimide Arrays onto Graphene Sheets for Photocatalysis. *8:* 21576-21584. <http://dx.doi.org/10.1021/acsmami.6b06797>.
- Streiter, M; Krause, S; von Borczyskowski, C; Deibel, C. (2016). Dynamics of Single-Molecule Stokes Shifts: Influence of Conformation and Environment. *Journal of Physical Chemistry Letters.* 7: 4281-4284. <http://dx.doi.org/10.1021/acs.jpclett.6b02102>.
- Su, W; Zhang, Y; Zhao, C; Li, X; Jiang, J. (2007). Self-assembled organic nanostructures: effect of substituents on the morphology. *Chemphyschem.* 8: 1857-1862. <http://dx.doi.org/10.1002/cphc.200700246>.
- Sun, M; Yin, W; Dong, X; Yang, W; Zhao, Y; Yin, M. (2016). Fluorescent supramolecular micelles for imaging-guided cancer therapy. *Nanoscale.* 8: 5302-5312. <http://dx.doi.org/10.1039/c6nr00450d>.
- Szelke, H; Schübel, S; Harenberg, J; Krämer, R. (2010). A fluorescent probe for the quantification of heparin in clinical samples with minimal matrix interference. *Chem Commun (Camb).* 46: 1667-1669. <http://dx.doi.org/10.1039/b917287d>.
- Szelke, H; Schübel, S; Harenberg, J; Krämer, R. (2010). Interaction of heparin with cationic molecular probes: probe charge is a major determinant of binding stoichiometry and affinity. *20:* 1445-1447. <http://dx.doi.org/10.1016/j.bmcl.2009.12.105>.
- Tabacchi, G; Calzaferri, G; Fois, E. (2016). One-dimensional self-assembly of perylene-diimide dyes by unidirectional transit of zeolite channel openings. *Chem Commun (Camb).* 52: 11195-11198. <http://dx.doi.org/10.1039/c6cc05303c>.
- Taka, T; Joonlasak, K; Huang, L; Randall Lee, T; Chang, SW; Tuntiwechapikul, W. (2012). Down-regulation of the human VEGF gene expression by perylene monoimide derivatives. *Bioorg Med Chem Lett.* 22: 518-522. <http://dx.doi.org/10.1016/j.bmcl.2011.10.089>.
- Tang, T; Qu, J; Müllen, K; Webber, SE. (2006). Molecular layer-by-layer self-assembly of water-soluble perylene diimides through pi-pi and electrostatic interactions. *Langmuir.* 22: 26-28. <http://dx.doi.org/10.1021/la052766o>.
- Tidhar, Y; Weissman, H; Tworowski, D; Rybtchinski, B. (2014). Mechanism of crystalline self-assembly in aqueous medium: a combined cryo-TEM/kinetic study. *Chemistry.* 20: 10332-10342. <http://dx.doi.org/10.1002/chem.201402096>.
- Tran, H; Gopinadhan, M; Majewski, PW; Shade, R; Steffes, V; Osuji, CO; Campos, LM. (2013). Monoliths of semiconducting block copolymers by magnetic alignment. *ACS Nano.* 7: 5514-5521. <http://dx.doi.org/10.1021/nn401725a>.
- Trofymchuk, K; Reisch, A; Shulov, I; Mély, Y; Klymchenko, AS. (2014). Tuning the color and photostability of perylene diimides inside polymer nanoparticles: towards biodegradable substitutes of quantum dots. *Nanoscale.* 6: 12934-12942. <http://dx.doi.org/10.1039/c4nr03718a>.
- Tueswan, B; Kern, JT; Thomas, PW; Rodriguez, M; Li, J; David, WM; Kerwin, SM. (2008). Simian virus 40 large T-antigen G-quadruplex DNA helicase inhibition by G-quadruplex DNA-interactive agents. *Biochemistry.* 47: 1896-1909. <http://dx.doi.org/10.1021/bi701747d>.
- Usowicz, MT; Kelley, MJ; Singer, KD; Duzhko, VV. (2011). Tailored one- and two-dimensional self-assembly of a perylene diimide derivative in organic solvents. *J Phys Chem B.* 115: 9703-9709. <http://dx.doi.org/10.1021/jp203703e>.
- Ustinov, AV; Dubnyakova, VV; Korshun, VA. (2007). Perylene diimide-oligonucleotide conjugates constructed by click chemistry. *Nucleosides Nucleotides Nucleic Acids.* 26: 751-754. <http://dx.doi.org/10.1080/15257770701490936>.
- Vagnini, MT; Smeigh, AL; Blakemore, JD; Eaton, SW; Schley, ND; D'Souza, F; Crabtree, RH; Brudvig, GW; Co, DT; Wasielewski, MR. (2012). Ultrafast photodriven intramolecular electron transfer from an iridium-based water-oxidation catalyst to perylene diimide derivatives. *Proc Natl Acad Sci USA.* 109: 15651-15656. <http://dx.doi.org/10.1073/pnas.1202075109>.
- Voormolen, MHJ; van Rooij, WJ; Van Der Graat, Y; Lohle, PNM; Lampmann, LEH; Juttmann, JR, JR; Sluzewski, M. (2006). Bone marrow edema in osteoporotic vertebral compression fractures after percutaneous vertebroplasty and relation with clinical outcome. *AJNR Am J Neuroradiol.* 27: 983-988.
- Wang, J; Liang, Z. (2016). Synergetic Solvent Engineering of Film Nanomorphology to Enhance Planar Perylene Diimide-Based Organic Photovoltaics. *8:* 22418-22424. <http://dx.doi.org/10.1021/acsmami.6b08284>.
- Wang, J; Wu, A; Xu, Y; Liu, J; Qian, X. (2009). M(2)-A induces apoptosis and G(2)-M arrest via inhibiting PI3K/Akt pathway in HL60 cells. *Cancer Lett.* 283: 193-202. <http://dx.doi.org/10.1016/j.canlet.2009.03.039>.
- Wang, Y; Chen, Y; Li, R; Wang, S; Su, W; Ma, P; Wasielewski, MR; Li, X; Jiang, J. (2007). Amphiphilic perylenetetracarboxyl diimide dimer and its application in field effect transistor. *Langmuir.* 23: 5836-5842. <http://dx.doi.org/10.1021/la063729f>.
- Wang, Z; Liang, X; Cheng, Z; Xu, Y; Yin, P; Zhu, H; Li, Q; Qian, X; Liu, J. (2013). Induction of apoptosis and suppression of ERCC1 expression by the potent amonafide analogue 8-c in human colorectal carcinoma cells. *Anticancer Drugs.* 24: 355-365. <http://dx.doi.org/10.1097/CAD.0b013e32835df8b5>.
- Weiss, EA; Wasielewski, MR; Ratner, MA. (2005). A general formulation for magnetic exchange coupling within long-distance radical ion pairs. *J Chem Phys.* 123: 64504. <http://dx.doi.org/10.1063/1.1995691>.
- Winch, NM; Smith, GJ; Breukers, RD; Bhuiyan, DH; Kay, AJ; Smith, TA; Ghiggino, KP; Raymond, SG. (2016). The photophysics of phenylenevinylenone oligomers and self-absorption of their fluorescence in polymer films. *Photochem Photobiol Sci.* 15: 1163-1169. <http://dx.doi.org/10.1039/c6pp00127k>.

Human Health Hazard Literature Search Results

Off Topic

- Xie, SQ; Li, Q; Zhang, YH; Li, Z; Zhao, J; Wang, CJ. (2012). BND-12, a novel nonhaematotoxic naphthalimide derivative, inhibits tumour growth and metastasis of hepatocellular carcinoma. *J Pharm Pharmacol.* 64: 1483-1490. <http://dx.doi.org/10.1111/j.2042-7158.2012.01519.x>.
- Xu, S; Sun, J; Ke, D; Song, G; Zhang, W; Zhan, C. (2010). An unexpected solvent effect on the self-assembly of a 1,7-bis-pyridinoyl perylene diimide amphiphile. *J Colloid Interface Sci.* 349: 142-147. <http://dx.doi.org/10.1016/j.jcis.2010.05.072>.
- Yaku, H; Murashima, T; Tateishi-Karimata, H; Nakano, S; Miyoshi, D; Sugimoto, N. (2013). Study on effects of molecular crowding on G-quadruplex-ligand binding and ligand-mediated telomerase inhibition. *Methods.* 64: 19-27. <http://dx.doi.org/10.1016/j.ymeth.2013.03.028>.
- Yang, X; Xu, X; Ji, HF. (2008). Solvent effect on the self-assembled structure of an amphiphilic perylene diimide derivative. *J Phys Chem B.* 112: 7196-7202. <http://dx.doi.org/10.1021/jp801413k>.
- Ye, T; Singh, R; Butt, HJ; Floudas, G; Keivanidis, PE. (2013). Effect of local and global structural order on the performance of perylene diimide excimeric solar cells. 5: 11844-11857. <http://dx.doi.org/10.1021/am4035416>.
- Yokoyama, T; Takaki, S; Chosa, K; Sato, T; Suico, MA; Teranishi, Y; Shuto, T; Mizuguchi, M; Kai, H. (2015). Structural stabilization of transthyretin by a new compound, 6-benzoyl-2-hydroxy-1H-benzo[de]isoquinoline-1,3(2H)-dione. *J Pharmacol Sci.* 129: 240-243. <http://dx.doi.org/10.1016/j.jphs.2015.09.006>.
- You, S; Cai, Q; Zheng, Y; He, B; Shen, J; Yang, W; Yin, M. (2014). Perylene-cored star-shaped polycations for fluorescent gene vectors and bioimaging. 6: 16327-16334. <http://dx.doi.org/10.1021/am5045967>.
- Yu, X; Zhan, C; Ding, X; Zhang, S; Zhang, X; Liu, H; Chen, L; Wu, Y; Fu, H; He, S; Huang, Y; Yao, J. (2013). Chromism based on supramolecular H-bonds. *Phys Chem Chem Phys.* 15: 11960-11965. <http://dx.doi.org/10.1039/c3cp51268a>.
- Yu, Y; Shi, Q; Li, Y; Liu, T; Zhang, L; Shuai, Z; Li, Y. (2012). Solid supramolecular architecture of a perylene diimide derivative for fluorescent enhancement. *Chem Asian J.* 7: 2904-2911. <http://dx.doi.org/10.1002/asia.201200659>.
- Yu, Z; Wu, Y; Peng, Q; Sun, C; Chen, J; Yao, J; Fu, H. (2016). Accessing the Triplet State in Heavy-Atom-Free Perylene Diimides. *Chemistry.* 22: 4717-4722. <http://dx.doi.org/10.1002/chem.201600300>.
- Zeng, L; Liu, T; He, C; Shi, D; Zhang, F; Duan, C. (2016). Organized Aggregation Makes Insoluble Perylene Diimide Efficient for the Reduction of Aryl Halides via Consecutive Visible Light-Induced Electron-Transfer Processes. *J Am Chem Soc.* 138: 3958-3961. <http://dx.doi.org/10.1021/jacs.5b12931>.
- Zhan, L; Liang, LJ; Zhen, SJ; Li, CM; Huang, CZ. (2013). Aptamer-based spectrofluorometry for cellular prion protein using N,N'-bis[3,3'-(dimethylamino)propylamine]-3,4,9,10-perylenetetracarboxylic diimide. *Analyst.* 138: 825-830. <http://dx.doi.org/10.1039/c2an36322d>.
- Zhang, X; Lu, Z; Ye, L; Zhan, C; Hou, J; Zhang, S; Jiang, B; Zhao, Y; Huang, J; Zhang, S; Liu, Y; Shi, Q; Liu, Y; Yao, J. (2013). A potential perylene diimide dimer-based acceptor material for highly efficient solution-processed non-fullerene organic solar cells with 4.03% efficiency. *Adv Mater Deerfield.* 25: 5791-5797. <http://dx.doi.org/10.1002/adma.201300897>.
- Zhang, X, in: Yao, J; Zhan, C. (2015). A selenophenyl bridged perylene diimide dimer as an efficient solution-processable small molecule acceptor. *Chem Commun (Camb).* 51: 1058-1061. <http://dx.doi.org/10.1039/c4cc08457h>.
- Zhang, Y; Chen, L; Zhang, K; Wang, H; Xiao, Y. (2014). A soluble ladder-conjugated star-shaped oligomer composed of four perylene diimide branches and a fluorene core: synthesis and properties. *Chemistry.* 20: 10170-10178. <http://dx.doi.org/10.1002/chem.201402100>.
- Zhang, Y; Peng, C; Cui, B; Wang, Z; Pang, X; Ma, R; Liu, F; Che, Y; Zhao, J. (2016). Direction-Controlled Light-Driven Movement of Microribbons. *Adv Mater Deerfield.* 28: 8538-8545. <http://dx.doi.org/10.1002/adma.201602411>.
- Zhang, Y; Wang, H; Xiao, Y; Wang, L; Shi, D; Cheng, C. (2013). Liquid crystalline perylene diimide outperforming nonliquid crystalline counterpart: higher power conversion efficiencies (PCEs) in bulk heterojunction (BHJ) cells and higher electron mobility in space charge limited current (SCLC) devices. 5: 11093-11100. <http://dx.doi.org/10.1021/am4033185>.
- Zhang, Y; Zheng, Y; Xiong, W; Peng, C; Zhang, Y; Duan, R; Che, Y; Zhao, J. (2016). Morphological Transformation between Nanocoils and Nanoribbons via Defragmentation Structural Rearrangement or Fragmentation-recombination Mechanism. *Sci Rep.* 6: 27335. <http://dx.doi.org/10.1038/srep27335>.
- Zhao, C; Zhang, Y; Li, R; Li, X; Jiang, J. (2007). Di(alkoxy)- and di(alkylthio)-substituted perylene-3,4; 9,10-tetracarboxy diimides with tunable electrochemical and photophysical properties. *J Org Chem.* 72: 2402-2410. <http://dx.doi.org/10.1021/jo062150j>.
- Zhao, L; Ma, T; Bai, H; Lu, G; Li, C; Shi, G. (2008). Layer-by-layer deposited multilayer films of oligo(pyrenebutyric acid) and a perylene diimide derivative: structure and photovoltaic properties. *Langmuir.* 24: 4380-4387. <http://dx.doi.org/10.1021/la703884d>.
- Zhao, Y; Li, K; He, Z; Zhang, Y; Zhao, Y; Zhang, H; Miao, Z. (2016). Investigation on Fluorescence Quenching Mechanism of Perylene Diimide Dyes by Graphene Oxide. *Molecules.* 21. <http://dx.doi.org/10.3390/molecules21121642>.
- Zheng, Y; Long, H; Schatz, GC; Lewis, FD. (2005). Duplex and hairpin dimer structures for perylene diimide-oligonucleotide conjugates. *Chem Commun (Camb)* 4795-4797. <http://dx.doi.org/10.1039/b509754a>.
- Zhong, H; Wu, C; Li, C; Carpenter, J; Chueh, C; Chen, J; Ade, H; Jen, AKY. (2016). Rigidifying Nonplanar Perylene Diimides by Ring Fusion Toward Geometry-Tunable Acceptors for High-Performance Fullerene-Free Solar Cells. *Adv Mater Deerfield.* 28: 951-958. <http://dx.doi.org/10.1002/adma.201504120>.
- Zhong, L; Xing, F; Bai, Y; Zhao, Y; Zhu, S. (2013). Aspartic acid functionalized water-soluble perylene diimide as "Off-On" fluorescent sensor for selective detection Cu(2+) and ATP. *Spectrochim Acta A Mol Biomol Spectrosc.* 115: 370-375. <http://dx.doi.org/10.1016/j.saa.2013.06.039>.

Human Health Hazard Literature Search Results

Off Topic

- Zhong, Y; Trinh, MT; Chen, R; Wang, W; Khlyabich, PP; Kumar, B; Xu, Q; Nam, CY; Sfeir, MY; Black, C; Steigerwald, ML; Loo, YL; Xiao, S; Ng, F; Zhu, XY; Nuckolls, C. (2014). Efficient organic solar cells with helical perylene diimide electron acceptors. *J Am Chem Soc.* 136: 15215-15221. <http://dx.doi.org/10.1021/ja5092613>.
- Zhou, E; Cong, J; Wei, Q; Tajima, K; Yang, C; Hashimoto, K. (2011). All-polymer solar cells from perylene diimide based copolymers: material design and phase separation control. *Angew Chem Int Ed Engl.* 50: 2799-2803. <http://dx.doi.org/10.1002/anie.201005408>.
- Zhu, M; Aryal, GH; Zhang, N, an; Zhang, H; Su, X; Schmehl, R; Liu, X, ue; Hu, J, in; Wei, J; Jayawickramarajah, J. (2015). Host-Guest Interactions Derived Multilayer Perylene Diimide Thin Film Constructed on a Scaffolding Porphyrin Monolayer. *Langmuir.* 31: 578-586. <http://dx.doi.org/10.1021/la504297>.

OPPT RISK ASSESSMENT, PROBLEM FORMULATION OR SCOPE DOCUMENT

All documents cited in previous OPPT risk assessments, problem formulations and scope documents are included in the following section and listed as *on topic* without further categorization. The references may have also been captured in the search strategy and therefore presented in the peer reviewed literature search results section as either *on topic* or *off topic* for a given topic area in the sections above.

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- ASTM (American Society for Testing and Materials). (2012). MNL17-2ND-EB: Colored Organic Pigments. http://www.astm.org/DIGITAL_LIBRARY/MNL/PAGES/MNL12201M.htm
- BASF. Product selection guide BASF pigments and pigment preparations for the architectural and construction coatings industry. https://www.btc-europe.com/fileadmin/user_upload/Downloads/Product_Selection_Guide_EN.pdf
- BASF. (1998). Paliogen Redviolet K 5011. http://www2.basf.us/additives/pdfs/Paliogen_Redviolet_K5011.pdf
- Canada, E; Canada, H. (2014). Screening Assesment. Aromatic Azo and Benzidine-based Substance Grouping. Certain Diarylide Yellow Pigments. Environment Canada and Health Canada. <http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=AE21E557-1>
- Canada, E; Canada, H. (2016). Screening Assessment. Aromatic Azo and Benzidine-based Substance Grouping. Certain Monoazo Pigments. Environment Canada and Health Canada. <http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=9C4DA306-1>
- COLORS, L. (2011). 1029 Perylene Violet 29. Available online at <http://www.pigments.com/pdf/1029.pdf>
- Corporation, AC. (2014). Material Safety Data Sheet AArbor Yellow. Available online at <http://www.kimbiz.com/pdfs/64-1265%20MSDS.pdf>
- CPMA. (2006). High Production Volume (HPV) Challenge Progem: Test Plan for Test Plan for C. I. Pigment Red 48 (Barium), C.I. Pigment Red 48 (Calcium) and C.I. Pigment Red 52 (Calcium). Monoazo and Related Pigments Committee, Color Pigment Manufacturers Association, Inc.
- CPMA. (2006). High Production Volume (HPV) Challenge Program, Test Plan for C.I. Pigment Yellow 14 (CAS NO.: 5468-75-7). Diarylide Pigments Committee, Color Pigment Manufacturers Association, Inc.
- CPMA. (2011). Comments of the Color-Pigments Manufacturers Association, Inc. Regarding Diarylide Pigments and the CIC Consultation on 3,3'-Dichlorobenzidine-Based Compounds Metabolized to 3,3'- Dichlorobenzidine. Washington, DC: Color Pigments Manufacturers Association, Inc.
- Decad, GM; Snyder, CD; Mitoma, C. (1983). FATE OF WATER INSOLUBLE AND WATER-SOLUBLE DICHLOROBENZIDINE BASED PIGMENTS IN FISCHER-344 RATS. *J Toxicol Environ Health* 11: 455-465.
- Du, S; Wall, SI; Cacia, D; Rodenburg, LA. (2009). Passive air sampling for polychlorinated biphenyls in the Philadelphia metropolitan area. *Environ Sci Technol* 43: 1287-1292. <http://dx.doi.org/10.1021/es802957y>
- EC (European Commission). (2000). IUCLID Dataset: Yellow 83, CAS No. 5567-15-7. Ispra, Italy: European Chemicals Bureau, European Commission. <http://iuclid.eu>
- EC (European Commission). (2012). Opinion on Pigment Red 57 Colipa N° C181. (SCCS/1411/11). Brussels, Belgium: Scientific Committe on Consumer Safety, Health & Consumers Directorate D: Health Systems and Products. http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_112.pdf
- ECCC (Environment and Climate Change Canada). (2013). Search Engine for Chemical and Polymers. http://www.ec.gc.ca/lcpe-cepa/eng/substance/chemicals_polymer.cfm
- ECHA (European Chemicals Agency). (2015). PACT – RMOA and hazard assessment activities. Helsinki, Finland: Europena Chemicals Agency. <http://echa.europa.eu/addressing-chemicals-of-concern/substances-of-potential-concern/pact>
- ECHA (European Chemicals Agency). (2015). Pre-registered substances. Helsinki, Finland. <https://echa.europa.eu/information-on-chemicals/pre-registered-substances>
- ECHA (European Chemicals Agency). (2015). Registered substances. Helsinki, Finland. <http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>
- EFSA (European Food Safety Authority). (2010). Scientific Opinion on the re-evaluation of Litholrubine BK (E 180) as a food additive. 8. <http://dx.doi.org/10.2903/j.efsa.2010.1586>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- Eldareer, SM; Tillery, KF; Hill, DL. (1984). INVESTIGATIONS ON THE DISPOSITION OF ORAL DOSES OF SOME WATER-INSOLUBLE PIGMENTS. *Bull Environ Contam Toxicol* 32: 171-174.
- FDA (U.S. Food and Drug Administration). (1982). D&C Red No. 6 and D&C Red No. 7. *Fed Reg* 47: 57681-57691.
- Hamburger, B; Haberling, H; Hitz, HR. (1977). COMPARATIVE TESTS ON TOXICITY TO FISH USING MINNOWS, TROUT AND GOLDEN ORFE. 28: 45-55.
- Herbst, W; Hunger, K. (2004). Industrial Organic Pigments: Production Properties, Applications. Weinheim, Germany: WILEY-VCH.
- HHS (U.S. Department of Health and Human Services). (2009). Household products database [Database]. Bethesda, MD: National Institutes of Health. Retrieved from <http://householdproducts.nlm.nih.gov/about.htm>
- Hofmann, T; Schmidt, D. (1993). Investigation of possible metabolism of Pigment Yellow 17, a 3,3'-dichlorobenzidine-based pigment, after inhalation exposure in rats. *Arch Toxicol* 67: 141-144. <http://dx.doi.org/10.1007/BF01973685>
- Hu, D; Hornbuckle, KC. (2010). Inadvertent polychlorinated biphenyls in commercial paint pigments. *Environ Sci Technol* 44: 2822-2827. <http://dx.doi.org/10.1021/es902413k>
- Hu, D; Martinez, A; Hornbuckle, K. (2008). Discovery of non-aroclor PCB (3,3'-dichlorobiphenyl) in Chicago air. *Environ Sci Technol* 42: 7873-7877. <http://dx.doi.org/10.1021/es801823r>
- Hunger, K; Herbst, W. (2012). Pigments, organic. In Ullmann's Encyclopedia of Industrial Chemistry. New York, NY: John Wiley and Sons.
- IARC (International Agency for Research on Cancer). (1982). Some industrial chemicals and dyestuffs. In IARC monographs on the evaluation of carcinogenic risks to humans. (RISKLINE/1984090068). Lyon, France. <http://monographs.iarc.fr/ENG/Monographs/vol29/volume29.pdf>
- Jaffe, EE. (2004). Pigments, organic. In Kirk-Othmer Encyclopedia of Chemical Technology. [online]: John Wiley & Sons. <http://onlinelibrary.wiley.com/doi/10.1002/0471238961.151807011001060605.a01.pub2/abstract>
- Lai, DY. (1984). HALOGENATED BENZENES, NAPHTHALENES, BIPHENYLS AND TERPHENYLS IN THE ENVIRONMENT: THEIR CARCINOGENIC, MUTAGENIC AND TERATOGENIC POTENTIAL AND TOXIC EFFECTS (pp. ENVIRON CARCINOGEN REV 2:135-ENVIRON CARCINOGEN REV 132:184). (ISSN 0736-3001; EMICBACK/61512). Lai, DY. <http://dx.doi.org/10.1080/10590508409373324>
- Lai, DY; Woo, Y. (2014). Reducing Carcinogenicity and Mutagenicity Through Mechanism-Based Molecular Design of Chemicals. In A Voutchkova (Ed.), (pp. 569). Somerset, NJ, USA: Wiley.
- Litten, S; Fowler, B; Luszniak, D. (2002). Identification of a novel PCB source through analysis of 209 PCB congeners by US EPA modified method 1668. *Chemosphere* 46: 1457-1459. [http://dx.doi.org/10.1016/S0045-6535\(01\)00253-3](http://dx.doi.org/10.1016/S0045-6535(01)00253-3)
- NITE (National Institute of Technology and Evaluation). (2014). Chemical Risk Information Platform (CH RIP). National Institute of Technology and Evaluation. Available online at <http://www.safe.nite.go.jp/english/db.html>
- NJ DEP (New Jersey Department of Environmental Protection). (1976). Upper limits on atmospheric ozone reductions following increased application of fixed nitrogen to the soil. *Geophys Res Lett* 3: 169-172. <http://dx.doi.org/10>
- OECD (Organisation for Economic Co-operation and Development). (1994). SIDS Initial Assessment Report for SIAM 2: 2-Naphthalenecarboxylic acid, 3-hydroxy-4-[(4-methyl-2-sulfophenyl)azo]-, calcium salt (D & C Red No. 7), CAS No.: 5281-04-9. Paris, France: Organisation for Economic Cooperation and Development. <http://www.inchem.org/documents/sids/sids/5281049.pdf>
- OECD (Organisation for Economic Co-operation and Development). (2003). SIDS Initial Assessment Report for SIAM 16: C.I. Pigment Yellow 12; Butanamide, 2,2'[(3,3'-dichloro[1,1'-biphenyl]-4,4'diy]bis(azo)]bis[3-oxy-N-phenyl-; C.I. Pigment Yellow 13; Butanamide, 2,2'[(3,3'-dichloro[1,1'-biphenyl]-4,4'diy]bis(azo)]bis[N-(2,4-dimethylphenyl)-3-oxo-; C.I. Pigment Yellow 83; Butanamide, 2,2'[(3,3'-dichloro[1,1'-biphenyl]-4,4'diy]bis(azo)]bis[N-(4-chloro-2,5-dimethoxyphenyl)-3-oxo. Paris, France: Organisation for Economic Cooperation and Development. <http://webnet.oecd.org/hpv/ui/handler.axd?id=7450284D-EACC-4DD9-B1CB-24FAE5914EED>
- OECD (Organisation for Economic Co-operation and Development). (2017). Emission Scenario Document (ESD) on the use of textile dyes. <http://www.oecd.org/chemicalsafety/risk-assessment/emissionscenariodocuments.htm>
- Pianoforte, K. (2012). Pigments Market Update. Available online at http://www.coatingsworld.com/issues/2012-01/view_features/pigments-market-update-211040/
- Rodenburg, LA; Guo, J; Du, S; Cavallo, GJ. (2010). Evidence for unique and ubiquitous environmental sources of 3,3'-dichlorobiphenyl (PCB 11). *Environ Sci Technol* 44: 2816-2821. <http://dx.doi.org/10.1021/es901155h>
- Screenweb. (2000). How Much Ink Do You Need? Available online at <http://www.screenweb.com/content/how-much-ink-do-you-need?page=0%2C3>
- SRI International. (1981). Wastes from Manufacture of Azo Dyes and Pigments (Excluding Benzidine and its Congeners). Menlo Park, CA.
- Sun Chemical (Sun Chemical Corporation). (2017). Email from Sun Chemical Corporation to Hannah Braun at U.S. EPA.
- U.S. Census Bureau. (2014). American Fact Finder, County Business Patterns, 2012 Business Patterns. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=BP_2012_00A1&prodType=table
- U.S. EPA (U.S. Environmental Protection Agency). (1970). Air pollutant emission factors: Paint and varnish (pp. 6.4.1-6.4.2). (APTD-0923). McLean, VA.
- U.S. EPA (U.S. Environmental Protection Agency). (1990). Integrated Risk Information System (IRIS) Chemical Assessment Summary: 3,3'-Dichlorobenzidine; CASRN 91-94-1. Washington, DC: US Environmental Protection Agency. https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0504_summary.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (1994). Draft Cleaner Technologies Substitutes Assessment, Industry: Screen Printing, Use Cluster: Screen Reclamation. (EPA744R-94-005). Washington, DC: US Environmental Protection Agency.
- U.S. EPA (U.S. Environmental Protection Agency). (1995). EPA Office of Compliance Sector Notebook Project Profile of the Printing and Publishing Industry. (EPA/310-R-95-014). Washington, DC: US Environmental Protection Agency. <https://goo.gl/4AGbRd>

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- U.S. EPA (U.S. Environmental Protection Agency). (1997). Multimedia Compliance/Pollution Prevention Assessment Guidance for Screen Printing Facilities. (EPA 305B-97-003). Washington, D.C.: US Environmental Protection Agency.
<https://nepis.epa.gov/Exe/ZyPDF.cgi/300068YS.PDF?Dockey=300068YS.PDF>
- U.S. EPA (U.S. Environmental Protection Agency). (1998). Guidelines for ecological risk assessment [EPA Report]. (EPA/630/R-95/002F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/raf/publications/guidelines-ecological-risk-assessment.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (2000). Revised Draft Generic Scenario for Manufacture and Use of Paper Dyes. Washington, DC: US Environmental Protection Agency.
- U.S. EPA (U.S. Environmental Protection Agency). (2000). Science policy council handbook: Risk characterization (pp. 1-189). (EPA/100/B-00/002). Washington, D.C.: U.S. Environmental Protection Agency, Science Policy Council. <https://www.epa.gov/risk/risk-characterization-handbook>
- U.S. EPA (U.S. Environmental Protection Agency). (2001). Revised Draft Generic Scenario for Manufacturing and Use of Printing Ink. Washington, DC: US Environmental Protection Agency.
- U.S. EPA (U.S. Environmental Protection Agency). (2002). Forty-ninth report of the TSCA interagency testing committee to the Administrator of the Environmental Protection Agency; Receipt of report and request for comments; Notice. Fed Reg 67: 10297-10307.
- U.S. EPA (U.S. Environmental Protection Agency). (2004). Use of Additives in Papermaking - Generic Scenario for Estimating Occupational Exposures and Environmental Releases. Washington, DC: US Environmental Protection Agency.
- U.S. EPA (U.S. Environmental Protection Agency). (2006). Chemical Data Reporting -- Previously Collected Data. Available online at <https://www.epa.gov/chemical-data-reporting/chemical-data-reporting-previously-collected-data>
- U.S. EPA (U.S. Environmental Protection Agency). (2006). A framework for assessing health risk of environmental exposures to children (pp. 1-145). (EPA/600/R-05/093F). Washington, DC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=158363>
- U.S. EPA (U.S. Environmental Protection Agency). (2008). Formulation of Waterborne Coatings - Generic Scenario for Estimating Occupational Exposures and Environmental Releases -Draft. Washington, DC: US Environmental Protection Agency.
- U.S. EPA (U.S. Environmental Protection Agency). (2010). Screening-Level Hazard Characterization. Sponsored Chemical: C.I. Pigment Yellow 14, CASRN 5468-75-7. Supporting Chemicals: C.I. Pigment Yellow 13, CASRN 5102-83-0; C.I. Pigment Yellow 83, CASRN 5567-15-7; C.I. Pigment Yellow 12 CASRN 6358-85-6. Washington, DC: US Environmental Protection Agency.
http://www.epa.gov/hpvis/hazchar/5468757_CI%20Pigment%20Yellow%202014_March2010.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2010). TSCA New Chemicals Program (NCP) chemical categories.
<http://www.epa.gov/oppt/newchems/pubs/npcchemicalcategories.pdf>
- U.S. EPA (U.S. Environmental Protection Agency). (2011). Exposure factors handbook: 2011 edition (final) [EPA Report]. (EPA/600/R-090/052F). Washington, DC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=236252>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). 2012 Chemical Data Reporting Results. Available online at <https://www.epa.gov/chemical-data-reporting/2012-chemical-data-reporting-results>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Estimation Programs Interface (EPI) Suite™ for Microsoft® Windows (Version 4.11). Washington D.C.: Environmental Protection Agency. Retrieved from <http://www.epa.gov/opptintr/exposure/pubs/episuite.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Exposure Assessment Tools and Models: Estimation Program Interface (EPI) Suite. Version 4.11 [Fact Sheet]. US Environmental Protection Agency. <http://www.epa.gov/oppt/exposure/pubs/episuite.htm>
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Instructions for the 2012 TSCA Chemical Data Reporting. Washington, DC: US Environmental Protection Agency. https://www.epa.gov/sites/production/files/documents/instructionsmanual.041712_revised-7_9_12.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Non-confidential IUR Production Volume Information.
- U.S. EPA (U.S. Environmental Protection Agency). (2012). Sustainable futures P2 framework manual [EPA Report]. (EPA-748-B12-001). Washington DC. <http://www.epa.gov/sustainable-futures/sustainable-futures-p2-framework-manual>
- U.S. EPA (U.S. Environmental Protection Agency). (2013). Generic scenario on the formulation of waterborne coatings.
- U.S. EPA (U.S. Environmental Protection Agency). (2013). Interpretive assistance document for assessment of discrete organic chemicals. Sustainable futures summary assessment [EPA Report]. Washington, DC. http://www.epa.gov/sites/production/files/2015-05/documents/05-iad_discretes_june2013.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Chemical Data Reporting under the Toxic Substances Control Act. Washington, DC: US Environmental Protection Agency. <https://www.epa.gov/chemical-data-reporting>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Discharge Monitoring Report (DMR) Pollutant Loading Tool. US Environmental Protection Agency. <https://cfpub.epa.gov/dmr/index.cfm>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Framework for human health risk assessment to inform decision making. Final [EPA Report]. (EPA/100/R-14/001). Washington, DC: U.S. Environmental Protection, Risk Assessment Forum. <http://www2.epa.gov/risk/framework-human-health-risk-assessment-inform-decision-making>
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Generic scenario on coating application via spray painting in the automotive refinishing industry.
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Generic scenario on the use of additives in the plastic compounding industry.

OPPT Risk Assessment, Problem Formulation or Scope Document

On Topic

- U.S. EPA (U.S. Environmental Protection Agency). (2014). Municipal Solid Waste Generation, Recycling, and Disposal in the United States, Tables and Figures for 2012. Washginton, DC: US Environmental Protection Agency.
http://www.epa.gov/epawaste/nonhaz/municipal/pubs/2012_msw_dat_tbls.pdf
- U.S. EPA (U.S. Environmental Protection Agency). (2014). Screening-Level Hazard Characterization. Sponsored Chemical: C.I. Pigment Red 48 Calcium, CASRN 7023-61-2; C.I. Pigment Red 48 Barium CASRN 7585-41-3; C.I. Pigment Red 52 Calcium, CASRN 17852-99-2 Supporting Chemicals: C.I. Pigment Red 57, CASRN 5281-04-9; C.I. Pigment Red 48:4 (Manganese), CASRN 5280-66-0. Washington, DC: US Environmental Protection Agency.
http://www.epa.gov/chemrtk/hpvis/hazchar/Category_SN401%20C%20I%20Pigment%20Red%2048%20and%2052_POST.pdf
- U.S. EPA. (2014). Toxics release inventory (TRI) program [Website]. Washington, DC: Office of Pollution Prevention and Toxics. Retrieved from <http://www2.epa.gov/toxics-release-inventory-tri-program>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). CPCat (Chemical and Product Categories) [Database]. Retrieved from <https://www.epa.gov/chemical-research/chemical-and-product-categories-cpcat>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Instructions for reporting 2016 TSCA chemical data reporting.
<https://www.epa.gov/chemical-data-reporting/instructions-reporting-2016-tsca-chemical-data-reporting>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Public database 2016 chemical data reporting (May 2017 release). Washington, DC: US Environmental Protection Agency, Office of Pollution Prevention and Toxics. Retrieved from <https://www.epa.gov/chemical-data-reporting>
- U.S. EPA (U.S. Environmental Protection Agency). (2016). Weight of evidence in ecological assessment. (EPA100R16001). Washington, DC: Office of the Science Advisor. https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=335523
- U.S. EPA (U.S. Environmental Protection Agency). (2017). CMPA meeting with EPA on February 13, 2017.
- U.S. EPA (U.S. Environmental Protection Agency). (2017). Preliminary information on manufacturing, processing, distribution, use, and disposal: Anthra[2,1,9-def:6,5,10-d'e'f'] diisoquinoline-1,3,8,10(2h,9h)-tetrone; Pigment violet 29. (EPA-HQ-OPPT-2016-0725-0004).
<https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0725-0004>

Gray Literature Search Results

Gray literature is defined as the broad category of studies not found in standard, peer-reviewed literature databases (e.g., PubMed). Gray literature includes studies that are difficult to find in conventional bibliographic databases and includes references such as white papers, conference proceedings, technical reports, reference books, dissertations and information on various stakeholder websites.

The gray literature search results are currently contained in this document and in Excel spreadsheets. EPA is considering whether to manually develop EndNote citations for on topic gray literature results. This section lists abbreviated information for each citation, including a link to the reference. Full gray literature search results are presented in the *Gray Literature Excel Spreadsheet: Pigment Violet 29*.

Note: Gray Lit Results provided as a second PDF.

Legend for Gray Literature Bibliography Columns

Source		A brief description of the gray literature source that was searched
General Information About Result	URL	The web address of the search result URL
	Annotation	An brief description of the search result
Subject-Matter Tags	Engineering	On topic
		An "x" indicates the reference is on topic for the engineering/occupational exposure topic area
	Fate	Off topic
		An "x" indicates the reference is off topic for the engineering/occupational exposure topic area
	Exposure	On topic
		An "x" indicates the reference is on topic for the fate topic area
	Human Health	Off topic
		An "x" indicates the reference is off topic for the fate topic area
Notes		Any notes about the search result, including a note about search results that were not tagged to individual topic areas but are considered "on topic" overall

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
Office of Air Quality Planning and Standards (OAQPS)	www3.epa.gov/airquality/	N/A		x		x		x		x		
Office of Air: Air Emission Factors	https://www3.epa.gov/ttn/chief/ap42/ch06/final/c06s04.pdf	Agency), Paint and Varnish, in Air Pollutant Emission Factors. 1970.	x			x		x		x		
Office of Air: Ambient Water Quality Criteria documents	www.epa.gov/wqc	N/A		x		x		x		x		
Office of Air: HAPS	www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications	N/A		x		x		x		x		
Office of Air: NESHAP	www.epa.gov/technical-air-pollution-resources	N/A		x		x		x		x		
Office of Air: TRI	www.epa.gov/tri	N/A		x		x		x		x		
OPPT: TSCA Analog Identification Methodology (AIM)	http://www.epa.gov/tsca-screening-tools/analog-identification-methodology-aim-tool	List and information about analogs from AIM tool		x		x	x			x		
Significant New Alternatives Policy (SNAP)	www.epa.gov/snap	N/A		x		x		x		x		
Safer Choice	www.epa.gov/saferchoice/	N/A		x		x		x		x		
Pollution Prevention	www.epa.gov/p2/	N/A		x		x		x		x		
Pesticide Ingredients	www.epa.gov/ingredients-used-pesticide-products	N/A		x		x		x		x		
Hazardous Waste	www.epa.gov/hw/	N/A		x		x		x		x		
Superfund Enterprise Management System (SEMS)	cumulis.epa.gov/supercpad/cursites	N/A		x		x		x		x		
CPCat	https://actor.epa.gov/cpcat/faces/search.xhtml	CPCat (Chemical and Product Categories) is a database containing		x		x	x			x		
CPCat	https://actor.epa.gov/cpcat/faces/search.xhtml	CPCat (Chemical and Product Categories) is a database containing		x		x	x			x		
NCEA IRIS	www.epa.gov/iris	N/A		x		x		x		x		
ChemView (CDR/IUR)	http://java.epa.gov/chemview	Chemical data reporting	x			x		x		x		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
Stationary Sources Air Pollution	www.epa.gov/stationary-sources-air-pollution/	N/A		x		x		x		x		
Asbestos	www.epa.gov/asbestos/	N/A		x		x		x		x		
Economic and cost assessment	www.epa.gov/economic-and-cost-analysis-air-pollution-regulations	N/A		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101W9JG.PDF?Dockey=9101W9JG.PDF	List of Pesticide Product Inert Ingredients		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100MO2A.PDF?Dockey=P100MO2A.PDF	of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30004IGW.PDF?Dockey=30004IGW.PDF	Workshop on the Fate, Transport and Transformation of Mercury in Aquatic		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=9100KEB3.txt	Agency), Emergency Planning and Community Right-To-Know Act	x			x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30002QGL.PDF?Dockey=30002QGL.PDF	On-Site Waste Ink Recycling Technology Evaluation Report		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200016PC.PDF?Dockey=200016PC.PDF	Technologies Substitutes Assessment, Volume 1		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200014AC.PDF?Dockey=200014AC.PDF	Technologies Substitutes Assessment, Volume 2 Appendices		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/10000I67.PDF?Dockey=10000I67.PDF	Prioritized Chemical List, Draft		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001I0D.PDF?Dockey=20001I0D.PDF	Toxics Release Inventory Public Data Release, 1994		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/000034BL.PDF?Dockey=000034BL.PDF	from Sources of Chlorobenzenes, Revised		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001AX7.PDF?Dockey=20001AX7.PDF	Computer Display Industry and Technology Profile		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AF4F.PDF?Dockey=P100AF4F.PDF	Epidemiologic and Environmental Assessment of Recreational Water		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/10000IAR.PDF?Dockey=10000IAR.PDF	Prioritized Chemical List June 1997 Draft		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100CJE0.PDF?Dockey=P100CJE0.PDF	Related Photochemical Oxidants (Second External Review Draft)		x		x		x		x		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30003B19.PDF?Dockey=30003B19.PDF	Pollution Prevention Case Studies Compendium, Second Edition		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101O1QS.PDF?Dockey=9101O1QS.PDF	EPCRA Section 313 Data Quality Inspection Manual		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100Q0MZ.PDF?Dockey=9100Q0MZ.PDF	Superfund Record of Decision: Cosden Chemical Coatings, NJ		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200013ZA.PDF?Dockey=200013ZA.PDF	Technologies Substitutes Assessment, Volume 1		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/91022DIC.PDF?Dockey=91022DIC.PDF	State Implementation Plan - Tennessee		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200017C6.PDF?Dockey=200017C6.PDF	Evaluation of Flexographic Inks on Wide-Web Film Summary Booklet		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100BL4U.PDF?Dockey=P100BL4U.PDF	Discharges Subject to Effluent Limitations and Standards for the		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30006ELS.PDF?Dockey=30006ELS.PDF	1993 Toxics Release Inventory: Public Data Release		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/000035VX.PDF?Dockey=000035VX.PDF	From Sources of Lead and Lead Compounds		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1009O71.PDF?Dockey=P1009O71.PDF	Offset Lithographic Printing and Letterpress Printing		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100HK43.PDF?Dockey=P100HK43.PDF	Related Photochemical Oxidants (First External Review Draft) Volume		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001H7V.PDF?Dockey=20001H7V.PDF	Toxics Release Inventory Public Data Release, 1992		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001GXJ.PDF?Dockey=20001GXJ.PDF	Toxics Release Inventory: Public Data Release, 1991		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30006BKT.PDF?Dockey=30006BKT.PDF	Listed Under Section 313 Of The Emergency Planning And Community		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1000AM4.PDF?Dockey=P1000AM4.PDF	UV Exposure of Coral Assemblages in the Florida Keys		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100QSBM.PDF?Dockey=P100QSBM.PDF	Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EJPX.PDF?Dockey=P100EJPX.PDF	Engineering and Modeling Support (STREAMS) Final Report State of the		X		X		X		X		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EDLZ.PDF?Dockey=P100EDLZ.PDF	(RBLC) Clean Air Technology Center Annual Report for 2006		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100FH8M.PDF?Dockey=P100FH8M.PDF	Hydraulic Fracturing on Drinking Water Resources Progress Report		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30004Q2U.PDF?Dockey=30004Q2U.PDF	Pollution Prevention in the Textile Industry, Manual	X			X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P10056NB.PDF?Dockey=P10056NB.PDF	Final Contaminant Candidate List 3 Chemicals Identifying the Universe		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/3000568N.PDF?Dockey=3000568N.PDF	Air Quality Criteria for Oxides of Nitrogen, Volume 2 of 3 (Draft)		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/91024FLA.PDF?Dockey=91024FLA.PDF	Scientific Literature to Determine Important Environmental Variables		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P10064L2.PDF?Dockey=P10064L2.PDF	Preliminary 2010 Effluent Guidelines Program Plan		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100653Y.PDF?Dockey=P100653Y.PDF	Annual Review of Existing Effluent Guidelines and Identification of		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001MS3.PDF?Dockey=20001MS3.PDF	Document Surface Coating Of Automotive-transportation and		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/000034LB.PDF?Dockey=000034LB.PDF	Locating and Estimating Air From Sources of Toluene		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30002N6J.PDF?Dockey=30002N6J.PDF	Geographic Index of Environmental Articles, 1991		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100DSGG.PDF?Dockey=P100DSGG.PDF	Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD)		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100C14A.PDF?Dockey=P100C14A.PDF	Wastewater Treatment Pond Systems for Plant Operators, Engineers, and		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100C8HC.PDF?Dockey=P100C8HC.PDF	Wastewater Treatment Pond Systems for Plant Operators, Engineers, and		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100DQ4V.PDF?Dockey=P100DQ4V.PDF	Related Photochemical Oxidants External Review Draft 1995 Volume II		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100C1P.PDF?Dockey=P100C1P.PDF	Environmental Releases of Dioxin-Like Compounds in the United States:		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200018K1.PDF?Dockey=200018K1.PDF	Prevention Experiences in 3 Flexographic Printing Facilities,		X		X		X		X		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1008RAW.PDF?Dockey=P1008RAW.PDF	of Mercury Compounds from the United States for Conversion to		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100CINS.PDF?Dockey=P100CINS.PDF	Environmental Releases of Dioxin-Like Compounds in the United States		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100CYZS.PDF?Dockey=P100CYZS.PDF	Generate, Treat, Store and Dispose of Hazardous Waste: A Guidance		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/10000TJT.PDF?Dockey=10000TJT.PDF	Generate, Treat, Store, And Dispose Of Hazardous Wastes		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/300026SH.PDF?Dockey=300026SH.PDF	Related Photochemical Oxidants Volume II of III		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200125H9.PDF?Dockey=200125H9.PDF	On Contaminated Sites Technical Guidance Document		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/300038WG.PDF?Dockey=300038WG.PDF	Innovative Clean Technologies Case Studies Second Year Project Report		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30004NCA.PDF?Dockey=30004NCA.PDF	Ground Water and Wellhead Protection (Handbook)		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1001AGW.PDF?Dockey=P1001AGW.PDF	2004 Effluent Guidelines Program Plan		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100JFEJ.PDF?Dockey=P100JFEJ.PDF	Trichloroethylene (CAS No. 79-01-6) in Support of Summary Information on		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30004PX0.PDF?Dockey=30004PX0.PDF	Manual Pollution Prevention in the Paints and Coatings Industry, Manual	X			X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001HPX.PDF?Dockey=20001HPX.PDF	Listed Under Section 313 of the Emergency Planning and Community		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/10001NN.PDF?Dockey=10001NN.PDF	Beta Version 1.0: User's Guide and System Documentation <Draft>		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/2000CV8.PDF?Dockey=2000CV8.PDF	Emission Inventory Development Volume 2 Chapter 1		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100IO7V.PDF?Dockey=P100IO7V.PDF	Resource Pollution Prevention and Compliance Assistance for Healthcare		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100CJZN.PDF?Dockey=P100CJZN.PDF	Related Photochemical Oxidants Volume I of III		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P1002OKD.PDF?Dockey=P1002OKD.PDF	Appropriate Methods for the Detection of Section 313 Water Priority		X		X		X		X		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/91014NPP.PDF?Dockey=91014NPP.PDF	Conference on Low- and No-VOC Coating Technologies, May 25		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30004NVI.PDF?Dockey=30004NVI.PDF	Guide to Cleaner Technologies Organic Coating Replacements		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/2000WJZM.PDF?Dockey=2000WJZM.PDF	Hazardous Air Pollutants For Source Categories Aerospace Manufacturing		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100JE02.PDF?Dockey=9100JE02.PDF	Determination of Test Methods for Interior Architectural Coatings		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/300056QV.PDF?Dockey=300056QV.PDF	Air Quality Criteria for Oxides of Nitrogen: Volume 2 of 3		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/00000NM2.PDF?Dockey=00000NM2.PDF	UNEP: Environmental Effects of Ozone Depletion, 1994 Assessment		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30002UPB.PDF?Dockey=30002UPB.PDF	Geographic Index of Environmental Articles 1992		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100Y8RM.PDF?Dockey=9100Y8RM.PDF	Testing and Quality Assurance Symposium, July 11-15, 1994, Hyatt		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/00000E54.PDF?Dockey=00000E54.PDF	Inventory of U.S. Greenhouse Gas Emissions and Sinks : 1990-2000		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/200016BC.PDF?Dockey=200016BC.PDF	Desktop Computer Displays: Life Cycle Assessment, Volume 1		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P3ST.PDF?Dockey=P100P3ST.PDF	Goals of and Criteria for Design of a Biological Monitoring System		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P10009UR.PDF?Dockey=P10009UR.PDF	(EXAMSS) User Manual And System Documentation		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/910118C1.PDF?Dockey=910118C1.PDF	EPA Air Pollution Control Cost Manual (Sixth Edition)		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/2000HQX5.PDF?Dockey=2000HQX5.PDF	Reference Library, Volume 1 Technical Resource Manual		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/20001708.PDF?Dockey=20001708.PDF	Technologies Substitutes Assessment, Volume 2		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100DHGT.PDF?Dockey=P100DHGT.PDF	Factors Fourth Edition Volume I Stationary Point and Area Sources		X		X		X		X		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100CB6V.PDF?Dockey=P100CB6V.PDF	Trichloroethylene (CASRN 79-01-6) In Support of Summary Information on		X		X		X		X		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100Q096.PDF?Dockey=P100Q096.PDF	Pesticide Data Submitters List: Volume 2a		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100CRPY.PDF?Dockey=9100CRPY.PDF	Pesticide Data Submitters List: Volume 2		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/901B0900.PDF?Dockey=901B0900.PDF	Series 870 Health Effects Volume II of III		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100PR95.PDF?Dockey=P100PR95.PDF	Pesticide Data Submitters List March 1999		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100PQKK.PDF?Dockey=P100PQKK.PDF	Pesticide Data Submitters List September 30, 1998 Edition		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/60000J7G.PDF?Dockey=60000J7G.PDF	FY 2007 Performance and Accountability Report		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100INHB.PDF?Dockey=P100INHB.PDF	Resource Pollution Prevention and Compliance Assistance for Healthcare		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/P100IOOZ.PDF?Dockey=P100IOOZ.PDF	Resource Pollution Prevention and Compliance Assistance for Healthcare		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100CWTO.PDF?Dockey=9100CWTO.PDF	Chemicals for Human Monitoring Studies		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30001O28.PDF?Dockey=30001O28.PDF	Indoor Air Assessment: Indoor Biological Pollutants		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100I5UB.PDF?Dockey=9100I5UB.PDF	Techniques Advisory Committee: Minutes of Meeting, November 19-21,		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100CG11.PDF?Dockey=9100CG11.PDF	Surface-Coating-Free Materials Workshop: Summary Report		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101YLAK.PDF?Dockey=9101YLAK.PDF	Quarterly Abstract Bulletin January-March 1993		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30005EN7.PDF?Dockey=30005EN7.PDF	Indoor Air Reference Bibliography		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/30002LIP.PDF?Dockey=30002LIP.PDF	Engineering Laboratory Research Symposium, 18th, Cincinnati, Ohio,		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100MCBK.PDF?Dockey=9100MCBK.PDF	List of Lists: a Catalog of Analyses and Methods		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101YYOF.PDF?Dockey=9101YYOF.PDF	Quarterly Abstract Bulletin October-December 1991		x		x		x		x		

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9100J2VA.PDF?Dockey=9100J2VA.PDF	Deplete the Ozone Layer: 1994 Report of the Solvents, Coatings and		x		x		x		x		
NSCEP documents (has NEPIS)	https://nepis.epa.gov/Exe/ZyPDF.cgi/9101CEV9.PDF?Dockey=9101CEV9.PDF	Challenge Awards Program : Summary of 2000 Award Entries and		x		x		x		x		
Regulatory Development and Retrospective Review Tracker	yosemite.epa.gov/opei/rulegate.nsf/	N/A		x		x		x		x		
EPA Generic Scenarios	Book	Agency), Generic Scenario on the Use of Additives in the Thermoplastics	x			x		x		x		
EPA Generic Scenarios	Document in preparation	Agency), Generic Scenario on Coating Application Via Spray Painting in the	x			x		x		x		
HPV challenge submissions	cfpub.epa.gov/hpv-s/	N/A		x		x		x		x		
TSCA Use Dossiers and Public Comments	https://www.epa.gov/assessing-and-managing-chemicals-under-tscas-evaluating-risk-existing-chemicals-under-tscas	Posting Memo									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0027	submitted by Christine Ernst, Earthjustice									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0056	submitted by Timothy J. Lafond, P.E., Chair, Environmental Committee,									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0053	submitted by Eve Gartner, Staff Attorney, Earthjustice et al.									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0046	submitted by the Environmental Defense Fund (EDF)									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0066	submitted by Stephanie Fox-Rawlings, National Center for Health Research									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0060	submitted by Susan Inglis, Executive Director, Sustainable Furnishings									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0736-0068	submitted by Juleen Lam, PhD, Associate Researcher, University of									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0022	submitted by Christina Franz, Senior Director, Regulatory & Technical									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0020	submitted by Elizabeth Hitchcock, Government Affairs Director and									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0023	submitted by Eve Gartner, Staff Attorney, Earthjustice on behalf of									TSCA public comments are not tagged to specific discipline	

Source	General Information about Result		Subject-Matter Tags								Notes	
	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0019		submitted by Adhesive and Sealant Council et al.									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0010		submitted by Stacy Tatman, MS, JD, Director, Environmental Affairs,									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0024		submitted by Stephanie Fox-Rawlings, National Center for Health Research									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0016		submitted by Susan Inglis, Executive Director, Sustainable Furnishings									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0030		submitted by Juleen Lam, PhD, Associate Researcher, University of									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0741-0021		submitted by Anthony Schatz, Ph.D, Director Occupational Health and									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0725-0004		Manufacturing, Processing, Distribution, Use, and Disposal:									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0741-0007		submitted by Elizabeth Hitchcock, Government Affairs Director, Safer									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0733-0019		submitted by Kim Cox, Environmental Policy Manager, City of Portland									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0742-0026		Campaign sponsored by Earthjustice (web)									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0725-0006		submitted by David J. Wawer, Executive Director, Color Pigments									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0725-0008		submitted by Raleigh Davis, Assistant Director, Environmental Health and									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0018		submitted by Barbara S. Losey, Director, Alkylphenols & Ethoxylates									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0013		submitted by Timothy A. Brown, Regulatory Counsel and Steven									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0002		submitted by Eve Gartner, Staff Attorney, Earthjustice, Elizabeth									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0006		submitted by Chris Trahan Cain, Director of Safety and Health, North									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0021		submitted by Lindsay McCormick, Chemicals and Health Project									TSCA public comments are not tagged to specific discipline	

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	URL	Annotation	Engineering		Fate		Exposure		Human Health			
			On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic	On-Topic	Off-Topic		
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0017	submitted by Laurie Holmes, Senior Director, Environmental Policy, Motor									TSCA public comments are not tagged to specific discipline	
TSCA Use Dossiers and Public Comments	https://www.regulations.gov/document?D=EPA-HQ-OPPT-2016-0723-0014	Campaign sponsored by Earthjustice (web) (Revised)									TSCA public comments are not tagged to specific discipline	
National Institutes of Health (NIH) ChemIDplus	http://chem.sis.nlm.nih.gov/chemidplus/	searches, govt regulatory documents, consumer product databases, etc.	x	x			x		x			
NIH PubChem Compound Database	https://www.ncbi.nlm.nih.gov/pccompound	pubmed, products, MSDS, human health ROE		x	x		x		x			
CDC NIOSH	www.cdc.gov/niosh/	N/A		x		x		x		x		
CDC NIOSH Health Hazard Evaluations	www.cdc.gov/niosh/hhe/	No results		x		x		x		x		
Bureau of Labor Statistics (BLS)	www.bls.gov/	N/A		x		x		x		x		
CSPC Consumer Product Safety Commission	www.cpsc.gov/	N/A		x		x		x		x		
FDA Food and Drug Administration	http://www.fda.gov/ohrms/dockets/docket/75n-0183h/75n-0183h-sup0013-13-Attachment-06-up202.pdf	Federal Register		x		x		x		x		
FDA Databases	http://www.accessdata.fda.gov/scripts/fdc/index.cfm?set=IndirectAdditives&sdn=Reg14.order=ASC&strow=3001&type=basic&search=	Links to docs already captured		x		x		x		x		
FDA Databases	http://www.accessdata.fda.gov/scripts/fdc/index.cfm?set=IndirectAdditives&id=PIGMENTVIOLLET	Found in manual search		x		x		x		x		
FDA Cumulative Estimated Daily Intake	http://www.accessdata.fda.gov/scripts/sda/sdNavigation.cfm?sd=edisrev	PV29, regulatory numbers in title 21 appearing		x		x	x			x		
FDA List of Indirect Additives Used in Food Contact Substances	http://www.fda.gov/Food/IngredientsPackagingLabeling/PackagingFCS/IndirectAdditives/ucm115333.htm	Code of Federal Regulations Title 21-21CFR178.3297		x		x	x			x		
OSHA Occupational Safety and Health Administration	www.osha.gov/	N/A		x		x		x		x		
NIST	www.NIST.gov	N/A		x		x		x		x		
US Geological Survey	www.usgs.gov	N/A		x		x		x		x		
Department of Energy	www.energy.gov	N/A		x		x		x		x		

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PNNL Pacific Northwest National Laboratory	www.pnnl.gov/	N/A		x		x		x		x		
US Geological Survey publications	https://pubs.er.usgs.gov/	N/A		x		x		x		x		
ECHA Documents	https://echa.europa.eu/brief-profile/-/briefprofile/100.001_223	brief profile of chemical	x		x		x		x		information contained in REACH registration dossiers	
ECHA Documents	links in excel file	Links to registration dossiers	x		x		x		x		information contained in REACH registration dossiers	
OECD Emission Scenario Documents	oecd.org/chemicalsafety/risk-assessment/emissionscenariodocuments.htm	operation and Development), Emission Scenario Document on Use	x		x		x			x		
OECD Emission Scenario Documents	oecd.org/chemicalsafety/risk-assessment/emissionscenariodocuments.htm	Agency), Emission Scenario Document on the Use of Additives in	x		x		x			x		
WHO Institutional Repository for Information Sharing (IRIS)	apps.who.int/iris/	N/A		x		x		x		x		
World Health Organization- Regional Office for Europe	www.euro.who.int/en/home	N/A		x		x		x		x		
of Health, National Industrial Chemicals; NICNAS	www.nicnas.gov.au/	N/A		x		x		x		x		
CAREX Canada	www.carexcanada.ca/en/	no results		x		x		x		x		
Government of Japan: Ministry of the Environment	www.env.go.jp/en/	N/A		x		x		x		x		
Substances in Preparations in Nordic Countries (SPIN) Database	http://www.spin2000.net/spinmyphp/	Summary by chemical	x			x	x			x		
Lowell Center for Sustainable Production	sustainableproduction.org	N/A		x		x		x		x		
eChemPortal	http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en	Results from Canadian Domestic Substance List		x	x			x		x		
eChemPortal	http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en	EU Commission DB	x		x			x		x		
Pollution Prevention Infohouse	infohouse.p2ric.org/	N/A		x		x		x		x		
Kirk Othmer Encyclopedia	Book	uses, process	x			x	x			x		

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Kirk Othemer Encyclopedia	Book	Othmer Encyclopedia of Chemical Technology. 2004, John Wiley &	x			x		x		x		
Ashford's Dictionary of Industrial Chemicals, 2001	Book		x			x		x		x		
ATSDR	www.atsdr.cdc.gov/hac/pha/			x		x		x		x		
State sites	Google State Custom Search Engine	N/A		x		x		x		x		
Trade Associations	acmanet.org			x		x		x		x		
Trade Associations	aia-aerospace.org			x		x		x		x		
Trade Associations	americanchemistry.com			x		x		x		x		
Trade Associations	asphaltroofing.org			x		x		x		x		
Trade Associations	canadianchemistry.ca			x		x		x		x		
Trade Associations	cefic-efra.com			x		x		x		x		
Trade Associations	cspa.org			x		x		x		x		
Trade Associations	ebfrip.org			x		x		x		x		
Trade Associations	ipma.org			x		x		x		x		
Trade Associations	nam.org			x		x		x		x		
Trade Associations	pinfa.org			x		x		x		x		
Trade Associations	plasticpipe.org			x		x		x		x		
Trade Associations	sips.org			x		x		x		x		

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Trade Associations	socma.com			x		x		x		x		
Trade Associations	www.acmanet.org			x		x		x		x		
Trade Associations	www.afma.org			x		x		x		x		
Trade Associations	www.afsinc.org			x		x		x		x		
Trade Associations	www.aga.org			x		x		x		x		
Trade Associations	www.ahrinet.org			x		x		x		x		
Trade Associations	www.aluminum.org			x		x		x		x		
Trade Associations	www.ame.org			x		x		x		x		
Trade Associations	www.americanchemistry.com			x		x		x		x		
Trade Associations	www.ansi.org			x		x		x		x		
Trade Associations	www.api.org			x		x		x		x		
Trade Associations	www.ascouncil.org			x		x		x		x		
Trade Associations	www.awc.org			x		x		x		x		
Trade Associations	www.bifma.org			x		x		x		x		
Trade Associations	www.cancentral.com			x		x		x		x		
Trade Associations	www.chlorinated-solvents.eu			x		x		x		x		
Trade Associations	www.cibo.org			x		x		x		x		

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Trade Associations	www.cleaninginstitute.org			x		x		x		x		
Trade Associations	www.copper.org			x		x		x		x		
Trade Associations	www.flexpack.org			x		x		x		x		
Trade Associations	www.gasketfab.com			x		x		x		x		
Trade Associations	www.globalautomakers.org			x		x		x		x		
Trade Associations	www.gmaonline.org			x		x		x		x		
Trade Associations	www.hsia.org			x		x		x		x		
Trade Associations	www.ilma.org			x		x		x		x		
Trade Associations	www.inda.org			x		x		x		x		
Trade Associations	www.ipc.org			x		x		x		x		
Trade Associations	www.isri.org			x		x		x		x		
Trade Associations	www.issa.com			x		x		x		x		
Trade Associations	www.jpma.org			x		x		x		x		
Trade Associations	www.mem.org			x		x		x		x		
Trade Associations	www.nasf.org			x		x		x		x		
Trade Associations	www.nema.org			x		x		x		x		
Trade Associations	www.ngsa.org			x		x		x		x		

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Trade Associations	www.nmpgroup.com			x		x		x		x		
Trade Associations	www.pei.org			x		x		x		x		
Trade Associations	www.personalcarecouncil.org			x		x		x		x		
Trade Associations	www.pmpa.org			x		x		x		x		
Trade Associations	www.powertoolinstitute.com			x		x		x		x		
Trade Associations	www.printing.org			x		x		x		x		
Trade Associations	www.pstc.org			x		x		x		x		
Trade Associations	www.roofcoatings.org			x		x		x		x		
Trade Associations	www.sema.org			x		x		x		x		
Trade Associations	www.sme.org			x		x		x		x		
Trade Associations	www.socma.com			x		x		x		x		
Trade Associations	www.steel.org			x		x		x		x		
Trade Associations	www.tcata.org			x		x		x		x		
Trade Associations	www.trsa.org			x		x		x		x		
Trade Associations	www.vinylsiding.org			x		x		x		x		
Trade Associations	www.xpsa.com			x		x		x		x		
OPPT Hazard Characterizations	https://olmcpub.epa.gov/oppophpv/hpv_hc_characterization.get_report_by_cas?doctype=2	OPPT Hazard Characterizations		x		x		x		x		

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EHPV Program Submissions - Supporting Information	https://www.regulations.gov/docket?D=EPA-HQ-OPPT-2006-1020	EHPV Program Submissions - Supporting Information		X		X		X		X		
OPPT Risk-Based Prioritizations	https://iaspub.epa.gov/oppthpv/existchem_hpv_prioritizations_report	OPPT Risk-Based Prioritizations		X		X		X		X		
NIH LACTMED	https://toxnet.nlm.nih.gov/newtoxnet/lactmed.htm	NIH LACTMED		X		X		X		X		