Vellaiappillai Tamilavan

List of Publications by Year
in descending order

70 papers	1,131 citations	471061 17 h-index	476904 29 g-index
70 all docs	70 docs citations	70 times ranked	1401 citing authors

#	Article	IF	Citations
1	Physical and charge discharge behavior of facile PVDF-HFP nanocomposite microporous polymer electrolyte for lithium ion polymer batteries. Journal of Materials Science: Materials in Electronics, 2022, 33, 8594-8606.	1.1	6
2	Curvature effects of electron-donating polymers on the device performance of non-fullerene organic solar cells. Journal of Power Sources, 2021, 482, 229045.	4.0	12
3	Influence of thiophene and furan Ï€â€"bridge on the properties of poly(benzodithiophene-alt-bis(Ï€â€"bridge)pyrrolopyrrole-1,3-dione) for organic solar cell applications. Polymer, 2021, 229, 123991.	1.8	9
4	Enhanced performance of ternary polymer solar cells via property modulation of co-absorbing wide band-gap polymers. Journal of Power Sources, 2020, 471, 228457.	4.0	6
5	Solution-processable ambipolar organic field-effect transistors with bilayer transport channels. Polymer Journal, 2020, 52, 581-588.	1.3	10
6	Enhanced photovoltaic performance of benzodithiophene-alt-bis(thiophen-2-yl)quinoxaline polymers via Ï€â€"bridge engineering for non-fullerene organic solar cells. Polymer, 2020, 194, 122408.	1.8	6
7	Wide band-gap organic molecules containing benzodithiophene and difluoroquinoxaline derivatives for solar cell applications. Molecular Crystals and Liquid Crystals, 2019, 685, 29-39.	0.4	2
8	Efficient Polymeric Donor for Both Visible and Near-Infrared-Absorbing Organic Solar Cells. ACS Applied Energy Materials, 2019, 2, 4284-4291.	2.5	6
9	Visible to Nearâ€Infraredâ€Absorbing Polymers Containing Bithiazole and 2,3â€Didodecylâ€6,7â€Difluoroquinoxaline Derivatives for Polymer Solar Cells. Bulletin of the Korean Chemical Society, 2019, 40, 686-690.	1.0	2
10	Dual-functional light-emitting perovskite solar cells enabled by soft-covered annealing process. Nano Energy, 2019, 61, 251-258.	8.2	14
11	Open atmospheric processed perovskite solar cells using dopant-free, highly hydrophobic hole-transporting materials: Influence of thiophene and selenophene Ï€-spacers on charge transport and recombination properties. Solar Energy Materials and Solar Cells, 2019, 199, 66-74.	3.0	14
12	Open Atmosphere-Processed Stable Perovskite Solar Cells Using Molecular Engineered, Dopant-Free, Highly Hydrophobic Polymeric Hole-Transporting Materials: Influence of Thiophene and Alkyl Chain on Power Conversion Efficiency. Journal of Physical Chemistry C, 2019, 123, 8560-8568.	1.5	18
13	Side-chain influences on the properties of benzodithiophene-alt-di(thiophen-2-yl)quinoxaline polymers for fullerene-free organic solar cells. Polymer, 2019, 172, 305-311.	1.8	13
14	Synthesis and properties of monoâ€•and diâ€fluoroâ€substituted 2,3â€didodecylquinoxalineâ€based polymers for polymer solar cells. Journal of Polymer Science Part A, 2019, 57, 545-552.	2.5	2
15	Effects of inserting keto-functionalized side-chains instead of imide-functionalized side-chain on the pyrrole backbone of 2,5-bis(2-thienyl)pyrrole-based polymers for organic solar cells. Journal of Photochemistry and Photobiology A: Chemistry, 2019, 371, 387-394.	2.0	5
16	Effects of replacing benzodithiophene with a benzothiadiazole derivative on an efficient wide band-gap benzodithiophene-alt-pyrrolo[3,4-c]pyrrole-1,3(2H,5H)-dione copolymer. Journal of Photochemistry and Photobiology A: Chemistry, 2019, 368, 162-167.	2.0	6
17	Highly crystalline new benzodithiopheneâ€"benzothiadiazole copolymer for efficient ternary polymer solar cells with an energy conversion efficiency of over 10%. Journal of Materials Chemistry C, 2018, 6, 4281-4289.	2.7	31
18	Two new tercopolymers incorporating electron-rich benzodithiophene and electron-accepting pyrrolo[3,4-c]pyrrole-1,3-dione and difluorobenzothiadiazole derivatives for polymer solar cells. Polymer Bulletin, 2018, 75, 239-253.	1.7	3

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19	Overcoming Fill Factor Reduction in Ternary Polymer Solar Cells by Matching the Highest Occupied Molecular Orbital Energy Levels of Donor Polymers. Advanced Energy Materials, 2018, 8, 1702251.	10.2	48
20	Thiophene and thieno[3,2-b]thiophene Ï€-bridged pyrrolo[3,4-c]pyrrole-1,3-dione-based wide band-gap polymers for fullerene and non-fullerene organic solar cells. Organic Electronics, 2018, 63, 78-85.	1.4	9
21	Synthesis of Alkylâ€Substituted Quinoxalineâ€Based Copolymers Along with Photophysical Property Modulation for Polymer Solar Cells. Macromolecular Chemistry and Physics, 2018, 219, 1800117.	1.1	0
22	PyrroleN-alkyl side chain effects on the properties of pyrrolo[3,4-c]pyrrole-1,3-dione-based polymers for polymer solar cells. New Journal of Chemistry, 2018, 42, 12045-12053.	1.4	6
23	Enhanced photovoltaic performances of bis(pyrrolo[3,4-c]pyrrole-1,3-dione)-based wide band gap polymer via the incorporation of an appropriate spacer unit between pyrrolo[3,4-c]pyrrole-1,3-dione units. Organic Electronics, 2017, 42, 34-41.	1.4	11
24	Enhanced efficiency and stability of polymer solar cells using solution-processed nickel oxide as hole transport material. Current Applied Physics, 2017, 17, 1232-1237.	1.1	7
25	Efficient pyrrolo[3,4-c]pyrrole-1,3-dione-based wide band gap polymer for high-efficiency binary and ternary solar cells. Polymer, 2017, 125, 182-189.	1.8	15
26	Pyrrolo[3,4-c]pyrrole-1,3-dione Based Wide Band Gap Polymers for Polymer Solar Cells. Journal of Nanoscience and Nanotechnology, 2017, 17, 5556-5561.	0.9	4
27	Preparation of Two New Diasteromeric Chiral Stationary Phases Based on (+)-(18-Crown-6)-2,3,11,12-tetracarboxylic Acid and (R)- or (S)-1-(1-Naphthyl)ethylamine and Chiral Tethering Group Effect on the Chiral Recognition. Molecules, 2016, 21, 1051.	1.7	5
28	Property modulation of ternary copolymer via the diverse arrangements of two different repeating units for polymer solar cells and thin film transistors. Polymer, 2016, 95, 18-25.	1.8	7
29	Benzodithiophene based ternary copolymer containing covalently bonded pyrrolo[3,4-c]pyrrole-1,3-dione and benzothiadiazole for efficient polymer solar cells utilizing high energy sunlight. Organic Electronics, 2016, 38, 283-291.	1.4	8
30	Synthesis and optical properties of TDQD and effective CO 2 reduction using a TDQD-photosensitized TiO 2 film. Journal of Photochemistry and Photobiology A: Chemistry, 2016, 330, 30-36.	2.0	9
31	Effects of the incorporation of bithiophene instead of thiophene between the pyrrolo[3,4-c]pyrrole-1,3-dione units of a bis(pyrrolo[3,4-c]pyrrole-1,3-dione)-based polymer for polymer solar cells. New Journal of Chemistry, 2016, 40, 10153-10160.	1.4	10
32	Successful incorporation of optical spacer and additive solvent for enhancing the photocurrent of polymer solar cell. Solar Energy Materials and Solar Cells, 2016, 153, 131-137.	3.0	5
33	Effects of the incorporation of an additional pyrrolo[3,4-c]pyrrole-1,3-dione unit on the repeating unit of highly efficient large band gap polymers containing benzodithiophene and pyrrolo[3,4-c]pyrrole-1,3-dione derivatives. Organic Electronics, 2016, 30, 253-264.	1.4	14
34	Facile electrochemical detection of Escherichia coli using redox cycling of the product generated by the intracellular Î²-d-galactosidase. Sensors and Actuators B: Chemical, 2015, 209, 951-956.	4.0	18
35	Property modulation of dithienosilole-based polymers via the incorporation of structural isomers of imide- and lactam-functionalized pyrrolo[3,4-c]pyrrole units for polymer solar cells. Polymer, 2015, 65, 243-252.	1.8	15
36	Opto-electrical, charge transport and photovoltaic property modulation of 2,5-di(2-thienyl)pyrrole-based polymers via the incorporation of alkyl, aryl and cyano groups on the pyrrole unit. Polymer Bulletin, 2015, 72, 1899-1919.	1.7	3

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37	Benzodithiopheneâ€Based Broad Absorbing Random Copolymers Incorporating Weak and Strong Electron Accepting Imide and Lactam Functionalized Pyrrolo[3,4â€c]pyrrole Derivatives for Polymer Solar Cells. Macromolecular Chemistry and Physics, 2015, 216, 996-1007.	1.1	12
38	Modulation of the properties of pyrrolo[3,4-c]pyrrole-1,4-dione based polymers containing 2,5-di(2-thienyl)pyrrole derivatives with different substitutions on the pyrrole unit. New Journal of Chemistry, 2015, 39, 4658-4669.	1.4	8
39	Photocurrent enhancement of an efficient large band gap polymer incorporating benzodithiophene and weak electron accepting pyrrolo[3,4â^'c]pyrroleâ^'1,3â^'dione derivatives via the insertion of a strong electron accepting thieno[3,4â^'b]thiophene unit. Polymer, 2015, 80, 95-103.	1.8	8
40	Tuning the physical properties of pyrrolo[3,4-c]pyrrole-1,3-dione-based highly efficient large band gap polymers via the chemical modification on the polymer backbone for polymer solar cells. RSC Advances, 2015, 5, 99217-99227.	1.7	12
41	Pyrrolo[3,4-c]pyrrole-1,3-dione-based large band gap polymers containing benzodithiophene derivatives for highly efficient simple structured polymer solar cells. Journal of Polymer Science Part A, 2014, 52, n/a-n/a.	2.5	9
42	N-Aryl group influences on the properties of umbrella-shaped thiophene-(N-aryl)pyrrole-thiophene dyes. Synthetic Metals, 2014, 191, 141-150.	2.1	4
43	Linkage position influences of anthracene and tricyanovinyl groups on the opto-electrical and photovoltaic properties of anthracene-based organic small molecules. Tetrahedron, 2014, 70, 1176-1186.	1.0	8
44	Structural optimization of thiophene-(N-aryl)pyrrole-thiophene-based metal-free organic sensitizer for the enhanced dye-sensitized solar cell performance. Tetrahedron, 2014, 70, 371-379.	1.0	10
45	Benzodithiophene-based polymers containing novel electron accepting selenophene-incorporated pyrrolo[3,4-c]pyrrole-1,3-dione units for highly efficient thin film transistors and polymer solar cells. Synthetic Metals, 2014, 198, 230-238.	2.1	25
46	Property modulation of benzodithiophene-based polymers via the incorporation of a covalently bonded novel 2,1,3-benzothiadiazole-1,2,4-oxadiazole derivative in their main chain for polymer solar cells. Journal of Materials Chemistry C, 2014, 2, 8515-8524.	2.7	13
47	Highly efficient imide functionalized pyrrolo[3,4-c]pyrrole-1,3-dione-based random copolymer containing thieno[3,4-c]pyrrole-4,6-dione and benzodithiophene for simple structured polymer solar cells. Journal of Materials Chemistry A, 2014, 2, 20126-20132.	5.2	40
48	An interference-free and rapid electrochemical lateral-flow immunoassay for one-step ultrasensitive detection with serum. Analyst, The, 2014, 139, 1420-1425.	1.7	53
49	Synthesis and Characterization of 1,2,4-Oxadiazole-Based Deep-Blue and Blue Color Emitting Polymers. Bulletin of the Korean Chemical Society, 2014, 35, 513-517.	1.0	7
50	A Novel Donor-Acceptor-Acceptor-Acceptor Polymer Containing Benzodithiophene and Benzimidazole-Benzothiadiazole-Benzimidazole for PSCs. Bulletin of the Korean Chemical Society, 2014, 35, 1098-1104.	1.0	5
51	Facile synthesis of 1-(2,6-diisopropylphenyl)-2,5-di(2-thienyl)pyrrole-based narrow band gap small molecules for solar cell applications. Synthetic Metals, 2013, 176, 96-103.	2.1	11
52	Synthesis of new broad absorption low band gap random copolymers for bulk heterojunction solar cell applications. Macromolecular Research, 2013, 21, 406-413.	1.0	13
53	Synthesis and photovoltaic properties of donorâ€"acceptor polymers incorporating a structurally-novel pyrrole-based imide-functionalized electron acceptor moiety. Polymer, 2013, 54, 6125-6132.	1.8	30
54	Hydroquinone Diphosphate as a Phosphatase Substrate in Enzymatic Amplification Combined with Electrochemicalâ€"Chemicalâ€"Chemical Redox Cycling for the Detection of <i>E. coli</i> O157:H7. Analytical Chemistry, 2013, 85, 1631-1636.	3.2	107

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55	Synthesis of polymers containing 1,2,4â€oxadiazole as an electronâ€acceptor moiety in their main chain and their solar cell applications. Journal of Polymer Science Part A, 2013, 51, 2131-2141.	2.5	29
56	Synthesis of N-[4-Octylphenyl]dithieno[3,2-b:2â€²,3â€²-d]pyrrole-based broad absorbing polymers and their photovoltaic applications. Polymer, 2013, 54, 3198-3205.	1.8	19
57	Thiadiazoloquinoxaline-Based Narrow Energy Gap Molecules for Small Molecule Solar Cell Applications. Bulletin of the Korean Chemical Society, 2013, 34, 661-664.	1.0	2
58	Thiadiazoloquinoxaline-Based Low Band Gap Polymer for Solar Cell Applications. Bulletin of the Korean Chemical Society, 2013, 34, 2835-2838.	1.0	0
59	Synthesis and application of low band gap broad absorption oligomers based on 2,5-bis(2-thienyl)-N-arylpyrrole for bulk heterojunction solar cells. Current Applied Physics, 2012, 12, S124-S130.	1.1	15
60	Synthesis of new near infrared absorption polymers based on thiadiazoloquinoxaline and their solar cell applications. Synthetic Metals, 2012, 162, 1184-1189.	2.1	17
61	Synthesis of triphenylamine-based thiophene-(N-aryl)pyrrole-thiophene dyes forÂdye-sensitized solar cell applications. Tetrahedron, 2012, 68, 5890-5897.	1.0	19
62	Influences of the electron donor groups on the properties of thiophene-(N-aryl)pyrrole-thiophene-based organic sensitizers. Synthetic Metals, 2012, 162, 2155-2162.	2.1	11
63	A fluorescent chiral chemosensor for the recognition of the two enantiomers of chiral carboxylates. Chirality, 2012, 24, 406-411.	1.3	4
64	Synthesis and photovoltaic properties of 1-(2,6-diisopropylphenyl)-2,5-di(2-thienyl)pyrrole-based low-bandgap polymers. Polymer Bulletin, 2012, 69, 439-454.	1.7	13
65	Influence of the Electron Acceptor Group on the Backbone of N-(2,6-Diisopropylphenyl)-2,5-di(2-thienyl)pyrrole-Based Polymer. Bulletin of the Korean Chemical Society, 2012, 33, 3845-3848.	1.0	4
66	Optimization of Phosphatase- and Redox Cycling-Based Immunosensors and Its Application to Ultrasensitive Detection of Troponin I. Analytical Chemistry, 2011, 83, 3926-3933.	3.2	108
67	Synthesis and photovoltaic properties of heteroaromatic low-band gap oligomers for bulk heterojunction solar cells. Synthetic Metals, 2011, 161, 1199-1206.	2.1	32
68	Synthesis of conjugated polymers with broad absorption bands and photovoltaic properties as bulk heterojuction solar cells. Polymer, 2011, 52, 2384-2390.	1.8	28
69	Synthesis and characterization of indenofluoreneâ€based copolymers containing 2,5â€bis(2â€thienyl)â€<i>N</i>â€arylpyrrole for bulk heterojunction solar cells and polymer lightâ€emitting diodes. Journal of Polymer Science Part A, 2010, 48, 3169-3177.	2.5	68
70	Synthesis of three new 1â€(2,6â€diisopropylphenyl)â€2,5â€di(2â€thienyl) pyrroleâ€based donor polymers and their bulk heterojunction solar cell applications. Journal of Polymer Science Part A, 2010, 48, 5514-5521.	2.5	28