

# Vellaiappillai Tamilavan

## List of Publications by Year in descending order

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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	Optimization of Phosphatase- and Redox Cycling-Based Immunosensors and Its Application to Ultrasensitive Detection of Troponin I. <i>Analytical Chemistry</i> , 2011, 83, 3926-3933.	3.2	108
2	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. <i>Analytical Chemistry</i> , 2013, 85, 1631-1636.	3.2	107
3	Synthesis and characterization of indenofluoreneâ€“based copolymers containing 2,5â€“bis(2â€“thienyl)â€“N-arylpyrrole for bulk heterojunction solar cells and polymer lightâ€“emitting diodes. <i>Journal of Polymer Science Part A</i> , 2010, 48, 3169-3177.	2.5	68
4	An interference-free and rapid electrochemical lateral-flow immunoassay for one-step ultrasensitive detection with serum. <i>Analyst</i> , 2014, 139, 1420-1425.	1.7	53
5	Overcoming Fill Factor Reduction in Ternary Polymer Solar Cells by Matching the Highest Occupied Molecular Orbital Energy Levels of Donor Polymers. <i>Advanced Energy Materials</i> , 2018, 8, 1702251.	10.2	48
6	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. <i>Journal of Materials Chemistry A</i> , 2014, 2, 20126-20132.	5.2	40
7	Synthesis and photovoltaic properties of heteroaromatic low-band gap oligomers for bulk heterojunction solar cells. <i>Synthetic Metals</i> , 2011, 161, 1199-1206.	2.1	32
8	Highly crystalline new benzodithiopheneâ€“benzothiadiazole copolymer for efficient ternary polymer solar cells with an energy conversion efficiency of over 10%. <i>Journal of Materials Chemistry C</i> , 2018, 6, 4281-4289.	2.7	31
9	Synthesis and photovoltaic properties of donorâ€“acceptor polymers incorporating a structurally-novel pyrrole-based imide-functionalized electron acceptor moiety. <i>Polymer</i> , 2013, 54, 6125-6132.	1.8	30
10	Synthesis of polymers containing 1,2,4â€“oxadiazole as an electronâ€“acceptor moiety in their main chain and their solar cell applications. <i>Journal of Polymer Science Part A</i> , 2013, 51, 2131-2141.	2.5	29
11	Synthesis of three new 2,6â€“diisopropylphenylâ€“2,5â€“di(2â€“thienyl) pyrroleâ€“based donor polymers and their bulk heterojunction solar cell applications. <i>Journal of Polymer Science Part A</i> , 2010, 48, 5514-5521.	2.5	28
12	Synthesis of conjugated polymers with broad absorption bands and photovoltaic properties as bulk heterojunction solar cells. <i>Polymer</i> , 2011, 52, 2384-2390.	1.8	28
13	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. <i>Synthetic Metals</i> , 2014, 198, 230-238.	2.1	25
14	Synthesis of triphenylamine-based thiophene-(N-aryl)pyrrole-thiophene dyes for dye-sensitized solar cell applications. <i>Tetrahedron</i> , 2012, 68, 5890-5897.	1.0	19
15	Synthesis of N-[4-Octylphenyl]dithieno[3,2-b:2â€“3â€“d]pyrrole-based broad absorbing polymers and their photovoltaic applications. <i>Polymer</i> , 2013, 54, 3198-3205.	1.8	19
16	Facile electrochemical detection of <i>Escherichia coli</i> using redox cycling of the product generated by the intracellular Î²-D-galactosidase. <i>Sensors and Actuators B: Chemical</i> , 2015, 209, 951-956.	4.0	18
17	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. <i>Journal of Physical Chemistry C</i> , 2019, 123, 8560-8568.	1.5	18
18	Synthesis of new near infrared absorption polymers based on thiadiazoloquinoxaline and their solar cell applications. <i>Synthetic Metals</i> , 2012, 162, 1184-1189.	2.1	17

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19	Synthesis and application of low band gap broad absorption oligomers based on 2,5-bis(2-thienyl)-N-arylpyrrole for bulk heterojunction solar cells. <i>Current Applied Physics</i> , 2012, 12, S124-S130.	1.1	15
20	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. <i>Polymer</i> , 2015, 65, 243-252.	1.8	15
21	Efficient pyrrolo[3,4-c]pyrrole-1,3-dione-based wide band gap polymer for high-efficiency binary and ternary solar cells. <i>Polymer</i> , 2017, 125, 182-189.	1.8	15
22	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. <i>Organic Electronics</i> , 2016, 30, 253-264.	1.4	14
23	Dual-functional light-emitting perovskite solar cells enabled by soft-covered annealing process. <i>Nano Energy</i> , 2019, 61, 251-258.	8.2	14
24	Open atmospheric processed perovskite solar cells using dopant-free, highly hydrophobic hole-transporting materials: Influence of thiophene and selenophene $\pi$ -spacers on charge transport and recombination properties. <i>Solar Energy Materials and Solar Cells</i> , 2019, 199, 66-74.	3.0	14
25	Synthesis and photovoltaic properties of 1-(2,6-diisopropylphenyl)-2,5-di(2-thienyl)pyrrole-based low-bandgap polymers. <i>Polymer Bulletin</i> , 2012, 69, 439-454.	1.7	13
26	Synthesis of new broad absorption low band gap random copolymers for bulk heterojunction solar cell applications. <i>Macromolecular Research</i> , 2013, 21, 406-413.	1.0	13
27	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. <i>Journal of Materials Chemistry C</i> , 2014, 2, 8515-8524.	2.7	13
28	Side-chain influences on the properties of benzodithiophene-alt-di(thiophen-2-yl)quinoxaline polymers for fullerene-free organic solar cells. <i>Polymer</i> , 2019, 172, 305-311.	1.8	13
29	Benzodithiophene-Based Broad Absorbing Random Copolymers Incorporating Weak and Strong Electron Accepting Imide and Lactam Functionalized Pyrrolo[3,4-c]pyrrole Derivatives for Polymer Solar Cells. <i>Macromolecular Chemistry and Physics</i> , 2015, 216, 996-1007.	1.1	12
30	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. <i>RSC Advances</i> , 2015, 5, 99217-99227.	1.7	12
31	Curvature effects of electron-donating polymers on the device performance of non-fullerene organic solar cells. <i>Journal of Power Sources</i> , 2021, 482, 229045.	4.0	12
32	Influences of the electron donor groups on the properties of thiophene-(N-aryl)pyrrole-thiophene-based organic sensitizers. <i>Synthetic Metals</i> , 2012, 162, 2155-2162.	2.1	11
33	Facile synthesis of 1-(2,6-diisopropylphenyl)-2,5-di(2-thienyl)pyrrole-based narrow band gap small molecules for solar cell applications. <i>Synthetic Metals</i> , 2013, 176, 96-103.	2.1	11
34	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. <i>Organic Electronics</i> , 2017, 42, 34-41.	1.4	11
35	Structural optimization of thiophene-(N-aryl)pyrrole-thiophene-based metal-free organic sensitizer for the enhanced dye-sensitized solar cell performance. <i>Tetrahedron</i> , 2014, 70, 371-379.	1.0	10
36	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. <i>New Journal of Chemistry</i> , 2016, 40, 10153-10160.	1.4	10

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37	Solution-processable ambipolar organic field-effect transistors with bilayer transport channels. <i>Polymer Journal</i> , 2020, 52, 581-588.	1.3	10
38	Pyrrolo[3,4-c]pyrrole-1,3-dione-based large band gap polymers containing benzodithiophene derivatives for highly efficient simple structured polymer solar cells. <i>Journal of Polymer Science Part A</i> , 2014, 52, n/a-n/a.	2.5	9
39	Synthesis and optical properties of TDQD and effective CO <sub>2</sub> reduction using a TDQD-photosensitized TiO <sub>2</sub> film. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2016, 330, 30-36.	2.0	9
40	Thiophene and thieno[3,2-b]thiophene $\pi$ -bridged pyrrolo[3,4-c]pyrrole-1,3-dione-based wide band-gap polymers for fullerene and non-fullerene organic solar cells. <i>Organic Electronics</i> , 2018, 63, 78-85.	1.4	9
41	Influence of thiophene and furan $\pi$ -bridge on the properties of poly(benzodithiophene-alt-bis( $\pi$ -bridge)pyrrolopyrrole-1,3-dione) for organic solar cell applications. <i>Polymer</i> , 2021, 229, 123991.	1.8	9
42	Linkage position influences of anthracene and tricyanovinyl groups on the opto-electrical and photovoltaic properties of anthracene-based organic small molecules. <i>Tetrahedron</i> , 2014, 70, 1176-1186.	1.0	8
43	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. <i>New Journal of Chemistry</i> , 2015, 39, 4658-4669.	1.4	8
44	Photocurrent enhancement of an efficient large band gap polymer incorporating benzodithiophene and weak electron accepting pyrrolo[3,4-c]pyrrole-1,3-dione derivatives via the insertion of a strong electron accepting thieno[3,4-b]thiophene unit. <i>Polymer</i> , 2015, 80, 95-103.	1.8	8
45	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. <i>Organic Electronics</i> , 2016, 38, 283-291.	1.4	8
46	Property modulation of ternary copolymer via the diverse arrangements of two different repeating units for polymer solar cells and thin film transistors. <i>Polymer</i> , 2016, 95, 18-25.	1.8	7
47	Enhanced efficiency and stability of polymer solar cells using solution-processed nickel oxide as hole transport material. <i>Current Applied Physics</i> , 2017, 17, 1232-1237.	1.1	7
48	Synthesis and Characterization of 1,2,4-Oxadiazole-Based Deep-Blue and Blue Color Emitting Polymers. <i>Bulletin of the Korean Chemical Society</i> , 2014, 35, 513-517.	1.0	7
49	PyrroleN-alkyl side chain effects on the properties of pyrrolo[3,4-c]pyrrole-1,3-dione-based polymers for polymer solar cells. <i>New Journal of Chemistry</i> , 2018, 42, 12045-12053.	1.4	6
50	Efficient Polymeric Donor for Both Visible and Near-Infrared-Absorbing Organic Solar Cells. <i>ACS Applied Energy Materials</i> , 2019, 2, 4284-4291.	2.5	6
51	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. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2019, 368, 162-167.	2.0	6
52	Enhanced performance of ternary polymer solar cells via property modulation of co-absorbing wide band-gap polymers. <i>Journal of Power Sources</i> , 2020, 471, 228457.	4.0	6
53	Enhanced photovoltaic performance of benzodithiophene-alt-bis(thiophen-2-yl)quinoxaline polymers via $\pi$ -bridge engineering for non-fullerene organic solar cells. <i>Polymer</i> , 2020, 194, 122408.	1.8	6
54	Physical and charge discharge behavior of facile PVDF-HFP nanocomposite microporous polymer electrolyte for lithium ion polymer batteries. <i>Journal of Materials Science: Materials in Electronics</i> , 2022, 33, 8594-8606.	1.1	6

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55	Preparation of Two New Diastereomeric 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. <i>Molecules</i> , 2016, 21, 1051.	1.7	5
56	Successful incorporation of optical spacer and additive solvent for enhancing the photocurrent of polymer solar cell. <i>Solar Energy Materials and Solar Cells</i> , 2016, 153, 131-137.	3.0	5
57	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. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2019, 371, 387-394.	2.0	5
58	A Novel Donor-Acceptor-Acceptor-Acceptor Polymer Containing Benzodithiophene and Benzimidazole-Benzothiadiazole-Benzimidazole for PSCs. <i>Bulletin of the Korean Chemical Society</i> , 2014, 35, 1098-1104.	1.0	5
59	A fluorescent chiral chemosensor for the recognition of the two enantiomers of chiral carboxylates. <i>Chirality</i> , 2012, 24, 406-411.	1.3	4
60	N-Aryl group influences on the properties of umbrella-shaped thiophene-(N-aryl)pyrrole-thiophene dyes. <i>Synthetic Metals</i> , 2014, 191, 141-150.	2.1	4
61	Pyrrolo[3,4-c]pyrrole-1,3-dione Based Wide Band Gap Polymers for Polymer Solar Cells. <i>Journal of Nanoscience and Nanotechnology</i> , 2017, 17, 5556-5561.	0.9	4
62	Influence of the Electron Acceptor Group on the Backbone of N-(2,6-Diisopropylphenyl)-2,5-di(2-thienyl)pyrrole-Based Polymer. <i>Bulletin of the Korean Chemical Society</i> , 2012, 33, 3845-3848.	1.0	4
63	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. <i>Polymer Bulletin</i> , 2015, 72, 1899-1919.	1.7	3
64	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. <i>Polymer Bulletin</i> , 2018, 75, 239-253.	1.7	3
65	Wide band-gap organic molecules containing benzodithiophene and difluoroquinoxaline derivatives for solar cell applications. <i>Molecular Crystals and Liquid Crystals</i> , 2019, 685, 29-39.	0.4	2
66	Visible to Near-Infrared-Absorbing Polymers Containing Bithiazole and 2,3-Didodecyl-6,7-Difluoroquinoxaline Derivatives for Polymer Solar Cells. <i>Bulletin of the Korean Chemical Society</i> , 2019, 40, 686-690.	1.0	2
67	Synthesis and properties of mono- and di-fluoro-substituted 2,3-didodecylquinoxaline-based polymers for polymer solar cells. <i>Journal of Polymer Science Part A</i> , 2019, 57, 545-552.	2.5	2
68	Thiadiazoloquinoxaline-Based Narrow Energy Gap Molecules for Small Molecule Solar Cell Applications. <i>Bulletin of the Korean Chemical Society</i> , 2013, 34, 661-664.	1.0	2
69	Synthesis of Alkyl-Substituted Quinoxaline-Based Copolymers Along with Photophysical Property Modulation for Polymer Solar Cells. <i>Macromolecular Chemistry and Physics</i> , 2018, 219, 1800117.	1.1	0
70	Thiadiazoloquinoxaline-Based Low Band Gap Polymer for Solar Cell Applications. <i>Bulletin of the Korean Chemical Society</i> , 2013, 34, 2835-2838.	1.0	0