Nikolaos Vlachopoulos

List of Publications by Year
in descending order

67 papers	4,524 citations	109321 35 h-index	106344 65 g-index
69 all docs	69 docs citations	69 times ranked	5312 citing authors

#	Article	IF	Citations
1	Very efficient visible light energy harvesting and conversion by spectral sensitization of high surface area polycrystalline titanium dioxide films. Journal of the American Chemical Society, 1988, 110, 1216-1220.	13.7	542
2	Carbazoleâ€Based Holeâ€Transport Materials for Efficient Solidâ€State Dyeâ€Sensitized Solar Cells and Perovskite Solar Cells. Advanced Materials, 2014, 26, 6629-6634.	21.0	369
3	New-generation integrated devices based on dye-sensitized and perovskite solar cells. Energy and Environmental Science, 2018, 11, 476-526.	30.8	364
4	Copper Bipyridyl Redox Mediators for Dye-Sensitized Solar Cells with High Photovoltage. Journal of the American Chemical Society, 2016, 138, 15087-15096.	13.7	239
5	A molecular photosensitizer achieves a Voc of 1.24â€‰V enabling highly efficient and stable dye-sensitized solar cells with copper(II/I)-based electrolyte. Nature Communications, 2021, 12, 1777.	12.8	196
6	Conversion of Light into Electricity with Trinuclear Ruthenium Complexes Adsorbed on Textured TiO2Films. Helvetica Chimica Acta, 1990, 73, 1788-1803.	1.6	194
7	cis-Diaquabis(2,2'-bipyridyl-4,4'-dicarboxylate)ruthenium(II) sensitizes wide band gap oxide semiconductors very efficiently over a broad spectral range in the visible. Journal of the American Chemical Society, 1988, 110, 3686-3687.	13.7	179
8	Liquid electrolytes for dye-sensitized solar cells. Dalton Transactions, 2011, 40, 10289.	3.3	156
9	The Importance of Pendant Groups on Triphenylamineâ€Based Hole Transport Materials for Obtaining Perovskite Solar Cells with over 20% Efficiency. Advanced Energy Materials, 2018, 8, 1701209.	19.5	134
10	Dye sensitized photoelectrolysis cells. Chemical Society Reviews, 2019, 48, 3705-3722.	38.1	133
11	PEDOT counter electrodes for dye-sensitized solar cells prepared by aqueous micellar electrodeposition. Electrochimica Acta, 2013, 107, 45-51.	5.2	131
12	Strategy to Boost the Efficiency of Mixed-Ion Perovskite Solar Cells: Changing Geometry of the Hole Transporting Material. ACS Nano, 2016, 10, 6816-6825.	14.6	127
13	The Role of 3D Molecular Structural Control in New Hole Transport Materials Outperforming <i>Spiro</i>â€OMeTAD in Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1601062.	19.5	87
14	Integration of solid-state dye-sensitized solar cell with metal oxide charge storage material into photoelectrochemical capacitor. Journal of Power Sources, 2013, 234, 91-99.	7.8	83
15	Metal Coordination Complexes as Redox Mediators in Regenerative Dye-Sensitized Solar Cells. Inorganics, 2019, 7, 30.	2.7	79
16	Rapid hybrid perovskite film crystallization from solution. Chemical Society Reviews, 2021, 50, 7108-7131.	38.1	77
17	Redox regulation in ruthenium(II) polypyridyl complexes and their application in solar energy conversion. Journal of the Chemical Society Dalton Transactions, 1997, , 4571-4578.	1.1	74
18	Direct light-induced polymerization of cobalt-based redox shuttles: an ultrafast way towards stable dye-sensitized solar cells. Chemical Communications, 2015, 51, 16308-16311.	4.1	73

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19	Constructive Effects of Alkyl Chains: A Strategy to Design Simple and Nonâ€Spiro Hole Transporting Materials for Highâ€Efficiency Mixedâ€Ion Perovskite Solar Cells. Advanced Energy Materials, 2016, 6, 1502536.	19.5	72
20	Incorporation of Counter Ions in Organic Molecules: New Strategy in Developing Dopantâ€Free Hole Transport Materials for Efficient Mixedâ€Ion Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1602736.	19.5	72
21	Combination of Asymmetric Supercapacitor Utilizing Activated Carbon and Nickel Oxide with Cobalt Polypyridyl-Based Dye-Sensitized Solar Cell. Electrochimica Acta, 2014, 143, 390-397.	5.2	61
22	Integrated Design of Organic Hole Transport Materials for Efficient Solidâ€State Dyeâ€Sensitized Solar Cells. Advanced Energy Materials, 2015, 5, 1401185.	19.5	59
23	Efficient dye regeneration at low driving force achieved in triphenylamine dye LEG4 and TEMPO redox mediator based dye-sensitized solar cells. Physical Chemistry Chemical Physics, 2015, 17, 15868-15875.	2.8	58
24	Development of an organic redox couple and organic dyes for aqueous dye-sensitized solar cells. Energy and Environmental Science, 2012, 5, 9752.	30.8	55
25	Neutral, Polaron, and Bipolaron States in PEDOT Prepared by Photoelectrochemical Polymerization and the Effect on Charge Generation Mechanism in the Solid-State Dye-Sensitized Solar Cell. Journal of Physical Chemistry C, 2013, 117, 22484-22491.	3.1	52
26	Efficient solid-state dye sensitized solar cells: The influence of dye molecular structures for the in-situ photoelectrochemically polymerized PEDOT as hole transporting material. Nano Energy, 2016, 19, 455-470.	16.0	52
27	Poly(3,4-ethylenedioxythiophene) Hole-Transporting Material Generated by Photoelectrochemical Polymerization in Aqueous and Organic Medium for All-Solid-State Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2014, 118, 16591-16601.	3.1	48
28	Electrochemical aspects of display technology based on nanostructured titanium dioxide with attached viologen chromophores. Electrochimica Acta, 2008, 53, 4065-4071.	5.2	47
29	The combination of a new organic Dâ€"Ï€â€"A dye with different organic hole-transport materials for efficient solid-state dye-sensitized solar cells. Journal of Materials Chemistry A, 2015, 3, 4420-4427.	10.3	45
30	Effect of Cation on Dye Regeneration Kinetics of N719-Sensitized TiO2 Films in Acetonitrile-Based and Ionic-Liquid-Based Electrolytes Investigated by Scanning Electrochemical Microscopy. Journal of Physical Chemistry C, 2012, 116, 4316-4323.	3.1	39
31	Interfacial Engineering of Metal Oxides for Highly Stable Halide Perovskite Solar Cells. Advanced Materials Interfaces, 2018, 5, 1800367.	3.7	39
32	A quasi-liquid polymer-based cobalt redox mediator electrolyte for dye-sensitized solar cells. Physical Chemistry Chemical Physics, 2013, 15, 17419.	2.8	38
33	Electrochemically polymerized poly (3, 4-phenylenedioxythiophene) as efficient and transparent counter electrode for dye sensitized solar cells. Electrochimica Acta, 2019, 300, 482-488.	5.2	38
34	The geometry of nanometer-sized electrodes and its influence on electrolytic currents and metal deposition processes in scanning tunneling and scanning electrochemical microscopy. Surface Science, 2005, 597, 181-195.	1.9	37
35	Physicochemical identity and charge storage properties of battery-type nickel oxide material and its composites with activated carbon. Electrochimica Acta, 2016, 194, 480-488.	5.2	36
36	ZnO@Ag2S coreâ€"shell nanowire arrays for environmentally friendly solid-state quantum dot-sensitized solar cells with panchromatic light capture and enhanced electron collection. Physical Chemistry Chemical Physics, 2015, 17, 12786-12795.	2.8	35

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37	New approaches in component design for dye-sensitized solar cells. Sustainable Energy and Fuels, 2021, 5, 367-383.	4.9	32
38	Incompletely solvated ionic liquid mixtures as electrolyte solvents for highly stable dye-sensitized solar cells. RSC Advances, 2013, 3, 1896-1901.	3.6	30
39	New Approach for Preparation of Efficient Solid-State Dye-Sensitized Solar Cells by Photoelectrochemical Polymerization in Aqueous Micellar Solution. Journal of Physical Chemistry Letters, 2013, 4, 4026-4031.	4.6	29
40	Solidâ€State Dyeâ€Sensitized Solar Cells Based on Poly(3,4â€ethylenedioxypyrrole) and Metalâ€Free Organic Dyes. ChemPhysChem, 2014, 15, 1043-1047.	2.1	24
41	Efficient Blueâ€Colored Solidâ€State Dyeâ€Sensitized Solar Cells: Enhanced Charge Collection by Using an in Situ Photoelectrochemically Generated Conducting Polymer Hole Conductor. ChemPhysChem, 2016, 17, 1441-1445.	2.1	21
42	Diverging surface reactions at TiO₂- or ZnO-based photoanodes in dye-sensitized solar cells. Physical Chemistry Chemical Physics, 2019, 21, 13047-13057.	2.8	20
43	Impact of Local Electric Fields on Charge-Transfer Processes at the TiO₂/Dye/Electrolyte Interface. ACS Energy Letters, 2017, 2, 161-167.	17.4	18
44	Perovskite solar cell â€“ electrochemical double layer capacitor interplay. Electrochimica Acta, 2017, 258, 825-833.	5.2	18
45	The Rise of Dyeâ€Sensitized Solar Cells: From Molecular Photovoltaics to Emerging Solidâ€State Photovoltaic Technologies. Helvetica Chimica Acta, 2021, 104, e2000230.	1.6	18
46	Matrix-Assisted Laser Desorption/Ionization Mass Spectrometric Analysis of Poly(3,4-ethylenedioxythiophene) in Solid-State Dye-Sensitized Solar Cells: Comparison of <i>In Situ</i> Photoelectrochemical Polymerization in Aqueous Micellar and Organic Media. Analytical Chemistry, 2015, 87, 3942-3948.	6.5	17
47	Photoelectrochemical Polymerization of EDOT for Solid State Dye Sensitized Solar Cells: Role of Dye and Solvent. Electrochimica Acta, 2015, 179, 220-227.	5.2	16
48	Directly Photoexcited Oxides for Photoelectrochemical Water Splitting. ChemSusChem, 2019, 12, 4337-4352.	6.8	15
49	3,4-Ethylenedioxythiophene-based cobalt complex: an efficient co-mediator in dye-sensitized solar cells with poly(3,4-ethylenedioxythiophene) counter-electrode. Electrochimica Acta, 2015, 179, 237-240.	5.2	13
50	Dye-sensitized Solar Cells: New Approaches with Organic Solid-state Hole Conductors. Chimia, 2015, 69, 41.	0.6	13
51	Toward an alternative approach for the preparation of low-temperature titanium dioxide blocking underlayers for perovskite solar cells. Journal of Materials Chemistry A, 2019, 7, 10729-10738.	10.3	13
52	Carbon nanotube film replacing silver in high-efficiency solid-state dye solar cells employing polymer hole conductor. Journal of Solid State Electrochemistry, 2015, 19, 3139-3144.	2.5	12
53	Photoelectrochemical Cells Based on Dye Sensitization for Electricity and Fuel Production. Chimia, 2019, 73, 894.	0.6	12
54	Blocking the Charge Recombination with Diiodide Radicals by TiO₂ Compact Layer in Dye-Sensitized Solar Cells. Journal of the Electrochemical Society, 2019, 166, B3203-B3208.	2.9	10

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55	Studies on the Interfacial Electric Field and Stark Effect at the TiO₂/Dye/Electrolyte Interface. Journal of Physical Chemistry C, 2016, 120, 22215-22224.	3.1	9
56	Solid-state dye-sensitized solar cells using polymeric hole conductors. RSC Advances, 2021, 11, 39570-39581.	3.6	9
57	The effect of mesoporous TiO2 pore size on the performance of solid-state dye sensitized solar cells based on photoelectrochemically polymerized Poly(3,4-ethylenedioxythiophene) hole conductor. Electrochimica Acta, 2016, 210, 23-31.	5.2	8
58	A tandem redox system with a cobalt complex and 2-azaadamantane-<i>N</i>-oxyl for fast dye regeneration and open circuit voltages exceeding 1 V. Journal of Materials Chemistry A, 2019, 7, 10998-11006.	10.3	8
59	New covalently bonded dye/hole transporting material for better charge transfer in solid-state dye-sensitized solar cells. Electrochimica Acta, 2018, 269, 163-171.	5.2	7
60	Dye-Sensitized Solar Cells. , 2018, , 183-239.		6
61	Beyond the Limitations of Dye-Sensitized Solar Cells. , 2019, , 285-323.		6
62	Experimental and theoretical study of organic sensitizers for solid-state dye-sensitized solar cells (s-DSSCs). Journal of Photochemistry and Photobiology A: Chemistry, 2022, 428, 113890.	3.9	6
63	Additives, Hole Transporting Materials and Spectroscopic Methods to Characterize the Properties of Perovskite Films. Chimia, 2017, 71, 754.	0.6	4
64	Photobatteries and Photocapacitors. Green Chemistry and Sustainable Technology, 2018, , 281-325.	0.7	4
65	Molecularly Engineered Low-Cost Organic Hole-Transporting Materials for Perovskite Solar Cells: The Substituent Effect on Non-fused Three-Dimensional Systems. ACS Applied Energy Materials, 2022, 5, 3156-3165.	5.1	2
66	Effect of TiO2 Photoanodes Morphology and Dye Structure on Dye-Regeneration Kinetics Investigated by Scanning Electrochemical Microscopy. Electrochem, 2020, 1, 329-343.	3.3	1
67	Microbial bioelectrochemical cells for hydrogen generation based on irradiated semiconductor photoelectrodes. JPhys Energy, 2021, 3, 032012.	5.3	1