Organic transistors and phototransistors based on small molecules

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Polymer International, 2012, 61, 374-389.

#	Paper	IF	Citations
85	A liquid crystalline copper phthalocyanine derivative for high performance organic thin film transistors. *Journal of Materials Chemistry*, **2012**, 22, 19179		39
84	Current Enhancement Phenomenon Caused by the Reversible Charge Trapping Effect Under Photoirradiation on Pentacene Field-Effect Transistors. *IEEE Electron Device Letters*, **2012**, 33, 1765-1767	4.4	2
83	A diketopyrrolopyrrole containing molecular semiconductor: Synthesis, characterization and solution-processed 1D-microwire based electronic devices. *Organic Electronics*, **2012**, 13, 2553-2560	3.5	28
82	The origin and development of (plastic) organic electronics. *Polymer International*, **2012**, 61, 337-341	3.3	11
81	Multi-functional integration of organic field-effect transistors (OFETs): advances and perspectives. *Advanced Materials*, **2013**, 25, 313-30	24	254
80	Towards molecular ribbons of corannulene. *Chemistry - A European Journal*, **2013**, 19, 13199-206	4.8	18
79	Organic light detectors: photodiodes and phototransistors. *Advanced Materials*, **2013**, 25, 4267-95	24	913
78	Highly specific and reversible fluoride sensor based on an organic semiconductor. *Analytical Chemistry*, **2013**, 85, 9968-74	7.8	33
77	Organic Semiconductors in Organic Thin-Film Transistor-Based Chemical and Biological Sensors. *Polymer Reviews*, **2013**, 53, 352-406	14	108
76	Conjugated metallorganic macrocycles: opportunities for coordination-driven planarization of bidentate, pyridine-based ligands. *Dalton Transactions*, **2013**, 42, 948-58	4.3	7
75	An unsymmetrical pentacene derivative with ambipolar behavior in organic thin-film transistors. *Chemical Communications*, **2013**, 49, 6725-7	5.8	22
74	Controlling interfacial electron transfer and electrocatalysis by pH- or ion-switchable DNA monolayer-modified electrodes. *Chemical Science*, **2013**, 4, 1137	9.4	35
73	Tuning molecular self-assembly on bulk insulator surfaces by anchoring of the organic building blocks. *Advanced Materials*, **2013**, 25, 3948-56	24	60
72	Isomeric carbazolocarbazoles: synthesis, characterization and comparative study in Organic Field Effect Transistors. *Journal of Materials Chemistry C*, **2013**, 1, 1959	7.1	32
71	Aryl substitution of pentacenes. *Beilstein Journal of Organic Chemistry*, **2014**, 10, 1692-705	2.5	10
70	Spectroscopic analysis of electron trapping levels in pentacene field-effect transistors. *Journal Physics D: Applied Physics*, **2014**, 47, 335103	3	3
69	Substrate templating guides the photoinduced reaction of C60 on calcite. *Angewandte Chemie - International Edition*, **2014**, 53, 7952-5	16.4	25

68	Templatgesteuerte Photoreaktion von C60 auf Calcit. *Angewandte Chemie*, **2014**, 126, 8087-8090	3.6	1
67	Low-voltage organic phototransistors based on naphthyl end-capped oligothiophene nanofibers. *Organic Electronics*, **2014**, 15, 1273-1281	3.5	21
66	Photoresponse of pentacene-based transistors. *Physica Status Solidi (A) Applications and Materials Science*, **2014**, 211, 460-466	1.6	9
65	Vertical organic field effect phototransistor with two dissimilar source and drain contacts. *Thin Solid Films*, **2014**, 562, 525-529	2.2	4
64	Spectral, electrochemical and thermal characteristics of glass forming hydrazine derivatives. *Optical Materials*, **2014**, 37, 498-510	3.3	2
63	An organic microcrystal array-embedded layer: highly directional alternating p- and n-channels for ambipolar transistors and inverters. *Journal of Materials Chemistry C*, **2014**, 2, 3980-3987	7.1	17
62	Recent progress in photoactive organic field-effect transistors. *Science and Technology of Advanced Materials*, **2014**, 15, 024202	7.1	70
61	Effects of TIPS-functionalization and perhalogenation on the electronic, optical, and transport properties of angular and compact dibenzochrysene. *Journal of Physical Chemistry A*, **2014**, 118, 5170-7	2.8	33
60	Anisotropic perylenediimide/polycarbonate composites produced by a single batch solution based method. *Thin Solid Films*, **2014**, 564, 361-366	2.2	5
59	Highly-sensitive solution-processed 2,8-difluoro-5,11-bis(triethylsilylethynyl) anthradithiophene (diF-TESADT) phototransistors for optical sensing applications. *Organic Electronics*, **2014**, 15, 2099-2106	3.5	31
58	Facile fabrication and enhanced photoresponse of hybrid heterojunction films of ZnOEP nanowire network/ZnO nanoparticles. *Organic Electronics*, **2014**, 15, 844-849	3.5	6
57	Nickel phthalocyanine based organic photo transistor: effect of semiconductor film thickness. *EPJ Applied Physics*, **2015**, 72, 20202	1.1	2
56	Fully printed flexible audio system on the basis of low-voltage polymeric organic field effect transistors with three layer dielectric. *Journal of Polymer Science, Part B: Polymer Physics*, **2015**, 53, 1409-1415	2.6	19
55	Nucleation of diindenoperylene and pentacene at thermal and hyperthermal incident kinetic energies. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2015**, 33, 031511	2.9	3
54	Au Nanoparticle Light Scattering Enhanced Responsivity in Pentacene Phototransistor for Deep-UV Light Detection. *IEEE Electron Device Letters*, **2015**, 36, 1186-1188	4.4	6
53	Investigation of light programmable non-volatile memory in an organic phototransistor. *Physica Status Solidi - Rapid Research Letters*, **2015**, 9, 269-274	2.5	4
52	Flexible Organic Electronics in Biology: Materials and Devices. *Advanced Materials*, **2015**, 27, 7493-527	24	272
51	Copper Causes Regiospecific Formation of C4 F8 -Containing Six-Membered Rings and their Defluorination/Aromatization to C4 F4 -Containing Rings in Triphenylene/1,4-C4 F8 I2 Reactions. *Chemistry - A European Journal*, **2016**, 22, 874-7	4.8	10

50	Sequence-defined oligo(-arylene) foldamers derived from the benzannulation of (arylene ethynylene)s. *Chemical Science*, **2016**, 7, 6357-6364	9.4	31
49	Effect of intrinsic polymer properties on the photo sensitive organic field-effect transistors (Photo-OFETs). *Microelectronic Engineering*, **2016**, 161, 36-42	2.5	9
48	Dicyanomethylene-quinoid vs. dicyanovinyl-benzenoid organic semiconductors: Understanding structure-property correlations in mesomerism-like forms. *Organic Electronics*, **2016**, 37, 402-410	3.5	12
47	All-polymer phototransistors with bulk heterojunction sensing layers of thiophene-based electron-donating and thienopyrroledione-based electron-accepting polymers. *Organic Electronics*, **2016**, 39, 199-206	3.5	9
46	High-sensitivity organic phototransistors prepared by floating film transfer method. *Applied Physics Express*, **2016**, 9, 091601	2.4	21
45	Electronic and optical properties of hexathiapentacene in the gas and crystal phases. *Physical Review B*, **2016**, 93,	3.3	19
44	Ambipolar Organic Phototransistors with p-Type/n-Type Conjugated Polymer Bulk Heterojunction Light-Sensing Layers. *Advanced Electronic Materials*, **2016**, 2, 1600264	6.4	38
43	Efficient organic photomemory with photography-ready programming speed. *Scientific Reports*, **2016**, 6, 30536	4.9	10
42	Area confined position control of molecular aggregates. *New Journal of Physics*, **2016**, 18, 053006	2.9	11
41	Toward Ultrahigh Red Light Responsive Organic FETs Utilizing Neodymium Phthalocyanine as Light Sensitive Material. *IEEE Transactions on Electron Devices*, **2016**, 63, 452-458	2.9	5
40	Analysis of the persistent photoresponse of C8BTBT transistors in the near-bandgap spectral region. *Organic Electronics*, **2016**, 30, 83-91	3.5	3
39	Efficient Deep Red Light-Sensing All-Polymer Phototransistors with p-type/n-type Conjugated Polymer Bulk Heterojunction Layers. *ACS Applied Materials & Interfaces*, **2017**, 9, 14983-14989	9.5	39
38	Tuning Optical Properties of Dibenzochrysenes by Functionalization: A Many-Body Perturbation Theory Study. *Journal of Physical Chemistry C*, **2017**, 121, 24480-24488	3.8	8
37	Comparative analysis of contact resistance and photoresponse in poly(3-hexylthiophene) and poly(3-octylthiophene) based organic field-effect transistors. *Synthetic Metals*, **2017**, 233, 15-21	3.6	12
36	Low-voltage-driven organic phototransistors based on a solution-processed organic semiconductor channel and high k hybrid gate dielectric. *Journal of Materials Chemistry C*, **2017**, 5, 9838-9842	7.1	8
35	Orthogonal 4,10 and 6,12 substitution of dibenzo[def,mno]chrysene polycyclic aromatic small molecules. *Journal of Materials Chemistry C*, **2017**, 5, 8723-8733	7.1	13
34	Tautomerization and Dimerization of 6,13-Disubstituted Derivatives of Pentacene. *Chemistry - A European Journal*, **2017**, 23, 6111-6117	4.8	6
33	Achieving Weak Light Response with Plasmonic Nanogold-Decorated Organic Phototransistors. *ACS Applied Materials & Interfaces*, **2018**, 10, 15352-15356	9.5	13

32	Boundary-induced nucleation control: a theoretical perspective. *Physical Chemistry Chemical Physics* , **2018**, 20, 3752-3760	3.6	
31	Optically Active Organic Field-Effect Transistors. **2018**, 221-239		1
30	Photo-response behavior of organic transistors based on thermally annealed semiconducting diketopyrrolopyrrole core. *Optical Materials*, **2018**, 80, 120-126	3.3	4
29	Fundamental Gaps of Condensed-Phase Organic Semiconductors from Single-Molecule Calculations using Polarization-Consistent Optimally Tuned Screened Range-Separated Hybrid Functionals. *Journal of Chemical Theory and Computation*, **2018**, 14, 6287-6294	6.4	52
28	Effect of space charge limited current on performance of organic field-effect transistors. *Synthetic Metals*, **2018**, 246, 254-259	3.6	3
27	Contact Resistance in Ambipolar Organic Field-Effect Transistors Measured by Confocal Photoluminescence Electro-Modulation Microscopy. *ACS Applied Materials & Interfaces*, **2018**, 10, 35411-35419	9.5	8
26	Quantitative Prediction of Optical Absorption in Molecular Solids from an Optimally Tuned Screened Range-Separated Hybrid Functional. *Journal of Chemical Theory and Computation*, **2018**, 14, 2919-2929	6.4	34
25	Investigating the Thermal Stability of Organic Thin-Film Transistors and Phototransistors Based on [1]-Benzothieno-[3,2-b]-[1]-benzothiophene Dimeric Derivatives. *Chemistry - A European Journal*, **2018**, 24, 16595-16602	4.8	9
24	Relieving the Photosensitivity of Organic Field-Effect Transistors. *Advanced Materials*, **2020**, 32, e1906122	24	34
23	Near-Infrared Organic Phototransistors with Polymeric Channel/Dielectric/Sensing Triple Layers. *Micromachines*, **2020**, 11,	3.3	3
22	Organic field-effect transistor-based flexible sensors. *Chemical Society Reviews*, **2020**, 49, 3423-3460	58.5	113
21	Solution-Processed Transparent Superhydrophobic Protection Layers for Enhancing the Device Reliability of Flexible Organic Optoelectronics. *Advanced Materials Technologies*, **2020**, 5, 2000449	6.8	3
20	Inverted annealing enhanced performance of organic thin-film transistors and phototransistors based on 2-(4-dodecylphenyl) [1]benzothieno[3,2-b]benzothiophene. *Organic Electronics*, **2020**, 85, 105791	3.5	1
19	Structure-Property Relation in Organic-Metal Oxide Hybrid Phototransistors. *ACS Applied Materials & Interfaces*, **2020**, 12, 15430-15438	9.5	6
18	Morphology and mobility as tools to control and unprecedentedly enhance X-ray sensitivity in organic thin-films. *Nature Communications*, **2020**, 11, 2136	17.4	35
17	The influence of substrate temperature on the near-infrared absorption and carrier mobility of lead phthalocyanine phototransistors. *Thin Solid Films*, **2021**, 718, 138481	2.2	2
16	Short-Wave Infrared-Sensing Organic Phototransistors with a Triarylamine-Based Polymer Doped with a Lewis Acid-Type Small Molecule. *ACS Applied Materials & Interfaces*, **2021**, 13, 19064-19071	9.5	2
15	Polycyclic Arenes Dihydrodinaphthopentacene-based Hole-Transporting Materials for Perovskite Solar Cells Application. *Chemistry - an Asian Journal*, **2021**, 16, 3719-3728	4.5	0

14	Organic Thin Film Transistors Based on Distyryl-Oligothiophenes: Role of AFM Images in Analyses of Charge Transport Properties. *Open Journal of Applied Sciences*, **2012**, 02, 283-293	0.3	1
13	Introduction of helical photonic crystal insulator in organic phototransistor for enhancing selective color absorption. *Organic Electronics*, **2022**, 100, 106385	3.5	1
12	Unravelling molecular disorder at SAM-functionalized charge injection interfaces in organic field-effect transistors. *Organic Electronics*, **2022**, 100, 106360	3.5	0
11	Narrowband organic photodetectors - towards miniaturized, spectroscopic sensing. *Materials Horizons*, **2021**,	14.4	12
10	A Review on Solution-Processed Organic Phototransistors and Their Recent Developments. *Electronics (Switzerland)*, **2022**, 11, 316	2.6	5
9	Highly sensitive organic phototransistor for flexible optical detector arrays. *Organic Electronics*, **2022**, 102, 106452	3.5	3
8	Recent Progress in Polymer-based Infrared Photodetectors. *Journal of Materials Chemistry C*,	7.1	0
7	Effects of Blended Poly(3-hexylthiophene) and 6,13-bis(triisopropylsilylethynyl) pentacene Organic Semiconductors on the Photoresponse Characteristics of Thin-Film Transistors. *Journal of Korean Institute of Metals and Materials*, **2022**, 60, 198-205	1	2
6	High-performance floating-gate organic phototransistors based on n-type core-expanded naphthalene diimides. *Chinese Chemical Letters*, **2022**,	8.1	0
5	Tunable Photoelectric Properties of n-Type Semiconducting Polymer:Small Molecule Blends for Red Light Sensing Phototransistors. *Advanced Optical Materials*, 2102650	8.1	2
4	Exploring Charge Transport in High-Temperature Polymorphism of ITIC Derivatives in Simple Processed Unipolar Bottom Contact Organic Field-Effect Transistor. *Advanced Electronic Materials*, **2022**, 8, 2100743	6.4	1
3	Near infrared light-sensing semi-transparent organic phototransistors with soluble benzothiadiazole-based conjugated polymer films. *Materials Chemistry and Physics*, **2022**, 126223	4.4	
2	Identification of ultra-thin molecular layers atop monolayer terraces in sub-monolayer organic films with scanning probe microscopy. **2022**, 240, 113598		1
1	Efficient OFET-based optical memory and photodetectors using a novel BODIPY dye.		0