Temperatureâ€Independent Transport in Highâ€Mobil Single Crystal Transistors

Advanced Materials 25, 3478-3484

DOI: 10.1002/adma.201300886

Citation Report

#	Article	IF	CITATIONS
1	Current developments in solid-state fermentation. Biochemical Engineering Journal, 2013, 81, 146-161.	1.8	428
2	Utilizing Carbon Nanotube Electrodes to Improve Charge Injection and Transport in Bis(trifluoromethyl)-dimethyl-rubrene Ambipolar Single Crystal Transistors. ACS Nano, 2013, 7, 10245-10256.	7.3	56
3	Low-temperature carrier dynamics in high-mobility organic transistors of alkylated dinaphtho-thienothiophene as investigated by electron spin resonance. Applied Physics Letters, 2014, 105, .	1.5	14
4	Approaching the Trap-Free Limit in Organic Single-Crystal Field-Effect Transistors. Physical Review Applied, $2014,1,.$	1.5	80
5	Low Cost Universal Highâ€∢i>k Dielectric for Solution Processing and Thermal Evaporation Organic Transistors. Advanced Materials Interfaces, 2014, 1, 1300119.	1.9	15
6	What Currently Limits Charge Carrier Mobility in Crystals of Molecular Semiconductors?. Israel Journal of Chemistry, 2014, 54, 595-620.	1.0	97
7	Antiaromatic bisindeno-[n]thienoacenes with small singlet biradical characters: syntheses, structures and chain length dependent physical properties. Chemical Science, 2014, 5, 4490-4503.	3.7	62
8	Order, Viscoelastic, and Dielectric Properties of Symmetric and Asymmetric Alkyl[1]benzothieno[3,2-b][1]benzothiophenes. Journal of Physical Chemistry B, 2014, 118, 1443-1451.	1.2	32
9	Ultrafast exciton dynamics in dinaphtho [2,3-b:2′3′-f]thieno [3,2-b]-thiophene thin films. Physical Chemistry Chemical Physics, 2014, 16, 7501.	1.3	15
10	Highly Oriented Polymer Semiconductor Films Compressed at the Surface of Ionic Liquids for Highâ€Performance Polymeric Organic Fieldâ€Effect Transistors. Advanced Materials, 2014, 26, 6430-6435.	11.1	69
11	Recent trends in crystal engineering of high-mobility materials for organic electronics. Polymer Science - Series C, 2014, 56, 4-19.	0.8	26
12	Imide- and Amide-Functionalized Polymer Semiconductors. Chemical Reviews, 2014, 114, 8943-9021.	23.0	874
13	Theoretical Prediction of Isotope Effects on Charge Transport in Organic Semiconductors. Journal of Physical Chemistry Letters, 2014, 5, 2267-2273.	2.1	31
14	Charge Density Dependent Twoâ€Channel Conduction in Organic Electric Double Layer Transistors (EDLTs). Advanced Materials, 2014, 26, 2527-2532.	11.1	21
15	Modifying the thermal conductivity of small molecule organic semiconductor thin films with metal nanoparticles. Scientific Reports, 2015, 5, 16095.	1.6	35
16	Synergistic Photomodulation of Capacitive Coupling and Charge Separation Toward Functional Organic Fieldâ€Effect Transistors with High Responsivity. Advanced Electronic Materials, 2015, 1, 1500159.	2.6	28
17	Singleâ€Crystalâ€Like Organic Thinâ€Film Transistors Fabricated from Dinaphtho[2,3â€ <i>b</i> :2′,3â€ <i>f</i>]thieno[3,2â€ <i>b</i>]thiophene (DNTT) Precursor–Polystyrene Advanced Materials, 2015, 27, 6606-6611.	Blends.	45
18	Flexible Electronics: Integration Processes for Organic and Inorganic Semiconductor-Based Thin-Film Transistors. Electronics (Switzerland), 2015, 4, 480-506.	1.8	47

#	Article	IF	CITATIONS
19	Flat-Lying Semiconductor–Insulator Interfacial Layer in DNTT Thin Films. ACS Applied Materials & Interfaces, 2015, 7, 1833-1840.	4.0	43
20	High Mobility and Low Density of Trap States in Dualâ€Solidâ€Gated PbS Nanocrystal Fieldâ€Effect Transistors. Advanced Materials, 2015, 27, 2107-2112.	11.1	55
21	Thin Films of Highly Planar Semiconductor Polymers Exhibiting Band-like Transport at Room Temperature. Journal of the American Chemical Society, 2015, 137, 7990-7993.	6.6	48
22	Bulky Endâ€Capped [1]Benzothieno[3,2â€ <i>b</i>]benzothiophenes: Reaching Highâ€Mobility Organic Semiconductors by Fine Tuning of the Crystalline Solidâ€State Order. Advanced Materials, 2015, 27, 3066-3072.	11.1	155
23	Thienoaceneâ€Fused Pentalenes: Syntheses, Structures, Physical Properties and Applications for Organic Fieldâ€Effect Transistors. Chemistry - A European Journal, 2015, 21, 2019-2028.	1.7	35
24	A General Method for Growing Twoâ€Dimensional Crystals of Organic Semiconductors by "Solution Epitaxy― Angewandte Chemie, 2016, 128, 9671-9675.	1.6	28
25	Single Crystalâ€Like Performance in Solutionâ€Coated Thinâ€Film Organic Fieldâ€Effect Transistors. Advanced Functional Materials, 2016, 26, 2379-2386.	7.8	87
26	Selfâ€Assembled Organic Single Crystalline Nanosheet for Solution Processed Highâ€Performance nâ€Channel Fieldâ€Effect Transistors. Advanced Materials, 2016, 28, 6011-6015.	11.1	35
27	A General Method for Growing Twoâ€Dimensional Crystals of Organic Semiconductors by "Solution Epitaxy― Angewandte Chemie - International Edition, 2016, 55, 9519-9523.	7.2	153
28	Electron Mobility Exceeding 10 cm ² V ^{â^'1} s ^{â^'1} and Bandâ€Like Charge Transport in Solutionâ€Processed nâ€Channel Organic Thinâ€Film Transistors. Advanced Materials, 2016, 28, 5276-5283.	11.1	173
29	Temperature and composition-dependent density of states in organic small-molecule/polymer blend transistors. Journal of Applied Physics, 2016, 120, .	1.1	21
30	Detailed analysis and contact properties of low-voltage organic thin-film transistors based on dinaphtho[2,3-b:2′,3′-f]thieno[3,2-b]thiophene (DNTT) and its didecyl and diphenyl derivatives. Organic Electronics, 2016, 35, 33-40.	1.4	83
31	Organic Optoelectronic Materials: Mechanisms and Applications. Chemical Reviews, 2016, 116, 13279-13412.	23.0	1,205
32	Low-Temperature Band Transport and Impact of Contact Resistance in Organic Field-Effect Transistors Based on Single-Crystal Films of Ph-BTBT-C10. Physical Review Applied, 2016, 5, .	1.5	25
33	Suppressing molecular vibrations in organic semiconductors by inducing strain. Nature Communications, 2016, 7, 11156.	5.8	105
34	Organic Semiconductors based on Dyes and Color Pigments. Advanced Materials, 2016, 28, 3615-3645.	11.1	377
35	Enhanced mobility in organic field-effect transistors due to semiconductor/dielectric interface control and very thin single crystal. Nanotechnology, 2016, 27, 275202.	1.3	14
36	Coherent Dynamics of Mixed Frenkel and Charge-Transfer Excitons in Dinaphtho[2,3- <i>b</i> :2′3′- <i>f</i>]thieno[3,2- <i>b</i>]-thiophene Thin Films: The Importance of Hole Delocalization. Journal of Physical Chemistry Letters, 2016, 7, 1374-1380.	2.1	24

#	ARTICLE	IF	CITATIONS
37	Design and elaboration of organic molecules for high field-effect-mobility semiconductors. Synthetic Metals, 2016, 217, 68-78.	2.1	65
38	Single-crystal field-effect transistors of a highly dipolar merocyanine dye. Materials Horizons, 2016, 3, 72-77.	6.4	19
39	Nuclear quantum tunnelling and carrier delocalization effects to bridge the gap between hopping and bandlike behaviors in organic semiconductors. Nanoscale Horizons, 2016, 1, 53-59.	4.1	49
40	Molecular dynamics study of thermal transport in a dinaphtho[2,3-b:2′,3′-f]thieno[3,2-b]thiophene (DNTT) organic semiconductor. Nanoscale, 2017, 9, 2262-2271.	2.8	31
41	Exceptional Dewetting of Organic Semiconductor Films: The Case of Dinaphthothienothiophene (DNTT) at Dielectric Interfaces. ACS Applied Materials & Samp; Interfaces, 2017, 9, 8384-8392.	4.0	28
42	Production of conidia by entomopathogenic fungi: from inoculants to final quality tests. World Journal of Microbiology and Biotechnology, 2017, 33, 57.	1.7	46
43	Configuration-dependent anti-ambipolar van der Waals p–n heterostructures based on pentacene single crystal and MoS ₂ . Nanoscale, 2017, 9, 7519-7525.	2.8	40
44	Solutionâ€Processed Monolayer Organic Crystals for Highâ€Performance Fieldâ€Effect Transistors and Ultrasensitive Gas Sensors. Advanced Functional Materials, 2017, 27, 1700999.	7.8	172
45	Effect of relative humidity and temperature on the stability of DNTT transistors: A density of states investigation. Organic Electronics, 2017, 45, 174-181.	1.4	25
46	In-plane isotropic charge transport characteristics of single-crystal FETs with high mobility based on 2,6-bis(4-methoxyphenyl)anthracene: experimental cum theoretical assessment. Journal of Materials Chemistry C, 2017, 5, 370-375.	2.7	18
47	Low-voltage, High-performance Organic Field-Effect Transistors Based on 2D Crystalline Molecular Semiconductors. Scientific Reports, 2017, 7, 7830.	1.6	32
48	Crossover from band-like to thermally activated charge transport in organic transistors due to strain-induced traps. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6739-E6748.	3.3	77
49	Efficacy of Entomopathogenic Fungi as Green Pesticides: Current and Future Prospects. Microorganisms for Sustainability, 2017, , 327-349.	0.4	7
50	Investigation of interfacial thermal transport across graphene and an organic semiconductor using molecular dynamics simulations. Physical Chemistry Chemical Physics, 2017, 19, 15933-15941.	1.3	21
51	Heterogeneous Monolithic Integration of Singleâ€Crystal Organic Materials. Advanced Materials, 2017, 29, 1603285.	11.1	25
52	Probing the intrinsic charge transport in indacenodithiophene-co-benzothiadiazole thin films. AIP Advances, 2017, 7, .	0.6	9
53	Self-Healing Electronic Materials for a Smart and Sustainable Future. ACS Applied Materials & Samp; Interfaces, 2018, 10, 15331-15345.	4.0	170
54	Controllable growth of C ₈ -BTBT single crystalline microribbon arrays by a limited solvent vapor-assisted crystallization (LSVC) method. Journal of Materials Chemistry C, 2018, 6, 2419-2423.	2.7	37

#	Article	IF	Citations
55	Probing the density of trap states in the middle of the bandgap using ambipolar organic field-effect transistors. Journal of Applied Physics, 2018, 123, .	1.1	1
56	Organic semiconductor crystals. Chemical Society Reviews, 2018, 47, 422-500.	18.7	623
57	Highâ€Mobility Regioisomeric Thieno[<i>f</i> , <i>f</i> ′]bis[1]benzothiophenes: Remarkable Effect of <i>Syn</i> Anti Thiophene Configuration on Optoelectronic Properties, Selfâ€Organization, and Chargeâ€Transport Functions in Organic Transistors. Advanced Electronic Materials, 2018, 4, 1700390.	2.6	18
58	Quantitative mobility evaluation of organic semiconductors using quantum dynamics based on density functional theory. Physical Review B, 2018, 98, .	1.1	14
59	Interface Structure and Evolution of Dinaphthothienothiophene (DNTT) Films on Noble Metal Substrates. Advanced Materials Interfaces, 2018, 5, 1800920.	1.9	13
60	Organic–Inorganic Heterojunctions toward Highâ€Performance Ambipolar Fieldâ€Effect Transistor Applications. Advanced Electronic Materials, 2018, 4, 1800211.	2.6	21
61	Tutorial: Organic field-effect transistors: Materials, structure and operation. Journal of Applied Physics, 2018, 124, .	1.1	129
62	Interfacial Flat-Lying Molecular Monolayers for Performance Enhancement in Organic Field-Effect Transistors. ACS Applied Materials & Samp; Interfaces, 2018, 10, 22513-22519.	4.0	18
63	The growth mechanism and characterization of few-layer diphenyl dinaphthothienothiophene films prepared by vacuum deposition. Organic Electronics, 2019, 74, 245-250.	1.4	4
64	Fieldâ€Effect Transistors Based on 2D Organic Semiconductors Developed by a Hybrid Deposition Method. Advanced Science, 2019, 6, 1900775.	5. 6	48
65	Ultralow-Noise Organic Transistors Based on Polymeric Gate Dielectrics with Self-Assembled Modifiers. ACS Applied Materials & Samp; Interfaces, 2019, 11, 41561-41569.	4.0	9
67	Chasing the "Killer―Phonon Mode for the Rational Design of Lowâ€Disorder, Highâ€Mobility Molecular Semiconductors. Advanced Materials, 2019, 31, e1902407.	11.1	126
68	Production and characterization of biocontrol fertilizer from brewer's spent grain via solid-state fermentation. Scientific Reports, 2019, 9, 480.	1.6	21
69	Organic crystalline materials in flexible electronics. Chemical Society Reviews, 2019, 48, 1492-1530.	18.7	314
70	Organic Semiconductor/Polymer Blend Films for Organic Fieldâ€Effect Transistors. Advanced Materials Technologies, 2019, 4, 1900104.	3.0	95
71	Fabrication of Highly Oriented Multilayer Films of Picene and DNTT on Their Bulklike Monolayer. ACS Omega, 2019, 4, 8669-8673.	1.6	6
72	Lowâ€Voltage, Highâ€Frequency Organic Transistors and Unipolar and Complementary Ring Oscillators on Paper. Advanced Electronic Materials, 2019, 5, 1800453.	2.6	40
73	Diels–Alder adduct formation at solid interfaces between fullerenes and acenes. Journal of Physics Condensed Matter, 2019, 31, 034003.	0.7	4

#	Article	IF	CITATIONS
74	Understanding Carrier Transport in Organic Semiconductors: Computation of Charge Mobility Considering Quantum Nuclear Tunneling and Delocalization Effects. Journal of Chemical Theory and Computation, 2019, 15, 1477-1491.	2.3	33
75	Two-dimensional Organic Materials and Their Electronic Applications. Chemistry Letters, 2019, 48, 14-21.	0.7	4
76	Recent Developments and Novel Applications of Thin Film, Lightâ€Emitting Transistors. Advanced Functional Materials, 2020, 30, 1905269.	7.8	53
77	Synthesis of Soluble Dinaphtho[2,3- <i>b</i> :2′,3′- <i>f</i>]thieno[3,2- <i>b</i>]thiophene (DNTT) Derivatives: One-Step Functionalization of 2-Bromo-DNTT. Journal of Organic Chemistry, 2020, 85, 195-206.	1.7	18
78	Determination of Both Tilting and In-Plane Molecular Rotational Angles for Dinaphtho[2,3- <i>b</i> :2′,3′- <i>f</i>]thieno[3,2- <i>b</i>]thiophene Using Near-Edge X-ray Absorption Fine Structure. Journal of Physical Chemistry C, 2020, 124, 14195-14201.	1.5	3
79	Experimental Observation of Ultrahigh Mobility Anisotropy of Organic Semiconductors in the Two-Dimensional Limit. ACS Applied Electronic Materials, 2020, 2, 2888-2894.	2.0	6
80	Crystal Orientation Imaging of Organic Monolayer Islands by Polarized Light Microscopy. ACS Applied Materials & Samp; Interfaces, 2020, 12, 36428-36436.	4.0	9
81	Effect of access resistance on the experimentally measured temperature–carrier mobility dependence in highly-crystalline DNTT-based transistors. Materials Advances, 2020, 1, 1799-1804.	2.6	5
82	Crystal Engineering in Organic Photovoltaic Acceptors: A 3D Network Approach. Advanced Energy Materials, 2020, 10, 2002678.	10.2	86
83	Microspacing In-Air Sublimation Growth of Ultrathin Organic Single Crystals. Chemistry of Materials, 2020, 32, 7618-7629.	3.2	22
84	Flexible short-channel organic transistors and inverter circuits using top-contact and double-gate structure. Applied Physics Express, 2020, 13, 061001.	1.1	3
85	Effect of the Degree of the Gateâ€Dielectric Surface Roughness on the Performance of Bottomâ€Gate Organic Thinâ€Film Transistors. Advanced Materials Interfaces, 2020, 7, 1902145.	1.9	52
86	Interface Engineering in Organic Field-Effect Transistors: Principles, Applications, and Perspectives. Chemical Reviews, 2020, 120, 2879-2949.	23.0	213
87	Molecular Semiconductors for Logic Operations: Deadâ€End or Bright Future?. Advanced Materials, 2020, 32, e1905909.	11.1	135
88	Wide band gap pyromellitic diimides for photo stable n-channel thin film transistors. Journal of Materials Chemistry C, 2020, 8, 7344-7349.	2.7	10
89	A High Mobility of Up to 13 cm²Vâ^'1sâ^'1 in Dinaphttho-Thieno-Thiophene Single-Crystal Field-Effect Transistors via Self-Assembled Monolayer Selection. IEEE Electron Device Letters, 2020, 41, 757-760.	2.2	9
90	Solid-state fermentation technology and innovation for the production of agricultural and animal feed bioproducts. Systems Microbiology and Biomanufacturing, 2021, 1, 142-165.	1.5	38
91	Ultraflexible Integrated Organic Electronics for Ultrasensitive Photodetection. Advanced Materials Technologies, 2021, 6, .	3.0	15

#	Article	IF	CITATIONS
92	Unravelling the Molecular Origin of Organic Semiconductors with Highâ€Performance Thermoelectric Response. Advanced Functional Materials, 2021, 31, 2007438.	7.8	14
93	Effect of Alkyl Chain Length on Charge Transport Property of Anthracene-Based Organic Semiconductors. ACS Applied Materials & Semiconductors. ACS Applied Materials & Semiconductors. ACS Applied Materials & Semiconductors.	4.0	16
94	Stability of organic thin-film transistors based on ultrathin films of dinaphtho[2,3- <i>b</i> :2′,3′- <i>f</i>]thieno[3,2- <i>b</i>]thiophene (DNTT). Journal of Materials Chemistry C, 2021, 9, 270-280.	2.7	15
95	Effectively modulating thermal activated charge transport in organic semiconductors by precise potential barrier engineering. Nature Communications, 2021, 12, 21.	5.8	51
96	Unveiling the effects of substituents on the packing motif and the carrier transport of dinaphtho-thieno-thiophene (DNTT)-based materials. New Journal of Chemistry, 2021, 45, 11552-11565.	1.4	1
97	Thermal conductivity of benzothieno-benzothiophene derivatives at the nanoscale. Nanoscale, 2021, 13, 3800-3807.	2.8	12
98	Experimental Observation of Anisotropic Valence Band Dispersion in Dinaphtho[2,3-b:2′,3′- <i>f</i> jthieno[3,2- <i>b</i> jthiophene (DNTT) Single Crystals. Journal of Physical Chemistry C, 2021, 125, 2938-2943.	1.5	5
99	Polarization Raman Imaging of Organic Monolayer Islands for Crystal Orientation Analysis. ACS Omega, 2021, 6, 9520-9527.	1.6	1
100	Coexistence of band-like and thermally activated charge transport through nuclear tunneling effect in organic semiconductors. AIP Advances, 2021, 11, 055213.	0.6	0
101	A Design Strategy for Intrinsically Stretchable High-Performance Polymer Semiconductors: Incorporating Conjugated Rigid Fused-Rings with Bulky Side Groups. Journal of the American Chemical Society, 2021, 143, 11679-11689.	6.6	65
102	Green Materials and Technologies for Sustainable Organic Transistors. Advanced Materials Technologies, 2022, 7, 2100445.	3.0	31
103	Strong Suppression of Thermal Conductivity in the Presence of Long Terminal Alkyl Chains in Lowâ€Disorder Molecular Semiconductors. Advanced Materials, 2021, 33, e2008708.	11.1	12
104	Crystals Array via Oriented Nucleation and Growth Induced by Smectic E Mesophase of C7-T-BTBT. Chemical Research in Chinese Universities, 0 , 1 .	1.3	0
105	Location-dependent multi-parameter detection behaviors using hetero-interfaced organic anti-ambipolar phototransistors. Sensors and Actuators A: Physical, 2021, 330, 112888.	2.0	8
106	Dielectric–Semiconductor Interface Limits Charge Carrier Motion at Elevated Temperatures and Large Carrier Densities in a Highâ€Mobility Organic Semiconductor. Advanced Functional Materials, 2019, 29, 1807867.	7.8	16
107	Approaching isotropic transfer integrals in crystalline organic semiconductors. Physical Review Materials, 2020, 4, .	0.9	5
108	Effect of chemical interaction at modification layer/substrate interface on molecular orientation of dinaphtho $[2,3-b:2\hat{a}\in^2,3\hat{a}\in^2-f]$ thieno $[3,2-b]$ thiophene thin films. Japanese Journal of Applied Physics, 2020, 59, 091004.	0.8	1
109	Liquid Phase Exfoliation of Rubrene Single Crystals into Nanorods and Nanobelts. ACS Nano, 2021, 15, 20466-20477.	7.3	7

#	Article	IF	CITATIONS
110	Insights on fungal solid-state fermentation for waste valorization: Conidia and chitinase production in different reactor configurations. Sustainable Chemistry and Pharmacy, 2022, 26, 100624.	1.6	2
111	Bandlike versus Temperature-Independent Carrier Transport in Isomeric Diphenyldinaphtho[2,3- <i>b</i> :2′,3′- <i>f</i>]thieno[3,2- <i>b</i>]thiophenes., 2022, 4, 675-681.		8
112	Dinaphthotetrathienoacenes: Synthesis, Characterization, and Applications in Organic Fieldâ€Effect Transistors. Advanced Science, 2022, 9, e2105674.	5 . 6	6
113	Low-power high-mobility organic single-crystal field-effect transistor. Science China Materials, 2022, 65, 2779-2785.	3.5	6
114	Ï€â€Extended Zigzagâ€Shaped Diphenanthreneâ€Based pâ€Type Semiconductors Exhibiting Small Effective Masses. Advanced Electronic Materials, 2022, 8, .	2.6	1
115	Organic Anisotropic 2D Materials for Next-generation Optoelectronics. RSC Nanoscience and Nanotechnology, 2022, , 126-167.	0.2	0
116	Flexible Electronics Based on Organic Semiconductors: from Patterned Assembly to Integrated Applications. Small, 2023, 19, .	5 . 2	7
117	Bioreactors and engineering of filamentous fungi cultivation. , 2023, , 219-250.		0
118	Determination of the supramolecular arrangement of Dinaphtho[2,3-b:2′,3′-f]thieno[3,2-b]thiophene films fabricated by Physical Vapor Deposition and possible implications for electronic devices. Thin Solid Films, 2023, 772, 139808.	0.8	2
119	Computing the Lattice Thermal Conductivity of Smallâ€Molecule Organic Semiconductors: A Systematic Comparison of Molecular Dynamics Based Methods. Advanced Theory and Simulations, 2023, 6, .	1.3	1
120	Charge Transport and Mobility of Organic Semiconductors. , 2023, , 3-30.		0