Marcus Halik

List of Publications by Year
in descending order

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118 papers	10,267 citations	50244 46 h-index	32815 100 g-index
121 all docs	121 docs citations	121 times ranked	11453 citing authors

#	Article	IF	Citations
1	Ultralow-power organic complementary circuits. Nature, 2007, 445, 745-748.	13.7	1,329
2	High-mobility polymer gate dielectric pentacene thin film transistors. Journal of Applied Physics, 2002, 92, 5259-5263.	1.1	1,131
3	Low-voltage organic transistors with an amorphous molecular gate dielectric. Nature, 2004, 431, 963-966.	13.7	755
4	A generic interface to reduce the efficiency-stability-cost gap of perovskite solar cells. Science, 2017, 358, 1192-1197.	6.0	554
5	Relationship Between Molecular Structure and Electrical Performance of Oligothiophene Organic Thin Film Transistors. Advanced Materials, 2003, 15, 917-922.	11.1	418
6	Pentacene organic transistors and ring oscillators on glass and on flexible polymeric substrates. Applied Physics Letters, 2003, 82, 4175-4177.	1.5	341
7	Organic electronics on paper. Applied Physics Letters, 2004, 84, 2673-2675.	1.5	330
8	Basal-Plane Functionalization of Chemically Exfoliated Molybdenum Disulfide by Diazonium Salts. ACS Nano, 2015, 9, 6018-6030.	7.3	293
9	Fully patterned all-organic thin film transistors. Applied Physics Letters, 2002, 81, 289-291.	1.5	186
10	The Potential of Molecular Selfâ€Assembled Monolayers in Organic Electronic Devices. Advanced Materials, 2011, 23, 2689-2695.	11.1	179
11	Low-Voltage Organic Field Effect Transistors with a 2-Tridecyl[1]benzothieno[3,2-b][1]benzothiophene Semiconductor Layer. Journal of the American Chemical Society, 2012, 134, 16548-16550.	6.6	179
12	Polymer Gate Dielectrics and Conducting-Polymer Contactsfor High-Performance Organic Thin-Film Transistors. Advanced Materials, 2002, 14, 1717-1722.	11.1	175
13	ITOâ€Free and Fully Solutionâ€Processed Semitransparent Organic Solar Cells with High Fill Factors. Advanced Energy Materials, 2013, 3, 1062-1067.	10.2	172
14	Flexible Organic Circuits with Printed Gate Electrodes. Advanced Materials, 2003, 15, 1147-1151.	11.1	168
15	High shunt resistance in polymer solar cells comprising a MoO3 hole extraction layer processed from nanoparticle suspension. Applied Physics Letters, 2011, 98, .	1.5	149
16	Flexible Organic Complementary Circuits. IEEE Transactions on Electron Devices, 2005, 52, 618-622.	1.6	146
17	Low-voltage organic thin-film transistors with large transconductance. Journal of Applied Physics, 2007, 102, .	1.1	125
18	Increasing the Fill Factor of Inverted P3HT:PCBM Solar Cells Through Surface Modification of Alâ€Doped ZnO via Phosphonic Acidâ€Anchored C60 SAMs. Advanced Energy Materials, 2012, 2, 532-535.	10.2	116

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19	Concept of a Molecular Charge Storage Dielectric Layer for Organic Thinâ€Film Memory Transistors. Advanced Materials, 2010, 22, 2525-2528.	11.1	113
20	Lowâ€Temperature Solutionâ€Processed Memory Transistors Based on Zinc Oxide Nanoparticles. Advanced Materials, 2009, 21, 3099-3104.	11.1	112
21	Phosphonate- and Carboxylate-Based Self-Assembled Monolayers for Organic Devices: A Theoretical Study of Surface Binding on Aluminum Oxide with Experimental Support. ACS Applied Materials & Interfaces, 2013, 5, 6073-6080.	4.0	111
22	Low-Voltage p- and n-Type Organic Self-Assembled Monolayer Field Effect Transistors. Nano Letters, 2011, 11, 156-159.	4.5	108
23	High-mobility organic thin-film transistors based on Î±,Î±â€²-didecyloligothiophenes. Journal of Applied Physics, 2003, 93, 2977-2981.	1.1	95
24	Electron-Transport Properties and Use in Organic Light-Emitting Diodes of a Bis(dioxaborine)fluorene Derivativeâ€. Journal of Physical Chemistry B, 2004, 108, 8647-8651.	1.2	94
25	Mechanical force sensors using organic thin-film transistors. Journal of Applied Physics, 2005, 97, 093708.	1.1	92
26	Bis(dioxaborine) compounds with large two-photon cross sections, and their use in the photodeposition of silver. Chemical Communications, 2003, , 1490-1491.	2.2	90
27	The Relationship between Threshold Voltage and Dipolar Character of Self-Assembled Monolayers in Organic Thin-Film Transistors. Journal of the American Chemical Society, 2012, 134, 12648-12652.	6.6	88
28	Toward strain resistant flexible organic thin film transistors. Applied Physics Letters, 2009, 95, .	1.5	82
29	Decyl-End-Capped Thiopheneâ€'Phenylene Oligomers as Organic Semiconducting Materials with Improved Oxidation Stability. Chemistry of Materials, 2006, 18, 579-586.	3.2	81
30	Microcontact-Printed Self-Assembled Monolayers as Ultrathin Gate Dielectrics in Organic Thin-Film Transistors and Complementary Circuits. Langmuir, 2008, 24, 1665-1669.	1.6	81
31	Overcoming interface losses in organic solar cells by applying low temperature, solution processed aluminum-doped zinc oxide electron extraction layers. Journal of Materials Chemistry A, 2013, 1, 6004.	5.2	79
32	Lowâ€Voltage Selfâ€Assembled Monolayer Fieldâ€Effect Transistors on Flexible Substrates. Advanced Materials, 2013, 25, 4511-4514.	11.1	78
33	The impact of self-assembled monolayer thickness in hybrid gate dielectrics for organic thin-film transistors. Organic Electronics, 2009, 10, 1442-1447.	1.4	77
34	Improving the Charge Transport in Self-Assembled Monolayer Field-Effect Transistors: From Theory to Devices. Journal of the American Chemical Society, 2013, 135, 4893-4900.	6.6	72
35	Magnetite nanoparticles as efficient materials for removal of glyphosate from water. Nature Sustainability, 2020, 3, 129-135.	11.5	72
36	Lowâ€Temperature and Hysteresisâ€Free Electronâ€Transporting Layers for Efficient, Regular, and Planar Structure Perovskite Solar Cells. Advanced Energy Materials, 2015, 5, 1501056.	10.2	69

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37	Morphology analysis of near IR sensitized polymer/fullerene organic solar cells by implementing low bandgap heteroanalogue C-/Si-PCPDTBT. Journal of Materials Chemistry A, 2014, 2, 19461-19472.	5.2	68
38	High-Mobility ZnO Nanorod Field-Effect Transistors by Self-Alignment and Electrolyte-Gating. ACS Applied Materials & Interfaces, 2013, 5, 1656-1662.	4.0	67
39	Structural Investigations of Self-Assembled Monolayers for Organic Electronics: Results from X-ray Reflectivity. Accounts of Chemical Research, 2015, 48, 1901-1908.	7.6	66
40	Impact of Oxygen Plasma Treatment on the Device Performance of Zinc Oxide Nanoparticle-Based Thin-Film Transistors. ACS Applied Materials & Interfaces, 2012, 4, 1693-1696.	4.0	64
41	Quantitative Determination and Comparison of the Surface Binding of Phosphonic Acid, Carboxylic Acid, and Catechol Ligands on TiO₂ Nanoparticles. Chemistry - A European Journal, 2016, 22, 13506-13512.	1.7	63
42	Smoothly Tunable Surface Properties of Aluminum Oxide Coreâ€“Shell Nanoparticles By A Mixed-Ligand Approach. ACS Applied Materials & Interfaces, 2014, 6, 5977-5982.	4.0	59
43	Suppression of Hysteresis Effects in Organohalide Perovskite Solar Cells. Advanced Materials Interfaces, 2017, 4, 1700007.	1.9	57
44	Enhanced In Vitro Biocompatibility and Water Dispersibility of Magnetite and Cobalt Ferrite Nanoparticles Employed as ROS Formation Enhancer in Radiation Cancer Therapy. Small, 2018, 14, e1704111.	5.2	57
45	The remediation of nano-/microplastics from water. Materials Today, 2021, 48, 38-46.	8.3	56
46	Tuning the Molecular Order of C₆₀ Functionalized Phosphonic Acid Monolayers. Langmuir, 2011, 27, 15016-15023.	1.6	55
47	Assigning Electronic States in Carbon Nanodots. Advanced Functional Materials, 2016, 26, 7975-7985.	7.8	52
48	The morphology of integrated self-assembled monolayers and their impact on devices â€“ A computational and experimental approach. Organic Electronics, 2010, 11, 1476-1482.	1.4	47
49	Fullerene Van der Waals Oligomers as Electron Traps. Journal of the American Chemical Society, 2014, 136, 10890-10893.	6.6	46
50	Fully Patterned Lowâ€Voltage Transparent Metal Oxide Transistors Deposited Solely by Chemical Spray Pyrolysis. Advanced Functional Materials, 2013, 23, 2828-2834.	7.8	44
51	Morphological impact of zinc oxide layers on the device performance in thin-film transistors. Nanoscale, 2011, 3, 897-899.	2.8	40
52	Influence of self-assembled monolayer dielectrics on the morphology and performance of Î±,Ï‰-dihexylquaterthiophene in thin film transistors. Applied Physics Letters, 2011, 98, .	1.5	36
53	Synthesis and Characterization of New Long-Wavelength-Absorbing Oxonol Dyes from the 2,2-Difluoro-1,3,2-dioxaborine Type. Chemistry - A European Journal, 1999, 5, 2511-2517.	1.7	34
54	Self-Assembled Monolayer Exchange Reactions as a Tool for Channel Interface Engineering in Low-Voltage Organic Thin-Film Transistors. Langmuir, 2012, 28, 13900-13904.	1.6	33

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55	Evidence of Tailoring the Interfacial Chemical Composition in Normal Structure Hybrid Organohalide Perovskites by a Self-Assembled Monolayer. ACS Applied Materials & Interfaces, 2018, 10, 5511-5518.	4.0	32
56	Superoleophilic Magnetic Iron Oxide Nanoparticles for Effective Hydrocarbon Removal from Water. Advanced Functional Materials, 2019, 29, 1805742.	7.8	32
57	Limitations of Essential-State Models for the Description of Two-Photon Absorption Processes:Â The Example of Bis(dioxaborine)-Substituted Chromophoresâ€. Journal of Physical Chemistry B, 2004, 108, 8641-8646.	1.2	31
58	A facile approach to synthesize an oxo-functionalized graphene/polymer composite for low-voltage operating memory devices. Journal of Materials Chemistry C, 2015, 3, 8595-8604.	2.7	30
59	Fully Printed Infrared Photodetectors from PbS Nanocrystals with Perovskite Ligands. ACS Nano, 2019, 13, 2389-2397.	7.3	30
60	2D van der Waals Heterojunction of Organic and Inorganic Monolayers for High Responsivity Phototransistors. Advanced Functional Materials, 2021, 31, 2105444.	7.8	28
61	1,4-bis(5-decyl-2,2â€²-bithien-5-yl)benzene as new stable organic semiconductor for high performance thin film transistors. Synthetic Metals, 2005, 149, 231-235.	2.1	26
62	In situ STXM investigations of pentacene-based OFETs during operation. Journal of Materials Chemistry, 2010, 20, 4884.	6.7	26
63	Tuning the molecular order of C₆₀-based self-assembled monolayers in field-effect transistors. Nanoscale, 2014, 6, 13022-13027.	2.8	26
64	Dewetted Au Nanoparticles on TiO₂ Surfaces: Evidence of a Size-Independent Plasmonic Photoelectrochemical Response. Journal of Physical Chemistry C, 2019, 123, 16934-16942.	1.5	26
65	Intercalating-Organic-Cation-Induced Stability Bowing in Quasi-2D Metal-Halide Perovskites. ACS Energy Letters, 2022, 7, 70-77.	8.8	26
66	Two-Photon Absorption in Linear Bis-dioxaborine Compoundsâ€"The Impact of Correlation-Induced Oscillator-Strength Redistribution. ChemPhysChem, 2004, 5, 982-988.	1.0	25
67	Mixed self-assembled monolayer of molecules with dipolar and acceptor characterâ€"Influence on hysteresis and threshold voltage in organic thin-film transistors. Applied Physics Letters, 2012, 100, .	1.5	25
68	Concept of a thin film memory transistor based on ZnO nanoparticles insulated by a ligand shell. Nanoscale, 2012, 4, 444-447.	2.8	25
69	An unsymmetrical pentacene derivative with ambipolar behavior in organic thin-film transistors. Chemical Communications, 2013, 49, 6725.	2.2	25
70	Chemical-recognition-driven selectivity of SnO2-nanowire-based gas sensors. Nano Today, 2021, 40, 101265.	6.2	25
71	An anionic organic mixed-valence system with a remarkably well-resolved vibrational structure in its intervalence band. Chemical Communications, 2003, , 194-195.	2.2	24
72	Solvent effects on the vibronic one-photon absorption profiles of dioxaborine heterocycles. Journal of Chemical Physics, 2005, 123, 194311.	1.2	24

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73	Interface Engineering in High-Performance Low-Voltage Organic Thin-Film Transistors Based on 2,7-Dialkyl-[1]benzothieno[3,2-b][1]benzothiophenes. Langmuir, 2011, 27, 15340-15344.	1.6	24
74	Effect of Structure and Disorder on the Charge Transport in Defined Self-Assembled Monolayers of Organic Semiconductors. ACS Nano, 2017, 11, 8747-8757.	7.3	23
75	Photoactive self-assembled monolayers for optically switchable organic thin-film transistors. Applied Physics Letters, 2013, 102, 203301.	1.5	22
76	Oligothiophenes in organic thin film transistors â€“ Morphology, stability and temperature operation. Organic Electronics, 2008, 9, 1061-1068.	1.4	21
77	Region-Selective Self-Assembly of Functionalized Carbon Allotropes from Solution. ACS Nano, 2013, 7, 11427-11434.	7.3	21
78	Very Facile Polarity Umpolung and Noncovalent Functionalization of Inorganic Nanoparticles: A Tool Kit for Supramolecular Materials Chemistry. Chemistry - A European Journal, 2015, 21, 14030-14035.	1.7	19
79	Improving the Performance of Organic Thinâ€Film Transistors by Ion Doping of Ethyleneâ€Glycolâ€Based Selfâ€Assembled Monolayer Hybrid Dielectrics. Advanced Materials, 2015, 27, 8023-8027.	11.1	19
80	Regionâ€Selective Deposition of Coreâ€“Shell Nanoparticles for 3â€‰D Hierarchical Assemblies by the Huisgen 1,3â€Dipolar Cycloaddition. Angewandte Chemie - International Edition, 2015, 54, 9235-9238.	7.2	19
81	Selfâ€Assembled Monolayer Dielectrics for Lowâ€Voltage Carbon Nanotube Transistors with Controlled Network Density. Advanced Materials Interfaces, 2016, 3, 1600215.	1.9	19
82	Manufacturing Nanoparticles with Orthogonally Adjustable Dispersibility in Hydrocarbons, Fluorocarbons, and Water. ChemistryOpen, 2018, 7, 282-287.	0.9	18
83	Modeling charge transport in C60-based self-assembled monolayers for applications in field-effect transistors. Journal of Chemical Physics, 2014, 140, 204702.	1.2	17
84	Self-assembled monolayer field-effect transistors based on oligo-9,9â€²-dioctylfluorene phosphonic acids. Nanoscale, 2017, 9, 18584-18589.	2.8	17
85	Green Processing of Metal Oxide Coreâ€“Shell Nanoparticles as Lowâ€Temperature Dielectrics in Organic Thinâ€Film Transistors. Advanced Materials, 2015, 27, 5950-5954.	11.1	16
86	Solution-processed single-crystalline organic transistors on patterned ultrathin gate insulators. Organic Electronics, 2014, 15, 1184-1188.	1.4	15
87	Effect of Ligand Treatment on the Tuning of Infrared Plasmonic Indium Tin Oxide Nanocrystal Electrochromic Devices. Advanced Engineering Materials, 2020, 22, 2000112.	1.6	15
88	Diastereoselective epoxidation and bishydroxylation of cyclic tert-butyl allyl peroxides. Tetrahedron, 1996, 52, 13151-13166.	1.0	14
89	Driving forces for the self-assembly of graphene oxide on organic monolayers. Nanoscale, 2014, 6, 11344-11350.	2.8	14
90	Scalable self-assembled reduced graphene oxide transistors on flexible substrate. Applied Physics Letters, 2014, 104, 243502.	1.5	13

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91	Memory Effect of Selfâ€Assembled PSâ€bâ€PEO Block Copolymer Films with Selectively Embedded Functionalized TiO₂ Nanoparticles. Advanced Materials Interfaces, 2017, 4, 1700230.	1.9	13
92	Multifunctional and Tunable Surfaces Based on Pyrene Functionalized Nanoparticles. Advanced Materials Interfaces, 2019, 6, 1801930.	1.9	12
93	Wide Bandâ€Gap Bismuthâ€based pâ€Dopants for Optoâ€Electronic Applications. Angewandte Chemie - International Edition, 2016, 55, 10493-10497.	7.2	11
94	Highly Efficient Encapsulation and Phase Separation of Apolar Molecules by Magnetic Shellâ€byâ€Shellâ€Coated Nanocarriers in Water. Chemistry - A European Journal, 2018, 24, 13589-13595.	1.7	11
95	Mixed Organic Ligand Shells: Controlling the Nanoparticle Surface Morphology toward Tuning the Optoelectronic Properties. Small, 2020, 16, e1903729.	5.2	10
96	Areaâ€Selective Growth of HfS₂ Thin Films via Atomic Layer Deposition at Low Temperature. Advanced Materials Interfaces, 2020, 7, 2001493.	1.9	10
97	Waferâ€Scale Organic Complementary Inverters Fabricated with Selfâ€Assembled Monolayer Fieldâ€Effect Transistors. Advanced Electronic Materials, 2020, 6, 2000515.	2.6	10
98	Real-time monitoring of magnetic nanoparticle-assisted nanoplastic agglomeration and separation from water. Environmental Science: Nano, 2022, 9, 2427-2439.	2.2	9
99	Flexible copper-7,7,8,8 tetracyanochinodimethane memory devices â€" Operation, cross talk and bending. Thin Solid Films, 2010, 518, 2222-2227.	0.8	8
100	Interface Engineering of Molecular Charge Storage Dielectric Layers for Organic Thinâ€Film Memory Transistors. Advanced Materials Interfaces, 2014, 1, 1400238.	1.9	8
101	The mutual influence of surface energy and substrate temperature on the saturation mobility in organic semiconductors. Organic Electronics, 2014, 15, 3082-3086.	1.4	7
102	Oligothiophene Phosphonic Acids for Self-Assembled Monolayer Field-Effect Transistors. ACS Applied Materials & Interfaces, 2021, 13, 32461-32466.	4.0	7
103	Cyclic voltammetry on n-alkylphosphonic acid self-assembled monolayer modified large area indium tin oxide electrodes. Thin Solid Films, 2011, 519, 7809-7812.	0.8	6
104	Buried Microphase Separation by Dynamic Interplay of Crystallization and Microphase Separation in Semicrystalline PEO-Rich PS-b-PEO Block Copolymer Thin Films. Macromolecules, 2020, 53, 5604-5613.	2.2	6
105	Enhancing the Dispersibility of TiO₂ Nanorods and Gaining Control over Region-Selective Layer Formation. Langmuir, 2016, 32, 10604-10609.	1.6	5
106	Supraparticles with a Mechanically Triggerable Colorâ€Changeâ€Effect to Equip Coatings with the Ability to Report Damage. Small, 2022, 18, e2107513.	5.2	5
107	Gate Dielectrics. , 2006, , 132-162.		4
108	Low-voltage organic thin film transistors and circuits with molecular gate dielectrics. , 2005, , .		3

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109	Formation of Perfluoroalkyl Fullerene Alkylphosphonic Acid Self-Assembled Monolayers on Aluminum Oxide. ECS Journal of Solid State Science and Technology, 2017, 6, M3163-M3167.	0.9	3
110	Anthraceneâ^'Pentacene Dyads: Synthesis and OFET Characterization. ChemPlusChem, 2020, 85, 921-926.	1.3	3
111	Hostâ€Guest Systems on the Surface of Functionalized Superparamagnetic Iron Oxide Nanoparticles (SPIONs) Utilizing Hamilton Receptors and Cyanurate Derivative Molecules. Chemistry - A European Journal, 2021, 27, 16429-16439.	1.7	3
112	An Innovative Anode Interface Combination for Perovskite Solar Cells with Improved Efficiency, Stability, and Reproducibility. Solar Rrl, 2022, 6, .	3.1	3
113	Oligothiophene Organic Thin Film Transistors and Circuits. Materials Research Society Symposia Proceedings, 2003, 771, 321.	0.1	2
114	Carbon Nanodots: Assigning Electronic States in Carbon Nanodots (Adv. Funct. Mater. 44/2016). Advanced Functional Materials, 2016, 26, 8147-8147.	7.8	1
115	Manufacturing Nanoparticles with Orthogonally Adjustable Dispersibility in Hydrocarbons, Fluorocarbons, and Water. ChemistryOpen, 2018, 7, 277-277.	0.9	0
116	Non-substituted fused bis-tetracene based thin-film transistor with self-assembled monolayer hybrid dielectrics. Frontiers of Materials Science, 2020, 14, 314-322.	1.1	0
117	Fullerene-Based FETs. , 2014, , 1-12.		0
118	A universal concept for areaâ€selective assembly of metal oxide coreâ€shell nanoparticles, nanorods, and organic molecules via amide coupling reactions. Nano Select, 2022, 3, 1223-1231.	1.9	0