Thomas Rath

List of Publications by Year
in descending order

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78 papers	4,176 citations	218677 26 h-index	110387 64 g-index
78 all docs	78 docs citations	78 times ranked	6496 citing authors

#	Article	IF	Citations
1	Wide-bandgap organic solar cells with a novel perylene-based non-fullerene acceptor enabling open-circuit voltages beyond 1.4 V. Journal of Materials Chemistry A, 2022, 10, 2888-2906.	10.3	21
2	Metal Sulfide Thin Films with Tunable Nanoporosity for Photocatalytic Applications. ACS Applied Nano Materials, 2022, 5, 1508-1520.	5.0	10
3	Honeycomb-structured copper indium sulfide thin films obtainedviaa nanosphere colloidal lithography method. Materials Advances, 2022, 3, 2884-2895.	5.4	6
4	Phenyleneâ€Bridged Perylene Monoimides as Acceptors for Organic Solar Cells: A Study on the Structureâ€“Property Relationship. Chemistry - A European Journal, 2022, 28, .	3.3	5
5	Synthesis and Nanoarchitectonics of Novel Squaraine Derivatives for Organic Photovoltaic Devices. Nanomaterials, 2022, 12, 1206.	4.1	9
6	Benefits of direct electron detection and PCA for EELS investigation of organic photovoltaics materials. Micron, 2021, 140, 102981.	2.2	11
7	A pyrrolopyridazinedione-based copolymer for fullerene-free organic solar cells. New Journal of Chemistry, 2021, 45, 1001-1009.	2.8	3
8	The electron beam freeform fabrication of NiTi shape memory alloys. Part I: Microstructure and physicalâ€“chemical behavior. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, 2021, 235, 709-716.	1.1	2
9	Simulating the Performance of a Formamidinium Based Mixed Cation Lead Halide Perovskite Solar Cell. Materials, 2021, 14, 6341.	2.9	19
10	Recent Progress in the Design of Fused-Ring Non-Fullerene Acceptorsâ”€Relations between Molecular Structure and Optical, Electronic, and Photovoltaic Properties. ACS Applied Energy Materials, 2021, 4, 11899-11981.	5.1	37
11	Synthesis and characterization of zinc di(O-2,2-dimethylpentan-3-yl dithiocarbonates) bearing pyridine or tetramethylethylenediamine coligands and investigation of their thermal conversion mechanisms towards nanocrystalline zinc sulfide. Dalton Transactions, 2020, 49, 14564-14575.	3.3	6
12	Comparison of fluorene, silafluorene and carbazole as linkers in perylene monoimide based non-fullerene acceptors. Materials Advances, 2020, 1, 2095-2106.	5.4	7
13	New Solar Cellâ€“Battery Hybrid Energy System: Integrating Organic Photovoltaics with Li-Ion and Na-Ion Technologies. ACS Sustainable Chemistry and Engineering, 2020, 8, 19155-19168.	6.7	14
14	Elemental Nanoanalysis of Interfacial Aluminaâ€“Aryl Fluoride Interactions in Fullereneâ€Free Organic Tandem Solar Cells. Advanced Materials Interfaces, 2019, 6, 1901053.	3.7	8
15	Dependence of material properties and photovoltaic performance of triple cation tin perovskites on the iodide to bromide ratio. Monatshefte FÃ¼r Chemie, 2019, 150, 1921-1927.	1.8	10
16	Elucidation of Donor:Acceptor Phase Separation in Nonfullerene Organic Solar Cells and Its Implications on Device Performance and Charge Carrier Mobility. ACS Applied Energy Materials, 2019, 2, 7535-7545.	5.1	11
17	Improved Charge Separation and Photovoltaic Performance of BiI₃ Absorber Layers by Use of an In Situ Formed BiSI Interlayer. ACS Applied Energy Materials, 2019, 2, 7056-7061.	5.1	20
18	Ligand-free preparation of polymer/CuInS₂ nanocrystal films and the influence of 1,3-benzenedithiol on their photovoltaic performance and charge recombination properties. Journal of Materials Chemistry C, 2019, 7, 943-952.	5.5	8

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19	Hot injection synthesis of CuInS₂ nanocrystals using metal xanthates and their application in hybrid solar cells. New Journal of Chemistry, 2019, 43, 356-363.	2.8	15
20	The effect of alkylthio substituents on the photovoltaic properties of conjugated polymers. Organic Electronics, 2019, 68, 50-55.	2.6	7
21	Modification of NiOx hole transport layers with 4-bromobenzylphosphonic acid and its influence on the performance of lead halide perovskite solar cells. Journal of Materials Science: Materials in Electronics, 2019, 30, 9602-9611.	2.2	16
22	Synthesis of a tetrazineâ€“quaterthiophene copolymer and its optical, structural and photovoltaic properties. Journal of Materials Science, 2019, 54, 10065-10076.	3.7	8
23	Photovoltaic properties of a triple cation methylammonium/formamidinium/phenylethylammonium tin iodide perovskite. Journal of Materials Chemistry A, 2019, 7, 9523-9529.	10.3	31
24	A Benzobis(thiazole)-Based Copolymer for Highly Efficient Non-Fullerene Polymer Solar Cells. Chemistry of Materials, 2019, 31, 919-926.	6.7	28
25	Influence of the Iodide to Bromide Ratio on Crystallographic and Optoelectronic Properties of Rubidium Antimony Halide Perovskites. ACS Applied Energy Materials, 2019, 2, 539-547.	5.1	28
26	Multi-layered nanoscale cellulose/CuInS2 sandwich type thin films. Carbohydrate Polymers, 2019, 203, 219-227.	10.2	12
27	The effect of polymer molecular weight on the performance of PTB7-Th:O-IDTBR non-fullerene organic solar cells. Journal of Materials Chemistry A, 2018, 6, 9506-9516.	10.3	76
28	Enhanced Performance of Germanium Halide Perovskite Solar Cells through Compositional Engineering. ACS Applied Energy Materials, 2018, 1, 343-347.	5.1	200
29	Investigation of NiOx-hole transport layers in triple cation perovskite solar cells. Journal of Materials Science: Materials in Electronics, 2018, 29, 1847-1855.	2.2	25
30	Efficient Hybrid Solar Cells Based on Solution Processed Mesoporous TiO₂/Tin(II) Sulfide Heterojunctions. ACS Applied Energy Materials, 2018, 1, 3042-3047.	5.1	26
31	A Zero-Dimensional Mixed-Anion Hybrid Halogenobismuthate(III) Semiconductor: Structural, Optical, and Photovoltaic Properties. Inorganic Chemistry, 2018, 57, 10576-10586.	4.0	26
32	Progress on lead-free metal halide perovskites for photovoltaic applications: a review. Monatshefte FÃ¼r Chemie, 2017, 148, 795-826.	1.8	431
33	Biobased Cellulosicâ€“CuInS₂ Nanocomposites for Optoelectronic Applications. ACS Sustainable Chemistry and Engineering, 2017, 5, 3115-3122.	6.7	24
34	Synthesis of a conjugated pyrrolopyridazinedioneâ€“benzodithiophene (PPDâ€“BDT) copolymer and its application in organic and hybrid solar cells. Monatshefte FÃ¼r Chemie, 2017, 148, 855-862.	1.8	10
35	Nickel sulfide thin films and nanocrystals synthesized from nickel xanthate precursors. Journal of Materials Science, 2017, 52, 10898-10914.	3.7	41
36	A comparison of copper indium sulfide-polymer nanocomposite solar cells in inverted and regular device architecture. Synthetic Metals, 2016, 222, 115-123.	3.9	13

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37	Room temperature synthesis of CuInS₂ nanocrystals. RSC Advances, 2016, 6, 106120-106129.	3.6	30
38	The Role of Oxygen in the Degradation of Methylammonium Lead Trihalide Perovskite Photoactive Layers. Angewandte Chemie - International Edition, 2015, 54, 8208-8212.	13.8	749
39	The Role of Oxygen in the Degradation of Methylammonium Lead Trihalide Perovskite Photoactive Layers. Angewandte Chemie, 2015, 127, 8326-8330.	2.0	154
40	Formation of porous SnS nanoplate networks from solution and their application in hybrid solar cells. Chemical Communications, 2015, 51, 10198-10201.	4.1	41
41	Structural, optical and charge generation properties of chalcostibite and tetrahedrite copper antimony sulfide thin films prepared from metal xanthates. Journal of Materials Chemistry A, 2015, 3, 24155-24162.	10.3	74
42	Polymer/Nanocrystal Hybrid Solar Cells: Influence of Molecular Precursor Design on Film Nanomorphology, Charge Generation and Device Performance. Advanced Functional Materials, 2015, 25, 409-420.	14.9	44
43	Investigation on the formation of copper zinc tin sulphide nanoparticles from metal salts and dodecanethiol. Materials Chemistry and Physics, 2015, 149-150, 94-98.	4.0	6
44	Flexible polymer/copper indium sulfide hybrid solar cells and modules based on the metal xanthate route and low temperature annealing. Solar Energy Materials and Solar Cells, 2014, 124, 117-125.	6.2	35
45	Influence of TiO x and Ti cathode interlayers on the performance and stability of hybrid solar cells. Solar Energy Materials and Solar Cells, 2014, 130, 217-224.	6.2	5
46	Worldwide outdoor round robin study of organic photovoltaic devices and modules. Solar Energy Materials and Solar Cells, 2014, 130, 281-290.	6.2	23
47	In situ syntheses of semiconducting nanoparticles in conjugated polymer matrices and their application in photovoltaics.. Hybrid Materials, 2014, 1, .	0.7	4
48	Real time X-ray scattering study of the formation of ZnS nanoparticles using synchrotron radiation. Materials Chemistry and Physics, 2014, 144, 310-317.	4.0	6
49	Nanoimprinted Comb Structures in a Low Bandgap Polymer: Thermal Processing and Their Application in Hybrid Solar Cells. ACS Applied Materials & Interfaces, 2014, 6, 7633-7642.	8.0	9
50	Direct extreme UV-lithographic conversion of metal xanthates into nanostructured metal sulfide layers for hybrid photovoltaics. Journal of Materials Chemistry A, 2013, 1, 11135.	10.3	24
51	Bismuth sulphideâ€“polymer nanocomposites from a highly soluble bismuth xanthate precursor. Journal of Materials Chemistry C, 2013, 1, 7825.	5.5	52
52	Exploring polymer/nanoparticle hybrid solar cells in tandem architecture. RSC Advances, 2013, 3, 18643.	3.6	17
53	Solution-processed copper zinc tin sulfide thin films from metal xanthate precursors. Monatshefte FÃ¼r Chemie, 2013, 144, 273-283.	1.8	27
54	Solution-processed small molecule/copper indium sulfide hybrid solar cells. Solar Energy Materials and Solar Cells, 2013, 114, 38-42.	6.2	26

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55	Influence of morphology and polymer:nanoparticle ratio on device performance of hybrid solar cellsâ€"an approach in experiment and simulation. Nanotechnology, 2013, 24, 484005.	2.6	27
56	Comparing photovoltaic parameters of conventional cathodes with a novel silver nanoparticle/aluminum cathode in polymer based solar cells. , 2013, , .		0
57	UV-induced modulation of the conductivity of polyaniline: towards a photo-patternable charge injection layer for structured organic light emitting diodes. Journal of Materials Chemistry, 2012, 22, 2922-2928.	6.7	29
58	Comprehensive Investigation of Silver Nanoparticle/Aluminum Electrodes for Copper Indium Sulfide/Polymer Hybrid Solar Cells. Journal of Physical Chemistry C, 2012, 116, 19191-19196.	3.1	17
59	Investigation of CuInS₂ Thin Film Formation by a Low-Temperature Chemical Deposition Method. ACS Applied Materials & Interfaces, 2012, 4, 382-390.	8.0	18
60	Copper zinc tin sulfide layers prepared from solution processable metal dithiocarbamate precursors. Materials Chemistry and Physics, 2012, 136, 582-588.	4.0	17
61	Structural characterisation of alkyl amine-capped zinc sulphide nanoparticles. Journal of Colloid and Interface Science, 2012, 369, 154-159.	9.4	16
62	Synthesis and characterization of copper zinc tin chalcogenide nanoparticles: Influence of reactants on the chemical composition. Solar Energy Materials and Solar Cells, 2012, 101, 87-94.	6.2	61
63	Patterned Immobilization of a Luminescent Ru(II) Complex in Polymer Films Using the Photoreaction of Benzyl thiocyanate: Toward Color Emission Tuning of Electroluminescent Devices. Macromolecular Chemistry and Physics, 2012, 213, 367-373.	2.2	3
64	The stoichiometry of single nanoparticles of copper zinc tin selenide. Chemical Communications, 2011, 47, 2050-2052.	4.1	44
65	Investigation of the Formation of CuInS₂Nanoparticles by the Oleylamine Route: Comparison of Microwave-Assisted and Conventional Syntheses. Inorganic Chemistry, 2011, 50, 193-200.	4.0	84
66	An inter-laboratory stability study of roll-to-roll coated flexible polymer solar modules. Solar Energy Materials and Solar Cells, 2011, 95, 1398-1416.	6.2	132
67	Consensus stability testing protocols for organic photovoltaic materials and devices. Solar Energy Materials and Solar Cells, 2011, 95, 1253-1267.	6.2	812
68	Electron Beamâ€Induced Current (EBIC) in solutionâ€processed solar cells. Scanning, 2011, 33, 1-6.	1.5	42
69	A Direct Route Towards Polymer/Copper Indium Sulfide Nanocomposite Solar Cells. Advanced Energy Materials, 2011, 1, 1046-1050.	19.5	102
70	CuInS2â€"Poly(3-(ethyl-4-butanoate)thiophene) nanocomposite solar cells: Preparation by an in situ formation route, performance and stability issues. Solar Energy Materials and Solar Cells, 2011, 95, 1354-1361.	6.2	45
71	Metal sulfideâ€"polymer nanocomposite thin films prepared by a direct formation route for photovoltaic applications. Thin Solid Films, 2011, 519, 4201-4206.	1.8	24
72	Solar Cells based on Cu2ZnSnS4 Thin Films Prepared from Metal Salts and Thioacetamide. Materials Research Society Symposia Proceedings, 2010, 1247, 1.	0.1	0

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73	Polymer - CuInS<inf>2</inf> hybrid solar cells obtained by an in-situ formation route. , 2010, , .		2
74	Investigation of Cu₂ZnSnS₄ Formation from Metal Salts and Thioacetamide. Chemistry of Materials, 2010, 22, 3399-3406.	6.7	109
75	Investigation of Primary Crystallite Sizes in Nanocrystalline ZnS Powders: Comparison of Microwave Assisted with Conventional Synthesis Routes. Inorganic Chemistry, 2008, 47, 3014-3022.	4.0	25
76	Photoreactive Polynorbornene Bearing 4-(Diphenylamino)benzoate Groups: Synthesis and Application in Electroluminescent Devices. Monatshefte FÃ¼r Chemie, 2007, 138, 269-276.	1.8	10
77	Hybrid solar cells based on CuInS2 and MEH-PPV. , 2006, , .		7
78	Investigation of new polymers with regard to the application in hybrid solar cells. , 2006, , .		0