James E Miller

List of Publications by Year
in descending order

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67 papers	3,743 citations	159585 30 h-index	128289 60 g-index
68 all docs	68 docs citations	68 times ranked	3828 citing authors

#	Article	IF	Citations
1	Synthesis of Platinum Nanowire Networks Using a Soft Template. Nano Letters, 2007, 7, 3650-3655.	9.1	328
2	Batch microreactor studies of lignin and lignin model compound depolymerization by bases in alcohol solvents. Fuel, 1999, 78, 1363-1366.	6.4	234
3	Solar Thermochemical Water-Splitting Ferrite-Cycle Heat Engines. Journal of Solar Energy Engineering, Transactions of the ASME, 2008, 130, .	1.8	227
4	Methanol production from CO2 using solar-thermal energy: process development and techno-economic analysis. Energy and Environmental Science, 2011, 4, 3122.	30.8	214
5	Metal oxide composites and structures for ultra-high temperature solar thermochemical cycles. Journal of Materials Science, 2008, 43, 4714-4728.	3.7	213
6	Synthesis of peptide-nanotube platinum-nanoparticle composites. Chemical Communications, 2004, , 1044-1045.	4.1	208
7	Fuel production from CO2 using solar-thermal energy: system level analysis. Energy and Environmental Science, 2012, 5, 8417.	30.8	177
8	Two-Step Water Splitting Using Mixed-Metal Ferrites: Thermodynamic Analysis and Characterization of Synthesized Materials. Energy & Fuels, 2008, 22, 4115-4124.	5.1	152
9	Factors Affecting the Efficiency of Solar Driven Metal Oxide Thermochemical Cycles. Industrial & Engineering Chemistry Research, 2013, 52, 3276-3286.	3.7	146
10	Considerations in the Design of Materials for Solarâ€Driven Fuel Production Using Metalâ€Oxide Thermochemical Cycles. Advanced Energy Materials, 2014, 4, 1300469.	19.5	138
11	Investigation of La Sr1â^'Co M1â^'O3â^' (M = Mn, Fe) perovskite materials as thermochemical energy storage media. Solar Energy, 2015, 118, 451-459.	6.1	117
12	Advanced Support Structures for Enhanced Catalytic Activity. Industrial & Engineering Chemistry Research, 2004, 43, 51-55.	3.7	109
13	Synthesis of Platinum Nanowheels Using a Bicellar Template. Journal of the American Chemical Society, 2008, 130, 12602-12603.	13.7	92
14	Ion Exchange of Group I Metals by Hydrous Crystalline Silicotitanates. Industrial & Engineering Chemistry Research, 1996, 35, 4246-4256.	3.7	89
15	Foamlike Nanostructures Created from Dendritic Platinum Sheets on Liposomes. Chemistry of Materials, 2006, 18, 2335-2346.	6.7	88
16	Doped calcium manganites for advanced high-temperature thermochemical energy storage. International Journal of Energy Research, 2016, 40, 280-284.	4.5	81
17	Organometallic chemical vapor deposition of III/V compound semiconductors with novel organometallic precursors. Journal of the American Chemical Society, 1988, 110, 6248-6249.	13.7	66
18	Re-energizing CO2 to fuels with the sun: Issues of efficiency, scale, and economics. Journal of CO2 Utilization, 2013, 1, 28-36.	6.8	61

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19	Ferrite-YSZ composites for solar thermochemical production of synthetic fuels: in operando characterization of CO2 reduction. Journal of Materials Chemistry, 2011, 21, 10767.	6.7	58
20	Morphological families of self-assembled porphyrin structures and their photosensitization of hydrogen generation. Chemical Communications, 2011, 47, 6069.	4.1	55
21	Monodisperse porphyrin nanospheres synthesized by coordination polymerization. Nanotechnology, 2008, 19, 395604.	2.6	54
22	Modeling Multicomponent Ion Exchange Equilibrium Utilizing Hydrous Crystalline Silicotitanates by a Multiple Interactive Ion Exchange Site Model. Industrial & Engineering Chemistry Research, 1997, 36, 2427-2434.	3.7	45
23	The formation of active species for oxidative dehydrogenation of propane on magnesium molybdates. Catalysis Letters, 1999, 58, 147-152.	2.6	45
24	Platinum nanodendrites. Nanotechnology, 2006, 17, 1300-1308.	2.6	44
25	Oxygen transport and isotopic exchange in iron oxide/YSZ thermochemically-active materials via splitting of C(18O)2 at high temperature studied by thermogravimetric analysis and secondary ion mass spectrometry. Journal of Materials Chemistry, 2012, 22, 6726.	6.7	39
26	Comparative analysis of environmental impact of S2P (Sunshine to Petrol) system for transportation fuel production. Applied Energy, 2013, 111, 1089-1098.	10.1	38
27	Monolithic Supports with Unique Geometries and Enhanced Mass Transfer. Industrial & Engineering Chemistry Research, 2005, 44, 302-308.	3.7	37
28	Evolution of Dendritic Platinum Nanosheets into Ripening-Resistant Holey Sheets. Nano Letters, 2009, 9, 1534-1539.	9.1	37
29	Templated growth of platinum nanowheels using the inhomogeneous reaction environment of bicelles. Physical Chemistry Chemical Physics, 2011, 13, 4846-4852.	2.8	37
30	Oxidative dehydrogenation of ethane over iron phosphate catalysts. Applied Catalysis A: General, 2002, 231, 281-292.	4.3	34
31	Cs+ Ion Exchange Kinetics in Complex Electrolyte Solutions Using Hydrous Crystalline Silicotitanates. Industrial & Engineering Chemistry Research, 1997, 36, 5377-5383.	3.7	32
32	Growth and characterization of gallium arsenide using single-source precursors: OMCVD and bulk pyrolysis studies. Chemistry of Materials, 1990, 2, 589-593.	6.7	28
33	Nanostructured Pt/C electrocatalysts with high platinum dispersions through zeolite-templating. Microporous and Mesoporous Materials, 2007, 101, 440-444.	4.4	28
34	Testing of a CR5 Solar Thermochemical Heat Engine Prototype. , 2010, , .		27
35	Solar thermal decoupled water electrolysis process I: Proof of concept. Chemical Engineering Science, 2012, 84, 372-380.	3.8	26
36	Highly Selective Inorganic Crystalline Ion Exchange Material for Sr2+in Acidic Solutions. Environmental Science & Technology, 1996, 30, 3630-3633.	10.0	24

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37	Zeolite-templated Pt/C electrocatalysts. Microporous and Mesoporous Materials, 2007, 104, 236-247.	4.4	24
38	Silicaâ^'Metal Coreâ^'Shells and Metal Shells Synthesized by Porphyrin-Assisted Photocatalysis. Chemistry of Materials, 2008, 20, 7434-7439.	6.7	23
39	Coextrusion of Zirconiaâ€"Iron Oxide Honeycomb Substrates for Solar-Based Thermochemical Generation of Carbon Monoxide for Renewable Fuels. Energy & Fuels, 2012, 26, 712-721.	5.1	23
40	Growth of epitaxial (100) gallium arsenide films using the single-source precursor [Me2Ga(.mu.-t-Bu2As)]2. Chemistry of Materials, 1992, 4, 7-9.	6.7	22
41	Pyrolysis studies of the single-source gallium arsenide precursors [Me2Ga(.mu.-As-i-Pr2)]3, [Me2Ga(.mu.-AsMe2)]3, [Me2Ga(.mu.-As-t-Bu2)]2, and [Et2Ga(.mu.-As-t-Bu2)]2. Chemistry of Materials, 1992, 4, 447-452.	6.7	22
42	ABO3 (A = La, Ba, Sr, K; B = Co, Mn, Fe) perovskites for thermochemical energy storage. AIP Conference Proceedings, 2016, , .	0.4	20
43	The preparation and characterization of novel Pt/C electrocatalysts with controlled porosity and cluster size. Journal of Materials Chemistry, 2007, 17, 3330.	6.7	19
44	Materials Development for the CR5 Solar Thermochemical Heat Engine. , 2006, , 311.		16
45	H2O splitting via a two-step solar thermoelectrolytic cycle based on non-stoichiometric ceria redox reactions: Thermodynamic analysis. International Journal of Hydrogen Energy, 2017, 42, 18785-18793.	7.1	15
46	Oxidation reactions of ethane over Baâ€"Ceâ€"O based perovskites. Applied Catalysis A: General, 2000, 201, 45-54.	4.3	14
47	Effect of surface phosphorus on the oxidative dehydrogenation of ethane: A first-principles investigation. Journal of Chemical Physics, 2002, 117, 8080-8088.	3.0	14
48	Impact of copper on the performance and sulfur tolerance of barium-based NOx storage-reduction catalysts. Applied Catalysis B: Environmental, 2008, 78, 315-323.	20.2	13
49	Synthesis and Characterization of Ferrite Materials for Thermochemical CO2Splitting Using Concentrated Solar Energy. ACS Symposium Series, 2010, , 1-13.	0.5	11
50	Compositional and operational impacts on the thermochemical reduction of CO₂ to CO by iron oxide/yttria-stabilized zirconia. RSC Advances, 2021, 11, 1493-1502.	3.6	11
51	Development and Properties of Cesium Selective Crystalline Silicotitanate (CST) Ion Exchangers for Radioactive Waste Applications. , 1998, , 269-286.		10
52	Using in-situ techniques to probe high-temperature reactions: thermochemical cycles for the production of synthetic fuels from CO2 and water. Powder Diffraction, 2012, 27, 117-125.	0.2	9
53	Techno-Economic Analysis of a Concentrating Solar Power Plant Using Redox-Active Metal Oxides as Heat Transfer Fluid and Storage Media. Frontiers in Energy Research, 2021, 9, .	2.3	8
54	Thermodynamic Analysis of Mixed-Metal Ferrites for Hydrogen Production by Two-Step Water Splitting. , 2006, , 285.		7

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55	Chemical Beam Epitaxy and Characterization of GaAs from Bis(tert-butylarsenido)dimethylgallane Dimer and Bis(tert-butylarsenido)diethylgallane Dimer. Chemistry of Materials, 1994, 6, 343-348.	6.7	4
56	Evolution of dendritic nanosheets into durable holey sheets: a lattice gas simulation study. Journal of Porphyrins and Phthalocyanines, 2011, 15, 449-458.	0.8	4
57	Thermodynamic assessment of an electrically-enhanced thermochemical hydrogenÂproduction (EETHP) concept for renewable hydrogen generation. International Journal of Hydrogen Energy, 2017, 42, 14380-14389.	7.1	4
58	Modified Calcium Manganites for Thermochemical Energy Storage Applications. Frontiers in Energy Research, 2022, 10, .	2.3	4
59	Reactive Structures for Two-Step Thermochemical Cycles Based on Non-Volatile Metal Oxides. , 2009, , .		3
60	Splitting CO2 to produce syngas and hydrocarbon fuels: PEC and STC. MRS Bulletin, 2017, 42, 878-879.	3.5	3
61	Structure-Property Relationships of BaCeO Perovskites for the Oxidative Dehydrogenation of Alkanes. Materials Research Society Symposia Proceedings, 1997, 497, 21.	0.1	2
62	ToF-SIMS analysis of iron oxide particle oxidation by isotopic and multivariate analysis. Surface and Interface Analysis, 2013, 45, 320-323.	1.8	2
63	SNL-1, a Highly Selective Inorganic Crystalline Ion Exchange Material for Sr2+ in Acidic Solutions. Materials Research Society Symposia Proceedings, 1995, 412, 659.	0.1	1
64	Born in the lab: Hydrocarbon fuels ditch their fossil origins. MRS Bulletin, 2017, 42, 630-631.	3.5	1
65	Deposition and Characterization of Highly Oriented Mg3(VO4)2 Thin-Film Catalysts. Journal of Catalysis, 2002, 208, 6-14.	6.2	0
66	Zeolite-templated electrocatalysts for fuel cells. Studies in Surface Science and Catalysis, 2007, 170, 1552-1557.	1.5	0
67	Cerium Oxide Materials for the Solar Thermochemical Decomposition of Carbon Dioxide. , 2010, , .		0