Stuart Licht

List of Publications by Year
in descending order

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137 papers	6,382 citations	61857 43 h-index	74018 75 g-index
147 all docs	147 docs citations	147 times ranked	5112 citing authors

#	Article	IF	Citations
1	Efficient Solar Water Splitting, Exemplified by RuO2-Catalyzed AlGaAs/Si Photoelectrolysis. Journal of Physical Chemistry B, 2000, 104, 8920-8924.	1.2	364
2	Energetic Iron(VI) Chemistry: The Super-Iron Battery. Science, 1999, 285, 1039-1042.	6.0	221
3	One-Pot Synthesis of Carbon Nanofibers from CO₂. Nano Letters, 2015, 15, 6142-6148.	4.5	209
4	The Fundamental Conductivity and Resistivity of Water. Electrochemical and Solid-State Letters, 2005, 8, E16.	2.2	181
5	Carbon Nanotubes Produced from Ambient Carbon Dioxide for Environmentally Sustainable Lithium-Ion and Sodium-Ion Battery Anodes. ACS Central Science, 2016, 2, 162-168.	5.3	147
6	Aqueous Solubilities, Solubility Products and Standard Oxidationâ€Reduction Potentials of the Metal Sulfides. Journal of the Electrochemical Society, 1988, 135, 2971-2975.	1.3	146
7	Multiple Band Gap Semiconductor/Electrolyte Solar Energy Conversion. Journal of Physical Chemistry B, 2001, 105, 6281-6294.	1.2	146
8	A light-variation insensitive high efficiency solar cell. Nature, 1987, 326, 863-864.	13.7	138
9	A New Solar Carbon Capture Process: Solar Thermal Electrochemical Photo (STEP) Carbon Capture. Journal of Physical Chemistry Letters, 2010, 1, 2363-2368.	2.1	138
10	Efficient Solarâ€Driven Synthesis, Carbon Capture, and Desalinization, STEP: Solar Thermal Electrochemical Production of Fuels, Metals, Bleach. Advanced Materials, 2011, 23, 5592-5612.	11.1	119
11	Analysis of ferrate(VI) compounds and super-iron Fe(VI) battery cathodes: FTIR, ICP, titrimetric, XRD, UV/VIS, and electrochemical characterization. Journal of Power Sources, 2001, 101, 167-176.	4.0	116
12	Electrochemical synthesis of ammonia directly from N₂ and water over iron-based catalysts supported on activated carbon. Green Chemistry, 2017, 19, 298-304.	4.6	116
13	One-pot synthesis of nanostructured carbon materials from carbon dioxide via electrolysis in molten carbonate salts. Carbon, 2016, 106, 208-217.	5.4	105
14	STEP (Solar Thermal Electrochemical Photo) Generation of Energetic Molecules: A Solar Chemical Process to End Anthropogenic Global Warming. Journal of Physical Chemistry C, 2009, 113, 16283-16292.	1.5	93
15	Efficient photoelectrochemical solar cells from electrolyte modification. Nature, 1990, 345, 330-333.	13.7	90
16	A description of energy conversion in photoelectrochemical solar cells. Nature, 1987, 330, 148-151.	13.7	87
17	Solar Water Splitting To Generate Hydrogen Fuel:Â Photothermal Electrochemical Analysis. Journal of Physical Chemistry B, 2003, 107, 4253-4260.	1.2	82
18	Disproportionation of Aqueous Sulfur and Sulfide:Â Kinetics of Polysulfide Decomposition. Journal of Physical Chemistry B, 1997, 101, 2540-2545.	1.2	77

#	Article	IF	Citations
19	Revealing nitrogen-containing species in commercial catalysts used for ammonia electrosynthesis. Nature Catalysis, 2020, 3, 1055-1061.	16.1	73
20	The Minimum Electrolytic Energy Needed To Convert Carbon Dioxide to Carbon by Electrolysis in Carbonate Melts. Journal of Physical Chemistry C, 2015, 119, 23342-23349.	1.5	70
21	STEP cement: Solar Thermal Electrochemical Production of CaO without CO2 emission. Chemical Communications, 2012, 48, 6019.	2.2	68
22	Novel Aqueous Aluminum/Sulfur Batteries. Journal of the Electrochemical Society, 1993, 140, L4-L6.	1.3	66
23	Chemical synthesis of battery grade super-iron barium and potassium Fe(VI) ferrate compounds. Journal of Power Sources, 2001, 99, 7-14.	4.0	63
24	STEP Iron, a Chemistry of Iron Formation without CO₂ Emission: Molten Carbonate Solubility and Electrochemistry of Iron Ore Impurities. Journal of Physical Chemistry C, 2011, 115, 25138-25147.	1.5	62
25	Transformation of the greenhouse gas CO2 by molten electrolysis into a wide controlled selection of carbon nanotubes. Journal of CO2 Utilization, 2017, 18, 335-344.	3.3	59
26	pH Measurement in Concentrated Alkaline Solutions. Analytical Chemistry, 1985, 57, 514-519.	3.2	58
27	Recent Advances in Solar Thermal Electrochemical Process (STEP) for Carbon Neutral Products and High Value Nanocarbons. Accounts of Chemical Research, 2019, 52, 3177-3187.	7.6	55
28	STEPâ€"A Solar Chemical Process to End Anthropogenic Global Warming. II: Experimental Results. Journal of Physical Chemistry C, 2011, 115, 11803-11821.	1.5	54
29	STEP carbon capture â€“ The barium advantage. Journal of CO2 Utilization, 2013, 2, 58-63.	3.3	54
30	Silver Mediation of Fe(VI) Charge Transfer:Â Activation of the K2FeO4Super-iron Cathode. Journal of Physical Chemistry B, 2002, 106, 5947-5955.	1.2	52
31	Advances in Understanding the Mechanism and Improved Stability of the Synthesis of Ammonia from Air and Water in Hydroxide Suspensions of Nanoscale Fe₂O₃. Inorganic Chemistry, 2014, 53, 10042-10044.	1.9	52
32	Electrochemical Alkaline Fe(VI) Water Purification and Remediation. Environmental Science & Technology, 2005, 39, 8071-8076.	4.6	51
33	A novel rechargeable zinc-air battery with molten salt electrolyte. Journal of Power Sources, 2017, 342, 435-441.	4.0	51
34	Carbon nanotube wools made directly from CO2 by molten electrolysis: Value driven pathways to carbon dioxide greenhouse gas mitigation. Materials Today Energy, 2017, 5, 230-236.	2.5	51
35	Tracking airborne CO2 mitigation and low cost transformation into valuable carbon nanotubes. Scientific Reports, 2016, 6, 27760.	1.6	50
36	High solubility pathway for the carbon dioxide free production of iron. Chemical Communications, 2010, 46, 7004.	2.2	49

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37	Thermodynamic assessment of CO2 to carbon nanofiber transformation for carbon sequestration in a combined cycle gas or a coal power plant. Energy Conversion and Management, 2016, 122, 400-410.	4.4	48
38	A Light Addressable Photoelectrochemical Cyanide Sensor. Analytical Chemistry, 1996, 68, 954-959.	3.2	47
39	Light invariant, efficient, multiple band gap AlGaAs/Si/metal hydride solar cell. Applied Physics Letters, 1999, 74, 4055-4057.	1.5	47
40	Efficient STEP (solar thermal electrochemical photo) production of hydrogen â€“ an economic assessment. International Journal of Hydrogen Energy, 2010, 35, 10867-10882.	3.8	45
41	Speciation Analysis of Aqueous Polyselenide Solutions. Journal of the Electrochemical Society, 1995, 142, 1546-1551.	1.3	44
42	Nonaqueous Phase Fe(VI) Electrochemical Storage and Discharge of Super-Iron/Lithium Primary Batteries. Electrochemical and Solid-State Letters, 1999, 3, 209.	2.2	44
43	Toward Efficient Electrochemical Synthesis of Fe(VI) Ferrate and Super-Iron Battery Compounds. Journal of the Electrochemical Society, 2004, 151, A31.	1.3	43
44	Solar thermoelectric field plus photocatalysis for efficient organic synthesis exemplified by toluene to benzoic acid. Applied Catalysis B: Environmental, 2016, 193, 151-159.	10.8	43
45	Conductometric analysis of the second acid dissociation constant of H2S in highly concentrated aqueous media. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 318, 111-129.	0.3	42
46	Electrochemical potential tuned solar water splitting. Chemical Communications, 2003, , 3006.	2.2	42
47	Chemical mechanism of the high solubility pathway for the carbon dioxide free production of iron. Chemical Communications, 2011, 47, 3081.	2.2	42
48	Rechargeable Fe(iii/vi) super-iron cathodes. Chemical Communications, 2004, , 628.	2.2	41
49	Rapid chemical synthesis of the barium ferrate super-iron Fe (VI) compound, BaFeO4. Journal of Power Sources, 2002, 109, 67-70.	4.0	40
50	Transformation of the greenhouse gas carbon dioxide to graphene. Journal of CO2 Utilization, 2020, 36, 288-294.	3.3	40
51	Thermochemical solar hydrogen generation. Chemical Communications, 2005, , 4635.	2.2	38
52	Molten air â€“ a new, highest energy class of rechargeable batteries. Energy and Environmental Science, 2013, 6, 3646.	15.6	38
53	Fe(VI) Catalyzed Manganese Redox Chemistry:Â Permanganate and Super-Iron Alkaline Batteries. Journal of Physical Chemistry B, 2001, 105, 11933-11936.	1.2	37
54	Cathodic chemistry of high performance Zr coated alkaline materials. Chemical Communications, 2006, , 4341.	2.2	37

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55	A New Technology for Efficient, High Yield Carbon Dioxide and Water Transformation to Methane by Electrolysis in Molten Salts. Advanced Materials Technologies, 2016, 1, 1600092.	3.0	37
56	Exploration of alkali cation variation on the synthesis of carbon nanotubes by electrolysis of CO2 in molten carbonates. Journal of CO2 Utilization, 2019, 34, 303-312.	3.3	37
57	Synthesis and analysis of Ag2FeO4 Fe(VI) ferrate super-iron cathodes. Electrochemistry Communications, 2005, 7, 931-936.	2.3	36
58	Cathodic Charge Transfer and Analysis of Cs[sub 2]FeO[sub 4], K[sub 2]FeO[sub 4], and Mixed Alkali Fe(VI) Ferrate Super-irons. Journal of the Electrochemical Society, 2004, 151, A1147.	1.3	35
59	Energetics of a Zincâ"Sulfur Fuel Cell. Journal of Physical Chemistry B, 2002, 106, 2989-2995.	1.2	34
60	Combined solution effects yield stable thin-film cadmium selenide telluride/polysulfide photoelectrochemical solar cells. The Journal of Physical Chemistry, 1986, 90, 1096-1099.	2.9	33
61	Efficient solar generation of hydrogen fuel â€" a fundamental analysis. Electrochemistry Communications, 2002, 4, 790-795.	2.3	33
62	A novel alkaline redox couple: chemistry of the Fe6+/B2? super-iron boride battery. Chemical Communications, 2007, , 2753.	2.2	32
63	Co-production of cement and carbon nanotubes with a carbon negative footprint. Journal of CO2 Utilization, 2017, 18, 378-389.	3.3	32
64	Advances in electrochemical Fe(VI) synthesis and analysis. Journal of Applied Electrochemistry, 2008, 38, 731-742.	1.5	31
65	A High Energy and Power Novel Aluminum/Nickel Battery. Journal of the Electrochemical Society, 1995, 142, L179-L182.	1.3	29
66	STEP Wastewater Treatment: A Solar Thermal Electrochemical Process for Pollutant Oxidation. ChemSusChem, 2012, 5, 2000-2010.	3.6	28
67	A long cycle life, high coulombic efficiency iron molten air battery. Sustainable Energy and Fuels, 2017, 1, 474-481.	2.5	28
68	Critical STEP advances for sustainable iron production. Green Chemistry, 2013, 15, 881.	4.6	27
69	Sungas Instead of Syngas: Efficient Coproduction of CO and H₂ with a Single Beam of Sunlight. Advanced Science, 2015, 2, 1500260.	5.6	27
70	Evaluation of properties and performance of nanoscopic materials in vanadium diboride/air batteries. Journal of Power Sources, 2013, 239, 244-252.	4.0	26
71	Conductive-Matrix-Mediated Alkaline Fe(III/VI) Charge Transfer:Â Three-Electron Storage, Reversible Super-Iron Thin Film Cathodes. Journal of Physical Chemistry B, 2006, 110, 12394-12403.	1.2	25
72	A High Capacity Li-Ion Cathode: The Fe(III/VI) Super-Iron Cathode. Energies, 2010, 3, 960-972.	1.6	25

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73	STEP organic synthesis: an efficient solar, electrochemical process for the synthesis of benzoic acid. Green Chemistry, 2014, 16, 4758-4766.	4.6	25
74	Study of Various (â€œSuper Ironâ€) MFeO[sub 4] Compounds in Li Salt Solutions as Potential Cathode Materials for Li Batteries. Journal of the Electrochemical Society, 2006, 153, A32.	1.3	24
75	Carbon Nanoâ€Onions Made Directly from CO2by Molten Electrolysis for Greenhouse Gas Mitigation. Advanced Sustainable Systems, 2019, 3, 1900056.	2.7	24
76	A Novel Aqueous Aluminum/Ferricyanide Battery. Journal of the Electrochemical Society, 1992, 139, L109-L111.	1.3	23
77	Aluminum/Sulfur Battery Discharge in the High Current Domain. Journal of the Electrochemical Society, 1997, 144, L133-L136.	1.3	23
78	The Super-Iron Boride Battery. Journal of the Electrochemical Society, 2008, 155, A297.	1.3	23
79	Nano-VB2 Synthesis from Elemental Vanadium and Boron: Nano-VB2 Anodeâˆ•Air Batteries. Electrochemical and Solid-State Letters, 2012, 15, A12.	2.2	23
80	A Oneâ€Pot Synthesis of Hydrogen and Carbon Fuels from Water and Carbon Dioxide. Advanced Energy Materials, 2015, 5, 1401791.	10.2	23
81	The Net Discharge Mechanism of the VB₂/Air Battery. Journal of the Electrochemical Society, 2015, 162, A192-A197.	1.3	23
82	Amplified CO2 reduction of greenhouse gas emissions with C2CNT carbon nanotube composites. Materials Today Sustainability, 2019, 6, 100023.	1.9	23
83	Recent Advances in Fe(VI) Synthesis. ACS Symposium Series, 2008, , 2-51.	0.5	22
84	A low temperature iron molten air battery. Journal of Materials Chemistry A, 2014, 2, 10577-10580.	5.2	22
85	Rechargeable Zinc Air Batteries and Highly Improved Performance through Potassium Hydroxide Addition to the Molten Carbonate Eutectic Electrolyte. Journal of the Electrochemical Society, 2018, 165, A149-A154.	1.3	22
86	Data on SEM, TEM and Raman Spectra of doped, and wool carbon nanotubes made directly from CO 2 by molten electrolysis. Data in Brief, 2017, 14, 592-606.	0.5	21
87	Potential Enhancement of Polyiodide Redox Couples via Solution Modification. Journal of the Electrochemical Society, 1995, 142, L129-L132.	1.3	19
88	Rational Electrolyte Modification of nâ€‰â€â€‰CdSeâ€‰/â€‰â€‰(â€‰â€‰[â€‰KFeâ€‰(â€‰â€‰CNâ€‰â€‰)â€‰6â€‰] Electrochemical Society, 1992, 139, L23-L26.	1.3	18
89	Solutionâ€Modified nâ€‰â€â€‰GaAsâ€‰/â€‰Aqueous Polyselenide Photoelectrochemistry. Journal of the Electrochemical Society, 1995, 142, 1539-1545.	1.3	18
90	The Low Current Domain of the Aluminum/Sulfur Battery. Journal of the Electrochemical Society, 1997, 144, 948-955.	1.3	18

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91	Aluminum Anodic Behavior in Aqueous Sulfur Electrolytes. Journal of Physical Chemistry B, 1997, 101, 4959-4965.	1.2	18
92	Enhancement of Reversible Nonaqueous Fe(III/VI) Cathodic Charge Transfer. Journal of Physical Chemistry C, 2009, 113, 9884-9891.	1.5	18
93	Stabilized Alkaline Fe(VI) Charge Transfer. Journal of the Electrochemical Society, 2008, 155, A1.	1.3	17
94	Nanoparticle Facilitated Charge Transfer and Voltage of a High Capacity VB2 Anode. Electrochemical and Solid-State Letters, 2011, 14, A83.	2.2	17
95	Comparison of Alternative Molten Electrolytes for Water Splitting to Generate Hydrogen Fuel. Journal of the Electrochemical Society, 2016, 163, F1162-F1168.	1.3	16
96	Magnetic carbon nanotubes: Carbide nucleated electrochemical growth of ferromagnetic CNTs from CO2. Journal of CO2 Utilization, 2020, 40, 101218.	3.3	16
97	One pot facile transformation of CO2 to an unusual 3-D nano-scaffold morphology of carbon. Scientific Reports, 2020, 10, 21518.	1.6	16
98	Reversible Behavior of K[sub 2]Fe(VI)O[sub 4] in Aqueous Media. Electrochemical and Solid-State Letters, 2003, 6, A260.	2.2	15
99	Super-iron nanoparticles with facile cathodic charge transfer. Electrochemistry Communications, 2011, 13, 909-912.	2.3	15
100	Critical advances for the iron molten air battery: a new lowest temperature, rechargeable, ternary electrolyte domain. Journal of Materials Chemistry A, 2015, 3, 21039-21043.	5.2	15
101	Aqueous Polyiodide Spectroscopy and Equilibria and Its Effect on nâ€‰â€â€‰WSe2 Photoelectrochemistry. Journal of the Electrochemical Society, 1995, 142, 845-849.	1.3	14
102	Ultrahigh Specific Power Electrochemistry, Exemplified by Al/MnO4-and Cd/AgO Redox Chemistry. Journal of Physical Chemistry B, 1998, 102, 6780-6786.	1.2	14
103	Solar Driven Thermal Electrochemical Process (STEP) Wastewater Treatment with Synergistic Production of Hydrogen. ECS Electrochemistry Letters, 2013, 2, H34-H36.	1.9	14
104	High Energy Capacity TiB₂/VB₂Composite Metal Boride Air Battery. Journal of the Electrochemical Society, 2015, 162, A432-A436.	1.3	14
105	How does an amalgamated Ni cathode affect carbon nanotube growth? A density functional theory study. RSC Advances, 2016, 6, 27191-27196.	1.7	14
106	Recent advances in synthesis and analysis of Fe(VI) cathodes: solution phase and solid-state Fe(VI) syntheses, reversible thin-film Fe(VI) synthesis, coating-stabilized Fe(VI) synthesis, and Fe(VI) analytical methodologies. Journal of Solid State Electrochemistry, 2008, 12, 1523-1540.	1.2	13
107	Towards efficient solar STEP synthesis of benzoic acid: Role of graphite electrode. Solar Energy, 2015, 113, 303-312.	2.9	13
108	Calcium metaborate induced thin walled carbon nanotube syntheses from CO2 by molten carbonate electrolysis. Scientific Reports, 2020, 10, 15146.	1.6	13

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109	Controlled Growth of Unusual Nanocarbon Allotropes by Molten Electrolysis of CO2. Catalysts, 2022, 12, 125.	1.6	13
110	Flat Band Variation of n-Cadmium Chalcogenides in Aqueous Cyanide. The Journal of Physical Chemistry, 1996, 100, 9082-9087.	2.9	9
111	Higher Capacity, Improved Conductive Matrix VB₂/Air Batteries. Journal of the Electrochemical Society, 2016, 163, A781-A784.	1.3	9
112	Green and scalable separation and purification of carbon materials in molten salt by efficient high-temperature press filtration. Separation and Purification Technology, 2021, 255, 117719.	3.9	9
113	Improved Cycle Iron Molten Air Battery Performance Using a Robust Fin Air Electrode. Journal of the Electrochemical Society, 2017, 164, A88-A92.	1.3	8
114	Controlled Transition Metal Nucleated Growth of Carbon Nanotubes by Molten Electrolysis of CO2. Catalysts, 2022, 12, 137.	1.6	8
115	Enhanced Iron Molten Air Battery Cycle Life and the Chemistry of the Nickel Oxide/Air Interface. Journal of the Electrochemical Society, 2018, 165, A235-A243.	1.3	7
116	Efficient Electrocatalytic Synthesis of Ammonia from Water and Air in a Membraneâ€Free Cell: Confining the Iron Oxide Catalyst to the Cathode. European Journal of Inorganic Chemistry, 2020, 2020, 1428-1436.	1.0	6
117	The green synthesis of exceptional braided, helical carbon nanotubes and nanospiral platelets made directly from CO2. Materials Today Chemistry, 2021, 22, 100529.	1.7	6
118	CO₂ Utilization by Electrolytic Splitting to Carbon Nanotubes in Nonâ€Lithiated, Costâ€Effective, Molten Carbonate Electrolytes. Advanced Sustainable Systems, 2022, 6, .	2.7	6
119	Solar Fuels: A Oneâ€Pot Synthesis of Hydrogen and Carbon Fuels from Water and Carbon Dioxide (Adv.) Tj ETQq1 1 0.784314 rgBT /Ov	10.2	5
120	Sustainable Electrochemical Synthesis of Large Grain- or Catalyst-Sized Iron. Journal of Sustainable Metallurgy, 2016, 2, 405-415.	1.1	5
121	The adoption and mechanism of KIO4 for redox-equilibrated stabilization of FeO4 2â¯ as an equalizer in water. Ionics, 2016, 22, 1967-1972.	1.2	5
122	Nano PdO Activated Iron Molten Air Battery. Journal of Physical Chemistry C, 2018, 122, 8109-8115.	1.5	5
123	Recent Advances in Fe(VI) Charge Storage and Super-Iron Batteries. ACS Symposium Series, 2008, , 197-256.	0.5	3
124	Electrochemical Fe(VI) Water Purification and Remediation. ACS Symposium Series, 2008, , 268-291.	0.5	3
125	PHOTOELECTROCHEMICAL STORAGE CELLS. Series on Photoconversion of Solar Energy, 2008, , 591-632.	0.2	2
126	SECONDARY BATTERIES | Super-Iron Batteries. , 2009, , 262-284.		2

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127	Solar Thermal and Efficient Solar Thermal/Electrochemical Photo Hydrogen Generation. , 0, , 641-664.		2
128	Studying the Reversibility of Multielectron Charge Transfer in Fe(VI) Cathodes Utilizing X-ray Absorption Spectroscopy. Journal of Physical Chemistry C, 2013, 117, 19875-19884.	1.5	2
129	Photoelectrochemical Investigation of Fullerenes. Fullerenes, Nanotubes, and Carbon Nanostructures, 1998, 6, 125-136.	0.6	1
130	Demonstration of a Novel Alkaline Battery Cathode Material: Periodate Salts. Materials Research Society Symposia Proceedings, 2006, 973, 1.	0.1	1
131	STEP Decrease of Anthropogenic CO2: Solar Thermal Electrochemical Production of Energetic Molecules, A Different Solar Energy Conversion Process. ECS Transactions, 2011, 35, 25-30.	0.3	1
132	A Novel High Capacity, Environmental Benign Energy Storage System: Super-iron Boride Battery. Materials Research Society Symposia Proceedings, 2007, 1041, 1.	0.1	0
133	Photoelectrochemistry and hybrid solar conversion. , 0, , 692-710.		0
134	Solar Fuel: Sungas Instead of Syngas: Efficient Coproduction of CO and H2 with a Single Beam of Sunlight (Adv. Sci. 11/2015). Advanced Science, 2015, 2, .	5.6	0
135	Carbon Dioxide Emission Reduction. , 2016, , 421-440.		0
136	Photoelectrochemical Conversion Processes. , 2017, , 779-798.		0
137	Thermal Modeling for High Temperature Electrolysis of Lithium Carbonate with Carbon Dioxide Sequestration. , 2017, , .		0