Alicia Bayon

List of Publications by Year
in descending order

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42 papers	1,129 citations	430874 18 h-index	395702 33 g-index
43 all docs	43 docs citations	43 times ranked	1008 citing authors

#	Article	IF	Citations
1	Operational Limits of Redox Metal Oxides Performing Thermochemical Water Splitting. Energy Technology, 2022, 10, 2100222.	3.8	16
2	Towards chemical equilibrium in thermochemical water splitting. Part 1: Thermal reduction. International Journal of Hydrogen Energy, 2022, 47, 10474-10482.	7.1	10
3	First-principles thermochemical properties of hexagonal and cubic phase BaMnO3. Materials Today Communications, 2022, 31, 103453.	1.9	5
4	Thermal transport and chemical conversion in single reacting sorbent particles. AICHE Journal, 2021, 67, e17267.	3.6	5
5	Dysprosium Oxide-Supported CaO for Thermochemical Energy Storage. Frontiers in Materials, 2021, 8, .	2.4	10
6	Hydrogen from Sunlight and Water: A Side-by-Side Comparison between Photoelectrochemical and Solar Thermochemical Water-Splitting. ACS Energy Letters, 2021, 6, 3096-3113.	17.4	45
7	Thermochemical heat storage at high temperature. Advances in Chemical Engineering, 2021, 58, 247-295.	0.9	8
8	Fundamentals of solar thermochemical gas splitting materials. Advances in Chemical Engineering, 2021, , 55-90.	0.9	3
9	Electronic Structure and High-Temperature Thermochemistry of Oxygen-Deficient BaMO3 (M = Ti â€“ Cu) Perovskites. Journal of Physical Chemistry C, 2020, 124, 27055-27063.	3.1	4
10	Exploring the alternative MnO-Na2CO3 thermochemical cycle for water splitting. Journal of CO2 Utilization, 2020, 42, 101264.	6.8	9
11	Oxidation kinetics of hercynite spinels for solar thermochemical fuel production. Chemical Engineering Journal, 2020, 401, 126015.	12.7	17
12	Reduction kinetics of hercynite redox materials for solar thermochemical water splitting. Chemical Engineering Journal, 2020, 389, 124429.	12.7	13
13	Techno-economic assessment of a high-efficiency, low-cost solar-thermal power system with sodium receiver, phase-change material storage, and supercritical CO2 recompression Brayton cycle. Solar Energy, 2020, 199, 885-900.	6.1	42
14	Experimental, computational and thermodynamic studies in perovskites metal oxides for thermochemical fuel production: A review. International Journal of Hydrogen Energy, 2020, 45, 12653-12679.	7.1	51
15	Effect of plant location on the annual performance of a hydrogen production plant based on CeO2 thermochemical cycle. AIP Conference Proceedings, 2019, , .	0.4	2
16	Calcium, strontium and barium carbonate mixtures for calcination-carbonation thermochemical energy storage. AIP Conference Proceedings, 2019, , .	0.4	4
17	Round robin test on enthalpies of redox materials for thermochemical heat storage: Perovskites. AIP Conference Proceedings, 2019, , .	0.4	4
18	Annual performance of a solar reforming plant for high-temperature thermal processing of minerals. AIP Conference Proceedings, 2019, , .	0.4	1

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19	Kinetics of Solid-Gas Reactions and Their Application to Carbonate Looping Systems. Energies, 2019, 12, 2981.	3.1	69
20	Lattice Expansion in Optimally Doped Manganese Oxide: An Effective Structural Parameter for Enhanced Thermochemical Water Splitting. ACS Catalysis, 2019, 9, 9880-9890.	11.2	29
21	Electronic structure and high-temperature thermochemistry of BaZrO_{3â^Î´}perovskite from first-principles calculations. Physical Chemistry Chemical Physics, 2019, 21, 12468-12476.	2.8	7
22	Particle design and oxidation kinetics of iron-manganese oxide redox materials for thermochemical energy storage. Solar Energy, 2019, 183, 17-29.	6.1	28
23	Friedman method kinetic analysis of CaO-based sorbent for high-temperature thermochemical energy storage. Chemical Engineering Science, 2019, 200, 236-247.	3.8	33
24	Reduction kinetics for large spherical 2:1 ironâ€“manganese oxide redox materials for thermochemical energy storage. Chemical Engineering Science, 2019, 201, 74-81.	3.8	22
25	Comparative Kinetic Analysis of CaCO3/CaO Reaction System for Energy Storage and Carbon Capture. Applied Sciences (Switzerland), 2019, 9, 4601.	2.5	32
26	Annual performance of a thermochemical solar syngas production plant based on non-stoichiometric CeO2. International Journal of Hydrogen Energy, 2019, 44, 1409-1424.	7.1	31
27	Novel solidâ€“solid phase-change cascade systems for high-temperature thermal energy storage. Solar Energy, 2019, 177, 274-283.	6.1	25
28	Impact of ambient temperature on supercritical CO2 recompression Brayton cycle in arid locations: Finding the optimal design conditions. Energy, 2018, 153, 1016-1027.	8.8	63
29	Techno-economic assessment of solidâ€“gas thermochemical energy storage systems for solar thermal power applications. Energy, 2018, 149, 473-484.	8.8	177
30	Design and experimental validation of a computational effective dynamic thermal energy storage tank model. Energy, 2018, 152, 840-857.	8.8	12
31	Gasâ€“Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. Reviews in Mineralogy and Geochemistry, 2018, 84, 1-56.	4.8	39
32	Dynamic modelling of a continuous hydrogen production plant based on a CeO2 thermochemical cycle. AIP Conference Proceedings, 2018, , .	0.4	6
33	Investigation of novel hydroxyapatite-doped CaO material for calcination-carbonation thermochemical energy storage. AIP Conference Proceedings, 2018, , .	0.4	7
34	System-level simulation of a novel solar power tower plant based on a sodium receiver, PCM storage and sCO2 power block. AIP Conference Proceedings, 2018, , .	0.4	7
35	Earth-abundant transition metal oxides with extraordinary reversible oxygen exchange capacity for efficient thermochemical synthesis of solar fuels. Nano Energy, 2018, 50, 347-358.	16.0	40
36	Investigation of lithium sulphate for high temperature thermal energy storage. AIP Conference Proceedings, 2017, , .	0.4	2

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37	Study on shell-and-tube heat exchanger models with different degree of complexity for process simulation and control design. Applied Thermal Engineering, 2017, 124, 1425-1440.	6.0	27
38	Annual Performance of a Solar-Thermochemical Hydrogen Production Plant Based on CeO2 Redox Cycle. , 2017, , .		5
39	Efficient ceria nanostructures for enhanced solar fuel production via high-temperature thermochemical redox cycles. Journal of Materials Chemistry A, 2016, 4, 9614-9624.	10.3	49
40	Role of the physicochemical properties of hausmannite on the hydrogen production via the Mn3O4â€“NaOH thermochemical cycle. International Journal of Hydrogen Energy, 2016, 41, 113-122.	7.1	15
41	Thermochemical energy storage at high temperature via redox cycles of Mn and Co oxides: Pure oxides versus mixed ones. Solar Energy Materials and Solar Cells, 2014, 123, 47-57.	6.2	137
42	Influence of structural and morphological characteristics onÂtheÂhydrogen production and sodium recovery in the NaOHâ€“MnO thermochemical cycle. International Journal of Hydrogen Energy, 2013, 38, 13143-13152.	7.1	17