Felix Donat

List of Publications by Year
in descending order

40 papers	1,846 citations	361045 20 h-index	301761 39 g-index
44 all docs	44 docs citations	44 times ranked	1320 citing authors

#	Article	IF	Citations
1	Chemical looping beyond combustion â€“ a perspective. Energy and Environmental Science, 2020, 13, 772-804.	15.6	325
2	Influence of High-Temperature Steam on the Reactivity of CaO Sorbent for CO₂ Capture. Environmental Science & Technology, 2012, 46, 1262-1269.	4.6	199
3	CO₂ Capture at Medium to High Temperature Using Solid Oxide-Based Sorbents: Fundamental Aspects, Mechanistic Insights, and Recent Advances. Chemical Reviews, 2021, 121, 12681-12745.	23.0	177
4	Optimization of the structural characteristics of CaO and its effective stabilization yield high-capacity CO2 sorbents. Nature Communications, 2018, 9, 2408.	5.8	167
5	Engineering the Cu/Mo2CTx (MXene) interface to drive CO2 hydrogenation to methanol. Nature Catalysis, 2021, 4, 860-871.	16.1	138
6	From waste to high value utilization of spent bleaching clay in synthesizing high-performance calcium-based sorbent for CO2 capture. Applied Energy, 2018, 210, 117-126.	5.1	67
7	Self-activated, nanostructured composite for improved CaL-CLC technology. Chemical Engineering Journal, 2018, 351, 1038-1046.	6.6	63
8	A facile one-pot synthesis of CaO/CuO hollow microspheres featuring highly porous shells for enhanced CO₂ capture in a combined Caâ€“Cu looping process <i>via</i> a template-free synthesis approach. Journal of Materials Chemistry A, 2019, 7, 21096-21105.	5.2	56
9	The interaction between CuO and Al₂O₃ and the reactivity of copper aluminates below 1000ÂÂ°C and their implication on the use of the Cuâ€“Alâ€“O system for oxygen storage and production. RSC Advances, 2016, 6, 113016-113024.	1.7	55
10	Kinetics of oxygen uncoupling of a copper based oxygen carrier. Applied Energy, 2016, 161, 92-100.	5.1	50
11	Reversible Exsolution of Dopant Improves the Performance of Ca₂Fe₂O₅ for Chemical Looping Hydrogen Production. ACS Applied Materials & Interfaces, 2019, 11, 18276-18284.	4.0	50
12	CO2-free conversion of CH4 to syngas using chemical looping. Applied Catalysis B: Environmental, 2020, 278, 119328.	10.8	48
13	A critical assessment of the testing conditions of CaO-based CO2 sorbents. Chemical Engineering Journal, 2018, 336, 544-549.	6.6	47
14	Preventing Agglomeration of CuO-Based Oxygen Carriers for Chemical Looping Applications. ACS Sustainable Chemistry and Engineering, 2021, 9, 5972-5980.	3.2	36
15	Bifunctional core-shell architecture allows stable H2 production utilizing CH4 and CO2 in a catalytic chemical looping process. Applied Catalysis B: Environmental, 2019, 258, 117946.	10.8	34
16	Structural and thermodynamic study of Ca A- or Co B-site substituted SrFeO_{3âˆ’Î´} perovskites for low temperature chemical looping applications. Physical Chemistry Chemical Physics, 2020, 22, 9272-9282.	1.3	34
17	Assessment of the Effect of Process Conditions and Material Characteristics of Alkali Metal Salt Promoted MgO-Based Sorbents on Their CO₂ Capture Performance. ACS Sustainable Chemistry and Engineering, 2021, 9, 6659-6672.	3.2	32
18	CaO-Based CO₂ Sorbents with a Hierarchical Porous Structure Made via Microfluidic Droplet Templating. Industrial & Engineering Chemistry Research, 2020, 59, 7182-7188.	1.8	29

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19	Metal-oxide stabilized CaO/CuO composites for the integrated Ca/Cu looping process. Chemical Engineering Journal, 2021, 403, 126330.	6.6	28
20	Characteristics of Copper-based Oxygen Carriers Supported on Calcium Aluminates for Chemical-Looping Combustion with Oxygen Uncoupling (CLOU). Industrial & Engineering Chemistry Research, 2015, 54, 6713-6723.	1.8	22
21	Development of an effective bi-functional Niâ€"CaO catalyst-sorbent for the sorption-enhanced water gas shift reaction through structural optimization and the controlled deposition of a stabilizer by atomic layer deposition. Sustainable Energy and Fuels, 2020, 4, 713-729.	2.5	20
22	Highly Selective Oxidative Dehydrogenation of Ethane to Ethylene via Chemical Looping with Oxygen Uncoupling through Structural Engineering of the Oxygen Carrier. Advanced Energy Materials, 2022, 12, .	10.2	18
23	Effect of molten sodium nitrate on the decomposition pathways of hydrated magnesium hydroxycarbonate to magnesium oxide probed by<i>in situ</i>total scattering. Nanoscale, 2020, 12, 16462-16473.	2.8	16
24	Redox-Driven Restructuring of FeMnZr-Oxygen Carriers Enhances the Purity and Yield of H₂ in a Chemical Looping Process. ACS Applied Energy Materials, 2018, 1, 1294-1303.	2.5	14
25	The effect of different particle residence time distributions on the chemical looping combustion process. Applied Energy, 2018, 216, 358-366.	5.1	14
26	Combined Partial Oxidation of Methane to Synthesis Gas and Production of Hydrogen or Carbon Monoxide in a Fluidized Bed using Lattice Oxygen. Energy Technology, 2020, 8, 1900655.	1.8	13
27	Combined Syngas and Hydrogen Production using Gas Switching Technology. Industrial & Engineering Chemistry Research, 2021, 60, 3516-3531.	1.8	13
28	Experimental data supported techno-economic assessment of the oxidative dehydrogenation of ethane through chemical looping with oxygen uncoupling. Renewable and Sustainable Energy Reviews, 2021, 149, 111403.	8.2	13
29	Copper-based oxygen carriers supported with alumina/lime for the chemical looping conversion of gaseous fuels. Journal of Energy Chemistry, 2017, 26, 891-901.	7.1	11
30	A thermogravimetric method for the measurement of CO/CO2 ratio at the surface of carbon during combustion. Proceedings of the Combustion Institute, 2019, 37, 2987-2993.	2.4	9
31	Scalable Preparation of Bimetallic Cu/Ni-Based Oxygen Carriers for Chemical Looping. Energy & Fuels, 2020, 34, 11227-11236.	2.5	9
32	Prospects of MgO-based sorbents for CO2 capture applications at high temperatures. Current Opinion in Green and Sustainable Chemistry, 2022, 36, 100645.	3.2	8
33	Amyloid fibril-UiO-66-NH₂ aerogels for environmental remediation. Chemical Communications, 2022, 58, 5104-5107.	2.2	7
34	Chemical Looping Partial Oxidation of Methane: Reducing Carbon Deposition through Alloying. Energy & Fuels, 2022, 36, 9780-9784.	2.5	7
35	Hydrogen production by water splitting using gas switching technology. Powder Technology, 2020, 370, 48-63.	2.1	5
36	The Potential of Gas Switching Partial Oxidation Using Advanced Oxygen Carriers for Efficient H2 Production with Inherent CO2 Capture. Applied Sciences (Switzerland), 2021, 11, 4713.	1.3	4

#	Article	IF	Citations
37	Gas switching technology: Economic attractiveness for chemical looping applications and scale up experience to 50 kWth. International Journal of Greenhouse Gas Control, 2022, 114, 103593.	2.3	3
38	Use of a Chemicalâ€Looping Reaction to Determine the Residence Time Distribution of Solids in a Circulating Fluidized Bed. Energy Technology, 2016, 4, 1230-1236.	1.8	2
39	Phase transitions in germanium telluride nanoparticle phase-change materials studied by temperature-resolved x-ray diffraction. Journal of Applied Physics, 2021, 129, 095102.	1.1	2
40	Modelling â€“ from molecules to mega-scale: general discussion. Faraday Discussions, 2016, 192, 493-509.	1.6	0