Pilar Gayan

List of Publications by Year
in descending order

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189 papers	15,569 citations	15466 65 h-index	18606 119 g-index
189 all docs	189 docs citations	189 times ranked	3517 citing authors

#	Article	IF	Citations
1	Progress in Chemical-Looping Combustion and Reforming technologies. Progress in Energy and Combustion Science, 2012, 38, 215-282.	15.8	1,865
2	Selection of Oxygen Carriers for Chemical-Looping Combustion. Energy & Fuels, 2004, 18, 371-377.	2.5	646
3	Mapping of the range of operational conditions for Cu-, Fe-, and Ni-based oxygen carriers in chemical-looping combustion. Chemical Engineering Science, 2007, 62, 533-549.	1.9	546
4	Chemical looping combustion of solid fuels. Progress in Energy and Combustion Science, 2018, 65, 6-66.	15.8	433
5	Development of Cu-based oxygen carriers for chemical-looping combustion. Fuel, 2004, 83, 1749-1757.	3.4	335
6	Ilmenite Activation during Consecutive Redox Cycles in Chemical-Looping Combustion. Energy & Fuels, 2010, 24, 1402-1413.	2.5	277
7	Kinetics of redox reactions of ilmenite for chemical-looping combustion. Chemical Engineering Science, 2011, 66, 689-702.	1.9	274
8	Chemical Looping Combustion in a 10 kWth Prototype Using a CuO/Al2O3 Oxygen Carrier:â€‰ Effect of Operating Conditions on Methane Combustion. Industrial & Engineering Chemistry Research, 2006, 45, 6075-6080.	1.8	270
9	Operation of a 10kWth chemical-looping combustor during 200h with a CuOâ€“Al2O3 oxygen carrier. Fuel, 2007, 86, 1036-1045.	3.4	261
10	Calcination of calcium-based sorbents at pressure in a broad range of CO2 concentrations. Chemical Engineering Science, 2002, 57, 2381-2393.	1.9	241
11	Demonstration of chemical-looping with oxygen uncoupling (CLOU) process in a 1.5kWth continuously operating unit using a Cu-based oxygen-carrier. International Journal of Greenhouse Gas Control, 2012, 6, 189-200.	2.3	234
12	Impregnated CuO/Al2O3Oxygen Carriers for Chemical-Looping Combustion:â€‰ Avoiding Fluidized Bed Agglomeration. Energy & Fuels, 2005, 19, 1850-1856.	2.5	226
13	Reduction Kinetics of Cu-, Ni-, and Fe-Based Oxygen Carriers Using Syngas (CO + H2) for Chemical-Looping Combustion. Energy & Fuels, 2007, 21, 1843-1853.	2.5	217
14	Effect of Pressure on the Behavior of Copper-, Iron-, and Nickel-Based Oxygen Carriers for Chemical-Looping Combustion. Energy & Fuels, 2006, 20, 26-33.	2.5	214
15	Reduction and Oxidation Kinetics of a Copper-Based Oxygen Carrier Prepared by Impregnation for Chemical-Looping Combustion. Industrial & Engineering Chemistry Research, 2004, 43, 8168-8177.	1.8	210
16	Behavior of ilmenite as oxygen carrier in chemical-looping combustion. Fuel Processing Technology, 2012, 94, 101-112.	3.7	210
17	Development of Cu-based oxygen carriers for Chemical-Looping with Oxygen Uncoupling (CLOU) process. Fuel, 2012, 96, 226-238.	3.4	198
18	Hydrogen production by chemical-looping reforming in a circulating fluidized bed reactor using Ni-based oxygen carriers. Journal of Power Sources, 2009, 192, 27-34.	4.0	171

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19	The use of ilmenite as oxygen-carrier in a 500Wth Chemical-Looping Coal Combustion unit. International Journal of Greenhouse Gas Control, 2011, 5, 1630-1642.	2.3	168
20	Negative CO2 emissions through the use of biofuels in chemical looping technology: A review. Applied Energy, 2018, 232, 657-684.	5.1	166
21	Reduction and oxidation kinetics of nickel-based oxygen-carriers for chemical-looping combustion and chemical-looping reforming. Chemical Engineering Journal, 2012, 188, 142-154.	6.6	163
22	Effect of Feâ€“olivine on the tar content during biomass gasification in a dual fluidized bed. Applied Catalysis B: Environmental, 2012, 121-122, 214-222.	10.8	163
23	Effect of support on reactivity and selectivity of Ni-based oxygen carriers for chemical-looping combustion. Fuel, 2008, 87, 2641-2650.	3.4	152
24	Synthesis gas generation by chemical-looping reforming in a batch fluidized bed reactor using Ni-based oxygen carriers. Chemical Engineering Journal, 2008, 144, 289-298.	6.6	146
25	Temperature variations in the oxygen carrier particles during their reduction and oxidation in a chemical-looping combustion system. Chemical Engineering Science, 2005, 60, 851-862.	1.9	138
26	Methane Combustion in a 500 W_{th} Chemical-Looping Combustion System Using an Impregnated Ni-Based Oxygen Carrier. Energy & Fuels, 2009, 23, 130-142.	2.5	134
27	Biomass combustion with CO2 capture by chemical looping with oxygen uncoupling (CLOU). Fuel Processing Technology, 2014, 124, 104-114.	3.7	129
28	Modeling of the chemical-looping combustion of methane using a Cu-based oxygen-carrier. Combustion and Flame, 2010, 157, 602-615.	2.8	118
29	Hydrogen production by auto-thermal chemical-looping reforming in a pressurized fluidized bed reactor using Ni-based oxygen carriers. International Journal of Hydrogen Energy, 2010, 35, 151-160.	3.8	117
30	Syngas combustion in a 500ÂWth Chemical-Looping Combustion system using an impregnated Cu-based oxygen carrier. Fuel Processing Technology, 2009, 90, 1471-1479.	3.7	113
31	Evaluation of a Spray-Dried CuO/MgAl₂O₄ Oxygen Carrier for the Chemical Looping with Oxygen Uncoupling Process. Energy & Fuels, 2012, 26, 3069-3081.	2.5	111
32	Biomass combustion in a CLC system using an iron ore as an oxygen carrier. International Journal of Greenhouse Gas Control, 2013, 19, 322-330.	2.3	109
33	NiO/Al2O3 oxygen carriers for chemical-looping combustion prepared by impregnation and depositionâ€“precipitation methods. Fuel, 2009, 88, 1016-1023.	3.4	108
34	High temperature behaviour of a CuO/Î³Al2O3 oxygen carrier for chemical-looping combustion. International Journal of Greenhouse Gas Control, 2011, 5, 659-667.	2.3	104
35	Fuel reactor modelling in chemical-looping combustion of coal: 1. model formulation. Chemical Engineering Science, 2013, 87, 277-293.	1.9	104
36	Kinetic determination of a highly reactive impregnated Fe2O3/Al2O3 oxygen carrier for use in gas-fueled Chemical Looping Combustion. Chemical Engineering Journal, 2014, 258, 265-280.	6.6	103

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37	Nickelâ^'Copper Oxygen Carriers To Reach Zero CO and H2Emissions in Chemical-Looping Combustion. Industrial & Engineering Chemistry Research, 2006, 45, 2617-2625.	1.8	102
38	On the attrition evaluation of oxygen carriers in Chemical Looping Combustion. Fuel Processing Technology, 2016, 148, 188-197.	3.7	102
39	Optimization of hydrogen production by Chemical-Looping auto-thermal Reforming working with Ni-based oxygen-carriers. International Journal of Hydrogen Energy, 2011, 36, 9663-9672.	3.8	100
40	Effect of Fuel Gas Composition in Chemical-Looping Combustion with Ni-Based Oxygen Carriers. 1. Fate of Sulfur. Industrial & Engineering Chemistry Research, 2009, 48, 2499-2508.	1.8	99
41	Performance of a highly reactive impregnated Fe2O3/Al2O3 oxygen carrier with CH4 and H2S in a 500Wth CLC unit. Fuel, 2014, 121, 117-125.	3.4	99
42	Effect of gas composition in Chemical-Looping Combustion with copper-based oxygen carriers: Fate of sulphur. International Journal of Greenhouse Gas Control, 2010, 4, 762-770.	2.3	98
43	Effect of Support on the Behavior of Cu-Based Oxygen Carriers during Long-Term CLC Operation at Temperatures above 1073 K. Energy & Fuels, 2011, 25, 1316-1326.	2.5	97
44	Hydrogen production with CO2 capture by coupling steam reforming of methane and chemical-looping combustion: Use of an iron-based waste product as oxygen carrier burning a PSA tail gas. Journal of Power Sources, 2011, 196, 4370-4381.	4.0	97
45	Syngas combustion in a chemical-looping combustion system using an impregnated Ni-based oxygen carrier. Fuel, 2009, 88, 2357-2364.	3.4	96
46	Relevance of the coal rank on the performance of the in situ gasification chemical-looping combustion. Chemical Engineering Journal, 2012, 195-196, 91-102.	6.6	96
47	Kinetic analysis of a Cu-based oxygen carrier: Relevance of temperature and oxygen partial pressure on reduction and oxidation reactions rates in Chemical Looping with Oxygen Uncoupling (CLOU). Chemical Engineering Journal, 2014, 256, 69-84.	6.6	96
48	On the use of a highly reactive iron ore in Chemical Looping Combustion of different coals. Fuel, 2014, 126, 239-249.	3.4	95
49	Catalytic Activity of Ni-Based Oxygen-Carriers for Steam Methane Reforming in Chemical-Looping Processes. Energy & Fuels, 2012, 26, 791-800.	2.5	89
50	Reactivity of a NiO/Al2O3 oxygen carrier prepared by impregnation for chemical-looping combustion. Fuel, 2010, 89, 3399-3409.	3.4	88
51	Performance of CLOU process in the combustion of different types of coal with CO2 capture. International Journal of Greenhouse Gas Control, 2013, 12, 430-440.	2.3	88
52	Design and operation of a 50 kWth Chemical Looping Combustion (CLC) unit for solid fuels. Applied Energy, 2015, 157, 295-303.	5.1	85
53	Effect of operating conditions in Chemical-Looping Combustion of coal in a 500Wth unit. International Journal of Greenhouse Gas Control, 2012, 6, 153-163.	2.3	84
54	Low-Cost Fe-Based Oxygen Carrier Materials for the iG-CLC Process with Coal. 1. Industrial & Engineering Chemistry Research, 2012, 51, 16216-16229.	1.8	77

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55	Assessment of technological solutions for improving chemical looping combustion of solid fuels with CO2 capture. Chemical Engineering Journal, 2013, 233, 56-69.	6.6	76
56	Circulating fluidised bed co-combustion of coal and biomass. Fuel, 2004, 83, 277-286.	3.4	75
57	Use of an Fe-Based Residue from Alumina Production as an Oxygen Carrier in Chemical-Looping Combustion. Energy & Fuels, 2012, 26, 1420-1431.	2.5	73
58	Development of CuO-based oxygen-carrier materials suitable for Chemical-Looping with Oxygen Uncoupling (CLOU) process. Energy Procedia, 2011, 4, 417-424.	1.8	72
59	Chemical Looping Combustion of different types of biomass in a 0.5 kWth unit. Fuel, 2018, 211, 868-875.	3.4	72
60	Identification of operational regions in the Chemical-Looping with Oxygen Uncoupling (CLOU) process with a Cu-based oxygen carrier. Fuel, 2012, 102, 634-645.	3.4	70
61	Reduction and Oxidation Kinetics of a CaMn_{0.9}Mg_{0.1}O_{3â˜Î´} Oxygen Carrier for Chemical-Looping Combustion. Industrial & Engineering Chemistry Research, 2014, 53, 87-103.	1.8	70
62	Prompt considerations on the design of Chemical-Looping Combustion of coal from experimental tests. Fuel, 2012, 97, 219-232.	3.4	69
63	Coal combustion in a 50kWth Chemical Looping Combustion unit: Seeking operating conditions to maximize CO2 capture and combustion efficiency. International Journal of Greenhouse Gas Control, 2016, 50, 80-92.	2.3	69
64	Testing of a highly reactive impregnated Fe2O3/Al2O3 oxygen carrier for a SRâ€“CLC system in a continuous CLC unit. Fuel Processing Technology, 2012, 96, 37-47.	3.7	67
65	Evaluation of the use of different coals in Chemical Looping Combustion using a bauxite waste as oxygen carrier. Fuel, 2013, 106, 814-826.	3.4	67
66	Fuel reactor modelling in chemical-looping combustion of coal: 2â€”simulation and optimization. Chemical Engineering Science, 2013, 87, 173-182.	1.9	67
67	The fate of sulphur in the Cu-based Chemical Looping with Oxygen Uncoupling (CLOU) Process. Applied Energy, 2014, 113, 1855-1862.	5.1	66
68	Investigation of Combined Supports for Cu-Based Oxygen Carriers for Chemical-Looping with Oxygen Uncoupling (CLOU). Energy & Fuels, 2013, 27, 3918-3927.	2.5	65
69	Release of pollutant components in CLC of lignite. International Journal of Greenhouse Gas Control, 2014, 22, 15-24.	2.3	65
70	Behaviour of a bauxite waste material as oxygen carrier in a 500Wth CLC unit with coal. International Journal of Greenhouse Gas Control, 2013, 17, 170-182.	2.3	64
71	Performance of Cu- and Fe-based oxygen carriers in a 500 W th CLC unit for sour gas combustion with high H 2 S content. International Journal of Greenhouse Gas Control, 2014, 28, 168-179.	2.3	64
72	Calcium-based sorbents behaviour during sulphation at oxy-fuel fluidised bed combustion conditions. Fuel, 2011, 90, 3100-3108.	3.4	63

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73	Performance of a bauxite waste as oxygen-carrier for chemical-looping combustion using coal as fuel. Fuel Processing Technology, 2013, 109, 57-69.	3.7	62
74	Pollutant emissions in a bubbling fluidized bed combustor working in oxy-fuel operating conditions: Effect of flue gas recirculation. Applied Energy, 2013, 102, 860-867.	5.1	61
75	Redox kinetics of CaMg0.1Ti0.125Mn0.775O2.9â^'Î´ for Chemical Looping Combustion (CLC) and Chemical Looping with Oxygen Uncoupling (CLOU). Chemical Engineering Journal, 2015, 269, 67-81.	6.6	61
76	Conceptual design of a 100 MWth CLC unit for solid fuel combustion. Applied Energy, 2015, 157, 462-474.	5.1	61
77	Chemical Looping Combustion of gaseous and solid fuels with manganese-iron mixed oxide as oxygen carrier. Energy Conversion and Management, 2018, 159, 221-231.	4.4	61
78	Chemical looping combustion of biomass: CLOU experiments with a Cu-Mn mixed oxide. Fuel Processing Technology, 2018, 172, 179-186.	3.7	61
79	Circulating fluidized bed combustion in the turbulent regime: modelling of carbon combustion efficiency and sulphur retention. Fuel, 2001, 80, 1405-1414.	3.4	60
80	Long-lasting Cu-based oxygen carrier material for industrial scale in Chemical Looping Combustion. International Journal of Greenhouse Gas Control, 2016, 52, 120-129.	2.3	60
81	Theoretical approach on the CLC performance with solid fuels: Optimizing the solids inventory. Fuel, 2012, 97, 536-551.	3.4	59
82	Fuel reactor model validation: Assessment of the key parameters affecting the chemical-looping combustion of coal. International Journal of Greenhouse Gas Control, 2013, 19, 541-551.	2.3	59
83	Axial voidage profiles in fast fluidized beds. Powder Technology, 1994, 81, 259-268.	2.1	58
84	Transport velocities of coal and sand particles. Powder Technology, 1993, 77, 61-68.	2.1	56
85	Titanium substituted manganese-ferrite as an oxygen carrier with permanent magnetic properties for chemical looping combustion of solid fuels. Fuel, 2017, 195, 38-48.	3.4	56
86	Sulphur, nitrogen and mercury emissions from coal combustion with CO2 capture in chemical looping with oxygen uncoupling (CLOU). International Journal of Greenhouse Gas Control, 2016, 46, 28-38.	2.3	55
87	Effect of Operating Conditions and H₂S Presence on the Performance of CaMg_{0.1}Mn_{0.9}O_{3â^'Î´} Perovskite Material in Chemical Looping Combustion (CLC). Energy & Fuels, 2014, 28, 1262-1274.	2.5	54
88	NO and N 2 O emissions in oxy-fuel combustion of coal in a bubbling fluidized bed combustor. Fuel, 2015, 150, 146-153.	3.4	54
89	Evaluation of Manganese Minerals for Chemical Looping Combustion. Energy & Fuels, 2015, 29, 6605-6615.	2.5	54
90	Optimum temperature for sulphur retention in fluidised beds working under oxy-fuel combustion conditions. Fuel, 2013, 114, 106-113.	3.4	53

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91	Effect of H2S on the behaviour of an impregnated NiO-based oxygen-carrier for chemical-looping combustion (CLC). Applied Catalysis B: Environmental, 2012, 126, 186-199.	10.8	50
92	Process Comparison for Biomass Combustion: Inâ€…Situ Gasificationâ€Chemical Looping Combustion (iGâ€CLC) versus Chemical Looping with Oxygen Uncoupling (CLOU). Energy Technology, 2016, 4, 1130-1136.	1.8	50
93	Modeling of the Devolatilization of Nonspherical Wet Pine Wood Particles in Fluidized Beds. Industrial & Engineering Chemistry Research, 2002, 41, 3642-3650.	1.8	49
94	Performance of a low-cost iron ore as an oxygen carrier for Chemical Looping Combustion of gaseous fuels. Chemical Engineering Research and Design, 2015, 93, 736-746.	2.7	49
95	Radial gas mixing in a fast fluidized bed. Powder Technology, 1997, 94, 163-171.	2.1	46
96	Effect of gas composition in Chemical-Looping Combustion with copper-based oxygen carriers: Fate of light hydrocarbons. International Journal of Greenhouse Gas Control, 2010, 4, 13-22.	2.3	46
97	Synthesis gas generation by chemical-looping reforming using a Nibased oxygen carrier. Energy Procedia, 2009, 1, 3-10.	1.8	45
98	In situ gasification Chemical-Looping Combustion of coal using limestone as oxygen carrier precursor and sulphur sorbent. Chemical Engineering Journal, 2017, 310, 226-239.	6.6	45
99	Characterization of a limestone in a batch fluidized bed reactor for sulfur retention under oxy-fuel operating conditions. International Journal of Greenhouse Gas Control, 2011, 5, 1190-1198.	2.3	44
100	Use of chemically and physically mixed iron and nickel oxides as oxygen carriers for gas combustion in a CLC process. Fuel Processing Technology, 2013, 115, 152-163.	3.7	44
101	Mn-based oxygen carriers prepared by impregnation for Chemical Looping Combustion with diverse fuels. Fuel Processing Technology, 2018, 178, 236-250.	3.7	44
102	Effect of Fuel Gas Composition in Chemical-Looping Combustion with Ni-Based Oxygen Carriers. 2. Fate of Light Hydrocarbons. Industrial & Engineering Chemistry Research, 2009, 48, 2509-2518.	1.8	43
103	Reduction and oxidation kinetics of Tierga iron ore for Chemical Looping Combustion with diverse fuels. Chemical Engineering Journal, 2019, 359, 37-46.	6.6	42
104	Use of Chemical-Looping processes for coal combustion with CO2 capture. Energy Procedia, 2013, 37, 540-549.	1.8	41
105	Development of (Mn0.77Fe0.23)2O3 particles as an oxygen carrier for coal combustion with CO2 capture via in-situ gasification chemical looping combustion (iG-CLC) aided by oxygen uncoupling (CLOU). Fuel Processing Technology, 2017, 164, 69-79.	3.7	41
106	Tar abatement for clean syngas production during biomass gasification in a dual fluidized bed. Fuel Processing Technology, 2016, 152, 116-123.	3.7	40
107	Ilmenite as oxygen carrier in a chemical looping combustion system with coal. Energy Procedia, 2011, 4, 362-369.	1.8	38
108	Manganese Minerals as Oxygen Carriers for Chemical Looping Combustion of Coal. Industrial & Engineering Chemistry Research, 2016, 55, 6539-6546.	1.8	38

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109	Solid Waste Management of a Chemical-Looping Combustion Plant using Cu-Based Oxygen Carriers. Environmental Science & Technology, 2007, 41, 5882-5887.	4.6	37
110	Evaluation of Mn-Fe mixed oxide doped with TiO2 for the combustion with CO2 capture by Chemical Looping assisted by Oxygen Uncoupling. Applied Energy, 2019, 237, 822-835.	5.1	37
111	Syngas/H2 production from bioethanol in a continuous chemical-looping reforming prototype. Fuel Processing Technology, 2015, 137, 24-30.	3.7	36
112	Sulphuric acid production via Chemical Looping Combustion of elemental sulphur. Applied Energy, 2016, 178, 736-745.	5.1	36
113	Relevance of the catalytic activity on the performance of a NiO/CaAl2O4 oxygen carrier in a CLC process. Applied Catalysis B: Environmental, 2014, 147, 980-987.	10.8	35
114	Optimization of H2 production with CO2 capture by steam reforming of methane integrated with a chemical-looping combustion system. International Journal of Hydrogen Energy, 2013, 38, 11878-11892.	3.8	34
115	Mercury Release and Speciation in Chemical Looping Combustion of Coal. Energy & Fuels, 2014, 28, 2786-2794.	2.5	34
116	Comparison of Mechanistic Models for the Sulfation Reaction in a Broad Range of Particle Sizes of Sorbents. Industrial & Engineering Chemistry Research, 1996, 35, 2190-2197.	1.8	33
117	Combustion of Wood Chips in a CFBC. Modeling and Validation. Industrial & Engineering Chemistry Research, 2003, 42, 987-999.	1.8	33
118	Low-Cost Fe-Based Oxygen Carrier Materials for the iG-CLC Process with Coal. 2. Industrial & Engineering Chemistry Research, 2012, 51, 16230-16241.	1.8	33
119	CLOU process performance with a Cu-Mn oxygen carrier in the combustion of different types of coal with CO2 capture. Fuel, 2018, 212, 605-612.	3.4	33
120	Coal combustion via Chemical Looping assisted by Oxygen Uncoupling with a manganeseâ€'iron mixed oxide doped with titanium. Fuel Processing Technology, 2020, 197, 106184.	3.7	33
121	Tar abatement in a fixed bed catalytic filter candle during biomass gasification in a dual fluidized bed. Applied Catalysis B: Environmental, 2016, 188, 198-206.	10.8	32
122	Optimization of hydrogen production with CO2 capture by autothermal chemical-looping reforming using different bioethanol purities. Applied Energy, 2016, 169, 491-498.	5.1	32
123	Chemical Looping Combustion of liquid fossil fuels in a 1 kW th unit using a Fe-based oxygen carrier. Fuel Processing Technology, 2017, 160, 47-54.	3.7	32
124	Energy exploitation of acid gas with high H2S content by means of a chemical looping combustion system. Applied Energy, 2014, 136, 242-249.	5.1	31
125	Comparative study of fuel-N and tar evolution in chemical looping combustion of biomass under both iG-CLC and CLOU modes. Fuel, 2019, 236, 598-607.	3.4	31
126	Design and Operation of a Coal-fired 50 kWth Chemical Looping Combustor. Energy Procedia, 2014, 63, 63-72.	1.8	30

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127	Increasing energy efficiency in chemical looping combustion of methane by in-situ activation of perovskite-based oxygen carriers. Applied Energy, 2021, 287, 116557.	5.1	30
128	Effects of Temperature and Flue Gas Recycle on the SO2 and NOx Emissions in an Oxy-fuel Fluidized Bed Combustor. Energy Procedia, 2013, 37, 1275-1282.	1.8	29
129	Autothermal chemical looping reforming process of different fossil liquid fuels. International Journal of Hydrogen Energy, 2017, 42, 13633-13640.	3.8	29
130	A model for prediction of carbon combustion efficiency in circulating fluidized bed combustors. Fuel, 1995, 74, 1049-1056.	3.4	28
131	On the optimization of physical and chemical stability of a Cu/Al2O3 impregnated oxygen carrier for chemical looping combustion. Fuel Processing Technology, 2021, 215, 106740.	3.7	28
132	Sulfur retention in an oxy-fuel bubbling fluidized bed combustor: Effect of coal rank, type of sorbent and O 2 /CO 2 ratio. Fuel, 2014, 137, 384-392.	3.4	27
133	Assessment of the improvement of chemical looping combustion of coal by using a manganese ore as oxygen carrier. Fuel Processing Technology, 2018, 176, 107-118.	3.7	27
134	Performance Evaluation of a Cu-Based Oxygen Carrier Impregnated onto ZrO₂ for Chemical-Looping Combustion (CLC). Industrial & Engineering Chemistry Research, 2020, 59, 7255-7266.	1.8	27
135	Use of Hopcalite-Derived Cuâ€“Mn Mixed Oxide as Oxygen Carrier for Chemical Looping with Oxygen Uncoupling Process. Energy & Fuels, 2016, 30, 5953-5963.	2.5	26
136	Bioethanol combustion with CO2 capture in a 1kWth Chemical Looping Combustion prototype: Suitability of the oxygen carrier. Chemical Engineering Journal, 2016, 283, 1405-1413.	6.6	26
137	Steam, dry, and steam-dry chemical looping reforming of diesel fuel in a 1 kW th unit. Chemical Engineering Journal, 2017, 325, 369-377.	6.6	26
138	Comparative Evaluation of the Performance of Coal Combustion in 0.5 and 50 kWth Chemical Looping Combustion Units with Ilmenite, Redmud or Iron Ore as Oxygen Carrier. Energy Procedia, 2017, 114, 285-301.	1.8	26
139	Modelling of sulfur retention in circulating fluidized bed combustors. Fuel, 1996, 75, 262-270.	3.4	24
140	Simultaneous Calcination and Sulfidation of Calcium-Based Sorbents. Industrial & Engineering Chemistry Research, 2004, 43, 3261-3269.	1.8	24
141	Spray granulated Cu-Mn oxygen carrier for chemical looping with oxygen uncoupling (CLOU) process. International Journal of Greenhouse Gas Control, 2017, 65, 76-85.	2.3	24
142	Modeling of Limestone Sulfation for Typical Oxy-Fuel Fluidized Bed Combustion Conditions. Energy & Fuels, 2013, 27, 2266-2274.	2.5	23
143	Characterization for disposal of Fe-based oxygen carriers from a CLC unit burning coal. Fuel Processing Technology, 2015, 138, 750-757.	3.7	23
144	Coal combustion with a spray granulated Cu-Mn mixed oxide for the Chemical Looping with Oxygen Uncoupling (CLOU) process. Applied Energy, 2017, 208, 561-570.	5.1	23

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145	Relevance of plant design on CLC process performance using a Cu-based oxygen carrier. Fuel Processing Technology, 2018, 171, 78-88.	3.7	23
146	Kinetics of CaMn0.775Ti0.125Mg0.1O2.9-Î´ perovskite prepared at industrial scale and its implication on the performance of chemical looping combustion of methane. Chemical Engineering Journal, 2020, 394, 124863.	6.6	23
147	Development of a magnetic Cu-based oxygen carrier for the chemical looping with oxygen uncoupling (CLOU) process. Fuel Processing Technology, 2021, 218, 106836.	3.7	23
148	Coupled drying and devolatilisation of non-spherical wet pine wood particles in fluidised beds. Journal of Analytical and Applied Pyrolysis, 2002, 65, 173-184.	2.6	22
149	Hot Coal-Gas Desulfurization with Calcium-Based Sorbents in a Pressurized Moving-Bed Reactor. Energy & Fuels, 2004, 18, 1543-1554.	2.5	22
150	Performance of a low Ni content oxygen carrier for fuel gas combustion in a continuous CLC unit using a CaO/Al2O3 system as support. International Journal of Greenhouse Gas Control, 2013, 14, 209-219.	2.3	22
151	Chemical Looping Combustion of Biomass: An Approach to BECCS. Energy Procedia, 2017, 114, 6021-6029.	1.8	22
152	Thermochemical assessment of chemical looping assisted by oxygen uncoupling with a MnFe-based oxygen carrier. Applied Energy, 2019, 251, 113340.	5.1	20
153	Effect of Moisture Content on Devolatilization Times of Pine Wood Particles in a Fluidized Bed. Energy & Fuels, 2003, 17, 285-290.	2.5	19
154	Effect of Pressure on the Sulfidation of Calcined Calcium-Based Sorbents. Energy & Fuels, 2004, 18, 761-769.	2.5	19
155	Effect of gas impurities on the behavior of Ni-based oxygen carriers on chemical-looping combustion. Energy Procedia, 2009, 1, 11-18.	1.8	19
156	The fate of mercury in fluidized beds under oxy-fuel combustion conditions. Fuel, 2016, 167, 75-81.	3.4	18
157	Evaluation of different strategies to improve the efficiency of coal conversion in a 50ÂkWth Chemical Looping combustion unit. Fuel, 2020, 271, 117514.	3.4	18
158	A simple model for comparative evaluation of different oxygen carriers and solid fuels in iG-CLC processes. Fuel Processing Technology, 2018, 179, 444-454.	3.7	17
159	Promising Impregnated Mn-based Oxygen Carriers for Chemical Looping Combustion of Gaseous Fuels. Energy Procedia, 2017, 114, 334-343.	1.8	16
160	Development of Oxygen Carriers for Chemical-Looping Combustion. , 2005, , 587-604.		16
161	Modelling of the flow structure in circulating fluidized beds. Powder Technology, 1995, 85, 19-27.	2.1	15
162	Combustion and Reforming of Liquid Fossil Fuels through Chemical Looping Processes: Integration of Chemical Looping Processes in a Refinery. Energy Procedia, 2017, 114, 325-333.	1.8	15

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163	Evaluation of the redox capability of manganeseâ€'titanium mixed oxides for thermochemical energy storage and chemical looping processes. Fuel Processing Technology, 2021, 211, 106579.	3.7	15
164	Chemical looping with oxygen uncoupling: an advanced biomass combustion technology to avoid CO2 emissions. Mitigation and Adaptation Strategies for Global Change, 2019, 24, 1293-1306.	1.0	14
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