RESEARCH & PUBLICATIONS

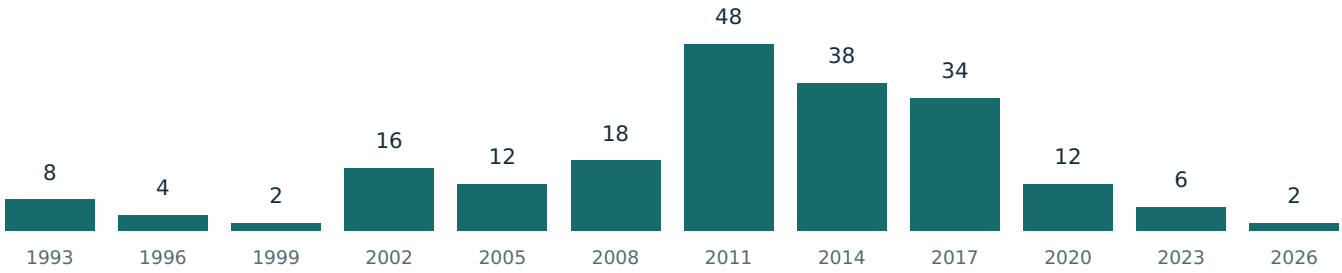
Pilar Gayán

A publication record at a glance

200	18,222	72
ARTICLES	CITATIONS	h-INDEX

PUBLICATION ACTIVITY

Articles grouped into 3-year periods



MOST CITED IN THIS LIST

Progress in Chemical-Looping Combustion and Reforming Technologies — 2,172
2012 Progress in Energy and Combustion Science

Selection of Oxygen Carriers for Chemical-Looping Combustion — 741
2004 Energy & Fuels

Mapping of the Range of Operational Conditions for Cu-, Fe-, and Ni-Based Oxygen Carriers in Chemical-Looping Combustion — 600
2007 Chemical Engineering Science

This publication list was generated automatically from the exaly database without manual editing. It reflects the database records available when the document was created.

For the latest record and an updated publication list, visit the author profile:

https://exaly.com/author/5546656

Document version: 2026-11-11 (UTC) | Database snapshot: 2026-11-10

Ordered by publication year, newest first

2026

01 Physicochemical Evolution of a Cu/Mn/Fe Oxygen Carrier in a 50 kWth Chemical Looping With Oxygen Uncoupling Unit With Solid Fuels

3 citations

Fuel · 406, 137162

https://exaly.com/article/205889849

02 The Effect of Using Swine Manure as Fuel on CuO/Al2O3 Oxygen Carrier During Chemical Looping Combustion and Gasification Operation

0 citations

Applications in Energy and Combustion Science · 26, 100487

https://exaly.com/article/211359753

2025

03 Assessment of Hydrogen Production From Sorption Enhanced Chemical Looping Reforming (SE-CLR) of Methane

5 citations

International Journal of Hydrogen Energy · 142, 674-684

https://exaly.com/article/196878543

2024

04 Chemical Looping With Oxygen Uncoupling of Swine Manure for Energy Production With Reduction of Greenhouse Gas Emissions

9 citations

Powder Technology · 436, 119413

https://exaly.com/article/175322451

05 Reviewing the Operational Experience on Chemical Looping Combustion of Biomass at CSIC: iG-CLC vs CLOU

23 citations

Energy & Fuels · 38, 20681-20706

https://exaly.com/article/194031976

06 Chemical Looping With Oxygen Uncoupling of Biomass and Coal: Scaling-Up to 50 kWth Using a Copper-Based Oxygen Carrier

16 citations

Energy & Fuels · 38, 21333-21344

https://exaly.com/article/194131306

2023

07 Relevance of Oxygen Carrier Properties on the Design of a Chemical Looping Combustion Unit With Gaseous Fuels

14 citations

Greenhouse Gases: Science and Technology · 13, 125-143

https://exaly.com/article/150112808

08 Performance of a Kaolin-Doped, Magnetic Cu-Based Oxygen Carrier in Biomass Combustion

12 citations

Powder Technology · 426, 118668

https://exaly.com/article/162885475

Ordered by publication year, newest first

2022

09 Qualification of Operating Conditions to Extend Oxygen Carrier Utilization in the Scaling Up of Chemical Looping Processes
20 citations
Chemical Engineering Journal · 430, 132602
https://exaly.com/article/82322226

10 Ca-Based Sorbents as Precursors of Oxygen Carriers in Chemical Looping Combustion of Sulfurous Fuels
4 citations
Fuel · 312, 122743
https://exaly.com/article/123773880

11 Coal and Biomass Combustion With CO2 Capture by CLOU Process Using a Magnetic Fe-Mn-Supported CuO Oxygen Carrier
25 citations
Fuel · 314, 122742
https://exaly.com/article/125565051

12 Novel Magnetic Manganese-Iron Materials for Separation of Solids Used in High-Temperature Processes: Application to Oxygen Carriers for Chemical Looping Combustion
17 citations
Fuel · 320, 123901
https://exaly.com/article/135112324

2021

13 Evaluation of the Redox Capability of Manganese-Titanium Mixed Oxides for Thermochemical Energy Storage and Chemical Looping Processes
24 citations
Fuel Processing Technology · 211, 106579
https://exaly.com/article/77878616

14 Increasing Energy Efficiency in Chemical Looping Combustion of Methane by In-Situ Activation of Perovskite-Based Oxygen Carriers
49 citations
Applied Energy · 287, 116557
https://exaly.com/article/80206191

15 On the Optimization of Physical and Chemical Stability of a Cu/Al2O3 Impregnated Oxygen Carrier for Chemical Looping Combustion
46 citations
Fuel Processing Technology · 215, 106740
https://exaly.com/article/80656174

16 Development of a Magnetic Cu-Based Oxygen Carrier for the Chemical Looping With Oxygen Uncoupling (CLOU) Process
40 citations
Fuel Processing Technology · 218, 106836
https://exaly.com/article/81554757

Ordered by publication year, newest first

2020

17 Coal Combustion via Chemical Looping Assisted by Oxygen Uncoupling With a Manganese-Iron Mixed Oxide Doped With Titanium — 39 citations

Fuel Processing Technology · 197, 106184

https://exaly.com/article/75083213

18 Performance Evaluation of a Cu-Based Oxygen Carrier Impregnated Onto ZrO2 for Chemical-Looping Combustion (CLC) — 38 citations

Industrial & Engineering Chemistry Research · 59, 7255-7266

https://exaly.com/article/77347127

19 Kinetics of CaMn0.775Ti0.125Mg0.1O2.9-δ Perovskite Prepared at Industrial Scale and Its Implication on the Performance of Chemical Looping Combustion of Methane — 31 citations

Chemical Engineering Journal · 394, 124863

https://exaly.com/article/77510525

20 Evaluation of Different Strategies to Improve the Efficiency of Coal Conversion in a 50 kWth Chemical Looping Combustion Unit — 29 citations

Fuel · 271, 117514

https://exaly.com/article/77626262

2019

21 Thermochemical Assessment of Chemical Looping Assisted by Oxygen Uncoupling With a MnFe-Based Oxygen Carrier — 27 citations

Applied Energy · 251, 113340

https://exaly.com/article/73080685

22 Evaluation of Mn-Fe Mixed Oxide Doped With TiO2 for the Combustion With CO2 Capture by Chemical Looping Assisted by Oxygen Uncoupling — 50 citations

Applied Energy · 237, 822-835

https://exaly.com/article/73510298

23 Improving the Efficiency of Chemical Looping Combustion With Coal by Using Ring-Type Internals in the Fuel Reactor — 16 citations

Fuel · 250, 8-16

https://exaly.com/article/73652375

24 Chemical Looping With Oxygen Uncoupling: An Advanced Biomass Combustion Technology to Avoid CO2 Emissions — 19 citations

Mitigation and Adaptation Strategies for Global Change · 24, 1293-1306

https://exaly.com/article/73701212

Ordered by publication year, newest first

2019 / continued

25 **Comparative Study of Fuel-N and Tar Evolution in Chemical Looping Combustion of Biomass Under Both iG-CLC and CLOU Modes**
53 citations
Fuel · 236, 598-607
https://exaly.com/article/74484293

26 **Modelling Chemical-Looping Assisted by Oxygen Uncoupling (CLaOU): Assessment of Natural Gas Combustion With Calcium Manganite as Oxygen Carrier**
24 citations
Proceedings of the Combustion Institute · 37, 4361-4369
https://exaly.com/article/74702766

27 **Reduction and Oxidation Kinetics of Tierga Iron Ore for Chemical Looping Combustion With Diverse Fuels**
57 citations
Chemical Engineering Journal · 359, 37-46
https://exaly.com/article/74726277

2018

28 **Assessment of the Improvement of Chemical Looping Combustion of Coal by Using a Manganese Ore as Oxygen Carrier**
38 citations
Fuel Processing Technology · 176, 107-118
https://exaly.com/article/68910479

29 **Chemical Looping Combustion of Gaseous and Solid Fuels With Manganese-Iron Mixed Oxide as Oxygen Carrier**
73 citations
Energy Conversion and Management · 159, 221-231
https://exaly.com/article/68996641

30 **Relevance of Plant Design on CLC Process Performance Using a Cu-Based Oxygen Carrier**
30 citations
Fuel Processing Technology · 171, 78-88
https://exaly.com/article/69144310

31 **Chemical Looping Combustion of Solid Fuels**
592 citations
Progress in Energy and Combustion Science · 65, 6-66
https://exaly.com/article/69233398

32 **Chemical Looping Combustion of Biomass: CLOU Experiments With a Cu-Mn Mixed Oxide**
84 citations
Fuel Processing Technology · 172, 179-186
https://exaly.com/article/69240106

33 **Chemical Looping Combustion of Different Types of Biomass in a 0.5 kWth Unit**
97 citations
Fuel · 211, 868-875
https://exaly.com/article/69565008

Ordered by publication year, newest first

2018 / continued

34 CLOU Process Performance With a Cu-Mn Oxygen Carrier in the Combustion of Different Types of Coal With CO2 Capture
41 citations
Fuel · 212, 605-612
https://exaly.com/article/69650972

35 Fe2O3–Al2O3 Oxygen Carrier Materials for Chemical Looping Combustion, a Redox Thermodynamic and Thermogravimetric Evaluation in the Presence of H2S
10 citations
Journal of Thermal Analysis and Calorimetry · 134, 1739-1748
https://exaly.com/article/70491758

36 Negative CO2 Emissions Through the Use of Biofuels in Chemical Looping Technology: A Review
236 citations
Applied Energy · 232, 657-684
https://exaly.com/article/70806464

37 Mn-Based Oxygen Carriers Prepared by Impregnation for Chemical Looping Combustion With Diverse Fuels
63 citations
Fuel Processing Technology · 178, 236-250
https://exaly.com/article/71202039

38 A Simple Model for Comparative Evaluation of Different Oxygen Carriers and Solid Fuels in iG-CLC Processes
22 citations
Fuel Processing Technology · 179, 444-454
https://exaly.com/article/71601921

2017

39 Autothermal Chemical Looping Reforming Process of Different Fossil Liquid Fuels
31 citations
International Journal of Hydrogen Energy · 42, 13633-13640
https://exaly.com/article/65948876

40 Titanium Substituted Manganese-Ferrite as an Oxygen Carrier With Permanent Magnetic Properties for Chemical Looping Combustion of Solid Fuels
65 citations
Fuel · 195, 38-48
https://exaly.com/article/66004081

41 Chemical Looping Combustion of Liquid Fossil Fuels in a 1 kWth Unit Using a Fe-Based Oxygen Carrier
44 citations
Fuel Processing Technology · 160, 47-54
https://exaly.com/article/66030386

42 Steam, Dry, and Steam-Dry Chemical Looping Reforming of Diesel Fuel in a 1 kWth Unit
33 citations
Chemical Engineering Journal · 325, 369-377
https://exaly.com/article/66239668

Ordered by publication year, newest first

2017 / continued

43 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 · 164, 69-79
https://exaly.com/article/66239913
47 citations

44 In Situ Gasification Chemical-Looping Combustion of Coal Using Limestone as Oxygen Carrier Precursor and Sulphur Sorbent
Chemical Engineering Journal · 310, 226-239
https://exaly.com/article/66744087
52 citations

45 Coal Combustion With a Spray Granulated Cu-Mn Mixed Oxide for the Chemical Looping With Oxygen Uncoupling (CLOU) Process
Applied Energy · 208, 561-570
https://exaly.com/article/66839619
31 citations

46 Mercury Emissions From Coal Combustion in Fluidized Beds Under Oxy-Fuel and Air Conditions: Influence of Coal Characteristics and O2 Concentration
Fuel Processing Technology · 167, 695-701
https://exaly.com/article/66847825
9 citations

47 Spray Granulated Cu-Mn Oxygen Carrier for Chemical Looping With Oxygen Uncoupling (CLOU) Process
International Journal of Greenhouse Gas Control · 65, 76-85
https://exaly.com/article/66849757
30 citations

48 Combustion and Reforming of Liquid Fossil Fuels Through Chemical Looping Processes: Integration of Chemical Looping Processes in a Refinery
Energy Procedia · 114, 325-333
https://exaly.com/article/66893688
20 citations

49 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 · 114, 285-301
https://exaly.com/article/67025150
32 citations

50 Chemical Looping Combustion of Biomass: An Approach to BECCS
Energy Procedia · 114, 6021-6029
https://exaly.com/article/67025321
31 citations

51 Promising Impregnated Mn-Based Oxygen Carriers for Chemical Looping Combustion of Gaseous Fuels
Energy Procedia · 114, 334-343
https://exaly.com/article/67025368
21 citations

Ordered by publication year, newest first

2017 / continued

52 Evaluation of (MnxFe1-x)2TiyOz Particles as Oxygen Carrier for Chemical Looping Combustion
Energy Procedia · 114, 302-308
https://exaly.com/article/67046183
6 citations

53 Bioenergy and Biofuels: (Conference Proceedings) / 10th International Conference on Sustainable Energy and Environmental Protection, (June 27th-30th, 2017, Bled, Slovenia)
Journal unavailable
https://exaly.com/article/111678305
0 citations

54 Bioenergy and Biofuels: (Conference Proceedings) / 10th International Conference on Sustainable Energy and Environmental Protection, (June 27th-30th, 2017, Bled, Slovenia)
Journal unavailable
https://exaly.com/article/111709631
0 citations

2016

55 Tar Abatement for Clean Syngas Production During Biomass Gasification in a Dual Fluidized Bed
Fuel Processing Technology · 152, 116-123
https://exaly.com/article/63420102
48 citations

56 Process Comparison for Biomass Combustion: In Situ Gasification-Chemical Looping Combustion (iG-CLC) Versus Chemical Looping With Oxygen Uncoupling (CLOU)
Energy Technology · 4, 1130-1136
https://exaly.com/article/63450619
61 citations

57 On the Attrition Evaluation of Oxygen Carriers in Chemical Looping Combustion
Fuel Processing Technology · 148, 188-197
https://exaly.com/article/64085333
133 citations

58 Manganese Minerals as Oxygen Carriers for Chemical Looping Combustion of Coal
Industrial & Engineering Chemistry Research · 55, 6539-6546
https://exaly.com/article/64164327
45 citations

59 Long-Lasting Cu-Based Oxygen Carrier Material for Industrial Scale in Chemical Looping Combustion
International Journal of Greenhouse Gas Control · 52, 120-129
https://exaly.com/article/64266133
68 citations

Ordered by publication year, newest first

2016 / continued

60 **Use of Hopcalite-Derived Cu–Mn Mixed Oxide as Oxygen Carrier for Chemical Looping With Oxygen Uncoupling Process**
35 citations
Energy & Fuels · 30, 5953-5963
https://exaly.com/article/64640398

61 **Sulphuric Acid Production via Chemical Looping Combustion of Elemental Sulphur**
51 citations
Applied Energy · 178, 736-745
https://exaly.com/article/64652620

62 **Coal Combustion in a 50 kWth Chemical Looping Combustion Unit: Seeking Operating Conditions to Maximize CO2 Capture and Combustion Efficiency**
75 citations
International Journal of Greenhouse Gas Control · 50, 80-92
https://exaly.com/article/65185150

63 **Tar Abatement in a Fixed Bed Catalytic Filter Candle During Biomass Gasification in a Dual Fluidized Bed**
41 citations
Applied Catalysis B: Environmental · 188, 198-206
https://exaly.com/article/65503231

64 **Optimization of Hydrogen Production With CO2 Capture by Autothermal Chemical-Looping Reforming Using Different Bioethanol Purities**
35 citations
Applied Energy · 169, 491-498
https://exaly.com/article/65513969

65 **Sulphur, Nitrogen and Mercury Emissions From Coal Combustion With CO2 Capture in Chemical Looping With Oxygen Uncoupling (CLOU)**
69 citations
International Journal of Greenhouse Gas Control · 46, 28-38
https://exaly.com/article/65535875

66 **The Fate of Mercury in Fluidized Beds Under Oxy-Fuel Combustion Conditions**
20 citations
Fuel · 167, 75-81
https://exaly.com/article/65655871

67 **Bioethanol Combustion With CO2 Capture in a 1 kWth Chemical Looping Combustion Prototype: Suitability of the Oxygen Carrier**
33 citations
Chemical Engineering Journal · 283, 1405-1413
https://exaly.com/article/65737747

2015

68 **Characterization for Disposal of Fe-Based Oxygen Carriers From a CLC Unit Burning Coal**
31 citations
Fuel Processing Technology · 138, 750-757
https://exaly.com/article/60493360

Ordered by publication year, newest first

2015 / continued

69 Redox Kinetics of CaMg0.1Ti0.125Mn0.775O2.9−δ for Chemical Looping Combustion (CLC) and Chemical Looping With Oxygen Uncoupling (CLOU)
73 citations
Chemical Engineering Journal · 269, 67-81
https://exaly.com/article/61644118

70 Design and Operation of a 50 kWth Chemical Looping Combustion (CLC) Unit for Solid Fuels
109 citations
Applied Energy · 157, 295-303
https://exaly.com/article/61992772

71 Conceptual Design of a 100 MWth CLC Unit for Solid Fuel Combustion
81 citations
Applied Energy · 157, 462-474
https://exaly.com/article/61992773

72 Performance of a Low-Cost Iron Ore as an Oxygen Carrier for Chemical Looping Combustion of Gaseous Fuels
56 citations
Chemical Engineering Research and Design · 93, 736-746
https://exaly.com/article/62120292

73 NO and N2O Emissions in Oxy-Fuel Combustion of Coal in a Bubbling Fluidized Bed Combustor
61 citations
Fuel · 150, 146-153
https://exaly.com/article/62136717

74 Syngas/H2 Production From Bioethanol in a Continuous Chemical-Looping Reforming Prototype
41 citations
Fuel Processing Technology · 137, 24-30
https://exaly.com/article/62230666

75 Morphological Analysis of Sulfated Ca-Based Sorbents Under Conditions Corresponding to Oxy-Fuel Fluidized Bed Combustion
15 citations
Fuel · 162, 264-270
https://exaly.com/article/62487251

76 Evaluation of Manganese Minerals for Chemical Looping Combustion
71 citations
Energy & Fuels · 29, 6605-6615
https://exaly.com/article/62650228

2014

77 Combustion and Reforming of Ethanol in a Chemical Looping Continuous Unit
13 citations
Energy Procedia · 63, 53-62
https://exaly.com/article/57649249

Ordered by publication year, newest first

2014 / continued

78 **Design and Operation of a Coal-Fired 50 kWth Chemical Looping Combustor**
Energy Procedia · 63, 63-72
https://exaly.com/article/57657876
36 citations

79 **The Fate of Sulphur in the Cu-Based Chemical Looping With Oxygen Uncoupling (CLOU) Process**
Applied Energy · 113, 1855-1862
https://exaly.com/article/58966390
77 citations

80 **Performance of a Highly Reactive Impregnated Fe2O3/Al2O3 Oxygen Carrier With CH4 and H2S in a 500 Wth CLC Unit**
Fuel · 121, 117-125
https://exaly.com/article/58974542
120 citations

81 **Kinetic Determination of a Highly Reactive Impregnated Fe2O3/Al2O3 Oxygen Carrier for Use in Gas-Fueled Chemical Looping Combustion**
Chemical Engineering Journal · 258, 265-280
https://exaly.com/article/59038674
124 citations

82 **Mercury Release and Speciation in Chemical Looping Combustion of Coal**
Energy & Fuels · 28, 2786-2794
https://exaly.com/article/59260299
39 citations

83 **Energy Exploitation of Acid Gas With High H2S Content by Means of a Chemical Looping Combustion System**
Applied Energy · 136, 242-249
https://exaly.com/article/59264574
37 citations

84 **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 · 256, 69-84
https://exaly.com/article/59268500
107 citations

85 **Performance of Cu- and Fe-Based Oxygen Carriers in a 500 Wth CLC Unit for Sour Gas Combustion With High H2S Content**
International Journal of Greenhouse Gas Control · 28, 168-179
https://exaly.com/article/59302097
71 citations

86 **Reduction and Oxidation Kinetics of a CaMn0.9Mg0.1O3−δ Oxygen Carrier for Chemical-Looping Combustion**
Industrial & Engineering Chemistry Research · 53, 87-103
https://exaly.com/article/59328762
73 citations

Ordered by publication year, newest first

2014 / continued

87 Biomass Combustion With CO2 Capture by Chemical Looping With Oxygen Uncoupling (CLOU) — 145 citations
Fuel Processing Technology · 124, 104-114
https://exaly.com/article/59470939

88 Sulfur Retention in an Oxy-Fuel Bubbling Fluidized Bed Combustor: Effect of Coal Rank, Type of Sorbent and O2/CO2 Ratio — 29 citations
Fuel · 137, 384-392
https://exaly.com/article/59545065

89 Effect of Operating Conditions and H2S Presence on the Performance of CaMg0.1Mn0.9O3−δ Perovskite Material in Chemical Looping Combustion (CLC) — 65 citations
Energy & Fuels · 28, 1262-1274
https://exaly.com/article/59571281

90 On the Use of a Highly Reactive Iron Ore in Chemical Looping Combustion of Different Coals — 103 citations
Fuel · 126, 239-249
https://exaly.com/article/59637363

91 Release of Pollutant Components in CLC of Lignite — 76 citations
International Journal of Greenhouse Gas Control · 22, 15-24
https://exaly.com/article/59682088

92 Relevance of the Catalytic Activity on the Performance of a NiO/CaAl2O4 Oxygen Carrier in a CLC Process — 44 citations
Applied Catalysis B: Environmental · 147, 980-987
https://exaly.com/article/59710078

2013

93 Assessment of Technological Solutions for Improving Chemical Looping Combustion of Solid Fuels With CO2 Capture — 83 citations
Chemical Engineering Journal · 233, 56-69
https://exaly.com/article/54917649

94 Use of Chemically and Physically Mixed Iron and Nickel Oxides as Oxygen Carriers for Gas Combustion in a CLC Process — 50 citations
Fuel Processing Technology · 115, 152-163
https://exaly.com/article/55024512

95 Optimum Temperature for Sulphur Retention in Fluidised Beds Working Under Oxy-Fuel Combustion Conditions — 57 citations
Fuel · 114, 106-113
https://exaly.com/article/55028946

Ordered by publication year, newest first

2013 / continued

96 **Evaluation of a Highly Reactive and Sulfur Resistant Synthetic Fe-Based Oxygen Carrier for CLC Using Gaseous Fuels**
5 citations
Energy Procedia · 37, 580-587
https://exaly.com/article/55060627

97 **Performance of a Low Ni Content Oxygen Carrier for Fuel Gas Combustion in a Continuous CLC Unit Using a CaO/Al2O3 System as Support**
26 citations
International Journal of Greenhouse Gas Control · 14, 209-219
https://exaly.com/article/55068116

98 **Modeling of Limestone Sulfation for Typical Oxy-Fuel Fluidized Bed Combustion Conditions**
23 citations
Energy & Fuels · 27, 2266-2274
https://exaly.com/article/55382356

99 **Fuel Reactor Model Validation: Assessment of the Key Parameters Affecting the Chemical-Looping Combustion of Coal**
66 citations
International Journal of Greenhouse Gas Control · 19, 541-551
https://exaly.com/article/55513185

100 **Performance of a Bauxite Waste as Oxygen-Carrier for Chemical-Looping Combustion Using Coal as Fuel**
66 citations
Fuel Processing Technology · 109, 57-69
https://exaly.com/article/55539717

101 **Effects of Temperature and Flue Gas Recycle on the SO2 and NOx Emissions in an Oxy-Fuel Fluidized Bed Combustor**
37 citations
Energy Procedia · 37, 1275-1282
https://exaly.com/article/55547691

102 **Performance of CLOU Process in the Combustion of Different Types of Coal With CO2 Capture**
95 citations
International Journal of Greenhouse Gas Control · 12, 430-440
https://exaly.com/article/55550346

103 **Optimization of H2 Production With CO2 Capture by Steam Reforming of Methane Integrated With a Chemical-Looping Combustion System**
42 citations
International Journal of Hydrogen Energy · 38, 11878-11892
https://exaly.com/article/55555345

104 **Use of Chemical-Looping Processes for Coal Combustion With CO2 Capture**
46 citations
Energy Procedia · 37, 540-549
https://exaly.com/article/55558380

Ordered by publication year, newest first

2013 / continued

105 **Fuel Reactor Modelling in Chemical-Looping Combustion of Coal: 1. Model Formulation**
123 citations
Chemical Engineering Science · 87, 277-293
https://exaly.com/article/55563503

106 **Evaluation of the Use of Different Coals in Chemical Looping Combustion Using a Bauxite Waste as Oxygen Carrier**
69 citations
Fuel · 106, 814-826
https://exaly.com/article/55686026

107 **Biomass Combustion in a CLC System Using an Iron Ore as an Oxygen Carrier**
127 citations
International Journal of Greenhouse Gas Control · 19, 322-330
https://exaly.com/article/55713925

108 **Fuel Reactor Modelling in Chemical-Looping Combustion of Coal: 2—Simulation and Optimization**
71 citations
Chemical Engineering Science · 87, 173-182
https://exaly.com/article/55882876

109 **Behaviour of a Bauxite Waste Material as Oxygen Carrier in a 500 Wth CLC Unit With Coal**
74 citations
International Journal of Greenhouse Gas Control · 17, 170-182
https://exaly.com/article/55958669

110 **Pollutant Emissions in a Bubbling Fluidized Bed Combustor Working in Oxy-Fuel Operating Conditions: Effect of Flue Gas Recirculation**
66 citations
Applied Energy · 102, 860-867
https://exaly.com/article/55975475

111 **Investigation of Combined Supports for Cu-Based Oxygen Carriers for Chemical-Looping With Oxygen Uncoupling (CLOU)**
74 citations
Energy & Fuels · 27, 3918-3927
https://exaly.com/article/56093834

2012

112 **Low-Cost Fe-Based Oxygen Carrier Materials for the iG-CLC Process With Coal. 1**
86 citations
Industrial & Engineering Chemistry Research · 51, 16216-16229
https://exaly.com/article/53407967

113 **Low-Cost Fe-Based Oxygen Carrier Materials for the iG-CLC Process With Coal. 2**
35 citations
Industrial & Engineering Chemistry Research · 51, 16230-16241
https://exaly.com/article/53467571

Ordered by publication year, newest first

2012 / continued

114 Evaluation of a Spray-Dried CuO/MgAl2O4 Oxygen Carrier for the Chemical Looping With Oxygen Uncoupling Process
121 citations
Energy & Fuels · 26, 3069-3081
https://exaly.com/article/53514271

115 Effect of Operating Conditions in Chemical-Looping Combustion of Coal in a 500 Wth Unit
89 citations
International Journal of Greenhouse Gas Control · 6, 153-163
https://exaly.com/article/53797458

116 Demonstration of Chemical-Looping With Oxygen Uncoupling (CLOU) Process in a 1.5 kWth Continuously Operating Unit Using a Cu-Based Oxygen-Carrier
256 citations
International Journal of Greenhouse Gas Control · 6, 189-200
https://exaly.com/article/53797461

117 Effect of H2S on the Behaviour of an Impregnated NiO-Based Oxygen-Carrier for Chemical-Looping Combustion (CLC)
61 citations
Applied Catalysis B: Environmental · 126, 186-199
https://exaly.com/article/53811745

118 Identification of Operational Regions in the Chemical-Looping With Oxygen Uncoupling (CLOU) Process With a Cu-Based Oxygen Carrier
73 citations
Fuel · 102, 634-645
https://exaly.com/article/53833449

119 Reduction and Oxidation Kinetics of Nickel-Based Oxygen-Carriers for Chemical-Looping Combustion and Chemical-Looping Reforming
185 citations
Chemical Engineering Journal · 188, 142-154
https://exaly.com/article/54481177

120 Relevance of the Coal Rank on the Performance of the in Situ Gasification Chemical-Looping Combustion
105 citations
Chemical Engineering Journal · 195, 91-102
https://exaly.com/article/54481404

121 Development of Cu-Based Oxygen Carriers for Chemical-Looping With Oxygen Uncoupling (CLOU) Process
218 citations
Fuel · 96, 226-238
https://exaly.com/article/54490776

122 Prompt Considerations on the Design of Chemical-Looping Combustion of Coal From Experimental Tests
73 citations
Fuel · 97, 219-232
https://exaly.com/article/54490798

Ordered by publication year, newest first

2012 / continued

123 Theoretical Approach on the CLC Performance With Solid Fuels: Optimizing the Solids Inventory
61 citations
Fuel · 97, 536-551
https://exaly.com/article/54490814

124 Behavior of Ilmenite as Oxygen Carrier in Chemical-Looping Combustion
246 citations
Fuel Processing Technology · 94, 101-112
https://exaly.com/article/54490928

125 Testing of a Highly Reactive Impregnated Fe2O3/Al2O3 Oxygen Carrier for a SR–CLC System in a Continuous CLC Unit
76 citations
Fuel Processing Technology · 96, 37-47
https://exaly.com/article/54490959

126 Effect of Fe–Olivine on the Tar Content During Biomass Gasification in a Dual Fluidized Bed
189 citations
Applied Catalysis B: Environmental · 121, 214-222
https://exaly.com/article/54500501

127 Progress in Chemical-Looping Combustion and Reforming Technologies
2,172 citations
Progress in Energy and Combustion Science · 38, 215-282
https://exaly.com/article/54615894

2011

128 High Temperature Behaviour of a CuO/γAl2O3 Oxygen Carrier for Chemical-Looping Combustion
116 citations
International Journal of Greenhouse Gas Control · 5, 659-667
https://exaly.com/article/50077163

129 Characterization of a Limestone in a Batch Fluidized Bed Reactor for Sulfur Retention Under Oxy-Fuel Operating Conditions
52 citations
International Journal of Greenhouse Gas Control · 5, 1190-1198
https://exaly.com/article/50077206

130 The Use of Ilmenite as Oxygen-Carrier in a 500 Wth Chemical-Looping Coal Combustion Unit
181 citations
International Journal of Greenhouse Gas Control · 5, 1630-1642
https://exaly.com/article/50077255

131 Effect of Support on the Behavior of Cu-Based Oxygen Carriers During Long-Term CLC Operation at Temperatures Above 1073 K
108 citations
Energy & Fuels · 25, 1316-1326
https://exaly.com/article/50145683

Ordered by publication year, newest first

2011 / continued

132 Optimization of Hydrogen Production by Chemical-Looping Auto-Thermal Reforming Working With Ni-Based Oxygen-Carriers
111 citations
International Journal of Hydrogen Energy · 36, 9663-9672
https://exaly.com/article/51181849

133 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
113 citations
Journal of Power Sources · 196, 4370-4381
https://exaly.com/article/51362230

134 Kinetics of Redox Reactions of Ilmenite for Chemical-Looping Combustion
324 citations
Chemical Engineering Science · 66, 689-702
https://exaly.com/article/51551249

135 Ilmenite as Oxygen Carrier in a Chemical Looping Combustion System With Coal
40 citations
Energy Procedia · 4, 362-369
https://exaly.com/article/51573767

136 Development of CuO-Based Oxygen-Carrier Materials Suitable for Chemical-Looping With Oxygen Uncoupling (CLOU) Process
76 citations
Energy Procedia · 4, 417-424
https://exaly.com/article/51573774

137 Optimization of a Chemical-Looping Auto-Thermal Reforming System Working With a Ni-Based Oxygen-Carrier
5 citations
Energy Procedia · 4, 425-432
https://exaly.com/article/51573775

138 Calcium-Based Sorbents Behaviour During Sulphation at Oxy-Fuel Fluidised Bed Combustion Conditions
71 citations
Fuel · 90, 3100-3108
https://exaly.com/article/51583737

139 Catalytic Activity of Ni-Based Oxygen-Carriers for Steam Methane Reforming in Chemical-Looping Processes
98 citations
Energy & Fuels · 26, 791-800
https://exaly.com/article/53399707

140 Use of an Fe-Based Residue From Alumina Production as an Oxygen Carrier in Chemical-Looping Combustion
81 citations
Energy & Fuels · 26, 1420-1431
https://exaly.com/article/53467321

Ordered by publication year, newest first

2010

141 Effect of Gas Composition in Chemical-Looping Combustion With Copper-Based Oxygen Carriers: Fate of Light Hydrocarbons

48 citations

International Journal of Greenhouse Gas Control · 4, 13-22

https://exaly.com/article/47840335

142 Effect of Gas Composition in Chemical-Looping Combustion With Copper-Based Oxygen Carriers: Fate of Sulphur

110 citations

International Journal of Greenhouse Gas Control · 4, 762-770

https://exaly.com/article/47840361

143 Reactivity of a NiO/Al2O3 Oxygen Carrier Prepared by Impregnation for Chemical-Looping Combustion

96 citations

Fuel · 89, 3399-3409

https://exaly.com/article/48305893

144 Hydrogen Production by Auto-Thermal Chemical-Looping Reforming in a Pressurized Fluidized Bed Reactor Using Ni-Based Oxygen Carriers

152 citations

International Journal of Hydrogen Energy · 35, 151-160

https://exaly.com/article/48309931

145 Modeling of the Chemical-Looping Combustion of Methane Using a Cu-Based Oxygen-Carrier

141 citations

Combustion and Flame · 157, 602-615

https://exaly.com/article/48359963

146 Ilmenite Activation During Consecutive Redox Cycles in Chemical-Looping Combustion

320 citations

Energy & Fuels · 24, 1402-1413

https://exaly.com/article/49413317

2009

147 Syngas Combustion in a Chemical-Looping Combustion System Using an Impregnated Ni-Based Oxygen Carrier

107 citations

Fuel · 88, 2357-2364

https://exaly.com/article/46441948

148 NiO/Al2O3 Oxygen Carriers for Chemical-Looping Combustion Prepared by Impregnation and Deposition–Precipitation Methods

123 citations

Fuel · 88, 1016-1023

https://exaly.com/article/46441964

Ordered by publication year, newest first

2009 / continued

149 **Syngas Combustion in a 500 Wth Chemical-Looping Combustion System Using an Impregnated Cu-Based Oxygen Carrier**

146 citations

Fuel Processing Technology · 90, 1471-1479

https://exaly.com/article/46442367

150 **Hydrogen Production by Chemical-Looping Reforming in a Circulating Fluidized Bed Reactor Using Ni-Based Oxygen Carriers**

188 citations

Journal of Power Sources · 192, 27-34

https://exaly.com/article/46492095

151 **Synthesis Gas Generation by Chemical-Looping Reforming Using a Nibased Oxygen Carrier**

50 citations

Energy Procedia · 1, 3-10

https://exaly.com/article/46526192

152 **Effect of Gas Impurities on the Behavior of Ni-Based Oxygen Carriers on Chemical-Looping Combustion**

22 citations

Energy Procedia · 1, 11-18

https://exaly.com/article/46526193

153 **Modeling of the Chemical-Looping Combustion of Methane Using a Cu-Based Oxygen Carrier**

13 citations

Energy Procedia · 1, 391-398

https://exaly.com/article/46526241

154 **Methane Combustion in a 500 Wth Chemical-Looping Combustion System Using an Impregnated Ni-Based Oxygen Carrier**

152 citations

Energy & Fuels · 23, 130-142

https://exaly.com/article/46605534

155 **Effect of Fuel Gas Composition in Chemical-Looping Combustion With Ni-Based Oxygen Carriers. 1. Fate of Sulfur**

106 citations

Industrial & Engineering Chemistry Research · 48, 2499-2508

https://exaly.com/article/46648181

156 **Effect of Fuel Gas Composition in Chemical-Looping Combustion With Ni-Based Oxygen Carriers. 2. Fate of Light Hydrocarbons**

44 citations

Industrial & Engineering Chemistry Research · 48, 2509-2518

https://exaly.com/article/46943646

Ordered by publication year, newest first

2008

157 **Synthesis Gas Generation by Chemical-Looping Reforming in a Batch Fluidized Bed Reactor Using Ni-Based Oxygen Carriers**

155 citations

Chemical Engineering Journal · 144, 289-298

https://exaly.com/article/43522272

158 **Effect of Support on Reactivity and Selectivity of Ni-Based Oxygen Carriers for Chemical-Looping Combustion**

170 citations

Fuel · 87, 2641-2650

https://exaly.com/article/43556730

2007

159 **Reduction Kinetics of Cu-, Ni-, and Fe-Based Oxygen Carriers Using Syngas (CO + H2) for Chemical-Looping Combustion**

267 citations

Energy & Fuels · 21, 1843-1853

https://exaly.com/article/42308766

160 **Solid Waste Management of a Chemical-Looping Combustion Plant Using Cu-Based Oxygen Carriers**

44 citations

Environmental Science & Technology · 41, 5882-7

https://exaly.com/article/42319955

161 **Operation of a 10 kWth Chemical-Looping Combustor During 200 h With a CuO–Al2O3 Oxygen Carrier**

280 citations

Fuel · 86, 1036-1045

https://exaly.com/article/42696100

162 **Mapping of the Range of Operational Conditions for Cu-, Fe-, and Ni-Based Oxygen Carriers in Chemical-Looping Combustion**

600 citations

Chemical Engineering Science · 62, 533-549

https://exaly.com/article/43181451

2006

163 **Nickel–Copper Oxygen Carriers to Reach Zero CO and H2 Emissions in Chemical-Looping Combustion**

109 citations

Industrial & Engineering Chemistry Research · 45, 2617-2625

https://exaly.com/article/39786774

164 **Chemical Looping Combustion in a 10 kWth Prototype Using a CuO/Al2O3 Oxygen Carrier: Effect of Operating Conditions on Methane Combustion**

298 citations

Industrial & Engineering Chemistry Research · 45, 6075-6080

https://exaly.com/article/39808512

Ordered by publication year, newest first

2006 / continued

165 **Effect of Pressure on the Behavior of Copper-, Iron-, and Nickel-Based Oxygen Carriers for Chemical-Looping Combustion**
230 citations
Energy & Fuels · 20, 26-33
https://exaly.com/article/39833076

2005

166 **H2S Retention With Ca-Based Sorbents in a Pressurized Fixed-Bed Reactor: Application to Moving-Bed Design**
14 citations
Fuel · 84, 533-542
https://exaly.com/article/38058829

167 **Temperature Variations in the Oxygen Carrier Particles During Their Reduction and Oxidation in a Chemical-Looping Combustion System**
180 citations
Chemical Engineering Science · 60, 851-862
https://exaly.com/article/38107253

168 **Characterization of Oxygen Carriers for Chemical-Looping Combustion**
6 citations
Journal unavailable
https://exaly.com/article/38605360

169 **Impregnated CuO/Al2O3 Oxygen Carriers for Chemical-Looping Combustion: Avoiding Fluidized Bed Agglomeration**
243 citations
Energy & Fuels · 19, 1850-1856
https://exaly.com/article/39307280

170 **Development of Oxygen Carriers for Chemical-Looping Combustion**
18 citations
Journal unavailable
https://exaly.com/article/84345189

2004

171 **Circulating Fluidised Bed Co-Combustion of Coal and Biomass**
79 citations
Fuel · 83, 277-286
https://exaly.com/article/37162257

172 **Development of Cu-Based Oxygen Carriers for Chemical-Looping Combustion**
382 citations
Fuel · 83, 1749-1757
https://exaly.com/article/37162419

173 **Effect of Pressure on the Sulfidation of Calcined Calcium-Based Sorbents**
19 citations
Energy & Fuels · 18, 761-769
https://exaly.com/article/37314919

Ordered by publication year, newest first

2004 / continued

174 **Hot Coal-Gas Desulfurization With Calcium-Based Sorbents in a Pressurized Moving-Bed Reactor**
Energy & Fuels · 18, 1543-1554
https://exaly.com/article/37319060
23 citations

175 **Simultaneous Calcination and Sulfidation of Calcium-Based Sorbents**
Industrial & Engineering Chemistry Research · 43, 3261-3269
https://exaly.com/article/37324534
24 citations

176 **Direct Sulfidation of Half-Calcined Dolomite Under Pressurized Conditions**
Industrial & Engineering Chemistry Research · 43, 4132-4139
https://exaly.com/article/37327798
10 citations

177 **Selection of Oxygen Carriers for Chemical-Looping Combustion**
Energy & Fuels · 18, 371-377
https://exaly.com/article/37402705
741 citations

178 **Reduction and Oxidation Kinetics of a Copper-Based Oxygen Carrier Prepared by Impregnation for Chemical-Looping Combustion**
Industrial & Engineering Chemistry Research · 43, 8168-8177
https://exaly.com/article/37566541
230 citations

2003

179 **Author's Response to the Comments by M. Hartman and O. Trnka**
Chemical Engineering Science · 58, 3301
https://exaly.com/article/35303239
0 citations

180 **Combustion of Wood Chips in a CFBC. Modeling and Validation**
Industrial & Engineering Chemistry Research · 42, 987-999
https://exaly.com/article/35412274
35 citations

181 **Effect of Moisture Content on Devolatilization Times of Pine Wood Particles in a Fluidized Bed**
Energy & Fuels · 17, 285-290
https://exaly.com/article/35630325
20 citations

182 **Optimizing the Fuel Reactor for Chemical Looping Combustion**
Journal unavailable
https://exaly.com/article/35929835
14 citations

183 **Co-Combustion of Biomass and Coal in Circulating Fluidized Bed: Modeling and Validation**
Journal unavailable
https://exaly.com/article/85831302
4 citations

Ordered by publication year, newest first

2002

184 **Modeling of the Devolatilization of Nonspherical Wet Pine Wood Particles in Fluidized Beds**
50 citations
Industrial & Engineering Chemistry Research · 41, 3642-3650
https://exaly.com/article/34302443

185 **Coupled Drying and Devolatilisation of Non-Spherical Wet Pine Wood Particles in Fluidised Beds**
24 citations
Journal of Analytical and Applied Pyrolysis · 65, 173-184
https://exaly.com/article/34673683

186 **Calcination of Calcium-Based Sorbents at Pressure in a Broad Range of CO2 Concentrations**
304 citations
Chemical Engineering Science · 57, 2381-2393
https://exaly.com/article/34784903

2001

187 **Regeneration of Sulfided Dolomite With Steam and Carbon Dioxide**
11 citations
Energy & Fuels · 15, 85-94
https://exaly.com/article/32559465

188 **Circulating Fluidized Bed Combustion in the Turbulent Regime: Modelling of Carbon Combustion Efficiency and Sulphur Retention**
61 citations
Fuel · 80, 1405-1414
https://exaly.com/article/33098635

1997

189 **Radial Gas Mixing in a Fast Fluidized Bed**
48 citations
Powder Technology · 94, 163-171
https://exaly.com/article/28565910

1996

190 **Comparison of Mechanistic Models for the Sulfation Reaction in a Broad Range of Particle Sizes of Sorbents**
35 citations
Industrial & Engineering Chemistry Research · 35, 2190-2197
https://exaly.com/article/26742466

191 **Modelling and Simulation of the Sulphur Retention in Circulating Fluidized Bed Combustors**
5 citations
Chemical Engineering Science · 51, 3077-3082
https://exaly.com/article/27344374

Ordered by publication year, newest first

1996 / continued

192 **Modelling of Sulfur Retention in Circulating Fluidized Bed Combustors**
Fuel · 75, 262-270
https://exaly.com/article/27349646
25 citations

1995

193 **Sulphur Retention in Circulating Fluidized Bed Coal Combustion. Modelling and Simulation**
Coal Science and Technology · 24, 1839-1842
https://exaly.com/article/25763959
5 citations

194 **A Model for Prediction of Carbon Combustion Efficiency in Circulating Fluidized Bed Combustors**
Fuel · 74, 1049-1056
https://exaly.com/article/25852822
28 citations

195 **Modeling of Carbon Combustion Efficiency in Circulating Fluidized Bed Combustors. 2. Model Validation and Simulation**
Industrial & Engineering Chemistry Research · 34, 3139-3145
https://exaly.com/article/26428013
0 citations

196 **Modelling of the Flow Structure in Circulating Fluidized Beds**
Powder Technology · 85, 19-27
https://exaly.com/article/26620323
16 citations

1994

197 **Axial Voidage Profiles in Fast Fluidized Beds**
Powder Technology · 81, 259-268
https://exaly.com/article/25324969
64 citations

1993

198 **Sulfur Retention in AFBC. Modelling and Sorbent Characterization Methods**
Fuel Processing Technology · 36, 73-79
https://exaly.com/article/23769825
7 citations

199 **Effect of Formulation of Steady-State Heat Balance for Char Particles on AFBC Modelling**
Fuel · 72, 1335-1342
https://exaly.com/article/23987174
5 citations

200 **Transport Velocities of Coal and Sand Particles**
Powder Technology · 77, 61-68
https://exaly.com/article/24003361
60 citations

Ordered by publication year, newest first

End of list · 200 articles. Citation counts use Exaly’s peer-reviewed cohort.