

Xiao-Dong Wang

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

106
papers

4,270
citations

36
h-index

62
g-index

110
ext. papers

5,299
ext. citations

10.1
avg, IF

5.59
L-index

#	Paper	IF	Citations
106	Remarkable performance of Ir ₁ /FeO(x) single-atom catalyst in water gas shift reaction. <i>Journal of the American Chemical Society</i> , 2013 , 135, 15314-7	16.4	646
105	Atomically dispersed nickel as coke-resistant active sites for methane dry reforming. <i>Nature Communications</i> , 2019 , 10, 5181	17.4	184
104	Origin of the high activity of Au/FeO _x for low-temperature CO oxidation: Direct evidence for a redox mechanism. <i>Journal of Catalysis</i> , 2013 , 299, 90-100	7.3	160
103	Design of a highly active Ir/Fe(OH) _x catalyst: versatile application of Pt-group metals for the preferential oxidation of carbon monoxide. <i>Angewandte Chemie - International Edition</i> , 2012 , 51, 2920-4	16.4	155
102	Synthesis of high-quality diesel with furfural and 2-methylfuran from hemicellulose. <i>ChemSusChem</i> , 2012 , 5, 1958-66	8.3	152
101	Synthesis of renewable high-density fuels using cyclopentanone derived from lignocellulose. <i>Chemical Communications</i> , 2014 , 50, 2572-4	5.8	121
100	Aqueous phase hydrogenation of levulinic acid to 1,4-pentanediol. <i>Chemical Communications</i> , 2014 , 50, 1414-6	5.8	109
99	Catalytically Active Rh Sub-Nanoclusters on TiO ₂ for CO Oxidation at Cryogenic Temperatures. <i>Angewandte Chemie - International Edition</i> , 2016 , 55, 2820-4	16.4	103
98	Synthesis of renewable diesel with hydroxyacetone and 2-methyl-furan. <i>Chemical Communications</i> , 2013 , 49, 5727-9	5.8	102
97	Little do more: a highly effective Pt(1)/FeO(x) single-atom catalyst for the reduction of NO by H ₂ . <i>Chemical Communications</i> , 2015 , 51, 7911-4	5.8	87
96	Identifying Size Effects of Pt as Single Atoms and Nanoparticles Supported on FeO _x for the Water-Gas Shift Reaction. <i>ACS Catalysis</i> , 2018 , 8, 859-868	13.1	86
95	Ir-in-ceria highly selective catalyst for preferential CO oxidation. <i>Journal of Catalysis</i> , 2008 , 255, 144-152	15.2	81
94	Synthesis of renewable diesel with the 2-methylfuran, butanal and acetone derived from lignocellulose. <i>Bioresource Technology</i> , 2013 , 134, 66-72	11	76
93	Synthesis of Diesel and Jet Fuel Range Alkanes with Furfural and Angelica Lactone. <i>ACS Catalysis</i> , 2017 , 7, 5880-5886	13.1	68
92	Synthesis of renewable diesel range alkanes by hydrodeoxygenation of furans over Ni/H under mild conditions. <i>Green Chemistry</i> , 2014 , 16, 594-599	10	67
91	Lignosulfonate-based acidic resin for the synthesis of renewable diesel and jet fuel range alkanes with 2-methylfuran and furfural. <i>Green Chemistry</i> , 2015 , 17, 3644-3652	10	58
90	Recent progress in CO oxidation over Pt-group-metal catalysts at low temperatures. <i>Chinese Journal of Catalysis</i> , 2016 , 37, 1805-1813	11.3	58

89	Unique role of Mössbauer spectroscopy in assessing structural features of heterogeneous catalysts. <i>Applied Catalysis B: Environmental</i> , 2018 , 224, 518-532	21.8	58
88	Synergy of the catalytic activation on Ni and the CeO ₂ /TiO ₂ /Ce ₂ Ti ₂ O ₇ stoichiometric redox cycle for dramatically enhanced solar fuel production. <i>Energy and Environmental Science</i> , 2019 , 12, 767-779	35.4	57
87	Enhanced performance of Rh ₁ /TiO ₂ catalyst without methanation in water-gas shift reaction. <i>AIChE Journal</i> , 2017 , 63, 2081-2088	3.6	56
86	Coordinatively Unsaturated Al ³⁺ Sites Anchored Subnanometric Ruthenium Catalyst for Hydrogenation of Aromatics. <i>ACS Catalysis</i> , 2017 , 7, 5987-5991	13.1	54
85	In Situ Calorimetric Study: Structural Effects on Adsorption and Catalytic Performances for CO Oxidation over Ir-in-CeO ₂ and Ir-on-CeO ₂ Catalysts. <i>Journal of Physical Chemistry C</i> , 2011 , 115, 16509-16517	23.8	53
84	Hydroformylation of Olefins by a Rhodium Single-Atom Catalyst with Activity Comparable to RhCl(PPh ₃) ₃ . <i>Angewandte Chemie</i> , 2016 , 128, 16288-16292	3.6	52
83	Remarkable effects of hydroxyl species on low-temperature CO (preferential) oxidation over Ir/Fe(OH) _x catalyst. <i>Journal of Catalysis</i> , 2014 , 319, 142-149	7.3	50
82	Dual Metal Active Sites in an Ir/FeO Single-Atom Catalyst: A Redox Mechanism for the Water-Gas Shift Reaction. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 12868-12875	16.4	49
81	Enhanced performance of boron nitride catalysts with induction period for the oxidative dehydrogenation of ethane to ethylene. <i>Journal of Catalysis</i> , 2018 , 365, 14-23	7.3	48
80	FeO _x supported single-atom Pd bifunctional catalyst for water gas shift reaction. <i>AIChE Journal</i> , 2017 , 63, 4022-4031	3.6	47
79	Synthesis of Renewable High-Density Fuel with Cyclopentanone Derived from Hemicellulose. <i>ACS Sustainable Chemistry and Engineering</i> , 2017 , 5, 1812-1817	8.3	45
78	Making JP-10 Superfuel Affordable with a Lignocellulosic Platform Compound. <i>Angewandte Chemie - International Edition</i> , 2019 , 58, 12154-12158	16.4	45
77	Stabilization mechanism and crystallographic sites of Ru in Fe-promoted barium hexaaluminate under high-temperature condition for N ₂ O decomposition. <i>Applied Catalysis B: Environmental</i> , 2013 , 129, 382-393	21.8	43
76	Effect of large cations (La ³⁺ and Ba ²⁺) on the catalytic performance of Mn-substituted hexaaluminates for N ₂ O decomposition. <i>Applied Catalysis B: Environmental</i> , 2009 , 92, 437-444	21.8	42
75	Controlling CO Hydrogenation Selectivity by Metal-Supported Electron Transfer. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 19983-19989	16.4	40
74	Identification of the chemical state of Fe in barium hexaaluminate using Rietveld refinement and ⁵⁷ Fe Mössbauer spectroscopy. <i>Journal of Catalysis</i> , 2011 , 283, 149-160	7.3	38
73	Synthesis of High-Density Aviation Fuel with Cyclopentanol. <i>ACS Sustainable Chemistry and Engineering</i> , 2016 , 4, 6160-6166	8.3	38
72	Highly active subnano Rh/Fe(OH) catalyst for preferential oxidation of CO in H ₂ -rich stream. <i>Applied Catalysis B: Environmental</i> , 2016 , 184, 299-308	21.8	37

71	Sn promoted BaFeO ₃ catalysts for N ₂ O decomposition: Optimization of Fe active centers. <i>Journal of Catalysis</i> , 2017 , 347, 9-20	7.3	36
70	La-hexaaluminate for synthesis gas generation by Chemical Looping Partial Oxidation of Methane Using CO ₂ as Sole Oxidant. <i>AIChE Journal</i> , 2018 , 64, 550-563	3.6	36
69	Effect of Regeneration Period on the Selectivity of Synthesis Gas of Ba-Hexaaluminates in Chemical Looping Partial Oxidation of Methane. <i>ACS Catalysis</i> , 2019 , 9, 722-731	13.1	36
68	In situ encapsulation of iron(0) for solar thermochemical syngas production over iron-based perovskite material. <i>Communications Chemistry</i> , 2018 , 1,	6.3	36
67	Industrially scalable and cost-effective synthesis of 1,3-cyclopentanediol with furfuryl alcohol from lignocellulose. <i>Green Chemistry</i> , 2016 , 18, 3607-3613	10	31
66	Improving Syngas Selectivity of Fe ₂ O ₃ /Al ₂ O ₃ with Yttrium Modification in Chemical Looping Methane Conversion. <i>ACS Catalysis</i> , 2019 , 9, 8373-8382	13.1	31
65	Highly efficient synthesis of 5-hydroxymethylfurfural with carbohydrates over renewable cyclopentanone-based acidic resin. <i>Green Chemistry</i> , 2017 , 19, 1855-1860	10	30
64	A molten carbonate shell modified perovskite redox catalyst for anaerobic oxidative dehydrogenation of ethane. <i>Science Advances</i> , 2020 , 6, eaaz9339	14.3	30
63	Bimetallic BaFe ₂ MA ₁₉ O ₁₉ (M = Mn, Ni, and Co) hexaaluminates as oxygen carriers for chemical looping dry reforming of methane. <i>Applied Energy</i> , 2020 , 258, 114070	10.7	28
62	Synthesis of jet fuel range cycloalkanes with diacetone alcohol from lignocellulose. <i>Green Chemistry</i> , 2016 , 18, 5751-5755	10	28
61	More active Ir subnanometer clusters than single-atoms for catalytic oxidation of CO at low temperature. <i>AIChE Journal</i> , 2017 , 63, 4003-4012	3.6	27
60	Microkinetic Study of CO Oxidation and PROX on Ir/Fe Catalyst. <i>Industrial & Engineering Chemistry Research</i> , 2011 , 50, 758-766	3.9	26
59	IrFeO _x /SiO ₂ a highly active catalyst for preferential CO oxidation in H ₂ . <i>International Journal of Hydrogen Energy</i> , 2010 , 35, 3065-3071	6.7	26
58	Fe-substituted Ba-hexaaluminates oxygen carrier for carbon dioxide capture by chemical looping combustion of methane. <i>AIChE Journal</i> , 2016 , 62, 792-801	3.6	26
57	A novel CeO ₂ /SnO ₂ /Ce ₂ Sn ₂ O ₇ pyrochlore cycle for enhanced solar thermochemical water splitting. <i>AIChE Journal</i> , 2017 , 63, 3450-3462	3.6	25
56	Unravelling platinum nanoclusters as active sites to lower the catalyst loading for formaldehyde oxidation. <i>Communications Chemistry</i> , 2019 , 2,	6.3	25
55	Evolution of Fe Crystallographic Sites from Barium Hexaaluminate to Hexaferrite. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 671-680	3.8	23
54	Microcalorimetric studies of the iridium catalyst for hydrazine decomposition reaction. <i>Thermochimica Acta</i> , 2005 , 434, 119-124	2.9	23

53	Synthesis of Renewable C ₈₋₁₀ Alkanes with Angelica Lactone and Furfural from Carbohydrates. <i>ACS Sustainable Chemistry and Engineering</i> , 2018 , 6, 6126-6134	8.3	22
52	Synthesis of renewable diesel with 2-methylfuran and angelica lactone derived from carbohydrates. <i>Green Chemistry</i> , 2016 , 18, 1218-1223	10	22
51	High performance of La-promoted Fe ₂ O ₃ /Al ₂ O ₃ oxygen carrier for chemical looping combustion. <i>AIChE Journal</i> , 2017 , 63, 2827-2838	3.6	21
50	Dehydration of Carbohydrates to 5-Hydroxymethylfurfural over Lignosulfonate-Based Acidic Resin. <i>ACS Sustainable Chemistry and Engineering</i> , 2018 , 6, 5645-5652	8.3	21
49	A two-step synthesis of Fe-substituted hexaaluminates with enhanced surface area and activity in methane catalytic combustion. <i>Catalysis Science and Technology</i> , 2016 , 6, 4962-4969	5.5	21
48	Synthesis of gasoline and jet fuel range cycloalkanes and aromatics from poly(ethylene terephthalate) waste. <i>Green Chemistry</i> , 2019 , 21, 2709-2719	10	20
47	Catalytic decomposition of propellant N ₂ O Over Ir/Al ₂ O ₃ catalyst. <i>AIChE Journal</i> , 2016 , 62, 3973-3981	3.6	20
46	Metal modified hexaaluminates for syngas generation and CO ₂ utilization via chemical looping. <i>International Journal of Hydrogen Energy</i> , 2019 , 44, 10218-10231	6.7	19
45	Microstructure and reactivity evolution of LaFeAl oxygen carrier for syngas production via chemical looping CH ₄ CO ₂ reforming. <i>International Journal of Hydrogen Energy</i> , 2017 , 42, 30509-30524	6.7	19
44	Synthesis of high-density aviation fuels with methyl benzaldehyde and cyclohexanone. <i>Green Chemistry</i> , 2018 , 20, 3753-3760	10	18
43	Fe-substituted Ba-hexaaluminate with enhanced oxygen mobility for CO ₂ capture by chemical looping combustion of methane. <i>Journal of Energy Chemistry</i> , 2019 , 29, 50-57	12	18
42	Relationship between adsorption properties of Pt/Cu/SiO ₂ catalysts and their catalytic performance for selective hydrodechlorination of 1,2-dichloroethane to ethylene. <i>Thermochimica Acta</i> , 2009 , 494, 99-103	2.9	17
41	Synthesis of jet fuel range high-density polycycloalkanes with polycarbonate waste. <i>Green Chemistry</i> , 2019 , 21, 3789-3795	10	16
40	Identifying the Role of A-Site Cations in Modulating Oxygen Capacity of Iron-Based Perovskite for Enhanced Chemical Looping Methane-to-Syngas Conversion. <i>ACS Catalysis</i> , 2020 , 10, 9420-9430	13.1	16
39	Identification of Active Sites on High-Performance Pt/Al ₂ O ₃ Catalyst for Cryogenic CO Oxidation. <i>ACS Catalysis</i> , 2020 , 10, 8815-8824	13.1	16
38	High-Efficiency Water Gas Shift Reaction Catalysis on βMoC Promoted by Single-Atom Ir Species. <i>ACS Catalysis</i> , 2021 , 11, 5942-5950	13.1	16
37	Silica Modified Alumina As Supports of Fe ₂ O ₃ with High Performance in Chemical Looping Combustion of Methane. <i>ACS Sustainable Chemistry and Engineering</i> , 2018 , 6, 12884-12892	8.3	16
36	Effect of magnesium substitution into Fe-based La-hexaaluminates on the activity for CH ₄ catalytic combustion. <i>Catalysis Science and Technology</i> , 2016 , 6, 7860-7867	5.5	15

35	Reactivity of Methanol Steam Reforming on ZnPd Intermetallic Catalyst: Understanding from Microcalorimetric and FT-IR Studies. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 12395-12403	3.8	15
34	Improving the selectivity of Ni-Al mixed oxides with isolated oxygen species for oxidative dehydrogenation of ethane with nitrous oxide. <i>Journal of Catalysis</i> , 2019 , 377, 438-448	7.3	14
33	Local structure of Pt species dictates remarkable performance on Pt/Al ₂ O ₃ for preferential oxidation of CO in H ₂ . <i>Applied Catalysis B: Environmental</i> , 2021 , 282, 119588	21.8	14
32	A palladium single-atom catalyst toward efficient activation of molecular oxygen for cinnamyl alcohol oxidation. <i>Chinese Journal of Catalysis</i> , 2020 , 41, 1812-1817	11.3	13
31	Promoted methane conversion to syngas over Fe-based garnets via chemical looping. <i>Applied Catalysis B: Environmental</i> , 2020 , 278, 119305	21.8	13
30	Anti-coke BaFe _{1-x} Sn _x O ₃ Oxygen Carriers for Enhanced Syngas Production via Chemical Looping Partial Oxidation of Methane. <i>Energy & Fuels</i> , 2020 , 34, 6991-6998	4.1	13
29	Dual Metal Active Sites in an Ir ₁ /FeO _x Single-Atom Catalyst: A Redox Mechanism for the Water-Gas Shift Reaction. <i>Angewandte Chemie</i> , 2020 , 132, 12968-12975	3.6	13
28	Sulfate-Modified NiAl Mixed Oxides as Effective C-H Bond-Breaking Agents for the Sole Production of Ethylene from Ethane. <i>ACS Catalysis</i> , 2020 , 10, 7619-7629	13.1	12
27	Exerting the structural advantages of Ir-in-CeO ₂ and Ir-on-CeO ₂ to widen the operating temperature window for preferential CO oxidation. <i>Chemical Engineering Journal</i> , 2011 , 168, 822-826	14.7	12
26	Solid Acid-Catalyzed Dehydration of Pinacol Derivatives in Ionic Liquid: Simple and Efficient Access to Branched 1,3-Dienes. <i>ACS Catalysis</i> , 2017 , 7, 2576-2582	13.1	11
25	Synthesis of Decaline-Type Thermal-Stable Jet Fuel Additives with Cycloketones. <i>ACS Sustainable Chemistry and Engineering</i> , 2019 , 7, 17354-17361	8.3	11
24	Synthesis of jet fuel additive with cyclopentanone. <i>Journal of Energy Chemistry</i> , 2019 , 29, 23-30	12	11
23	Exceptional Antisintering Gold Nanocatalyst for Diesel Exhaust Oxidation. <i>Nano Letters</i> , 2018 , 18, 6489-6493	11.5	11
22	Adsorption/reaction energetics measured by microcalorimetry and correlated with reactivity on supported catalysts: A review. <i>Chinese Journal of Catalysis</i> , 2016 , 37, 2039-2052	11.3	9
21	Thermodynamic analysis of chemical looping coupling process for coproducing syngas and hydrogen with in situ CO ₂ utilization. <i>Energy Conversion and Management</i> , 2021 , 231, 113845	10.6	8
20	Recent Advances of Oxygen Carriers for Chemical Looping Reforming of Methane. <i>ChemCatChem</i> , 2021 , 13, 1615-1637	5.2	8
19	Direct synthesis of a high-density aviation fuel using a polycarbonate. <i>Green Chemistry</i> , 2021 , 23, 912-919	10	7
18	Highly Active and Anticoke Ni/CeO ₂ with Ultralow Ni Loading in Chemical Looping Dry Reforming via the Strong Metal-Support Interaction. <i>ACS Sustainable Chemistry and Engineering</i> , 2021 , 9, 17276-17288	8.3	6

17	Near 100% ethene selectivity achieved by tailoring dual active sites to isolate dehydrogenation and oxidation. <i>Nature Communications</i> , 2021 , 12, 5447	17.4	5
16	Hydrogenated TiO ₂ supported Ru for selective methanation of CO in practical conditions. <i>Applied Catalysis B: Environmental</i> , 2021 , 298, 120597	21.8	5
15	EMoC Supported Noble Metal Catalysts for Water-Gas Shift Reaction: Single-Atom Promoter or Single-Atom Player. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 11415-11421	6.4	4
14	Widening Temperature Window for CO Preferential Oxidation in H ₂ by Ir Nanoparticles Interaction with Framework Fe of Hexaaluminate. <i>ACS Catalysis</i> , 2021 , 11, 5709-5717	13.1	4
13	Low-temperature conversion of methane to oxygenates by supported metal catalysts: From nanoparticles to single atoms. <i>Chinese Journal of Chemical Engineering</i> , 2021 , 38, 18-18	3.2	4
12	Versatile application of wet-oxidation for ambient CO abatement over Fe(OH) supported subnanometer platinum group metal catalysts. <i>Chinese Journal of Catalysis</i> , 2020 , 41, 613-621	11.3	3
11	Controlling CO ₂ Hydrogenation Selectivity by Metal-Supported Electron Transfer. <i>Angewandte Chemie</i> , 2020 , 132, 20158-20164	3.6	3
10	Direct synthesis of a jet fuel range dicycloalkane by the aqueous phase hydrodeoxygenation of polycarbonate. <i>Green Chemistry</i> , 2021 , 23, 3693-3699	10	3
9	Defect-Rich TiO ₂ In Situ Evolved from MXene for the Enhanced Oxidative Dehydrogenation of Ethane to Ethylene. <i>ACS Catalysis</i> , 2021 , 11, 15223-15233	13.1	3
8	Oxygen Activity Tuning via FeO ₆ Octahedral Tilting in Perovskite Ferrites for Chemical Looping Dry Reforming of Methane. <i>ACS Catalysis</i> , 7326-7335	13.1	3
7	Selective catalytic oxidation of ammonia to nitric oxide via chemical looping.. <i>Nature Communications</i> , 2022 , 13, 718	17.4	2
6	Effect of calcination temperature on the performance of hexaaluminate supported CeO ₂ for chemical looping dry reforming. <i>Fuel Processing Technology</i> , 2021 , 218, 106873	7.2	2
5	A novel carbon cycle process assisted by Ni/La ₂ O ₃ catalyst for enhanced thermochemical CO ₂ splitting. <i>Journal of Energy Chemistry</i> , 2021 , 61, 297-303	12	2
4	Synthesis of jet fuel and diesel range cycloalkanes with 2-methylfuran and benzaldehyde. <i>Sustainable Energy and Fuels</i> ,	5.8	1
3	Intensified solar thermochemical CO ₂ splitting over iron-based redox materials via perovskite-mediated dealloying-exsolution cycles. <i>Chinese Journal of Catalysis</i> , 2021 , 42, 2049-2058	11.3	1
2	Influence of the encapsulation degree of Fe ⁰ active sites on performance of garnets for chemical looping partial oxidation of CH ₄ . <i>Applied Catalysis B: Environmental</i> , 2022 , 312, 121421	21.8	0
1	Synthesis of renewable alkylated naphthalenes with benzaldehyde and angelica lactone. <i>Green Chemistry</i> , 2021 , 23, 5474-5480	10	