Recent Advances in Carbon Dioxide Hydrogenation to M
Catalysis

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#	Article	IF	Citations
1	Experimental and Kinetic Modeling Studies of Methanol Transformation to Hydrocarbons Using Zeolite-Based Catalysts: A Review. Energy & Fuels, 2020, 34, 13225-13246.	2.5	23
2	Oxygen-atom vacancy formation and reactivity in polyoxovanadate clusters. Chemical Communications, 2020, 56, 13477-13490.	2.2	22
3	CO2-free conversion of CH4 to syngas using chemical looping. Applied Catalysis B: Environmental, 2020, 278, 119328.	10.8	48
4	Selective CO2 adsorption over functionalized Zr-based metal organic framework under atmospheric or lower pressure: Contribution of functional groups to adsorption. Chemical Engineering Journal, 2020, 402, 126254.	6.6	58
5	Copper-zirconia interfaces in UiO-66 enable selective catalytic hydrogenation of CO2 to methanol. Nature Communications, 2020, 11, 5849.	5.8	86
6	Advances in the Design of Heterogeneous Catalysts and Thermocatalytic Processes for CO₂ Utilization. ACS Catalysis, 2020, 10, 14147-14185.	5.5	181
7	Review of Catalyst Design and Mechanistic Studies for the Production of Olefins from Anthropogenic CO₂. ACS Catalysis, 2020, 10, 14258-14282.	5.5	66
8	A Highly Active Au/In2O3-ZrO2 Catalyst for Selective Hydrogenation of CO2 to Methanol. Catalysts, 2020, 10, 1360.	1.6	34
9	Poly(imidazolium-methylene)-Assisted Grinding Strategy to Prepare Nanocarbon-Embedded Network Monoliths for Carbocatalysis. ACS Catalysis, 2020, 10, 14604-14614.	5.5	9
10	Advances in Single-Atom Catalysts for Lignin Conversion. ACS Symposium Series, 2020, , 93-125.	0.5	2
11	Stabilizing Cu⁺ in Cu/SiO₂ Catalysts with a Shattuckite-Like Structure Boosts CO₂ Hydrogenation into Methanol. ACS Catalysis, 2020, 10, 14694-14706.	5.5	129
13	Single-Site Heterogeneous Catalysts and Photocatalysts for Emerging Applications. ACS Symposium Series, 2020, , 151-188.	0.5	3
14	New Kind of Thermoplastic Polyurea Elastomers Synthesized from CO₂ and with Self-Healing Properties. ACS Sustainable Chemistry and Engineering, 2020, 8, 12677-12685.	3.2	18
15	CO2 adsorption at low pressure over polymers-loaded mesoporous metal organic framework PCN-777: effect of basic site and porosity on adsorption. Journal of CO2 Utilization, 2020, 42, 101332.	3.3	14
16	Transition Metalâ€Free Synthesis of Carbamates Using CO₂ as the Carbon Source. ChemSusChem, 2020, 13, 6246-6258.	3.6	46
17	Density functional theoretical study of Au4/In2O3 catalyst for CO2 hydrogenation to methanol: The strong metal-support interaction and its effect. Journal of CO2 Utilization, 2020, 42, 101313.	3.3	39
18	Computational screening of homo and hetero transition metal dimer catalysts for reduction of CO₂ to C₂ products with high activity and low limiting potential. Journal of Materials Chemistry A, 2020, 8, 21241-21254.	5.2	51
19	Novel Heterogeneous Catalysts for CO₂ Hydrogenation to Liquid Fuels. ACS Central Science, 2020, 6, 1657-1670.	5.3	182

#	Article	IF	Citations
20	Insights into the Influence of CeO₂Crystal Facet on CO₂Hydrogenation to Methanol over Pd/CeO₂Catalysts. ACS Catalysis, 2020, 10, 11493-11509.	5.5	391
21	Research Progress in Conversion of CO2 to Valuable Fuels. Molecules, 2020, 25, 3653.	1.7	64
22	Tuning Adsorption Energies and Reaction Pathways by Alloying: PdZn versus Pd for CO₂ Hydrogenation to Methanol. Journal of Physical Chemistry Letters, 2020, 11, 7672-7678.	2.1	24
23	Recycling Carbon Dioxide through Catalytic Hydrogenation: Recent Key Developments and Perspectives. ACS Catalysis, 2020, 10, 11318-11345.	5.5	215
24	Surface Orientation and Pressure Dependence of CO₂ Activation on Cu Surfaces. Journal of Physical Chemistry C, 2020, 124, 27511-27518.	1.5	20
25	Cyclic oligourea synthesized from CO2: Purification, characterization and properties. Green Energy and Environment, 2022, 7, 477-484.	4.7	3
26	Synthesis of Polyurea Thermoplastics through a Nonisocyanate Route Using CO2 and Aliphatic Diamines. ACS Sustainable Chemistry and Engineering, 2020, 8, 18626-18635.	3.2	14
27	Single-Atom Catalysis: An Analogy between Heterogeneous and Homogeneous Catalysts. ACS Symposium Series, 2020, , 1-15.	0.5	1
28	Recent Advances of Heterogeneous Nanosized Hybrid Catalysts for Water Treatment Application. ACS Symposium Series, 2020, , 227-240.	0.5	0
29	Supported Metal Nanoparticles and Single-Atoms for Catalytic CO₂Utilization. ACS Symposium Series, 2020, , 241-266.	0.5	0
30	Advances in Metal Phthalocyanine based Carbon Composites for Electrocatalytic CO₂ Reduction. ChemCatChem, 2020, 12, 6103-6130.	1.8	38
31	Hydrogenation of Carbon Dioxide to Methanol over Nonâˆ'Cuâ€based Heterogeneous Catalysts. ChemSusChem, 2020, 13, 6160-6181.	3.6	90
32	Realizing efficient carbon dioxide hydrogenation to liquid hydrocarbons by tandem catalysis design. EnergyChem, 2020, 2, 100038.	10.1	20
33	Adsorption and activation of CO₂ on Zr_n (<i>n</i> = 2â€"7) clusters. Physical Chemistry Chemical Physics, 2020, 22, 16877-16886.	1.3	11
34	A DFT study for CO₂ hydrogenation on W(111) and Ni-doped W(111) surfaces. Physical Chemistry Chemical Physics, 2020, 22, 17106-17116.	1.3	8
35	Lanthanum-Modified MCF-Derived Nickel Phyllosilicate Catalyst for Enhanced CO₂ Methanation: A Comprehensive Study. ACS Applied Materials & Interfaces, 2020, 12, 19587-19600.	4.0	39
36	Advances in higher alcohol synthesis from CO2 hydrogenation. CheM, 2021, 7, 849-881.	5.8	129
37	Unveiling the Activity Origin of Iron Nitride as Catalytic Material for Efficient Hydrogenation of CO₂ to C₂₊ Hydrocarbons. Angewandte Chemie, 2021, 133, 4546-4550.	1.6	11

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38	Unveiling the Activity Origin of Iron Nitride as Catalytic Material for Efficient Hydrogenation of CO₂ to C₂₊ Hydrocarbons. Angewandte Chemie - International Edition, 2021, 60, 4496-4500.	7.2	67
39	Challenges and Opportunities in Utilizing MXenes of Carbides and Nitrides as Electrocatalysts. Advanced Energy Materials, 2021, 11, 2002967.	10.2	94
40	Catalytic conversion of C1 molecules under mild conditions. EnergyChem, 2021, 3, 100050.	10.1	42
41	Photocatalytic and electrocatalytic transformations of C1 molecules involving Câ€“C coupling. Energy and Environmental Science, 2021, 14, 37-89.	15.6	110
42	Electrocatalysts for direct methanol fuel cells to demonstrate China's renewable energy renewable portfolio standards within the framework of the 13th five-year plan. Catalysis Today, 2021, 374, 135-153.	2.2	12
43	Recent progress in structural modulation of metal nanomaterials for electrocatalytic CO2 reduction. Rare Metals, 2021, 40, 1412-1430.	3.6	61
44	Greener and facile synthesis of Cu/ZnO catalysts for CO2 hydrogenation to methanol by urea hydrolysis of acetates. RSC Advances, 2021, 11, 14323-14333.	1.7	6
45	Towards the development of the emerging process of CO₂heterogenous hydrogenation into high-value unsaturated heavy hydrocarbons. Chemical Society Reviews, 2021, 50, 10764-10805.	18.7	161
46	Shedding light on <scp>CO₂</scp>: Catalytic synthesis of solar methanol. EcoMat, 2021, 3, e12078.	6.8	13
47	Catalytic hydrogenation of CO₂ from air <i>via</i> porous silica-supported Au nanoparticles in aqueous solution. Green Chemistry, 2021, 23, 3740-3749.	4.6	13
48	First-principles microkinetic simulations revealing the scaling relations and structure sensitivity of CO₂ hydrogenation to C₁ & C₂ oxygenates on Pd surfaces. Catalysis Science and Technology, 2021, 11, 4866-4881.	2.1	5
49	Flame-made Cu/ZrO₂ catalysts with metastable phase and strengthened interactions for CO₂ hydrogenation to methanol. Chemical Communications, 2021, 57, 7509-7512.	2.2	25
50	Homogeneous and heterogeneous catalysts for hydrogenation of CO₂ to methanol under mild conditions. Chemical Society Reviews, 2021, 50, 4259-4298.	18.7	167
51	Chemisorption of CO₂ by diamine-tetraamido macrocyclic motifs: a theoretical study. Organic and Biomolecular Chemistry, 2021, 19, 3873-3881.	1.5	5
52	Mechanistic and multiscale aspects of thermo-catalytic CO₂conversion to C₁products. Catalysis Science and Technology, 2021, 11, 6601-6629.	2.1	27
53	Hydrogen production from bioinspired methanol reforming at room temperature. Green Chemistry, 2021, 23, 5618-5624.	4.6	14
54	Pd/C-catalyzed transfer hydrogenation of aromatic nitro compounds using methanol as a hydrogen source. Journal of the Indian Chemical Society, 2021, 98, 100014.	1.3	9
55	CO₂ Hydrogenation to Methanol over In₂O₃-Based Catalysts: From Mechanism to Catalyst Development. ACS Catalysis, 2021, 11, 1406-1423.	5.5	198

#	Article	IF	Citations
56	Hybridization of MOFs and ionic POFs: a new strategy for the construction of bifunctional catalysts for CO₂ cycloaddition. Green Chemistry, 2021, 23, 1766-1771.	4.6	26
57	Reverse water-gas shift reaction over Pt/MoO_x/TiO₂: reverse Marsâ€“van Krevelen mechanism <i>via</i> redox of supported MoO_x. Catalysis Science and Technology, 2021, 11, 4172-4180.	2.1	20
58	Selective synthesis of <i>para</i>-xylene and light olefins from CO₂/H₂ in the presence of toluene. Catalysis Science and Technology, 2021, 11, 4521-4528.	2.1	18
59	Recent Advances in Metal Catalyst Design for CO2 Hydroboration to C1 Derivatives. Catalysts, 2021, 11, 58.	1.6	32
60	Anisotropic growth of ZnO nanoparticles driven by the structure of amine surfactants: the role of surface dynamics in nanocrystal growth. Nanoscale Advances, 2021, 3, 6088-6099.	2.2	4
61	Tailoring the Physicochemical Properties of Mg Promoted Catalysts via One Pot Non-ionic Surfactant Assisted Co-precipitation Route for CO2 Co-feeding Syngas to Methanol. Topics in Catalysis, 2021, 64, 395-413.	1.3	10
62	Synthesis of amino alcohols, cyclic urea, urethanes, and cyclic carbonates and tandem one-pot conversion of an epoxide to urethanes using a Znâ€“Zr bimetallic oxide catalyst. Sustainable Energy and Fuels, 2021, 5, 1498-1510.	2.5	7
63	Bimetallic-Derived Catalysts and Their Application in Simultaneous Upgrading of CO2 and Ethane. Matter, 2021, 4, 408-440.	5.0	26
64	Catalytic Conversion of Carbon Dioxide to Methanol: Current Status and Future Perspective. Frontiers in Energy Research, 2021, 8, .	1.2	36
65	Mixed-Phase Indium Oxide as a Highly Active and Stable Catalyst for the Hydrogenation of CO₂ to CH₃OH. Industrial & Engineering Chemistry Research, 2021, 60, 3532-3542.	1.8	14
66	Carbon-Based Materials for Electrochemical Reduction of CO₂ to C₂₊ Oxygenates: Recent Progress and Remaining Challenges. ACS Catalysis, 2021, 11, 2076-2097.	5.5	116
67	A study on highly active Cu-Zn-Al-K catalyst for CO2 hydrogenation to methanol. Arabian Journal of Chemistry, 2021, 14, 102951.	2.3	5
68	Investigation of a hydrogen generator with the heat management module utilizing liquidâ€gas organic phase change material. International Journal of Energy Research, 2021, 45, 10378-10392.	2.2	6
69	Simple RuCl₃â€catalyzed <i>N</i>â€Methylation of Amines and Transfer Hydrogenation of Nitroarenes using Methanol. ChemCatChem, 2021, 13, 1722-1729.	1.8	41
70	Pdâ€“Cu Alloy Nanoparticles Confined within Mesoporous Hollow Carbon Spheres for the Hydrogenation of CO₂ to Formate. Journal of Physical Chemistry C, 2021, 125, 3961-3971.	1.5	25
71	CO₂ Footprint of Thermal Versus Photothermal CO₂ Catalysis. Small, 2021, 17, e2007025.	5.2	35
72	Highly Active Ir/In₂O₃ Catalysts for Selective Hydrogenation of CO₂ to Methanol: Experimental and Theoretical Studies. ACS Catalysis, 2021, 11, 4036-4046.	5.5	108
73	Boosting CO₂ Capture and Its Photochemical Conversion on Bismuth Surface. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000671.	0.8	4

#	Article	IF	Citations
74	BiVO₄ Microplates with Oxygen Vacancies Decorated with Metallic Cu and Bi Nanoparticles for CO₂ Photoreduction. ACS Applied Nano Materials, 2021, 4, 3576-3585.	2.4	43
75	Optimizing network pathways of CO2 conversion processes. Journal of CO2 Utilization, 2021, 45, 101433.	3.3	9
76	Insight into Acetic Acid Synthesis from the Reaction of CH₄ and CO₂. ACS Catalysis, 2021, 11, 3384-3401.	5.5	53
77	Silica-Supported PdGa Nanoparticles: Metal Synergy for Highly Active and Selective CO₂-to-CH₃OH Hydrogenation. Jacs Au, 2021, 1, 450-458.	3.6	31
78	Direct aromatization of CO2 via combined CO2 hydrogenation and zeolite-based acid catalysis. Journal of CO2 Utilization, 2021, 45, 101405.	3.3	51
79	Hydrogen dissociation sites on indium-based ZrO2-supported catalysts for hydrogenation of CO2 to methanol. Catalysis Today, 2022, 387, 38-46.	2.2	11
80	CO₂ Hydrogenation to Higher Alcohols over K-Promoted Bimetallic Feâ€“In Catalysts on a Ceâ€“ZrO₂ Support. ACS Sustainable Chemistry and Engineering, 2021, 9, 6235-6249.	3.2	32
81	Solvothermal preparation of CuO-ZnO-ZrO2 catalysts for methanol synthesis via CO2 hydrogenation. Journal of the Taiwan Institute of Chemical Engineers, 2021, 121, 81-91.	2.7	24
82	Spin State Tuning of the Octahedral Sites in Niâ€“Co-Based Spinel toward Highly Efficient Urea Oxidation Reaction. Journal of Physical Chemistry C, 2021, 125, 9190-9199.	1.5	25
83	Zeolite-Encapsulated Ultrasmall Cu/ZnO<i>_x</i> Nanoparticles for the Hydrogenation of CO₂ to Methanol. ACS Applied Materials & Interfaces, 2021, 13, 18693-18703.	4.0	46
84	Ni-based catalysts derived from layered-double-hydroxide nanosheets for efficient photothermal CO2 reduction under flow-type system. Nano Research, 2021, 14, 4828-4832.	5.8	62
85	Insights into Bimetallic Oxide Synergy during Carbon Dioxide Hydrogenation to Methanol and Dimethyl Ether over GaZrO_{<i>x</i>} Oxide Catalysts. ACS Catalysis, 2021, 11, 4704-4711.	5.5	60
86	Catalytic Methylation of <i>m</i>-Xylene, Toluene, and Benzene Using CO₂ and H₂ over TiO₂-Supported Re and Zeolite Catalysts: Machine-Learning-Assisted Catalyst Optimization. ACS Catalysis, 2021, 11, 5829-5838.	5.5	25
87	Engineering Silverâ€Enriched Copper Coreâ€Shell Electrocatalysts to Enhance the Production of Ethylene and C₂₊ Chemicals from Carbon Dioxide at Low Cell Potentials. Advanced Functional Materials, 2021, 31, 2101668.	7.8	36
88	Recent Advances for Selective Catalysis in Benzene Methylation: Reactions, Shape-Selectivity and Perspectives. Catalysis Surveys From Asia, 2021, 25, 347-361.	1.0	8
89	Impact of hybrid CO2-CO feeds on methanol synthesis over In2O3-based catalysts. Applied Catalysis B: Environmental, 2021, 285, 119878.	10.8	30
90	Cu-ZnO@Al2O3 hybrid nanoparticle with enhanced activity for catalytic CO2 conversion to methanol. Advanced Powder Technology, 2021, 32, 1785-1792.	2.0	19
91	Two Co(II)-Based MOFs Constructed from Resorcin[4]Arene Ligand: Syntheses, Structures, and Heterogeneous Catalyst for Conversion of CO2. Crystals, 2021, 11, 574.	1.0	2

#	Article	IF	Citations
92	The feasibility study of the indium oxide supported silver catalyst for selective hydrogenation of CO2 to methanol. Green Energy and Environment, 2022, 7, 807-817.	4.7	45
93	Transformation of CO2 into liquid fuels and synthetic natural gas using green hydrogen: A comparative analysis. Fuel, 2021, 291, 120111.	3.4	32
94	Size-Controlled Synthesis of Pd Nanocatalysts on Defect-Engineered CeO₂ for CO₂ Hydrogenation. ACS Applied Materials & Interfaces, 2021, 13, 24957-24965.	4.0	33
95	Cu-Based Nanocatalysts for CO₂ Hydrogenation to Methanol. Energy & Fuels, 2021, 35, 8558-8584.	2.5	74
96	The role of lattice oxygen in CO2 hydrogenation to methanol over La1-xSrxCuO catalysts. Journal of CO2 Utilization, 2021, 47, 101498.	3.3	22
97	Deciphering Metalâ€“Oxide and Metalâ€“Metal Interplay via Surface Organometallic Chemistry: A Case Study with CO₂ Hydrogenation to Methanol. Journal of the American Chemical Society, 2021, 143, 6767-6780.	6.6	48
98	Architectural Design for Enhanced C₂ Product Selectivity in Electrochemical CO₂ Reduction Using Cu-Based Catalysts: A Review. ACS Nano, 2021, 15, 7975-8000.	7.3	183
99	Yttria-doped Cu/ZnO catalyst with excellent performance for CO2 hydrogenation to methanol. Molecular Catalysis, 2021, 509, 111641.	1.0	11
100	Recent advances in nanostructured catalysts for photo-assisted dry reforming of methane. Materials Today Nano, 2021, 14, 100113.	2.3	11
101	Fabrication Methodâ€Engineered Cuâ€“ZnO/SiO₂ Catalysts with Highly Dispersed Metal Nanoparticles toward Efficient Utilization of Methanol as a Hydrogen Carrier. Advanced Energy and Sustainability Research, 2021, 2, 2100082.	2.8	6
102	Methanol Synthesis by Hydrogenation of Hybrid CO₂âˆ'CO Feeds. ChemSusChem, 2021, 14, 2914-2923.	3.6	8
103	Selective Hydrogenation of CO₂ to Hydrocarbons: Effects of Fe₃O₄ Particle Size on Reduction, Carburization, and Catalytic Performance. Energy & Fuels, 2021, 35, 10703-10709.	2.5	27
104	Influence of Phase Composition and Pretreatment on the Conversion of Iron Oxides into Iron Carbides in Syngas Atmospheres. Catalysts, 2021, 11, 773.	1.6	4
105	Highlights and challenges in the selective reduction of carbon dioxide to methanol. Nature Reviews Chemistry, 2021, 5, 564-579.	13.8	253
106	Tunable Carbon Dioxide Activation Pathway over Iron Oxide Catalysts: Effects of Potassium. Industrial & Engineering Chemistry Research, 2021, 60, 8705-8713.	1.8	18
107	CoCo-PBA/tetrabutylammonium bromide as highly efficient catalyst for CO2 and epoxides coupling reaction under mild conditions. Chinese Chemical Letters, 2022, 33, 1081-1086.	4.8	12
108	Theoretical new insights into hydrogen interaction with single-atom Zn- and co-doped copper metal catalysts. Applied Surface Science, 2021, 551, 149365.	3.1	2
109	One-pot synthesis of spiro[indoline-3,2â€²-pyrrolidin]-ones catalyzed by mesoporous molecular sieve MCM-41. Tetrahedron, 2021, 93, 132283.	1.0	5

#	Article	IF	Citations
110	Pt, Ir, Ru, and Rh Nanoparticles Supported on ZIF-67 Nanocubes for Evaluation of Hydrogen Spillover Ability of Noble Metals. ACS Applied Nano Materials, 2021, 4, 6030-6044.	2.4	17
111	Highly Selective Synthesis of Ethanol via CO₂ Hydrogenation over CoMoC_x Catalysts. ChemCatChem, 2021, 13, 3333-3339.	1.8	17
112	Porous catalytic membranes for CO2 conversion. Journal of Energy Chemistry, 2021, 63, 74-86.	7.1	14
113	Aromatics Production via Methanol-Mediated Transformation Routes. ACS Catalysis, 2021, 11, 7780-7819.	5.5	92
114	Efficient Activation of CO₂ over Ce-MOF-derived CeO₂ for the Synthesis of Cyclic Urea, Urethane, and Carbamate. Industrial & Engineering Chemistry Research, 2021, 60, 12492-12504.	1.8	30
115	Organic Electrosynthesis in CO₂-eXpanded Electrolytes: Enabling Selective Acetophenone Carboxylation to Atrolatic Acid. ACS Sustainable Chemistry and Engineering, 2021, 9, 10431-10436.	3.2	11
116	Recent advances in CO2 hydrogenation to value-added products â€” Current challenges and future directions. Progress in Energy and Combustion Science, 2021, 85, 100905.	15.8	134
117	The exploration of deoxygenation reactions for alcohols and derivatives using earth-abundant reagents. Pure and Applied Chemistry, 2021, 93, 799-810.	0.9	1
118	Revamping SiO₂ Spheres by Coreâ€“Shell Porosity Endowment to Construct a Mazelike Nanoreactor for Enhanced Catalysis in CO₂ Hydrogenation to Methanol. Advanced Functional Materials, 2021, 31, 2102896.	7.8	21
119	Recent advances in light olefins production from catalytic hydrogenation of carbon dioxide. Chemical Engineering Research and Design, 2021, 151, 401-427.	2.7	39
120	The Critical Importance of Adopting Whole-of-Life Strategies for Polymers and Plastics. Sustainability, 2021, 13, 8218.	1.6	10
121	Effect of Sm Doping on CO₂-to-Methanol Hydrogenation of Cu/Amorphous-ZrO₂ Catalysts. Journal of Physical Chemistry C, 2021, 125, 15899-15909.	1.5	8
122	Catalytic Hydrogenation of CO2 to Methanol over Cu/MgO Catalysts in a Semi-Continuous Reactor. Energies, 2021, 14, 4319.	1.6	7
123	Cesium-Induced Active Sites for Câ€“C Coupling and Ethanol Synthesis from CO₂ Hydrogenation on Cu/ZnO(0001Ì…) Surfaces. Journal of the American Chemical Society, 2021, 143, 13103-13112.	6.6	47
124	Efficient responsive ionic liquids with multiple active centers for the transformation of CO2 under mild conditions: Integrated experimental and theoretical study. Journal of CO2 Utilization, 2021, 49, 101573.	3.3	14
125	Theoretical investigation on conversion of CO2 with epoxides to cyclic carbonates by bifunctional metal-salen complexes bearing ionic liquid substsituents. Molecular Catalysis, 2021, 511, 111733.	1.0	5
126	Niâ€“In Synergy in CO₂ Hydrogenation to Methanol. ACS Catalysis, 2021, 11, 11371-11384.	5.5	79
127	Facet effect of In2O3 for methanol synthesis by CO2 hydrogenation: A mechanistic and kinetic study. Surfaces and Interfaces, 2021, 25, 101244.	1.5	9

#	Article	IF	Citations
128	CeO2 supported Pd dimers boosting CO2 hydrogenation to ethanol. Applied Catalysis B: Environmental, 2021, 291, 120122.	10.8	88
129	Catalysts design for higher alcohols synthesis by CO2 hydrogenation: Trends and future perspectives. Applied Catalysis B: Environmental, 2021, 291, 120073.	10.8	90
130	Promoting Methanol Synthesis and Inhibiting CO₂ Methanation with Bimetallic Inâ€“Ru Catalysts. ACS Sustainable Chemistry and Engineering, 2021, 9, 11891-11902.	3.2	17
131	Catalytic Formation of Cyclic Carbonates using Gallium Aminotrisphenolate Compounds and Comparison to their Aluminium Congeners: A Combined Experimental and Computational Study. ChemCatChem, 2021, 13, 4099-4110.	1.8	14
132	Pd atomic layer coating enhances CO2 hydrogenation to CH3OH fuel on Cu@Pd(111) core-shell structure catalyst. Journal of Environmental Chemical Engineering, 2021, 9, 105749.	3.3	3
133	Highly selective synthesis of LPG from CO2 hydrogenation over In2O3/SSZ-13 binfunctional catalyst. Journal of Fuel Chemistry and Technology, 2021, 49, 1132-1139.	0.9	6
134	Non-Noble-Metal Metalâ€“Organic-Framework-Catalyzed Carboxylative Cyclization of Propargylic Amines with Atmospheric Carbon Dioxide under Ambient Conditions. Inorganic Chemistry, 2021, 60, 13425-13433.	1.9	22
135	Ru complex and N, P-containing polymers confined within mesoporous hollow carbon spheres for hydrogenation of CO2 to formate. Nano Research, 2023, 16, 4515-4523.	5.8	8
136	Unique Dualâ€Sites Boosting Overall CO₂ Photoconversion by Hierarchical Electron Harvesters. Small, 2021, 17, e2103796.	5.2	38
137	Surface structure of mass-selected niobium oxide nanoclusters on Au(111). Nanotechnology, 2021, 32, 475601.	1.3	7
138	Oxygen-deficient metal oxides supported nano-intermetallic InNi ₃ C _{0.5} toward efficient CO ₂ hydrogenation to methanol. Science Advances, 2021, 7, .	4.7	72
139	Heterogeneous catalysis at metal-oxide interfaces using in situ and operando spectroscopy: From nanoparticles to single-atom sites. Applied Catalysis A: General, 2021, 624, 118330.	2.2	13
140	Bimetallic phthalocyanine heterostructure used for highly selective electrocatalytic CO2 reduction. Science China Materials, 2022, 65, 155-162.	3.5	32
141	Photoinduced Reaction Pathway Change for Boosting CO₂ Hydrogenation over a MnO-Co Catalyst. ACS Catalysis, 2021, 11, 10316-10323.	5.5	17
142	Catalytic Reductive Alcohol Etherifications with Carbonylâ€Based Compounds or CO₂ and Related Transformations for the Synthesis of Ether Derivatives. ChemSusChem, 2021, 14, 3744-3784.	3.6	18
143	Promotion effect of iron addition on the structure and CO2 hydrogenation performance of Attapulgite/Ce0.75Zr0.25O2 nanocomposite supported Cu-ZnO based catalyst. Molecular Catalysis, 2021, 513, 111820.	1.0	2
144	N-Formylation of Amines with Carbon Dioxide and Hydrogen Catalyzed by Ionic Liquid-Assisted Ru Complexes. ACS Sustainable Chemistry and Engineering, 2021, 9, 13256-13267.	3.2	7
145	Ab Initio Study of CO2 Activation on Pristine and Fe-Decorated WS2 Nanoflakes. Journal of Physical Chemistry A, 2021, 125, 7769-7777.	1.1	5

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146	Structureâ€“Activity Relationships of Copper- and Potassium-Modified Iron Oxide Catalysts during Reverse Waterâ€“Gas Shift Reaction. ACS Catalysis, 2021, 11, 12609-12619.	5.5	48
147	Catalytic valorization of CO₂ by hydrogenation: current status and future trends. Catalysis Reviews - Science and Engineering, 2023, 65, 698-772.	5.7	8
148	Revealing the dependence of CO₂ activation on hydrogen dissociation ability over supported nickel catalysts. AIChE Journal, 2022, 68, e17458.	1.8	9
149	Recent advances in carbon dioxide hydrogenation to produce olefins and aromatics. CheM, 2021, 7, 2277-2311.	5.8	122
150	Experimentally unveiling the origin of tunable selectivity for CO2 hydrogenation over Ni-based catalysts. Applied Catalysis B: Environmental, 2021, 292, 120191.	10.8	66
151	Singleâ€Atom Catalystsâ€Enabled Reductive Upgrading of CO₂. ChemCatChem, 2021, 13, 4859-4877.	1.8	10
152	A roadmap towards the development of superior photocatalysts for solar- driven CO2-to-fuels production. Renewable and Sustainable Energy Reviews, 2021, 148, 111298.	8.2	31
153	Bimetallic metal organic framework-templated synthesis of a Cu-ZnO/Al2O3 catalyst with superior methanol selectivity for CO2 hydrogenation. Molecular Catalysis, 2021, 514, 111870.	1.0	19
154	Green liquid fuel and synthetic natural gas production via CO2 hydrogenation combined with reverse water-gas-shift and Co-based Fischer-Tropsch synthesis. Journal of CO2 Utilization, 2021, 51, 101619.	3.3	26
155	High Temperature Water Permeable Membrane Reactors for CO2 Utilization. Chemical Engineering Journal, 2021, 420, 129834.	6.6	38
156	Understanding and Application of Strong Metalâ€“Support Interactions in Conversion of CO₂ to Methanol: A Review. Energy & Fuels, 2021, 35, 19012-19023.	2.5	40
157	Current and future perspectives on catalytic-based integrated carbon capture and utilization. Science of the Total Environment, 2021, 790, 148081.	3.9	67
158	Acceptorless Dehydrogenation of Methanol to Carbon Monoxide and Hydrogen using Molecular Catalysts. Angewandte Chemie - International Edition, 2021, 60, 26500-26505.	7.2	13
159	Suppressing Dormant Ru States in the Presence of Conventional Metal Oxides Promotes the Ru-MACHO-BH-Catalyzed Integration of CO₂ Capture and Hydrogenation to Methanol. ACS Catalysis, 2021, 11, 12682-12691.	5.5	8
160	Inside the reaction mechanism of direct CO2 conversion to DME over zeolite-based hybrid catalysts. Applied Catalysis B: Environmental, 2021, 294, 120255.	10.8	34
161	Enhanced CO2 hydrogenation to methanol over La oxide-modified Cu nanoparticles socketed on Cu phyllosilicate nanotubes. Journal of CO2 Utilization, 2021, 52, 101699.	3.3	9
162	Acceptorless dehydrogenation of methanol to carbon monoxide and hydrogen using molecular catalysts. Angewandte Chemie, 0, , .	1.6	1
163	Investigating the role of oxygen vacancies and basic site density in tuning methanol selectivity over Cu/CeO2 catalyst during CO2 hydrogenation. Fuel, 2021, 303, 121289.	3.4	65

#	Article	IF	Citations
164	Effect of In2O3 particle size on CO2 hydrogenation to lower olefins over bifunctional catalysts. Chinese Journal of Catalysis, 2021, 42, 2038-2048.	6.9	39
165	Experimental and theoretical studies of CO2 hydrogenation to methanol on Ru/In2O3. Journal of CO2 Utilization, 2021, 53, 101720.	3.3	54
166	Post modification of Oxo-clusters in robust Zirconium-Based metal organic framework for durable SO2 capture from flue gas. Separation and Purification Technology, 2021, 276, 119349.	3.9	22
167	Enhanced catalytic activity and stability of bismuth nanosheets decorated by 3-aminopropyltriethoxysilane for efficient electrochemical reduction of CO2. Applied Catalysis B: Environmental, 2021, 298, 120602.	10.8	19
168	MoCS@NSC with interfacial heterojunction nanostructure: A highly selective catalyst for synthesizing methanol from CO2 at low temperature. Journal of Environmental Chemical Engineering, 2021, 9, 106354.	3.3	3
169	Metal-organic framework-derived Ga-Cu/CeO2 catalyst for highly efficient photothermal catalytic CO2 reduction. Applied Catalysis B: Environmental, 2021, 298, 120519.	10.8	55
170	A superb water permeable membrane for potential applications in CO2 to liquid fuel process. Journal of Membrane Science, 2021, 639, 119682.	4.1	8
171	Plasmonic metal/semiconductor hybrid nanomaterials for solar to chemical energy conversion. Journal of Energy Chemistry, 2021, 63, 40-53.	7.1	13
172	Effect of operating parameters on H2/CO2 conversion to methanol over Cu-Zn oxide supported on ZrO2 polymorph catalysts: Characterization and kinetics. Chemical Engineering Journal, 2022, 427, 130947.	6.6	29
173	Synergistic effect of the metal-support interaction and interfacial oxygen vacancy for CO2 hydrogenation to methanol over Ni/In2O3 catalyst: A theoretical study. Journal of Energy Chemistry, 2022, 65, 623-629.	7.1	51
174	Mo-O-Bi Bonds as interfacial electron transport bridges to fuel CO2 photoreduction via in-situ reconstruction of black Bi2MoO6/BiO2-x heterojunction. Chemical Engineering Journal, 2022, 429, 132204.	6.6	83
175	A State-of-the-art review on action mechanism of photothermal catalytic reduction of CO2 in full solar spectrum. Chemical Engineering Journal, 2022, 429, 132322.	6.6	56
176	Ultrahigh surface density of Co-N2C single-atom-sites for boosting photocatalytic CO2 reduction to methanol. Applied Catalysis B: Environmental, 2022, 300, 120695.	10.8	80
177	Catalytic Technologies for the Conversion and Reuse of CO2. , 2021, , 1-50.		0
178	Photothermal CO₂ hydrogenation to hydrocarbons over trimetallic Coâ€"Cuâ€"Mn catalysts. Green Chemistry, 2021, 23, 5775-5785.	4.6	24
179	Sorption enhanced dimethyl ether synthesis under industrially relevant conditions: experimental validation of pressure swing regeneration. Reaction Chemistry and Engineering, 2021, 6, 244-257.	1.9	12
180	Dual active sites fabricated through atomic layer deposition of TiO₂ on MoS₂ nanosheet arrays for highly efficient electroreduction of CO₂ to ethanol. Journal of Materials Chemistry A, 2021, 9, 6790-6796.	5.2	22
181	Understanding Selectivity in CO2 Hydrogenation to Methanol for MoP Nanoparticle Catalysts Using In Situ Techniques. Catalysts, 2021, 11, 143.	1.6	11

#	Article	IF	Citations
182	Controllable selfâ€assembly from homonuclear Mn (II)â€MOF to heteronuclear Mn (II)â€K(I)â€MOF by alkaliâ€regulation: A novel mode of structural and luminescent regulation for offâ€"on sensing ascorbic acid. Applied Organometallic Chemistry, 2021, 35, e6160.	1.7	0
183	Hollow Carbon Spheres Encapsulating Metal Nanoparticles for CO2 Hydrogenation Reactions. Nanostructure Science and Technology, 2021, , 425-440.	0.1	0
184	HCOOH disproportionation to MeOH promoted by molybdenum PNP complexes. Chemical Science, 2021, 12, 13101-13119.	3.7	11
185	Exploring the feasibility of liquid fuel synthesis from CO₂ under cold plasma discharge: role of plasma discharge in binary metal oxide surface modification. RSC Advances, 2021, 11, 27757-27766.	1.7	7
186	Direct synthesis of polycarbonate diols from atmospheric flow CO₂ and diols without using dehydrating agents. Green Chemistry, 2021, 23, 5786-5796.	4.6	21
187	The role of site coordination on the CO₂ electroreduction pathway on stepped and defective copper surfaces. Catalysis Science and Technology, 2021, 11, 2770-2781.	2.1	10
188	Tuning product selectivity in CO₂hydrogenation over metal-based catalysts. Chemical Science, 2021, 12, 14660-14673.	3.7	38
189	Heterogeneous catalysts for CO₂hydrogenation to formic acid/formate: from nanoscale to single atom. Energy and Environmental Science, 2021, 14, 1247-1285.	15.6	152
190	Effective Screening Route for Highly Active and Selective Metalâˆ'Nitrogenâ€Doped Carbon Catalysts in CO₂ Electrochemical Reduction. Small, 2021, 17, e2103705.	5.2	12
191	The promoting role of Ga in ZnZrOx solid solution catalyst for CO2 hydrogenation to methanol. Journal of Catalysis, 2021, 404, 383-392.	3.1	45
192	Selective Catalytic Frustrated Lewis Pair Hydrogenation of CO₂ in the Presence of Silylhalides. Angewandte Chemie - International Edition, 2021, 60, 25771-25775.	7.2	26
193	Insights into the alloy-support synergistic effects for the CO2 hydrogenation towards methanol on oxide-supported Ni5Ga3 catalysts: An experimental and DFT study. Applied Catalysis B: Environmental, 2022, 302, 120842.	10.8	29
194	Cobalt Catalysts Enable Selective Hydrogenation of CO₂ toward Diverse Products: Recent Progress and Perspective. Journal of Physical Chemistry Letters, 2021, 12, 10486-10496.	2.1	40
195	Selective Hydrogenation of CO₂ to Ethanol over Sodium-Modified Rhodium Nanoparticles Embedded in Zeolite Silicalite-1. Journal of Physical Chemistry C, 2021, 125, 24429-24439.	1.5	31
196	Selective catalytic Frustrated Lewis Pair Hydrogenation of CO2 in the Presence of Silylhalides. Angewandte Chemie, 2021, 133, 25975.	1.6	7
197	Advances in Catalytic Applications of Zeoliteâ€Supported Metal Catalysts. Advanced Materials, 2021, 33, e2104442.	11.1	113
198	Preparation of supported In2O3/Pd nanocatalysts using natural pollen as bio-templates for CO2 hydrogenation to methanol: Effect of acid-etching on template. Molecular Catalysis, 2021, 516, 111945.	1.0	3
199	Direct synthesis of cyclic carbonates from olefins and CO2: Single- or multi-component catalytic systems via epoxide or halohydrin intermediate. Journal of CO2 Utilization, 2021, 53, 101742.	3.3	11

#	Article	IF	Citations
200	Nanostructure and functional group engineering of black phosphorus via plasma treatment for CO2 photoreduction. Journal of CO2 Utilization, 2021, 54, 101745.	3.3	13
201	Roles of Coordination Geometry in Single-Atom Catalysts. ACS Symposium Series, 2020, , 37-76.	0.5	4
202	Glycol assisted efficient conversion of CO2 captured from air to methanol with a heterogeneous Cu/ZnO/Al2O3 catalyst. Journal of CO2 Utilization, 2021, 54, 101762.	3.3	15
203	Hydrogenation of CO2 Promoted by Silicon-Activated H2S: Origin and Implications. Molecules, 2021, 26, 50.	1.7	2
204	MOF-Derived Nanoparticles and Single Atoms for Electrochemical Reactions. ACS Symposium Series, 2020, , 127-149.	0.5	0
205	Water Purification Using Subnanostructured Photocatalysts. ACS Symposium Series, 2020, , 189-225.	0.5	0
207	Targeted Catalyst Design to Combat Deactivation in the Liquid Phase. ACS Symposium Series, 2020, , 267-293.	0.5	0
210	From Subnanometric Clusters toward Single-Atom Catalysts. ACS Symposium Series, 2020, , 17-36.	0.5	2
211	Reductive Upgrading of Bio-Based Furanic Compounds over Subnanometer Catalysts. ACS Symposium Series, 2020, , 77-92.	0.5	0
213	Recent Advances on Electrolysis for Simultaneous Generation of Valuable Chemicals at both Anode and Cathode. Advanced Energy Materials, 2021, 11, 2102292.	10.2	129
214	Closing the Anthropogenic Chemical Carbon Cycle toward a Sustainable Future via CO₂ Valorization. Advanced Energy Materials, 2021, 11, 2102767.	10.2	35
215	Homogeneous Catalysis for Sustainable Energy: Hydrogen and Methanol Economies, Fuels from Biomass, and Related Topics. Chemical Reviews, 2022, 122, 385-441.	23.0	223
216	Conditions for the Joint Conversion of CO₂ and Syngas in the Direct Synthesis of Light Olefins Using In₂O₃â€"ZrO₂/SAPO-34 Catalyst. Industrial & Engineering Chemistry Research, 2022, 61, 10365-10376.	1.8	14
217	Fabrication of Zrâ€"Ce Oxide Solid Solution Surrounded Cu-Based Catalyst Assisted by a Microliquid Film Reactor for Efficient CO₂ Hydrogenation to Produce Methanol. Industrial & Engineering Chemistry Research, 2021, 60, 16188-16200.	1.8	15
218	Enhanced methanol production by two-stage reaction of CO2 hydrogenation at atmospheric pressure. Catalysis Communications, 2022, 162, 106373.	1.6	0
219	Tracking the phase changes in micelle-based NiGa nanocatalysts for methanol synthesis under activation and working conditions. Journal of Catalysis, 2022, 405, 183-198.	3.1	7
220	Influence of the zeolite surface properties and potassium modification on the Zn-catalyzed CO2-assisted oxidative dehydrogenation of ethane. Applied Catalysis B: Environmental, 2022, 304, 120947.	10.8	21
221	Novel and Sustainable Solventâ€Free Synthesis of 2â€Oxazolidinones Using Periodic Mesoporous Organosilicaâ€Supported Triazolium Ionic Liquids as Highly Active Catalysts. ChemistrySelect, 2021, 6, 12466-12471.	0.7	1

#	Article	IF	Citations
222	PdCu supported on dendritic mesoporous CexZr1-xO2 as superior catalysts to boost CO2 hydrogenation to methanol. Journal of Colloid and Interface Science, 2022, 611, 739-751.	5.0	18
223	Synthesis of Mesoporous Pd_{<i>x</i>}Cu_{1â€“<i>x</i>}/Al₂O₃-<i>y</i> Bimetallic Catalysts Via Mechanochemistry for Selective <i>N</i>-Formylation of Amines with CO₂ and H₂. ACS Sustainable Chemistry and Engineering, 2021, 9, 16153-16162.	3.2	9
224	Dihydrolevoglucosenone as a bio-based catalytic solvent for efficient reductive-transformation of CO2 with amines into formamides and benzothiazoles. Chemical Engineering Journal, 2022, 431, 133397.	6.6	8
225	Recent progress and understanding on In2O3-based composite catalysts for boosting CO2 hydrogenation. Journal of CO2 Utilization, 2022, 55, 101844.	3.3	38
226	Photoelectrochemical technology for solar fuel generation, from single photoelectrodes to unassisted cells: a review. Environmental Chemistry Letters, 2022, 20, 1169-1192.	8.3	13
227	Pt-modulated Cu/SiO2 catalysts for efficient hydrogenation of CO2-derived ethylene carbonate to methanol and ethylene glycol. Chinese Journal of Chemical Engineering, 2022, 41, 366-373.	1.7	9
228	Plasma-Catalytic Methanol Synthesis from CO₂ Hydrogenation over a Supported Cu Cluster Catalyst: Insights into the Reaction Mechanism. ACS Catalysis, 2022, 12, 1326-1337.	5.5	50
229	Design of CO2 hydrogenation catalysts based on phosphane/borane frustrated Lewis pairs and xanthene-derived scaffolds. Catalysis Communications, 2022, 162, 106385.	1.6	2
230	A review on CO2 hydrogenation to ethanol: Reaction mechanism and experimental studies. Journal of Environmental Chemical Engineering, 2022, 10, 106962.	3.3	27
231	CO2 hydrogenation to methanol over Cu/ZnO/ZrO2 catalysts: Effects of ZnO morphology and oxygen vacancy. Fuel, 2022, 314, 123035.	3.4	57
232	Current advances in bimetallic catalysts for carbon dioxide hydrogenation to methanol. Fuel, 2022, 313, 122963.	3.4	6
233	A Feasibility Study of the Conversion of Petrochemical Off-Gas Streams to Methanol Over CuO/ZnO/Al2O3 Catalyst. Topics in Catalysis, 0, , 1.	1.3	2
234	â€œSpring-loadedâ€•mechanism for chemical fixation of carbon dioxide with epoxides. Chem Catalysis, 2022, 2, 519-530.	2.9	25
236	Boosting CO₂ electroreduction over Co nanoparticles supported on N,B-co-doped graphitic carbon. Green Chemistry, 2022, 24, 1488-1493.	4.6	18
237	Surface Molecular Functionalization of Unusual Phase Metal Nanomaterials for Highly Efficient Electrochemical Carbon Dioxide Reduction under Industryâ€Relevant Current Density. Small, 2022, 18, e2106766.	5.2	30
238	Lightâ€Assisted CO₂ Hydrogenation over Pd₃Cu@UiOâ€66 Promoted by Active Sites in Close Proximity. Angewandte Chemie - International Edition, 2022, 61, .	7.2	89
239	Noble-metal based single-atom catalysts for the water-gas shift reaction. Chemical Communications, 2021, 58, 208-222.	2.2	13
240	Probing the morphological effects of ReO_{<i>x</i>}/CeO₂ catalysts on the CO₂ hydrogenation reaction. Catalysis Science and Technology, 2022, 12, 1159-1172.	2.1	13

#	Article	IF	Citations
241	Iron anodeâ€based aqueous electrochemical energy storage devices: Recent advances and future perspectives. , 2022, 1, 116-139.		73
242	Efficient Role of Nanosheet-Like Pr₂O₃ Induced Surface-Interface Synergistic Structures over Cu-Based Catalysts for Enhanced Methanol Production from CO₂ Hydrogenation. ACS Applied Materials & Interfaces, 2022, 14, 2768-2781.	4.0	9
243	Single-atom catalysts for thermal- and electro-catalytic hydrogenation reactions. Journal of Materials Chemistry A, 2022, 10, 5743-5757.	5.2	22
244	Dependence of copper particle size and interface on methanol and CO formation in CO₂ hydrogenation over Cu@ZnO catalysts. Catalysis Science and Technology, 2022, 12, 551-564.	2.1	33
245	Lightâ€Assisted CO 2 Hydrogenation over Pd 3 Cu@UiOâ€66 Promoted by Active Sites in Close Proximity. Angewandte Chemie, 0, , .	1.6	11
246	Advances in studies of the structural effects of supported Ni catalysts for CO₂hydrogenation: from nanoparticle to single atom catalyst. Journal of Materials Chemistry A, 2022, 10, 5792-5812.	5.2	42
247	Kinetically relevant variation triggered by hydrogen pressure: A mechanistic case study of CO2 hydrogenation to methanol over Cu/ZnO. Journal of Catalysis, 2022, 406, 145-156.	3.1	11
248	Deciphering Mn modulated structure-activity interplay and rational statistical analysis for CO2 rich syngas hydrogenation to clean methanol. Journal of Cleaner Production, 2022, 340, 130794.	4.6	3
249	Recent advances in application of iron-based catalysts for CO hydrogenation to value-added hydrocarbons. Chinese Journal of Catalysis, 2022, 43, 731-754.	6.9	35
250	Negative CO2 emissions from flexible biofuel synthesis: Concepts, potentials, technologies. Renewable and Sustainable Energy Reviews, 2022, 158, 112120.	8.2	15
251	CO2 hydrogenation to methanol on tungsten-doped Cu/CeO2 catalysts. Applied Catalysis B: Environmental, 2022, 306, 121098.	10.8	50
252	Dynamic structural evolution of iron catalysts involving competitive oxidation and carburization during CO ₂ hydrogenation. Science Advances, 2022, 8, eabm3629.	4.7	92
253	Recent Progress in Direct DME Synthesis and Potential of Bifunctional Catalysts. Chemie-Ingenieur-Technik, 2022, 94, 240-255.	0.4	17
254	Highly dispersed Cd cluster supported on TiO2 as an efficient catalyst for CO2 hydrogenation to methanol. Chinese Journal of Catalysis, 2022, 43, 761-770.	6.9	24
255	Nanostructured Photothermal Materials for Environmental and Catalytic Applications. Molecules, 2021, 26, 7552.	1.7	12
256	Rational Design of Zeolite Y Supported Oxalate and Borohydride Ligands Functionalized Cu Catalysts for Co2 Conversion to Specialty Chemicals. SSRN Electronic Journal, 0, , .	0.4	0
257	Design of 3d transition metal anchored B₅N₃ catalysts for electrochemical CO₂ reduction to methane. Journal of Materials Chemistry A, 2022, 10, 9737-9745.	5.2	31
258	A review on the synthesis and applications of sustainable copper-based nanomaterials. Green Chemistry, 2022, 24, 3502-3573.	4.6	23

#	Article	IF	Citations
259	Ammonium-, phosphonium- and sulfonium-based 2-cyanopyrrolidine ionic liquids for carbon dioxide fixation. Physical Chemistry Chemical Physics, 2022, 24, 9659-9672.	1.3	11
260	CO2 hydrogenation to methanol by organometallic catalysts. Chem Catalysis, 2022, 2, 242-252.	2.9	14
261	Synthesis and Characterization of Mesoporous Carbon Supported Ni-Ga Catalyst for Low-Pressure CO2 Hydrogenation. Bulletin of Chemical Reaction Engineering and Catalysis, 2022, 17, 278-285.	0.5	0
262	Evaluation of Au/ZrO2 Catalysts Prepared via Postsynthesis Methods in CO2 Hydrogenation to Methanol. Catalysts, 2022, 12, 218.	1.6	13
263	Metal-Coordinating Single-Boron Sites Confined in Antiperovskite Borides for N₂-to-NH₃ Catalytic Conversion. ACS Catalysis, 2022, 12, 2967-2978.	5.5	11
264	Multi-field driven hybrid catalysts for CO2 reduction: Progress, mechanism and perspective. Materials Today, 2022, 54, 225-246.	8.3	14
265	Hollow structured Cu@ZrO2 derived from Zr-MOF for selective hydrogenation of CO2 to methanol. Journal of Energy Chemistry, 2022, 71, 277-287.	7.1	44
266	Bestimmung von Performanceâ€Deskriptoren fÃ¼r die CO ₂ â€Hydrierung an alkalimetallpromotierten Katalysatoren auf Eisenbasis. Angewandte Chemie, 0, , .	1.6	0
267	The application of nonthermal plasma in methanol synthesis via CO₂ hydrogenation. Energy Science and Engineering, 2022, 10, 1572-1583.	1.9	7
268	Emerging Trends in Sustainable CO₂â€Management Materials. Advanced Materials, 2022, 34, e2201547.	11.1	52
269	Size-Dependent Pt Nanoparticle/Carbon-Catalyzed Hydrogenation of 6-Chloroquinoline. ACS Applied Nano Materials, 2022, 5, 4252-4259.	2.4	4
270	Effect of flue gas impurities in carbon dioxide from power plants in the synthesis of isopropyl N-phenylcarbamate from CO2, aniline, and 2-propanol using CeO2 and 2-cyanopyridine. Catalysis Today, 2023, 410, 19-35.	2.2	7
271	Identifying Performance Descriptors in CO₂ Hydrogenation over Ironâ€Based Catalysts Promoted with Alkali Metals. Angewandte Chemie - International Edition, 2022, 61, .	7.2	32
272	Support Effect and Surface Reconstruction in In₂O₃/<i>m-</i>ZrO₂ Catalyzed CO₂ Hydrogenation. ACS Catalysis, 2022, 12, 3868-3880.	5.5	20
273	New black indium oxideâ€"tandem photothermal CO2-H2 methanol selective catalyst. Nature Communications, 2022, 13, 1512.	5.8	47
274	Exovinylene Cyclic Carbonates: Multifaceted CO₂â€Based Building Blocks for Modern Chemistry and Polymer Science. Angewandte Chemie - International Edition, 2022, 61, .	7.2	39
275	In Situ Spectroscopic Characterization and Theoretical Calculations Identify Partially Reduced ZnO_{1â^'<i>x</i>}/Cu Interfaces for Methanol Synthesis from CO₂. Angewandte Chemie, 2022, 134, .	1.6	6
276	Heterolytic Dissociation of H₂ in Heterogeneous Catalysis. ACS Catalysis, 2022, 12, 4707-4723.	5.5	80

#	Article	IF	Citations
277	Metal-organic framework (MOF-808) functionalized with ethyleneamines: Selective adsorbent to capture CO2 under low pressure. Journal of CO2 Utilization, 2022, 58, 101932.	3.3	36
278	Bifunctional catalysts composed of low siliconâ€content SAPOâ€34 nanosheets and In ₂ O ₃ /ZrO ₂ with improved performance for CO ₂ hydrogenation. , 0, , .		1
279	In Situ Spectroscopic Characterization and Theoretical Calculations Identify Partially Reduced ZnO_{1âˆ’<i>x</i>}/Cu Interfaces for Methanol Synthesis from CO₂. Angewandte Chemie - International Edition, 2022, 61, .	7.2	34
280	Promoting transfer of endogenous electrons well increases the carbon and energy efficiency of lignocellulosic biomass conversion to fuels and chemicals. Energy Conversion and Management, 2022, 258, 115552.	4.4	3
281	Dinitrogen Cleavage and Functionalization with Carbon Dioxide in a Dititanium Dihydride Framework. Journal of the American Chemical Society, 2022, 144, 6972-6980.	6.6	19
282	Exovinylene Cyclic Carbonates: Multifaceted CO₂â€Based Building Blocks for Modern Chemistry and Polymer Science. Angewandte Chemie, 2022, 134, .	1.6	4
283	Rational design of zeolite Y supported oxalate and borohydride ligands functionalized Cu catalysts for CO2 conversion to specialty chemicals. Applied Catalysis B: Environmental, 2022, 312, 121381.	10.8	7
284	Novel layered triple hydroxide sphere CO2 adsorbent supported copper nanocluster catalyst for efficient methanol synthesis via CO2 hydrogenation. Journal of Catalysis, 2022, 409, 24-32.	3.1	12
285	Unravelling synergetic interaction over tandem Cu-ZnO-ZrO2/hierarchical ZSM5 catalyst for CO2 hydrogenation to methanol and DME. Fuel, 2022, 318, 123641.	3.4	25
286	Efficient production of renewable hydrocarbon fuels using waste CO2 and green H2 by integrating Fe-based Fischer-Tropsch synthesis and olefin oligomerization. Energy, 2022, 248, 123616.	4.5	13
287	Conversion of carbon dioxide to methanol: A comprehensive review. Chemosphere, 2022, 298, 134299.	4.2	45
288	Highly efficient CO2 hydrogenation to methanol via in-situ condensation and sorption in a novel multi-stage circulating fast fluidized bed reactor. Chemical Engineering Journal, 2022, 439, 135628.	6.6	7
289	Kinetic Model for High-Pressure Methanol Oxidation in Gas Phase and Supercritical Water. Energy & Fuels, 2022, 36, 575-588.	2.5	8
290	Z-Scheme Cu₂O/Bi/BiVO₄ Nanocomposite Photocatalysts: Synthesis, Characterization, and Application for CO₂ Photoreduction. Industrial & Engineering Chemistry Research, 2021, 60, 18384-18396.	1.8	24
291	Structureâ€“Activity Relationship of Ni-Based Catalysts toward CO₂ Methanation: Recent Advances and Future Perspectives. Energy & Fuels, 2022, 36, 156-169.	2.5	44
292	CeO2-Based Heterogeneous Catalysts in Dry Reforming Methane and Steam Reforming Methane: A Short Review. Catalysts, 2022, 12, 452.	1.6	23
293	Engineered Chemical Utilization of CO₂ to Methanol via Direct and Indirect Hydrogenation Pathways: A Review. Industrial & Engineering Chemistry Research, 2022, 61, 10319-10335.	1.8	12
294	Plastering Sponge with Nanocarbon-Containing Slurry to Construct Mechanically Robust Macroporous Monolithic Catalysts for Direct Dehydrogenation of Ethylbenzene. ACS Applied Materials & Interfaces, 2022, , .	4.0	1

#	Article	IF	Citations
295	Exploring the Stability of Single-Atom Catalysts Using the Density Functional Theory-Based Global Optimization Method: H₂ Formation on VO<i>_x</i>/Î³-Al₂O₃(100). Journal of Physical Chemistry C, 2022, 126, 6973-6981.	1.5	7
296	Transition metal-based catalysts for CO2 methanation and hydrogenation. , 2022, , 59-93.		0
297	High Selective Methanol Synthesis from Co2 Hydrogenation Over Mo-Co-C-N Catalyst. SSRN Electronic Journal, 0, , .	0.4	0
298	Effects of B-Site Al Doping on Microstructure Characteristics and Hydrogen Production Performance of Novel Lanixal1-Xo3-Î” Perovskite in Methanol Steam Reforming. SSRN Electronic Journal, 0, , .	0.4	0
299	Role of Zro2 and Ceo2 Support on the In2o3 Catalyst Activity for Co2 Hydrogenation. SSRN Electronic Journal, 0, , .	0.4	0
300	Steering CO2 hydrogenation coupled with benzene alkylation toward ethylbenzene and propylbenzene using a dual-bed catalyst system. Chem Catalysis, 2022, 2, 1223-1240.	2.9	12
301	Effects of zinc on Ï‡-Fe5C2 for carbon dioxide hydrogenation to olefins: Insights from experimental and density function theory calculations. Chinese Journal of Chemical Engineering, 2023, 54, 206-214.	1.7	4
302	Adsorption, Desorption, and Decomposition of Formic Acid on Cu(977): The Importance of Facet of the Step. Journal of Physical Chemistry C, 2022, 126, 8354-8363.	1.5	4
303	Exploring the Effects of the Interaction of Carbon and MoS2 Catalyst on CO2 Hydrogenation to Methanol. International Journal of Molecular Sciences, 2022, 23, 5220.	1.8	3
304	Water coordinated on Cu(I)-based catalysts is the oxygen source in CO2 reduction to CO. Nature Communications, 2022, 13, 2577.	5.8	5
305	Dynamic Metalâ€“Iodide Bonds in a Tetracoordinated Cadmium-Based Metalâ€“Organic Framework Boosting Efficient CO₂ Cycloaddition under Solvent- and Cocatalyst-Free Conditions. Inorganic Chemistry, 2022, 61, 7484-7496.	1.9	11
306	Insight into the Role of Cuâ€“ZrO₂ Interaction in Methanol Synthesis from CO₂ Hydrogenation. Industrial & Engineering Chemistry Research, 2022, 61, 6872-6883.	1.8	15
307	Converting CO₂ Hydrogenation Products from Paraffins to Olefins: Modification of Zeolite Surface Properties by a UIO-<i>n</i> Membrane. ACS Catalysis, 2022, 12, 5894-5902.	5.5	10
308	Insight into the activation of CO2 and H2 on K2O-adsorbed Fe5C2(110) for olefins production: A density functional theory study. Molecular Catalysis, 2022, 524, 112323.	1.0	4
309	Catalytic roles of In2O3 in ZrO2-based binary oxides for CO2 hydrogenation to methanol. Molecular Catalysis, 2022, 525, 112354.	1.0	11
310	Feasibility assessment of small-scale methanol production via power-to-X. Journal of Cleaner Production, 2022, 359, 132071.	4.6	8
311	Porous materials for capture and catalytic conversion of CO2 at low concentration. Coordination Chemistry Reviews, 2022, 465, 214576.	9.5	74
312	Valorization of steel-work off-gases: Influence of impurities on the performance of Cu-based methanol synthesis catalyst. Chemical Engineering Journal, 2022, 444, 136571.	6.6	4

#	Article	IF	Citations
313	Single Solid Precursor-Derived Three-Dimensional Nanowire Networks of CuZn-Silicate for CO₂ Hydrogenation to Methanol. ACS Catalysis, 2022, 12, 5750-5765.	5.5	24
314	Electronic Metal-Support Interactions Between CuxO and ZnO for CuxO/ZnO Catalysts With Enhanced CO Oxidation Activity. Frontiers in Chemistry, 2022, 10, .	1.8	3
315	A review on the valorization of CO2. Focusing on the thermodynamics and catalyst design studies of the direct synthesis of dimethyl ether. Fuel Processing Technology, 2022, 233, 107310.	3.7	36
316	<i>Ab initio</i> study of the adsorption properties of CO2 reduction intermediates: The effect of Ni5Ga3 alloy and the Ni5Ga3/ZrO2 interface. Journal of Chemical Physics, 2022, 156, .	1.2	1
317	Reverse waterâ€"gas shift reaction catalyzed by diatomic rhodium anions. Physical Chemistry Chemical Physics, 2022, 24, 14616-14622.	1.3	3
318	Hydrogenated Molybdenum Oxide Overlayers Formed on Mo Nitride Nanosheets in Ambient-Pressure CO₂/H₂ Gases. ACS Applied Materials & Interfaces, 2022, 14, 26194-26203.	4.0	4
319	Aerosol-Assisted Synthesis of Metalâ€"Organic Framework-Derived Hybrid Nanomaterials for Reverse Waterâ€"Gas Shift Reaction. ACS Applied Nano Materials, 2022, 5, 8883-8893.	2.4	6
320	A generalized machine learning framework to predict the space-time yield of methanol from thermocatalytic CO2 hydrogenation. Applied Catalysis B: Environmental, 2022, 315, 121530.	10.8	53
321	Eco-Techno-Economic Analysis of Methanol Production from Biogas and Power-to-X. Industrial & Engineering Chemistry Research, 2022, 61, 7335-7348.	1.8	12
322	Electroplating sludge-derived metal and sulfur co-doping catalyst and its application in methanol production by CO2 catalytic hydrogenation. Science of the Total Environment, 2022, 838, 156032.	3.9	7
323	Towards High Co2 Conversions Using Cu-Zno Catalysts Supported on Aluminium Fumarate Metal-Organic Framework for Methanol Synthesis. SSRN Electronic Journal, 0, , .	0.4	4
324	Catalytic Technologies for the Conversion and Reuse of CO2. , 2022, , 1803-1852.		1
325	Oxygen Vacancies in Cu/Tio2 Boost Strong Metalâ€"Support Interaction and Improve the Catalyst's Activity, Selectivity, and Stability in Co2 Hydrogenation to Methanol. SSRN Electronic Journal, 0, , .	0.4	0
326	Catalytic Activity for CO₂ Hydrogenation is Linearly Dependent on Generated Oxygen Vacancies over CeO₂â€Supported Pd Catalysts. ChemCatChem, 2022, 14, .	1.8	13
327	Understanding the structure of Cu-doped MgAl2O4 for CO2 hydrogenation catalyst precursor using experimental and computational approaches. International Journal of Hydrogen Energy, 2022, 47, 21369-21374.	3.8	2
328	Tuning Reaction Pathways of Electrochemical Conversion of CO₂ by Growing Pd Shells on Ag Nanocubes. Nano Letters, 2022, 22, 4576-4582.	4.5	17
329	Unraveling the Role of H2O on Cu-Based Catalyst in CO2 Hydrogenation to Methanol. Catalysis Letters, 2023, 153, 1046-1056.	1.4	1
330	DFT Study of CO2 Reduction to CH3OH and Oxygen Reduction Reaction on Surface of Carbon and Silicon Catalysts. Silicon, 0, , .	1.8	1

#	Article	IF	Citations
331	Boosting CO2 hydrogenation to methanol via Cu-Zn synergy over highly dispersed Cu,Zn-codoped ZrO2 catalysts. Catalysis Today, 2023, 410, 205-214.	2.2	4
332	Cucurbit[7]uril as Nanoreactor for the Fixation of CO ₂ with Oxirane: A Density Functional Theory Investigation. ChemistrySelect, 2022, 7, .	0.7	2
333	Bimetallic Cu/Fe MOF-Based Nanosheet Film via Binder-Free Drop-Casting Route: A Highly Efficient Urea-Electrolysis Catalyst. Nanomaterials, 2022, 12, 1916.	1.9	33
334	Activation reconstructing CuZnO/SiO2 catalyst for CO2 hydrogenation. Journal of Catalysis, 2022, 412, 10-20.	3.1	21
335	Direct CO2 hydrogenation to light olefins over ZnZrOx mixed with hierarchically hollow SAPO-34 with rice husk as green silicon source and template. Applied Catalysis B: Environmental, 2022, 315, 121572.	10.8	29
336	Ultrasmall bimetallic Cu/ZnOx nanoparticles encapsulated in UiO-66 by depositionâ€œprecipitation method for CO2 hydrogenation to methanol. Fuel, 2022, 324, 124694.	3.4	16
337	High-efficiency photoreduction of CO2 to solar fuel on alkali intercalated Ultra-thin g-C3N4 nanosheets and enhancement mechanism investigation. Applied Surface Science, 2022, 598, 153848.	3.1	15
338	Methanol synthesis from CO₂and H₂using supported Pd alloy catalysts. Faraday Discussions, 0, 242, 193-211.	1.6	6
339	Reaction-driven selective CO₂ hydrogenation to formic acid on Pd(111). Physical Chemistry Chemical Physics, 2022, 24, 16997-17003.	1.3	5
340	Insights into the Selectivity Determinant and Rate-Determining Step of CO₂ Hydrogenation to Methanol. Journal of Physical Chemistry C, 2022, 126, 10399-10407.	1.5	21
341	Advances and Perspectives of Photopromoted CO₂ Hydrogenation for Methane Production: Catalyst Development and Mechanism Investigations. Energy & Fuels, 2022, 36, 6711-6735.	2.5	16
342	Oxygen vacancies in Cu/TiO2 boost strong metal-support interaction and CO2 hydrogenation to methanol. Journal of Catalysis, 2022, 413, 284-296.	3.1	54
343	Towards sustainable CO2 electrochemical transformation via coupling design strategy. Materials Today Sustainability, 2022, 19, 100179.	1.9	8
344	<i>N</i>-Methylation of Aniline Derivatives with CO₂ and Phenylsilane Catalyzed by Lanthanum Hydridotriarylborate Complexes bearing a Nitrogen Tridentate Ligand. ACS Catalysis, 2022, 12, 8220-8228.	5.5	6
345	Direct carbon dioxide hydrogenation to produce bulk chemicals and liquid fuels via heterogeneous catalysis. Chinese Journal of Catalysis, 2022, 43, 2045-2056.	6.9	39
346	Applications of in-situ wide spectral range infrared absorption spectroscopy for CO oxidation over Pd/SiO2 and Cu/SiO2 catalysts. Chinese Journal of Catalysis, 2022, 43, 2001-2009.	6.9	4
347	High selective methanol synthesis from CO2 hydrogenation over Mo-Co-C-N catalyst. Fuel, 2022, 325, 124854.	3.4	10
348	Catalytic and pseudocapacitive energy storage performance of metal (Co, Ni, Cu and Mn) ferrite nanostructures and nanocomposites. Progress in Materials Science, 2022, 130, 100995.	16.0	25

#	Article	IF	Citations
349	Elucidating the Promoting Role of Ca on Pdzn/Ceo2catalyst for Co2 Valorization to Methanol. SSRN Electronic Journal, 0, , .	0.4	0
350	Recent advances in CO₂ capture and reduction. Nanoscale, 2022, 14, 11869-11891.	2.8	30
351	Effect of Reaction Media on Photoreduction of Co2 into Methanol Using Au- and Cu-Decorated Zeolitic Imidazolate Framework-8. SSRN Electronic Journal, 0, , .	0.4	0
352	Multiple CO₂ reduction mediated by heteronuclear metal carbide cluster anions RhTaC₂^{âˆ’}. Dalton Transactions, 0, , .	1.6	3
353	Computational Study of Zn Single-Atom Catalysts on In₂O₃ Nanomaterials for Direct Synthesis of Acetic Acid from CH₄ and CO₂. ACS Applied Nano Materials, 0, , .	2.4	5
354	Novel and sustainable carboxylation of terminal alkynes and CO2 to alkynyl carboxylic acids using triazolium ionic liquid-modified PMO-supported transition metal acetylacetonate as effective cooperative catalysts. Environmental Science and Pollution Research, 2022, 29, 83247-83261.	2.7	2
355	A mini review on recent advances in thermocatalytic hydrogenation of carbon dioxide to value-added chemicals and fuels. , 2022, 1, 230-248.		4
356	Recent advances in the electrochemical CO reduction reaction towards highly selective formation of Cx products (XÂ= 1â€“3). Chem Catalysis, 2022, 2, 1961-1988.	2.9	7
357	Homogeneous Firstâ€row Transitionâ€metalâ€catalyzed Carbon Dioxide Hydrogenation to Formic Acid/Formate, and Methanol. Asian Journal of Organic Chemistry, 2022, 11, .	1.3	10
358	Synthesis of Bifunctional Phosphonium Salts Bearing Perfluorinated Side Chains and Their Application in the Synthesis of Cyclic Carbonates from Epoxides and CO₂. Asian Journal of Organic Chemistry, 2022, 11, .	1.3	3
359	Methanol-tolerant yeast for biofuel production. Nature Metabolism, 2022, 4, 800-801.	5.1	1
360	Effect of support and reduction temperature in the hydrogenation of CO2 over the Cuâ€“Pd bimetallic catalyst with high Cu/Pd ratio. International Journal of Hydrogen Energy, 2022, 47, 27973-27985.	3.8	6
361	Carbon Dioxide Chemisorption by Ammonium and Phosphonium Ionic Liquids: Quantum Chemistry Calculations. Journal of Physical Chemistry B, 2022, 126, 5497-5506.	1.2	10
362	A novel alkylation process of benzene with CO2 and H2 over bifunctional ZnxCeyZrzO/Z5 catalyst. Fuel, 2022, 326, 125023.	3.4	2
363	Electronic modulation of InNi3C0.5/Fe3O4 by support precursor toward efficient CO2 hydrogenation to methanol. Applied Catalysis B: Environmental, 2022, 316, 121699.	10.8	22
364	Direct conversion of CO₂ into aromatics over multifunctional heterogeneous catalysts. Catalysis Reviews - Science and Engineering, 0, , 1-60.	5.7	9
365	Cooperative Catalysis of Vibrationally Excited CO₂ and Alloy Catalyst Breaks the Thermodynamic Equilibrium Limitation. Journal of the American Chemical Society, 2022, 144, 14140-14149.	6.6	24
366	Singleâ€Atom Molybdenumâ€N₃ Sites for Selective Hydrogenation of CO₂ to CO. Angewandte Chemie - International Edition, 2022, 61, .	7.2	24

#	Article	IF	Citations
367	Engineering the crystal facets of Pt/In2O3 catalysts for high-efficiency methanol synthesis from CO2 hydrogenation. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 651, 129782.	2.3	10
368	Tuning the hybridization and charge polarization in metal nanoparticles dispersed over Schiff base functionalized SBA-15 enhances CO₂ capture and conversion to formic acid. Journal of Materials Chemistry A, 2022, 10, 18354-18362.	5.2	3
369	Differentiating the Reactivity of ZrO2-Bound Formates Formed on Cu/ZrO2 during CO2 Hydrogenation. Catalysts, 2022, 12, 793.	1.6	10
370	Boxlike Assemblages of Few-Layer MoS₂ Nanosheets with Edge Blockage for High-Efficiency Hydrogenation of CO₂ to Methanol. ACS Catalysis, 2022, 12, 9872-9886.	5.5	18
371	Ga-Promoted CuCo-Based Catalysts for Efficient CO₂ Hydrogenation to Ethanol: The Key Synergistic Role of Cu-CoGaO_{<i>x</i>} Interfacial Sites. ACS Applied Materials & Interfaces, 2022, 14, 35569-35580.	4.0	13
372	Unraveling the Catalytic Performance of the Nonprecious Metal Single-Atom-Embedded Graphitic <i>s</i>-Triazine-Based C₃N₄ for CO₂ Hydrogenation. ACS Applied Materials & Interfaces, 2022, 14, 35844-35853.	4.0	11
373	Homogeneous Hydrogenation of CO₂ and CO to Methanol: The Renaissance of Lowâ€Temperature Catalysis in the Context of the Methanol Economy. Angewandte Chemie, 2022, 134, .	1.6	3
374	Mechanistic Insight into Hydrocarbon Synthesis via CO₂ Hydrogenation on Ï‡-Fe₅C₂ Catalysts. ACS Applied Materials & Interfaces, 2022, 14, 37637-37651.	4.0	14
375	Z-Scheme Cu₂O/Cu/Cu₃V₂O₇(OH)₂Â·2H₂O Heterostructures for Efficient Visible-Light Photocatalytic CO₂ Reduction. ACS Applied Energy Materials, 2022, 5, 10542-10552.	2.5	11
376	Copperâ€Zinc Oxide Catalysts for Aldehyde Hydrogenation by Direct Reductive Activation of Precursors. Chemie-Ingenieur-Technik, 0, , .	0.4	1
377	Green Carbon Science: Keeping the Pace in Practice. Angewandte Chemie - International Edition, 2022, 61, .	7.2	34
378	Singleâ€Atom Molybdenumâ€N₃ Sites for Selective Hydrogenation of CO₂ to CO. Angewandte Chemie, 2022, 134, .	1.6	6
379	CO₂ Hydrogenation to Methanol over Inverse ZrO₂/Cu(111) Catalysts: The Fate of Methoxy under Dry and Wet Conditions. Journal of Physical Chemistry C, 2022, 126, 14479-14486.	1.5	8
380	The regulation of Cu-ZnO interface by Cu-Zn bimetallic metal organic framework-templated strategy for enhanced CO2 hydrogenation to methanol. Applied Catalysis A: General, 2022, 643, 118805.	2.2	16
381	Hydrogenation of CO and CO2: Contributions of IR operando studies. Catalysis Today, 2023, 423, 113863.	2.2	5
382	Catalytic Conversion of CO₂ over Atomically Precise Gold-Based Cluster Catalysts. ACS Catalysis, 2022, 12, 10638-10653.	5.5	32
383	Recent Advances in Photothermal CO_{<i>x</i>} Conversion. Solar Rrl, 2022, 6, .	3.1	14
384	Green Carbon Science: Keeping the Pace in Practice. Angewandte Chemie, 0, , .	1.6	0

#	Article	IF	Citations
385	Metalâ€“organic framework derived single-atom catalysts for CO2 conversion to methanol. Current Opinion in Green and Sustainable Chemistry, 2022, 37, 100660.	3.2	12
386	Homogeneous Hydrogenation of CO₂ and CO to Methanol: The Renaissance of Lowâ€Temperature Catalysis in the Context of the Methanol Economy. Angewandte Chemie - International Edition, 2022, 61, .	7.2	36
387	Effect of Missing-Linker Defects on CO₂Hydrogenation to Methanol by Cu Nanoparticles in UiO-66. Journal of Physical Chemistry C, 2022, 126, 13157-13167.	1.5	9
388	Process intensification and energy transition: A necessary coupling?. Chemical Engineering and Processing: Process Intensification, 2022, 179, 109097.	1.8	11
389	Highly dispersed Pd nanoparticles supported on dendritic mesoporous CeZrZnOx for efficient CO2 hydrogenation to methanol. Journal of Catalysis, 2022, 413, 751-761.	3.1	11
390	Developments of the heterogeneous and homogeneous CO2 hydrogenation to value-added C2+-based hydrocarbons and oxygenated products. Coordination Chemistry Reviews, 2022, 471, 214737.	9.5	20
391	Kinetic modeling and reactor design of the direct synthesis of dimethyl ether for CO2 valorization. A review. Fuel, 2022, 327, 125148.	3.4	13
392	The effect of different reaction media on photocatalytic activity of Au- and Cu-decorated zeolitic imidazolate Framework-8 toward CO2 photoreduction to methanol. Journal of Solid State Chemistry, 2022, 315, 123514.	1.4	2
393	Boosting CO2 hydrogenation efficiency for methanol synthesis over Pd/In2O3/ZrO2 catalysts by crystalline phase effect. Applied Surface Science, 2022, 603, 154420.	3.1	12
394	Homogeneous catalysts for CO2 hydrogenation to methanol and methanol dehydrogenation to hydrogen generation. Coordination Chemistry Reviews, 2022, 472, 214767.	9.5	19
395	Precursor engineering of hydrotalcite-derived redox sorbents for reversible and stable thermochemical oxygen storage. Nature Communications, 2022, 13, .	5.8	19
396	Towards High CO2 Conversions Using Cu/Zn Catalysts Supported on Aluminum Fumarate Metal-Organic Framework for Methanol Synthesis. Catalysts, 2022, 12, 1104.	1.6	8
397	Thermocatalytic and solar thermochemical carbon dioxide utilization to solar fuels and chemicals: A review. International Journal of Energy Research, 2022, 46, 19929-19960.	2.2	5
398	Recent Advances in Carbon Dioxide Adsorption, Activation and Hydrogenation to Methanol using Transition Metal Carbides. ChemSusChem, 2022, 15, .	3.6	8
399	Methanol Synthesis Over PdIn, In₂O₃, and CuZn From First-Principles Microkinetics: Similarities and Differences. Journal of Physical Chemistry C, 2022, 126, 15235-15246.	1.5	5
400	Liquid Sunshine: Formic Acid. Journal of Physical Chemistry Letters, 2022, 13, 8586-8600.	2.1	25
401	Progress on methanol reforming technologies for highly efficient hydrogen production and applications. International Journal of Hydrogen Energy, 2022, 47, 35757-35777.	3.8	39
402	Operando DRIFT and In situ Raman Spectroscopic Studies on Aspects of CO₂ Fischerâ€Tropsch Synthesis Catalyzed by Bulk Iron Oxideâ€Based Catalysts. ChemCatChem, 2022, 14, .	1.8	5

#	Article	IF	Citations
403	A highly efficient Cu/ZnOx/ZrO2 catalyst for selective CO2 hydrogenation to methanol. Journal of Catalysis, 2022, 414, 236-244.	3.1	15
404	Influence of oxygen vacancies of CeO2 on reverse water gas shift reaction. Journal of Catalysis, 2022, 414, 25-32.	3.1	27
405	The Co-In2O3 interaction concerning the effect of amorphous Co metal on CO2 hydrogenation to methanol. Journal of CO2 Utilization, 2022, 65, 102209.	3.3	6
406	Highly effective hydrogenation of CO2 to methanol over Cu/ZnO/Al2O3 catalyst: A process economy & environmental aspects. Fuel, 2023, 332, 126027.	3.4	25
407	Role of ZrO2 and CeO2 support on the In2O3 catalyst activity for CO2 hydrogenation. Fuel, 2023, 331, 125878.	3.4	13
408	Highly active Pt/In2O3-ZrO2 catalyst for CO2 hydrogenation to methanol with enhanced CO tolerance: The effects of ZrO2. Applied Catalysis B: Environmental, 2023, 320, 122018.	10.8	32
409	Switching of Co2 Hydrogenation Selectivity Via Chlorine Poisoning Over Ru/Tio2 Catalyst. SSRN Electronic Journal, 0, , .	0.4	0
410	BCC-Cu nanoparticles: from a transient to a stable allotrope by tuning size and reaction conditions. Physical Chemistry Chemical Physics, 2022, 24, 24429-24438.	1.3	3
411	Boosting Co2 Hydrogenation to Methanol by Adding Trace Amount of AU into Cu/Zno Catalysts. SSRN Electronic Journal, 0, , .	0.4	0
412	The synergetic effect of Pd, In and Zr on the mechanism of Pd/In₂O₃â€"ZrO₂ for CO₂ hydrogenation to methanol. Reaction Chemistry and Engineering, 0, , .	1.9	0
413	A critical review of technologies, costs, and projects for production of carbon-neutral liquid e-fuels from hydrogen and captured CO₂. Energy Advances, 2022, 1, 580-605.	1.4	17
414	Coking and decoking chemistry for resource utilization of polycyclic aromatic hydrocarbons (PAHs) and low-carbon process. Journal of Energy Chemistry, 2023, 76, 105-116.	7.1	9
415	The role of copper crystallization and segregation toward enhanced methanol synthesis via CO2 hydrogenation over CuZrO2 catalysts: A combined experimental and computational study. Chemical Engineering Journal, 2023, 452, 139519.	6.6	10
416	Effect of preparation methods of ZnO/ZrO2 catalysts for methanol synthesis from CO2 hydrogenation. Reaction Kinetics, Mechanisms and Catalysis, 2022, 135, 2993-3005.	0.8	3
417	Synthesis of Enamines, Aldehydes, and Nitriles from CO₂: Scope of the One-Pot Strategy via Formamides. Journal of Organic Chemistry, 0, , .	1.7	2
418	Electrocatalytic Reduction of Carbon Dioxide to High-Value Multicarbon Products with Metalâ€"Organic Frameworks and Their Derived Materials. , 2022, 4, 2058-2079.		35
419	Comparative CO₂ Hydrogenation Catalysis with MACHO-type Manganese Complexes. Organometallics, 2022, 41, 3332-3340.	1.1	9
420	Advances in Thermo-, Photo-, and Electrocatalytic Continuous Conversion of Carbon Dioxide into Liquid Chemicals. ACS Sustainable Chemistry and Engineering, 2022, 10, 12906-12932.	3.2	8

#	Article	IF	Citations
421	Metal Sites in Zeolites: Synthesis, Characterization, and Catalysis. Chemical Reviews, 2023, 123, 6039-6106.	23.0	95
422	Fractal-like Hierarchical CuO Nano/Microstructures for Large-Surface-to-Volume-Ratio Dip Catalysts. ACS Applied Nano Materials, 2022, 5, 14591-14601.	2.4	3
423	Recent Advances in Non-Precious Metalâ€"Nitrogenâ€"Carbon Single-Site Catalysts for CO2 Electroreduction Reaction to CO. Electrochemical Energy Reviews, 2022, 5, .	13.1	18
424	Direct Detection of Reactive Gallium-Hydride Species on the Ga₂O₃ Surface <i>via</i> Solid-State NMR Spectroscopy. Journal of the American Chemical Society, 2022, 144, 17365-17375.	6.6	9
425	Inverse Oxide/Metal Catalysts for CO₂ Hydrogenation to Methanol. Energy & Fuels, 2022, 36, 11691-11711.	2.5	8
426	Recent Advances in Upgrading of Lowâ€Cost Oxidants to Valueâ€Added Products by Electrocatalytic Reduction Reaction. Advanced Functional Materials, 2022, 32, .	7.8	20
427	Recent Advances on Confining Noble Metal Nanoparticles Inside Metal-Organic Frameworks for Hydrogenation Reactions. Chemical Research in Chinese Universities, 2022, 38, 1309-1323.	1.3	9
428	Effect of atomic layer deposited zinc promoter on the activity of copper-on-zirconia catalysts in the hydrogenation of carbon dioxide to methanol. Applied Catalysis B: Environmental, 2023, 321, 122046.	10.8	16
429	Challenges for Applications of the Electrochemical Promotion of Catalysis. Modern Aspects of Electrochemistry, 2023, , 335-377.	0.2	0
430	CO₂ Hydrogenation to Methanol on Indium Oxide-Supported Rhenium Catalysts: The Effects of Size. ACS Catalysis, 2022, 12, 12658-12669.	5.5	36
431	Low-Temperature Methanol Synthesis by a Cu-Loaded LaH_{2+<i>x</i>} Electride. ACS Catalysis, 2022, 12, 12572-12581.	5.5	4
432	Investigations on molybdenum phosphide surfaces for CO2 adsorption and activation. Journal of CO2 Utilization, 2022, 65, 102246.	3.3	0
433	Alternative acid catalysts for the stable and selective direct conversion of CO2/CO mixtures into light olefins. Fuel Processing Technology, 2022, 238, 107513.	3.7	6
434	Catalysis Chemistry of Crystalline Complex Metal Oxide Catalysts. , 2022, , 53-81.		0
435	Opening the pathway towards a scalable electrochemical semi-hydrogenation of alkynols<i>via</i>earth-abundant metal chalcogenides. Chemical Science, 2022, 13, 12461-12468.	3.7	8
436	Thermodynamics regulated organic hydride/acid pairs as novel organic hydrogen reductants. Organic Chemistry Frontiers, 2022, 9, 6833-6848.	2.3	3
437	EXAFS studies of inorganic catalytic materials. , 2023, , 108-148.		0
438	Targeted H₂O activation to manipulate the selective photocatalytic reduction of CO₂to CH₃OH over carbon nitride-supported cobalt sulfide. Green Chemistry, 2022, 24, 8791-8799.	4.6	11

#	Article	IF	Citations
439	Effect of Preparation Method on the Performance of Cuâˆ’Mnâˆ’(La)âˆ’Zr Catalysts for CO₂ Hydrogenation to Methanol. ChemCatChem, 2022, 14, .	1.8	9
440	Synthesis of Alkene and Ethanol in CO₂ Hydrogenation on a Highly Active Sputtering CuNaFe Catalyst. ACS Sustainable Chemistry and Engineering, 2022, 10, 14972-14979.	3.2	8
441	Parametric investigations on plasmaâ€activated conversion of CH₄â€“CH₃OH to C2â€“C4 alcohols by nanosecond pulsed discharge. Plasma Processes and Polymers, 2023, 20, .	1.6	4
442	Single-Atom Catalysts on Covalent Organic Frameworks for CO₂ Reduction. ACS Materials Au, 2023, 3, 28-36.	2.6	7
443	Bismuth-based materials for CO2 photoreduction. Current Opinion in Green and Sustainable Chemistry, 2023, 39, 100718.	3.2	3
444	A review of catalytic hydrogenation of carbon dioxide: From waste to hydrocarbons. Frontiers in Chemistry, 0, 10, .	1.8	9
445	Dual active sites over Cu-ZnO-ZrO2 catalysts for carbon dioxide hydrogenation to methanol. Journal of Environmental Sciences, 2023, 131, 162-172.	3.2	10
446	Visualizing Structural and Chemical Transformations of an Industrial Cu/ZnO/Al₂O₃ Preâ€catalyst during Activation and CO₂ Reduction. ChemCatChem, 2022, 14, .	1.8	7
447	DFT Investigation of Single Metal Atom-Doped 2D MA₂Z₄ Materials for NO Electrocatalytic Reduction to NH₃. Journal of Physical Chemistry C, 2022, 126, 17598-17607.	1.5	7
448	ZrO2â€“ZnOâ€“CeO2 integrated with nano-sized SAPO-34 zeolite for CO2 hydrogenation to light olefins. Reaction Kinetics, Mechanisms and Catalysis, 2022, 135, 2959-2972.	0.8	2
449	Promotional Role of Oxygen Vacancy Defects and Cuâˆ’Ce Interfacial Sites on the Activity of Cu/CeO₂ Catalyst for CO₂ Hydrogenation to Methanol. ChemCatChem, 2022, 14, .	1.8	5
450	Investigation of In Promotion on Cu/ZrO2 Catalysts and Application in CO2 Hydrogenation to Methanol. Catalysis Letters, 2023, 153, 2728-2744.	1.4	5
451	Mechanochemical Synthesis of Bimetallic NiCo Supported on a CeO₂ Catalyst with Less Metal Loading for Non-Thermal Plasma Catalytic CO₂ Hydrogenation. ACS Engineering Au, 2023, 3, 7-16.	2.3	4
452	Lactic acid production by catalytic conversion of glucose: An experimental and techno-economic evaluation. Catalysis Today, 2023, 408, 2-8.	2.2	4
453	Methanol synthesis from CO2: A mechanistic overview. Results in Engineering, 2022, 16, 100711.	2.2	19
454	Advanced electrochemical energy storage and conversion on graphdiyne interface. , 2022, 1, e9120036.		24
456	On the Role of Hydroxyl Groups on Cu/Al₂O₃ in CO₂ Hydrogenation. ACS Catalysis, 2022, 12, 14162-14172.	5.5	19
458	Hybrid MOF Templateâ€Directed Construction of Hollowâ€Structured In₂O₃@ZrO₂ Heterostructure for Enhancing Hydrogenation of CO₂ to Methanol. Small, 2023, 19, .	5.2	15

#	Article	IF	Citations
459	Removing Cost Barriers to Template Carbon Synthesis for High-Performance Supercapacitors by Establishing a Zero-Emission Chemical Cycle from CO₂. ACS Energy Letters, 2022, 7, 4381-4388.	8.8	12
460	Advancing Critical Chemical Processes for a Sustainable Future: Challenges for Industry and the Max Planckâ€“Cardiff Centre on the Fundamentals of Heterogeneous Catalysis (FUNCAT). Angewandte Chemie - International Edition, 2022, 61, .	7.2	8
461	Advancing Critical Chemical Processes for a Sustainable Future: Challenges for Industry and the Max Planckâ€“Cardiff Centre on the Fundamentals of Heterogeneous Catalysis (FUNCAT). Angewandte Chemie, 2022, 134, .	1.6	1
462	Degradable and Nanosegregated Elastomers with Multiblock Sequences of Biobased Aromatic Mesogens and Biofunctional Aliphatic Oligocarbonates. Macromolecules, 2022, 55, 10285-10293.	2.2	4
463	Recent progress in photothermal catalyst design for methanol production. Emergent Materials, 2023, 6, 1097-1115.	3.2	1
464	Hydrogen Adsorption on Pdâ€“In Intermetallic Surfaces. Topics in Catalysis, 2023, 66, 1457-1464.	1.3	1
465	Highly selective hydrogenation of CO2 to propane over GaZrOx/H-SSZ-13 composite. Nature Catalysis, 2022, 5, 1038-1050.	16.1	37
466	Effect of microstructure and reaction medium on photocatalytic performance and stability of BiO catalyst for CO2 reduction. Catalysis Communications, 2022, , 106565.	1.6	0
467	Organocatalytic depolymerization of poly(trimethylene carbonate). Journal of Polymer Science, 2022, 60, 3489-3500.	2.0	3
468	Catalytic hydrogenation of CO2 to light olefins by using K-doped FeCx catalysts derived from the Fe-chitosan complex. International Journal of Hydrogen Energy, 2023, 48, 4276-4286.	3.8	8
469	Progress in reaction mechanisms and catalyst development of ceria-based catalysts for low-temperature CO₂methanation. Green Chemistry, 2023, 25, 130-152.	4.6	17
470	Organic molecules involved in Cu-based electrocatalysts for selective CO2 reduction to C2+ products. Materials Today Chemistry, 2023, 27, 101328.	1.7	5
471	Application of microimpinging stream reactor coupled with ultrasound in Cu/CeZrOx solid solution catalyst preparation for CO2 hydrogenation to methanol. Renewable Energy, 2023, 202, 834-843.	4.3	9
472	Design strategies and effect comparisons toward efficient piezocatalytic system. Nano Energy, 2023, 107, 108093.	8.2	30
473	Ethanol formation from CO2 hydrogenation at atmospheric pressure using Cu catalysts: Water as a key component. Applied Catalysis B: Environmental, 2023, 324, 122221.	10.8	8
474	Boosting CO2 hydrogenation to methanol by adding trace amount of Au into Cu/ZnO catalysts. Applied Catalysis B: Environmental, 2023, 324, 122233.	10.8	13
475	Direct conversion of carbon dioxide into liquid fuels and chemicals by coupling green hydrogen at high temperature. Applied Catalysis B: Environmental, 2023, 324, 122299.	10.8	19
476	Machine learning models representing catalytic activity for direct catalytic CO2 hydrogenation to methanol. Materials Today: Proceedings, 2023, 72, 524-532.	0.9	3

#	Article	IF	Citations
477	Review of Carbon Capture and Methane Production from Carbon Dioxide. Atmosphere, 2022, 13, 1958.	1.0	9
478	Switching of CO2 hydrogenation selectivity via chlorine poisoning over Ru/TiO2 catalyst. Nano Research, 2023, 16, 4786-4792.	5.8	4
479	Ga and Zn Atom-Doped CuAl₂O₄(111) Surface-Catalyzed CO₂ Conversion to Dimethyl Ether: Importance of Acidic Sites. Journal of Physical Chemistry C, 2022, 126, 21628-21637.	1.5	6
480	Effects of B-site Al doping on microstructure characteristics and hydrogen production performance of novel LaNixAl1-xO3-Î´ perovskite in methanol steam reforming. Energy, 2023, 268, 126540.	4.5	8
481	Recent progress in plasma-catalytic conversion of CO2 to chemicals and fuels. Catalysis Today, 2023, 423, 113973.	2.2	6
482	Electrification of CO2 conversion into chemicals and fuels: Gaps and opportunities in process systems engineering. Computers and Chemical Engineering, 2023, 170, 108106.	2.0	4
483	Introduction to Electrocatalysts. ACS Symposium Series, 0, , 1-37.	0.5	6
484	A Review on Green Hydrogen Valorization by Heterogeneous Catalytic Hydrogenation of Captured CO2 into Value-Added Products. Catalysts, 2022, 12, 1555.	1.6	3
485	Mononuclear Re sites on In2O3 catalyst for highly efficient CO2 hydrogenation to methanol. Journal of Catalysis, 2023, 417, 462-472.	3.1	13
486	Ag-Doped CuV₂O₆ Nanowires for Enhanced Visible-Light Photocatalytic CO₂ Reduction. Industrial & Engineering Chemistry Research, 2023, 62, 455-465.	1.8	4
487	Architecture Design and Catalytic Activity: Nonâ€Noble Bimetallic CoFe/fe₃O₄ Coreâ€"Shell Structures for CO₂ Hydrogenation. Advanced Science, 2023, 10, .	5.6	6
488	Highly Active Catalytic CO2ÂHydrogenation to LowerÂOlefins via Spinel ZnGaOxÂCombined with SAPOâ€34. Chemistry - an Asian Journal, 0, , .	1.7	0
489	Probing the Nature of Zinc in Copperâ€Zincâ€Zirconium Catalysts by Operando Spectroscopies for CO₂ Hydrogenation to Methanol. Angewandte Chemie - International Edition, 2023, 62, .	7.2	21
490	Probing the Nature of Zinc in Copperâ€Zincâ€Zirconium Catalysts by Operando Spectroscopies for CO₂ Hydrogenation to Methanol. Angewandte Chemie, 2023, 135, .	1.6	2
491	Redox behavior of Inâ€"Oâ€"Ti interface for selective hydrogenation of CO2 to CO in doped Inâ€"TiO2 catalyst. ChemCatChem, 0, , .	1.8	1
492	Revealing Origins of Methanol Selectivity Loss in CO₂ Hydrogenation over CuZn-Containing Catalysts. ACS Catalysis, 2023, 13, 60-71.	5.5	12
493	In situ/operando characterization techniques for electrochemical CO2 reduction. Science China Chemistry, 2023, 66, 315-323.	4.2	17
494	Formic acid assisted synthesis of Cu-ZnO-Al2O3 catalyst and its performance in CO2 hydrogenation to methanol. Journal of Fuel Chemistry and Technology, 2023, 51, 120-128.	0.9	2

#	Article	IF	Citations
495	Benzimidazoliumâ€Decorated Metalloporphyrin Molecule and Polymer: a Reliable Preparation Method and Application in Catalyzing the Cycloaddition Reaction of CO₂and Epoxides. European Journal of Inorganic Chemistry, 2023, 26, .	1.0	2
496	Electrocatalysis Mechanism and Structureâ€"Activity Relationship of Atomically Dispersed Metalâ€Nitrogenâ€Carbon Catalysts for Electrocatalytic Reactions. Small Methods, 2023, 7, .	4.6	7
497	Self-assembly of metalâ€"organosilicate on porous silica substrates for efficient CO₂hydrogenation to methanol. Journal of Materials Chemistry A, 2023, 11, 2698-2710.	5.2	2
498	Theoretical Screening of CO₂ Electroreduction over MOF-808-Supported Self-Adaptive Dual-Metal-Site Pairs. Inorganic Chemistry, 2023, 62, 930-941.	1.9	4
499	A sustainable thermochemical conversion of animal biomass to N-heterocycles. Journal of Leather Science and Engineering, 2023, 5, .	2.7	3
500	CO2 utilization in syngas conversion to dimethyl ether and aromatics: Roles and challenges of zeolites-based catalysts. Journal of Energy Chemistry, 2023, 79, 418-449.	7.1	18
501	The role of surface hydroxyls on ZnZrO solid solution catalyst in CO2 hydrogenation to methanol. Chinese Journal of Catalysis, 2023, 45, 162-173.	6.9	17
502	Direct hydrogenation of carbon dioxide to value-added aromatics. Coordination Chemistry Reviews, 2023, 478, 214982.	9.5	12
503	Conversion of Recovered Ammonia and Carbon Dioxide into Urea in the Presence of Catalytically Active Copper Species in Nanospaces of Porous Silica Hollow Spheres. ACS Applied Materials & Interfaces, 2023, 15, 5109-5117.	4.0	4
504	Spontaneous Reduction by One Electron on Water Microdroplets Facilitates Direct Carboxylation with CO₂. Journal of the American Chemical Society, 2023, 145, 2647-2652.	6.6	28
505	An investigation on influence of the distance between two catalysts for CO ₂ to DME tandem reaction. Chemical Engineering and Technology, 0, , .	0.9	0
506	The Promoting Role of Ni on In₂O₃ for CO₂ Hydrogenation to Methanol. ACS Catalysis, 2023, 13, 1875-1892.	5.5	29
507	A review of in situ/operando studies of heterogeneous catalytic hydrogenation of CO2 to methanol. Catalysis Today, 2023, 420, 114029.	2.2	3
508	Boosting methanol production<i>via</i>plasma catalytic CO₂hydrogenation over a MnO_{<i>x</i>}/ZrO₂catalyst. Catalysis Science and Technology, 2023, 13, 2529-2539.	2.1	4
509	Design and operational guidelines of solar-driven catalytic conversion of CO2 and H2 to fuels. Applied Energy, 2023, 334, 120617.	5.1	2
510	A Functionalized Heterogeneous Catalyst from Atomically Precise Pd₁Au₈ Clusters Facilitates Carbonâ€"Carbon Bond Construction. Advanced Materials, 2023, 35, .	11.1	7
511	Correlations between the catalyst properties and catalytic activity of Au on ZrO2-CeO2 in the hydrogenation of CO2. Applied Surface Science, 2023, 619, 156737.	3.1	1
512	Roadmap to the sustainable synthesis of polymers: From the perspective of CO2 upcycling. Progress in Materials Science, 2023, 135, 101103.	16.0	5

#	Article	IF	Citations
513	Material-based generation, storage, and utilisation of hydrogen. Progress in Materials Science, 2023, 135, 101104.	16.0	31
514	Highly efficient and stable photothermal catalytic CO2 hydrogenation to methanol over Ru/In2O3 under atmospheric pressure. Applied Catalysis B: Environmental, 2023, 327, 122471.	10.8	10
515	Synthesis of highly efficient Nano- Ni-Pt catalyst in a rotating packed bed for cinnamaldehyde hydrogenation. Separation and Purification Technology, 2023, 315, 123631.	3.9	3
516	In-situ growing nickel phthalocyanine supramolecular structure on carbon nanotubes for efficient electrochemical CO2 conversion. Applied Catalysis B: Environmental, 2023, 327, 122446.	10.8	5
517	Hydrogenation of CO2 to dimethyl ether over nanosized WOx-ZrO2/Cu-ZnO-ZrO2 catalysts. Journal of Environmental Chemical Engineering, 2023, 11, 109908.	3.3	1
518	Boosting the activity in the direct conversion of CO2/CO mixtures into gasoline using ZnO-ZrO2 catalyst in tandem with HZSM-5 zeolite. Fuel Processing Technology, 2023, 245, 107745.	3.7	6
519	A short overview of Power-to-Methane: Coupling preparation of feed gas with CO2 methanation. Chemical Engineering Science, 2023, 274, 118692.	1.9	3
520	Fast synthesis of highly crystallized LSX zeolite with boosted carbon dioxide hydrogenation activity. Applied Catalysis B: Environmental, 2023, 329, 122576.	10.8	3
521	Catalytic CO2 conversion to C1 value-added products: Review on latest catalytic and process developments. Fuel, 2023, 345, 128178.	3.4	16
522	Silica-modulated Cu-ZnO-Al2O3 catalyst for efficient hydrogenation of CO2 to methanol. Catalysis Today, 2023, 418, 114051.	2.2	7
523	Performance and ANN-based optimization of an advanced process for wet CO2-to-Methanol using a catalytic fluidized bed reactor integrated with separators. Fuel, 2023, 343, 128045.	3.4	5
524	Elucidating the promoting role of Ca on PdZn/CeO2 catalyst for CO2 valorization to methanol. Fuel, 2023, 343, 127927.	3.4	7
525	Zero-added conversion of chicken manure into dual-reaction-center catalyst for pollutant degradation triggered by peroxymonosulfate. Separation and Purification Technology, 2023, 317, 123763.	3.9	2
526	First principles investigations of structural and electronic properties of Ga-doped ZnZrO solid solutions for catalytic reduction of CO2. Molecular Catalysis, 2023, 537, 112941.	1.0	1
527	Highly Ethylene-Selective Electroreduction CO2 Over Cu Phosphate Nanostructures with Tunable Morphology. Topics in Catalysis, 2023, 66, 1527-1538.	1.3	2
528	Nature of Catalytic Behavior of Cobalt Oxides for CO₂ Hydrogenation. Jacs Au, 2023, 3, 508-515.	3.6	11
529	CO2 hydrogenation to methanol over hydrothermally synthesized Inx-Zry catalysts. Molecular Catalysis, 2023, 538, 112977.	1.0	0
530	A Review on Methanol as a Clean Energy Carrier: Roles of Zeolite in Improving Production Efficiency. Energies, 2023, 16, 1482.	1.6	6

#	Article	IF	Citations
531	Performance of Cu/ZnO Nanosheets on Electrospun Al2O3 Nanofibers in CO2 Catalytic Hydrogenation to Methanol and Dimethyl Ether. Nanomaterials, 2023, 13, 635.	1.9	1
532	Novel Technological Paradigm of the Application of Carbon Dioxide as a C1 Synthon in Organic Chemistry: I. Synthesis of Hydroxybenzoic Acids, Methanol, and Formic Acid. Russian Journal of Organic Chemistry, 2022, 58, 1681-1711.	0.3	2
533	Tuning CO₂ Hydrogenation Selectivity through Reaction-Driven Restructuring on Cuâ€“Ni Bimetal Catalysts. ACS Applied Materials & Interfaces, 2023, 15, 9373-9381.	4.0	14
534	Bimetallic Synergy in Single-Atom Alloy Nanocatalysts for CO₂ Reduction to Ethylene. ACS Applied Nano Materials, 2023, 6, 2394-2402.	2.4	5
535	Mechanochemical effects underlying the mechanically activated catalytic hydrogenation of carbon monoxide. Scientific Reports, 2023, 13, .	1.6	2
536	Engineering nanoscale H supply chain to accelerate methanol synthesis on ZnZrOx. Nature Communications, 2023, 14, .	5.8	19
537	Advanced zeolite and ordered mesoporous silica-based catalysts for the conversion of CO₂to chemicals and fuels. Chemical Society Reviews, 2023, 52, 1773-1946.	18.7	57
538	Design and optimization of the flexible poly-generation process for methanol and formic acid from CO2 hydrogenation under uncertain product prices. International Journal of Hydrogen Energy, 2024, 54, 635-651.	3.8	1
539	Design of Cu/ZnO/Al₂O₃ catalysts with a rich Cuâ€“ZnO interface for enhanced CO₂ hydrogenation to methanol using zinc-malachite as the precursor. New Journal of Chemistry, 2023, 47, 5885-5893.	1.4	2
540	Design of Flameâ€Made ZnZrO<i>_x</i> Catalysts for Sustainable Methanol Synthesis from CO₂. Advanced Energy Materials, 2023, 13, .	10.2	7
541	Designing Atomic Interfaces in Chalcogenides for Boosting Photocatalysis. Solar Rrl, 2023, 7, .	3.1	0
542	Conversion of CO2 to Light Hydrocarbons by Using FeCx Catalysts Derived from Iron Nitrate Co-pyrolyzing with Melamine, Bulk g-C3N4, or Defective g-C3N4. Catalysis Surveys From Asia, 2023, 27, 260-269.	1.0	2
543	Confinement Effects in Well-Defined Metalâ€“Organic Frameworks (MOFs) for Selective CO2 Hydrogenation: A Review. International Journal of Molecular Sciences, 2023, 24, 4228.	1.8	2
544	Zeolite-encaged mononuclear copper centers catalyze CO2 selective hydrogenation to methanol. National Science Review, 2023, 10, .	4.6	11
545	Optimizing the Interfacial Environment of Triphasic ZnO-Cu-ZrO₂ Confined inside Mesoporous Silica Spheres for Enhancing CO₂ Hydrogenation to Methanol. ACS ES&T Engineering, 0, , .	3.7	1
546	One-Pot Synthesis of Dihydropyrans via CO₂ Reduction and Domino Knoevenagel/oxa-Dielsâ€“Alder Reactions. Organic Letters, 2023, 25, 1370-1374.	2.4	2
547	The Activity and Stability of Promoted Cu/ZnO/Al2O3 Catalyst for CO2 Hydrogenation to Methanol. Processes, 2023, 11, 719.	1.3	0
548	Recent advances in the regulation of the coordination structures and environment of single-atom catalysts for carbon dioxide reduction reaction. Journal of Materials Chemistry A, 2023, 11, 7949-7986.	5.2	6

#	Article	IF	Citations
549	Oneâ€Pot Synthesis of Aldehydes or Alcohols from CO₂ via Formamides or Silyl Formates. Advanced Synthesis and Catalysis, 2023, 365, 877-883.	2.1	5
550	CO₂ Hydrogenation to Methanol over a Pt-Loaded Molybdenum Suboxide Nanosheet with Abundant Surface Oxygen Vacancies. Journal of Physical Chemistry C, 2023, 127, 4942-4952.	1.5	1
551	Graphene-Supported Tin Single-Atom Catalysts for CO₂ Hydrogenation to HCOOH: A Theoretical Investigation of Performance under Different N Coordination Numbers. ACS Applied Nano Materials, 2023, 6, 4489-4498.	2.4	4
552	Thermoâ€•and Photocatalytic Activation of CO₂ in Ionic Liquids Nanodomains. Angewandte Chemie, 2023, 135, .	1.6	1
553	Thermoâ€•and Photocatalytic Activation of CO₂ in Ionic Liquids Nanodomains. Angewandte Chemie - International Edition, 2023, 62, .	7.2	8
554	Surface conversion of CuOâ€"ZnO to ZIF-8 to enhance CO₂adsorption for CO₂hydrogenation to methanol. New Journal of Chemistry, 2023, 47, 6700-6707.	1.4	2
555	Asymmetric Coordination Induces Electron Localization at Ca Sites for Robust CO₂ Electroreduction to CO. Advanced Materials, 2023, 35, .	11.1	29
556	Electrospun Environmentâ€Friendly Poly (Lâ€Lactic Acid)/CO₂â€Based Polyurea Nanofiber Film for Piezoelectric Sensor. Advanced Sustainable Systems, 2023, 7, .	2.7	6
557	Electrochemical Reduction of Diarylketones and Aryl Alkenes. ChemCatChem, 2023, 15, .	1.8	1
558	Acetic Acid Production from CH₄ and CO₂ via Synergistic Catalysis between Pd Particles and Oxygen Vacancies Generated in ZrO₂. Journal of Physical Chemistry C, 2023, 127, 5841-5854.	1.5	3
559	Metal catalyst for CO2 capture and conversion into cyclic carbonate: Progress and challenges. Materials Today, 2023, 65, 133-165.	8.3	12
560	Adsorption of Molecules on Defective CeO₂ for Advanced Catalysis. ACS Catalysis, 2023, 13, 4629-4645.	5.5	15
561	High-performance photothermal catalytic CO2 reduction to CH4 and CO by ABO3 (A = La, Ce; B = Ni, Co,) Tj ETQq0 0 0 rgBT /Overlock 1	2.3	6
562	The Role of Carbonate Formation during CO2 Hydrogenation over MgO-Supported Catalysts: A Review on Methane and Methanol Synthesis. Energies, 2023, 16, 2973.	1.6	3
563	Simultaneous Activation of Carbon Dioxide and Epoxides to Produce Cyclic Carbonates by Crossâ€linked Epoxy Resin Organocatalysts. ChemCatChem, 0, , .	1.8	0
564	Role of Catalyst Domain Size in the Hydrogenation of CO₂ to Aromatics over ZnZrO_{<i>x</i>}/ZSM-5 Catalysts. Journal of Physical Chemistry C, 2023, 127, 6356-6370.	1.5	2
565	Tailoring the Reactor Properties in the Smallâ€Scale Sorptionâ€Enhanced Methanol Synthesis. Chemie-Ingenieur-Technik, 0, , .	0.4	1
566	Alkoxide-Decorated Copper Nanoparticles on Amidine-Modified Polymers as Hydrogenation Catalysts for Enabling H₂ Heterolysis. ACS Catalysis, 2023, 13, 5159-5169.	5.5	1

#	Article	IF	Citations
567	Metalloporphyrin-Based Metalâ€“Organic Frameworks for Photocatalytic Carbon Dioxide Reduction: The Influence of Metal Centers. Processes, 2023, 11, 1042.	1.3	6
568	Room-Temperature CO₂ Hydrogenation to Methanol over Air-Stable hcp-PdMo Intermetallic Catalyst. Journal of the American Chemical Society, 2023, 145, 9410-9416.	6.6	6
569	Synergistic Catalysis at the Ni/ZrO_{2â€“<i>x</i>} Interface toward Low-Temperature CO₂ Methanation. ACS Applied Materials & Interfaces, 2023, 15, 19021-19031.	4.0	8
570	Facile Synthesis of Heterogeneous Indium Nanoparticles for Formate Production via CO2 Electroreduction. Nanomaterials, 2023, 13, 1304.	1.9	0
571	Semi-hollow LTA zeolite membrane for water permeation in simulated CO2 hydrogenation to methanol. Journal of Membrane Science, 2023, 678, 121666.	4.1	7
572	Filtration of the preferred catalyst for reverse water-gas shift among the Rhn- (n = 3-11) clusters by mass spectrometry under variable temperatures. Dalton Transactions, 0, , .	1.6	1
573	The promotional role of Mn in CO₂ hydrogenation over Rh-based catalysts from a surface organometallic chemistry approach. Chemical Science, 2023, 14, 5379-5385.	3.7	2
574	Zn-CdZrOx solid solution catalysts for hydrogenation of CO2 to methanol. Fuel, 2023, 346, 128376.	3.4	0
575	Enhanced Surface Charge Localization Over Nitrogen-Doped In₂O₃ for CO₂ Hydrogenation to Methanol with Improved Stability. ACS Catalysis, 2023, 13, 6154-6168.	5.5	11
576	Carboxylation of Acetylene without Salt Waste: Green Synthesis of C₄ Chemicals Enabled by a CO₂â€Pressure Induced Acidity Switch. Angewandte Chemie - International Edition, 2023, 62, .	7.2	3
577	Carboxylation of Acetylene without Salt Waste: Green Synthesis of C4 Chemicals Enabled by a CO2â€Pressure Induced Acidity Switch. Angewandte Chemie, 0, , .	1.6	0
600	State of the art and prospectives of heterogeneous photocatalysts based on metalâ€“organic frameworks (MOFs): design, modification strategies, and their applications and mechanisms in photodegradation, water splitting, and CO₂reduction. Catalysis Science and Technology, 2023, 13, 4285-4347.	2.1	5
616	Photocatalytic Reduction of Carbon Dioxide to Methanol: Carbonaceous Materials, Kinetics, Industrial Feasibility, and Future Directions. Energy & Fuels, 2023, 37, 7577-7602.	2.5	11
618	Catalytic hydrogen storage in liquid hydrogen carriers. , 2023, 1, 459-494.		2
627	Recent progress of dual-site catalysts in emerging electrocatalysis: a review. Catalysis Science and Technology, 2023, 13, 4615-4634.	2.1	3
630	Simultaneous Defect and Size Control of Metalâ€“Organic Framework Nanostructures for Highly Efficient Carbon Dioxide Electroreduction to Multicarbon Products. , 2023, 5, 2121-2130.		4
647	Selective CO₂hydrogenation over zeolite-based catalysts for targeted high-value products. Journal of Materials Chemistry A, 2023, 11, 17938-17960.	5.2	5
656	Effects of metal size on supported catalysts for CO₂ hydrogenation. Materials Chemistry Frontiers, 0, , .	3.2	0

#	Article	IF	Citations
668	Towards maximizing the In₂O₃/<i>m</i>-ZrO₂ interfaces for CO₂-to-methanol hydrogenation. Chemical Communications, 2023, 59, 12747-12750.	2.2	2
678	Direct CO₂ to methanol reduction on Zr₆-MOF based composite catalysts: a critical review. Materials Advances, 2023, 4, 5479-5495.	2.6	1
685	Application of Artificial Intelligence in Modeling of Methanol Production From Renewable Sources. , 2023, , .		0
697	Consecutive sol-gel synthesis of Cu-Zn/Al2O3 catalyst for CO2 Hydrogenation. AIP Conference Proceedings, 2023, , .	0.3	0
763	Supply Chains for Hydrogen and Carbon Dioxide for Sustainable Production of Base Chemicals. , 0, , .		0
766	<i>In situ</i> DRIFTS and DFT study of CO₂ hydrogenation over the In₂O₃ catalyst. Chemical Communications, 2024, 60, 1872-1875.	2.2	0
776	Catalytic processes for fuels production from CO2-rich streams: Opportunities for industrial flue gases upgrading. , 2024, , 93-118.		0
792	CO₂ to dimethyl ether (DME): structural and functional insights of hybrid catalysts. Catalysis Science and Technology, 2024, 14, 1387-1427.	2.1	0
820	Fundamentals of Reaction, Kinetics and Mechanism of Methanol Production. , 2024, , .		0