

# Challenges in the Greener Production of Formates/Formic Acids via Heterogeneously Catalyzed CO<sub>2</sub> Hydrogenation

Chemical Reviews

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Synthesis, Characterization and Catalytic Application of Pyridineâ€Bridged Nâ€Heterocyclic Carbeneâ€Ruthenium Complexes in the Hydrogenation of Carbonates. Chemistry - an Asian Journal, 2017, 12, 2809-2812.	1.7	12
2	Efficient production of formic acid by simultaneous photoreduction of bicarbonate and oxidation of glycerol on gold-TiO <sub>2</sub> composite under solar light. Journal of CO <sub>2</sub> Utilization, 2017, 22, 117-123.	3.3	22
3	CO <sub>2</sub> Activation over Catalytic Surfaces. ChemPhysChem, 2017, 18, 3135-3141.	1.0	228
4	Recent Progress in Photocatalytic CO <sub>2</sub> Reduction Over Perovskite Oxides. Solar Rrl, 2017, 1, 1700126.	3.1	224
5	Introduction: Carbon Capture and Separation. Chemical Reviews, 2017, 117, 9521-9523.	23.0	157
6	Hydrogen Storage in Formic Acid: A Comparison of Process Options. Energy & Fuels, 2017, 31, 12603-12611.	2.5	94
7	Formic Acid Synthesis by CO <sub>2</sub> Hydrogenation over Singleâ€Atom Catalysts Based on Ru and Cu Embedded in Graphene. ChemistrySelect, 2018, 3, 2631-2637.	0.7	31
8	Thermodynamic Analysis of Chemical and Phase Equilibria in CO <sub>2</sub> Hydrogenation to Methanol, Dimethyl Ether, and Higher Alcohols. Industrial & Engineering Chemistry Research, 2018, 57, 4081-4094.	1.8	109
9	Theoretical study of methanol synthesis from CO <sub>2</sub> and CO hydrogenation on the surface of ZrO <sub>2</sub> supported In <sub>2</sub> O <sub>3</sub> catalyst. Surface Science, 2018, 672-673, 7-12.	0.8	39
10	Nitrogen-rich graphitic carbon stabilized cobalt nanoparticles as an effective heterogeneous catalyst for hydrogenation of CO <sub>2</sub> to formate. Journal of CO <sub>2</sub> Utilization, 2018, 25, 310-314.	3.3	20
11	Conversion of CO <sub>2</sub> into Organic Carbonates over a Fiber-Supported Ionic Liquid Catalyst in Impellers of the Agitation System. ACS Sustainable Chemistry and Engineering, 2018, 6, 7119-7127.	3.2	28
12	Influence of Filler Pore Structure and Polymer on the Performance of MOFâ€Based Mixedâ€Matrix Membranes for CO <sub>2</sub> Capture. Chemistry - A European Journal, 2018, 24, 7949-7956.	1.7	44
13	Homogeneous Lightâ€Driven Catalytic Direct Carboxylation with CO <sub>2</sub> . Chinese Journal of Chemistry, 2018, 36, 545-554.	2.6	53
14	Pd@TiO <sub>2</sub> /carbon nanohorn electrocatalysts: reversible CO <sub>2</sub> hydrogenation to formic acid. Energy and Environmental Science, 2018, 11, 1571-1580.	15.6	47
15	Design Strategy toward Recyclable and Highly Efficient Heterogeneous Catalysts for the Hydrogenation of CO <sub>2</sub> to Formate. ACS Catalysis, 2018, 8, 4346-4353.	5.5	89
16	Remarkable Carbon Dioxide Hydrogenation to Ethanol on a Palladium/Iron Oxide Singleâ€Atom Catalyst. ChemCatChem, 2018, 10, 2365-2369.	1.8	82
17	Homogeneous Palladiumâ€Catalyzed Transfer Hydrogenolysis of Benzylic Alcohols Using Formic Acid as Reductant. Chemistry - A European Journal, 2018, 24, 12259-12263.	1.7	24
18	Rationalizing the Reactivity of Bimetallic Molecular Catalysts for CO <sub>2</sub> Hydrogenation. ACS Catalysis, 2018, 8, 4955-4968.	5.5	39

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19	DFT study of In <sub>2</sub> O <sub>3</sub> -catalyzed methanol synthesis from CO <sub>2</sub> and CO hydrogenation on the defective site. <i>New Journal of Chemistry</i> , 2018, 42, 3293-3300.	1.4	33
20	Pd-doped Ni nanoparticle-modified N-doped carbon nanocatalyst with high Pd atom utilization for the transfer hydrogenation of nitroarenes. <i>Green Chemistry</i> , 2018, 20, 1121-1130.	4.6	92
21	Formic Acid-Based Liquid Organic Hydrogen Carrier System with Heterogeneous Catalysts. <i>Advanced Sustainable Systems</i> , 2018, 2, 1700161.	2.7	141
22	Facile synthesis of PEI-GO@ZIF-8 hybrid material for CO <sub>2</sub> capture. <i>International Journal of Hydrogen Energy</i> , 2018, 43, 2224-2231.	3.8	54
23	Selective Carbon Dioxide Hydrogenation Driven by Ferromagnetic RuFe Nanoparticles in Ionic Liquids. <i>ACS Catalysis</i> , 2018, 8, 1621-1627.	5.5	77
24	Towards Sustainable Production of Formic Acid. <i>ChemSusChem</i> , 2018, 11, 821-836.	3.6	257
25	Photocathode Chromophore-Catalyst Assembly via Layer-By-Layer Deposition of a Low Band-Gap Isoindigo Conjugated Polyelectrolyte. <i>ACS Applied Energy Materials</i> , 2018, 1, 62-67.	2.5	12
26	Carbonate-Promoted Hydrogenation of Carbon Dioxide to Multicarbon Carboxylates. <i>ACS Central Science</i> , 2018, 4, 606-613.	5.3	30
27	Transformation of CO <sub>2</sub> by using nanoscale metal catalysts: cases studies on the formation of formic acid and dimethylether. <i>Current Opinion in Chemical Engineering</i> , 2018, 20, 86-92.	3.8	37
28	CO <sub>2</sub> -based hydrogen storage: CO <sub>2</sub> hydrogenation to formic acid, formaldehyde and methanol. <i>ChemistrySelect</i> , 2018, 3, .	0.7	12
29	An etching-assisted route for fast and large-scale fabrication of non-layered palladium nanosheets. <i>Nanoscale</i> , 2018, 10, 7505-7510.	2.8	16
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31	Methanol synthesis <i>via</i> CO <sub>2</sub> hydrogenation over CuO-ZrO <sub>2</sub> prepared by two-nozzle flame spray pyrolysis. <i>Catalysis Science and Technology</i> , 2018, 8, 2056-2060.	2.1	45
32	Continuous CO <sub>2</sub> capture and reduction in one process: CO <sub>2</sub> methanation over unpromoted and promoted Ni/ZrO <sub>2</sub> . <i>Journal of CO<sub>2</sub> Utilization</i> , 2018, 25, 323-329.	3.3	92
33	Sustainable Conversion of Carbon Dioxide: An Integrated Review of Catalysis and Life Cycle Assessment. <i>Chemical Reviews</i> , 2018, 118, 434-504.	23.0	1,571
34	The Catalytic Reduction of Carboxylic Acid Derivatives and CO <sub>2</sub> by Metal Nanoparticles on Lewis-Acidic Supports. <i>Chemical Record</i> , 2018, 18, 1374-1393.	2.9	18
35	TiO <sub>2</sub> -based heterojunction photocatalysts for photocatalytic reduction of CO <sub>2</sub> into solar fuels. <i>Journal of Materials Chemistry A</i> , 2018, 6, 22411-22436.	5.2	195
36	Towards a continuous formic acid synthesis: a two-step carbon dioxide hydrogenation in flow. <i>Reaction Chemistry and Engineering</i> , 2018, 3, 912-919.	1.9	23

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38	3. CO <sub>2</sub> -based hydrogen storage “ formic acid dehydrogenation. , 2018, , 57-94.		1
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44	Decisive Role of Perimeter Sites in Silica-Supported Ag Nanoparticles in Selective Hydrogenation of CO <sub>2</sub> to Methyl Formate in the Presence of Methanol. Journal of the American Chemical Society, 2018, 140, 13884-13891.	6.6	37
45	Tandem copper hydride“Lewis pair catalysed reduction of carbon dioxide into formate with dihydrogen. Nature Catalysis, 2018, 1, 743-747.	16.1	88
46	CO <sub>2</sub> -based hydrogen storage “ formic acid dehydrogenation. Physical Sciences Reviews, 2018, 3, .	0.8	6
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48	Computation-Aided Design of Single-Atom Catalysts for One-Pot CO <sub>2</sub> Capture, Activation, and Conversion. ACS Applied Materials & Interfaces, 2018, 10, 36866-36872.	4.0	70
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55	Efficient Way of Carbon Dioxide Utilization in a Gas-to-Methanol Process: From Fundamental Research to Industrial Demonstration. <i>Topics in Catalysis</i> , 2018, 61, 1794-1809.	1.3	16
56	Bimetallic catalysts for green methanol production <i>via</i> CO <sub>2</sub> and renewable hydrogen: a mini-review and prospects. <i>Catalysis Science and Technology</i> , 2018, 8, 3450-3464.	2.1	104
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58	Mechanisms of catalytic reduction of CO <sub>2</sub> with heme and nonheme metal complexes. <i>Chemical Science</i> , 2018, 9, 6017-6034.	3.7	105
59	Surface Engineering of a Supported PdAg Catalyst for Hydrogenation of CO <sub>2</sub> to Formic Acid: Elucidating the Active Pd Atoms in Alloy Nanoparticles. <i>Journal of the American Chemical Society</i> , 2018, 140, 8902-8909.	6.6	202
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61	Influence of size and nature of the aryl diborate spacer on the intrinsic microporosity of Iron(II) clathrochelate polymers. <i>Polymer</i> , 2018, 151, 164-170.	1.8	16
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63	Ethanol-mediated <i>N</i> -formylation of amines with CO <sub>2</sub> /H <sub>2</sub> over cobalt catalysts. <i>New Journal of Chemistry</i> , 2018, 42, 13933-13937.	1.4	19
64	Thermochemical CO <sub>2</sub> Hydrogenation to Single Carbon Products: Scientific and Technological Challenges. <i>ACS Energy Letters</i> , 2018, 3, 1938-1966.	8.8	308
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70	Functionalized Hydrotalcite Tethered Ruthenium Catalyst for Carbon Sequestration Reaction. <i>Catalysis Letters</i> , 2018, 148, 1879-1892.	1.4	9
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72	Closing the carbon cycle to maximise climate change mitigation: power-to-methanol <i>vs.</i> power-to-direct air capture. <i>Sustainable Energy and Fuels</i> , 2018, 2, 1153-1169.	2.5	53

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75	Rhodium-Catalyzed Formylation of Aryl Halides with CO <sub>2</sub> and H <sub>2</sub> . Organic Letters, 2018, 20, 5130-5134.	2.4	37
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81	CO <sub>2</sub> adsorption on hydroxylated In <sub>2</sub> O <sub>3</sub> (110). Physical Chemistry Chemical Physics, 2019, 21, 21698-21708.	1.3	23
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87	Topotactic Synthesis of Phosphabenzene-Functionalized Porous Organic Polymers: Efficient Ligands in CO <sub>2</sub> Conversion. Angewandte Chemie - International Edition, 2019, 58, 13763-13767.	7.2	32
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91	CO <sub>2</sub> Hydrogenation on Cu/Al <sub>2</sub> O <sub>3</sub> : Role of the Metal/Support Interface in Driving Activity and Selectivity of a Bifunctional Catalyst. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 13989-13996.	7.2	112
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99	CO <sub>2</sub> -Mediated H <sub>2</sub> Storage-Release with Nanostructured Catalysts: Recent Progresses, Challenges, and Perspectives. <i>Advanced Energy Materials</i> , 2019, 9, 1901158.	10.2	47
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128	How CO <sub>2</sub> Chemisorption States Affect Hydrogenation Activity. Industrial & Engineering Chemistry Research, 2019, 58, 9838-9843.	1.8	11
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