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Recent advances in catalytic hydrogenation of carbon dioxide

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2284	Mechanistic Studies on the Reversible Hydrogenation of Carbon Dioxide Catalyzed by an Ir-PNP Complex. <b>2011</b> , 30, 6742-6750		251
2283	Recent advances in catalytic hydrogenation of carbon dioxide. <i>Chemical Society Reviews</i> , <b>2011</b> , 40, 3703-3715	38.5	2216
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2114	Perspectives on atmospheric CO <sub>2</sub> fixation in inorganic and biomimetic structures. <b>2014</b> , 269, 85-95	49
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2109	Formic acid dehydrogenation with bioinspired iridium complexes: a kinetic isotope effect study and mechanistic insight. <b>2014</b> , 7, 1976-83	108
2108	Molybdenum carbide as alternative catalysts to precious metals for highly selective reduction of CO <sub>2</sub> to CO. <b>2014</b> , 53, 6705-9	249
2107	Reaction of Dinuclear Rhodium 4,5-Diazafluorenyl-9-Carboxylate Complexes with H <sub>2</sub> and CO <sub>2</sub> . <b>2014</b> , 33, 2776-2783	8
2106	Efficient fluoride-catalyzed conversion of CO <sub>2</sub> to CO at room temperature. <b>2014</b> , 136, 6142-7	108

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2101	Towards full one-pass conversion of carbon dioxide to methanol and methanol-derived products. <b>2014</b> , 309, 66-70	168
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2098	Molecular artificial photosynthesis. <i>Chemical Society Reviews</i> , <b>2014</b> , 43, 7501-19	58.5 639
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1957	Iron-catalyzed hydrogenation of bicarbonates and carbon dioxide to formates. <b>2015</b> , 8, 609-12	68
1956	Combined Steam and CO <sub>2</sub> Reforming of CH <sub>4</sub> on LaSrNiO <sub>x</sub> Mixed Oxides Supported on Al <sub>2</sub> O <sub>3</sub> -Modified SiC Support. <b>2015</b> , 29, 1055-1065	27
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1954	When iron met phosphines: a happy marriage for reduction catalysis. <b>2015</b> , 17, 2283-2303	70
1953	Metal-impregnated zeolite Y as efficient catalyst for the direct carbonation of glycerol with CO <sub>2</sub> . <b>2015</b> , 504, 187-191	30
1952	Bio-inspired mechanistic insights into CO <sub>2</sub> reduction. <b>2015</b> , 25, 103-9	69
1951	Mechanistic Study of Methanol Synthesis from CO <sub>2</sub> and H <sub>2</sub> on a Modified Model Mo <sub>6</sub> S <sub>8</sub> Cluster. <b>2015</b> , 5, 1004-1012	61
1950	Using carbon dioxide as a building block in organic synthesis. <b>2015</b> , 6, 5933	1241
1949	Highly selective hydrogenation of CO <sub>2</sub> to methanol over CuO <sub>x</sub> /nO <sub>x</sub> /rO <sub>2</sub> catalysts prepared by a surfactant-assisted co-precipitation method. <b>2015</b> , 279, 394-404	85
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1947	Nano- and micro-sized rare-earth carbonates and their use as precursors and sacrificial templates for the synthesis of new innovative materials. <i>Chemical Society Reviews</i> , <b>2015</b> , 44, 2032-59	58.5 60
1946	Surface engineered CuO nanowires with ZnO islands for CO <sub>2</sub> photoreduction. <b>2015</b> , 7, 5685-92	84
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1944	Hydrogen Acceptor- and Base-Free N-Formylation of Nitriles and Amines using Methanol as C1 Source. <b>2015</b> , 357, 834-840	54

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1931	Catalytic role and location of Cs promoter in Cs/Au/TiO <sub>2</sub> catalysts for propanol synthesis from CO <sub>2</sub> , C <sub>2</sub> H <sub>4</sub> and H <sub>2</sub> . <b>2015</b> , 176-177, 570-577	15
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1929	High-Performance and Long-Lived Cu/SiO <sub>2</sub> Nanocatalyst for CO <sub>2</sub> Hydrogenation. <b>2015</b> , 5, 4255-4259	144
1928	Insights into the mechanisms of CO <sub>2</sub> methanation on Ni(111) surfaces by density functional theory. <b>2015</b> , 351, 504-516	117
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1924	Predicting optimal temperature profiles in single-stage fixed-bed reactors for CO <sub>2</sub> -methanation. <b>2015</b> , 132, 59-71		87
1923	Methanol synthesis from CO <sub>2</sub> hydrogenation over Cu/Al <sub>2</sub> O <sub>3</sub> catalysts modified by ZnO, ZrO <sub>2</sub> and MgO. <b>2015</b> , 28, 261-267		107
1922	Iron-Catalyzed Reduction and Hydroelementation Reactions. <b>2015</b> , 173-216		20
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1920	Stepwise tuning of metal-oxide and acid sites of CuZnZr-MFI hybrid catalysts for the direct DME synthesis by CO <sub>2</sub> hydrogenation. <b>2015</b> , 176-177, 522-531		95
1919	First-Principles Study about the Effect of Coverage on H <sub>2</sub> Adsorption and Dissociation over a Rh(100) Surface. <b>2015</b> , 119, 10355-10364		14
1918	Heterogeneous catalytic conversion of CO <sub>2</sub> : a comprehensive theoretical review. <b>2015</b> , 7, 8663-83		241
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1916	Effect of the components' interface on the synthesis of methanol over Cu/ZnO from CO <sub>2</sub> /H <sub>2</sub> : a microkinetic analysis based on DFT + U calculations. <b>2015</b> , 17, 7317-33		19
1915	CO <sub>2</sub> hydrogenation for C <sub>2</sub> + hydrocarbon synthesis over composite catalyst using surface modified HB zeolite. <b>2015</b> , 179, 37-43		47
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1912	Propanol formation from CO <sub>2</sub> and C <sub>2</sub> H <sub>4</sub> with H <sub>2</sub> over Au/TiO <sub>2</sub> : Effect of support and K doping. <b>2015</b> , 258, 684-690		10
1911	Carbon cycle in advanced coal chemical engineering. <i>Chemical Society Reviews</i> , <b>2015</b> , 44, 5409-45	58.5	100
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1908	Highly efficient and stable photocatalytic reduction of CO <sub>2</sub> to CH <sub>4</sub> over Ru loaded NaTaO <sub>3</sub> . <b>2015</b> , 51, 7645-8		67

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1877	<sup>17</sup> O solid-state NMR studies of oxygen-containing catalysts. <b>2015</b> , 36, 1494-1504	18
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1856	Photocatalytic conversion of CO2 in water over Ag-modified La2Ti2O7. <b>2015</b> , 163, 241-247	102
1855	Theoretical study on the reaction mechanism of carbon dioxide reduction to methanol using a homogeneous ruthenium(II) phosphine catalyst. <b>2015</b> , 85, 543-548	15
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1852	An Alumina-Supported Ni-La-Based Catalyst for Producing Synthetic Natural Gas. <b>2016</b> , 6, 170	30
1851	Sustainable DME synthesis-design with CO <sub>2</sub> utilization. <b>2016</b> , 1081-1086	4
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1847	Bottom-Up Construction of a CO <sub>2</sub> -Based Cycle for the Photocarbonylation of Benzene, Promoted by a Rhodium(I) Pincer Complex. <b>2016</b> , 138, 9941-50	41
1846	Catalyst-Free One-Pot Plasma Chemical Conversion of Carbon Dioxide to Performic Acid by Water-Sealed Dielectric Barrier Discharge. <b>2016</b> , 13, 1230-1241	3
1845	Robust Silver(I) Catalyst for the Carboxylative Cyclization of Propargylic Alcohols with Carbon Dioxide under Ambient Conditions. <b>2016</b> , 358, 1251-1258	71
1844	Efficient Reduction of CO <sub>2</sub> into Formic Acid on a Lead or Tin Electrode using an Ionic Liquid Catholyte Mixture. <b>2016</b> , 128, 9158-9162	49
1843	Selective Catalytic Synthesis Using the Combination of Carbon Dioxide and Hydrogen: Catalytic Chess at the Interface of Energy and Chemistry. <b>2016</b> , 55, 7296-343	553
1842	DFT Study of Synergistic Catalysis of the Water-Gas-Shift Reaction on Cu <sub>2</sub> Au Bimetallic Surfaces. <b>2016</b> , 8, 1208-1217	13
1841	Hydrogen Sulfide Induced Carbon Dioxide Activation by Metal-Free Dual Catalysis. <b>2016</b> , 22, 4359-63	4
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1839	Catalytic Coupling of Carbon Dioxide with Terpene Scaffolds: Access to Challenging Bio-Based Organic Carbonates. <b>2016</b> , 9, 1304-11	73
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1836	Indium Oxide as a Superior Catalyst for Methanol Synthesis by CO <sub>2</sub> Hydrogenation. <b>2016</b> , 128, 6369-6373	50

1835	Computational studies of stable hexanuclear Cu <sub>l</sub> Ag <sub>m</sub> Au <sub>n</sub> (l + m + n = 6; l, m, n > 0) clusters. <b>2016</b> , 116, 1006-1015	11
1834	Synthesis of methanol using copper-block element bimetallic oxides as catalysts and greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> ) as feedstock. <b>2016</b> , 341, 24-32	17
1833	A DFT Study of CO Hydrogenation on Faujasite-Supported Ir Clusters: on the Role of Water for Selectivity Control. <b>2016</b> , 8, 2500-2507	15
1832	Greatly Enhanced Stability of Supported Copper Nanocatalyst with a Thin Nitrogen-Doped Carbon Overlayer for Transfer Dehydrogenation. <b>2016</b> , 2, 888-896	5
1831	Selektive katalytische Synthesen mit Kohlendioxid und Wasserstoff: Katalyse-Schach an der Nahtstelle zwischen Energie und Chemie. <b>2016</b> , 128, 7416-7467	136
1830	Efficient Reduction of CO <sub>2</sub> into Formic Acid on a Lead or Tin Electrode using an Ionic Liquid Catholyte Mixture. <b>2016</b> , 55, 9012-6	149
1829	Iron-Based Fischer-Tropsch Synthesis for the Efficient Conversion of Carbon Dioxide into Isoparaffins. <b>2016</b> , 8, 1303-1307	58
1828	Insight into the effect of surface structure on H <sub>2</sub> adsorption and activation over different CuO(1 1 1) surfaces: A first-principle study. <b>2016</b> , 122, 191-200	21
1827	A Single-Source Precursor Approach to Self-Supported Nickel-Manganese-Based Catalysts with Improved Stability for Effective Low-Temperature Dry Reforming of Methane. <b>2016</b> , 81, 370-377	15
1826	Synthesis and Functionalization of Oriented Metal-Organic-Framework Nanosheets: Toward a Series of 2D Catalysts. <b>2016</b> , 26, 3268-3281	181
1825	Conversion of carbon dioxide to propionaldehyde over cobalt and rhodium nanoparticles supported on MIL-53 (Al) metal-organic framework. <b>2016</b> , 52, 1728-1732	1
1824	Using CS <sub>2</sub> to Probe the Mechanistic Details of Decarboxylation of Bis(phosphinite)-Ligated Nickel Pincer Formate Complexes. <b>2016</b> , 35, 4077-4082	21
1823	Carbon Sequestration: Hydrogenation of CO <sub>2</sub> to Formic Acid. <b>2016</b> , 10, 13-34	10
1822	Effect of Zr addition on catalytic performance of Cu-Zn-Al oxides for CO <sub>2</sub> hydrogenation to methanol. <b>2016</b> , 32, 1005-1009	2
1821	Observation of Fano line shapes in infrared vibrational spectra of CO <sub>2</sub> adsorbed on Cu(997) and Cu(111). <b>2016</b> , 144, 054703	7
1820	Selective reduction of carbon dioxide to carbon monoxide over Au/CeO <sub>2</sub> catalyst and identification of reaction intermediate. <b>2016</b> , 37, 2053-2058	9
1819	Selective synthesis of carbon monoxide via formates in reverse water-gas shift reaction over alumina-supported gold catalyst. <b>2016</b> , 25, 306-310	29
1818	Challenges and opportunities for hydrogen production from microalgae. <b>2016</b> , 14, 1487-99	97

1817	High Solar Flux Concentration Water Splitting with Hematite ( $\text{Fe}_2\text{O}_3$ ) Photoanodes. <b>2016</b> , 6, 1500817	60
1816	Selective Reduction of $\text{CO}_2$ to $\text{CH}_4$ by Tandem Hydrosilylation with Mixed Al/B Catalysts. <b>2016</b> , 138, 5321-33	122
1815	Cobalt Catalysts Decorated with Platinum Atoms Supported on Barium Zirconate Provide Enhanced Activity and Selectivity for $\text{CO}_2$ Methanation. <b>2016</b> , 6, 2811-2818	69
1814	Bicarbonate Hydrogenation Catalyzed by Iron: How the Choice of Solvent Can Reverse the Reaction. <b>2016</b> , 6, 2923-2929	26
1813	Borohydride salts as high efficiency reducing reagents for carbon dioxide transformation to methanol: Theoretical approach. <b>2016</b> , 41, 11131-11140	11
1812	A novel W-doped Ni-Mg mixed oxide catalyst for $\text{CO}_2$ methanation. <b>2016</b> , 196, 108-116	110
1811	An experimental and thermodynamic study for conversion of $\text{CO}_2$ to $\text{CO}$ and methane over Cu-K/ $\text{Al}_2\text{O}_3$ . <b>2016</b> , 4, 2725-2735	14
1810	Bromide promoted hydrogenation of $\text{CO}$ to higher alcohols using Ru-Co homogeneous catalyst. <b>2016</b> , 7, 5200-5205	44
1809	Electrochemically assisted synthesis of fuels by $\text{CO}_2$ hydrogenation over Fe in a bench scale solid electrolyte membrane reactor. <b>2016</b> , 268, 46-59	11
1808	Methylation of aromatic amines and imines using formic acid over a heterogeneous Pt/C catalyst. <b>2016</b> , 6, 6172-6176	45
1807	Base-free hydrogenation of $\text{CO}_2$ to formic acid in water with an iridium complex bearing a $\text{N}_2\text{N}'$ -diimine ligand. <b>2016</b> , 18, 4553-4558	80
1806	Mechanism of $\text{CO}_2$ reduction by $\text{H}_2$ on Ru(0 0 0 1) and general selectivity descriptors for late-transition metal catalysts. <b>2016</b> , 343, 86-96	80
1805	Kinetic modeling and transient DRIFTSMS studies of $\text{CO}_2$ methanation over Ru/ $\text{Al}_2\text{O}_3$ catalysts. <b>2016</b> , 343, 185-195	107
1804	A $\text{ZnTa}_2\text{O}_6$ photocatalyst synthesized via solid state reaction for conversion of $\text{CO}_2$ into $\text{CO}$ in water. <b>2016</b> , 6, 4978-4985	34
1803	$\text{BH}_3$ Activation by Phosphorus-Stabilized Geminal Dianions: Synthesis of Ambiphilic Organoborane, DFT Studies, and Catalytic $\text{CO}_2$ Reduction into Methanol Derivatives. <b>2016</b> , 6, 3030-3035	27
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1801	Pd/ $\text{ZnO}$ catalysts for direct $\text{CO}_2$ hydrogenation to methanol. <b>2016</b> , 343, 133-146	248
1800	Electrochemical $\text{CO}_2$ reduction: Electrocatalyst, reaction mechanism, and process engineering. <b>2016</b> , 29, 439-456	450

1799	Solvent-promoted catalyst-free N-formylation of amines using carbon dioxide under ambient conditions. <b>2016</b> , 52, 6545-8	119
1798	Computational Investigation of Fe/Ti Bimetallic Catalysts for CO <sub>2</sub> Hydrogenation. <b>2016</b> , 120, 9364-9373	34
1797	Active Site Dependent Reaction Mechanism over Ru/CeO <sub>2</sub> Catalyst toward CO <sub>2</sub> Methanation. <b>2016</b> , 138, 6298-305	322
1796	Facile preparation of highly efficient CuO-ZnO-ZrO <sub>2</sub> /HZSM-5 bifunctional catalyst for one-step CO <sub>2</sub> hydrogenation to dimethyl ether: Influence of calcination temperature. <b>2016</b> , 111, 100-108	19
1795	Tuning of catalytic CO <sub>2</sub> hydrogenation by changing composition of CuO <sub>x</sub> NiO <sub>z</sub> ZrO <sub>2</sub> catalysts. <b>2016</b> , 118, 21-31	104
1794	CO <sub>2</sub> conversion by reverse water gas shift catalysis: comparison of catalysts, mechanisms and their consequences for CO <sub>2</sub> conversion to liquid fuels. <b>2016</b> , 6, 49675-49691	255
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1756	Hydrogenation of ethylene carbonate catalyzed by lutidine-bridged N-heterocyclic carbene ligands and ruthenium precursors. <b>2016</b> , 85, 57-60	17
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1482	Continuous Hydrothermal Synthesis of Inorganic Nanoparticles: Applications and Future Directions. <b>2017</b> , 117, 11125-11238	261
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1462	Highly Selective Conversion of Carbon Dioxide to Lower Olefins. <b>2017</b> , 7, 8544-8548	251
1461	Hydrogenation of CO to Methanol on Ni(110) through Subsurface Hydrogen. <b>2017</b> , 139, 17582-17589	28
1460	Direct catalytic hydrogenation of CO to formate over a Schiff-base-mediated gold nanocatalyst. <b>2017</b> , 8, 1407	117
1459	Size-Tunable Ni Nanoparticles Supported on Surface-Modified, Cage-Type Mesoporous Silica as Highly Active Catalysts for CO <sub>2</sub> Hydrogenation. <b>2017</b> , 7, 8367-8381	67
1458	The study of morphology effect of Pt/Co <sub>3</sub> O <sub>4</sub> catalysts for higher alcohol synthesis from CO <sub>2</sub> hydrogenation. <b>2017</b> , 543, 189-195	43

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1456	Highly selective photocatalytic conversion of CO <sub>2</sub> by water over Ag-loaded SrNb <sub>2</sub> O <sub>6</sub> nanorods. <b>2017</b> , 218, 770-778	65
1455	Conversion of CO <sub>2</sub> , CO, and H <sub>2</sub> in CO <sub>2</sub> Hydrogenation to Fungible Liquid Fuels on Fe-Based Catalysts. <b>2017</b> , 56, 13334-13355	42
1454	Lewis Acid Promoted Hydrogenation of CO and HCOO by Amine Boranes: Mechanistic Insight from a Computational Approach. <b>2017</b> , 121, 5204-5216	9
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1452	Synthesis of a Cu-infiltrated Zr-doped SBA-15 catalyst for CO hydrogenation into methanol and dimethyl ether. <b>2017</b> , 19, 19139-19149	17
1451	Synthesis of methanol from CO hydrogenation promoted by dissociative adsorption of hydrogen on a GaNi(221) surface. <b>2017</b> , 19, 18539-18555	29
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1449	Hydrogenation of CO <sub>2</sub> into formic acid using a palladium catalyst on chitin. <b>2017</b> , 41, 9170-9177	31
1448	Selective cobalt nanoparticles for catalytic transfer hydrogenation of N-heteroarenes. <b>2017</b> , 8, 6239-6246	55
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1429	Techno-economic and Life Cycle Assessment of methane production via biogas upgrading and power to gas technology. <b>2017</b> , 192, 282-295	191
1428	Carbon dioxide Fischer-Tropsch synthesis: A new path to carbon-neutral fuels. <b>2017</b> , 202, 605-610	135
1427	Power to Gas projects review: Lab, pilot and demo plants for storing renewable energy and CO <sub>2</sub> . <b>2017</b> , 69, 292-312	350
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1334	Mesoporous Co-CeO <sub>2</sub> catalyst prepared by colloidal solution combustion method for reverse water-gas shift reaction. <b>2018</b> , 316, 155-161	35
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1330	Directly converting carbon dioxide to linear Eblefins on bio-promoted catalysts. <b>2018</b> , 1,	89
1329	Conversion of CO <sub>2</sub> into liquid hydrocarbons in the presence of a Co-containing catalyst based on the microporous metal-organic framework MIL-53(Al). <b>2018</b> , 176, 101-106	15
1328	Mechanism and microkinetics of methanol synthesis via CO <sub>2</sub> hydrogenation on indium oxide. <b>2018</b> , 361, 313-321	132
1327	Direct hydrogenation of CO <sub>2</sub> on deposited iron-containing catalysts under supercritical conditions. <b>2018</b> , 28, 147-149	10
1326	Acidity control of zeolite functionality on activity and stability of hybrid catalysts during DME production via CO <sub>2</sub> hydrogenation. <b>2018</b> , 24, 398-406	53
1325	Effect of Ni Precipitation Method on CO Methanation over Ni/TiO <sub>2</sub> Catalysts. <b>2018</b> , 34, 296-301	8
1324	Insights into Elevated-Temperature Photocatalytic Reduction of CO <sub>2</sub> by H <sub>2</sub> O. <b>2018</b> , 122, 8045-8057	26
1323	Recent progress on the nanoparticles-assisted greenhouse carbon dioxide conversion processes. <b>2018</b> , 24, 522-547	33
1322	Enhanced low-temperature activity for CO <sub>2</sub> methanation over Ru doped the Ni/CexZr(1x)O <sub>2</sub> catalysts prepared by one-pot hydrolysis method. <b>2018</b> , 43, 7179-7189	31
1321	Combined steam and CO <sub>2</sub> reforming of methane for syngas production over carbon-resistant boron-promoted Ni/SBA-15 catalysts. <b>2018</b> , 262, 122-132	47
1320	The simple system of fixing CO <sub>2</sub> to synthesize benzimidazolones at atmospheric pressure. <b>2018</b> , 24, 250-255	8
1319	Tailoring Surface Frustrated Lewis Pairs of InO (OH) for Gas-Phase Heterogeneous Photocatalytic Reduction of CO by Isomorphous Substitution of In with Bi. <b>2018</b> , 5, 1700732	60
1318	Electrochemical promotion of nanodispersed Ru-Co catalysts for the hydrogenation of CO <sub>2</sub> . <b>2018</b> , 232, 60-68	21
1317	Enhanced activity of CO <sub>2</sub> hydrogenation to CH <sub>4</sub> over Ni based zeolites through the optimization of the Si/Al ratio. <b>2018</b> , 267, 9-19	34
1316	Roles of nitrogen species on nitrogen-doped CNTs supported Cu-ZrO <sub>2</sub> system for carbon dioxide hydrogenation to methanol. <b>2018</b> , 307, 212-223	37
1315	A review on adsorption-enhanced photoreduction of carbon dioxide by nanocomposite materials. <b>2018</b> , 1, 6-31	42
1314	Photochemical Preparation of Anatase Titania Supported Gold Catalyst for Ethanol Synthesis from CO <sub>2</sub> Hydrogenation. <b>2018</b> , 148, 11-22	6

1313	Theoretical study of the promotional effect of ZrO <sub>2</sub> on In <sub>2</sub> O <sub>3</sub> catalyzed methanol synthesis from CO <sub>2</sub> hydrogenation. <b>2018</b> , 433, 780-789	42
1312	Synthesis of ethanol via a reaction of dimethyl ether with CO <sub>2</sub> and H <sub>2</sub> . <b>2018</b> , 20, 206-213	25
1311	Transformation of CO <sub>2</sub> to Formic Acid or Formate with Homogeneous Catalysts. <b>2018</b> , 7-42	6
1310	Transformation of CO <sub>2</sub> to Methanol Over Heterogeneous Catalysts. <b>2018</b> , 89-119	
1309	Cis-[CoII(MPCA)X <sub>2</sub> ] (X = Cl or Br) complexes as catalyst exhibiting different activity for visible light induced photocatalytic CO <sub>2</sub> -to-CO conversion. <b>2018</b> , 355, 175-179	10
1308	Hydrogenation of sodium hydrogen carbonate in aqueous phase using metal/activated carbon catalysts. <b>2018</b> , 224, 368-375	17
1307	Tuning of Catalytic Activity by Thermoelectric Materials for Carbon Dioxide Hydrogenation. <b>2018</b> , 8, 1701430	8
1306	Metal organic frameworks as catalysts in solvent-free or ionic liquid assisted conditions. <b>2018</b> , 20, 86-107	82
1305	Progress and Perspective of Electrocatalytic CO Reduction for Renewable Carbonaceous Fuels and Chemicals. <b>2018</b> , 5, 1700275	423
1304	Direct conversion of CO <sub>2</sub> to long-chain hydrocarbon fuels over K <sup>+</sup> promoted CoCu/TiO <sub>2</sub> catalysts. <b>2018</b> , 311, 65-73	37
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1302	ZrO <sub>2</sub> support imparts superior activity and stability of Co catalysts for CO <sub>2</sub> methanation. <b>2018</b> , 220, 397-408	170
1301	Micro- and mesoporous supports for CO <sub>2</sub> methanation catalysts: A comparison between SBA-15, MCM-41 and USY zeolite. <b>2018</b> , 175, 72-83	78
1300	Effects of Na content in Na/Ni/SiO <sub>2</sub> and Na/Ni/CeO <sub>2</sub> catalysts for CO and CO <sub>2</sub> methanation. <b>2018</b> , 303, 159-167	61
1299	Statu quo sur la méthanation du dioxyde de carbone : une revue de la littérature. <b>2018</b> , 21, 427-469	10
1298	The catalytic performance of different promoted iron catalysts on combined supports Al <sub>2</sub> O <sub>3</sub> for carbon dioxide hydrogenation. <b>2018</b> , 44, 217-229	3
1297	Water dissociation and CO oxidation over Au/anatase catalyst. A DFT-D2 study. <b>2018</b> , 435, 1168-1173	8
1296	Evolution of active sites and catalytic consequences of mesoporous MCM-41 supported copper catalysts for the hydrogenation of ethylene carbonate. <b>2018</b> , 334, 1943-1953	31



1295	Atmospheric CO capture for the artificial photosynthetic system. <b>2018</b> , 621, 186-192	8
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1292	CO <sub>2</sub> methanation over ordered mesoporous NiRu-doped CaO-Al <sub>2</sub> O <sub>3</sub> nanocomposites with enhanced catalytic performance. <b>2018</b> , 43, 239-250	59
1291	Direct synthesis of formic acid via CO <sub>2</sub> hydrogenation over Cu/ZnO/Al <sub>2</sub> O <sub>3</sub> catalyst. <b>2018</b> , 172, 1957-1977	38
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1284	Direct Production of Lower Olefins from CO <sub>2</sub> Conversion via Bifunctional Catalysis. <b>2018</b> , 8, 571-578	232
1283	Sustainable Conversion of Carbon Dioxide: An Integrated Review of Catalysis and Life Cycle Assessment. <b>2018</b> , 118, 434-504	1017
1282	Catalytic Conversion of CO <sub>2</sub> to Cyclic Carbonates through Multifunctional Zinc-Modified ZSM-5 Zeolite. <b>2018</b> , 36, 187-193	23
1281	Steady-state and controlled heating rate methanation of CO <sub>2</sub> on Ni/MgO in a bench-scale fixed bed tubular reactor. <b>2018</b> , 23, 1-9	8
1280	Influence of Zr, Ce, and La on Co <sub>3</sub> O <sub>4</sub> catalyst for CO <sub>2</sub> methanation at low temperature. <b>2018</b> , 26, 768-774	16
1279	Atmospheric Pressure and Room Temperature Synthesis of Methanol through Plasma-Catalytic Hydrogenation of CO <sub>2</sub> . <b>2018</b> , 8, 90-100	128
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1209	N-Formylation of Amines with CO and H <sub>2</sub> by Using NHC-Iridium Coordination Assemblies as Solid Molecular Catalysts. <b>2018</b> , 13, 3018-3021	15
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679	Futuristic applications of hydrogen in energy, biorefining, aerospace, pharmaceuticals and metallurgy. <b>2021</b> , 46, 8885-8905	37
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676	Density Functional Theory Investigation of Structure-Activity Relationship for Efficient Electrochemical CO <sub>2</sub> Reduction on Defective SnSe <sub>2</sub> Nanosheets. <b>2021</b> , 4, 2760-2767	2
675	Carbon dioxide capture by new DBU-based DES: The relationship between ionicity and absorptive capacity. <b>2021</b> , 67, e17244	2
674	Direct Carboxylation with Carbon Dioxide via Cooperative Photoredox and Transition-Metal Dual Catalysis. <b>2021</b> , 363, 1583-1596	21
673	Homogeneously Catalyzed CO <sub>2</sub> Hydrogenation to Formic Acid/Formate by Using Precious Metal Catalysts. <b>2021</b> , 13-52	0
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670	Molybdenum Oxide Supported on TiAlC is an Active Reverse Water-Gas Shift Catalyst. <b>2021</b> , 9, 4957-4966	6
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666	Methanation of CO <sub>2</sub> and CO by (Ni,Mg,Al)-Hydrotalcite-Derived and Related Catalysts with Varied Magnesium and Aluminum Oxide Contents. <b>2021</b> , 60, 5114-5123	6

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662	Electrospun nanofibers for electrochemical reduction of CO <sub>2</sub> : A mini review. <b>2021</b> , 124, 106968	6
661	Double sulfur vacancies by lithium tuning enhance CO electroreduction to n-propanol. <b>2021</b> , 12, 1580	43
660	Efficient CO <sub>2</sub> to X Transformation with Metal Organic Framework Catalysts. <b>2021</b> , 24, 67-95	
659	Direct aromatization of CO <sub>2</sub> via combined CO <sub>2</sub> hydrogenation and zeolite-based acid catalysis. <b>2021</b> , 45, 101405	8
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657	Revealing the Effect of Sodium on Iron-Based Catalysts for CO <sub>2</sub> Hydrogenation: Insights from Calculation and Experiment. <b>2021</b> , 125, 7637-7646	6
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650	Versatile Hollow ZSM-5 Nanoreactors Loaded with Tailorable Metal Catalysts for Selective Hydrogenation Reactions. <b>2021</b> , 13, 20524-20538	4
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648	Hydroconversion for Hydrocarbon Generation of Highly Overmature Kerogens under Fischer-Tropsch Synthesis Conditions. <b>2021</b> , 35, 7808-7818	2

647	Distinct Mechanisms and Hydricities of Cp*Ir-Based CO <sub>2</sub> Hydrogenation Catalysts in Basic Water. <b>2021</b> , 11, 5776-5788	4
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645	Oxygenated Transport Fuels from Carbon Dioxide : Driving towards Net Zero. <b>2021</b> , 65, 170-179	5
644	Insights into Bimetallic Oxide Synergy during Carbon Dioxide Hydrogenation to Methanol and Dimethyl Ether over GaZrOx Oxide Catalysts. <b>2021</b> , 11, 4704-4711	8
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638	Advances and Challenges for the Electrochemical Reduction of CO <sub>2</sub> to CO: From Fundamentals to Industrialization. <b>2021</b> , 133, 20795-20816	13
637	Microwave-assisted fabrication of a mixed-ligand [Cu <sub>4</sub> (β-OH) <sub>2</sub> ]-cluster-based metal-organic framework with coordinatively unsaturated metal sites for carboxylation of terminal alkynes with carbon dioxide. <b>2021</b> , 35, e6288	1
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635	Ceria morphology-dependent Pd-CeO <sub>2</sub> interaction and catalysis in CO <sub>2</sub> hydrogenation into formate. <b>2021</b> , 397, 116-127	24
634	Efficient approaches to overcome challenges in material development for conventional and intensified CO <sub>2</sub> catalytic hydrogenation to CO, methanol, and DME. <b>2021</b> , 617, 118119	15
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632	Carbon Dioxide Reduction with Hydrogen on Fe, Co Supported Alumina and Carbon Catalysts under Supercritical Conditions. <b>2021</b> , 26,	2
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628	Abiotic Transformation of H <sub>2</sub> and CO <sub>2</sub> into Methane on a Natural Chromitite Rock. <b>2021</b> , 5, 1695-1708	0
627	CO <sub>2</sub> electrochemical reduction to methane on transition metal porphyrin nitrogen-doped carbon material M@d-NC: theoretical insight. <b>2021</b> , 140, 1	1
626	Recent advances in nanostructured catalysts for photo-assisted dry reforming of methane. <b>2021</b> , 14, 100113	4
625	A review on the computational studies of the reaction mechanisms of CO conversion on pure and bimetals of late 3d metals. <b>2021</b> , 27, 200	1
624	Study on Cu-Fe/CeO <sub>2</sub> bimetallic catalyst for reverse water gas shift reaction. <b>2021</b> , 9, 105183	3
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622	Tandem catalysis over tailored ZnO-ZrO <sub>2</sub> /MnSAPO-34 composite catalyst for enhanced light olefins selectivity in CO <sub>2</sub> hydrogenation. <b>2021</b> , 320, 111105	9
621	Selective Hydrogenation of CO <sub>2</sub> to Hydrocarbons: Effects of Fe <sub>3</sub> O <sub>4</sub> Particle Size on Reduction, Carburation, and Catalytic Performance. <b>2021</b> , 35, 10703-10709	5
620	Porous Membrane Reactors for Liquid-Phase Heterogeneous Catalysis. <b>2021</b> , 60, 8969-8990	0
619	The modified MOF-74 with H <sub>2</sub> dissociation function for CO <sub>2</sub> hydrogenation: A DFT study. <b>2021</b> , 27, 102419	1
618	Metal-organic framework composites as green/sustainable catalysts. <b>2021</b> , 436, 213827	33
617	Tunable Carbon Dioxide Activation Pathway over Iron Oxide Catalysts: Effects of Potassium. <b>2021</b> , 60, 8705-8713	5
616	Light-Induced Charge Transfer from Transition-Metal-Doped Aluminum Clusters to Carbon Dioxide. <b>2021</b> , 125, 5878-5885	0
615	Hydrogen spillover-driven synthesis of high-entropy alloy nanoparticles as a robust catalyst for CO hydrogenation. <b>2021</b> , 12, 3884	15
614	Atomically Structural Regulations of Carbon-Based Single-Atom Catalysts for Electrochemical CO Reduction.. <b>2021</b> , 5, e2100102	16
613	Cobalt-Sputtered Anodic Aluminum Oxide Membrane for Efficient Photothermal CO <sub>2</sub> Hydrogenation. <b>2021</b> , 7, 1008-1012	2
612	Highly Selective Synthesis of Ethanol via CO <sub>2</sub> Hydrogenation over CoMoC <sub>x</sub> Catalysts. <b>2021</b> , 13, 3333-3339	4

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610	Review and prospects of microporous zeolite catalysts for CO <sub>2</sub> photoreduction. <b>2021</b> , 23, 101042	9
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608	Highly CO selective Ca and Zn hybrid metal-organic framework electrocatalyst for the electrochemical reduction of CO <sub>2</sub> . <b>2021</b> , 27, 31-37	2
607	Recent advances in CO <sub>2</sub> hydrogenation to value-added products [Current challenges and future directions. <b>2021</b> , 85, 100905	31
606	Co Single Atoms in ZrO <sub>2</sub> with Inherent Oxygen Vacancies for Selective Hydrogenation of CO <sub>2</sub> to CO. <b>2021</b> , 11, 9450-9461	22
605	Enhanced CO <sub>2</sub> Reduction Performance of BiCuSeO-Based Hybrid Catalysts by Synergetic Photo-Thermoelectric Effect. <b>2021</b> , 31, 2105001	1
604	Highly Selective CO <sub>2</sub> Conversion to Methanol in a Bifunctional Zeolite Catalytic Membrane Reactor. <b>2021</b> , 133, 18437-18442	0
603	Hydrogenation of Carbon Dioxide into Formic Acid by Aluminum Ligated NNN Pincer Fullerene Through MetalLigand H <sub>2</sub> O-Assisted Pathway: A Computational Study. 1	
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600	Theoretical Insights into Potential-Dependent C-C Bond Formation Mechanisms during CO Electroreduction into C Products on Cu(100) at Simulated Electrochemical Interfaces. <b>2021</b> , 6, 17839-17847	5
599	Experimental and kinetic modeling studies of methanol synthesis from CO <sub>2</sub> hydrogenation using In <sub>2</sub> O <sub>3</sub> catalyst. <b>2021</b> , 416, 129120	17
598	Highly Selective CO Conversion to Methanol in a Bifunctional Zeolite Catalytic Membrane Reactor. <b>2021</b> , 60, 18289-18294	8
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588	Highly Dispersed NiGa Catalyst and LaO Promoter Supported by LDO Nanosheets for Dry Reforming of Methane: Synergetic Catalysis by Ni, Ga, and LaO. <b>2021</b> ,	0
587	Atomically dispersed Pt/CeO <sub>2</sub> catalyst with superior CO selectivity in reverse water gas shift reaction. <b>2021</b> , 291, 120101	18
586	Understanding reaction-induced restructuring of well-defined Fe <sub>x</sub> O <sub>y</sub> C <sub>z</sub> compositions and its effect on CO <sub>2</sub> hydrogenation. <b>2021</b> , 291, 120121	8
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584	Facet effect of In <sub>2</sub> O <sub>3</sub> for methanol synthesis by CO <sub>2</sub> hydrogenation: A mechanistic and kinetic study. <b>2021</b> , 25, 101244	2
583	Synergistic interaction between Cu and ZrO <sub>2</sub> promotes ethyl formate hydrogenation to produce methanol. <b>2021</b> , 374, 53-60	3
582	Surface Basicity of Metal@TiO to Enhance Photocatalytic Efficiency for CO Reduction. <b>2021</b> , 13, 38595-38603	8
581	Selective Conversion of CO <sub>2</sub> into Cyclic Carbonate on Atom Level Catalysts.	5
580	Recent Advances in Catalysis Based on Transition Metals Supported on Zeolites. <b>2021</b> , 9, 716745	3
579	Mechanistic understanding of CO <sub>2</sub> hydrogenation to methane over Ni/CeO <sub>2</sub> catalyst. <b>2021</b> , 558, 149866	14
578	Hydrogenation of CO <sub>2</sub> on NiGa thin films studied by ambient pressure x-ray photoelectron spectroscopy. <b>2021</b> , 54, 424004	2
577	Direct conversion of CO <sub>2</sub> to light olefins over FeCo/XK-?AL <sub>2</sub> O <sub>3</sub> (X = La, Mn, Zn) catalyst via hydrogenation reaction. 1	0
576	Anti-Electrostatic Main Group Metal-Metal Bonds That Activate CO. <b>2021</b> , 12, 7545-7552	1



575	Towards Sustainable Oxalic Acid from CO and Biomass. <b>2021</b> , 14, 3636-3664	17
574	Enhanced CO <sub>2</sub> Hydrogenation to C <sub>2</sub> + Hydrocarbons over Mesoporous x%Fe <sub>2</sub> O <sub>3</sub> /Al <sub>2</sub> O <sub>3</sub> Catalysts.	1
573	CO <sub>2</sub> Utilization Through its Reduction to Methanol: Design of Catalysts Using Quantum Mechanics and Machine Learning. 1	
572	Formation and influence of surface hydroxyls on product selectivity during CO <sub>2</sub> hydrogenation by Ni/SiO <sub>2</sub> catalysts. <b>2021</b> , 400, 228-233	4
571	Continuous Production of Dimethyl Ether from Methane and Carbon Dioxide. 1	1
570	Recent advance in selective hydrogenation reaction catalyzed by biomass-derived non-noble metal nanocomposites. <b>2021</b> , 153331	1
569	Catalytic Reductive Alcohol Etherifications with Carbonyl-Based Compounds or CO and Related Transformations for the Synthesis of Ether Derivatives. <b>2021</b> , 14, 3744-3784	3
568	Ni nanoparticles dispersed on oxygen vacancies-rich CeO <sub>2</sub> nanoplates for enhanced low-temperature CO <sub>2</sub> methanation performance. <b>2021</b> , 418, 129402	17
567	Advances on CO <sub>2</sub> storage. Synthetic porous solids, mineralization and alternative solutions. <b>2021</b> , 419, 129569	15
566	Porous NiO Prepared by Flame Spray Pyrolysis for 80 wt% Ni/CeO <sub>2</sub> Catalyst and Its Activity for CO <sub>2</sub> Methanation. <b>2021</b> , 64, 261-270	
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563	Catalytic valorization of CO <sub>2</sub> by hydrogenation: current status and future trends. 1-75	2
562	Photoreduction of Carbon Dioxide to Formic Acid with Fe-Based MOFs: The Promotional Effects of Heteroatom Doping and Alloy Nanoparticle Confinement.	2
561	Direct conversion of CO to a jet fuel over CoFe alloy catalysts. <b>2021</b> , 2, 100170	3
560	Computational Exploration of Mechanistic Avenues in Metal-Free CO Reduction to CO by Disilyne Bisphosphine Adduct and Phosphonium Silaylide. <b>2021</b> , 16, 3492-3508	0
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556	Direct Conversion of CO <sub>2</sub> to Ethanol Boosted by Intimacy-Sensitive Multifunctional Catalysts. <b>2021</b> , 11, 11742-11753	8
555	Carbonic Anhydrase-Mimicking Keplerate Cluster Encapsulated Iron Trimesate for Base-Free CO <sub>2</sub> Hydrogenation.	0
554	Identifying Commercial Opportunities for the Reverse Water Gas Shift Reaction. <b>2021</b> , 9, 2100554	6
553	Microstructural analysis of liquefied petroleum gas vehicle emissions, one of the anthropogenic environmental pollutants. 1	0
552	Solvent effects on catalytic reactions and related phenomena at liquid-solid interfaces. <b>2021</b> , 76, 100541	6
551	The influence of back-breakdown on the CO <sub>2</sub> conversion in gliding arc plasma: based on experiments of different materials and improved structures. <b>2021</b> , 54, 495203	0
550	Understanding and Application of Strong Metal-Support Interactions in Conversion of CO <sub>2</sub> to Methanol: A Review.	7
549	Highly Active and Selective Multicomponent Fe-Cu/CeO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> Catalysts for CO <sub>2</sub> Upgrading via RWGS: Impact of Fe/Cu Ratio. <b>2021</b> , 9, 12155-12166	6
548	Operando Spectroscopic Monitoring of Active Species in CO <sub>2</sub> Hydrogenation at Elevated Pressure and Temperature: Steady-State versus Transient Analysis. <b>2021</b> , 35, 15243-15246	1
547	Integrated capture and conversion of CO <sub>2</sub> into methane using NaNO <sub>3</sub> /MgO + Ru/Al <sub>2</sub> O <sub>3</sub> as a catalytic sorbent. <b>2021</b> , 420, 130369	14
546	Bifunctional Metal-Organic Layers for Tandem Catalytic Transformations Using Molecular Oxygen and Carbon Dioxide. <b>2021</b> , 143, 16718-16724	5
545	Exploring Metal Cluster Catalysts Using Swarm Intelligence: Start with Hydrogen Adsorption. 1	1
544	Theoretical study on the synthesis of methane by CO <sub>2</sub> hydrogenation on Ni <sub>3</sub> Fe(111) surface. <b>2021</b> , 94, 104114	2
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542	The length dependent selectivity on aligned Cu nanowires for C <sub>1</sub> products from CO <sub>2</sub> Electroreduction. <b>2021</b> , 394, 139099	1
541	Microstructure and catalytic properties of Fe <sub>3</sub> O <sub>4</sub> /BN, Fe <sub>3</sub> O <sub>4</sub> (Pt)/BN, and FePt/BN heterogeneous nanomaterials in CO <sub>2</sub> hydrogenation reaction: Experimental and theoretical insights. <b>2021</b> , 402, 130-142	3
540	Reduction treatment of nickel phyllosilicate supported Pt nanocatalysts determining product selectivity in CO <sub>2</sub> hydrogenation. <b>2021</b> , 52, 101674	3

539	Recent progress in syngas production via catalytic CO <sub>2</sub> hydrogenation reaction. <b>2021</b> , 295, 120319	22
538	Black phosphorus coupled black titania nanocomposites with enhanced sunlight absorption properties for efficient photocatalytic CO <sub>2</sub> reduction. <b>2021</b> , 295, 120211	16
537	Enhancing the CO <sub>2</sub> methanation activity of Al <sub>2</sub> O <sub>3</sub> supported mono- and bi-metallic catalysts prepared by glycerol assisted impregnation. <b>2021</b> , 296, 120322	5
536	In-situ/operando techniques to identify active sites for thermochemical conversion of CO <sub>2</sub> over heterogeneous catalysts. <b>2021</b> , 62, 153-171	8
535	Recent advances in catalytic systems for CO <sub>2</sub> conversion to substitute natural gas (SNG): Perspective and challenges. <b>2021</b> , 62, 377-407	26
534	Exploring the CO <sub>2</sub> reduction reaction mechanism on Pt/TiO <sub>2</sub> with the ambient-pressure X-ray photoelectron spectroscopy. <b>2021</b> , 568, 150933	1
533	Single Ni supported on Ti <sub>3</sub> C <sub>2</sub> O <sub>2</sub> for uninterrupted CO <sub>2</sub> catalytic hydrogenation to formic acid: A DFT study. <b>2021</b> , 279, 119722	2
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531	Reciprocal regulation between support defects and strong metal-support interactions for highly efficient reverse water gas shift reaction over Pt/TiO <sub>2</sub> nanosheets catalysts. <b>2021</b> , 298, 120507	5
530	Effect of operating parameters on H <sub>2</sub> /CO <sub>2</sub> conversion to methanol over Cu-Zn oxide supported on ZrO <sub>2</sub> polymorph catalysts: Characterization and kinetics. <b>2022</b> , 427, 130947	2
529	A perspective on the electrocatalytic conversion of carbon dioxide to methanol with metallomacrocyclic catalysts. <b>2022</b> , 64, 263-275	6
528	CO <sub>2</sub> hydrogenation over mesoporous Ni-Pt/SiO <sub>2</sub> nanorod catalysts: Determining CH <sub>4</sub> /CO selectivity by surface ratio of Ni/Pt. <b>2022</b> , 247, 117106	7
527	Nature of the Pt-Cobalt-Oxide surface interaction and its role in the CO <sub>2</sub> Methanation. <b>2022</b> , 571, 151326	1
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161	Synthesis of a Cu/Zn-BTC@LTA derivatived Cu <sub>2</sub> SnO@LTA membrane reactor for CO <sub>2</sub> hydrogenation. <b>2022</b> , 662, 121010	2
160	Covalent organic framework-based catalysts for efficient CO <sub>2</sub> utilization reactions. <b>2022</b> , 473, 214835	1
159	Application of Ru(edta) complexes in biomimetic activation of small molecules. Kinetic and mechanistic impact. <b>2022</b> ,	1
158	Nitrogen-nitrogen-functionalized N-heterocyclic carbene ruthenium(ii) complexes realized efficient CO <sub>2</sub> hydrogenation to formate.	0
157	Hydrogenation of CO <sub>2</sub> to methanol over In-doped m-ZrO <sub>2</sub> : a DFT investigation into the oxygen vacancy size-dependent reaction mechanism. <b>2022</b> , 24, 23182-23194	0
156	Intramolecular frustrated Lewis pair mediated approach to the C=O bond activation and cleavage of carbon dioxide. <b>2022</b> , 58, 9385-9388	1
155	Supported nanosized metal catalysts for thermocatalytic CO <sub>2</sub> reduction to hydrocarbons and alcohols. <b>2022</b> ,	0
154	Mo <sub>3</sub> (C <sub>6</sub> O <sub>6</sub> ) <sub>2</sub> monolayers as promising electrocatalysts for the CO <sub>2</sub> reduction reaction: a first-principles study.	1
153	CO <sub>2</sub> conversion technologies for clean fuels production. <b>2022</b> , 37-63	0
152	TiO <sub>2</sub> -based photocatalysts for CO <sub>2</sub> reduction and solar fuel generation. <b>2022</b> , 43, 2500-2529	0
151	Insights into the Mn-Doping Effects on Catalytic Performance of ZnCr <sub>2</sub> O <sub>4</sub> /Sapo-34 Bifunctional Catalyst for the Direct Conversion of Syngas to Light Olefins.	0
150	Feasibility of switchable dual function materials as a flexible technology for CO <sub>2</sub> capture and utilisation and evidence of passive direct air capture. <b>2022</b> , 14, 12620-12637	1
149	Autothermal CO <sub>2</sub> hydrogenation reactor for renewable natural gas generation: experimental proof-of-concept.	0
148	Recent Trends in Covalent Organic Frameworks (COFs) for Carbon Dioxide Reduction.	0
147	Coking and decoking chemistry for resource utilization of polycyclic aromatic hydrocarbons (PAHs) and low-carbon process. <b>2023</b> , 76, 105-116	0
146	Does CO <sub>2</sub> Oxidize Ni Catalysts? A Quick X-ray Absorption Spectroscopy Answer. <b>2022</b> , 13, 7947-7952	1
145	Deoxygenating Reduction of CO <sub>2</sub> by [Cp*Al] <sub>4</sub> to Form a (Al <sub>3</sub> O <sub>2</sub> C) <sub>2</sub> Cluster Featuring Two Ketene Moieties. <b>2022</b> , 61, 14500-14505	1
144	A Review of CeO <sub>2</sub> Supported Catalysts for CO <sub>2</sub> Reduction to CO through the Reverse Water Gas Shift Reaction. <b>2022</b> , 12, 1101	3



143	Biomedical Application of Identified Biomarkers Gene Expression Based Early Diagnosis and Detection in Cervical Cancer with Modified Probabilistic Neural Network. <b>2022</b> , 2022, 1-10	0
142	Theoretical Insight into Tuning CO <sub>2</sub> Methanation and Reverse Water Gas Shift Reactions on MoO <sub>x</sub> -Modified Ni Catalysts.	0
141	Single-Atom Iridium-Catalyst-Embedded Zeolitic Imidazolate Frameworks for CO <sub>2</sub> and Glycerol Transformations. <b>2022</b> , 34, 8153-8162	0
140	A Machine Learning Model To Predict CO <sub>2</sub> Reduction Reactivity and Products Transferred from Metal-Zeolites. <b>2022</b> , 12, 12336-12348	2
139	Co-Production of Methanol and Methyl Formate via Catalytic Hydrogenation of CO <sub>2</sub> over Promoted Cu/ZnO Catalyst Supported on Al <sub>2</sub> O <sub>3</sub> and SBA-15. <b>2022</b> , 12, 1018	0
138	Descriptors Affecting Methane Selectivity in CO <sub>2</sub> Hydrogenation over Unpromoted Bulk Iron(III)-Based Catalysts. <b>2022</b> , 12, 11355-11368	1
137	Switchable Tuning CO <sub>2</sub> Hydrogenation Selectivity by Encapsulation of the Rh Nanoparticles While Exposing Single Atoms. 2204490	2
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134	The Effective-Double-Layer as an Efficient Tool for the Design of Sinter-Resistant Catalysts. <b>2023</b> , 117-149	0
133	Defective hBN-Supported Fe <sub>2</sub> N Single Cluster Catalyst for Active and Selective Electro-Reduction of Multiple CO to Propane: Theoretical Elucidation of Metal/Nonmetal Synergic Effects.	0
132	CO <sub>2</sub> Hydrogenation to Methanol on Indium Oxide-Supported Rhenium Catalysts: The Effects of Size. 12658-12669	3
131	Electrochemical Promotion of Catalysis for CO <sub>2</sub> Valorization. <b>2023</b> , 219-266	0
130	Challenges and recent advancements in the transformation of CO <sub>2</sub> into carboxylic acids: straightforward assembly with homogeneous 3d metals.	2
129	New Insight into CO <sub>2</sub> Reduction to Formate by In Situ Hydrogen Produced from Hydrothermal Reactions with Iron. <b>2022</b> , 27, 7371	1
128	Engineering Cu <sup>+</sup> /CeZrO interfaces to promote CO <sub>2</sub> hydrogenation to methanol. <b>2022</b> ,	0
127	Development of Power-to-X Catalytic Processes for CO <sub>2</sub> Valorisation: From the Molecular Level to the Reactor Architecture. <b>2022</b> , 4, 1250-1280	0
126	Preferential Synthesis of Toluene and Xylene from CO <sub>2</sub> Hydrogenation in the Presence of Benzene through an Enhanced Coupling Reaction. 13741-13754	0

125	Structure Sensitivity of CO <sub>2</sub> Conversion over Nickel Metal Nanoparticles Explained by Micro-Kinetics Simulations.	2
124	Boosting Liquid Hydrocarbon Synthesis from CO <sub>2</sub> Hydrogenation via Tailoring Acid Properties of HZSM-5 Zeolite.	0
123	Investigation of In Promotion on Cu/ZrO <sub>2</sub> Catalysts and Application in CO <sub>2</sub> Hydrogenation to Methanol.	0
122	A review on the development of catalysts and technologies of CO <sub>2</sub> hydrogenation to produce methanol. 1-31	0
121	Effect of Potassium on Cobalt Surface States of K <sub>2</sub> O/SiO <sub>2</sub> Catalysts for CO <sub>2</sub> Fischer-Tropsch Synthesis. <b>2022</b> , 65, 233-243	0
120	Highly Active and Stable Ni/La-Doped Ceria Material for Catalytic CO <sub>2</sub> Reduction by Reverse Water-Gas Shift Reaction.	1
119	Development of highly efficient Cu-based catalyst derived from a metallurgical waste for the reverse water-gas shift reaction. <b>2022</b> , 47, 38170-38184	1
118	Catalytic aqueous CO <sub>2</sub> reduction to formaldehyde at Ru surface on hydroxyl-groups-rich LDH under mild conditions. <b>2023</b> , 322, 122124	0
117	Development of catalysts for the synthesis of higher hydrocarbons from carbon dioxide. <b>2022</b> , 10-20	0
116	Recent advances in thermocatalytic hydrogenation of carbon dioxide to light olefins and liquid fuels via modified Fischer-Tropsch pathway. <b>2023</b> , 67, 102321	0
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111	Advances in Direct Thermocatalytic CO <sub>2</sub> Conversion to Chemicals and Hydrocarbons. <b>2022</b> , 155-193	0
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109	A Two-Dimensional van der Waals Heterostructure with Isolated Electron-Deficient Cobalt Sites toward High-Efficiency CO <sub>2</sub> Electroreduction.	0
108	Mechanistic Insights into Near Ambient Pressure Activity of Intermetallic NiZn/TiO <sub>2</sub> Catalyst for CO <sub>2</sub> conversion to Methanol.	0

- 107 The synthesis and characterization of Ni-M-Tb/Al<sub>2</sub>O<sub>3</sub> (M: Mg, Ca, Sr and Ba) nanocatalysts prepared by different types of doping using the ultrasonic-assisted method to enhance CO<sub>2</sub> methanation. **2022**, 1
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- 98 Application of microimpinging stream reactor coupled with ultrasound in Cu/CeZrO<sub>x</sub> solid solution catalyst preparation for CO<sub>2</sub> hydrogenation to methanol. **2023**, 202, 834-843 0
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