Michael Claeys

List of Publications by Year
in descending order

107 papers	4,380 citations	117625 34 h-index	110387 64 g-index
112 all docs	112 docs citations	112 times ranked	2969 citing authors

#	ARTICLE	IF	CITATIONS
1	Comparative study of Fischerâ€“Tropsch synthesis with H2/CO and H2/CO2 syngas using Fe- and Co-based catalysts. Applied Catalysis A: General, 1999, 186, 201-213.	4.3	347
2	Fischerâ€Tropsch Catalysts for the Biomassâ€toâ€Liquid (BTL)â€Process. Chemical Engineering and Technology, 2008, 31, 655-666.	1.5	312
3	Stability of Nanocrystals:Â Thermodynamic Analysis of Oxidation and Re-reduction of Cobalt in Water/Hydrogen Mixtures. Journal of Physical Chemistry B, 2005, 109, 3575-3577.	2.6	265
4	Reactions of Î±-olefins of different chain length added during Fischerâ€“Tropsch synthesis on a cobalt catalyst in a slurry reactor. Applied Catalysis A: General, 1999, 186, 71-90.	4.3	201
5	Kinetic modelling of Fischerâ€“Tropsch product distributions. Applied Catalysis A: General, 1999, 186, 91-107.	4.3	180
6	Silica supported cobalt Fischerâ€“Tropsch catalysts: effect of pore diameter of support. Catalysis Today, 2002, 71, 395-402.	4.4	171
7	In situ magnetometer study on the formation and stability of cobalt carbide in Fischerâ€“Tropsch synthesis. Journal of Catalysis, 2014, 318, 193-202.	6.2	126
8	Selectivity and mechanism of Fischer-Tropsch synthesis with iron and cobalt catalysts. Studies in Surface Science and Catalysis, 1994, 81, 455-460.	1.5	122
9	Structure sensitivity of the Fischerâ€“Tropsch activity and selectivity on alumina supported cobalt catalysts. Journal of Catalysis, 2013, 299, 67-80.	6.2	113
10	On the effect of water during Fischerâ€“Tropsch synthesis with a ruthenium catalyst. Catalysis Today, 2002, 71, 419-427.	4.4	106
11	Strong-metalâ€“support interaction by molecular design: Feâ€“silicate interactions in Fischerâ€“Tropsch catalysts. Journal of Catalysis, 2012, 289, 140-150.	6.2	101
12	Cobalt Cluster Effects in Zirconium Promoted Co/SiO2 Fischerâ€“Tropsch Catalysts. Journal of Catalysis, 1999, 185, 120-130.	6.2	98
13	Transient initial kinetic regimes of Fischerâ€“Tropsch synthesis. Applied Catalysis A: General, 1999, 186, 215-227.	4.3	97
14	Hydrogen spillover in the Fischerâ€“Tropsch synthesis: An analysis of platinum as a promoter for cobaltâ€“alumina catalysts. Catalysis Today, 2016, 261, 17-27.	4.4	91
15	Effect of water partial pressure on steady state Fischer-Tropsch activity and selectivity of a promoted cobalt catalyst. Studies in Surface Science and Catalysis, 1997, 107, 193-200.	1.5	88
16	Basic studies. Studies in Surface Science and Catalysis, 2004, 152, 601-680.	1.5	84
17	Impact of Process Conditions on the Sintering Behavior of an Alumina-Supported Cobalt Fischerâ€“Tropsch Catalyst Studied with an in Situ Magnetometer. ACS Catalysis, 2015, 5, 841-852.	11.2	83
18	Sizeâ€Dependent Phase Transformation of Catalytically Active Nanoparticles Captured Inâ€…Situ. Angewandte Chemie - International Edition, 2014, 53, 1342-1345.	13.8	77

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19	Preparation of supported nano-sized cobalt oxide and fcc cobalt crystallites. Catalysis Today, 2011, 171, 174-179.	4.4	74
20	Experimental approaches to the preparation of supported metal nanoparticles. Pure and Applied Chemistry, 2006, 78, 1759-1769.	1.9	67
21	Impact of Nanoparticleâ€"Support Interactions in Co₃O₄/Al₂O₃ Catalysts for the Preferential Oxidation of Carbon Monoxide. ACS Catalysis, 2019, 9, 7166-7178.	11.2	54
22	Water-induced deactivation of cobalt-based Fischerâ€"Tropsch catalysts. Nature Catalysis, 2020, 3, 962-965.	34.4	53
23	Cobalt-Based Fischerâ€"Tropsch Activity and Selectivity as a Function of Crystallite Size and Water Partial Pressure. ACS Catalysis, 2015, 5, 113-121.	11.2	51
24	Hydrocarbons via CO2 Hydrogenation Over Iron Catalysts: The Effect of Potassium on Structure and Performance. Catalysis Letters, 2016, 146, 509-517.	2.6	51
25	Specific inhibition as the kinetic principle of the Fischer-Tropsch synthesis. Topics in Catalysis, 1995, 2, 223-234.	2.8	49
26	Size dependent stability of cobalt nanoparticles on silica under high conversion Fischerâ€"Tropsch environment. Faraday Discussions, 2017, 197, 243-268.	3.2	49
27	Comparing silver and copper as promoters in Fe-based Fischerâ€"Tropsch catalysts using delafossite as a model compound. Journal of Catalysis, 2013, 307, 283-294.	6.2	47
28	Copper ferrites: A model for investigating the role of copper in the dynamic iron-based Fischerâ€"Tropsch catalyst. Journal of Catalysis, 2013, 308, 363-373.	6.2	46
29	Chemical energy storage in gaseous hydrocarbons via iron Fischerâ€"Tropsch synthesis from H2/CO2â€"Kinetics, selectivity and process considerations. Catalysis Today, 2015, 242, 184-192.	4.4	46
30	Reâ€dispersion of Cobalt on a Model Fischerâ€"Tropsch Catalyst During Reductionâ€"Oxidationâ€"Reduction Cycles. ChemCatChem, 2012, 4, 1411-1419.	3.7	39
31	Role of CO in the Water-Induced Formation of Cobalt Oxide in a High Conversion Fischerâ€"Tropsch Environment. ACS Catalysis, 2018, 8, 3985-3989.	11.2	39
32	Comparing a cobalt-based catalyst with iron-based catalysts for the Fischer-Tropsch XTL-process operating at high conversion. Applied Catalysis A: General, 2018, 549, 51-59.	4.3	37
33	Hydrogen spillover in the Fischerâ€"Tropsch synthesis: An analysis of gold as a promoter for cobaltâ€"alumina catalysts. Catalysis Today, 2016, 275, 27-34.	4.4	35
34	Co₃O₄ morphology in the preferential oxidation of CO. Catalysis Science and Technology, 2017, 7, 4806-4817.	4.1	35
35	Water-Induced Formation of Cobalt-Support Compounds under Simulated High Conversion Fischerâ€"Tropsch Environment. ACS Catalysis, 2019, 9, 4902-4918.	11.2	35
36	Kinetic regimes of zeolite deactivation and reanimation. Applied Catalysis A: General, 1995, 132, 29-40.	4.3	34

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37	CO₂ Reduction over Mo₂C-Based Catalysts. ACS Catalysis, 2021, 11, 1624-1639.	11.2	34
38	Novel synthesis route for egg-shell, egg-white and egg-yolk type of cobalt on silica catalysts. Applied Catalysis A: General, 2006, 301, 138-142.	4.3	32
39	Cobalt gets in shape. Nature, 2016, 538, 44-45.	27.8	31
40	A DFT perspective of potassium promotion of Ï‡-Fe5C2(100). Applied Catalysis A: General, 2015, 496, 64-72.	4.3	30
41	Cobalt-nickel bimetallic Fischer-Tropsch catalysts: A combined theoretical and experimental approach. Catalysis Today, 2020, 342, 88-98.	4.4	27
42	<i>In situ</i> characterization of Fischerâ€“Tropsch catalysts: a review. Journal Physics D: Applied Physics, 2020, 53, 293001.	2.8	26
43	Effectiveness of catalyst passivation techniques studied in situ with a magnetometer. Catalysis Today, 2016, 275, 135-140.	4.4	25
44	Sintering of cobalt during FTS: Insights from industrial and model systems. Catalysis Today, 2020, 342, 59-70.	4.4	25
45	Some evidence refuting the alkenyl mechanism for chain growth in iron-based Fischerâ€“Tropsch synthesis. Catalysis Today, 2002, 71, 343-349.	4.4	24
46	Support and gas environment effects on the preferential oxidation of carbon monoxide over Co3O4 catalysts studied in situ. Applied Catalysis B: Environmental, 2021, 297, 120450.	20.2	24
47	Cobalt-Based Fischerâ€“Tropsch Synthesis: A Kinetic Evaluation of Metalâ€“Support Interactions Using an Inverse Model System. Catalysts, 2019, 9, 794.	3.5	23
48	Metal Support Interactions in Co3O4/Al2O3 Catalysts Prepared from w/o Microemulsions. Catalysis Letters, 2012, 142, 830-837.	2.6	22
49	Effect of crystallite size on the performance and phase transformation of Co₃O₄/Al₂O₃ catalysts during CO-PrOx â€“ an in situ study. Faraday Discussions, 2017, 197, 269-285.	3.2	22
50	Role of Transient Co-Subcarbonyls in Ostwald Ripening Sintering of Cobalt Supported on Î³-Alumina Surfaces. Journal of Physical Chemistry C, 2017, 121, 16739-16753.	3.1	22
51	Formation of metal-support compounds in cobalt-based Fischer-Tropsch synthesis: A review. Chem Catalysis, 2021, 1, 1014-1041.	6.1	22
52	Evaluation of molybdenum-modified alumina support materials for Co-based Fischer-Tropsch catalysts. Applied Catalysis A: General, 2008, 335, 56-63.	4.3	21
53	Enhanced olefin production in Fischerâ€“Tropsch synthesis using ammonia containing synthesis gas feeds. Catalysis Today, 2016, 275, 94-99.	4.4	21
54	Environment-Dependent Catalytic Performance and Phase Stability of Co₃O₄in the Preferential Oxidation of Carbon Monoxide Studied<i>In Situ</i>. ACS Catalysis, 2020, 10, 11892-11911.	11.2	21

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55	Phase changes studied under in situ conditionsâ€"A novel cell. Catalysis Today, 2016, 275, 149-154.	4.4	20
56	In-depth characterisation of metal-support compounds in spent Co/SiO2 Fischer-Tropsch model catalysts. Catalysis Today, 2020, 342, 71-78.	4.4	20
57	Importance of the Usage Ratio in Iron-Based Fischerâ^'Tropsch Synthesis with Recycle. Industrial & Engineering Chemistry Research, 2006, 45, 8629-8633.	3.7	18
58	Surfactant-free synthesis of monodisperse cobalt oxide nanoparticles of tunable size and oxidation state developed by factorial design. Materials Chemistry and Physics, 2018, 213, 305-312.	4.0	18
59	Operando experimental evidence on the central role of oxygen vacancies during methane combustion. Journal of Catalysis, 2020, 390, 184-195.	6.2	18
60	GC Ã— GC: A novel technique for investigating selectivity in the Fischerâ€"Tropsch synthesis. Catalysis Communications, 2009, 10, 1674-1680.	3.3	16
61	Choosing a suitable support for Co3O4 as an NH3 oxidation catalyst. Catalysis Science and Technology, 2013, 3, 1905.	4.1	16
62	Capturing the interconnectivity of water-induced oxidation and sintering of cobalt nanoparticles during the Fischer-Tropsch synthesis in situ. Journal of Catalysis, 2019, 374, 199-207.	6.2	15
63	A promising preparation method for highly active cobalt based Fischer-Tropsch catalysts supported on stabilized Al2O3. Applied Catalysis A: General, 2018, 556, 92-103.	4.3	14
64	Direct Conversion of Syngas to Higher Alcohols via Tandem Integration of Fischerâ€"Tropsch Synthesis and Reductive Hydroformylation. Angewandte Chemie - International Edition, 2022, 61, .	13.8	14
65	Effective Utilization of the Catalytically Active Phase: NH3 Oxidation Over Unsupported and Supported Co3O4. Catalysis Letters, 2012, 142, 445-451.	2.6	13
66	On the use of an in situ magnetometer to study redox and sintering properties of NiO based oxygen carrier materials for chemical looping steam methane reforming. International Journal of Hydrogen Energy, 2019, 44, 18093-18102.	7.1	13
67	Decoupling the deactivation mechanisms of a cobalt Fischerâ€"Tropsch catalyst operated at high conversion and â€˜simulatedâ€™ high conversion. Catalysis Science and Technology, 2020, 10, 7056-7066.	4.1	13
68	Temporal Changes of Fischerâ€"Tropsch Activity and Selectivity Using Ruthenium. Topics in Catalysis, 2003, 26, 139-143.	2.8	12
69	Oxygenate formation over K/Î²-Mo₂C catalysts in the Fischerâ€"Tropsch synthesis. Catalysis Science and Technology, 2018, 8, 3806-3817.	4.1	12
70	Oxidation of HÃ¤gg Carbide during High-Temperature Fischerâ€"Tropsch Synthesis: Size-Dependent Thermodynamics and <i>In Situ</i> Observations. ACS Catalysis, 2021, 11, 13866-13879.	11.2	12
71	Catalytic consequences of platinum deposition order on cobalt-based Fischerâ€"Tropsch catalysts with low and high cobalt oxide dispersion. Catalysis Science and Technology, 2019, 9, 3177-3192.	4.1	11
72	Formation of nitrogen containing compounds from ammonia co-fed to the Fischerâ€"Tropsch synthesis. Applied Catalysis A: General, 2015, 502, 150-156.	4.3	10

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73	Initial Episodes of Fischer-Tropsch Synthesis with Cobalt Catalysts. Studies in Surface Science and Catalysis, 1998, , 191-196.	1.5	9
74	Fischer-Tropsch CO-Hydrogenation on SiO2-supported Osmium Complexes. Zeitschrift Fur Naturforschung - Section B Journal of Chemical Sciences, 2008, 63, 289-292.	0.7	9
75	Synthesis, characterisation and waterâ€“gas shift activity of nano-particulate mixed-metal (Al, Ti) cobalt oxides. Dalton Transactions, 2019, 48, 13858-13868.	3.3	9
76	Catalysis for Fuels: general discussion. Faraday Discussions, 2017, 197, 165-205.	3.2	8
77	Aromatics from Syngas: CO Taking Control. CheM, 2017, 3, 202-204.	11.7	8
78	Preparation of isolated Co₃O₄ and fcc-Co crystallites in the nanometre range employing exfoliated graphite as novel support material. Nanoscale Advances, 2019, 1, 2910-2923.	4.6	8
79	A DFT-study on the acidity of Moâ€“Oâ€“Al-clusters. Journal of Molecular Catalysis A, 2007, 266, 254-259.	4.8	7
80	Thermodynamic and experimental aspects of â€˜supercriticalâ€™ Fischerâ€“Tropsch synthesis. Fuel Processing Technology, 2010, 91, 1250-1255.	7.2	7
81	Designing new catalysts for synthetic fuels: general discussion. Faraday Discussions, 2017, 197, 353-388.	3.2	7
82	Does mono-atomic Ru catalyse the Fischer-Tropsch synthesis?. Studies in Surface Science and Catalysis, 2000, , 1157-1162.	1.5	6
83	Further Investigation into the Formation of Alcohol during Fischer Tropsch Synthesis on Fe-based Catalysts. APCBEE Procedia, 2012, 3, 110-115.	0.5	6
84	Promoting Ï‡-Fe₅C₂(100)_{0.25} with copper â€“ a DFT study. Journal of Lithic Studies, 2015, 1, 11-18.	0.5	6
85	Enhanced Oxygenates Formation in the Fischerâ€“Tropsch Synthesis over Co- and/or Ni-Containing Fe Alloys: Characterization and 2D Gas Chromatographic Product Analysis. ACS Catalysis, 2020, 10, 14661-14677.	11.2	6
86	Supported Fe_xNi_y catalysts for the co-activation of CO₂ and small alkanes. Faraday Discussions, 2021, 229, 208-231.	3.2	6
87	Promoted Mo_xC_yâ€based Catalysts for the CO₂ Oxidative Dehydrogenation of Ethane. ChemCatChem, 2022, 14, .	3.7	6
88	Enhanced Activity via Surface Modification of Fe-Based Fischerâ€“Tropsch Catalyst Precursor with Titanium Butoxide. Topics in Catalysis, 2014, 57, 572-581.	2.8	5
89	Conversion of CO₂ and small alkanes to platform chemicals over Mo₂C-based catalysts. Faraday Discussions, 2021, 230, 68-86.	3.2	5
90	Direct Conversion of Syngas to Higher Alcohols via Tandem Integration of Fischerâ€“Tropsch Synthesis and Reductive Hydroformylation. Angewandte Chemie, 2022, 134, .	2.0	5

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91	Fuels and petrochemicals from CO2 via Fischer-Tropsch synthesis â€” steady state catalyst activity and selectivity. Studies in Surface Science and Catalysis, 1998, 114, 443-446.	1.5	4
92	Theoretical feasibility of CO-activation and Fischerâ€“Tropsch chain growth on mono- and diatomic Ru complexes. Journal of Molecular Catalysis A, 2008, 288, 75-82.	4.8	4
93	Nb₂O₅ as a radical modulator during oxidative dehydrogenation and as a Lewis acid promoter in CO₂ assisted dehydrogenation of octane over confined 2D engineered NiOâ€“Nb₂O₅â€“Al₂O₃. Catalysis Science and Technology, 2021, 11, 5321-5334.	4.1	4
94	Magnesium as a Methanation Suppressor for Iron- and Cobalt-Based Oxide Catalysts during the Preferential Oxidation of Carbon Monoxide. Catalysts, 2022, 12, 118.	3.5	4
95	Pt/Au Alloys as Reduction Promoters for Co/TiO₂ Fischer-Tropsch Catalysts. Advanced Materials Research, 2014, 1019, 365-371.	0.3	2
96	Preparation of Pt-Promoted Co/SiO₂ Catalysts for CO Hydrogenation by Strong Electrostatic Adsorption (SEA). Advanced Materials Research, 0, 1019, 357-364.	0.3	2
97	Triâ€•cobalt Carboxylate as a Catalyst and Catalyst Precursor in the Fischerâ€“Tropsch Synthesis. ChemCatChem, 2014, 6, 1707-1713.	3.7	2
98	Hydrothermal Sintering and Oxidation of an Alumina-Supported Nickel Methanation Catalyst Studied Using In Situ Magnetometry. Catalysts, 2021, 11, 636.	3.5	2
99	Acetonitrile via CO hydrogenation in the presence of NH3. Catalysis Communications, 2016, 87, 14-17.	3.3	1
100	Novel photocatalysts: general discussion. Faraday Discussions, 2017, 197, 533-546.	3.2	1
101	Advanced approaches: general discussion. Faraday Discussions, 2021, 229, 378-421.	3.2	1
102	Application of novel catalysts: general discussion. Faraday Discussions, 2016, 188, 399-426.	3.2	0
103	Hydrocarbon conversion in the production of synthetic fuels: general discussion. Faraday Discussions, 2017, 197, 473-489.	3.2	0
104	Thermal catalytic conversion: general discussion. Faraday Discussions, 2021, 230, 124-151.	3.2	0
105	Theory: general discussion. Faraday Discussions, 2021, 229, 131-160.	3.2	0
106	Dynamics: general discussion. Faraday Discussions, 2021, 229, 489-501.	3.2	0
107	Two become one. Nature Materials, 2022, 21, 492-493.	27.5	0