Robert GÃ¼ttel

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7041454/publications.pdf

Version: 2024-02-01

70 papers	1,927 citations	279798 23 h-index	265206 42 g-index
76 all docs	76 docs citations	76 times ranked	2234 citing authors

#	Article	IF	Citations
1	Reactors for Fischerâ€•Tropsch Synthesis. Chemical Engineering and Technology, 2008, 31, 746-754.	1.5	156
2	Water Purification and Microplastics Removal Using Magnetic Polyoxometalateâ€•Supported Ionic Liquid Phases (magPOMâ€•SILPs). Angewandte Chemie - International Edition, 2020, 59, 1601-1605.	13.8	153
3	Comparison of different reactor types for low temperature Fischerâ€“Tropsch synthesis: A simulation study. Chemical Engineering Science, 2009, 64, 955-964.	3.8	114
4	Highâ€•Temperature Stable, Ironâ€•Based Coreâ€“Shell Catalysts for Ammonia Decomposition. Chemistry - A European Journal, 2011, 17, 598-605.	3.3	108
5	Yolkâ€•Shell Gold Nanoparticles as Model Materials for Supportâ€•Effect Studies in Heterogeneous Catalysis: Au, @C and Au, @ZrO₂for CO Oxidation as an Example. Chemistry - A European Journal, 2011, 17, 8434-8439.	3.3	107
6	Micro/Macroporous System: MFIâ€•Type Zeolite Crystals with Embedded Macropores. Advanced Materials, 2015, 27, 1066-1070.	21.0	93
7	Ex-post size control of high-temperature-stable yolkâ€“shell Au,â€‰@ZrO2catalysts. Chemical Communications, 2010, 46, 895-897.	4.1	79
8	Challenges in polyoxometalate-mediated aerobic oxidation catalysis: catalyst development meets reactor design. Dalton Transactions, 2016, 45, 16716-16726.	3.3	75
9	Fischerâ€“Tropsch synthesis in milli-structured fixed-bed reactors: Experimental study and scale-up considerations. Chemical Engineering and Processing: Process Intensification, 2010, 49, 958-964.	3.6	65
10	Activity improvement of gold yolkâ€“shell catalysts for CO oxidation by doping with TiO2. Catalysis Science and Technology, 2011, 1, 65.	4.1	65
11	Au, @ZrO2 yolkâ€“shell catalysts for CO oxidation: Study of particle size effect by ex-post size control of Au cores. Journal of Catalysis, 2012, 289, 100-104.	6.2	54
12	Start-up Time and Load Range for the Methanation of Carbon Dioxide in a Fixed-Bed Recycle Reactor. Industrial & Engineering Chemistry Research, 2018, 57, 6391-6400.	3.7	53
13	Assessment of micro-structured fixed-bed reactors for highly exothermic gas-phase reactions. Chemical Engineering Science, 2010, 65, 1644-1654.	3.8	50
14	Unsteady-state methanation of carbon dioxide in a fixed-bed recycle reactor â€” Experimental results for transient flow rate ramps. Fuel Processing Technology, 2016, 153, 87-93.	7.2	45
15	Preparation and Catalytic Evaluation of Cobalt-Based Monolithic and Powder Catalysts for Fischerâˆ'Tropsch Synthesis. Industrial & Engineering Chemistry Research, 2008, 47, 6589-6597.	3.7	44
16	Monolith loop reactor for hydrogenation of glucose. Catalysis Today, 2009, 147, S342-S346.	4.4	40
17	Nanostructured Encapsulated Catalysts for Combination of Fischerâ€“Tropsch Synthesis and Hydroprocessing. ChemCatChem, 2015, 7, 1018-1022.	3.7	39
18	Influence of the Microstructure of Goldâˆ'Zirconia Yolkâˆ'Shell Catalysts on the CO Oxidation Activity. Journal of Physical Chemistry C, 2010, 114, 19386-19394.	3.1	36

#	Article	IF	Citations
19	Holdup and Pressure Drop in Micro Packedâ€Bed Reactors for Fischerâ€Tropsch Synthesis. Chemie-Ingenieur-Technik, 2013, 85, 455-460.	0.8	30
20	Modelling and Simulation of the Monolithic Reactor for Gasâ€“Liquidâ€“Solid Reactions. Chemical Engineering Research and Design, 2005, 83, 811-819.	5.6	29
21	Cobalt@Silica Coreâ€Shell Catalysts for Hydrogenation of CO/CO₂ Mixtures to Methane. ChemCatChem, 2019, 11, 4884-4893.	3.7	29
22	Improvement of Fischerâ€“Tropsch Synthesis through Structuring on Different Scales. Energy Technology, 2016, 4, 44-54.	3.8	28
23	Enhancing internal mass transport in Fischerâ€“Tropsch catalyst layers utilizing transport pores. Catalysis Science and Technology, 2016, 6, 275-287.	4.1	26
24	Transient Flow Rate Ramps for Methanation of Carbon Dioxide in an Adiabatic Fixedâ€Bed Recycle Reactor. Energy Technology, 2020, 8, 1901116.	3.8	23
25	Optimization of Catalysts for Fischerâ€Tropsch Synthesis by Introduction of Transport Pores. Chemie-Ingenieur-Technik, 2014, 86, 544-549.	0.8	22
26	Dynamic Methanation of CO 2 â€“ Effect of Concentration Forcing. Chemie-Ingenieur-Technik, 2019, 91, 576-582.	0.8	22
27	Study of Unsteadyâ€State Operation of Methanation by Modeling and Simulation. Chemical Engineering and Technology, 2013, 36, 1675-1682.	1.5	20
28	Aerobic Oxidation Catalysis by a Molecular Barium Vanadium Oxide. Chemistry - A European Journal, 2018, 24, 4952-4956.	3.3	19
29	Direct dimethyl ether synthesis by spatial patterned catalyst arrangement: A modeling and simulation study. AIChE Journal, 2012, 58, 3468-3473.	3.6	18
30	Chemische Speicherung regenerativer elektrischer Energie durch Methanisierung von Prozessgasen aus der Stahlindustrie. Chemie-Ingenieur-Technik, 2014, 86, 734-739.	0.8	17
31	CO₂ Methanation on Fe Catalysts Using Different Structural Concepts. Chemie-Ingenieur-Technik, 2020, 92, 603-607.	0.8	14
32	Performance of diffusion-optimised Fischerâ€“Tropsch catalyst layers in microchannel reactors at integral operation. Catalysis Science and Technology, 2019, 9, 2180-2195.	4.1	13
33	Hydrogenation of CO/CO2 Mixtures on Nickel Catalysts: Kinetics and Flexibility for Nickel Catalysts. Industrial & Engineering Chemistry Research, 2020, 59, 14668-14678.	3.7	13
34	The periodic transient kinetics method for investigation of kinetic process dynamics under realistic conditions: Methanation as an example. Chemical Engineering Research and Design, 2021, 173, 253-266.	5.6	12
35	Structuring of Reactors and Catalysts on Multiple Scales: Potential and Limitations for Fischerâ€Tropsch Synthesis. Chemie-Ingenieur-Technik, 2015, 87, 694-701.	0.8	11
36	Experimental evaluation of catalyst layers with bimodal pore structure for Fischerâ€“Tropsch synthesis. Catalysis Today, 2016, 275, 155-163.	4.4	11

#	Article	IF	Citations
37	Process Intensification Strategies for Power-to-X Technologies. ChemEngineering, 2022, 6, 13.	2.4	11
38	The Impact of Support Material of Cobaltâ€Based Catalysts Prepared by Double Flame Spray Pyrolysis on CO₂ Methanation Dynamics. ChemCatChem, 2022, 14, .	3.7	11
39	Process Intensification â€“ An Unbroken Trend in Chemical Engineering. Chemie-Ingenieur-Technik, 2018, 90, 1823-1831.	0.8	10
40	Measuring Adsorption Capacity of Supported Catalysts with a Novel Quasiâ€Continuous Pulse Chemisorption Method. ChemCatChem, 2020, 12, 4373-4386.	3.7	10
41	Bifunctional Coâ€based Catalysts for Fischerâ€Tropsch Synthesis: Descriptors Affecting the Product Distribution. ChemCatChem, 2021, 13, 2726-2742.	3.7	10
42	Study of temperature-programmed calcination of cobalt-based catalysts under NO-containing atmosphere. Catalysis Today, 2013, 215, 8-12.	4.4	9
43	Investigations on the Low Temperature Methanation with Pulse Reaction of CO. Chemie-Ingenieur-Technik, 2016, 88, 1833-1838.	0.8	9
44	Continuous Synthesis of Nanostructured Co₃O₄@SiO₂ Coreâ€Shell Particles in a Laminarâ€Flow Reactor. Chemie-Ingenieur-Technik, 2017, 89, 963-967.	0.8	9
45	Transfer Functions for Periodic Reactor Operation: Fundamental Methodology for Simple Reaction Networks. Chemical Engineering and Technology, 2017, 40, 2096-2103.	1.5	9
46	Ceramic Fiber-Based Structures as Catalyst Supports: A Study on Mass and Heat Transport Behavior Applied to CO₂ Methanation. Industrial & Engineering Chemistry Research, 2020, 59, 16539-16552.	3.7	9
47	Stability of Cobalt Particles In and Outside HZSMâ€5â€‰under CO Hydrogenation Conditions Studied by <i>ex situ</i> and <i>inâ€…situ</i> Electron Microscopy. ChemCatChem, 2021, 13, 718-729.	3.7	9
48	Iron Based Core-Shell Structures as Versatile Materials: Magnetic Support and Solid Catalyst. Catalysts, 2021, 11, 72.	3.5	9
49	Hydrogenation of CO/CO2 mixtures under unsteady-state conditions: Effect of the carbon oxides on the dynamic methanation process. Chemical Engineering Science, 2022, 250, 117405.	3.8	8
50	Monolithic Honeycombs in Loop Reactor Configuration for Intensification ofÂMultiphase Processes. Chemical Engineering and Technology, 2015, 38, 1726-1732.	1.5	7
51	Impact of heat transport properties and configuration of ceramic fibrous catalyst structures for CO2 methanation: A simulation study. Journal of Environmental Chemical Engineering, 2022, 10, 107148.	6.7	7
52	Cobaltâ€based Nanoreactors in Combined Fischerâ€Tropsch Synthesis and Hydroprocessing: Effects on Methane and CO₂ Selectivity. ChemCatChem, 2021, 13, 5216-5227.	3.7	6
53	Study on the tolerance of low-temperature CO methanation with single pulse experiments. Chemical Engineering Journal, 2022, 443, 136262.	12.7	6
54	Determination of activation energies for atomization of gold nanoparticles in graphite furnace atomic absorption spectrometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 173, 105976.	2.9	5

#	Article	IF	Citations
55	Mikrostrukturierte Festbettreaktoren fÃ¼r stark exotherme Gasphasenreaktionen: Eine Machbarkeitsstudie. Chemie-Ingenieur-Technik, 2009, 81, 495-500.	0.8	4
56	Nullemissionenâ€Kraftwerk zur stofflichen Energiespeicherung sowie Stromâ€•und WÃrmeerzeugung. Chemie-Ingenieur-Technik, 2015, 87, 419-425.	0.8	4
57	Fe based coreâ€“shell model catalysts for the reaction of CO2 with H2. Reaction Kinetics, Mechanisms and Catalysis, 2020, 131, 119-128.	1.7	4
58	Atomization of gold nanoparticles in graphite furnace AAS: Modelling and simulative exploration of experimental results. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 182, 106249.	2.9	4
59	Frequency Response Analysis of the Unsteady-State CO/CO2 Methanation Reaction: An Experimental Study. Industrial & Engineering Chemistry Research, 2022, 61, 2045-2054.	3.7	4
60	Technische Chemie. Nachrichten Aus Der Chemie, 2020, 68, 46-53.	0.0	2
61	Evaluation of the application of different diffusion models for the methanation of CO/CO2 mixtures. Results in Engineering, 2022, 13, 100355.	5.1	2
62	Model-Independent Size Distribution Determination of Superparamagnetic Nanoparticles. IEEE Transactions on Magnetics, 2022, 58, 1-5.	2.1	1
63	Challenges in transfer of gas-liquid reactions from batch to continuous operation: dimensional analysis and simulations for aerobic oxidation. Journal of Flow Chemistry, 2021, 11, 625-640.	1.9	1
64	Transient Behavior of CO and CO2 Hydrogenation on Fe@SiO2 Coreâ€“Shell Model Catalystsâ€”A Stoichiometric Analysis of Experimental Data. Reactions, 2022, 3, 374-391.	2.1	1
65	Simulation Study of Ceramic Fibrous Structured Catalysts for CO2 Methanationâ€”Enhancement of the Performance and Comparison to Pellet Catalysts. Topics in Catalysis, 2022, 65, 1317-1330.	2.8	1
66	The German Catalyst for Success: Weimar. ChemCatChem, 2011, 3, 1659-1660.	3.7	0
67	Chemical Process Technology. Von J. A. Moulijn, M. Makkee, A. E. van Diepen. Chemie-Ingenieur-Technik, 2014, 86, 585-585.	0.8	0
68	Improving the Accessibility of Fischer-Tropsch Synthesis Catalyst Layers by Insertion of Transport Pores. , 2016, , 43-54.		0
69	Correction to â€œCeramic Fiber-Based Structures as Catalyst Supports: A Study on Mass and Heat Transport Behavior Applied to CO2 Methanation. Industrial & Engineering Chemistry Research, 2021, 60, 5721-5722.	3.7	0
70	Correlation of microstructure and catalytic properties of gold-zirconia core-shell nanostructures. Acta Crystallographica Section A: Foundations and Advances, 2010, 66, s166-s167.	0.3	0