Karsten MÃ¼ller

List of Publications by Year
in descending order

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102	3,028	172386	168321
papers	citations	29 h-index	53 g-index

106	106	106	2196
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A future energy supply based on Liquid Organic Hydrogen Carriers (LOHC). Energy and Environmental Science, 2011, 4, 2767.	15.6	415
2	Liquid Organic Hydrogen Carriers: Thermophysical and Thermochemical Studies of Benzyl- and Dibenzyl-toluene Derivatives. Industrial & Engineering Chemistry Research, 2015, 54, 7967-7976.	1.8	196
3	Energy storage in residential and commercial buildings via Liquid Organic Hydrogen Carriers (LOHC). Energy and Environmental Science, 2012, 5, 9044.	15.6	175
4	Hydrogen storage using a hot pressure swing reactor. Energy and Environmental Science, 2017, 10, 1652-1659.	15.6	131
5	Chemical utilization of hydrogen from fluctuating energy sources â€“ Catalytic transfer hydrogenation from charged Liquid Organic Hydrogen Carrier systems. International Journal of Hydrogen Energy, 2016, 41, 1010-1017.	3.8	101
6	Hydrogen Storage in Formic Acid: A Comparison of Process Options. Energy & Fuels, 2017, 31, 12603-12611.	2.5	94
7	Dynamic power supply by hydrogen bound to a liquid organic hydrogen carrier. Applied Energy, 2017, 194, 1-8.	5.1	92
8	Hydrogenation of the liquid organic hydrogen carrier compound dibenzyltoluene â€“ reaction pathway determination by ¹H NMR spectroscopy. Reaction Chemistry and Engineering, 2016, 1, 313-320.	1.9	87
9	Thermodynamic Evaluation of Potential Organic Hydrogen Carriers. Energy Technology, 2013, 1, 20-24.	1.8	74
10	Experimental assessment of the degree of hydrogen loading for the dibenzyl toluene based LOHC system. International Journal of Hydrogen Energy, 2016, 41, 22097-22103.	3.8	72
11	Energy Storage by CO₂ Methanization and Energy Carrying Compounds: A Thermodynamic Comparison. Chemie-Ingenieur-Technik, 2011, 83, 2002-2013.	0.4	68
12	Liquid Organic Hydrogen Carriers: Thermophysical and Thermochemical Studies of Carbazole Partly and Fully Hydrogenated Derivatives. Industrial & Engineering Chemistry Research, 2015, 54, 7953-7966.	1.8	66
13	Hydrogen Storage: Thermochemical Studies of N-Alkylcarbazoles and Their Derivatives as a Potential Liquid Organic Hydrogen Carriers. Journal of Physical Chemistry C, 2015, 119, 26381-26389.	1.5	62
14	Sabatier-based CO2-methanation by catalytic conversion. Environmental Earth Sciences, 2013, 70, 3771-3778.	1.3	58
15	Synthesis and Application of Carbonated Fatty Acid Esters from Carbon Dioxide Including a Life Cycle Analysis. ChemSusChem, 2014, 7, 1133-1139.	3.6	57
16	Melting Points of Potential Liquid Organic Hydrogen Carrier Systems Consisting of N-Alkylcarbazoles. Journal of Chemical & Engineering Data, 2016, 61, 1441-1448.	1.0	52
17	Hydrogenation of the Liquid Organic Hydrogen Carrier Compound Monobenzyl Toluene: Reaction Pathway and Kinetic Effects. Energy Technology, 2018, 6, 513-520.	1.8	52
18	Status and Development in Hydrogen Transport and Storage for Energy Applications. Energy Technology, 2013, 1, 501-511.	1.8	51

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19	Material development and assessment of an energy storage concept based on the CaO-looping process. Solar Energy, 2017, 150, 298-309.	2.9	51
20	Highly efficient, low-temperature hydrogen release from perhydro-benzyltoluene using reactive distillation. Energy and Environmental Science, 2020, 13, 3119-3128.	15.6	50
21	Amine Borane Based Hydrogen Carriers: An Evaluation. Energy & Fuels, 2012, 26, 3691-3696.	2.5	49
22	Dimethyl carbonate via transesterification of propylene carbonate with methanol over ion exchange resins. Applied Catalysis B: Environmental, 2012, 125, 486-491.	10.8	49
23	Measurement of Hydrogen Solubility in Potential Liquid Organic Hydrogen Carriers. Journal of Chemical & Engineering Data, 2016, 61, 643-649.	1.0	46
24	Thermodynamic Constraints for the Utilization of CO₂. Chemie-Ingenieur-Technik, 2014, 86, 497-503.	0.4	43
25	Evaluations of Concepts for the Integration of Fuel Cells in Liquid Organic Hydrogen Carrier Systems. Energy & Fuels, 2019, 33, 10324-10330.	2.5	43
26	Energetic evaluation of hydrogen storage in metal hydrides. International Journal of Energy Research, 2016, 40, 1820-1831.	2.2	37
27	Thermophysical Studies of Dibenzyltoluene and Its Partially and Fully Hydrogenated Derivatives. Journal of Chemical & Engineering Data, 2018, 63, 4580-4587.	1.0	36
28	Evaluation of Formic-Acid-Based Hydrogen Storage Technologies. Energy & Fuels, 2014, 28, 6540-6544.	2.5	35
29	A Group Contribution Method for the Thermal Properties of Ionic Liquids. Industrial & Engineering Chemistry Research, 2014, 53, 17522-17526.	1.8	31
30	Experimental determination of the hydrogenation/dehydrogenation - Equilibrium of the LOHC system H0/H18-dibenzyltoluene. International Journal of Hydrogen Energy, 2021, 46, 32583-32594.	3.8	29
31	Thermal conductivity of Ionic Liquids: An estimation approach. Chemical Engineering Science, 2014, 119, 109-113.	1.9	28
32	Integration of a LOHC storage into a heat-controlled CHP system. Energy, 2017, 118, 1123-1130.	4.5	26
33	Releasing Hydrogen at High Pressures from Liquid Carriers: Aspects for the H₂ Delivery to Fueling Stations. Energy & Fuels, 2018, 32, 10008-10015.	2.5	25
34	Temperature independent description of water adsorption on zeotypes showing a type V adsorption isotherm. Energy, 2017, 135, 227-236.	4.5	24
35	Resilience of Liquid Organic Hydrogen Carrier Based Energyâ€Storage Systems. Energy Technology, 2018, 6, 529-539.	1.8	22
36	Coupling of a Liquid Organic Hydrogen Carrier System with Industrial Heat. Chemical Engineering and Technology, 2016, 39, 1570-1574.	0.9	21

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37	Thermodynamic Evaluation and Carbon Footprint Analysis of the Application of Hydrogenâ€Based Energyâ€Storage Systems in Residential Buildings. Energy Technology, 2017, 5, 495-509.	1.8	21
38	A Priori Property Estimation of Physical and Reactive CO₂ Absorbents. Chemical Engineering and Technology, 2012, 35, 579-583.	0.9	20
39	Contribution of the Individual Ions to the Heat Capacity of Ionic Liquids. Industrial & Engineering Chemistry Research, 2014, 53, 10343-10346.	1.8	20
40	Pressurized hydrogen from charged liquid organic hydrogen carrier systems by electrochemical hydrogen compression. International Journal of Hydrogen Energy, 2021, 46, 15624-15634.	3.8	19
41	The 2â€Propanol Fuel Cell: A Review from the Perspective of a Hydrogen Energy Economy. Energy Technology, 2021, 9, 2100164.	1.8	19
42	Thermodynamic analysis of chemical heat pumps. Energy, 2015, 88, 489-496.	4.5	18
43	Storing surplus solar energy in low temperature thermal storage for refrigeration applications. Energy and Buildings, 2016, 122, 192-198.	3.1	18
44	Technologies for the Storage of Hydrogen Part 1: Hydrogen Storage in the Narrower Sense. ChemBioEng Reviews, 2019, 6, 72-80.	2.6	18
45	Strategies for Low-Temperature Liquid Organic Hydrogen Carrier Dehydrogenation. Energy & Fuels, 2021, 35, 10929-10936.	2.5	18
46	Development of a liquid chromatographic method for the separation of a liquid organic hydrogen carrier mixture. Separation and Purification Technology, 2016, 163, 140-144.	3.9	17
47	Thermochemical Properties and Dehydrogenation Thermodynamics of Indole Derivates. Industrial & Engineering Chemistry Research, 2020, 59, 20539-20550.	1.8	17
48	Efficiency of low-temperature adsorptive hydrogen storage systems. International Journal of Hydrogen Energy, 2014, 39, 15604-15613.	3.8	16
49	Reliability of liquid organic hydrogen carrierâ€based energy storage in a mobility application. Energy Science and Engineering, 2020, 8, 2044-2053.	1.9	16
50	Evaluation of the Efficiency of an Elevated Temperature Proton Exchange Membrane Water Electrolysis System. Journal of the Electrochemical Society, 2021, 168, 094504.	1.3	15
51	Energetische Betrachtung der Wasserstoffeinspeisung ins Erdgasnetz. Chemie-Ingenieur-Technik, 2012, 84, 1513-1519.	0.4	14
52	Experimental Study of MgCl₂â€‰â‹…â€‰6 H₂O as Thermochemical Energy Storage Material. Energy Technology, 2018, 6, 1935-1940.	1.8	14
53	Experimental Study of Solubility of Water in Liquid Organic Hydrogen Carriers. Journal of Chemical & Engineering Data, 2015, 60, 1997-2002.	1.0	13
54	Carbon Dioxide Solubility in Nonionic Deep Eutectic Solvents Containing Phenolic Alcohols. Frontiers in Chemistry, 2022, 10, 864663.	1.8	12

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55	Influence of different adsorbates on the efficiency of thermochemical energy storage. Energy Science and Engineering, 2017, 5, 21-29.	1.9	11
56	Development of an efficient Pt/SiO2 catalyst for the transfer hydrogenation from perhydro-dibenzyltoluene to acetone. Applied Catalysis A: General, 2022, 639, 118644.	2.2	11
57	Second-Order Group Contribution Method for the Determination of the Dipole Moment. Journal of Chemical & Engineering Data, 2012, 57, 1231-1236.	1.0	10
58	Thermodynamic analysis of reversible hydrogenation for heat storage in concentrated solar power plants. Solar Energy, 2016, 123, 40-50.	2.9	10
59	Technologies for the Storage of Hydrogen. Part 2: Irreversible Conversion and Comparison. ChemBioEng Reviews, 2019, 6, 81-89.	2.6	10
60	Reversible vs. Irreversible Conversion of Hydrogen: How to Store Energy Efficiently?. Energy Technology, 2013, 1, 42-47.	1.8	10
61	Shortcut Evaluation of Chemical Carbon Dioxide Utilization Processes. Chemical Engineering and Technology, 2014, 37, 1612-1615.	0.9	9
62	Energy Transport and Storage using Methanol as a Carrier. Green, 2014, 4, .	0.4	8
63	An Estimation Method for Thermal Conductivity in the Fluid Phase. Journal of Chemical & Engineering Data, 2014, 59, 946-953.	1.0	7
64	Solubility of Carbon Dioxide, Methane, and Nitrogen in Liquid Dibenzyl Toluene. Journal of Chemical & Engineering Data, 2018, 63, 3527-3533.	1.0	7
65	Estimation of Thermodynamic Properties of Polysaccharides. Chemical Engineering and Technology, 2011, 34, 867-876.	0.9	6
66	A novel thermochemical energy storage and transportation concept based on concentrated solar irradiation-aided CaO-looping. AIP Conference Proceedings, 2016, , .	0.3	6
67	Thermochemical properties of 6,7-benzindole and its perhydrogenated derivative: A model component for liquid organic hydrogen carriers. Fuel, 2022, 324, 124410.	3.4	6
68	Study of the Crystallization and Melting Behavior of a Latent Heat Storage by Computed Tomography. Chemie-Ingenieur-Technik, 2018, 90, 366-371.	0.4	5
69	Technical reliability of shipboard technologies for the application of alternative fuels. Energy, Sustainability and Society, 2021, 11, .	1.7	5
70	Combined Experimental and Predictive Uncertainty of Quantitative Structure Property Relationship Models. Chemical Engineering and Technology, 2016, 39, 365-370.	0.9	4
71	Energy Storage and Transportation Based on Solar Irradiationâ€Aided CaOâ€Looping. Energy Technology, 2016, 4, 123-135.	1.8	4
72	Methacrylic acid by carboxylation of propene with CO2 over POM catalysts â€" Reality or wishful thinking?. Catalysis Communications, 2014, 48, 19-23.	1.6	3

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73	Increasing the Equilibrium Yield of Oxidative Dehydrogenation with CO2by Secondary Reactions. Chemical Engineering and Technology, 2014, 37, 1261-1264.	0.9	3
74	Assessment of the reliability of <scp>vanadiumâ€redox flow batteries</scp>. Engineering Reports, 2020, 2, e12254.	0.9	3
75	Reversible vs. Irreversible Conversion of Hydrogen: How to Store Energy Efficiently?. Energy Technology, 2013, 1, 42-47.	1.8	2
76	Energetische Evaluierung von KÃltespeichern und AbwÃrmenutzung fÃ¼r KÃ¼hlâ€•und Gefrieranwendungen. Chemie-Ingenieur-Technik, 2015, 87, 957-965.	0.4	2
77	Entwicklung eines skalierbaren Brenners zumÂBetrieb mit reinem Wasserstoff. Chemie-Ingenieur-Technik, 2016, 88, 1508-1512.	0.4	2
78	Hydration of Saccharides: Estimation of Reaction Properties and Equilibrium Conversion. Chemical Engineering and Technology, 2012, 35, 735-742.	0.9	1
79	Ionische FlÃ¼ssigkeiten zur ErhÃ¶hung der Gleichgewichtsausbeute oxidativer Dehydrierungen - Ein Screening. Chemie-Ingenieur-Technik, 2012, 84, 1243-1244.	0.4	1
80	Verfahrenstechnische Aspekte der KÃ¼hlung von Photovoltaikmodulen. Chemie-Ingenieur-Technik, 2014, 86, 1532-1532.	0.4	1
81	Heat Integration and Storage Concepts for Increasing the Energy Efficiency in Domestic Households. Advanced Engineering Forum, 0, 19, 50-58.	0.3	1
82	Dezentrale Wasserstoffbereitstellung durch Reformierung oder durch LOHC - Ein energetisch-Ã¶kologischer Vergleich. Chemie-Ingenieur-Technik, 2016, 88, 1259-1260.	0.4	1
83	Probability density distribution in the prediction of reaction equilibria. Fluid Phase Equilibria, 2017, 437, 96-102.	1.4	1
84	Storage of low grade solar thermal energy by adsorption of organics. AIP Conference Proceedings, 2017, , .	0.3	1
85	Rheological Behavior of Mixtures of Ionic Liquids with Water. Chemical Engineering and Technology, 2018, 41, 819-826.	0.9	1
86	Water Removal from LOHC Systems. Hydrogen, 2020, 1, 1-10.	1.7	1
87	Effect of the Reliability on the Success of Hydrogen Technologies. Chemical Engineering and Technology, 0, , .	0.9	1
88	Acceptorless Dehydrogenation of Amines to Nitriles for Hydrogen Storage: Reality or Wishful Thinking?. Energy Technology, 2022, 10, .	1.8	1
89	ACHEMA 2012 - Energie. Chemie-Ingenieur-Technik, 2012, 84, 1462-1465.	0.4	0
90	Vorhersage von StoffgrÃ¶ÃŸen mithilfe nicht additiver Gruppenbeitragsmethoden. Chemie-Ingenieur-Technik, 2012, 84, 1369-1369.	0.4	0

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91	Powering Planet Earth. Von N. Armaroli, V. Balzani, N. Serpone.. Chemie-Ingenieur-Technik, 2013, 85, 1468-1468.	0.4	0
92	ACHEMA-Nachbericht: ACHEMA 2015 - Energie. Chemie-Ingenieur-Technik, 2015, 87, 1297-1303.	0.4	0
93	Thermo-Ã¶kologische Bewertung trÃgerbasierter Wasserstoffspeichertechnologien. Chemie-Ingenieur-Technik, 2016, 88, 1269-1270.	0.4	0
94	Dynamische Energiefreisetzung aus WasserstofftrÃgermaterialien. Chemie-Ingenieur-Technik, 2016, 88, 1270-1271.	0.4	0
95	Einfluss unterschiedlicher Stoffpaare auf den Wirkungsgrad thermochemischer Sorptionsenergiespeicher. Chemie-Ingenieur-Technik, 2016, 88, 1266-1266.	0.4	0
96	Prozessoptimierung durch Analyse der AbhÃngigkeiten der Parameter. Chemie-Ingenieur-Technik, 2016, 88, 1269-1269.	0.4	0
97	Analysis of the Potential for Improvement of Chemicalâ€Energy Transformation Processes. Chemical Engineering and Technology, 2017, 40, 1115-1123.	0.9	0
98	Measurement of Micro Kinetics of Hydrogenation in Liquid Phase Using Raman Spectroscopy. Chemical Engineering and Technology, 2017, 40, 56-63.	0.9	0
99	ACHEMA 2018 - Energie. Chemie-Ingenieur-Technik, 2018, 90, 1919-1928.	0.4	0
100	Neue Analysemethoden fÃ¼r latente thermische Energiespeicher. Chemie-Ingenieur-Technik, 2018, 90, 1139-1139.	0.4	0
101	Reliability of Thermal Energy Storage Technologies. Chemie-Ingenieur-Technik, 2021, 93, 580-584.	0.4	0
102	Correction to â€œThermophysical Studies of Dibenzyltoluene and Its Partially and Fully Hydrogenated Derivativesâ€• Journal of Chemical & Engineering Data, 2021, 66, 858-858.	1.0	0