Michael Renz

List of Publications by Year
in descending order

65 papers	5,816 citations	101384 36 h-index	118652 62 g-index
73 all docs	73 docs citations	73 times ranked	4460 citing authors

#	Article	IF	Citations
1	Sn-zeolite beta as a heterogeneous chemoselective catalyst for Baeyerâ€“Villiger oxidations. Nature, 2001, 412, 423-425.	13.7	917
2	100 Years of Baeyerâ€“Villiger Oxidations. European Journal of Organic Chemistry, 1999, 1999, 737-750.	1.2	486
3	Production of Highâ€Quality Diesel from Biomass Waste Products. Angewandte Chemie - International Edition, 2011, 50, 2375-2378.	7.2	353
4	Determination of the catalytically active oxidation Lewis acid sites in Sn-beta zeolites, and their optimisation by the combination of theoretical and experimental studies. Journal of Catalysis, 2005, 234, 111-118.	3.1	280
5	Ketonization of Carboxylic Acids by Decarboxylation: Mechanism and Scope. European Journal of Organic Chemistry, 2005, 2005, 979-988.	1.2	257
6	Selective and Shape-Selective Baeyerâ€“Villiger Oxidations of Aromatic Aldehydes and Cyclic Ketones with Sn-Beta Zeolites and H2O2. Chemistry - A European Journal, 2002, 8, 4708-4717.	1.7	252
7	Production of high quality diesel from cellulose and hemicellulose by the Sylvan process: catalysts and process variables. Energy and Environmental Science, 2012, 5, 6328.	15.6	225
8	Mechanism of the Meerweinâ^'Ponndorfâ^'Verleyâ^'Oppenauer (MPVO) Redox Equilibrium on Snâ^' and Zrâ^'Beta Zeolite Catalysts. Journal of Physical Chemistry B, 2006, 110, 21168-21174.	1.2	216
9	Lewis acidic Sn(IV) centersâ€"grafted onto MCM-41â€"as catalytic sites for the Baeyerâ€“Villiger oxidation with hydrogen peroxide. Journal of Catalysis, 2003, 219, 242-246.	3.1	160
10	Sn-MCM-41Ã¢â‚¬â€a heterogeneous selective catalyst for the BaeyerÃ¢â‚¬â€œVilliger oxidation with hydrogen peroxideElectronic supplementary information (ESI) available: XRD pattern of as-prepared Sn-MCM-41. See http://www.rsc.org/suppdata/cc/b1/b105927k/. Chemical Communications, 2001, , 2190-2191.	2.2	139
11	A General Method for the Preparation of Ethers Using Water-Resistant Solid Lewis Acids. Angewandte Chemie - International Edition, 2007, 46, 298-300.	7.2	126
12	Ketonic Decarboxylation Reaction Mechanism: A Combined Experimental and DFT Study. ChemSusChem, 2013, 6, 141-151.	3.6	121
13	Highâ€Quality Diesel from Hexoseâ€•and Pentoseâ€Derived Biomass Platform Molecules. ChemSusChem, 2011, 4, 1574-1577.	3.6	117
14	Sn-Beta zeolite as diastereoselective water-resistant heterogeneous Lewis-acid catalyst for carbonâ€“carbon bond formation in the intramolecular carbonylâ€“ene reaction. Chemical Communications, 2004, , 550-551.	2.2	115
15	The hydrothermal carbonization (HTC) plant as a decentral biorefinery for wet biomass. Catalysis Today, 2015, 257, 154-159.	2.2	115
16	Water Resistant, Catalytically Active Nb and Ta Isolated Lewis Acid Sites, Homogeneously Distributed by Direct Synthesis in a Beta Zeolite. Journal of Physical Chemistry C, 2009, 113, 11306-11315.	1.5	110
17	Predicting the Activity of Single Isolated Lewis Acid Sites in Solid Catalysts. Chemistry - A European Journal, 2006, 12, 7067-7077.	1.7	108
18	Preparation, characterization and crystal structures of manganese(II), iron(III) and copper(II) complexes of the bis[di-1,1-(2-pyridyl)ethyl]amine (BDPEA) ligand; evaluation of their DNA cleavage activities. Journal of Biological Inorganic Chemistry, 2001, 6, 14-22.	1.1	105

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19	Diastereoselective Catalytic Epoxidation of Chiral Allylic Alcohols by the TS-1 and Ti-Î² Zeolites:Â Evidence for a Hydrogen-Bonded, Peroxy-Type Loaded Complex as Oxidizing Species. Journal of Organic Chemistry, 1997, 62, 3631-3637.	1.7	102
20	A Multisite Molecular Mechanism for Baeyer-Villiger Oxidations on Solid Catalysts Using Environmentally Friendly H2O2 as Oxidant. Chemistry - A European Journal, 2005, 11, 6905-6915.	1.7	94
21	One-pot synthesis of phenols from aromatic aldehydes by Baeyerâ€"Villiger oxidation with H2O2 using water-tolerant Lewis acids in molecular sieves. Journal of Catalysis, 2004, 221, 67-76.	3.1	81
22	Reactivity in the confined spaces of zeolites: the interplay between spectroscopy and theory to develop structureâ€"activity relationships for catalysis. Physical Chemistry Chemical Physics, 2009, 11, 2876.	1.3	81
23	Fuel and chemicals from wet lignocellulosic biomass waste streams by hydrothermal carbonization. Green Chemistry, 2016, 18, 1051-1060.	4.6	68
24	Coupling Fatty Acids by Ketonic Decarboxylation Using Solid Catalysts for the Direct Production of Diesel, Lubricants, and Chemicals. ChemSusChem, 2008, 1, 739-741.	3.6	67
25	Environmental Performance of Hydrothermal Carbonization of Four Wet Biomass Waste Streams at Industry-Relevant Scales. ACS Sustainable Chemistry and Engineering, 2016, 4, 6783-6791.	3.2	65
26	Peculiarities of Sn-Beta and potential industrial applications. Catalysis Today, 2007, 121, 39-44.	2.2	58
27	A New Environmentally Benign Catalytic Process for the Asymmetric Synthesis of Lactones: Synthesis of the FlavouringÎ´-Decalactone Molecule. Advanced Synthesis and Catalysis, 2004, 346, 257-262.	2.1	56
28	Making hydrochar suitable for agricultural soil: A thermal treatment to remove organic phytotoxic compounds. Journal of Environmental Chemical Engineering, 2018, 6, 7029-7034.	3.3	51
29	Chemo- and Diastereoselective Epoxidation of Chiral Allylic Alcohols with the Urea Hydrogen Peroxide Adduct, Catalyzed by Titanium Silicate 1. Angewandte Chemie International Edition in English, 1996, 35, 880-882.	4.4	47
30	Diastereoselective epoxidation of allylic alcohols with hydrogen peroxide catalyzed by titanium-containing zeolites or methyltrioxorhenium versus stoichiometric oxidation with dimethyldioxirane: Clues on the active species in the zeolite lattice. Journal of Molecular Catalysis A, 1997, 117, 357-366.	4.8	47
31	Transformation of Biomass Products into Fine Chemicals Catalyzed by Solid Lewis- and BrÃ¸nsted-acids. Topics in Catalysis, 2009, 52, 1182-1189.	1.3	44
32	Preparation and Crystal Structures of Manganese, Iron, and Cobalt Complexes of the Bis[di(2-pyridyl)methyl]amine (bdpma) Ligand and Its Oxidative Degradation Product 1,3,3-Tris(2-pyridyl)-3H-imidazo[1,5-a]pyridin-4-ium (tpip); Origin of the bdpma Fragility. Chemistry - A European Journal, 1999, 5, 1766-1774.	1.7	43
33	A new, alternative, halogen-free synthesis for the fragrance compound Melonal using zeolites and mesoporous materials as oxidation catalysts. Journal of Catalysis, 2005, 234, 96-100.	3.1	43
34	Biomass to chemicals: Rearrangement of Î²-pinene epoxide into myrtanal with well-defined single-site substituted molecular sieves as reusable solid Lewis-acid catalysts. Applied Catalysis A: General, 2010, 380, 165-171.	2.2	43
35	Effect of Gas Atmosphere on Catalytic Behaviour of Zirconia, Ceria and Ceriaâ€"Zirconia Catalysts in Valeric Acid Ketonization. Topics in Catalysis, 2013, 56, 846-855.	1.3	40
36	Titanium-Catalyzed Diastereoselective Epoxidations of Ene Diols and Allylic Alcohols with Î²-Hydroperoxy Alcohols as Novel Oxygen Donorsâ€. Journal of Organic Chemistry, 1997, 62, 3183-3189.	1.7	37

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37	Cerium oxide as a catalyst for the ketonization of aldehydes: mechanistic insights and a convenient way to alkanes without the consumption of external hydrogen. Green Chemistry, 2017, 19, 1555-1569.	4.6	37
38	Tridentate ?-Hydroperoxy Alcohols as Novel Oxygen Donors for the Titanium-Catalyzed Epoxidation of ?,?-Unsaturated ?,?-Diols: A Direct Diastereoselective Synthesis of Epoxy Diols. Angewandte Chemie International Edition in English, 1994, 33, 1107-1108.	4.4	32
39	Evaluation of hydrothermal carbonization in urban mining for the recovery of phosphorus from the organic fraction of municipal solid waste. Resources, Conservation and Recycling, 2019, 147, 111-118.	5.3	31
40	Conversion of levulinic acid derived valeric acid into a liquid transportation fuel of the kerosene type. Journal of Molecular Catalysis A, 2014, 388-389, 116-122.	4.8	27
41	Oxidative degradation of chlorinated phenols catalyzed by a non-heme iron(III) complex. Journal of Molecular Catalysis A, 1999, 137, 205-212.	4.8	26
42	Ketonic Decarboxylation Catalysed by Weak Bases and Its Application to an Optically Pure Substrate. European Journal of Organic Chemistry, 2004, 2004, 2036-2039.	1.2	26
43	Carbonâ€“Carbon Bond Formation and Hydrogen Production in the Ketonization of Aldehydes. ChemSusChem, 2016, 9, 2430-2442.	3.6	25
44	Synthesis of Bis[di(2-pyridyl)methyl]amine (BDPMA) by a Novel One-Pot Multi-Step Reductive Amination with Molecular Sieves and Zn/iPrOH. European Journal of Organic Chemistry, 1998, 1998, 1271-1273.	1.2	23
45	Evaluating climate change mitigation potential of hydrochars: compounding insights from three different indicators. GCB Bioenergy, 2018, 10, 230-245.	2.5	18
46	Direct conversion of carboxylic acids (C n) to alkenes (C 2nâˆ'1) over titanium oxide in absence of noble metals. Journal of Molecular Catalysis A, 2016, 415, 1-8.	4.8	17
47	Synthesis and characterization of Sn-Beta as a selective oxidation catalyst. Studies in Surface Science and Catalysis, 2004, 154, 2626-2631.	1.5	15
48	Experimental Evidence for a Dual Site Mechanism in Sn-Beta and Sn-MCM-41 Catalysts for the Baeyer-Villiger Oxidation. Collection of Czechoslovak Chemical Communications, 2005, 70, 1727-1736.	1.0	15
49	The Mechanism of the Double Bond Cleavage in the Titanium Zeoliteâ€catalyzed Oxidation of Î±â€Methylstyrene by Hydrogen Peroxide: the Î²â€Hydroperoxy Alcohol as Intermediate. Chemische Berichte, 1996, 129, 1453-1455.	0.2	14
50	Influence of the anion of FeIII salts on the product distribution in the oxidative degradation of a tetrapyridyl ligand. New Journal of Chemistry, 1999, 23, 773-776.	1.4	13
51	Effect of the C_{Î±} substitution on the ketonic decarboxylation of carboxylic acids over m-ZrO₂: the role of entropy. Catalysis Science and Technology, 2016, 6, 5561-5566.	2.1	13
52	Ketone Formation from Carboxylic Acids by Ketonic Decarboxylation: The Exceptional Case of the Tertiary Carboxylic Acids. Chemistry - A European Journal, 2017, 23, 12900-12908.	1.7	12
53	High Quality Biowaxes from Fatty Acids and Fatty Esters: Catalyst and Reaction Mechanism for Accompanying Reactions. Industrial & Engineering Chemistry Research, 2017, 56, 12870-12877.	1.8	11
54	Isolation and characterization of an oxidative degradation product of a polypyridine ligand. Chemical Communications, 1998, , 1635-1636.	2.2	10

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55	Methyl ketones from carboxylic acids as valuable target molecules in the biorefinery. Catalysis Today, 2021, 367, 258-267.	2.2	10
56	Water-resistant Lewis-acid sites: carbonyl-ene reactions catalyzed by tin-containing, hydrophobic molecular sieves. Arkivoc, 2007, 2007, 40-48.	0.3	9
57	Chemoâ€•und diastereoselektive Epoxidierung von chiralen Allylalkoholen mit dem Wasserstoffperoxidâ€•Harnstoffâ€•Addukt (UHP), katalysiert durch das Titansilicalit TSâ€•1. Angewandte Chemie, 1996, 108, 944-947.	1.6	8
58	Synthesis, characterization and crystal structures of copper(II) complexes containing multidentate polypyridine ligandsâ€Šâ€. Journal of the Chemical Society Dalton Transactions, 1999, , 3989-3994.	1.1	8
59	Ein dreizÃhniger ÃŸâ€•Hydroperoxyalkohol als neuartiger Sauerstoffdonor fÃ¼r die Titankatalysierte Epoxidierung von Î³,Î´â€•ungesÃttigten Î±,ÃŸâ€•Diolen: eine direkte diastereoselektive Synthese von Epoxydiolen. Angewandte Chemie, 1994, 106, 1159-1161.	1.6	7
60	From MOFs to zeolites: zirconium sites for epoxide rearrangement. New Journal of Chemistry, 2013, 37, 3496.	1.4	7
61	Chapter 38. Catalysis by Lewis Acids: Basic Principles for Highly Stereoselective Heterogeneously Catalyzed Cyclization Reactions. , 2007, , 639-650.		4
62	Second generation of a polypyridine ligand to mimic enzymes containing non-heme iron centers. Comptes Rendus De L'Academie Des Sciences - Series IIc: Chemistry, 2000, 3, 735-741.	0.1	0
63	Ketonization of Carboxylic Acids by Decarboxylation: Mechanism and Scope. ChemInform, 2005, 36, no.	0.1	0
64	Transformation of Organic Household Leftovers into a Peat Substitute. Journal of Visualized Experiments, 2019, , .	0.2	0
65	Chemo- and Diastereoselective Epoxidations Catalyzed by Titanium-Containing Zeolites: Evidence for a Hydrogen-Bonded, Peroxy-Type Loaded Complex as Oxidizing Species. , 1998, , 47-50.		0