Matthias Vandichel

List of Publications by Year
in descending order

61 papers	4,208 citations	159585 30 h-index	118850 62 g-index
67 all docs	67 docs citations	67 times ranked	5153 citing authors

#	ARTICLE	IF	CITATIONS
1	Synthesis Modulation as a Tool To Increase the Catalytic Activity of Metalâ€“Organic Frameworks: The Unique Case of UiO-66(Zr). Journal of the American Chemical Society, 2013, 135, 11465-11468.	13.7	871
2	Electronic Effects of Linker Substitution on Lewis Acid Catalysis with Metalâ€“Organic Frameworks. Angewandte Chemie - International Edition, 2012, 51, 4887-4890.	13.8	384
3	Active site engineering in UiO-66 type metalâ€“organic frameworks by intentional creation of defects: a theoretical rationalization. CrystEngComm, 2015, 17, 395-406.	2.6	190
4	First principle chemical kinetics in zeolites: the methanol-to-olefin process as a case study. Chemical Society Reviews, 2014, 43, 7326-7357.	38.1	188
5	Origin of highly active metalâ€“organic framework catalysts: defects? Defects!. Dalton Transactions, 2016, 45, 4090-4099.	3.3	183
6	First Principle Kinetic Studies of Zeolite-Catalyzed Methylation Reactions. Journal of the American Chemical Society, 2011, 133, 888-899.	13.7	153
7	Metal-dioxidoterephthalate MOFs of the MOF-74 type: Microporous basic catalysts with well-defined active sites. Journal of Catalysis, 2014, 317, 1-10.	6.2	138
8	Full Theoretical Cycle for both Ethene and Propene Formation during Methanolâ€toâ€Olefin Conversion in Hâ€ZSMâ€5. ChemCatChem, 2011, 3, 208-212.	3.7	116
9	The remarkable catalytic activity of the saturated metal organic framework V-MIL-47 in the cyclohexene oxidation. Chemical Communications, 2010, 46, 5085.	4.1	109
10	The coordinatively saturated vanadium MIL-47 as a low leaching heterogeneous catalyst in the oxidation of cyclohexene. Journal of Catalysis, 2012, 285, 196-207.	6.2	100
11	Biocompatible Zr-based nanoscale MOFs coated with modified poly(Îµ-caprolactone) as anticancer drug carriers. International Journal of Pharmaceutics, 2016, 509, 208-218.	5.2	96
12	Mechanistic studies of aldol condensations in UiO-66 and UiO-66-NH 2 metal organic frameworks. Journal of Catalysis, 2015, 331, 1-12.	6.2	88
13	Assembly of cyclic hydrocarbons from ethene and propene in acid zeolite catalysis to produce active catalytic sites for MTO conversion. Journal of Catalysis, 2010, 271, 67-78.	6.2	86
14	New Functionalized Metalâ€“Organic Frameworks MIL-47-X (X = â^’Cl, â^’Br, â^’CH₃,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 Adsorption Properties. Journal of Physical Chemistry C, 2013, 117, 22784-22796.	3.1	79
15	Efficient Approach for the Computational Study of Alcohol and Nitrile Adsorption in H-ZSM-5. Journal of Physical Chemistry C, 2012, 116, 5499-5508.	3.1	77
16	Ab Initio Parametrized Force Field for the Flexible Metalâ€“Organic Framework MIL-53(Al). Journal of Chemical Theory and Computation, 2012, 8, 3217-3231.	5.3	69
17	New V^{IV}-Based Metalâ€“Organic Framework Having Framework Flexibility and High CO₂ Adsorption Capacity. Inorganic Chemistry, 2013, 52, 113-120.	4.0	68
18	Breaking the trade-off between selectivity and adsorption capacity for gas separation. CheM, 2021, 7, 3085-3098.	11.7	68

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19	On the Thermodynamics of Framework Breathing: A Free Energy Model for Gas Adsorption in MIL-53. Journal of Physical Chemistry C, 2013, 117, 11540-11554.	3.1	61
20	Au@UiO-66: a base free oxidation catalyst. RSC Advances, 2015, 5, 22334-22342.	3.6	59
21	Base catalytic activity of alkaline earth MOFs: a (micro)spectroscopic study of active site formation by the controlled transformation of structural anions. Chemical Science, 2014, 5, 4517-4524.	7.4	58
22	Water coordination and dehydration processes in defective UiO-66 type metal organic frameworks. CrystEngComm, 2016, 18, 7056-7069.	2.6	58
23	Vanadium metalâ€“organic frameworks: structures and applications. New Journal of Chemistry, 2014, 38, 1853-1867.	2.8	57
24	Insight in the activity and diastereoselectivity of various Lewis acid catalysts for the citronellal cyclization. Journal of Catalysis, 2013, 305, 118-129.	6.2	51
25	Reversible Switching between Nonporous and Porous Phases of a New SIFSIX Coordination Network Induced by a Flexible Linker Ligand. Journal of the American Chemical Society, 2020, 142, 6896-6901.	13.7	51
26	The Effect of Confined Space on the Growth of Naphthalenic Species in a Chabaziteâ€Type Catalyst: A Molecular Modeling Study. ChemCatChem, 2009, 1, 373-378.	3.7	45
27	Water-soluble NHC-Cu catalysts: applications in click chemistry, bioconjugation and mechanistic analysis. Organic and Biomolecular Chemistry, 2014, 12, 9350-9356.	2.8	45
28	A Robust Molecular Catalyst Generated Inâ€…Situ for Photoâ€•and Electrochemical Water Oxidation. ChemSusChem, 2017, 10, 862-875.	6.8	43
29	Mechanistic insight into the cyclohexene epoxidation with VO(acac)2 and tert-butyl hydroperoxide. Journal of Catalysis, 2012, 294, 1-18.	6.2	40
30	Catalysis at the Rim: A Mechanism for Low Temperature CO Oxidation over Pt₃Sn. ACS Catalysis, 2017, 7, 7431-7441.	11.2	32
31	The First Sulfateâ€Pillared Hybrid Ultramicroporous Material, SOFOURâ€1â€Zn, and Its Acetylene Capture Properties. Angewandte Chemie - International Edition, 2022, 61, .	13.8	32
32	The importance of identifying the true catalyst when using Randles-Sevcik equation to calculate turnover frequency. International Journal of Hydrogen Energy, 2021, 46, 37774-37781.	7.1	28
33	Synthesis, characterization and sorption properties of NH2-MIL-47. Physical Chemistry Chemical Physics, 2012, 14, 15562.	2.8	27
34	Inserting CO2 into Terminal Alkynes via Bis-(NHC)-Metal Complexes. Catalysis Letters, 2017, 147, 463-471.	2.6	26
35	Favourable band edge alignment and increased visible light absorption in Î²-MoO3/Î±-MoO3 oxide heterojunction for enhanced photoelectrochemical performance. International Journal of Hydrogen Energy, 2018, 43, 15773-15783.	7.1	26
36	Oxygen-Evolution Reaction by a Palladium Foil in the Presence of Iron. Inorganic Chemistry, 2021, 60, 5682-5693.	4.0	26

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37	Hostâ€“guest and guestâ€“guest interactions between xylene isomers confined in the MIL-47(V) pore system. Theoretical Chemistry Accounts, 2012, 131, 1.	1.4	23
38	Viewpoint: Atomic-Scale Design Protocols toward Energy, Electronic, Catalysis, and Sensing Applications. Inorganic Chemistry, 2019, 58, 14939-14980.	4.0	23
39	Efficient Capture of Trace Acetylene by an Ultramicroporous Metalâ€“Organic Framework with Purine Binding Sites. Chemistry of Materials, 2021, 33, 5800-5808.	6.7	22
40	Oxygen Evolution on Metalâ€oxyâ€hydroxides: Beneficial Role of Mixing Fe, Co, Ni Explained via Bifunctional Edge/acceptor Route. ChemCatChem, 2020, 12, 1436-1442.	3.7	21
41	Surprisingly Low Reactivity of Layered Manganese Oxide toward Water Oxidation in Fe/Ni-Free Electrolyte under Alkaline Conditions. Inorganic Chemistry, 2022, 61, 2292-2306.	4.0	21
42	Catalytic Performance of Vanadium MILâ€47 and Linkerâ€Substituted Variants in the Oxidation of Cyclohexene: A Combined Theoretical and Experimental Approach. ChemPlusChem, 2014, 79, 1183-1197.	2.8	20
43	Oxygen Evolution and Reduction on Fe-doped NiOOH: Influence of Solvent, Dopant Position and Reaction Mechanism. Topics in Catalysis, 2020, 63, 833-845.	2.8	19
44	Understanding Solidâ€“Gas Reaction Mechanisms by Operando Soft X-Ray Absorption Spectroscopy at Ambient Pressure. Journal of Physical Chemistry C, 2020, 124, 14202-14212.	3.1	19
45	Water Oxidation at Neutral pH using a Highly Active Copperâ€Based Electrocatalyst. ChemSusChem, 2020, 13, 5088-5099.	6.8	17
46	High Working Capacity Acetylene Storage at Ambient Temperature Enabled by a Switching Adsorbent Layered Material. ACS Applied Materials & Interfaces, 2021, 13, 23877-23883.	8.0	17
47	Understanding the Dynamics of Molecular Water Oxidation Catalysts with Liquid-Phase Transmission Electron Microscopy: The Case of Vitamin B₁₂. ACS Sustainable Chemistry and Engineering, 2021, 9, 9494-9505.	6.7	17
48	Synthesis of Colloidal WSe₂ Nanocrystals: Polymorphism Control by Precursor-Ligand Chemistry. Crystal Growth and Design, 2021, 21, 1451-1460.	3.0	15
49	Enhanced Photocatalytic Hydrogen Evolution from Water Splitting on Ta₂O₅/SrZrO₃ Heterostructures Decorated with Cu_{<i>x</i>}O/RuO₂ Cocatalysts. ACS Applied Materials & Interfaces, 2022, 14, 31767-31781.	8.0	15
50	Al2O3 nanofibers prepared from aluminum Di(sec-butoxide)acetoacetic ester chelate exhibits high surface area and acidity. Journal of Catalysis, 2022, 405, 520-533.	6.2	12
51	Modeling Polyzwitterion-Based Drug Delivery Platforms: A Perspective of the Current State-of-the-Art and Beyond. ACS Engineering Au, 2022, 2, 274-294.	5.1	12
52	A dimer path for CO dissociation on PtSn. Catalysis Science and Technology, 2019, 9, 695-701.	4.1	9
53	Engineering of a highly stable metal-organic Co-film for efficient electrocatalytic water oxidation in acidic media. Materials Today Energy, 2020, 17, 100437.	4.7	9
54	Initial Fe₃O₄(100) Formation on Fe(100). Journal of Physical Chemistry C, 2019, 123, 16317-16325.	3.1	8

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55	A square lattice topology coordination network that exhibits highly selective C 2 H 2 /CO 2 separation performance. SmartMat, 2020, 1, e1008.	10.7	7
56	Elucidation of Structureâ€"Activity Relations in Proton Electroreduction at Pd Surfaces: Theoretical and Experimental Study. Small, 2022, 18, .	10.0	7
57	Microwaveâ€heated Î³â€Alumina Applied to the Reduction of Aldehydes to Alcohols. ChemCatChem, 2020, 12, 6344-6355.	3.7	6
58	CO Oxidation at SnO2/Pt3Sn(111) Interfaces. Topics in Catalysis, 2018, 61, 1458-1464.	2.8	4
59	Chlorine in NiO promotes electroreduction of CO2 to formate. Applied Materials Today, 2022, 28, 101528.	4.3	4
60	The First Sulfateâ€Pillared Hybrid Ultramicroporous Material, SOFOURâ€1â€Zn, and Its Acetylene Capture Properties. Angewandte Chemie, 2022, 134, e202116145.	2.0	3
61	Hostâ€"guest and guestâ€"guest interactions between xylene isomers confined in the MIL-47(V) pore system. Highlights in Theoretical Chemistry, 2014, , 35-47.	0.0	0