# Michael Hirscher

List of Publications by Year
in descending order



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|---|---|---|---|
| 74 papers | 7,708 citations | 81900 39 h-index | 66911 78 g-index |
| 80 all docs | 80 docs citations | 80 times ranked | 8296 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Tailoring morphological and chemical properties of covalent triazine frameworks for dual CO2 and H2 adsorption. International Journal of Hydrogen Energy, 2022, 47, 8434-8445. | 7.1 | 12 |
| 2 | Isotope-selective pore opening in a flexible metal-organic framework. Science Advances, 2022, 8, eabn7035. | 10.3 | 28 |
| 3 | Hydrogen storage in complex hydrides: past activities and new trends. Progress in Energy, 2022, 4, 032009. | 10.9 | 23 |
| 4 | Hydrogen Isotope Separation Using a Metalâ€“Organic Cage Built from Macrocycles. Angewandte Chemie - International Edition, 2022, 61, . | 13.8 | 14 |
| 5 | Chemical Affinity of Ag-Exchanged Zeolites for Efficient Hydrogen Isotope Separation. Inorganic Chemistry, 2022, 61, 9413-9420. | 4.0 | 9 |
| 6 | Magnesium- and intermetallic alloys-based hydrides for energy storage: modelling, synthesis and properties. Progress in Energy, 2022, 4, 032007. | 10.9 | 29 |
| 7 | Research and development of hydrogen carrier based solutions for hydrogen compression and storage. Progress in Energy, 2022, 4, 042005. | 10.9 | 14 |
| 8 | Hydrogen isotopes separation in Ag(I) exchanged ZSM-5 zeolite through strong chemical affinity quantum sieving. Microporous and Mesoporous Materials, 2021, 313, 110820. | 4.4 | 13 |
| 9 | Hydrogen and deuterium separation on metal organic frameworks based on Cu- and Zn-BTC: an experimental and theoretical study. Adsorption, 2021, 27, 925-935. | 3.0 | 8 |
| 10 | Improving Reproducibility in Hydrogen Storage Material Research. ChemPhysChem, 2021, 22, 2141-2157. | 2.1 | 16 |
| 11 | Flexibility of a Metalâ€“Organic Framework Enhances Gas Separation and Enables Quantum Sieving. Chemistry of Materials, 2021, 33, 8886-8894. | 6.7 | 23 |
| 12 | Highly effective hydrogen isotope separation through dihydrogen bond on Cu(I)-exchanged zeolites well above liquid nitrogen temperature. Chemical Engineering Journal, 2020, 391, 123485. | 12.7 | 29 |
| 13 | Materials for hydrogen-based energy storage â€“ past, recent progress and future outlook. Journal of Alloys and Compounds, 2020, 827, 153548. | 5.5 | 518 |
| 14 | Specific Isotope-Responsive Breathing Transition in Flexible Metalâ€“Organic Frameworks. Journal of the American Chemical Society, 2020, 142, 13278-13282. | 13.7 | 47 |
| 15 | How to functionalise metalâ€“organic frameworks to enable guest nanocluster embedment. Journal of Materials Chemistry A, 2020, 8, 4889-4897. | 10.3 | 6 |
| 16 | Barely porous organic cages for hydrogen isotope separation. Science, 2019, 366, 613-620. | 12.6 | 210 |
| 17 | Hydrogen Energy. ChemPhysChem, 2019, 20, 1157-1157. | 2.1 | 22 |
| 18 | An International Laboratory Comparison Study of Volumetric and Gravimetric Hydrogen Adsorption Measurements. ChemPhysChem, 2019, 20, 1997-2009. | 2.1 | 26 |

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|---|---|---|---|
| 19 | Generation of Switchable Singular Beams with Dynamic Metasurfaces. ACS Nano, 2019, 13, 7100-7106. | 14.6 | 58 |
| 20 | Systematic Experimental Study on Quantum Sieving of Hydrogen Isotopes in Metalâ€Amideâ€Imidazolate Frameworks with narrow 1â€D Channels. ChemPhysChem, 2019, 20, 1311-1315. | 2.1 | 17 |
| 21 | Exploiting Dynamic Opening of Apertures in a Partially Fluorinated MOF for Enhancing H<sub>2</sub> Desorption Temperature and Isotope Separation. Journal of the American Chemical Society, 2019, 141, 19850-19858. | 13.7 | 60 |
| 22 | Thermodynamics, kinetics and selectivity of H 2 and D 2 on zeolite 5A below 77K. Microporous and Mesoporous Materials, 2018, 264, 22-27. | 4.4 | 32 |
| 23 | High Volumetric Hydrogen Storage Capacity using Interpenetrated Metalâ€“Organic Frameworks. Energy Technology, 2018, 6, 510-512. | 3.8 | 31 |
| 24 | Volumetric Hydrogen Storage Capacity in Metalâ€“Organic Frameworks. Energy Technology, 2018, 6, 578-582. | 3.8 | 66 |
| 25 | Dynamic Janus Metasurfaces in the Visible Spectral Region. Nano Letters, 2018, 18, 4584-4589. | 9.1 | 104 |
| 26 | Exploiting Diffusion Barrier and Chemical Affinity of Metalâ€“Organic Frameworks for Efficient Hydrogen Isotope Separation. Journal of the American Chemical Society, 2017, 139, 15135-15141. | 13.7 | 125 |
| 27 | Selective Hydrogen Isotope Separation via Breathing Transition in MIL-53(Al). Journal of the American Chemical Society, 2017, 139, 17743-17746. | 13.7 | 111 |
| 28 | Efficient synthesis for large-scale production and characterization for hydrogen storage of ligand exchanged MOF-74/174/184-M (M = Mg2+, Ni2+). International Journal of Hydrogen Energy, 2017, 42, 1027-1035. | 7.1 | 50 |
| 29 | Quantum Sieving for Separation of Hydrogen Isotopes Using MOFs. European Journal of Inorganic Chemistry, 2016, 2016, 4278-4289. | 2.0 | 97 |
| 30 | The usable capacity of porous materials for hydrogen storage. Applied Physics A: Materials Science and Processing, 2016, 122, 1. | 2.3 | 44 |
| 31 | Nanostructured materials for solid-state hydrogen storage: A review of the achievement of COST Action MP1103. International Journal of Hydrogen Energy, 2016, 41, 14404-14428. | 7.1 | 94 |
| 32 | Direct patterning of vortex generators on a fiber tip using a focused ion beam. Optics Letters, 2016, 41, 2133. | 3.3 | 28 |
| 33 | Singleâ€Step 3D Nanofabrication of Kinoform Optics via Grayâ€Scale Focused Ion Beam Lithography for Efficient Xâ€Ray Focusing. Advanced Optical Materials, 2015, 3, 792-800. | 7.3 | 17 |
| 34 | Nitrogen-Rich Covalent Triazine Frameworks as High-Performance Platforms for Selective Carbon Capture and Storage. Chemistry of Materials, 2015, 27, 8001-8010. | 6.7 | 228 |
| 35 | Hydrogen isotope separation in metal-organic frameworks: Kinetic or chemical affinity quantum-sieving?. Microporous and Mesoporous Materials, 2015, 216, 133-137. | 4.4 | 39 |
| 36 | â€œJob-Sharingâ€•Storage of Hydrogen in Ru/Li<sub>2</sub>O Nanocomposites. Nano Letters, 2015, 15, 4170-4175. | 9.1 | 36 |

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| 37 | Highly Effective Hydrogen Isotope Separation in Nanoporous Metalâ€“Organic Frameworks with Open Metal Sites: Direct Measurement and Theoretical Analysis. ACS Nano, 2014, 8, 761-770. | 14.6 | 135 |
| 38 | Experimental assessment of physical upper limit for hydrogen storage capacity at 20 K in densified MIL-101 monoliths. RSC Advances, 2014, 4, 2648-2651. | 3.6 | 38 |
| 39 | Interplay of Linker Functionalization and Hydrogen Adsorption in the Metalâ€“Organic Framework MIL-101. Journal of Physical Chemistry C, 2014, 118, 19572-19579. | 3.1 | 22 |
| 40 | A fluorene based covalent triazine framework with high CO<sub>2</sub>and H<sub>2</sub>capture and storage capacities. Journal of Materials Chemistry A, 2014, 2, 5928-5936. | 10.3 | 159 |
| 41 | H2/D2 adsorption and desorption studies on carbon molecular sieves with different pore structures. Carbon, 2013, 57, 239-247. | 10.3 | 34 |
| 42 | A Cryogenically Flexible Covalent Organic Framework for Efficient Hydrogen Isotope Separation by Quantum Sieving. Angewandte Chemie - International Edition, 2013, 52, 13219-13222. | 13.8 | 183 |
| 43 | Quantum cryo-sieving for hydrogen isotope separation in microporous frameworks: an experimental study on the correlation between effective quantum sieving and pore size. Journal of Materials Chemistry A, 2013, 1, 3244. | 10.3 | 68 |
| 44 | Hydrogen adsorption properties of platinum decorated hierarchically structured templated carbons. Microporous and Mesoporous Materials, 2013, 177, 66-74. | 4.4 | 27 |
| 45 | MFUâ€4 â€“ A Metalâ€Organic Framework for Highly Effective H<sub>2</sub>/D<sub>2</sub> Separation. Advanced Materials, 2013, 25, 635-639. | 21.0 | 150 |
| 46 | Metal@COFs: Covalent Organic Frameworks as Templates for Pd Nanoparticles and Hydrogen Storage Properties of Pd@COFâ€102 Hybrid Material. Chemistry - A European Journal, 2012, 18, 10848-10856. | 3.3 | 138 |
| 47 | Nanosponges for hydrogen storage. Journal of Materials Chemistry, 2012, 22, 10134. | 6.7 | 69 |
| 48 | BET specific surface area and pore structure of MOFs determined by hydrogen adsorption at 20 K. Physical Chemistry Chemical Physics, 2011, 13, 3220-3222. | 2.8 | 39 |
| 49 | Hydrogen Storage by Cryoadsorption in Ultrahighâ€Porosity Metalâ€“Organic Frameworks. Angewandte Chemie - International Edition, 2011, 50, 581-582. | 13.8 | 104 |
| 50 | Elucidating Gating Effects for Hydrogen Sorption in MFUâ€4â€Type Triazolateâ€Based Metalâ€“Organic Frameworks Featuring Different Pore Sizes. Chemistry - A European Journal, 2011, 17, 1837-1848. | 3.3 | 222 |
| 51 | Route to a Family of Robust, Nonâ€interpenetrated Metalâ€“Organic Frameworks with ptoâ€like Topology. Chemistry - A European Journal, 2011, 17, 13007-13016. | 3.3 | 127 |
| 52 | Hydrogen physisorption in high SSA microporous materials â€“ A comparison between AX-21_33 and MOF-177 at cryogenic conditions. International Journal of Hydrogen Energy, 2011, 36, 586-591. | 7.1 | 39 |
| 53 | Characterization of hydrogen/deuterium adsorption sites in nanoporous Cuâ€“BTC by low-temperature thermal-desorption mass spectroscopy. Microporous and Mesoporous Materials, 2011, 142, 725-729. | 4.4 | 24 |
| 54 | A High Heat of Adsorption for Hydrogen in Magnesium Formate. ChemSusChem, 2010, 3, 758-761. | 6.8 | 27 |

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| 55 | Remarks about spillover and hydrogen adsorption â€“ Comments on the contributions of A.V. Talyzin and R.T. Yang. Microporous and Mesoporous Materials, 2010, 135, 209-210. | 4.4 | 24 |
| 56 | Metal-organic frameworks for hydrogen storage. Microporous and Mesoporous Materials, 2010, 129, 335-339. | 4.4 | 143 |
| 57 | Planar Metamaterial Analogue of Electromagnetically Induced Transparency for Plasmonic Sensing. Nano Letters, 2010, 10, 1103-1107. | 9.1 | 1,135 |
| 58 | Nanoscale imaging using deep ultraviolet digital holographic microscopy. Optics Express, 2010, 18, 14159. | 3.4 | 84 |
| 59 | Influence of [Mo<sub>6</sub>Br<sub>8</sub>F<sub>6</sub>]<sup>2âˆ’</sup>Cluster Unit Inclusion within the Mesoporous Solid MIL-101 on Hydrogen Storage Performance. Langmuir, 2010, 26, 11283-11290. | 3.5 | 59 |
| 60 | Hydrogen spillover measurements of unbridged and bridged metalâ€“organic frameworksâ€”revisited. Physical Chemistry Chemical Physics, 2010, 12, 10457. | 2.8 | 57 |
| 61 | Confinement of MgH<sub>2</sub>Nanoclusters within Nanoporous Aerogel Scaffold Materials. ACS Nano, 2009, 3, 3521-3528. | 14.6 | 223 |
| 62 | High surface area polyHIPEs with hierarchical pore system. Soft Matter, 2009, 5, 1055. | 2.7 | 84 |
| 63 | Heat of Adsorption for Hydrogen in Microporous Highâ€Surfaceâ€Area Materials. ChemPhysChem, 2008, 9, 2181-2184. | 2.1 | 155 |
| 64 | Desorption Studies of Hydrogen in Metalâ€“Organic Frameworks. Angewandte Chemie - International Edition, 2008, 47, 2138-2142. | 13.8 | 112 |
| 65 | Raman studies of hydrogen adsorbed on nanostructured porous materials. Physical Chemistry Chemical Physics, 2008, 10, 2910. | 2.8 | 25 |
| 66 | Low-temperature thermal-desorption mass spectroscopy applied to investigate the hydrogen adsorption on porous materials. Microporous and Mesoporous Materials, 2007, 103, 230-234. | 4.4 | 69 |
| 67 | Hydrogen storage in metalâ€“organic frameworks. Scripta Materialia, 2007, 56, 809-812. | 5.2 | 143 |
| 68 | Hydrogen adsorption in a nickel based coordination polymer with open metal sites in the cylindrical cavities of the desolvated framework. Chemical Communications, 2006, , 959. | 4.1 | 596 |
| 69 | Hydrogen adsorption in different carbon nanostructures. Carbon, 2005, 43, 2209-2214. | 10.3 | 696 |
| 70 | Hydrogen permeation through Pd/Fe and Pd/Ni multilayer systems. Journal of Alloys and Compounds, 2005, 393, 5-10. | 5.5 | 13 |
| 71 | Volumetric measurement of hydrogen storage in HCl-treated polyaniline and polypyrrole. Synthetic Metals, 2005, 151, 208-210. | 3.9 | 68 |
| 72 | Hydrogen permeability measurement through Pd, Ni and Fe membranes. Journal of Alloys and Compounds, 2001, 321, 17-23. | 5.5 | 24 |

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|---|---|---|---|
| 73 | Carbon nanostructures: An efficient hydrogen storage medium for fuel cells. Fuel Cells Bulletin, 2001, 4, 9-12. | 0.1 | 53 |
| 74 | Hydrogen isotope separation using a metalâ€organic cage built from macrocycles. Angewandte Chemie, 0, , . | 2.0 | 2 |