

Publikationsliste / Publication overview *INFRAsorp*

- [1] P. Wollmann, M. Leistner, U. Stoeck, R. Grünker, K. Gedrich, N. Klein, O. Throl, W. Grählert, I. Senkovska, F. Dreisbach et al., *Chemical communications (Cambridge, England)*, High-throughput screening: speeding up porous materials discovery **2011**, 47, 5151, DOI [10.1039/C1CC10674K](https://doi.org/10.1039/C1CC10674K).
- [2] P. Wollmann, M. Leistner, W. Grählert, O. Throl, F. Dreisbach, S. Kaskel, *Microporous and Mesoporous Materials*, Infrasorb: Optical detection of the heat of adsorption for high throughput adsorption screening of porous solids **2012**, 149, 86, DOI [10.1016/j.micromeso.2011.08.028](https://doi.org/10.1016/j.micromeso.2011.08.028).
- [3] M. Leistner, W. Grählert, S. Kaskel, *Chemie Ingenieur Technik*, Screening of Porous Materials by Thermal Response Measurements **2013**, 85, 747, DOI [10.1002/cite.201200119](https://doi.org/10.1002/cite.201200119).
- [4] W. Nickel, M. Oschatz, M. von der Lehr, M. Leistner, G.-P. Hao, P. Adelhelm, P. Müller, B. M. Smarsly, S. Kaskel, *J. Mater. Chem. A*, Direct synthesis of carbide-derived carbon monoliths with hierarchical pore design by hard-templating **2014**, 2, 12703, DOI [10.1039/C4TA02260B](https://doi.org/10.1039/C4TA02260B).
- [5] M. Oschatz, W. Nickel, M. Thommes, K. A. Cychosz, M. Leistner, M. Adam, G. Mondin, P. Strubel, L. Borchardt, S. Kaskel, *J. Mater. Chem. A*, Evolution of porosity in carbide-derived carbon aerogels **2014**, 2, 18472, DOI [10.1039/C4TA03401E](https://doi.org/10.1039/C4TA03401E).
- [6] V. Bon, N. Kavoosi, I. Senkovska, S. Kaskel, *ACS applied materials & interfaces*, Tolerance of Flexible MOFs toward Repeated Adsorption Stress **2015**, 7, 22292, DOI [10.1021/acsami.5b05456](https://doi.org/10.1021/acsami.5b05456).
- [7] M. Oschatz, M. Leistner, W. Nickel, S. Kaskel, *Langmuir : the ACS journal of surfaces and colloids*, Advanced structural analysis of nanoporous materials by thermal response measurements **2015**, 31, 4040, DOI [10.1021/acs.langmuir.5b00490](https://doi.org/10.1021/acs.langmuir.5b00490).
- [8] F. Sandra, N. Klein, M. Leistner, M. R. Lohe, M. Benusch, M. Woellner, J. Grothe, S. Kaskel, *Ind. Eng. Chem. Res.*, Speeding Up Chemisorption Analysis by Direct IR-Heat-Release Measurements (Infrasorp Technology): A Screening Alternative to Breakthrough Measurements **2015**, 54, 6677, DOI [10.1021/acs.iecr.5b01404](https://doi.org/10.1021/acs.iecr.5b01404).
- [9] P. Branton, M. Leistner, M. Wöllner, S. Kaskel, *Chem Eng & Technol*, An Innovative Technique for Rapid Screening of Cigarette Filter Adsorbents **2017**, 40, 71, DOI [10.1002/ceat.201600232](https://doi.org/10.1002/ceat.201600232).
- [10] M. Wöllner, M. Leistner, M. Benusch, P. Wollmann, W. Grählert, S. Kaskel, *Advanced Powder Technology*, A novel approach to rapid sizing of nanoparticles by using optical calorimetry **2017**, 28, 1065, DOI [10.1016/j.apt.2017.01.012](https://doi.org/10.1016/j.apt.2017.01.012).
- [11] M. Wöllner, M. Leistner, P. Wollmann, M. Benusch, N. Klein, W. Grählert, S. Kaskel, *Adsorption*, Estimating pore size distributions of activated carbons via optical calorimetry **2017**, 23, 313, DOI [10.1007/s10450-016-9852-3](https://doi.org/10.1007/s10450-016-9852-3).
- [12] A. Werner, M. Wöllner, P. Bludovsky, M. Leistner, C. Selzer, S. Kaskel, *Microporous and Mesoporous Materials*, Rapid screening of zeolite acidity by thermal response measurements using InfraSOPR technology **2018**, 268, 46, DOI [10.1016/j.micromeso.2018.03.032](https://doi.org/10.1016/j.micromeso.2018.03.032).
- [13] V. Bon, I. Senkovska, J. D. Evans, M. Wöllner, M. Hözel, S. Kaskel, *J. Mater. Chem. A*, Insights into the water adsorption mechanism in the chemically stable zirconium-based MOF DUT-67 – a prospective material for adsorption-driven heat transformations **2019**, 7, 12681, DOI [10.1039/C9TA00825J](https://doi.org/10.1039/C9TA00825J).

- [14] K. Wegner, M. Wöllner, R. Zippel, M. Medicus, E. Schade, J. Grothe, S. Kaskel, *Ind. Eng. Chem. Res.*, Rapid Screening of CO Oxidation Catalysts Using Optical Calorimetry **2019**, 58, 19839, DOI [10.1021/acs.iecr.9b04156](https://doi.org/10.1021/acs.iecr.9b04156).
- [15] M. Wöllner, N. Klein, S. Kaskel, *Microporous and Mesoporous Materials*, Measuring water adsorption processes of metal-organic frameworks for heat pump applications via optical calorimetry **2019**, 278, 206, DOI [10.1016/j.micromeso.2018.11.024](https://doi.org/10.1016/j.micromeso.2018.11.024).
- [16] I. G. Clayson, D. Hewitt, M. Hutereau, T. Pope, B. Slater, *Advanced materials (Deerfield Beach, Fla.)*, High Throughput Methods in the Synthesis, Characterization, and Optimization of Porous Materials **2020**, 32, e2002780, DOI [10.1002/adma.202002780](https://doi.org/10.1002/adma.202002780).
- [17] R. A. Milescu, M. R. Dennis, C. R. McElroy, D. J. Macquarrie, A. S. Matharu, M. W. Smith, J. H. Clark, V. L. Budarin, *Sustainable Chemistry and Pharmacy*, The role of surface functionality of sustainable mesoporous materials Starbon® on the adsorption of toxic ammonia and sulphur gasses **2020**, 15, 100230, DOI [10.1016/j.scp.2020.100230](https://doi.org/10.1016/j.scp.2020.100230).
- [18] S. Youk, J. P. Hofmann, B. Badamdjorj, A. Völkel, M. Antonietti, M. Oschatz, *J. Mater. Chem. A*, Controlling pore size and pore functionality in sp 2 -conjugated microporous materials by precursor chemistry and salt templating **2020**, 8, 21680, DOI [10.1039/DOTA05856D](https://doi.org/10.1039/DOTA05856D).
- [19] L. Gilmanova, V. Bon, L. Shupletsov, D. Pohl, M. Rauche, E. Brunner, S. Kaskel, *Journal of the American Chemical Society*, Chemically Stable Carbazole-Based Imine Covalent Organic Frameworks with Acidochromic Response for Humidity Control Applications **2021**, 143, 18368, DOI [10.1021/jacs.1c07148](https://doi.org/10.1021/jacs.1c07148).
- [20] S. Mazzanti, S. Cao, K. ten Brummelhuis, A. Völkel, J. Khamrai, D. I. Sharapa, S. Youk, T. Heil, N. V. Tarakina, V. Strauss et al., *Applied Catalysis B: Environmental*, All-organic Z-scheme photoreduction of CO₂ with water as the donor of electrons and protons **2021**, 285, 119773, DOI [10.1016/j.apcatb.2020.119773](https://doi.org/10.1016/j.apcatb.2020.119773).
- [21] X. Zhang, B. Song, L. Jiang, *CCS Chem*, Driving Force of Molecular/Ionic Superfluid Formation **2021**, 3, 1258, DOI [10.31635/ccschem.021.202100961](https://doi.org/10.31635/ccschem.021.202100961).
- [22] Y. Zhang, X. Cui, H. Xing, *Mater. Chem. Front.*, Recent advances in the capture and abatement of toxic gases and vapors by metal–organic frameworks **2021**, 5, 5970, DOI [10.1039/D1QM00516B](https://doi.org/10.1039/D1QM00516B).
- [23] S. Du, D. Leistenschneider, J. Xiao, J. Dellith, E. Troschke, M. Oschatz, *ChemistryOpen*, Application of Thermal Response Measurements to Investigate Enhanced Water Adsorption Kinetics in Ball-Milled C2 N-Type Materials **2022**, 11, e202200193, DOI [10.1002/open.202200193](https://doi.org/10.1002/open.202200193).
- [24] F. Schwotzer, J. Horak, I. Senkovska, E. Schade, T. E. Gorelik, P. Wollmann, M. L. Anh, M. Ruck, U. Kaiser, I. M. Weidinger et al., *Angewandte Chemie*, Cooperative Assembly of 2D-MOF Nanoplatelets into Hierarchical Carpets and Tubular Superstructures for Advanced Air Filtration **2022**, 134, DOI [10.1002/ange.202117730](https://doi.org/10.1002/ange.202117730).
- [25] S. Du, B. Huang, G.-P. Hao, J. Huang, Z. Liu, M. Oschatz, J. Xiao, A.-H. Lu, *ChemSusChem*, pH-Regulated Refinement of Pore Size in Carbon Spheres for Size-Sieving of Gaseous C8 , C6 and C3 Hydrocarbon Pairs **2023**, 16, e202300215, DOI [10.1002/cssc.202300215](https://doi.org/10.1002/cssc.202300215).

- [26] P. Li, N. Unglaube, H. Zhou, S. Michel, X. Dong, X. Xu, A. Birnbaum, G. K. Auernhammer, Y. Xia, J. Grothe et al., *Chemical Engineering Journal*, The role of impurities in porous carbons for bioinspired iontronic devices **2023**, 477, 146898, DOI [10.1016/j.cej.2023.146898](https://doi.org/10.1016/j.cej.2023.146898).
- [27] H. J. Xu, P. Y. Hu, *Journal of Cleaner Production*, Progress on fundamentals of adsorption transport of metal-organic frameworks materials and sustainable applications for water harvesting and carbon capture **2023**, 393, 136253, DOI [10.1016/j.jclepro.2023.136253](https://doi.org/10.1016/j.jclepro.2023.136253).