

Publikationsliste Dr. Martin Brehm

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49 Artikel in Zeitschriften mit „Peer Review“-Verfahren.

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Zitate gesamt: 2203

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- 49.) S. Roy, M. Brehm, S. Sharma, F. Wu, D. Maltsev, P. Halstenberg, L. Gallington, S. Mahurin, S. Dai, A. Ivanov, C. Margulis, V. Bryantsev: „Unraveling Local Structure of Molten Salts via X-Ray Scattering, Raman Spectroscopy, and ab initio Molecular Dynamics“, *J. Phys. Chem. B* **2021**, accepted.
- 48.) M. Brehm, M. Thomas: „Optimized Atomic Partial Charges and Radii Defined by Radical Voronoi Tessellation of Bulk Phase Simulations“, *Molecules* **2021**, *26* (7), 1875. (DOI 10.3390/molecules26071875)
- 47.) M.-A. Codescu, M. Weiß, M. Brehm, O. Kornilov, D. Sebastiani, E. T. J. Nibbering: „Switching Between Proton Vacancy and Excess Proton Transfer Pathways in the Reaction Between 7-Hydroxyquinoline and Formate“, *J. Phys. Chem. A* **2021**, *125* (9), 1845–1859. (DOI 10.1021/acs.jpca.0c10191)
- 46.) A. Triolo, F. Lo Celso, M. Brehm, V. Di Lisio, O. Russina: „Liquid Structure of a Choline Chloride-Water Natural Deep Eutectic Solvent: A Molecular Dynamics Characterization“, *J. Mol. Liq.* **2021**, *331*, 115750. (DOI 10.1016/j.molliq.2021.115750)
- 45.) E. Roos, M. Brehm: „A Force Field for Bio-Polymers in Ionic Liquids (BILFF) – Part 1: [EMIm][OAc] / Water Mixtures“, *Phys. Chem. Chem. Phys.* **2021**, *23*, 1242–1253. (DOI 10.1039/D0CP04537C)
- 44.) M. Mukherjee, D. Tripathi, M. Brehm, C. Riplinger, A. K. Dutta: „Efficient EOM-CC-Based Protocol for the Calculation of Electron Affinity of Solvated Nucleobases: Uracil as a Case Study“, *J. Chem. Theory Comput.* **2021**, *17* (1), 105–116. (DOI 10.1021/acs.jctc.0c00655)
- 43.) M. Weiß, M. Brehm: „Exploring Free Energy Profiles of Enantioselective Organocatalytic Aldol Reactions under Full Solvent Influence“, *Molecules* **2020**, *25* (24), 5861. (DOI 10.3390/molecules25245861)
- 42.) J. Hunold, J. Eisermann, M. Brehm, D. Hinderberger: „Characterization of Aqueous Lower Polarity Solvation Shells Around Amphiphilic TEMPO Radicals in Water“, *J. Phys. Chem. B* **2020**, *124* (39), 8601–8609. (DOI 10.1021/acs.jpcb.0c04863)
- 41.) M. Brehm, J. Radicke, M. Pulst, F. Shaabani, D. Sebastiani, J. Kressler: „Dissolving Cellulose in 1,2,3-Triazolium- and Imidazolium-Based Ionic Liquids with Aromatic Anions“, *Molecules* **2020**, *25*, 3539. (DOI 10.3390/molecules25153539)
- 40.) M. Brehm, M. Thomas, S. Gehrke, B. Kirchner: „TRAVIS – A Free Analyzer for Trajectories from Molecular Simulation“, *J. Chem. Phys.* **2020**, *152* (16), 164105. (DOI 10.1063/5.0005078)
- 39.) C. Dreßler, G. Kabbe, M. Brehm, D. Sebastiani: „Exploring Non-Equilibrium Molecular Dynamics of Mobile Protons in the Solid Acid CsH₂PO₄ on the Micrometer and Microsecond Scale“, *J. Chem. Phys.* **2020**, *152* (16), 164110. (DOI 10.1063/5.0002167)

- 38.) C. Dreßler, G. Kabbe, M. Brehm, D. Sebastiani: „Dynamical Matrix Propagator Scheme for Large-Scale Proton Dynamics Simulations“, *J. Chem. Phys.* **2020**, *152* (11), 114114. (DOI 10.1063/1.5140635)
- 37.) L. Scarbath-Evers, R. Hammer, D. Golze, M. Brehm, D. Sebastiani, W. Widdra: „From Flat to Tilted: Gradual Interfaces in Organic Thin Film Growth“, *Nanoscale* **2020**, *12*, 3834–3845. (DOI 10.1039/C9NR06592J)
- 36.) M. Brehm, M. Thomas: „Computing Bulk Phase Resonance Raman Spectra from ab initio Molecular Dynamics and Real-Time TDDFT“, *J. Chem. Theory Comput.* **2019**, *15* (7), 3901–3905. (DOI 10.1021/acs.jctc.9b00512)
- 35.) M. Brehm, M. Pulst, J. Kressler, D. Sebastiani: „Triazolium-Based Ionic Liquids – A Novel Class of Cellulose Solvents“, *J. Phys. Chem. B* **2019**, *123* (18), 3994–4003. (DOI 10.1021/acs.jpcb.8b12082)
- 34.) M. Brehm, M. Thomas: „An Efficient Lossless Compression Algorithm for Trajectories of Atom Positions and Volumetric Data“, *J. Chem. Inf. Model.* **2018**, *58* (10), 2092–2107. (DOI 10.1021/acs.jcim.8b00501)
- 33.) U. Cerajewski, J. Träger, S. Henkel, A. H. Roos, M. Brehm, D. Hinderberger: „Nanoscopic Structures and Molecular Interactions Leading to a Dystectic and two Eutectic Points in [EMIm][Cl]/Urea Mixtures“, *Phys. Chem. Chem. Phys.* **2018**, *20*, 29591–29600. (DOI 10.1039/C8CP04912B)
- 32.) S. Pylaeva, M. Brehm, D. Sebastiani: „Salt Bridge in Aqueous Solution: Strong Structural Motifs but Weak Enthalpic Effects“, *Sci. Rep.* **2018**, *8*, 13626. (DOI 10.1038/s41598-018-31935-z)
- 31.) M. Brehm, D. Sebastiani: „Simulating Structure and Dynamics in Small Droplets of 1-Ethyl-3-Methylimidazolium Acetate“, *J. Chem. Phys.* **2018**, *148*, 193802. (DOI 10.1063/1.5010342)
- 30.) S. Gehrke, M. von Domaros, R. Clark, O. Hollóczki, M. Brehm, T. Welton, A. Luzar, B. Kirchner: „Structure and Lifetimes in Ionic Liquids and their Mixtures“, *Faraday Discuss.* **2018**, *206*, 219–245. (DOI 10.1039/C7FD00166E)
- 29.) M. Brehm, A. Kafka, M. Bamler, R. Kühne, G. Schüürmann, L. Sikk, J. Burk, P. Burk, T. Tamm, K. Tämm, S. Pokhrel, L. Mädler, A. Kahru, V. Aruoja, M. Sihtmäe, J. Scott-Fordsmann, P. B. Sorensen, L. Escorihuela, C. P. Roca, A. Fernández, F. Giralt, R. Rallo: „An Integrated Data-Driven Strategy for Safe-by-Design Nanoparticles: The FP7 MODERN Project.“, *Adv. Exp. Med. Biol.* **2017**, *947*, 257–301. (DOI 10.1007/978-3-319-47754-1_9)
- 28.) C. Peschel, M. Brehm, D. Sebastiani: „Polyphilic Interactions as Structural Driving Force Investigated by Molecular Dynamics Simulation (Project 7)“, *Polymers* **2017**, *9* (9), 445. (DOI 10.3390/polym9090445)
- 27.) M. Brehm, G. Saddiq, T. Watermann, D. Sebastiani: „Influence of Small Fluorophilic and Lipophilic Organic Molecules on Dipalmitoylphosphatidylcholine Bilayers“, *J. Phys. Chem. B* **2017**, *121* (35), 8311–8321. (DOI 10.1021/acs.jpcb.7b06520)
- 26.) M. Brehm, M. Thomas: „Computing Bulk Phase Raman Optical Activity Spectra from ab initio Molecular Dynamics Simulations“, *J. Phys. Chem. Lett.* **2017**, *8* (14), 3409–3414. (DOI 10.1021/acs.jpclett.7b01616)
- 25.) C. Slawik, C. Rickmeyer, M. Brehm, A. Böhme, G. Schüürmann: „Glutathione Adduct Patterns of Michael-Acceptor Carbonyls“, *Environ. Sci. Technol.* **2017**, *51* (7), 4018–4026. (DOI 10.1021/acs.est.6b04981)

- 24.) M. Cooper, A. Wagner, D. Wondrousch, F. Sonntag, A. Sonnabend, M. Brehm, G. Schüürmann, L. Adrian: „Anaerobic Microbial Transformation of Halogenated Aromatics and Fate Prediction Using Electron Density Modeling“, *Environ. Sci. Technol.* **2015**, *49* (10), 6018–6028. (DOI 10.1021/acs.est.5b00303)
- 23.) M. Thomas, M. Brehm, B. Kirchner: „Voronoi Dipole Moments for the Simulation of Bulk Phase Vibrational Spectra“, *Phys. Chem. Chem. Phys.* **2015**, *17*, 3207–3213. (DOI 10.1039/C4CP05272B)
- 22.) M. Brehm, H. Weber, M. Thomas, O. Hollóczki, B. Kirchner: „Domain Analysis in Nanostructured Liquids: A Post-Molecular Dynamics Study at the Example of Ionic Liquids“, *ChemPhysChem* **2015**, *16* (15), 3271–3277. (DOI 10.1002/cphc.201500471)
- 21.) O. Hollóczki, M. Macchiagodena, H. Weber, M. Thomas, M. Brehm, A. Stark, O. Russina, A. Triolo, B. Kirchner: „Triphilic Ionic Liquid Mixtures: Fluorinated and Non-fluorinated Aprotic Ionic Liquid Mixtures“, *ChemPhysChem* **2015**, *16* (15), 3325–3333. (DOI 10.1002/cphc.201500473)
- 20.) A. Stark, M. Brehm, M. Brüssel, S. B. C. Lehmann, A. S. Pensado, M. Schöppke, B. Kirchner: „A Theoretical and Experimental Chemist’s Joint View on Hydrogen Bonding in Ionic Liquids and Their Binary Mixtures“, *Top. Curr. Chem.* **2014**, *351*, 149–187. (DOI 10.1007/128_2013_485)
- 19.) M. Thomas, M. Brehm, O. Hollóczki, Z. Kelemen, L. Nyulászi, T. Pasinszki, B. Kirchner: „Simulating the Vibrational Spectra of Ionic Liquid Systems: 1-Ethyl-3-Methylimidazolium Acetate and its Mixtures“, *J. Chem. Phys.* **2014**, *141*, 024510. (DOI 10.1063/1.4887082)
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- 17.) S. Zahn, M. Brehm, M. Brüssel, O. Hollóczki, M. Kohagen, S. B. C. Lehmann, F. Malberg, A. S. Pensado, M. Schöppke, H. Weber, B. Kirchner: „Understanding Ionic Liquids from Theoretical Methods“, *J. Mol. Liq.* **2014**, *192*, 71–76. (DOI 10.1016/j.molliq.2013.08.015)
- 16.) M. Thomas, M. Brehm, O. Hollóczki, B. Kirchner: „How Can a Carbene be Active in an Ionic Liquid?“, *Chem. Eur. J* **2014**, *20* (6), 1622–1629. (DOI 10.1002/chem.201303329)
- 15.) F. Malberg, M. Brehm, O. Hollóczki, A. S. Pensado, B. Kirchner: „Understanding the Evaporation of Ionic Liquids using the Example of 1-Ethyl-3-Methylimidazolium Ethylsulfate“, *Phys. Chem. Chem. Phys.* **2013**, *15*, 18424–18436. (DOI 10.1039/C3CP52966E)
- 14.) M. Thomas, M. Brehm, R. Fligg, P. Vöhringer, B. Kirchner: „Computing Vibrational Spectra from ab initio Molecular Dynamics“, *Phys. Chem. Chem. Phys.* **2013**, *15*, 6608–6622. (DOI 10.1039/C3CP44302G)
- 13.) M. Brehm, H. Weber, A. S. Pensado, A. Stark, B. Kirchner: „Liquid Structure and Cluster Formation in Ionic Liquid/Water Mixtures – An Extensive ab initio Molecular Dynamics Study on 1-Ethyl-3-Methylimidazolium Acetate/Water Mixtures – Part 2“, *Z. Phys. Chem.* **2013**, *227*, 177–203. (DOI 10.1524/zpch.2012.0327)
- 12.) O. Hollóczki, D. S. Firaha, J. Friedrich, M. Brehm, R. Cybik, M. Wild, A. Stark, B. Kirchner: „Carbene Formation in Ionic Liquids: Spontaneous, Induced, or Prohibited?“, *J. Phys. Chem. B* **2013**, *117* (19), 5898–5907. (DOI 10.1021/jp4004399)
- 11.) M. Brüssel, E. Perlt, M. von Domaros, M. Brehm, B. Kirchner: „A One-Parameter Quantum Cluster Equilibrium Approach“, *J. Chem. Phys.* **2012**, *137*, 164107. (DOI 10.1063/1.4759154)

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- 10.) M. Brüssel, M. Brehm, A. S. Pensado, F. Malberg, M. Ramzan, A. Stark, B. Kirchner: „On the Ideality of Binary Mixtures of Ionic Liquids“, *Phys. Chem. Chem. Phys.* **2012**, *14*, 13204–13215. (DOI 10.1039/C2CP41926B)
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 - 8.) M. Brehm, H. Weber, A. S. Pensado, A. Stark, B. Kirchner: „Proton Transfer and Polarity Changes in Ionic Liquid–Water Mixtures: A Perspective on Hydrogen Bonds from ab initio Molecular Dynamics at the Example of 1-Ethyl-3-Methylimidazolium Acetate–Water Mixtures—Part 1“, *Phys. Chem. Chem. Phys.* **2012**, *14*, 5030–5044. (DOI 10.1039/C2CP23983C)
 - 7.) A. S. Pensado, M. Brehm, J. Thar, A. P. Seitsonen, B. Kirchner: „Effect of Dispersion on the Structure and Dynamics of the Ionic Liquid 1-Ethyl-3-Methylimidazolium Thiocyanate“, *ChemPhysChem* **2012**, *13* (7), 1845–1853. (DOI 10.1002/cphc.201100917)
 - 6.) M. Kohagen, M. Brehm, Y. Lingscheid, R. Giernoth, J. Sangoro, F. Kremer, S. Naumov, C. Iacob, J. Kärger, R. Valiullin, B. Kirchner: „How Hydrogen Bonds Influence the Mobility of Imidazolium-Based Ionic Liquids. A Combined Theoretical and Experimental Study of 1-n-Butyl-3-Methylimidazolium Bromide“, *J. Phys. Chem. B* **2011**, *115* (51), 15280–15288. (DOI 10.1021/jp206974h)
 - 5.) P. J. di Dio, M. Brehm, B. Kirchner: „Singular Value Decomposition for Analyzing Temperature- and Pressure-Dependent Radial Distribution Functions: Decomposition into Grund RDFs (GRDFs)“, *J. Chem. Theory Comput.* **2011**, *7* (10), 3035–3039. (DOI 10.1021/ct2003385)
 - 4.) M. Brüssel, M. Brehm, T. Voigt, B. Kirchner: „Ab initio Molecular Dynamics Simulations of a Binary System of Ionic Liquids“, *Phys. Chem. Chem. Phys.* **2011**, *13*, 13617–13620. (DOI 10.1039/C1CP21550G)
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