List of publications

Dr. Gregor Kieslich, Liebig Fellow and TU Munich Junior Fellow
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Number of peer reviewed publications: 67
Number of citations: 4026, h-index: 29 (google scholar, June 2022)

67. A. Mutschke*, A. Schulz, M. Bertmer, A. J. Karttunen, C. Ritter, G. Kieslich, N. Kunkel*. Expanding the hydride chemistry: Antiperovskite A_3MO_4H (*A* = Rb, Cs; *M* = Mo, W) introducing the transition oxometallate hydrides. *Chem. Sci*. **2022**, just accepted, DOI: 10.1039/D2SC01861F24.

66. S. Hallweger, C. Kaußler, G. Kieslich*. The structural complexity of perovskites. *Phys. Chem. Chem. Phys*. **2022**, 24, 9196-9202.

65. J. Song, R. Pallach, L. Frentzel-Beyme, P. Kolodzeiski, G. Kieslich, P. Vervoorts, C. L. Hobday, S. Henke*. Tuning the High-Pressure Phase Behaviour of Highly Compressible Zeolitic Imidazolate Frameworks: From Discontinuous to Continuous Pore Closure by Linker Substitution. *Angew. Chem*. **2022**, 61, e202117565.

64. A. L. Semrau, S. V. Dummert, C. Eckel, S. Mackewicz, R. T. Weitz, G. Kieslich*. Synthetic Approaches Targeting Metal-Free Perovskite [HMDABCO]$(NH_4)I_3$ Thin Films. *Cryst. Growth. Des.* **2022**, 1, 406-413.

63. P. Vervoorts, J. Stebani, A. S. J. Méndez, G. Kieslich*. Structural Chemistry of Metal-Organic Frameworks under Hydrostatic Pressures. *ACS Materials Lett*. **2021**, 3, 1635-1651.

62. S. Burger, S. Grover, K. T. Butler, H. L. B. Boström, R. Grau-Crespo*, G. Kieslich*. Tilt and Shift Polymorphism in Molecular Perovskites. *Mater. Horiz*. **2021**, 8, 2444-2450.

61. L. Petters, S. Burger, S. Kronawitter, M. Drees, G. Kieslich*. Linear Negative Thermal Expansion in $Pd(acac)_2$. *CrystEngComm*. **2021**, 23, 5425-5429.

60. D. Ukaj, H. Bunzen, J. Berger, G. Kieslich, R. A. Fischer*. Charge-Transfer-Induced Electrical Conductivity in a Tetrathiafulvalene-Based Metal-Organic Framework. *Chem. Mater*. **2021**, 33, 2532-2542.

59. C. L. Hobday*, G. Kieslich*. Structural Flexibility in Crystalline Coordination Polymers: A Journey Along the Underlying Free Energy Landscape. *Dalton. Trans.* **2021**, 50, 3759-3768.

58. C. Kaußler, G. Kieslich*. crystIT: complexity and configurational entropy of crystal structures via information theory. *J. Appl. Cryst*. **2021**, 54, 306-316.

57. H. L. B. Boström*, G Kieslich*. Influence of Metal Defects on the Mechanical Properties of ABX_3 Perovskite-Type Metal-formate Frameworks. *J. Phys. Chem. C*. **2021**, 125, 1467-1471.

56. P. Vervoorts, J. Keupp, A. Schneemann, C. L. Hobday, D. Daisenberger, R. A. Fischer, R. Schmid*, G. Kieslich*. Configurational Entropy Driven High-Pressure Behaviour of a Flexible Metal-Organic Framework. *Angew. Chem.* **2020**, 60, 787-793.

55. S. Burger, S. Kronawitter, H. L. B. Boström, J. K. Zareba, G. Kieslich*. A new polar perovskite coordination network with azaspiroundecance as A-site cation. *Dalton. Trans.* **2020**, 49, 10740-10744.

54. D. Bodesheim, G. Kieslich, M. Johnson, K. T. Butler*. Understanding the Balance of Entropy and Enthalpy in Hydrogen-Halide Noncovalent Bonding. *J. Phys. Chem. Lett.* **2020**, 11, 3495-3500.

53. C. Schneider, D. Bodesheim, J. Keupp, R. Schmid, G. Kieslich*. Retrofitting metal-organic frameworks. *Nat. Commun*. **2019**, 10, 4921.

52 Keith T. Butler*, P. Vervoorts, M. G. Ehrenreich, J. Armstrong, J. M. Skelton, G. Kieslich*. Experimental Evidence for Vibrational Entropy as Driving Parameter of Flexibility in the Metal-Organic Framework ZIF-4(Zn). *Chem. Mater.* **2019**, 31, 8366-8372.

51. P. Vervoorts, C. L. Hobday, M. G. Ehrenreich, D. Daisenberger, G. Kieslich*. The Zeolitic Imidazolate Framework ZIF-4 under Low Hydrostatic Pressures. *Z. Anorg. Allg. Chem.* **2019**, 645, 970-974.

50. C. Schneider, D. Bodesheim, M. G. Ehrenreich, V. Crocellà, J. Mink, R. A. Fischer, K. T. Butler, G. Kieslich*****. Tuning the Negative Thermal Expansion Behavior of the Metal-Organic Framework Cu_3BTC_2 by Retrofitting. *J. Am. Chem. Soc.* **2019**, 141, 10504-10509.

49. D. C. Mayer, A. Manzi, R. Medishetty, B. Winkler, C. Schneider, G. Kieslich, A. Pöthig, J. Feldmann, R. A. Fischer*. Controlling Multi-Photon Absorption Efficiency by Chromophore Packing in Metal-Organic Frameworks. *J. Am. Chem. Soc*. **2019**, 141, 11594-11602.

48. A. Schneemann, R. Rudolf, S. J. Baxter, P. Vervoorts, I. Hante, K. Khaletskaya, S. Henke, G. Kieslich*****, R. A. Fischer*****. Flexibility control in alkyl ether-functionalized pillared-layered MOFs by a Cu/Zn mixed metal approach. *Dalton Trans*. **2019**, 48, 6564-6570.

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46. C. Ott, F. Reiter, M. Baumgartner, M. Pielmeier, A. Vogel, P. Walke, S. Burger, M. G. Ehrenreich, G. Kieslich*****, D. Daisenberger, J. Armstrong, U. K. Thakur, P. Kumar, S. Chen. D. Donadio, L. S. Walter, R. T. Weitz, K. Shankar*, T. Nilges*. Flexible and Ultrasoft 1D Semiconductor and Heterostructure Systems Based on SnIP. *Adv. Funct. Mater.* **2019**, 29, 1900233.

45. M. G. Ehrenreich, Z. Zeng, S. Burger, M. R. Warren, M. W. Gaultois, J.-C. Tan*****, G. Kieslich*****. Mechanical Properties of the ferroelectric metal-free perovskites $[MDABCO](NH_4)I_3$. *Chem. Commun*. **2019**, 55, 3911-3914.

44. A. Regoutz, A. M. Ganose, L. Blumenthal, C. Schlueter, T.-L. Lee, G. Kieslich, A. K. Cheetham, G. Kerherve, Y.-S. Huang, R.-S. Chen, G. Vinai, T. Pincelli, G. Panaccione, K. H. L. Zhang, R. G. Egdell, J. Lischner, D. O. Scanlon, D. J. Payne*. Insights into the electronic structure of OsO_2 using soft and hard X-ray photoelectron spectroscopy in combination with density functional theory. *Phys. Rev. Materials* **2019**, 3, 025001.

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39. S. Burger, M. Ehrenreich, G. Kieslich*****. Tolerance Factors of hybrid perovskites: recent improvements and current state of research. *J. Mater. Chem. A* **2018**, 6, 21785-21793.

38. S. Dissegna, P. Vervoorts, C. L. Hobday, T. Düren, D. Daisenberger, A. J. Smith, R. A. Fischer*****, G. Kieslich*****. Tuning the Mechanical Response of Metal-Organic Frameworks by Defect-Engineering. *J. Am. Chem. Soc*. **2018**, 140, 11581-11584.

37. S. Leukel, M. Panthöfer, M. Mondeshki, G. Kieslich, Y. Wu, N. Krautwurst, W. Tremel*. Mechanochemical Access to Defect-Stabilized Amorphous Calcium Carbonate. *Chem. Mater.* **2018**, 30, 6040-6052.

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35. C. Dietrich, R. Koerver, M. W. Gaultois, G. Kieslich, G. Cibin, J. Janek*, W. G. Zeier*. Spectroscopic characterization of lithium thiophosphates by XPS and XAS – a model to help monitor interfacial reactions in all-solid-state batteries. *Phys. Chem. Chem. Phys*, **2018**, 20, 20088-20095.

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33. A. K. Cheetham, G. Kieslich*****, H.-M. H. Yeung*****. Thermodynamic and Kinetic Effects in the Crystallization of Metal-Organic Frameworks. *Acc. Chem. Res*. **2018**, 51, 659-667.

32. S. Dissegna, K. Epp, W. R. Heinz, G. Kieslich*****, R. A. Fischer*****. Defective Metal-Organic Frameworks. *Adv. Mater.* **2018**, 30, 1704501.

31. S. Henke, M. T. Wharmby, G. Kieslich, I. Hante, A. Schneemann, Y. Wu, D. Daisenberger, A. K. Cheetham*. Pore closure in the zeolitic imidazolate frameworks under mechanical pressure. *Chem. Sci*. **2018**, 9, 1654-1660.

30. K. L. Svane, A. C. Forse, C. P. Grey, G. Kieslich, A. K. Cheetham, A. Walsh, K. T. Butler*. How Strong is the Hydrogen Bond in Hybrid Perovskites? *Phys. Chem. Lett*. **2017**, 8, 6154-6159.

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19. G. Kieslich*****, A. C. Forse, K. T. Butler, S. Kumagai, Y. Wu, M. R. Warren, A. Walsh, C. P. Grey, A. K. Cheetham*****. Role of Amine-Cavity Interactions in Determining Structure and Mechanical Properties of the Ferroelectric Hybrid Perovskite $[NH_3NH_2]Zn(HCOO)_3$. *Chem. Mater*. **2016**, 28, 312-317.

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