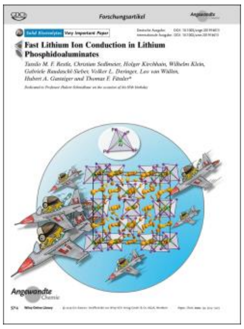
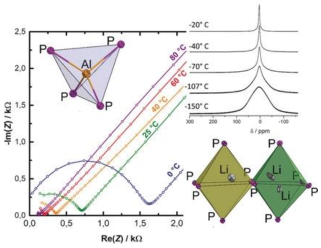
Energy Storage Materials

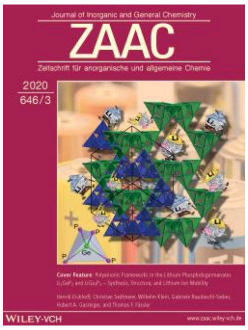


Frontispiz: Fast Lithium Ion Conduction in Lithium Phosphidoaluminates
T. M. F. Restle, C. Sedlmeier, H. Kirchhain, W. Klein, G. Raudaschl-Sieber, V. L. Deringer, L. van Wüllen, H. A. Gasteiger, T. F. Fässler
Angew. Chem. 132 (2020), 5714 (DOI: 10.1002/ange.202081462)

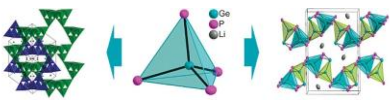
Frontispiece: Fast Lithium Ion Conduction in Lithium Phosphidoaluminates
Angew. Chem. Int. Ed. 59 (2020), 5665 (DOI: 10.1002/anie.202081462)



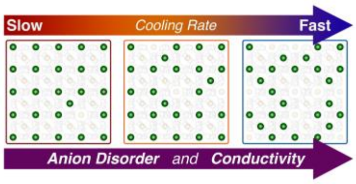
Fast Lithium Ion Conduction in Lithium Phosphidoaluminates
T. M. F. Restle, C. Sedlmeier, H. Kirchhain, W. Klein, G. Raudaschl-Sieber, V. L. Deringer, L. van Wüllen, H. A. Gasteiger, T. F. Fässler
Angew. Chem. Int. Ed. 59 (2020), 5665–5674 (DOI: 10.1002/anie.201914613)
Angew. Chem. 132 (2020), 5714–5723 (DOI: 10.1002/ange.201914613)



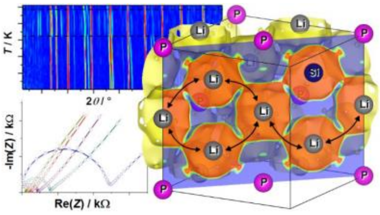
Cover Feature: Polyanionic Frameworks in the Lithium Phosphidogermanates Li_2GeP_2 and $LiGe_3P_3$ – Synthesis, Structure, and Lithium Ion Mobility (Z. Anorg. Allg. Chem. 3/2020)
H. Eickhoff, C. Sedlmeier, W. Klein, G. Raudaschl-Sieber, H. A. Gasteiger, T. F. Fässler
Z. Anorg. Allg. Chem. 646 (2020), 79 (DOI: 10.1002/zaac.202070033)



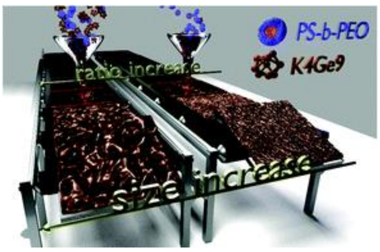
Polyanionic Frameworks in the Lithium Phosphidogermanates Li_2GeP_2 and $LiGe_3P_3$ – Synthesis, Structure, and Lithium Ion Mobility
H. Eickhoff, C. Sedlmeier, W. Klein, G. Raudaschl-Sieber, H. A. Gasteiger, T. F. Fässler
Z. Anorg. Allg. Chem. 646 (2020), 95–102 (DOI: 10.1002/zaac.201900228)



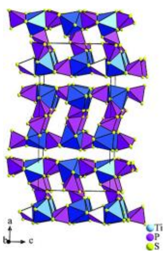
Rapid crystallization and Kinetic Freezing of Site-Disorder in the Lithium Superionic Argyrodite Li_6PS_5Br
A. Gautam, M. Sadowski, N. Prinz, H. Eickhoff, N. Minafra, M. Ghidiu, S. P. Culver, K. Albe, T. F. Fässler, M. Zobel, W. G. Zeier
Chem. Mater. 31 (2019), 10178–10185 (DOI: 10.1021/acs.chemmater.9b03852)



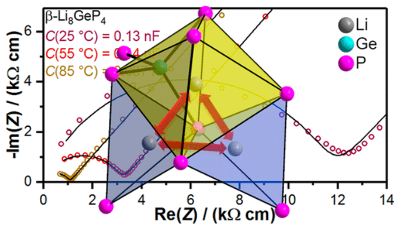
Fast Ionic Conductivity in the Most Lithium-Rich Phosphidosilicate $Li_{14}SiP_6$
S. Strangmüller, H. Eickhoff, D. Müller, W. Klein, G. Raudaschl-Sieber, H. Kirchhain, C. Sedlmeier, V. Baran, A. Senyshyn, V. L. Deringer, L. van Wüllen, H. A. Gasteiger, T. F. Fässler
J. Am. Chem. Soc. 141 (2019), 14200–14209 (DOI: 10.1021/jacs.9b05301)



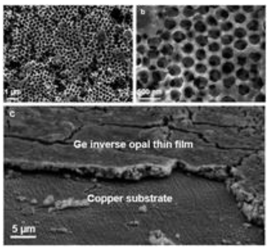
Amphiphilic diblock copolymer-mediated structure control in nanoporous germanium-based thin films
N. Hohn, A. E. Hetzenecker, M. A. Giebel, S. Geier, L. Bießmann, V. Körstgens, N. Saxena, J. Schlipf, W. Ohm, P. S. Deimel, F. Allegretti, J. V. Barth, S. V. Roth, T. F. Fässler, P. Müller-Buschbaum
Nanoscale 11 (2019), 2048–2055 (DOI: 10.1039/C8NR09427F)



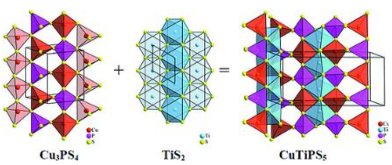
Synthesis and Characterization of the new ternary titanium thiophosphate TiP_2S_7 and comparison to $Ti_4P_8S_{29}$
C. B. Dressel, W. Klein, T. F. Fässler
Z. Anorg. Allg. Chem. 644 (2018), 1681–1685 (DOI: 10.1002/zaac.201800386)



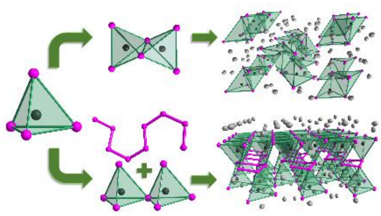
Lithium Phosphidogermanates α- and β-Li_8GeP_4 – A Novel Compound Class with Mixed Li^+ Ionic and Electronic Conductivity
H. Eickhoff, S. Strangmüller, W. Klein, H. Kirchhain, C. Dietrich, W. G. Zeier, L. van Wüllen, T. F. Fässler
Chem. Mater. 30 (2018), 6440–6448 (DOI: 10.1021/acs.chemmater.8b02759)



Wet-chemical Route for Macroporous Inverse Opal Ge Anodes for Lithium Ion Batteries with High Capacity Retention
S. Geier, R. Jung, K. Peters, H. A. Gasteiger, D. Fattakhova-Rohlfing, T. F. Fässler
Sustainable Energy Fuels 2 (2018), 85–90 (DOI: 10.1039/C7SE00422B)

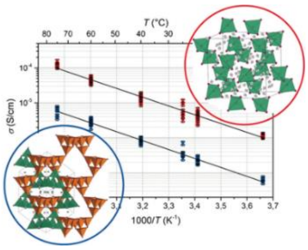


$CuTiPS_5$ – A New Structure Type with a Corrugated Layered Network Structure
C. B. Dressel, W. Klein, T. F. Fässler
Z. Anorg. Allg. Chem. 643 (2017), 1814–1817 (DOI: 10.1002/zaac.201700178)

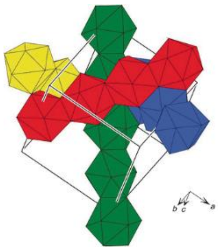


Synthesis and Characterization of the Lithium-rich Phosphidosilicates $Li_{10}Si_2P_6$ and $Li_3Si_3P_7$
H. Eickhoff, L. Toffoletti, W. Klein, G. Raudaschl-Sieber, T. F. Fässler
Inorg. Chem. 56 (2017), 6688–6694 (DOI: 10.1021/acs.inorgchem.7b00755)

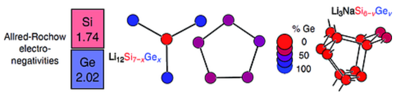
Electrochemical Synthesis of the Allotrope allo-Ge and Investigations on the Use as an Anode Material
L. M Scherf, J. Hattendorf, I. Buchberger, S. Geier, H. A. Gasteiger, T. F. Fässler
J. Mater. Chem. A 5 (2017), 11179–11187 (DOI: 10.1039/C7TA03164E)



Lithium Ion Mobility in Lithium Phosphidosilicates: Crystal Structure, ^{7}Li, ^{29}Si, and ^{31}P MAS NMR Spectroscopy, and Impedance Spectroscopy of Li_8SiP_4 and Li_2SiP_2
L. Toffoletti, H. Kirchhain, J. Landesfeind, W. Klein, L. van Wüllen, H. A. Gasteiger, T. F. Fässler
Chem. Eur. J. 22 (2016), 17635–17645 (DOI: 10.1002/chem.201602903)

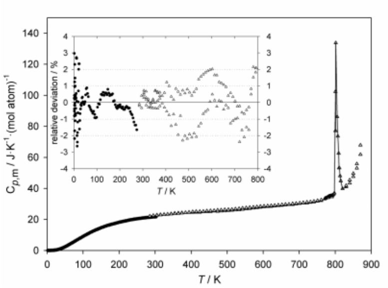


Substitution of Lithium for Magnesium, Zinc, and Aluminum in $Li_{15}Si_4$: Crystal Structures, Thermodynamic Properties, as well as ^{6}Li and ^{7}Li NMR Spectroscopy of $Li_{15}Si_4$ and $Li_{15-x}M_xSi_4$ (M=Mg, Zn, and Al)
V. Baran, L. van Wüllen, T. F. Fässler
Chem. Eur. J. 22 (2016), 6598–6609 (DOI: 10.1002/chem.201505145)

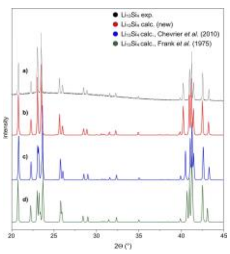


Site-Specific Substitution Preferences in the Solid Solutions $Li_{12}Si_{7-x}Ge_x$, $Li_{12-y}Na_ySi_7$, $Na_7LiSi_{8-z}Ge_z$, and $Li_3NaSi_{6-v}Ge_v$
L. M. Scherf, N. Riphaus, T. F. Fässler
Z. Anorg. Allg. Chem. 642 (2016), 1143–1151 (DOI: 10.1002/zaac.201600259)

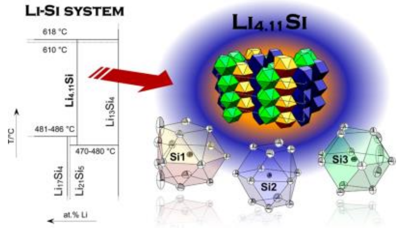
Zintl Phases $K_{4-x}Na_xSi_4$ ($1 \leq x \leq 2.2$) and K_7NaSi_8: Synthesis, Crystal Structures, and Solid-State NMR Spectroscopic Investigations
L. M. Scherf, O. Pecher, K. J. Griffith, F. Haarmann, C. P. Grey, T. F. Fässler
Eur. J. Inorg. Chem. 2016 (2016), 4674–4682 (DOI: 10.1002/ejic.201600735)



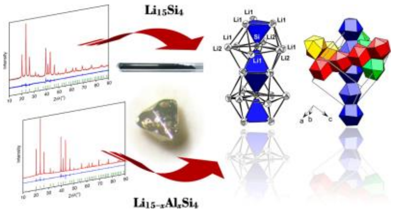
The heat capacity and entropy of the lithium silicides $Li_{17}Si_4$ and $Li_{16.42}Si_4$ in the temperature range from (2 to 873) K
D. Thomas, M. Zeilinger, D. Gruner, R. Hüttl, J. Seidel, A. U. B. Wolter, T. F. Fässler, F. Mertens
J. Chem. Thermodynamics 85 (2015), 178–190 (DOI: 10.1016/j.jct.2015.01.004)



Revision of the $Li_{13}Si_7$ structure
M. Zeilinger, T. F. Fässler
Acta Cryst. E69 (2013), i81–i82 (DOI: 10.1107/S1600536813029759)



Revision of the Li–Si Phase Diagram: Discovery and Single Crystal X-ray Structure Determination of the High Temperature Phase $Li_{4.11}Si$
M. Zeilinger, I. M. Kurylyshyn, U. Häussermann, T. F. Fässler
Chem. Mater. 25 (2013), 4623−4632 (DOI: 10.1021/cm4029885)



Stabilizing the Phase $Li_{15}Si_4$ through Lithium-Aluminum Substitution in $Li_{15-x}Al_xSi_4$ ($0.4 < x < 0.8$) – Single Crystal X-ray Structure Determination of $Li_{15}Si_4$ and $Li_{14.37}Al_{0.63}Si_4$
M. Zeilinger, V. Baran, L. van Wüllen, U. Häussermann, T. F. Fässler
Chem. Mater. 25 (2013), 4113−4121 (DOI: 10.1021/cm402721n)