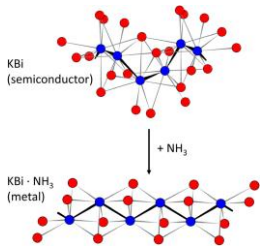
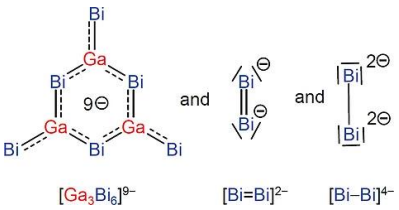
Polar Intermetallic Compounds with Tetrel Elements

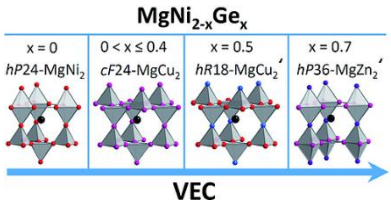


Lösemittel-induzierter Halbleiter-Metall-Übergang:
Planare $^{1}_{\infty}[Bi^{1-}]$-Zickzack-Ketten im metallischen KBi·NH3 im Vergleich zu $^{1}_{\infty}[Bi^{1-}]$-Helices im halbleitenden KBi
K. Mayer, J. V. Dums, C. B. Benda, W. Klein, T. F. Fässler
Angew. Chem. 132 (2020), 6866–6871 (DOI: 10.1002/ange.201915735)
Solvate-Induced Metallization:
Flat $^{1}_{\infty}[Bi^{1-}]$ Zigzag Chains in Metallic KBi · NH3 versus $^{1}_{\infty}[Bi^{1-}]$ Helices in Semiconducting KBi
Angew. Chem. Int. Ed. 59 (2020), 6800–6805 (DOI: 10.1002/anie.201915735)

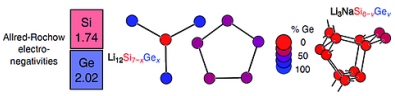


$K_{10}Ga_3Bi_{6.65}$ – The First Compound in the Ternary A-Ga-Bi System Comprising Cyclic Tris-meta Borate-Analogous $[Ga_3Bi_6]^{9-}$ Units and Bi_2 Dumbbells
M. Boyko, V. Hlukhyy, T. F. Fässler
Z. Anorg. Allg. Chem. (2020), online (DOI: 10.1002/zaac.201900292)

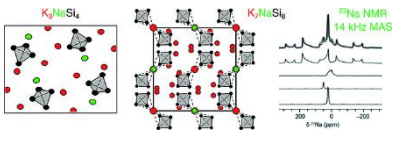
Intermetalloide Cluster: Moleküle und Festkörper im Dialog
K. Mayer, J. Weßing, T. F. Fässler, R. A. Fischer
Angew. Chem. 130 (2018), 14570–14593 (DOI: 10.1002/ange.201805897)
Intermetalloid Clusters: Molecules and Solids in a Dialogue
Angew. Chem. Int. Ed. 57 (2018), 14372–14393 (DOI: 10.1002/anie.201805897)



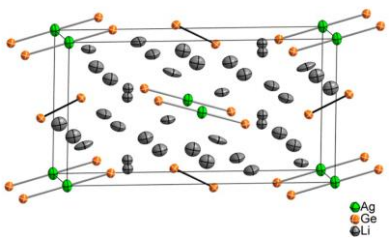
The Influence of the Valence Electron Concentration on the Structural Variation of the Laves Phases $MgNi_{2-x}Ge_x$
L. Siggelkow, V. Hlukhyy, T. F. Fässler
Z. Anorg. Allg. Chem. 643 (2017), 1424–1430 (DOI: 10.1002/zaac.201700180)



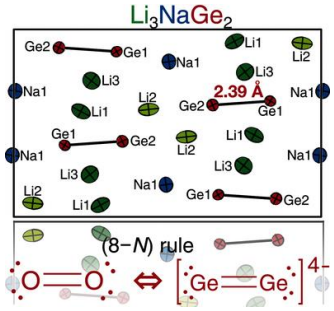
Site-Specific Substitution Preferences in the Solid Solutions $Li_{12}Si_{7-x}Ge_x$, $Li_{12-y}Na_ySi_7$, $Na_7LiSi_{8-z}Ge_z$, and $Li_3NaSi_{6-v}Ge_v$
L. M. Scherf, N. Riphaus, T. F. Fässler
Z. Anorg. Allg. Chem. 642 (2016), 1143–1151 (DOI: 10.1002/zaac.201600259)



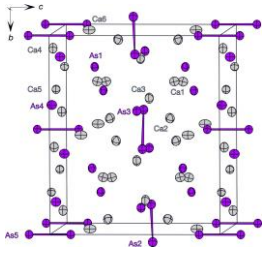
Zintl Phases $K_{4-x}Na_xSi_4$ ($1 \leq x \leq 2.2$) and K_7NaSi_8: Synthesis, Crystal Structures, and Solid-State NMR Spectroscopic Investigations
L. M. Scherf, O. Pecher, K. J. Griffith, F. Haarmann, C. P. Grey, T. F. Fässler
Eur. J. Inorg. Chem. 2016 (2016), 4674–4682 (DOI: 10.1002/ejic.201600735)



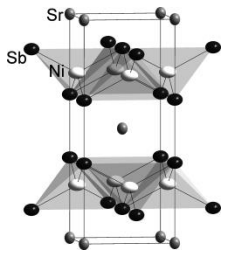
Switching the Structure Type upon Ag Substitution: Synthesis and Crystal as well as Electronic Structures of $Li_{12}AgGe_4$
A. Henze, T. F. Fässler
Inorg. Chem. 55 (2016), 822–827 (DOI: 10.1021/acs.inorgchem.5b02299)



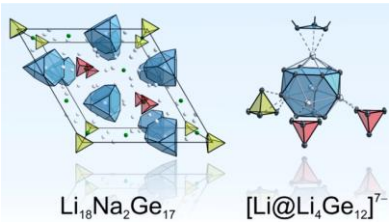
$[Ge_2]^{4-}$ Dumbbells with Very Short Ge−Ge Distances in the Zintl Phase Li_3NaGe_2: A Solid-State Equivalent to Molecular O_2
L. M. Scherf, A. J. Karttunen, O. Pecher, P. C. M. M. Magusin, C. P. Grey, T. F. Fässler
Angew. Chem. 128 (2016), 1087–1091 (DOI: 10.1002/ange.201508044)
Angew. Chem. Int. Ed. 55 (2016), 1075–1079 (DOI: 10.1002/anie.201508044)



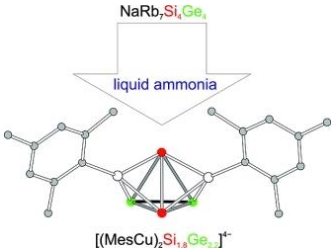
Ca_4As_3 – a new binary calcium arsenide
A. V. Hoffmann, V. Hlukhyy, T. F. Fässler
Acta Cryst. E71 (2015), 1548–1550 (DOI: 10.1107/S2056989015022367)



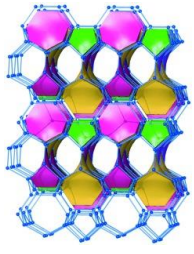
Crystal Structure and Magnetic Properties of $SrNi_{2-x}Sb2$
V. Gvozdetskyi, V. Hlukhyy, R. Gladyshevskii, T. F. Fässler
Z. Anorg. Allg. Chem. 641 (2015), 1859–1862 (DOI: 10.1002/zaac.201500518)



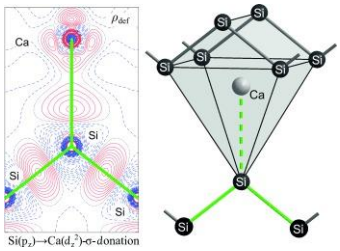
$Li_{18}Na_2Ge_{17}$ – A Compound Demonstrating Cation Effects on Cluster Shapes and Crystal Packing in Ternary Zintl Phases
L. M. Scherf, M. Zeilinger, T. F. Fässler
Inorg. Chem. 53 (2014), 2096−2101 (DOI: 10.1021/ic4027046)



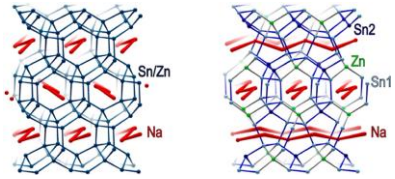
$NaRb_7(Si_{4-x}Ge_x)_2$ - Soluble Zintl Phases Containing Heteroatomic Tetrahedral $[Si_{4-x}Ge_x]^{4-}$ Clusters
M. Waibel, O. Pecher, B. Mausolf, F. Haarmann, T. F. Fässler
Eur. J. Inorg. Chem. 2013 (2013), 5541–5546 (DOI: 10.1002/ejic.201300943)



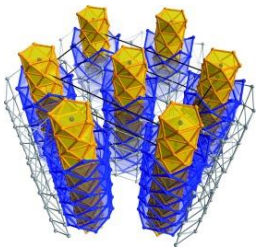
$LiBSi_2$: A Tetrahedral Semiconductor Framework from Boron and Silicon Atoms Bearing Lithium Atoms in the Channels
M. Zeilinger, L. van Wüllen, D. Benson, V. F. Kranak, S. Konar, T. F. Fässler, U. Häussermann
Angew. Chem. 125 (2013), 6094–6098 (DOI: 10.1002/ange.201301540)
Angew. Chem. Int. Ed. 52 (2013), 5978–5982 (DOI: 10.1002/anie.201301540)



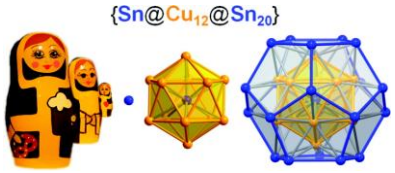
Das Zintl-Klemm-Konzept auf dem Prüfstand: eine theoretische und experimentelle Ladungsdichtestudie an der Zintl-Phase CaSi
I. M. Kurylyshyn, T. F. Fässler, A. Fischer, C. Hauf, G. Eickerling, M. Presnitz, W. Scherer
Angew. Chem. 126 (2014), 3073–3077 (DOI: 10.1002/ange.201308888)
Probing the Zintl-Klemm Concept: A combined experimental and theoretical charge density study of the Zintl phase CaSi
Angew. Chem. Int. Ed. 53 (2014), 3029–3032 (DOI: 10.1002/anie.201308888)



Tetrahedral Framework Structures: Polymorphic Phase Transition with Reorientation of Hexagonal Helical Channels in the Zintl Compound Na_2ZnSn_5 and its Relation to $Na_5Zn_{2+x}Sn_{10-x}$
S. Stegmaier, S.-J. Kim, A. Henze, T. F. Fässler
J. Am. Chem. Soc. 135 (2013), 10654–10663 (DOI: 10.1021/ja401043b)



$Na_{2.8}Cu_5Sn_{5.6}$ – A Crystalline Alloy Featuring Intermetalloid $^1_\infty\{Sn_{0.6}@Cu_5@Sn_5\}$ Double-Walled Nanorods with Pseudo-Five-Fold Symmetry
S. Stegmaier, T. F. Fässler
Angew. Chem. 124 (2012), 2701–2704 (DOI: 10.1002/ange.201107985)
Angew. Chem. Int. Ed. 51 (2012), 2647–2650 (DOI: 10.1002/anie.201107985)



A Bronze Matryoshka – The Discrete Intermetalloid Cluster $[Sn@Cu_{12}@Sn_{20}]^{12-}$ in the Ternary Phases $A_{12}Cu_{12}Sn_{21}$ (A = Na, K)
S. Stegmaier, T. F. Fässler
J. Am. Chem. Soc. 133 (2011), 19758–19768 (DOI: 10.1021/ja205934p)