

**Rediscovery of the Forgotten Middle Child: A Comprehensive Study on the Coordination Chemistry of Melam**

T.J. Koller, L.G. Balzat, J. Blahusch, A. Pichler, B.V. Lotsch, W. Schnick  
*Eur. J. Inorg. Chem.* **2025**, e202500240

**High-Pressure Synthesis of Ultra-Incompressible Beryllium Tungsten Nitride Pernitride  $\text{BeW}_{10}\text{N}_{14}(\text{N}_2)$**

G. Krach, L. Brüning, S. Ambach, E. Bykova, N. Giordano, B. Winkler, M. Bykov, W. Schnick  
*Angew. Chem.* **2025**, e202505778; *Angew. Chem. Int. Ed.* **2025**, e202505778

**Adamantane-Type Nitridophosphate Phosphors  $\text{AE}_x\text{Li}_{10-2x}\text{P}_4\text{N}_{10}:\text{Eu}^{2+}$  via Medium-Pressure Ion-Exchange Reactions**

R.M. Pritzl, A.T. Buda, K. Witthaut, P.J. Schmidt, W. Schnick  
*Angew. Chem.* **2025**, 137, e202420565; *Angew. Chem. Int. Ed.* **2025**, 64, e202420565

**Nitride Zeolites from Ammonothermal Synthesis**

F.M. Engelsberger, W. Schnick  
*Chem. Eur. J.* **2025**, 31, e202404405

**Scalable Bulk Synthesis of Phase-Pure  $\gamma\text{-Sn}_3\text{N}_4$  as a Model for an Argon-Flow-Mediated Metathesis Reaction**

M. Zipkat, A. Koldemir, T. Block, C. Ceniza, T.D. Boyko, S. Kläger, R.M. Pritzl, A. Moewes, R. Pöttgen, S.S. Rudel, W. Schnick  
*Chem. Eur. J.* **2025**, 31, e202403745

**Highly Condensed Nitroberyllosilicates,  $M\text{BeSi}_2\text{N}_4:\text{Eu}^{2+}$  ( $M = \text{Ca}, \text{Sr}$ ): Electronic Structure and Band Gap Studies**

M.R. Amin, T.D. Boyko, P. Strobel, W. Schnick, A. Moewes  
*Can. J. Chem.* **2025** (accepted)

**$\text{Ba}_2\text{BP}_7\text{N}_{14}$  — A Quaternary Alkaline Earth Nitridoborophosphate with a Mixed 3D Network Structure**

A.T. Buda, R.M. Pritzl, M.M. Pointner, J. Steinadler, W. Schnick  
*Chem. Eur. J.* **2025**, 31, e202404755

**Pyrrolation of Melem: A Facile Gateway into the Field of Monomeric s-Heptazine Chemistry**

T.J. Koller, K. Witthaut, F. Wolf, J.N. Singer, J. Blahusch, C. Li, V. Valsamidou, D. Johrendt, W. Schnick  
*Chem. Eur. J.* **2025**, 31, e202500271

**Defect Imide Double Antiperovskites  $\text{AE}_5\text{AsPn}(\text{NH})_2$  ( $\text{AE} = \text{Ca}, \text{Sr}$ ;  $\text{Pn} = \text{Sb}, \text{Bi}$ ) as Potential Solar Cell Absorber Materials**

T.G. Chau, D. Han, F. Wolf, S.S. Rudel, Y. Yao, H. Oberhofer, T. Bein, H. Ebert, W. Schnick  
*Angew. Chem.* **2025**, 137, e202500768; *Angew. Chem. Int. Ed.* **2025**, 64, e202500768

**Combination of Ambient and High-Temperature Beryllium Nitride Motifs in  $\text{W}_2\text{Be}_4\text{N}_5$  and  $\text{W}_4\text{Be}_8\text{N}_9$**

G. Krach, D. Werhahn, K. Witthaut, D. Johrendt, W. Schnick  
*Angew. Chem.* **2025**, 137, e202420583; *Angew. Chem. Int. Ed.* **2025**, 64, e202420583

**Lone Pair and Unique N-bridging of Novel Titanium Nitridophosphate**

P. Ufondu, Sakshi, T.D. Boyko, M.M. Pointner, W. Schnick, A. Moewes  
*Adv. Sci.* **2025**, 12, 2412830

**A Combined Experimental and Computational Study on the Broadening Mechanism of the Luminescence in Narrow-Band  $\text{Eu}^{2+}$ -doped Phosphors**

R. Shafei, P.J. Strobel, P.J. Schmidt, D. Maganas, W. Schnick, F. Neese  
*J. Phys. Chem. C* **2025**, 129, 1495

**Investigation of the Binary Nitrides  $\text{YN}$ ,  $\text{LaN}$  and  $\text{LuN}$  by Solid-State NMR Spectroscopy**

J. Steinadler, G. Krach, W. Schnick, T. Bräuniger  
*Molecules* **2024**, 29, 5572

**Ammonothermal Synthesis of Luminescent Imidonitridophosphate  $\text{Ba}_4\text{P}_4\text{N}_8(\text{NH})_2:\text{Eu}^{2+}$**

F.M. Engelsberger, R.M. Pritzl, J. Steinadler, K. Witthaut, T. Bräuniger, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2024**, 30, e202402743

**$\text{ZnH}_2\text{P}_4\text{N}_8$ : Case Study on Topochemical Imidonitridophosphate High-Pressure Synthesis**

R.M. Pritzl, J. Steinadler, A.T. Buda, S. Wendl, W. Schnick  
*Chem. Eur. J.* **2024**, 30, e202402741

**$\text{P}_{1-x}\text{Ta}_{8+x}\text{N}_{13}$  ( $x = 0.1\text{--}0.15$ ): A Phosphorus Tantalum Nitride Featuring Mixed-Valent Tantalum and P/Ta Disorder Visualized by Scanning Transmission Electron Microscopy**

M.M. Pointner, C. Ceniza, L. Nusser, K. Witthaut, F. Wolf, M. Weidemann, L. Eisenburger, A. Moewes, O. Oeckler, W. Schnick  
*Angew. Chem.* **2024**, 136, e202411441; *Angew. Chem. Int. Ed.* **2024**, 63, e202411441

**$\text{CaLi}_2\text{PN}_3$  – A Quaternary Chain-Type Nitridophosphate by Medium-Pressure Synthesis**

R.M. Pritzl, N. Fahle, K. Witthaut, S. Wendl, W. Schnick  
*Chem. Eur. J.* **2024**, 30, e202402521

**Synthesis and Comprehensive Studies of  $\text{Be-IV-N}_2$  (IV = Si, Ge):**

**Solving the Mystery of Wurtzite-type  $\text{Pmc}2_1$  Structures**

G. Krach, K. Witthaut, J. Steinadler, T. Bräuniger, V. Milman, L. Bayarjargal, B. Winkler, E. Bykova, M. Bykov, W. Schnick  
*Angew. Chem.* **2024**, 136, e202409593; *Angew. Chem. Int. Ed.* **2024**, 63, e202409593

**Ammonothermal Synthesis and Crystal Structure of the Ternary Amide  $\text{Na}_2\text{Ba}(\text{NH}_2)_4$**

F.M. Engelsberger, K. Witthaut, W. Schnick  
*Z. Anorg. Allg. Chem.* **2024**, 650, e202400053

**Trigonal Planar  $[\text{PN}_3]^{4-}$  Anion in the Nitridophosphate Oxide  $\text{Ba}_3[\text{PN}_3]\text{O}$**

R.M. Pritzl, K. Witthaut, M. Dialer, A.T. Buda, V. Milman, L. Bayarjargal, B. Winkler, W. Schnick  
*Angew. Chem.* **2024**, 136, e202405849; *Angew. Chem. Int. Ed.* **2024**, 63, e202405849

**On Tautomerism and Amphoterism: An In-Depth Structural and Physicochemical Characterization of Ammeline and Some of Its Salts**

T.J. Koller, S.M.J. Endraß, M. Rösch, K. Witthaut, T.M. Klapötke, W. Schnick  
*Angew. Chem.* **2024**, 136, e202404927; *Angew. Chem. Int. Ed.* **2024**, 63, e202404927

**Mixed Tin Valence in the Tin(II/IV)-Nitridophosphate  $\text{Sn}_3\text{P}_8\text{N}_{16}$**

S.J. Ambach, A. Koldemir, K. Witthaut, S. Kreiner, T. Bräuniger, R. Pöttgen, W. Schnick  
*Chem. Eur. J.* **2024**, 30, e202401428

**High-pressure Synthesis of Ultra-incompressible, Hard and Superconducting Tungsten Nitrides**

A. Liang, I. Osmond, G. Krach, L.-T. Shi, L. Brüning, U. Ranieri, J. Spender, F. Tasnadi, B. Massani, C.R. Stevens, R.S. McWilliams, E. Lawrence Bright, N. Giordano, S. Gallego-Parra, Y. Yin, A. Aslandukov, F.I. Akbar, E. Gregoryanz, A. Huxley, M. Peña-Alvarez, J.-G. Si, W. Schnick, M. Bykov, F. Trybel, D. Laniel  
*Adv. Funct. Mater.* **2024**, 34, 2313819

**Order and Disorder in Mixed (Si, P)–N Networks  $\text{Sr}_2\text{SiP}_2\text{N}_6:\text{Eu}^{2+}$  and  $\text{Sr}_5\text{Si}_2\text{P}_6\text{N}_{16}:\text{Eu}^{2+}$**

M. Dialer, M.M. Pointner, S.L. Wandelt, P. Strobel, P.J. Schmidt, L. Bayarjargal, B. Winkler, W. Schnick  
*Adv. Optical Mater.* **2024**, 12, 2302668

**Highly Condensed and Super-Incompressible  $\text{Be}_2\text{PN}_3$**

G. Krach, J. Steinadler, K. Witthaut, W. Schnick  
*Angew. Chem.* **2024**, 136, e202404953; *Angew. Chem. Int. Ed.* **2024**, 63, e202404953

**Ammonothermal Synthesis and Solid-State MAS NMR Study of the Imidonitridosilicate  $\text{Rb}_3\text{Si}_6\text{N}_5(\text{NH})_6$**

F.M. Engelsberger, T.G. Chau, T. Bräuniger, W. Schnick  
*Chem. Eur. J.* **2024**, *30*, e202401238

**Green-Emitting Oxonitridoberyllosilicate  $\text{Ba}[\text{BeSiON}_2]:\text{Eu}^{2+}$  for Wide Gamut Displays**

T. Giffthaler, P. Strobel, V. Weiler, A. Haffner, A. Neuer, J. Steinadler, T. Bräuniger, S.D. Kloß, S. Rudel, P.J. Schmidt, W. Schnick  
*Adv. Optical Mater.* **2024**, *12*, 2302343

**Building Nitridic Networks with Phosphorus and Germanium – from  $\text{Ge}^{\text{II}}\text{P}_2\text{N}_4$  to  $\text{Ge}^{\text{IV}}\text{PN}_3$**

S.J. Ambach, G. Krach, E. Bykova, K. Witthaut, N. Giordano, M. Bykov, W. Schnick  
*Inorg. Chem.* **2024**, *63*, 8502

**Tunable Narrow-Band Cyan-Emission of  $\text{Eu}^{2+}$ -doped Nitridomagnesophosphates**

**$\text{Ba}_{3-x}\text{Sr}_x[\text{Mg}_2\text{P}_{10}\text{N}_{20}]:\text{Eu}^{2+}$  ( $x = 0-3$ )**

R.M. Pritzl, M.M. Pointner, K. Witthaut, P. Strobel, P.J. Schmidt, W. Schnick  
*Angew. Chem.* **2024**, *136*, e202403648; *Angew. Chem. Int. Ed.* **2024**, *63*, e202403648

**Super-Tunable  $\text{LaSi}_3\text{N}_5$  Structure Type: Insights into the Structure and Luminescence of  $\text{SrSi}_2\text{PN}_5:\text{Eu}^{2+}$**

M. Dialer, R.M. Pritzl, S.L. Wandelt, D. Khalyavin, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2024**, *36*, 3933

**Multicationic Tetrahedra Networks: Alkaline-Earth-Centered Polyhedra and Non-Condensed  $\text{AlN}_6$ -Octahedra in the Imido-nitridophosphates  $\text{AE}_2\text{AlP}_8\text{N}_{15}(\text{NH})$  ( $\text{AE} = \text{Ca}, \text{Sr}, \text{Ba}$ )**

M.M. Pointner, R.M. Pritzl, J.M. Albrecht, L. Blahusch, J.P. Wright, E. Lawrence Bright, C. Giacobbe, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2024**, *30*, e202400766

**Investigating the Electronic Properties of Novel Titanium Oxonitridophosphate  $\text{Ti}_5\text{P}_{12}\text{N}_{24}\text{O}_2$ , through Structural Distortions at the Titanium Sites**

P. Ufondu, T.D. Boyko, M.M. Pointner, L. Eisenburger, W. Schnick, A. Moewes  
*J. Mater. Chem. C* **2024**, *12*, 4392

**Reduction of Germanium Oxides - The Mixed-Valence Germanates  $\text{A}_2\text{Ge}_4\text{O}_7$  ( $\text{A} = \text{Na}, \text{K}$ )**

T.G. Chau, S.S. Rudel, H. Illner, K. Witthaut, L. Bayarjargal, B. Winkler, W. Schnick  
*Inorg. Chem.* **2024**, *63*, 5227

**$\text{Cr}_{5.7}\text{Si}_{2.3}\text{P}_8\text{N}_{24}$  – A Chromium(+IV) Nitridosilicate Phosphate with Amphibole-Type Structure**

M.M. Pointner, K.R. Fisher, M. Weidemann, F. Wolf, J. Wright, E. Lawrence Bright, C. Giacobbe, O. Oeckler, W. Schnick  
*Angew. Chem.* **2024**, *136*, e202401421; *Angew. Chem. Int. Ed.* **2024**, *63*, e202401421

**The Critical Role of Anharmonic Lattice Dynamics for Macroscopic Properties of the Visible Light Absorbing Nitride Semiconductor  $\text{CuTaN}_2$**

F.S. Hegner, A. Cohen, S.S. Rudel, S. Kronawitter, M. Grumet, X. Zhu, R. Korobko, L. Houben, C.-M. Jiang, W. Schnick, G. Kieslich, O. Yaffe, I.D. Sharp, D.A. Egger  
*Adv. Energy Mater.* **2024**, *14*, 2303059

**The Fundamental Disorder Unit in (Si, P)–(O, N) Networks**

M. Dialer, K. Witthaut, T. Bräuniger, P.J. Schmidt, W. Schnick  
*Angew. Chem.* **2024**, *136*, e202401419; *Angew. Chem. Int. Ed.* **2024**, *63*, e202401419

**Simple Molecules under High-Pressure and High-Temperature Conditions:  
Synthesis and Characterization of  $\alpha$ - and  $\beta$ -C(NH)<sub>2</sub> with Fully sp<sup>3</sup>-Hybridized Carbon**

T.J. Koller, S. Jin, V. Krol, S.J. Ambach, U. Ranieri, S. Khandarkhaeva, J. Spender,  
S. McWilliams, F. Trybel, N. Giordano, T. Poreba, M. Mezouar, X. Kuang, C. Lu,  
L. Dubrovinsky, N. Dubrovinskaia, A. Hermann, W. Schnick, D. Laniel  
*Angew. Chem.* **2024**, 136, e202318214; *Angew. Chem. Int. Ed.* **2024**, 63, e202318214

**Nitride Synthesis Under High-pressure High-temperature Conditions:  
Unprecedented *in-situ* Insight into the Reaction Mechanism**

S.J. Ambach, R.M. Pritzl, S. Bhat, R. Farla, W. Schnick  
*Inorg. Chem.* **2024**, 63, 3535

**A Theoretical Spectroscopy Study of the Photoluminescent Properties of Narrow Band  
Eu<sup>2+</sup>-doped Phosphors Containing Multiple Candidate Doping Centers.  
Prediction of an Unprecedented Narrow Band Red Phosphor**

R. Shafei, P.J. Strobel, P.J. Schmidt, D. Maganas, W. Schnick, F. Neese  
*Phys. Chem. Chem. Phys.* **2024**, 26, 6277

**(Dis)Order and Luminescence in Silicon-Rich (Si,P)–N Network Sr<sub>5</sub>Si<sub>7</sub>P<sub>2</sub>N<sub>16</sub>:Eu<sup>2+</sup>**

M. Dialer, M.M. Pointner, P. Strobel, P.J. Schmidt, W. Schnick  
*Inorg. Chem.* **2024**, 63, 1480

**Ba<sub>12</sub>[BN<sub>2</sub>]<sub>6.67</sub>H<sub>4</sub> – A Disordered Anti-Skutterudite Filled with Nitridoborate Anions**

S.L. Wandelt, A. Mutschke, D. Khalyavin, J. Steinadler, A.J. Karttunen, W. Schnick  
*Angew. Chem.* **2024**, 136, e202316469; *Angew. Chem. Int. Ed.* **2024**, 63, e202316469

**Synthesis of Ultra-Incompressible and Recoverable Carbon Nitrides Featuring CN<sub>4</sub> Tetrahedra**

D. Laniel, F. Trybel, A. Aslandukov, S. Khandarkhaeva, T. Fedotenko, Y. Yin, N. Miyajima, F. Tasnádi,  
A.V. Ponomareva, N. Jena, F.I. Akbar, B. Winkler, A. Néri, S. Chariton, V. Prakapenka, V. Milman,  
W. Schnick, A.N. Rudenko, M.I. Katsnelson, I.A. Abrikosov, L. Dubrovinsky, N. Dubrovinskaia  
*Adv. Mater.* **2024**, 36, 2308030

**Blue Emitting SrBe<sub>1-x</sub>Si<sub>2+x</sub>O<sub>3-2x</sub>N<sub>2+2x</sub>:Eu<sup>2+</sup> (x ≈ 0.1)**

T. Gifftthaler, M. Dialer, P. Strobel, P.J. Schmidt, W. Schnick  
*Z. Anorg. Allg. Chem.* **2024**, 650, e202300208

**Please Mind the Gap: Highly Condensed P–N Networks in LiP<sub>4</sub>N<sub>7</sub> and Li<sub>3-x</sub>P<sub>6</sub>N<sub>11-x</sub>(NH)<sub>x</sub>**

S. Schneider, S. Klenk, S.D. Kloß, W. Schnick  
*Chem. Eur. J.* **2024**, 30, e202303251

**Discovery of Multi-anion Antiperovskites X<sub>6</sub>NFSn<sub>2</sub> (X = Ca, Sr) as Promising Thermoelectric  
Materials by Computational Screening**

D. Han, B. Zhu, Z. Cai, K.B. Spooner, S.S. Rudel, W. Schnick, T. Bein, D.O. Scanlon, H. Ebert  
*Matter* **2024**, 7, 158

**Combining Nitridoborates, Nitrides and Hydrides – Synthesis and Characterization  
of the Multianionic Sr<sub>6</sub>N[BN<sub>2</sub>]<sub>2</sub>H<sub>3</sub>**

S.L. Wandelt, A. Mutschke, D. Khalyavin, R. Calaminus, J. Steinadler, B.V. Lotsch, W. Schnick  
*Angew. Chem.* **2023**, 135, e202313564; *Angew. Chem. Int. Ed.* **2023**, 62, e202313564

**Synthesis and Crystal Structure of Silicon Pernitride SiN<sub>2</sub> at 140 GPa**

P.L. Jurzick, G. Krach, L. Brüning, W. Schnick, M. Bykov  
*Acta. Crystallogr.* **2023**, E79, 923

**Finding Order in Disorder: The Highly Disordered Lithium Oxonitridophosphate  
Double Salt Li<sub>8+x</sub>P<sub>3</sub>O<sub>10-x</sub>N<sub>1+x</sub> (x = 1.4(5))**

S. Schneider, S. Kreiner, L.G. Balzat, B.V. Lotsch, W. Schnick  
*Chem. Eur. J.* **2023**, 29, e202301986

**Tetra-Face-Capped Octahedra in a Tetrahedra Network – Structure Determination and Scanning Transmission Electron Microscopy of  $\text{SrAl}_5\text{P}_4\text{N}_{10}\text{O}_2\text{F}_3$**

M.M. Pointner, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2023**, 29, e202301960

**High-Pressure Synthesis, Crystal Structure, and Characterization of the New Non-Centrosymmetric Terbium Borate  $\text{Tb}_3\text{B}_{10}\text{O}_{17}(\text{OH})_5$**

T.A. Teichtmeister, C. Paulsen, S.J. Ambach, M.K. Reimann, K. Wurst, L. Bayarjargal, R. Pöttgen, W. Schnick, H. Huppertz  
*J. Solid State Chem.* **2023**, 325, 124170

**A Novel Nitridoborate Hydride  $\text{Sr}_{13}(\text{BN}_2)_6\text{H}_8$  Elucidated from X-Ray and Neutron Diffraction Data**

S.L. Wandelt, A. Mutschke, D. Khalyavin, J. Steinadler, W. Schnick  
*Chem. Eur. J.* **2023**, 29, e202301241

**From Framework to Layers Driven by Pressure – The Monophyllo-Oxonitridophosphate  $\beta\text{-MgSrP}_3\text{N}_5\text{O}_2$  and Comparison to its  $\alpha$ -Polymorph**

R.M. Pritzl, N. Prinz, P. Strobel, P.J. Schmidt, D. Johrendt, W. Schnick  
*Chem. Eur. J.* **2023**, 29, e202301218

**Oxonitridoberyllsilicate Phosphors**

T. Giffthaler, P.-J. Strobel, P.J. Schmidt, H.-H. Bechtel, W. Schnick  
*PCT Int. Appl.* **2023**, WO2023107239 (A1), 2023-06-15  
Lumileds LLC, Ludwig-Maximilians-Universität München

**Combining  $\text{MN}_6$  Octahedra and  $\text{PN}_5$  Trigonal Bipyramids in the Mica-like Nitridophosphates  $\text{MP}_6\text{N}_{11}$  ( $M = \text{Al}, \text{In}$ )**

S.J. Ambach, M. Pointner, S. Falkai, C. Paulmann, O. Oeckler, W. Schnick  
*Angew. Chem.* **2023**, 135, e202303580; *Angew. Chem. Int. Ed.* **2023**, 62, e202303580

**The Importance of Lone Pairs to Structure and Bonding of the Novel Germanium Nitridophosphate  $\text{GeP}_2\text{N}_4$**

T. de Boer, C. Somers, T. Boyko, S. Ambach, L. Eisenburger, W. Schnick, A. Moewes  
*J. Mater. Chem. A* **2023**, 11, 6198

**Comprehensive Investigation of Anion Species in Crystalline  $\text{Li}^+$ -ion Conductor  $\text{Li}_{27-x}[\text{P}_4\text{O}_{7+x}\text{N}_{9-x}]\text{O}_3$  ( $x \approx 1.9(3)$ )**

S. Schneider, E.-M. Wendinger, V. Baran, A.-K. Hatz, B.V. Lotsch, M. Nentwig, O. Oeckler, T. Bräuniger, W. Schnick  
*Chem. Eur. J.* **2023**, 29, e202300174

**Modular Principle for Complex Disordered Tetrahedral Frameworks in Quenched High-pressure Phases of Phosphorus Oxide Nitrides**

D. Günther, D. Baumann, W. Schnick, O. Oeckler  
*Chem. Eur. J.* **2023**, 29, e202203892

**Structure Determination of Crystalline LiPON Model Structure  $\text{Li}_{5+x}\text{P}_2\text{O}_{6-x}\text{N}_{1+x}$  with  $x \approx 0.9$**

S. Schneider, L.G. Balzat, B.V. Lotsch, W. Schnick  
*Chem. Eur. J.* **2023**, 29, e202202984

**Structural Influence of Lone Pairs in  $\text{GeP}_2\text{N}_4$ , a Germanium(II) Nitridophosphate**

S.J. Ambach, C. Somers, T. de Boer, L. Eisenburger, A. Moewes, W. Schnick  
*Angew. Chem.* **2023**, 135, e202215393; *Angew. Chem. Int. Ed.* **2023**, 62, e202215393

**Sodalite-type  $\text{Ga}_{16/3}[\text{P}_{12}\text{N}_{24}]\text{O}_2$ : Synthesis, Electron Crystallography and Powder X-ray Diffraction**

D. Günther, L. Eisenburger, W. Schnick, O. Oeckler  
*Z. Anorg. Allg. Chem.* **2022**, 648, e202200280

**Revealing Phosphorus Nitrides up to the Megabar Regime: Synthesis of  $\alpha$ -P<sub>3</sub>N<sub>5</sub>,  $\delta$ -P<sub>3</sub>N<sub>5</sub> and PN<sub>2</sub>**

D. Laniel, F. Trybel, A. Néri, Y. Yin, A. Aslandukov, T. Fedotenko, S. Khandarkhaeva, F. Tasnádi, S. Chariton, C. Giacobbe, E. Lawrence Bright, M. Hanfland, V. Prakapenka, W. Schnick, I.A. Abrikosov, L. Dubrovinsky, N. Dubrovinskaia  
*Chem. Eur. J.* **2022**, *28*, e202201998

**Strontium Nitridoborate Hydride Sr<sub>2</sub>BN<sub>2</sub>H, Verified by Single-Crystal X-ray and Neutron Powder Diffraction**

S.L. Wandelt, A. Karnas, A. Mutschke, N. Kunkel, C. Ritter, W. Schnick  
*Inorg. Chem.* **2022**, *61*, 12685

**Bandgap and Electronic Structure of CaSiN<sub>2</sub>: Experiment and Theory**

T. de Boer, T.D. Boyko, C. Braun, W. Schnick, A. Moewes  
*Int. J. Appl. Ceram. Technol.* **2022**, *20*, 197

**Energy Levels of Eu<sup>2+</sup> States in the Next-Generation LED-Phosphor SrLi<sub>2</sub>Al<sub>2</sub>O<sub>2</sub>N<sub>2</sub>:Eu<sup>2+</sup>**

M. Ruhul Amin, P. Strobel, W. Schnick, P.J. Schmidt, A. Moewes  
*J. Mater. Chem. C* **2022**, *10*, 9740

**Synthesis and Luminescence Properties of Amber Emitting La-Sr[Si<sub>10</sub>N<sub>19</sub>O<sub>3</sub>]:Eu<sup>2+</sup> and Syntheses of the Substitutional Variants RE<sub>8-x</sub>AE<sub>x</sub>[Si<sub>10</sub>N<sub>20-x</sub>O<sub>2+x</sub>]:Eu<sup>2+</sup> with RE = La, Ce; AE = Ca, Sr, Ba; 0 ≤ x ≤ 2**

L. Gamperl, P. Strobel, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2022**, *28*, e202200760

**Electronic and Optical Properties of Eu<sup>2+</sup>-activated Narrow-Band Phosphors for Phosphor-Converted Light-Emitting Diode Applications: Insights from a Theoretical Spectroscopy Perspective**

R. Shafei, D. Maganas, P.J. Strobel, P.J. Schmidt, W. Schnick, F. Neese  
*J. Am. Chem. Soc.* **2022**, *144*, 8038

**Band Gap and Electronic Structure of Defects in the Ternary Nitride BP<sub>3</sub>N<sub>6</sub>: Experiment and Theory**

T. de Boer, M.F. Al Fattah, M.R. Amin, S.J. Ambach, S. Vogel, W. Schnick, A. Moewes  
*J. Mater. Chem. C* **2022**, *10*, 6429

**Self-doping Behavior and Cation Disorder in MgSnN<sub>2</sub>**

D. Han, S.S. Rudel, W. Schnick, H. Ebert  
*Phys. Rev. B* **2022**, *105*, 125202

**Discovery of Two Polymorphs of TiP<sub>4</sub>N<sub>8</sub> Synthesized from Binary Nitrides**

L. Eisenburger, V. Weippert, C. Paulmann, D. Johrendt, O. Oeckler, W. Schnick  
*Angew. Chem.* **2022**, *134*, e202202014; *Angew. Chem. Int. Ed.* **2022**, *61*, e202202014

**High-pressure Na<sub>3</sub>(N<sub>2</sub>)<sub>4</sub>, Ca<sub>3</sub>(N<sub>2</sub>)<sub>4</sub>, Sr<sub>3</sub>(N<sub>2</sub>)<sub>4</sub>, and Ba(N<sub>2</sub>)<sub>3</sub> Featuring Nitrogen Dimers with Noninteger Charges and Anion-driven Metallicity**

D. Laniel, B. Winkler, T. Fedotenko, A. Aslandukova, A. Aslandukov, S. Vogel, T. Meier, M. Bykov, S. Chariton, K. Glazyrin, V. Milman, V. Prakapenka, W. Schnick, L. Dubrovinsky, N. Dubrovinskaia  
*Phys. Rev. Mater.* **2022**, *6*, 023402

**Inverse-tunable Red Luminescence and Electronic Properties of Nitridoberylloaluminates Sr<sub>2-x</sub>Ba<sub>x</sub>[BeAl<sub>3</sub>N<sub>5</sub>]:Eu<sup>2+</sup> (x = 0–2)**

E. Elzer, P. Strobel, V. Weiler, M.R. Amin, P.J. Schmidt, A. Moewes, W. Schnick  
*Chem. Eur. J.* **2022**, *28*, e202104121

**Nitridic Analogs of Micas AESi<sub>3</sub>P<sub>4</sub>N<sub>10</sub>(NH)<sub>2</sub> (AE = Mg, Mg<sub>0.94</sub>Ca<sub>0.06</sub>, Ca, Sr)**

L. Eisenburger, P. Strobel, P.J. Schmidt, T. Bräuniger, J. Wright, E. Lawrence Bright, C. Giacobbe, O. Oeckler, W. Schnick  
*Angew. Chem.* **2022**, *134*, e202114902; *Angew. Chem. Int. Ed.* **2022**, *61*, e202114902

**Missing Member in the  $M^{\text{II}}M^{\text{III}}\text{Si}_4\text{N}_7$  Compound Class: Carbothermal Reduction and Nitridation Synthesis Reveal Substitution of Nitrogen by Carbon and Oxygen in  $\text{CaLu}[\text{Si}_4\text{N}_{7-2x}\text{C}_x\text{O}_x]:\text{Eu}^{2+}/\text{Ce}^{3+}$  ( $x \approx 0.3$ )**

L. Gamperl, O.E.O. Zeman, P. Strobel, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2022**, *28*, e202104007

**Detecting a Hierarchy of Deep-Level Defects in the Model Semiconductor  $\text{ZnSiN}_2$**

T. de Boer, J. Häusler, P. Strobel, T.D. Boyko, S. Rudel, W. Schnick, A. Moewes  
*J. Phys. Chem. C* **2021**, *125*, 27959

**Comprehensive Band Gap and Electronic Structure Investigations of the Prominent Phosphors  $\text{M}_2\text{Si}_5\text{N}_8:\text{Eu}^{2+}$  ( $M=\text{Ca},\text{Sr},\text{Ba}$ ) Determined Using Soft X-ray Spectroscopy and Density Functional Theory**

T.M. Tolhurst, C. Braun, W. Schnick, A. Moewes  
*J. Phys. Chem. C* **2021**, *125*, 25799

**$\text{Eu}_3\text{Be}_{22}\text{N}_{16}\text{O}$ : A Highly Condensed Oxonitridoberyllate**

E. Elzer, M. Weidemann, W. Schnick  
*Eur. J. Inorg. Chem.* **2021**, 4979

**Nitridophosphate Phosphors for Solid State Lighting and Method of Production**

S. Wendl, P.-J. Schmidt, W. Schnick  
*PCT Int. Appl.* **2021**, WO2021183847 (A1), 2021-09-16  
Lumileds LLC

**High-Pressure Synthesis of  $\text{Sc}_5\text{P}_{12}\text{N}_{23}\text{O}_3$  and  $\text{Ti}_5\text{P}_{12}\text{N}_{24}\text{O}_2$  by Activation of Binary Nitrides  $\text{ScN}$  and  $\text{TiN}$  with  $\text{NH}_4\text{F}$**

L. Eisenburger, V. Weippert, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2021**, *27*, 14184

**Structure Elucidation of Complex Endotaxially Intergrown Lanthanum Barium Oxonitridosilicate Oxides by Combination of Microfocused Synchrotron Radiation and Transmission Electron Microscopy**

L. Gamperl, L. Neudert, P. Schultz, D. Durach, W. Schnick, O. Oeckler  
*Chem. Eur. J.* **2021**, *27*, 12835

**Unraveling the Energy Levels of  $\text{Eu}^{2+}$  Ions in  $\text{MBe}_{20}\text{N}_{14}:\text{Eu}^{2+}$  ( $M = \text{Sr}, \text{Ba}$ ) Phosphors**

M.R. Amin, E. Elzer, W. Schnick, A. Moewes  
*J. Phys. Chem. C* **2021**, *125*, 11828

**Synthesis of the Scandium Chloride Hydrates  $\text{ScCl}_3 \cdot 3 \text{H}_2\text{O}$  and  $\text{Sc}_2\text{Cl}_4(\text{OH})_2 \cdot 12 \text{H}_2\text{O}$  and their Characterisation by X-Ray Diffraction,  $^{45}\text{Sc}$  NMR Spectroscopy and DFT Calculations**

T. Bräuniger, P. Bielec, O.E.O. Zeman, I.L. Moudrakovski, C. Hoch, W. Schnick  
*Z.Naturforsch. B* **2021**, *76*, 217

**Electronic Properties of Semiconducting  $\text{Zn}(\text{Si},\text{Ge},\text{Sn})\text{N}_2$  Alloys**

M. Ogura, D. Han, M. Pointner, L. Junkers, S.S. Rudel, W. Schnick, H. Ebert  
*Phys. Rev. Mater.* **2021**, *5*, 024601

**High-Pressure High-Temperature Synthesis of Mixed Nitridosilicatephosphates and Luminescence of  $\text{AESiP}_3\text{N}_7:\text{Eu}^{2+}$  ( $AE = \text{Sr}, \text{Ba}$ )**

L. Eisenburger, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2021**, *27*, 4461

**Synthesis, Crystal Structure and Structure-property Relations of Strontium Orthocarbonate  $\text{Sr}_2\text{CO}_4$**

D. Laniel, J. Binck, B. Winkler, S. Vogel, T. Fedotenko, S. Chariton, V. Prakapenka, V. Milman, W. Schnick, L. Dubrovinsky, N. Dubrovinskaja  
*Acta Crystallogr. B* **2021**, *B77*, 131

**Synthesis of Nitride Zeolites in a Hot Isostatic Press**

S. Wendl, M. Zipkat, P. Strobel, P.J. Schmidt, W. Schnick  
*Angew. Chem.* **2021**, 133, 4520; *Angew. Chem. Int. Ed.* **2021**, 60, 4470

**Aus blau wird weiß – Beitrag der Chemie zu einer nachhaltigen Beleuchtung**

D. Diekemper, W. Schnick, S. Schwarzer  
*Chemkon.* **2021**, 28, 341

**Post-Synthetic Modification: Systematic Study on a Simple Access to Nitridophosphates**

S. Wendl, L. Seidl, P. Schüler, W. Schnick  
*Angew. Chem.* **2020**, 132, 23785; *Angew. Chem. Int. Ed.* **2020**, 59, 23579

**Illuminating Nitridoberyllaluminates: The Highly Efficient Red-Emitting Phosphor  
 $\text{Sr}_2[\text{BeAl}_3\text{N}_5]:\text{Eu}^{2+}$**

E. Elzer, P. Strobel, V. Weiler, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2020**, 32, 6611

**HIP to be Square: Simplifying Nitridophosphate Synthesis in a Hot Isostatic Press**

S. Wendl, S. Mardazad, P. Strobel, P.J. Schmidt, W. Schnick  
*Angew. Chem.* **2020**, 132, 18397; *Angew. Chem. Int. Ed.* **2020**, 59, 18240

**Electronic Structure Investigation of Wide Band Gap Semiconductors -  $\text{Mg}_2\text{PN}_3$  and  $\text{Zn}_2\text{PN}_3$ :  
Experiment and Theory**

M.F. Al Fattah, M.R. Amin, M. Mallmann, S. Kasap, W. Schnick, A. Moewes  
*J. Phys.: Condens. Matter* **2020**, 32, 405504

**Understanding of Luminescence Properties Using Direct Measurements on  $\text{Eu}^{2+}$ -doped  
Wide Bandgap Phosphors**

M.R. Amin, P. Strobel, A. Qamar, T. Gifftthaler, W. Schnick, A. Moewes  
*Adv. Optical Mater.* **2020**, 8, 2000504

**Nitridophosphate-Based Ultra-Narrow-Band Blue-Emitters: Luminescence Properties  
of  $\text{AEP}_8\text{N}_{14}:\text{Eu}^{2+}$  ( $\text{AE} = \text{Ca}, \text{Sr}, \text{Ba}$ )**

S. Wendl, L. Eisenburger, P. Strobel, D. Günther, J.P. Wright, P.J. Schmidt, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2020**, 26, 7292

**Ammonothermal Synthesis and Crystal Growth of the Chain-type Oxonitridosilicate  
 $\text{Ca}_{1+x}\text{Y}_{1-x}\text{SiN}_{3-x}\text{O}_x$  ( $x > 0$ )**

M. Mallmann, C. Maak, W. Schnick  
*Z. Anorg. Allg. Chem.* **2020**, 646, 1539

**$\text{Sr}_3\text{P}_3\text{N}_7$ : Complementary Approach by Ammonothermal and High-Pressure Syntheses**

M. Mallmann, S. Wendl, P. Strobel, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2020**, 26, 6257

**Ammonothermal Synthesis of  $\text{Ba}_2\text{PO}_3\text{N}$  – An Oxonitridophosphate with  
Non-Condensed  $\text{PO}_3\text{N}$ -Tetrahedra**

S. Wendl, M. Mallmann, P. Strobel, P.J. Schmidt, W. Schnick  
*Eur. J. Inorg. Chem.* **2020**, 841

**Facile One-step Synthesis of  $\text{Zn}_{1-x}\text{Mn}_x\text{SiN}_2$  Nitride Semiconductor Solid Solutions  
via Solid-state Metathesis Reaction**

O.E.O. Zeman, F.O. von Rohr, L. Neudert, W. Schnick  
*Z. Anorg. Allg. Chem.* **2020**, 646, 228

**$\text{BaP}_6\text{N}_{10}\text{NH}:\text{Eu}^{2+}$  as a Case Study - An Imidonitridophosphate Showing Luminescence**

S. Wendl, L. Eisenburger, M. Zipkat, D. Günther, J.P. Wright, P.J. Schmidt, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2020**, 26, 5010



**High-pressure Synthesis of Cyclic Phosphazenes by Near-UV Photo-induced Reactivity of NH<sub>3</sub> and Elemental Phosphorus**

D. Scelta, A. Baldassarre, M. Serrano-Ruiz, A. Marchuk, S. Vogel, W. Schnick, M. Peruzzini, R. Bini, M. Ceppatelli  
*J. Phys. Chem. C* **2020**, 124, 4308

**Synthesis and Crystal Structure of Strontium Beryllate Sr<sub>3</sub>Be<sub>2</sub>O<sub>5</sub>**

T. Giffthaler, P. Strobel, W. Schnick  
*Z. Anorg. Allg. Chem.* **2020**, 646, 103

**Crystalline Nitridophosphates by Ammonothermal Synthesis**

M. Mallmann, S. Wendl, W. Schnick  
*Chem. Eur. J.* **2020**, 26, 2067

**Nitride Spinel: An Ultraincompressible High-Pressure Form of BeP<sub>2</sub>N<sub>4</sub>**

S. Vogel, M. Bykov, E. Bykova, S. Wendl, S.D. Kloß, A. Pakhomova, N. Dubrovinskaia, L. Dubrovinsky, W. Schnick  
*Angew. Chem.* **2020**, 132, 2752; *Angew. Chem. Int. Ed.* **2020**, 59, 2730

**Synthesis of RE<sub>6-x</sub>Ca<sub>1.5x</sub>Si<sub>11</sub>N<sub>20</sub>O (RE = Yb, Lu; x ≈ 2.2) with Lu<sub>6-x</sub>Ca<sub>1.5x</sub>Si<sub>11</sub>N<sub>20</sub>O:Ce<sup>3+</sup> Offering Interesting Spectral Properties for Yellow-Emitting Phosphors in 1pcLEDs**

L. Gamperl, G. Krach, P.J. Schmidt, W. Schnick  
*Eur. J. Inorg. Chem.* **2019**, 4985

**Microwave Synthesis of a Prominent LED Phosphor for School Students: Chemistry's Contribution to Sustainable Lighting**

D. Diekemper, W. Schnick, S. Schwarzer  
*J. Chem. Edu.* **2019**, 96, 3018

**Solid Solutions of Grimm-Sommerfeld Analogous Nitride Semiconductors II-IV-N<sub>2</sub> (II = Mg, Mn, Zn; IV = Si, Ge): Ammonothermal Synthesis and DFT Calculations**

M. Mallmann, R. Niklaus, T. Rackl, M. Benz, T.G. Chau, D. Johrendt, J. Minár, W. Schnick  
*Chem. Eur. J.* **2019**, 25, 15887

**The Long-periodic Loop-branched Chain Structure of the Oxonitridophosphate La<sub>21</sub>P<sub>40</sub>O<sub>46</sub>N<sub>57</sub>, Elucidated by a Combination of TEM and Microfocused Synchrotron Radiation**

M. Nentwig, S.D. Kloß, L. Neudert, L. Eisenburger, W. Schnick, O. Oeckler  
*Chem. Eur. J.* **2019**, 25, 14382

**Luminescent Materials**

P.-J. Strobel, P.J. Schmidt, W. Schnick  
*PCT Int. Appl.* **2019**, US2019322932 (A1), 2019-10-24  
Lumileds Holding BV, Ludwig-Maximilians-Universität München

**Wavelength Converting Material for a Light Emitting Device**

P.J. Schmidt, P.-J. Strobel, W. Schnick  
*PCT Int. Appl.* **2019**, WO 2019141582 A1, 20190725  
Lumileds Holding BV, Ludwig-Maximilians-Universität München

**High-pressure Synthesis of Ultraincompressible Hard Rhenium Nitride Pernitride Re<sub>2</sub>(N<sub>2</sub>)(N)<sub>2</sub> Stable at Ambient Conditions**

M. Bykov, S. Chariton, H. Fei, T. Fedotenko, G. Aprilis, A.V. Ponomareva, F. Tasnádi, I.A. Abrikosov, B. Merle, P. Feldner, S. Vogel, W. Schnick, V.B. Prakapenka, E. Greenberg, M. Hanfland, A. Pakhomova, H.-P. Liermann, T. Katsura, N. Dubrovinskaia, L. Dubrovinsky  
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**Boron Phosphorus Nitride at Extremes:  $\text{PN}_6$  Octahedra in the High-Pressure Polymorph  $\beta\text{-BP}_3\text{N}_6$**

S. Vogel, M. Bykov, E. Bykova, S. Wendl, S.D. Kloß, A. Pakhomova, S. Chariton, E. Koemets, N. Dubrovinskaia, L. Dubrovinsky, W. Schnick  
*Angew. Chem.* **2019**, *131*, 9158; *Angew. Chem. Int. Ed.* **2019**, *58*, 9060

**Nitridophosphates: A Success Story of Nitride Synthesis**

S.D. Kloß, W. Schnick  
*Angew. Chem.* **2019**, *131*, 8015; *Angew. Chem. Int. Ed.* **2019**, *58*, 7933

**Ab Initio Exploration and Prediction of AE-containing Nitrido(litho/magneso)tetrelates (AE = Ca, Sr; Tt = Si, Ge) with  $[\text{Si}_2\text{N}_6]^{10-}$  or  $[\text{Ge}_2\text{N}_6]^{10-}$ -units**

R. Niklaus, J. Minár, P. Strobel, P.J. Schmidt, W. Schnick  
*Dalton Trans.* **2019**, *48*, 8671

**Author Profile - Prof. Dr. Wolfgang Schnick**

*Angew. Chem.* **2019**, *131*, 6882; *Angew. Chem. Int. Ed.* **2019**, *58*, 6810

**A Quaternary Core–Shell Oxynitride Nanowire Photoanode Containing a Hole–Extraction Gradient for Photoelectrochemical Water Oxidation**

Z. Ma, T. Thersleff, A. Görne, N. Cordes, Y. Liu, S. Jakobi, A. Rokicinska, Z. Schichtl, R. Coridan, P. Kuśtrowski, W. Schnick, R. Dronskowski, A. Slabon  
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**Ammonothermal Crystal Growth of  $\text{ATaN}_2$  with A = Na, K, Rb, and Cs and their Optical and Electronic Properties**

N. Cordes, R. Niklaus, W. Schnick  
*Cryst. Growth Des.* **2019**, *19*, 3484

**From Heptazines to Triazines – On the Formation of Poly(triazine imide)**

F.K. Kessler, W. Schnick  
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**Ammelinium Sulfate Monohydrate and Ammelinium Sulfate Cyanuric Acid – Synthesis and Structural Characterization**

F.K. Kessler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2019**, *645*, 848

**Melamium Thiocyanate Melam, a Melamium Salt with Disordered Anion Sites**

F.K. Kessler, A.M. Schuhbeck, W. Schnick  
*Z. Anorg. Allg. Chem.* **2019**, *645*, 840

**Structure Elucidation of a Melam-Melem Adduct by a Combined Approach of Synchrotron X-ray Diffraction and DFT Calculations**

F.K. Kessler, A.M. Burow, G. Savasci, T. Rosenthal, P. Schultz, E. Wirnhier, O. Oeckler, C. Ochsenfeld, W. Schnick  
*Chem. Eur. J.* **2019**, *25*, 8415

**$M\text{Be}_{20}\text{N}_{14}:\text{Eu}^{2+}$  (M = Sr, Ba): Highly Condensed Nitridoberyllates with Exceptional Highly Energetic  $\text{Eu}^{2+}$  Luminescence**

E. Elzer, R. Niklaus, P.J. Strobel, V. Weiler, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2019**, *31*, 3174

**Open-shell 3d Transition Metal Nitridophosphates  $M^{\text{II}}\text{P}_8\text{N}_{14}$  (M<sup>II</sup> = Fe, Co, Ni) by High-pressure Metathesis**

S.D. Kloß, O. Janka, T. Block, R. Pöttgen, R. Glaum, W. Schnick  
*Angew. Chem.* **2019**, *131*, 4733; *Angew. Chem. Int. Ed.* **2019**, *58*, 4685

**Ammonothermal Synthesis of the Mixed-Valence Nitrogen-Rich Europium Tantalum Ruddlesden-Popper Phase  $\text{Eu}^{\text{II}}\text{Eu}^{\text{III}}_2\text{Ta}_2\text{N}_4\text{O}_3$**

N. Cordes, M. Nentwig, L. Eisenburger, O. Oeckler, W. Schnick  
*Eur. J. Inorg. Chem.* **2019**, 2304

**$\text{Y}_{23}\text{Sr}_{17}[\text{Si}_{38}\text{O}_{18}\text{N}_{67}]\text{O}_9$  – An Oxonitridosilicate Oxide with a Unique Layered Structure**

C. Maak, R. Niklaus, O. Oeckler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2019**, 645, 182

**Rivalry under Pressure: The Coexistence of Ambient-pressure Motifs and Close-packing in Silicon Phosphorus Nitride Imide  $\text{SiP}_2\text{N}_4\text{NH}$**

S. Vogel, A.T. Buda, W. Schnick  
*Angew. Chem.* **2019**, 131, 3436; *Angew. Chem. Int. Ed.* **2019**, 58, 3398

**Cationic  $\text{Pb}_2$  Dumbbells Stabilized in the Highly Covalent Lead Nitridosilicate  $\text{Pb}_2\text{Si}_5\text{N}_8$**

P. Bielec, R. Nelson, R. Stoffel, L. Eisenburger, D. Günther, A.-K. Henß, J.P. Wright, O. Oeckler, R. Dronskowski, W. Schnick  
*Angew. Chem.* **2019**, 131, 1446; *Angew. Chem. Int. Ed.* **2019**, 58, 1432

**Targeting Vacancies in Nitridosilicates: Aliovalent Substitution of  $\text{M}^{2+}$  ( $\text{M} = \text{Ca}, \text{Sr}$ ) by  $\text{Sc}^{3+}$  and  $\text{U}^{3+}$**

P. Bielec, L. Eisenburger, L. Deubner, D. Günther, F. Kraus, O. Oeckler, W. Schnick  
*Angew. Chem.* **2019**, 131, 850; *Angew. Chem. Int. Ed.* **2019**, 58, 840

**Tailoring Emission Characteristics: Narrow-Band Red Luminescence from SLA to  $\text{CaBa}[\text{Li}_2\text{Al}_6\text{N}_8]:\text{Eu}^{2+}$**

P. Wagatha, V. Weiler, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2018**, 30, 7885

**Orange-Emitting  $\text{Li}_4\text{Sr}_4[\text{Si}_4\text{O}_4\text{N}_6]\text{O}:\text{Eu}^{2+}$  - a Layered Lithium Oxonitridosilicate Oxide**

R. Niklaus, L. Neudert, J. Stahl, P.J. Schmidt, W. Schnick  
*Inorg. Chem.* **2018**, 57, 14304

**Ammonothermal Synthesis of  $\text{EAMO}_2\text{N}$  ( $\text{EA} = \text{Sr}, \text{Ba}$ ;  $\text{M} = \text{Nb}, \text{Ta}$ ) Perovskites and  $^{14}\text{N}$  Solid-State NMR Spectroscopic Investigations of  $\text{AM}(\text{O},\text{N})_3$  ( $\text{A} = \text{Ca}, \text{Sr}, \text{Ba}, \text{La}$ )**

N. Cordes, T. Bräuniger, W. Schnick  
*Eur. J. Inorg. Chem.* **2018**, 5019

**$\text{RE}_4\text{Ba}_2[\text{Si}_{12}\text{O}_2\text{N}_{16}\text{C}_3]:\text{Eu}^{2+}$  ( $\text{RE} = \text{Lu}, \text{Y}$ ): Green-Yellow Emitting Oxonitridocarbidosilicates with a Highly Condensed Network Structure Unraveled through Synchrotron Microdiffraction**

C. Maak, L. Eisenburger, J.P. Wright, M. Nentwig, P.J. Schmidt, O. Oeckler, W. Schnick  
*Inorg. Chem.* **2018**, 57, 13840

**$\text{SrH}_4\text{P}_6\text{N}_{12}$  and  $\text{SrP}_8\text{N}_{14}$ : Insights into the Condensation Mechanism of Nitridophosphates under High Pressure**

S. Wendl, W. Schnick  
*Chem. Eur. J.* **2018**, 24, 15889

**Ammonothermal Synthesis, Optical Properties, and DFT Calculations of  $\text{Mg}_2\text{PN}_3$  and  $\text{Zn}_2\text{PN}_3$**

M. Mallmann, C. Maak, R. Niklaus, W. Schnick  
*Chem. Eur. J.* **2018**, 24, 13963

**United in Nitride: The Highly Condensed Boron Phosphorus Nitride  $\text{BP}_3\text{N}_6$**

S. Vogel, A. T. Buda, W. Schnick  
*Angew. Chem.* **2018**, 130, 13386; *Angew. Chem. Int. Ed.* **2018**, 57, 13202

**$\text{SrP}_3\text{N}_5\text{NH}$ : A Framework-type Imidonitridophosphate Featuring Structure-Directing Hydrogen Bonds**

S. Vogel, W. Schnick  
*Chem. Eur. J.* **2018**, 24, 14275

**Unprecedented Deep-Red Ce<sup>3+</sup> Luminescence of the Nitridolithosilicates**

**Li<sub>38.7</sub>RE<sub>3.3</sub>Ca<sub>5.7</sub>[Li<sub>2</sub>Si<sub>30</sub>N<sub>59</sub>]O<sub>2</sub>F (RE = La, Ce, Y)**

C. Maak, P. Strobel, V. Weiler, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2018**, *30*, 5500

**Oxoberyllates SrBeO<sub>2</sub> and Sr<sub>12</sub>Be<sub>17</sub>O<sub>29</sub> as Novel Host Materials for Eu<sup>2+</sup> Luminescence**

P. Strobel, R. Niklaus, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2018**, *24*, 12678

**Ultra-Narrow-Band Blue-Emitting Oxoberyllates AELi<sub>2</sub>[Be<sub>4</sub>O<sub>6</sub>]:Eu<sup>2+</sup> (AE = Sr, Ba)  
Paving the Way to Efficient RGB pc-LEDs**

P. Strobel, C. Maak, V. Weiler, P.J. Schmidt, W. Schnick  
*Angew. Chem.* **2018**, *130*, 8875; *Angew. Chem. Int. Ed.* **2018**, *57*, 8739

**Narrow-Band Yellow-Orange Emitting La<sub>3-x</sub>Ca<sub>1.5x</sub>Si<sub>6</sub>N<sub>11</sub>:Eu<sup>2+</sup> (x ≈ 0.77):**

**A Promising Phosphor for Next-Generation Amber pcLEDs**

C. Maak, D. Durach, C. Martiny, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2018**, *30*, 3552

**Luminescence of an Oxonitridoberyllate: A Study of Narrow-band Cyan-Emitting Sr[Be<sub>6</sub>ON<sub>4</sub>]:Eu<sup>2+</sup>**

P. Strobel, T. de Boer, V. Weiler, P.J. Schmidt, A. Moewes, W. Schnick  
*Chem. Mater.* **2018**, *30*, 3122

**Stishovite's Relative: A Post-Coesite Form of Phosphorus Oxonitride**

S. Vogel, D. Baumann, R. Niklaus, E. Bykova, M. Bykov, N. Dubrovinskaia, L. Dubrovinsky, W. Schnick  
*Angew. Chem.* **2018**, *130*, 6801; *Angew. Chem. Int. Ed.* **2018**, *57*, 6691

**Sr[BeSi<sub>2</sub>N<sub>4</sub>]:Eu<sup>2+</sup>/Ce<sup>3+</sup> and Eu[BeSi<sub>2</sub>N<sub>4</sub>]: Nontypical Luminescence in Highly Condensed Nitridoberyllsilicates**

P. Strobel, V. Weiler, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2018**, *24*, 7243

**LiPr<sub>2</sub>P<sub>4</sub>N<sub>7</sub>O<sub>3</sub>: Structural Diversity of Oxonitridophosphates Accessed by High-pressure Metathesis**

S.D. Kloß, W. Schnick  
*Inorg. Chem.* **2018**, *57*, 4189

**High-pressure Metathesis of the M<sub>1-x</sub>PO<sub>3+4x</sub>N<sub>1-4x</sub> (x ≈ 0.05) and M<sub>0.75</sub>PO<sub>4</sub> (M = Zr, Hf) Orthophosphates**

S.D. Kloß, A. Weis, S. Wandelt, W. Schnick  
*Inorg. Chem.* **2018**, *57*, 4164

**Ammonothermal Synthesis of Nitrides: Recent Developments and Future Perspectives**

J. Häusler, W. Schnick  
*Chem. Eur. J.* **2018**, *24*, 11864

**Tunable Red Luminescence in Nitridomagnesoaluminates α-Sr<sub>2</sub>[MgAl<sub>5</sub>N<sub>7</sub>]:Eu<sup>2+</sup>,  
β-Sr<sub>2</sub>[MgAl<sub>5</sub>N<sub>7</sub>]:Eu<sup>2+</sup> and Sr<sub>8</sub>[LiMg<sub>2</sub>Al<sub>21</sub>N<sub>28</sub>]:Eu<sup>2+</sup>**

P. Wagatha, V. Weiler, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2018**, *30*, 1755

**Accessing Tetravalent Transition-Metal Nitridophosphates Through High-pressure Metathesis**

S.D. Kloß, S. Wandelt, A. Weis, W. Schnick  
*Angew. Chem.* **2018**, *130*, 3246; *Angew. Chem. Int. Ed.* **2018**, *57*, 3192

**Oxonitridosilicate Oxides RE<sub>26</sub>Ba<sub>6</sub>[Si<sub>22</sub>O<sub>19</sub>N<sub>36</sub>]O<sub>16</sub>:Eu<sup>2+</sup> (RE = Y, Tb)  
with a Unique Layered Structure and Orange-Red Luminescence for RE = Y**

C. Maak, C. Hoch, P.J. Schmidt, W. Schnick  
*Inorg. Chem.* **2018**, *57*, 2242

**HP-CaSiN<sub>2</sub> – A New High-pressure Modification**

C. Braun, H. Ehrenberg, W. Schnick  
*Eur. J. Inorg. Chem.* **2018**, 1107

**Fe<sub>2</sub>Si<sub>5</sub>N<sub>8</sub>: Access to Open-Shell Transition-Metal Nitridosilicates**

P. Bielec, O. Janka, T. Block, R. Pöttgen, W. Schnick  
*Angew. Chem.* **2018**, 130, 2433; *Angew. Chem. Int. Ed.* **2018**, 57, 2409

**Synthesis and Structure of Melamium Bromide C<sub>6</sub>N<sub>11</sub>H<sub>10</sub>Br and Melamium Iodide C<sub>6</sub>N<sub>11</sub>H<sub>10</sub>I**

F.K. Kessler, T.J. Koller, W. Schnick  
*Z. Anorg. Allg. Chem.* **2018**, 644, 186

**Ammonothermal Synthesis and Crystal Structure of the Nitridoalumogermanate**

**Ca<sub>1-x</sub>Li<sub>x</sub>Al<sub>1-x</sub>Ge<sub>1+x</sub>N<sub>3</sub> (x ≈ 0.2)**

J. Häusler, L. Eisenburger, O. Oeckler, W. Schnick  
*Eur. J. Inorg. Chem.* **2018**, 759

**Ammonothermal Synthesis and Optical Properties of Ternary Nitride Semiconductors**

**Mg-IV-N<sub>2</sub>, Mn-IV-N<sub>2</sub> and Li-IV<sub>2</sub>-N<sub>3</sub> (IV = Si, Ge)**

J. Häusler, R. Niklaus, J. Minár, W. Schnick  
*Chem. Eur. J.* **2018**, 24, 1686

**Reversible Polymerization of Adamantane-type [P<sub>4</sub>N<sub>10</sub>]<sup>10-</sup> Anions to Honeycomb-type [P<sub>2</sub>N<sub>5</sub>]<sup>5-</sup> Layers under High-Pressure**

E.-M. Bertschler, R. Niklaus, W. Schnick  
*Chem. Eur. J.* **2018**, 24, 736

**Structural Variations in Indium Tin Tellurides and Their Thermoelectric Properties**

L. Neudert, S. Schwarz Müller, S. Schmitzer, W. Schnick, O. Oeckler  
*J. Solid State Chem.* **2018**, 258, 289

**Li<sup>+</sup> Ion Conductors with Adamantane-type Nitridophosphate Anions - β-Li<sub>10</sub>P<sub>4</sub>N<sub>10</sub> and Li<sub>13</sub>P<sub>4</sub>N<sub>10</sub>X<sub>3</sub> with X = Cl, Br**

E.-M. Bertschler, C. Dietrich, T. Leichtweiß, J. Janek, W. Schnick  
*Chem. Eur. J.* **2018**, 24, 196

**Aggregated Molecular Fluorophores in the Ammonothermal Synthesis of Carbon Dots**

C.J. Reckmeier, J. Schneider, Y. Xiong, J. Häusler, P. Kasák, W. Schnick, A.L. Rogach  
*Chem. Mater.* **2017**, 29, 10352

**Highly Symmetric AB<sub>2</sub> Framework Related to Tridymite in the Disordered Nitridosilicate**

**La<sub>24</sub>Sr<sub>14-7x</sub>[Si<sub>36</sub>N<sub>72</sub>](O<sub>1-x</sub>F<sub>x</sub>)<sub>14</sub> (x = 0.486)**

L. Neudert, D. Durach, F. Fahrnbauer, G.B.M. Vaughan, W. Schnick, O. Oeckler  
*Inorg. Chem.* **2017**, 56, 13070

**Ammonothermal Synthesis of Alkali-Alkaline Earth Metal and Alkali-Rare Earth Metal**

**Carbodiimides: K<sub>5-x</sub>M<sub>x</sub>(CN<sub>2</sub>)<sub>2+x</sub>(HCN<sub>2</sub>)<sub>1-x</sub> (M = Sr, Eu) and Na<sub>4.32</sub>Sr<sub>0.68</sub>(CN<sub>2</sub>)<sub>2.68</sub>(HCN<sub>2</sub>)<sub>0.32</sub>**

M. Mallmann, J. Häusler, N. Cordes, W. Schnick  
*Z. Anorg. Allg. Chem.* **2017**, 643, 1956

**Efficient Yellow-orange Phosphor Lu<sub>4</sub>Ba<sub>2</sub>[Si<sub>9</sub>ON<sub>16</sub>]O:Eu<sup>2+</sup> and Orange-red Emitting**

**Y<sub>4</sub>Ba<sub>2</sub>[Si<sub>9</sub>ON<sub>16</sub>]O:Eu<sup>2+</sup>: Two Oxonitridosilicate Oxides with Outstanding Structural Variety**

C. Maak, R. Niklaus, F. Friedrich, A. Mähringer, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2017**, 29, 8377

**Wavelength Converting Material for a Light Emitting Device**

P.J. Schmidt, D. Durach, W. Schnick  
*PCT Int. Appl.* **2017**, WO2017144433 A1  
Lumileds Holding BV, Ludwig-Maximilians-Universität München

**Direct Measurements of Energy Levels and Correlation with Thermal Quenching Behaviour in Nitride Phosphors**

T.M. Tolhurst, P. Strobel, P.J. Schmidt, W. Schnick, A. Moewes  
*Chem. Mater.* **2017**, *29*, 7976

**Puzzling Intergrowth in Cerium Nitridophosphate Unraveled by Joint Venture of Aberration-Corrected Scanning Transmission Electron Microscopy and Synchrotron Diffraction**

S.D. Kloß, L. Neudert, M. Döblinger, M. Nentwig, O. Oeckler, W. Schnick  
*J. Am. Chem. Soc.* **2017**, *139*, 12724

**Ammonothermal Synthesis of Crystalline Oxonitride Perovskites  $LnTaON_2$  ( $Ln = La, Ce, Pr, Nd, Sm, Gd$ )**

N. Cordes, W. Schnick  
*Chem. Eur. J.* **2017**, *23*, 11410

**Designing Luminescent Materials and Band Gaps: A Soft X-ray Spectroscopy and Density Functional Theory Study of  $Li_2Ca_2[Mg_2Si_2N_6]:Eu^{2+}$  and  $Ba[Li_2(Al_2Si_2)N_6]:Eu^{2+}$**

T.M. Tolhurst, P. Strobel, P.J. Schmidt, W. Schnick, A. Moewes  
*J. Phys. Chem. C.* **2017**, *121*, 14296

**Functional Carbon Nitride Materials – Design Strategies for Electrochemical Devices**

F.K. Kessler, Y. Zheng, D. Schwarz, C. Merschjann, W. Schnick, X. Wang, M.J. Bojdys  
*Nat. Rev. Mater.* **2017**, *2*, 17030

**$Li_{12}P_3N_9$  with Non-Condensed  $[P_3N_9]^{12-}$ -Rings and its High-Pressure Polymorph  $Li_4PN_3$  with Infinite Chains of  $PN_4$ -Tetrahedra**

E.-M. Bertschler, R. Niklaus, W. Schnick  
*Chem. Eur. J.* **2017**, *23*, 9592

**$Li_{24}Sr_{12}[Si_{24}N_{47}O]F:Eu^{2+}$  - Structure and Luminescence of an Orange Phosphor**

K. Horky, W. Schnick  
*Chem. Mater.* **2017**, *29*, 4590

**Ammonothermal Synthesis of Earth-abundant Nitride Semiconductors  $ZnSiN_2$  and  $ZnGeN_2$  and Dissolution Monitoring by In Situ X-ray Imaging**

J. Häusler, S. Schimmel, P. Wellmann, W. Schnick  
*Chem. Eur. J.* **2017**, *23*, 12275

**Crystal Structure and Nontypical Deep-Red Luminescence of  $Ca_3Mg[Li_2Si_2N_6]:Eu^{2+}$**

C. Poesl, W. Schnick  
*Chem. Mater.* **2017**, *29*, 3778

**The Crystal Structure of Nitridomagnesogermanate  $Ba[Mg_3GeN_4]:Eu^{2+}$  and Theoretical Calculations of Its Electronic Properties**

C. Poesl, R. Niklaus, W. Schnick  
*Eur. J. Inorg. Chem.* **2017**, 2422

**First-principle and Experimental Characterization of the Electronic Properties of  $CaGaSiN_3$  and  $CaAlSiN_3$ : The Impact of Chemical Disorder**

R. Niklaus, J. Minár, J. Häusler, W. Schnick  
*Phys. Chem. Chem. Phys.* **2017**, *19*, 9292

**$Li_{47}B_3P_{14}N_{42}$  – A Lithium Nitridoborophosphate with  $[P_3N_9]^{12-}$ ,  $[P_4N_{10}]^{10-}$ , and the Unprecedented  $[B_3P_3N_{13}]^{15-}$  Ion**

E.-M. Bertschler, T. Bräuniger, C. Dietrich, J. Janek, W. Schnick  
*Angew. Chem.* **2017**, *129*, 4884; *Angew. Chem. Int. Ed.* **2017**, *56*, 4806

**Increased Synthetic Control - Gaining Access to Predicted  $\text{Mg}_2\text{Si}_5\text{N}_8$  and  $\beta\text{-Ca}_2\text{Si}_5\text{N}_8$**

P. Bielec, W. Schnick

*Angew. Chem.* **2017**, 129, 4888; *Angew. Chem. Int. Ed.* **2017**, 56, 4810

**An Unusual Nitride Network of Aluminum-centered Octahedra and Phosphorus-centered Tetrahedra and Structure Determination from Microcrystalline Samples**

L. Neudert, F. Heinke, T. Bräuniger, F. Pucher, G.B. Vaughan, O. Oeckler, W. Schnick  
*Chem. Commun.* **2017**, 53, 2709

**$\text{Ca}_4\text{Mg}_5\text{Ge}_3\text{N}_{10}$  and  $\text{Sr}_2\text{Mg}_3\text{GaN}_{4.33}$  – Two Mg-containing Nitrides and their Structural Relations to  $(\text{Sr},\text{Ba})_2\text{Si}_5\text{N}_8$**

C. Poesl, W. Schnick

*Eur. J. Inorg. Chem.* **2017**, 1498

**Anti-Perovskite Nitridophosphate Oxide  $\text{Ho}_3[\text{PN}_4]\text{O}$  by High-Pressure Metathesis**

S.D. Kloß, N. Weidmann, W. Schnick

*Eur. J. Inorg. Chem.* **2017**, 1930

**Luminescence of the Narrow-band Red Emitting Nitridomagnesosilicate**

**$\text{Li}_2(\text{Ca}_{1-x}\text{Sr}_x)_2[\text{Mg}_2\text{Si}_2\text{N}_6]:\text{Eu}^{2+}$  ( $x = 0\text{--}0.06$ )**

P. Strobel, V. Weiler, C. Hecht, P.J. Schmidt, W. Schnick

*Chem. Mater.* **2017**, 29, 1377

**$\text{LiCa}_4\text{Si}_4\text{N}_8\text{F}$  and  $\text{LiSr}_4\text{Si}_4\text{N}_8\text{F}$ : Nitridosilicate Fluorides with a BCT-Zeolite-Type Network Structure**

K. Horky, W. Schnick

*Eur. J. Inorg. Chem.* **2017**, 1107

**$\text{Ba}_{32}[\text{Li}_{15}\text{Si}_9\text{W}_{16}\text{N}_{67}\text{O}_5]$ : A Barium-containing Oxonitridolithotungstosilicate with a Highly Condensed Network Structure**

K. Horky, W. Schnick

*Eur. J. Inorg. Chem.* **2017**, 1100

**$\text{Li}_{18}\text{P}_6\text{N}_{16}$  – A Lithium Nitridophosphate with Unprecedented Tricyclic  $[\text{P}_6\text{N}_{16}]^{18-}$  Ions**

E.-M. Bertschler, C. Dietrich, J. Janek, W. Schnick

*Chem. Eur. J.* **2017**, 23, 2185

**Layered Nitridomagnesogallates  $\text{CaMg}_2\text{GaN}_3$  and  $\text{CaMg}_2\text{Ga}_2\text{N}_4$**

C. Poesl, L. Neudert, W. Schnick

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**Ammonothermal Synthesis of Novel Nitrides: Case Study on  $\text{CaGaSiN}_3$**

J. Häusler, L. Neudert, M. Mallmann, R. Niklaus, A.-C.L. Kimmel, N.S.A. Alt, E. Schlücker, O. Oeckler, W. Schnick

*Chem. Eur. J.* **2017**, 23, 2583

**High-pressure Synthesis of Melilite-Type Rare-Earth Nitridophosphates  $\text{RE}_2\text{P}_3\text{N}_7$  and a  $\text{Ba}_2\text{Cu}[\text{Si}_2\text{O}_7]$ -type Polymorph**

S.D. Kloß, N. Weidmann, R. Niklaus, W. Schnick

*Inorg. Chem.* **2016**, 55, 9400

**Insight in the 3D Morphology of Silica-based Nanotubes Using Electron Microscopy**

T. Dennenwaldt, A. Wisnet, S.J. Sedlmaier, M. Döblinger, W. Schnick, C. Scheu

*Micron* **2016**, 90, 6

**$\text{Ca}_2\text{Mg}_5\text{GeN}_6$  – A Layered Nitridomagnesogermanate**

C. Poesl, W. Schnick

*Z. Anorg. Allg. Chem.* **2016**, 642, 882

**LED Phosphor Comprising Bow-tie Shaped  $A_2N_6$  Building Blocks**

P.J. Schmidt, P.J. Strobel, S.F. Schmiechen, C.S. Hecht, V. Weiler, W. Schnick  
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Koninklijke Philips NV, Ludwig-Maximilians-Universität München

**Field-induced Transition of the Magnetic Ground State from A-type Antiferromagnetic to Ferromagnetic Order in  $CsCo_2Se_2$**

F. v. Rohr, A. Krzton-Maziopa, V. Pomjakushin, H. Grundmann, Z. Guguchia, W. Schnick, A. Schilling  
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**Experiment-Driven Modeling of Crystalline Phosphorus Nitride  $P_3N_5$ : Wide-Ranging Implications from a Unique Structure**

T.M. Tolhurst, C. Braun, T.D. Boyko, W. Schnick, A. Moewes  
*Chem. Eur. J.* **2016**, 22, 10475

**$Ba_{1.63}La_{7.39}Si_{11}N_{23}Cl_{0.42}:Ce^{3+}$  - A Nitridosilicate Chloride with a Zeolite-like Structure**

P. Schultz, D. Durach, W. Schnick, O. Oeckler  
*Z. Anorg. Allg. Chem.* **2016**, 642, 603

**From Minor Side Phases to Bulk Samples of Lanthanum Oxonitridosilicates – An Investigation with Microfocused Synchrotron Radiation**

D. Durach, P. Schultz, O. Oeckler, W. Schnick  
*Inorg. Chem.* **2016**, 55, 3624

**$CdP_2N_4$  and  $MnP_2N_4$  – Ternary Transition-Metal Nitridophosphates**

F.J. Pucher, F.W. Karau, J. Schmedt auf der Günne, W. Schnick  
*Eur. J. Inorg. Chem.* **2016**, 1497

**$Ca_{18.75}Li_{10.5}[Al_{39}N_{55}]:Eu^{2+}$  - Supertetrahedron Phosphor for Solid-State Lighting**

P. Wagatha, P. Pust, V. Weiler, A.S. Wochnik, P.J. Schmidt, C. Scheu, W. Schnick  
*Chem. Mater.* **2016**, 28, 1220

**$M_2PO_3N$  ( $M = Ca, Sr$ ) – *ortho*-Oxonitridophosphates with  $\beta$ - $K_2SO_4$  Structure Type**

A. Marchuk, P. Schultz, C. Hoch, O. Oeckler, W. Schnick  
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**A  $^{45}Sc$ -NMR and DFT Calculation Study of Crystalline Scandium Compounds**

T. Bräuniger, A.J. Hofmann, I.L. Moudrakovski, C. Hoch, W. Schnick  
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**Electronic Structure, Band Gap, and Thermal Quenching of  $Sr[Mg_3SiN_4]:Eu^{2+}$  in Comparison to  $Sr[LiAl_3N_4]:Eu^{2+}$**

T.M. Tolhurst, S. Schmiechen, P. Pust, P. Schmidt, W. Schnick, A. Moewes  
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**Lanthanum (Oxo)nitridosilicates: From Ordered to Disordered Crystal Structures**

D. Durach, W. Schnick  
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**Crystal Structures of Cristobalite-Type and Coesite-Type PON Redetermined on the Basis of Single-Crystal X-Ray Diffraction Data**

M. Bykov, E. Bykova, V. Dyadkin, D. Baumann, W. Schnick, L. Dubrovinsky, N. Dubrovinskaia  
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**Supertetrahedron Phosphor for Solid-State Lighting**

V. Weiler, P.J. Schmidt, P.A.H. Pust, W. Schnick  
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Koninklijke Philips NV, Ludwig-Maximilians-Universität München



**Nontypical Luminescence Properties and Structural Relation of  $\text{Ba}_3\text{P}_5\text{N}_{10}\text{X}:\text{Eu}^{2+}$  ( $\text{X} = \text{Cl}, \text{I}$ ): Nitridophosphate Halides with Zeolite-like Structure**

A. Marchuk, S. Wendl, N. Imamovic, F. Tambornino, D. Wiechert, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2015**, *27*, 6432

**Narrow-Band Green Emitting Nitridolithoalumosilicate  $\text{Ba}[\text{Li}_2(\text{Al}_2\text{Si}_2)\text{N}_6]:\text{Eu}^{2+}$  with Framework Topology whj for LED/LCD-Backlighting Applications**

P. Strobel, S. Schmiechen, M. Siegert, A. Tücks, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2015**, *27*, 6109

**$\text{La}_6\text{Ba}_3[\text{Si}_{17}\text{N}_{29}\text{O}_2]\text{Cl}$  – An Oxonitridosilicate Chloride with Exceptional Structural Motifs**

D. Durach, F. Fahrnbauer, O. Oeckler, W. Schnick  
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**Non-Condensed (Oxo-)Nitridosilicates:  $\text{La}_3[\text{SiN}_4]\text{F}$  and the Polymorph  $\alpha\text{-La}_3[\text{SiN}_3\text{O}]\text{O}$**

D. Durach, W. Schnick  
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**Rare-Earth-Metal Nitridophosphates through High-Pressure Metathesis**

S.D. Kloß, W. Schnick  
*Angew. Chem.* **2015**, *127*, 11402; *Angew. Chem. Int. Ed.* **2015**, *54*, 11250

**$\text{La}_3\text{BaSi}_5\text{N}_9\text{O}_2:\text{Ce}^{3+}$  – A Yellow Phosphor with an Unprecedented Tetrahedra Network Structure Investigated by Combination of Electron Microscopy and Synchrotron X-ray Diffraction**

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**A Revolution in Lighting**

P. Pust, P.J. Schmidt, W. Schnick  
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**New Nitridoalumosilicate Phosphor for Solid State Lighting**

A. Tücks, B.-S. Schreinemacher, P.J. Schmidt, S.F. Schmiechen, W. Schnick  
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**Band Gap and Electronic Structure of  $\text{MgSiN}_2$  Determined Using Soft X-ray Spectroscopy and Density Functional Theory**

T. de Boer, T.D. Boyko, C. Braun, W. Schnick, A. Moewes  
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**Synthesis of Triazine-Based Materials by Functionalization with Alkynes**

N.E. Braml, L. Stegbauer, B.V. Lotsch, W. Schnick  
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**Luminescent Nitridophosphates  $\text{CaP}_2\text{N}_4:\text{Eu}^{2+}$ ,  $\text{SrP}_2\text{N}_4:\text{Eu}^{2+}$ ,  $\text{BaP}_2\text{N}_4:\text{Eu}^{2+}$ , and  $\text{BaSr}_2\text{P}_6\text{N}_{12}:\text{Eu}^{2+}$**

F.J. Pucher, A. Marchuk, P.J. Schmidt, D. Wiechert, W. Schnick  
*Chem. Eur. J.* **2015**, *21*, 6443

**Nitridomagnesosilicate  $\text{Ba}[\text{Mg}_3\text{SiN}_4]:\text{Eu}^{2+}$  and Structure-Property Relations of Similar Narrow-Band Red Nitride Phosphors**

S. Schmiechen, P. Strobel, C. Hecht, T. Reith, M. Siegert, P.J. Schmidt, P. Huppertz, D. Wiechert, W. Schnick  
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**$\text{MH}_4\text{P}_6\text{N}_{12}$  ( $M = \text{Mg}, \text{Ca}$ ): New Imidonitridophosphates with an Unprecedented Layered Network Structure Type**

A. Marchuk, V.R. Celinski, J. Schmedt auf der Günne, W. Schnick  
*Chem. Eur. J.* **2015**, *21*, 5836

**Structural Relationship Between the Mg-Containing Nitridosilicates  $\text{Ca}_2\text{Mg}[\text{Li}_4\text{Si}_2\text{N}_6]$  and  $\text{Li}_2\text{Ca}_2[\text{Mg}_2\text{Si}_2\text{N}_6]$**

S. Schmiechen, F. Nietschke, W. Schnick

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**$\text{CuPN}_2$ : Synthesis, Crystal Structure, and Electronic Properties**

F.J. Pucher, F. Hummel, W. Schnick

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**A High-Pressure Polymorph of Phosphorus Oxonitride with the Coesite Structure**

D. Baumann, R. Niklaus, W. Schnick

*Angew. Chem.* **2015**, 127, 4463; *Angew. Chem. Int. Ed.* **2015**, 54, 4388

**$\text{Li}_{14}(\text{PON}_3)_2\text{O}$  – A Non-condensed Oxonitridophosphate Oxide**

D. Baumann, W. Schnick

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**$\text{Ba}_3\text{P}_5\text{N}_{10}\text{Br}:\text{Eu}^{2+}$ : A Natural-White-Light Single Emitter with Zeolite Structure Type**

A. Marchuk, W. Schnick

*Angew. Chem.* **2015**, 127, 2413; *Angew. Chem. Int. Ed.* **2015**, 54, 2383

**Investigations of the Electronic Structure and Bandgap of the Next-Generation**

**LED-Phosphor  $\text{Sr}[\text{LiAl}_3\text{N}_4]:\text{Eu}^{2+}$  - Experiment and Calculations**

T.M. Tolhurst, T.D. Boyko, P. Pust, N.W. Johnson, W. Schnick, A. Moewes

*Adv. Opt. Mater.* **2015**, 3, 546

**$\text{Sn}_6[\text{P}_{12}\text{N}_{24}]$  – A Sodalite-Type Nitridophosphate**

F.J. Pucher, Constantin Frhr. von Schirnding, F. Hummel, V.R. Celinski,

J. Schmedt auf der Günne, B. Gerke, R. Pöttgen, W. Schnick

*Eur. J. Inorg. Chem.* **2015**, 382

**Group (III) Nitrides  $M[\text{Mg}_2\text{Al}_2\text{N}_4]$  ( $M = \text{Ca}, \text{Sr}, \text{Ba}, \text{Eu}$ ) and  $\text{Ba}[\text{Mg}_2\text{Ga}_2\text{N}_4]$  - Structural Relation and Nontypical Luminescence Properties of  $\text{Eu}^{2+}$  Doped Samples**

P. Pust, F. Hintze, C. Hecht, V. Weiler, A. Locher, D. Zitnanska, S. Harm,

D. Wiechert, P.J. Schmidt, W. Schnick

*Chem. Mater.* **2014**, 26, 6113

**$\text{MgSrP}_3\text{N}_5\text{O}_2$  – A Novel Oxonitridophosphate**

F.J. Pucher, W. Schnick

*Z. Anorg. Allg. Chem.* **2014**, 640, 2708

**Weißes Licht aus Nitriden**

S. Schmiechen, P. Pust, P.J. Schmidt, W. Schnick

*Nachr. Chem.* **2014**, 62, 847

**High-Pressure Polymorph of Phosphorus Nitride Imide  $\text{HP}_4\text{N}_7$  Representing a New Framework Topology**

D. Baumann, W. Schnick

*Inorg. Chem.* **2014**, 53, 7977

**Pentacoordinated Phosphorus in a High-Pressure Polymorph of Phosphorus Nitride Imide  $\text{P}_4\text{N}_6(\text{NH})$**

D. Baumann, W. Schnick

*Angew. Chem.* **2014**, 126, 14718; *Angew. Chem. Int. Ed.* **2014**, 53, 14490

**Narrow-Band Red-Emitting  $\text{Sr}[\text{LiAl}_3\text{N}_4]:\text{Eu}^{2+}$  as a Next-Generation LED-Phosphor Material**

P. Pust, V. Weiler, C. Hecht, A. Tücks, A.S. Wochnik, A.-K. Henß, D. Wiechert, C. Scheu,

P.J. Schmidt, W. Schnick

*Nat. Mater.* **2014**, 13, 891

**A New Route to Metal Azides**

T.G. Müller, F. Karau, W. Schnick, F. Kraus  
*Angew. Chem.* **2014**, 126, 13913; *Angew. Chem. Int. Ed.* **2014**, 53, 13695

**Ca[LiAl<sub>3</sub>N<sub>4</sub>]:Eu<sup>2+</sup> - A Narrow-Band Red-Emitting Nitridolithoaluminate**

P. Pust, A.S. Wochnik, E. Baumann, P.J. Schmidt, D. Wiechert, C. Scheu, W. Schnick  
*Chem. Mater.* **2014**, 26, 3544

**CaMg<sub>2</sub>P<sub>6</sub>O<sub>3</sub>N<sub>10</sub> - A Quinary Oxonitridophosphate with an Unprecedented Tetrahedra Network Structure Type**

A. Marchuk, L. Neudert, O. Oeckler, W. Schnick  
*Eur. J. Inorg. Chem.* **2014**, 3427

**Bonding Behavior and Chemical Stability of Silica-based Nanotubes and Their 3D Assembly**

T. Dennenwaldt, S.J. Sedlmaier, A. Binek, W. Schnick, C. Scheu  
*J. Phys. Chem. C* **2014**, 118, 8416

**Toward New Phosphors for Application in Illumination-Grade White pc-LEDs: The Nitridomagnesosilicates Ca[Mg<sub>3</sub>SiN<sub>4</sub>]:Ce<sup>3+</sup>, Sr[Mg<sub>3</sub>SiN<sub>4</sub>]:Eu<sup>2+</sup> and Eu[Mg<sub>3</sub>SiN<sub>4</sub>]**

S. Schmiechen, H. Schneider, P. Wagatha, C. Hecht, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2014**, 26, 2712

**High-Resolution Spectroscopy of Bonding in a Novel BeP<sub>2</sub>N<sub>4</sub> Compound**

T. Dennenwaldt, J. Ciston, U. Dahmen, W.-Y. Ching, F.J. Pucher, W. Schnick, C. Scheu  
*Microsc. Microanal.* **2014**, 20, 664

**TAGS-Related Indium Compounds and their Thermoelectric Properties – the Solid Solution Series (GeTe)<sub>x</sub>AgIn<sub>y</sub>Sb<sub>1-y</sub>Te<sub>2</sub> (x = 1 – 12; y = 0.5, 1)**

T. Schröder, T. Rosenthal, N. Giesbrecht, S. Maier, E.-W. Scheidt, W. Scherer, G.J. Snyder, W. Schnick, O. Oeckler  
*J. Mater. Chem. A.* **2014**, 2, 6384

**A High-Pressure Polymorph of Phosphorus Nitride Imide**

A. Marchuk, F.J. Pucher, F.W. Karau, W. Schnick  
*Angew. Chem.* **2014**, 126, 2501, *Angew. Chem. Int. Ed.* **2014**, 53, 2469

**Highly Efficient pc-LED Phosphors Sr<sub>1-x</sub>Ba<sub>x</sub>Si<sub>2</sub>O<sub>2</sub>N<sub>2</sub>:Eu<sup>2+</sup> (0 ≤ x ≤ 1) – Crystal Structures and Luminescence Properties Revisited**

M. Seibald, T. Rosenthal, O. Oeckler, W. Schnick  
*Crit. Rev. Solid State Mater. Sci.* **2014**, 39, 215

**New Phosphors, such as New Narrow-Band Red Emitting Phosphors, for Solid State Lighting**

P.J. Schmidt, F. Hintze, P.A.H. Pust, V. Weiler, C. Hecht, S.F. Schmiechen, W. Schnick, D.U. Wiechert  
*PCT Int. Appl.* **2013**, WO 2013175336 A1  
Koninklijke Philips Electronics NV, Philips Intellectual Property & Standards GmbH, Germany

**Intermediates in Ammonothermal GaN Crystal Growth under Ammonoacidic Conditions**

S. Zhang, F. Hintze, W. Schnick, R. Niewa  
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**Two Synthetic Approaches to Ag<sub>3.4</sub>In<sub>3.7</sub>Sb<sub>76.4</sub>Te<sub>16.5</sub> Bulk Samples and their Transport Properties**

T. Schröder, T. Rosenthal, C. Gold, E.-W. Scheidt, W. Schnick, O. Oeckler  
*Z. Anorg. Allg. Chem.* **2013**, 639, 2868

**High-Pressure Synthesis and Characterization of Li<sub>2</sub>Ca<sub>3</sub>[N<sub>2</sub>]<sub>3</sub> – An Uncommon Metallic Diazenide with [N<sub>2</sub>]<sup>2-</sup> Ions**

S.B. Schneider, M. Seibald, V.L. Deringer, R.P. Stoffel, R. Frankovsky, G.M. Friederichs, H. Laqua, V. Duppel, G. Jeschke, R. Dronskowski, W. Schnick  
*J. Am. Chem. Soc.* **2013**, 135, 16668

**Electronic and Ionic Conductivity in Alkaline Earth Diazenides  $M_{AE}N_2$  ( $M_{AE} = Ca, Sr, Ba$ ) and in  $Li_2N_2$**

S.B. Schneider, M. Mangstl, G.M. Friederichs, R. Frankovsky, J. Schmedt auf der Günne, W. Schnick  
*Chem. Mater.* **2013**, *25*, 4149

**Aperiodic CrSc Multilayer Mirrors for Attosecond Water Window Pulses**

A. Guggenmos, R. Rauhut, M. Hofstetter, S. Hertrich, B. Nickel, J. Schmidt, E.M. Gullikson, M. Seibald, W. Schnick, U. Kleineberg  
*OpEx* **2013**, *21*, 21728

**Magnesium Double Nitride  $Mg_3GaN_3$  as New Host Lattice for  $Eu^{2+}$  Doping: Synthesis, Structural Studies, Luminescence, and Band-Gap Determination**

F. Hintze, N.W. Johnson, M. Seibald, D. Muir, A. Moewes, W. Schnick  
*Chem. Mater.* **2013**, *25*, 4044

**Mn-Activated Hexafluorosilicates for LED Applications**

V. Weiler, P.J. Schmidt, W. Schnick, M.A. Seibald  
*PCT Int. Appl.* **2013**, WO 2013088313 A1  
Koninklijke Philips Electronics NV, Philips Intellectual Property & Standards GmbH, Germany

**Asymmetric Fluorodinitromethyl Derivatives of 2,2,2-trinitroethyl N-(2,2,2-trinitroethyl)carbamate**

T.M. Klapötke, B. Krumm, R. Moll, S.F. Rest, W. Schnick, M. Seibald  
*J. Fluor. Chem.* **2013**, *156*, 253

**Metal-Organic Framework Luminescence in the Yellow Gap by Codoping of the Homoleptic Imidazolate [Balm<sub>2</sub>] with Divalent Europium**

J.-C. Rybak, M. Hailmann, P.R. Matthes, A. Zurawski, J. Nitsch, A. Steffen, J. Heck, C. Feldmann, S. Götzendörfer, J. Meinhardt, G. Sextl, H. Kohlmann, S.J. Sedlmaier, W. Schnick, K. Müller-Buschbaum  
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**Band Gap Tuning in Poly(triazine imide), a Nonmetallic Photocatalyst**

E. McDermott, E. Wirnhier, W. Schnick, K. Singh Virdi, C. Scheu, Y. Kauffmann, W.D. Kaplan, E. Kurmaev, A. Moewes  
*J. Phys. Chem. C.* **2013**, *117*, 8806

**Ammonothermal Synthesis and Crystal Structure of  $BaAl_2(NH_2)_8 \cdot 2NH_3$**

P. Pust, S. Schmiechen, F. Hintze, W. Schnick  
*Z. Anorg. Allg. Chem.* **2013**, *639*, 1185

**New Polymorph of the Highly Efficient LED-Phosphor  $SrSi_2O_2N_2:Eu^{2+}$  – Polytypism of a Layered Oxonitridosilicate**

M. Seibald, T. Rosenthal, O. Oeckler, C. Maak, A. Tücks, P.J. Schmidt, D. Wiechert, W. Schnick  
*Chem. Mater.* **2013**, *25*, 1852

**Triazine-based Carbon Nitrides for Visible-Light-Driven Hydrogen Evolution**

K. Schwinghammer, B. Tuffy, M.B. Mesch, E. Wirnhier, C. Martineau, F. Taulelle, W. Schnick, J. Senker, B.V. Lotsch  
*Angew. Chem.* **2013**, *125*, 2495; *Angew. Chem. Int. Ed.* **2013**, *52*, 2435

**$Ca[LiAlN_2]$ : A Quaternary Nitridoaluminate**

P. Pust, S. Pagano, W. Schnick  
*Eur. J. Inorg. Chem.* **2013**, 1157

**Formation and Characterization of Melam, Melam Hydrate and a Melam-Melem Adduct**

E. Wirnhier, M.B. Mesch, J. Senker, W. Schnick  
*Chem. Eur. J.* **2013**, *19*, 2041

**New Heptazine Based Materials with a Divalent Cation –  
Sr[HC<sub>6</sub>N<sub>7</sub>O<sub>3</sub>] · 4H<sub>2</sub>O and Sr[HC<sub>6</sub>N<sub>7</sub>(NCN)<sub>3</sub>] · 7H<sub>2</sub>O**

N.E. Braml, W. Schnick  
*Z. Anorg. Allg. Chem.* **2013**, *639*, 275

**Ca<sub>2</sub>Ga<sub>3</sub>MgN<sub>5</sub> – A Highly Condensed Nitridogallate**

F. Hintze, W. Schnick  
*Z. Anorg. Allg. Chem.* **2012**, *638*, 2243

**Materials Properties of Ultra-Incompressible Re<sub>2</sub>P**

S.B. Schneider, D. Baumann, A. Salamat, Z. Konopkova, W. Morgenroth, H.-P. Liermann,  
M. Schwarz, L. Bayarjargal, A. Friedrich, B. Winkler, W. Schnick  
*Chem. Mater.* **2012**, *24*, 3240

**Unexpected Luminescence Properties of Sr<sub>0.25</sub>Ba<sub>0.75</sub>Si<sub>2</sub>O<sub>2</sub>N<sub>2</sub>:Eu<sup>2+</sup> - A Narrow Blue Emitting  
Oxonitridosilicate with Cation Ordering**

M. Seibald, T. Rosenthal, O. Oeckler, F. Fahrnbauer, A. Tücks, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2012**, *18*, 13446

**Orange to Red Emitting Silicon-Oxynitride Luminescent Materials**

P.J. Schmidt, C.S. Hecht, W. Schnick  
*PCT Int. Appl.* **2012**, WO 2012077042 A1  
Koninklijke Philips Electronics NV, Philips Intellectual Property & Standards GmbH, Germany

**Template-free Inorganic Synthesis of Silica-based Nanotubes and their  
Self-Assembly to Mesocrystals**

S.J. Sedlmaier, T. Dennenwaldt, C. Scheu, W. Schnick  
*J. Mater. Chem.* **2012**, *22*, 15511

**BaSi<sub>4</sub>O<sub>6</sub>N<sub>2</sub> – A Hexacelsian-Type Layered Oxonitridosilicate**

C. Braun, H. Ehrenberg, W. Schnick  
*Eur. J. Inorg. Chem.* **2012**, 3923

**Ca<sub>3</sub>Sm<sub>3</sub>[Si<sub>9</sub>N<sub>17</sub>] and Ca<sub>3</sub>Yb<sub>3</sub>[Si<sub>9</sub>N<sub>17</sub>] - Nitridosilicates with Interpenetrating Nets Consisting  
of Star-Shaped [N<sup>[4]</sup>(SiN<sub>3</sub>)<sub>4</sub>]-Units and [Si<sub>5</sub>N<sub>16</sub>]-Supertetrahedra**

H. Huppertz, O. Oeckler, A. Lieb, R. Glaum, D. Johrendt, M. Tegel, R. Kaindl, W. Schnick  
*Chem. Eur. J.* **2012**, *18*, 10857

**Li<sub>14</sub>Ln<sub>5</sub>[Si<sub>11</sub>N<sub>19</sub>O<sub>5</sub>]O<sub>2</sub>F<sub>2</sub> with Ln = Ce, Nd – Representatives of a Family  
of Potential Lithium Ion Conductors**

S. Lupart, G. Gregori, J. Maier, W. Schnick  
*J. Am. Chem. Soc.* **2012**, *134*, 10132

**Ammonothermal Synthesis of Alkali N,N'-bis(aminocarbonyl)-phosphorodiamidates  
M[PO<sub>2</sub>(NHCONH<sub>2</sub>)<sub>2</sub>] (M = Na, K, Rb)**

E. Wirnhier, R.D. Boller, W. Schnick  
*Eur. J. Inorg. Chem.* **2012**, 3296

**Reversible High-Pressure Phase Transition in LaN**

S.B. Schneider, D. Baumann, A. Salamat, W. Schnick  
*J. Appl. Phys.* **2012**, *111*, 093503

**LiCa<sub>3</sub>Si<sub>2</sub>N<sub>5</sub> – A Lithium Nitridosilicate with a [Si<sub>2</sub>N<sub>5</sub>]<sup>7-</sup> Double-Chain**

S. Lupart, W. Schnick  
*Z. Anorg. Allg. Chem.* **2012**, *638*, 2015

**Ca[PO<sub>2</sub>(NH)<sub>3</sub>(CO)<sub>2</sub>] – The First Biuretooxophosphate with a Divalent Cation**

E. Wirnhier, W. Schnick

*Z. Anorg. Allg. Chem.* **2012**, 638, 920

**An Unprecedented AB<sub>2</sub> Tetrahedra Network Structure Type in a High-Pressure Phase of Phosphorus Oxonitride PON**

D. Baumann, S.J. Sedlmaier, W. Schnick

*Angew. Chem.* **2012**, 124, 4785; *Angew. Chem. Int. Ed.* **2012**, 51, 4707

**Rare-Earth Melonates LnC<sub>6</sub>N<sub>7</sub>(NCN)<sub>3</sub>·xH<sub>2</sub>O (Ln = La, Ce, Pr, Nd, Sm, Eu, Tb; x = 8-12): Synthesis, Crystal Structures, Thermal Behavior, and Photoluminescence Properties of Heptazine Salts with Trivalent Cations**

S.J. Makowski, A. Schwarze, P.J. Schmidt, W. Schnick

*Eur. J. Inorg. Chem.* **2012**, 1832

**A Systematic Approach to Alkali Biuretooxophosphates**

E. Wirnhier, W. Schnick

*Eur. J. Inorg. Chem.* **2012**, 1840

**Crystal Structure of Barium Oxonitridophosphate, Ba<sub>3</sub>P<sub>6</sub>O<sub>6</sub>N<sub>8</sub>**

S.J. Sedlmaier, D. Weber, W. Schnick

*Z. Kristallogr. – NCS* **2012**, 227, 1

**Supramolecular Hydrogen-Bonded Structures Between Melamine and N-Heterocycles**

S.J. Makowski, M. Lacher, C. Lermer, W. Schnick

*J. Mol. Struct.* **2012**, 1013, 19

**High-Pressure Synthesis and Structural Investigation of H<sub>3</sub>P<sub>8</sub>O<sub>8</sub>N<sub>9</sub>: A New Phosphorus(V) Oxonitride Imide with an Interrupted Framework Structure**

S.J. Sedlmaier, V.R. Celinski, J. Schmedt auf der Günne, W. Schnick

*Chem. Eur. J.* **2012**, 18, 4358

**Luminescence Tuning of MOFs via Ligand to Metal and Metal to Metal Energy Transfer by Co-Doping of [Gd<sub>2</sub>Cl<sub>6</sub>(bipy)<sub>3</sub>]-2bipy with Europium and Terbium**

P.R. Matthes, C.J. Höller, M. Mai, J. Heck, S.J. Sedlmaier, S. Schmiechen, C. Feldmann, W. Schnick, K. Müller-Buschbaum

*J. Mater. Chem.* **2012**, 22, 10179

**Formation of a Hydrogen-Bonded Heptazine Framework by Self-Assembly of Melem into a Hexagonal Channel Structure**

S.J. Makowski, P. Köstler, W. Schnick

*Chem. Eur. J.* **2012**, 18, 3248

**Ba<sub>3</sub>Ga<sub>3</sub>N<sub>5</sub> – A Novel Host Lattice for Eu<sup>2+</sup>-Doped Luminescent Materials with Unexpected Nitridogallate Substructure**

F. Hintze, F. Hummel, P.J. Schmidt, D. Wiechert, W. Schnick

*Chem. Mater.* **2012**, 24, 402

**High-Pressure Synthesis and Characterization of the Alkali Diazenide Li<sub>2</sub>N<sub>2</sub>**

S.B. Schneider, R. Frankovsky, W. Schnick

*Angew. Chem.* **2012**, 124, 1909; *Angew. Chem. Int. Ed.* **2012**, 51, 1873

**Synthesis of Alkaline Earth Diazenides M<sub>AE</sub>N<sub>2</sub> (M<sub>AE</sub> = Ca, Sr, Ba) by Controlled Thermal Decomposition of Azides under High Pressure**

S.B. Schneider, R. Frankovsky, W. Schnick

*Inorg. Chem.* **2012**, 51, 2366

**Ba<sub>6</sub>P<sub>12</sub>N<sub>17</sub>O<sub>9</sub>Br<sub>3</sub> – A Column-Type Phosphate Structure Solved from Single-Nanocrystal Data Obtained by Automated Electron Diffraction Tomography**

E. Mugnaioli, S.J. Sedlmaier, O. Oeckler, U. Kolb, W. Schnick  
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**Li<sub>2</sub>Sr<sub>4</sub>Al<sub>2</sub>Ta<sub>2</sub>N<sub>8</sub>O - ANitridoalumotantalate with BCT-Zeolite Type Structure**

P. Pust, W. Schnick  
*Z. Anorg. Allg. Chem.* **2012**, 638, 352

**Investigation of the Hydrolysis Stability of Triazine Tricarboxylate in the Presence of Transition Metal(II) Ions and Synthesis and Crystal Structure of the Alkaline Earth Triazine Tricarboxylates M<sub>3</sub>[C<sub>3</sub>N<sub>3</sub>(CO<sub>2</sub>)<sub>3</sub>]<sub>2</sub>·12H<sub>2</sub>O (M = Sr, Ba)**

S.J. Makowski, E. Calta, M. Hörmannsdorfer, W. Schnick  
*Z. Anorg. Allg. Chem.* **2012**, 638, 345

**Formation of Cocrystals between Alkali Triazine Tricarboxylates and Cyanuric Acid – Reactivity Considerations and Structural Characterization of the Adduct Phases**

**M<sub>3</sub>[C<sub>3</sub>N<sub>3</sub>(CO<sub>2</sub>)<sub>3</sub>][C<sub>3</sub>N<sub>3</sub>O<sub>3</sub>H<sub>3</sub>] · H<sub>2</sub>O (M=K, Rb)**  
S.J. Makowski, E. Calta, M. Lacher, W. Schnick  
*Z. Anorg. Allg. Chem.* **2012**, 638, 88

**LiLa<sub>5</sub>Si<sub>4</sub>N<sub>10</sub>O and LiPr<sub>5</sub>Si<sub>4</sub>N<sub>10</sub>O – Chain-Type Oxonitridosilicates**

S. Lupart, W. Schnick  
*Z. Anorg. Allg. Chem.* **2012**, 638, 94

**Formation of Melamium Adducts by Pyrolysis of Thiourea or Melamine/NH<sub>4</sub>Cl Mixtures**

N.E. Braml, A. Sattler, W. Schnick  
*Chem. Eur. J.* **2012**, 18, 1811

**Novel Alkali Triazine Tricarboxylates Li<sub>3</sub>[C<sub>3</sub>N<sub>3</sub>(CO<sub>2</sub>)<sub>3</sub>] · 4H<sub>2</sub>O, Rb<sub>3</sub>[C<sub>3</sub>N<sub>3</sub>(CO<sub>2</sub>)<sub>3</sub>] · 2H<sub>2</sub>O and Cs<sub>3</sub>[C<sub>3</sub>N<sub>3</sub>(CO<sub>2</sub>)<sub>3</sub>] · 2H<sub>2</sub>O – Synthesis, Crystal Structure and Thermal Behavior**

S.J. Makowski, E. Calta, W. Schnick  
*Z. Anorg. Allg. Chem.* **2011**, 637, 2142

**Synthesis and Characterization of Ca<sub>2</sub>(PO<sub>2</sub>NH)<sub>4</sub>·8H<sub>2</sub>O**

S.J. Sedlmaier, S.R. Römer, W. Schnick  
*Z. Anorg. Allg. Chem.* **2011**, 637, 2228

**Real Structure and Diffuse Scattering of Sr<sub>0.5</sub>Ba<sub>0.5</sub>Si<sub>2</sub>O<sub>2</sub>N<sub>2</sub>:Eu<sup>2+</sup> - A Highly Efficient Yellow Phosphor for pc-LEDs**

M. Seibald, O. Oeckler, V.R. Celinski, P.J. Schmidt, A. Tücks, W. Schnick  
*Solid State Sci.* **2011**, 13, 1769

**Unprecedented Zeolite-Like Framework Topology Constructed from Cages with 3-Rings in a Barium Oxonitridophosphate**

S.J. Sedlmaier, M. Döblinger, O. Oeckler, J. Weber, J. Schmedt auf der Günne, W. Schnick  
*J. Am. Chem. Soc.* **2011**, 133, 12069

**SrP<sub>3</sub>N<sub>5</sub>O: A Highly Condensed Layer Phosphate Structure Solved from a Nanocrystal by Automated Electron Diffraction Tomography**

S.J. Sedlmaier, E. Mugnaioli, O. Oeckler, U. Kolb, W. Schnick  
*Chem. Eur. J.* **2011**, 17, 11258

**Li<sub>35</sub>Ln<sub>9</sub>Si<sub>30</sub>N<sub>59</sub>O<sub>2</sub>F with Ln = Ce, Pr - Highly Condensed Nitridosilicates**

S. Lupart, D. Durach, W. Schnick  
*Z. Anorg. Allg. Chem.* **2011**, 637, 1841

**LiSr<sub>2</sub>[TaN<sub>3</sub>]F - A Single Chain Nitridotantalate**

P. Pust, W. Schnick  
*Z. Anorg. Allg. Chem.* **2011**, 637, 1486

**Self-Assembly of Melem on Ag(111) - Emergence of Porous Structures Based on Amino-Heptazine Hydrogen Bonds**

J. Eichhorn, S. Schlögl, B.V. Lotsch, W. Schnick, W.M. Heckl, M. Lackinger  
*CrystEngComm* **2011**, 13, 5559

**Electronic Structure and Physical Properties of the Spinel-Type Phase of BeP<sub>2</sub>N<sub>4</sub> from All-Electron Density Functional Calculations**

W.Y. Ching, S. Aryal, P. Rulis, W. Schnick  
*Phys. Rev. B* **2011**, 83, 155109-1

**Li<sub>2</sub>Sr<sub>4</sub>[Si<sub>2</sub>N<sub>5</sub>]N - A Layered Lithium Nitridosilicate Nitride**

S. Lupart, S. Pagano, O. Oeckler, W. Schnick  
*Eur. J. Inorg. Chem.* **2011**, 2118

**Ca<sub>3</sub>N<sub>2</sub> and Mg<sub>3</sub>N<sub>2</sub>: Unpredicted High-Pressure Behavior of Binary Nitrides**

C. Braun, S.L. Börger, T.D. Boyko, G. Miehe, H. Ehrenberg, P. Höhn, A. Moewes, W. Schnick  
*J. Am. Chem. Soc.* **2011**, 133, 4307

**High-Pressure Synthesis, Crystal Structure, and Characterization of Zn<sub>2</sub>PN<sub>3</sub> – A New *catena*-Polynitridophosphate**

S.J. Sedlmaier, M. Eberspächer, W. Schnick  
*Z. Anorg. Allg. Chem.* **2011**, 637, 362

**Nitridosilicates and Oxonitridosilicates: From Ceramic Materials to Structural and Functional Diversity**

M. Zeuner, S. Pagano, W. Schnick  
*Angew. Chem.* **2011**, 123, 7898; *Angew. Chem. Int. Ed.* **2011**, 50, 7754

**Poly(triazine imide) with Intercalation of Lithium and Chloride Ions [(C<sub>3</sub>N<sub>3</sub>)<sub>2</sub>(NH<sub>x</sub>Li<sub>1-x</sub>)<sub>3</sub>·LiCl]: A Crystalline 2D Carbon Nitride Network**

E. Wirnhier, M. Döblinger, D. Gunzelmann, J. Senker, B.V. Lotsch, W. Schnick  
*Chem. Eur. J.* **2011**, 17, 3213

**Red-Emitting Luminescent Materials and Light-Emitting Devices Using Them**

P.J. Schmidt, M. Zeuner, W. Schnick, S. Pagano  
*PCT Int. Appl.* **2010**, WO 2010119375 A1, Philips Intellectual Property & Standards GmbH, Germany, Koninklijke Philips Electronics NV

**Li<sub>2</sub>CaSi<sub>2</sub>N<sub>4</sub> and Li<sub>2</sub>SrSi<sub>2</sub>N<sub>4</sub> - A Synthetic Approach to Three-Dimensional Lithium Nitridosilicates**

M. Zeuner, S. Pagano, S. Hug, P. Pust, S. Schmiechen, C. Scheu, W. Schnick  
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**K<sub>3</sub>[C<sub>3</sub>N<sub>3</sub>(COO)<sub>3</sub>] · 2H<sub>2</sub>O – Crystal Structure of a New Alkali Derivative of the Multidentate Ligand Triazine Tricarboxylate**

S.J. Makowski, M. Hörmannsdorfer, W. Schnick  
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**Melemium Hydrogensulfate H<sub>3</sub>C<sub>6</sub>N<sub>7</sub>(NH<sub>2</sub>)<sub>3</sub>(HSO<sub>4</sub>)<sub>3</sub> – The First Triple Protonation of Melem**

A. Sattler, W. Schnick  
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**Li<sub>4</sub>Ca<sub>3</sub>Si<sub>2</sub>N<sub>6</sub> and Li<sub>4</sub>Sr<sub>3</sub>Si<sub>2</sub>N<sub>6</sub> - Quaternary Lithium Nitridosilicates with Isolated [Si<sub>2</sub>N<sub>6</sub>]<sup>10-</sup> Ions**

S. Pagano, S. Lupart, S. Schmiechen, W. Schnick  
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**Synthesis of Rare Earth (Oxo)nitridocarbonates by Employment of Supercritical Carbon Dioxide, Single-Source Precursor, Solid-State and Ion Exchange Reactions**

S. Pagano, M. Zeuner, U. Baisch, W. Schnick  
*Z. Anorg. Allg. Chem.* **2010**, 636, 2212

**Material Properties and Structural Characterization of  $M_3Si_6O_{12}N_2:Eu^{2+}$  (M = Ba, Sr) – A Comprehensive Study on a Promising Green Phosphor for pc-LEDs**

C. Braun, M. Seibald, S.L. Börger, O. Oeckler, T.D. Boyko, A. Moewes, G. Mieke, A. Tücks, W. Schnick  
*Chem. Eur. J.* **2010**, 16, 9646

**A Novel Nitridogallate Fluoride  $LiBa_5GaN_3F_5$  – Synthesis, Crystal Structure, and Band Gap Determination**

F. Hintze, W. Schnick  
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**Chain-Type Lithium Rare-Earth Nitridosilicates  $Li_5Ln_5Si_4N_{12}$  with Ln = La, Ce**

S. Lupart, M. Zeuner, S. Pagano, W. Schnick  
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**Phenakite-Type  $BeP_2N_4$  – A Possible Precursor for a New Hard Spinel-Type Material**

F.J. Pucher, S.R. Römer, F.W. Karau, W. Schnick  
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**Melemium Methylsulfonates  $HC_6N_7(NH_2)_3H_2C_6N_7(NH_2)_3(SO_3Me)_3 \cdot H_2O$  and  $H_2C_6N_7(NH_2)_3(SO_3Me)_2 \cdot H_2O$**

A. Sattler, S. Schönberger, W. Schnick  
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**Tackling the Stacking Disorder of Melon – Structure Elucidation in a Semicrystalline Material**

L. Seyfarth, J. Seyfarth, B.V. Lotsch, W. Schnick, J. Senker  
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**$Ln_3[SiON_3]O$  (Ln = La, Ce, Pr) – Three Oxonitridosilicate Oxides with Crystal Structures Derived from the Anti-Perovskite Structure Type**

J.A. Kechele, C. Schmolke, S. Lupart, W. Schnick  
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**On the Formation and Decomposition of the Melonate Ion in Cyanate and Thiocyanate Melts and the Crystal Structure of Potassium Melonate,  $K_3[C_6N_7(NCN)_3]$**

A. Sattler, W. Schnick  
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**Melamine-Melem Adduct Phases: Investigating the Thermal Condensation of Melamine**

A. Sattler, S. Pagano, M. Zeuner, A. Zurawski, D. Gunzelmann, J. Senker, K. Müller-Buschbaum, W. Schnick  
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**Shine a Light with Nitrides**

W. Schnick  
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**Mixed Valence Europium Nitridosilicate  $Eu_2SiN_3$**

M. Zeuner, S. Pagano, P. Matthes, D. Bichler, D. Johrendt, T. Harmening, R. Pöttgen, W. Schnick  
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S.J. Makowski, W. Schnick  
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**Light Emitting Device Comprising a Green Emitting Sialon-Based Material**

P.J.Schmidt, W. Mayr, J. Meyer, J.A. Kechele, W. Schnick, O.M. Oeckler  
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**Tuning the Dimensionality of Nitridosilicates in Lithium Melts**

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**Protonated Melonate  $\text{Ca}[\text{HC}_6\text{N}_7(\text{NCN})_3] \cdot 7\text{H}_2\text{O}$  - Synthesis, Crystal Structure, and Thermal Properties**

S.J. Makowski, D. Gunzelmann, J. Senker, W. Schnick  
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**Complex Interrupted Tetrahedral Frameworks in the Nitridosilicates  $\text{M}_7\text{Si}_6\text{N}_{15}$  (M = La, Ce, Pr)**

C. Schmolke, O. Oeckler, D. Bichler, D. Johrendt, W. Schnick  
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**High-Pressure Phases and Transitions of the Layered Alkaline Earth Nitridosilicates  $\text{SrSiN}_2$  and  $\text{BaSiN}_2$**

S.R. Römer, P. Kroll, W. Schnick  
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**$(\text{Sr}_{1-x}\text{Ca}_x)_{(11+16y-25z)/2}(\text{Si}_{1-y}\text{Al}_y)_{16}(\text{N}_{1-z}\text{O}_z)_{25}$  ( $x \approx 0.24$ ,  $y \approx 0.18$ ,  $z \approx 0.19$ ) – A Novel Sialon with a Highly Condensed Silicate Framework**

J.A. Kechele, O. Oeckler, P.J. Schmidt, W. Schnick  
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**A Density Functional Study of the High-Pressure Chemistry of  $\text{MSiN}_2$  (M = Be, Mg, Ca): Prediction of High-Pressure Phases and Examination of Pressure-Induced Decomposition**

S.R. Römer, P. Kroll, W. Schnick  
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**$\text{Pr}_5\text{Si}_3\text{N}_9$**

S. Lupart, W. Schnick  
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**Group II Element Nitrides  $\text{M}_3\text{N}_2$  Under Pressure: A Comparative Density Functional Study**

S.R. Römer, T. Dörfler, P. Kroll, W. Schnick  
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**One-Pot Synthesis of Single-Source Precursors for Nanocrystalline LED-Phosphors  $\text{M}_2\text{Si}_5\text{N}_8:\text{Eu}^{2+}$  (M = Sr, Ba)**

M. Zeuner, P.J. Schmidt, W. Schnick  
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**$\text{Sr}_3\text{P}_6\text{O}_6\text{N}_8$  – A Highly Condensed Layered Phosphate**

S.J. Sedlmaier, J. Schmedt auf der Günne, W. Schnick  
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**$\text{Ba}_6\text{Si}_6\text{N}_{10}\text{O}_2(\text{CN}_2)$  - A Nitridosilicate with a NPO-Zeolite Structure Type Containing Carbodiimide Ions**

S. Pagano, O. Oeckler, T. Schröder, W. Schnick  
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**Metal(II) Cyamelurates Prepared from Aqueous Ammonia**

A. Sattler, M.R. Budde, W. Schnick  
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**Urea Route to Homoleptic Cyanates – Characterization and Luminescence Properties of  $[M(\text{OCN})_2(\text{urea})]$  and  $M(\text{OCN})_2$  with  $M = \text{Sr}, \text{Eu}$**

S. Pagano, G. Montana, C. Wickleder, W. Schnick  
*Chem. Eur. J.* **2009**, *15*, 6186

**$\text{SrAlSi}_4\text{N}_7:\text{Eu}^{2+}$  – A Nitridoalumosilicate Phosphor for Warm White Light (pc)LEDs with Edge-Sharing Tetrahedra**

C. Hecht, F. Stadler, P.J. Schmidt, J. Schmedt auf der Günne, V. Baumann, W. Schnick  
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**$\text{Sr}_5\text{Al}_{5+x}\text{Si}_{21-x}\text{N}_{35-x}\text{O}_{2+x}:\text{Eu}^{2+}$  ( $x \approx 0$ ) – A Novel Green Phosphor for White Light pcLEDs with Disordered Intergrowth Structure**

O. Oeckler, J.A. Kechele, H. Koss, P.J. Schmidt, W. Schnick  
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**$\text{Ba}_2\text{AlSi}_5\text{N}_9$  – A New Host Lattice for  $\text{Eu}^{2+}$ -Doped Luminescent Materials Comprising a Nitridoalumosilicate Framework with Corner- and Edge-Sharing Tetrahedra**

J.A. Kechele, C. Hecht, O. Oeckler, J. Schmedt auf der Günne, P.J. Schmidt, W. Schnick  
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**$\text{Cs}_{10}\text{Ta}_{29.27}\text{O}_{78}$**

M. Zeuner, A. Hofer, W. Schnick  
*Acta Crystallogr.* **2009**, *E65*, i12

**Synthesis, Single Crystal Structure Determination and Rietveld Refinement of Cadmium Tetrametaphosphimate Octahydrate  $\text{Cd}_2(\text{PO}_2\text{NH})_4 \cdot 8\text{H}_2\text{O}$**

S.R. Römer, W. Schnick  
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**Structure Elucidation of Polyheptazine Imide by Electron Diffraction – A Templated 2D Carbon Nitride Network**

M. Döblinger, B.V. Lotsch, J. Wack, J. Thun, J. Senker, W. Schnick  
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**Single-Crystal Structure Determination and Solid-State NMR Investigations of Lithium Nitridosilicate  $\text{Li}_2\text{SiN}_2$  Synthesized by a Precursor Approach Employing Amorphous “ $\text{Si}(\text{CN}_2)_2$ ”**

S. Pagano, M. Zeuner, S. Hug, W. Schnick  
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**Low Temperature Precursor Route for Highly Efficient Spherically Shaped LED-Phosphors  $\text{M}_2\text{Si}_5\text{N}_8:\text{Eu}^{2+}$  ( $M = \text{Eu}, \text{Sr}, \text{Ba}$ )**

M. Zeuner, F. Hintze, W. Schnick  
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**Density Functional Study of Calcium Nitride: Refined Geometries and Prediction of High-Pressure Phases**

S.R. Römer, W. Schnick, P. Kroll  
*J. Phys. Chem. C* **2009**, *113*, 2943

**Color Point Tuning for  $(\text{Sr}, \text{Ca}, \text{Ba})\text{Si}_2\text{O}_2\text{N}_2:\text{Eu}^{2+}$  for White Light LEDs**

V. Bachmann, C. Ronda, O. Oeckler, W. Schnick, A. Meijerink  
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**Compression Behaviour of Nitridocarbidosilicates  $\text{M}_2[\text{Si}_4\text{N}_6\text{C}]$   $M = \text{Y}, \text{Ho}, \text{Er}$  - Studied with X-ray Diffraction and ab-initio Calculations**

A. Friedrich, K. Knorr, B. Winkler, A. Lieb, H.A. Höpfe, W. Schnick, V. Milman, M. Hanfland  
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**La<sub>16</sub>[Si<sub>8</sub>N<sub>22</sub>][SiON<sub>3</sub>]<sub>2</sub> – A Nitridosilicate with Isolated, Corner-Sharing and Edge-Sharing Tetrahedra**

C. Schmolke, S. Lupart, W. Schnick  
*Solid State Sci.* **2009**, *11*, 305

**Synthesis and Crystal Structure of the First Chain-Type Nitridosilicates RE<sub>5</sub>Si<sub>3</sub>N<sub>9</sub> (RE = La, Ce)**

C. Schmolke, D. Bichler, D. Johrendt, W. Schnick  
*Solid State Sci.* **2009**, *11*, 389

**Structure Elucidation of BaSi<sub>2</sub>O<sub>2</sub>N<sub>2</sub> – A Host Lattice for Rare-Earth Doped Luminescent Materials in Phosphor Converted (pc)LEDs**

J.A. Kechele, O. Oeckler, F. Stadler, W. Schnick  
*Solid State Sci.* **2009**, *11*, 537

**High-Pressure Synthesis and Characterization of the Alkaline Earth Borate β-BaB<sub>4</sub>O<sub>7</sub>**

J.S. Knyrim, S.R. Römer, W. Schnick, H. Huppertz  
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**Nitridogermanate Nitrides Sr<sub>7</sub>[GeN<sub>4</sub>]N<sub>2</sub> and Ca<sub>7</sub>[GeN<sub>4</sub>]N<sub>2</sub>: Synthesis Employing Sodium Melts, Crystal Structure, and Density-Functional Theory Calculations**

S.C. Junggeburth, O. Oeckler, D. Johrendt, W. Schnick  
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**Red Emitting Oxynitride Luminescent Materials**

P.J. Schmidt, F. Stadler, W. Schnick  
*PCT Int. Appl.* **2008**, WO 2008096291 A1, Philips Intellectual Property & Standards GmbH, Germany, Koninklijke Philips Electronics NV

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**HP-Ca<sub>2</sub>Si<sub>5</sub>N<sub>8</sub> - A New High-Pressure Nitridosilicate: Synthesis, Structure, Luminescence, and DFT Calculations**

S.R. Römer, C. Braun, O. Oeckler, P.J. Schmidt, P. Kroll, W. Schnick  
*Chem. Eur. J.* **2008**, *14*, 7892

**Crystal Structure of Ammonium Catena-polyphosphate IV [NH<sub>4</sub>PO<sub>3</sub>]<sub>x</sub>**

S.J. Sedlmaier, W. Schnick  
*Z. Anorg. Allg. Chem.* **2008**, *634*, 1501

**Sr<sub>5</sub>Ge<sub>2</sub>N<sub>6</sub> – A Nitridogermanate with Edge-sharing Double Tetrahedra**

S.C. Junggeburth, O. Oeckler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2008**, *634*, 1309

**Di-μ-tert-butanolato-bis[bis(η<sup>5</sup>-cyclopentadienyl)erbium(III)]**

S. Pagano, W. Schnick  
*Acta Crystallogr.* **2008**, *E64*, m473

**C<sub>6</sub>N<sub>7</sub>H<sub>3</sub>O<sub>3</sub>·H<sub>2</sub>N(CH<sub>3</sub>)<sub>2</sub>Cl·H<sub>2</sub>O - A Dimethylammonium Chloride Adduct of Cyameluric Acid – Synthesis, Structure and Properties**

A. Sattler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2008**, *634*, 1063

**Tl<sub>4</sub>(PO<sub>2</sub>NH)<sub>4</sub>·H<sub>2</sub>O – A Commensurately Modulated Tetrametaphosphimate**

S.J. Sedlmaier, O. Oeckler, W. Schnick  
*Solid State Sci.* **2008**, *10*, 1150

**Preparation and Structure of Melemium Melem Perchlorate  $\text{HC}_6\text{N}_7(\text{NH}_2)_3\text{ClO}_4 \cdot \text{C}_6\text{N}_7(\text{NH}_2)_3$**

A. Sattler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2008**, 634, 457

**Precursor Approach to Lanthanide Dioxo Monocarbodiimides  $\text{Ln}_2\text{O}_2\text{CN}_2$  ( $\text{Ln} = \text{Y}, \text{Ho}, \text{Er}, \text{Yb}$ ) by Insertion of  $\text{CO}_2$  into Organometallic Ln-N Compounds**

M. Zeuner, S. Pagano, W. Schnick  
*Chem. Eur. J.* **2008**, 14, 1524

**Cubic Di- $\mu$ -amido-bis[bis( $\eta^5$ -cyclopentadienyl)ytterbium(III)]**

M. Zeuner, W. Schnick  
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**Reorientational Dynamics and Solid-Phase Transformation of Ammonium Dicyanamide into Dicyandiamide: A  $^2\text{H}$  Solid-State NMR Study**

B.V. Lotsch, W. Schnick, E. Naumann, J. Senker  
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**Synthesis and Crystal Structure of Sodium Copper Tetrametaphosphimate Heptahydrate  $\text{Na}_2\text{Cu}(\text{PO}_2\text{NH})_4 \cdot 7\text{H}_2\text{O}$  and Sodium Potassium Copper Tetrametaphosphimate Heptahydrate  $\text{K}_x\text{Na}_{2-x}\text{Cu}(\text{PO}_2\text{NH})_4 \cdot 7\text{H}_2\text{O}$**

S.R. Römer, W. Schnick  
*Solid State Sci.* **2007**, 9, 644

**The Crystal Structures of Two Non-Metal Tricyanomelaminates: Diammonium Tricyanomelamine Dihydrate  $(\text{NH}_4)_2[\text{C}_6\text{N}_9\text{H}] \cdot 2\text{H}_2\text{O}$  and Dimelaminium Tricyanomelamine Melamine Dihydrate  $[\text{C}_3\text{N}_6\text{H}_7]_2[\text{C}_6\text{N}_9\text{H}] \cdot \text{C}_3\text{N}_6\text{H}_6 \cdot 2\text{H}_2\text{O}$**

B.V. Lotsch, W. Schnick  
*Z. Anorg. Allg. Chem.* **2007**, 633, 1435

**The Stuffed Framework Structure of  $\text{SrP}_2\text{N}_4$ : Challenges to Synthesis and Crystal Structure Determination**

F.W. Karau, L. Seyfarth, O. Oeckler, J. Senker, K. Landskron, W. Schnick  
*Chem. Eur. J.* **2007**, 13, 6841

**Synthesis, Crystal Structure and Properties of the Trimetaphosphimates  $\text{Na}_2\text{M}(\text{PO}_2\text{NH})_3 \cdot 2\text{H}_2\text{O}$  with  $\text{M} = \text{K}, \text{TI}$**

S.J. Sedlmaier, D. Johrendt, O. Oeckler, W. Schnick  
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**Coupled Al/Si and O/N Order/Disorder in  $\text{BaYb}[\text{Si}_{4-x}\text{Al}_x\text{O}_x\text{N}_{7-x}]$  Sialon: Neutron Powder Diffraction and Monte Carlo Simulations**

V.L. Vinograd, E.A. Juarez-Arellano, A. Lieb, K. Knorr, W. Schnick, J.D. Gale, B. Winkler  
*Z. Kristallogr.* **2007**, 222, 402

**New Light on an Old Story: Formation of Melam during Thermal Condensation of Melamine**

B.V. Lotsch, W. Schnick  
*Chem. Eur. J.* **2007**, 13, 4956

**Unmasking Melon by a Complimentary Approach Employing Electron Diffraction, Solid-State NMR Spectroscopy and Theoretical Calculations - Structural Characterization of a Carbon Nitride Polymer**

B.V. Lotsch, M. Döblinger, J. Sehnert, L. Seyfarth, J. Senker, O. Oeckler, W. Schnick  
*Chem. Eur. J.* **2007**, 13, 4969

**Das reduzierte Nitridosilicat  $\text{BaSi}_6\text{N}_8$**

F. Stadler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2007**, 633, 589

**Zn<sub>8</sub>[P<sub>12</sub>N<sub>24</sub>]O<sub>2</sub> – ein Nitridophosphat-oxid mit Sodalith-Struktur**

F. Karau, O. Oeckler, F. Schäfers, R. Niewa, W. Schnick  
*Z. Anorg. Allg. Chem.* **2007**, 633, 1333

**Rare-Earth Tricyanomelaminates [NH<sub>4</sub>]Ln[HC<sub>6</sub>N<sub>9</sub>]<sub>2</sub>[H<sub>2</sub>O]<sub>7</sub>·H<sub>2</sub>O  
(Ln = La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy): Structural Investigation, Solid-State NMR Spectroscopy,  
and Photoluminescence**

A. Nag, B.V. Lotsch, J. Schmedt auf der Günne, O. Oeckler, P.J. Schmidt, W. Schnick  
*Chem. Eur. J.* **2007**, 13, 3512

**Real Structure of SrSi<sub>2</sub>O<sub>2</sub>N<sub>2</sub>**

O. Oeckler, F. Stadler, T. Rosenthal, W. Schnick  
*Solid State Sci.* **2007**, 9, 205

**The Sialons *MLn*[Si<sub>4-x</sub>Al<sub>x</sub>O<sub>x</sub>N<sub>7-x</sub>] with *M* = Eu, Sr, Ba and *Ln* = Ho-Yb-  
Twelve Substitution Variants with the *MYb*[Si<sub>4</sub>N<sub>7</sub>] Structure Type**

A. Lieb, J.A. Kechele, R. Kraut, W. Schnick  
*Z. Anorg. Allg. Chem.* **2007**, 633, 166

**Synthese von Cadmiumnitrid Cd<sub>3</sub>N<sub>2</sub> durch thermischen Abbau von Cadmiumazid Cd(N<sub>3</sub>)<sub>2</sub> und  
Kristallstrukturbestimmung aus Röntgen-Pulverbeugungsdaten**

F. Karau, W. Schnick  
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**Synthesis and Characterization of Tb[N(CN)<sub>2</sub>]<sub>3</sub>·2H<sub>2</sub>O and Eu[N(CN)<sub>2</sub>]<sub>3</sub>·2H<sub>2</sub>O:  
Two New Luminescent Rare-Earth Dicyanamides**

A. Nag, P.J. Schmidt, W. Schnick  
*Chem. Mater.* **2006**, 18, 5738

**Illumination System Comprising a Radiation Source and a Blue-Emitting Phosphor**

P.J. Schmidt, B.S. Schreinemacher, W. Schnick, F.M. Stadler, J. Meyer  
*PCT Int. Appl.* **2006**, WO 2006061778 A1, Philips Intellectual Property & Standards GmbH,  
Germany, Koninklijke Philips Electronics NV, Lumileds Lighting US, Llc.

**Carbon Dioxide Fixation of Organolanthanides and Thermal Degradation into Amorphous and  
Higher Condensed Ln/O/C/N Solids**

U. Baisch, S. Pagano, M. Zeuner, W. Schnick  
*Eur. J. Inorg. Chem.* **2006**, 3517

**Crystal Structure, Physical Properties and HRTEM Investigation of the New  
Oxonitridosilicate EuSi<sub>2</sub>O<sub>2</sub>N<sub>2</sub>**

F. Stadler, O. Oeckler, H.A. Höpfe, M.H. Möller, R. Pöttgen, B.D. Mosel, P. Schmidt, V. Duppel,  
A. Simon, W. Schnick  
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**Zur Frage der Tautomerie von Cyamelursäure im Kristall**

A. Sattler, W. Schnick  
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**A Nitridic Clathrate: P<sub>4</sub>N<sub>4</sub>(NH)<sub>4</sub>(NH<sub>3</sub>)**

F. Karau, W. Schnick  
*Angew. Chem.* **2006**, 118, 4617; *Angew. Chem. Int. Ed.* **2006**, 45, 4505

**Synthesis, Structure, and Dynamics of Tris(η<sup>5</sup>-cyclopentadienyl)lanthanides and  
Bis(η<sup>5</sup>-cyclopentadienyl)[bis(trimethylsilyl)amido]cerium(III)**

U. Baisch, S. Pagano, M. Zeuner, J. Schmedt auf der Günne, O. Oeckler, W. Schnick  
*Organometallics* **2006**, 25, 3027

**Compressibility of the Nitridosilicate  $\text{SrYb}[\text{Si}_4\text{N}_7]$  and the Oxonitridoaluminosilicates**

**$\text{MYb}[\text{Si}_{4-x}\text{Al}_x\text{O}_x\text{N}_{7-x}]$  ( $x = 2$ ;  $M = \text{Sr}, \text{Ba}$ )**

E.A. Juarez-Arellano, A. Friedrich, K. Knorr, A. Lieb, B. Winkler, M. Amboage,  
M. Hanfland, W. Schnick  
*Acta Crystallogr.* **2006**, *B62*, 424

**Single-Crystal X-ray Diffraction and Electron Microprobe Analysis of the Structurally Related J-Phases  $\text{Nd}_4[\text{Si}_2\text{O}_5\text{N}_2]\text{O}_2$ ,  $\text{Nd}_4[\text{Si}_{2-x}\text{Al}_x\text{O}_{5+x}\text{N}_{2-x}]\text{O}_2$  with  $x \approx 0.4$  and  $\text{Sr}_x\text{Ho}_{4-x}[\text{Si}_{2-y}\text{Al}_y\text{O}_{5+(x+y)}\text{N}_{2-(x+y)}]\text{O}_2$  with  $x \approx 0.2$  and  $y \approx 0.4$**

A. Lieb, R. Kraut, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, *632*, 1496

**Synthesis and Structural Characterization of the Ammelinium Salts  $[\text{C}_3\text{H}_6\text{N}_5\text{O}]\text{Cl}$ ,  $[\text{C}_3\text{H}_6\text{N}_5\text{O}]\text{Br}$ , and  $[\text{C}_3\text{H}_6\text{N}_5\text{O}]\text{NO}_3$**

B.V. Lotsch, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, *632*, 1457

**Illumination System Comprising a Radiation Source and a Fluorescent Material**

T. Juestel, P. Schmidt, W. Schnick, F.M. Stadler  
*PCT Int. Appl.* **2006**, WO 2006006099 A1, 31 pp, Philips Intellectual Property & Standards GmbH,  
Germany, Koninklijke Philips Electronics NV, Lumileds Lighting US, Llc.

**Crystal Structure of the High-Pressure Phase of the Oxonitridosilicate Chloride  $\text{Ce}_4[\text{Si}_4\text{O}_{3+x}\text{N}_{7-x}]\text{Cl}_{1-x}\text{O}_x$ ,  $x \approx 0.2$**

A. Friedrich, E. Haussühl, W. Morgenroth, A. Lieb, B. Winkler, K. Knorr, W. Schnick  
*Acta Crystallogr.* **2006**, *B62*, 205

**Nanocrystalline Lanthanide Nitride Materials Synthesized by Thermal Treatment of Amido and Ammine Metallocenes: X-ray Studies and DFT Calculations**

U. Baisch, S. Pagano, M. Zeuner, N. Barros, L. Maron, W. Schnick  
*Chem. Eur. J.* **2006**, *12*, 4785

**From Triazines to Heptazines: Novel Nonmetal Tricyanomelaminates as Precursors for Graphitic Carbon Nitride Materials**

B.V. Lotsch, W. Schnick  
*Chem. Mater.* **2006**, *18*, 1891

**Synthesis, Crystal Structure and Thermal Behavior of Gadolinium Dicyanamide Dihydrate  $\text{Gd}[\text{N}(\text{CN})_2]_3 \cdot 2\text{H}_2\text{O}$**

A. Nag, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, *632*, 609

**Kristallstruktur von Natrium-Dihydrogencyamelurat-Tetrahydrat  $\text{Na}[\text{H}_2(\text{C}_6\text{N}_7)\text{O}_3] \cdot 4\text{H}_2\text{O}$**

A. Sattler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, *632*, 531

**Die neuen Schichtsilicate  $\text{Ba}_3\text{Si}_6\text{O}_9\text{N}_4$  und  $\text{Eu}_3\text{Si}_6\text{O}_9\text{N}_4$**

F. Stadler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, *632*, 949

**$\text{Pr}_{10}[\text{Si}_{10-x}\text{Al}_x\text{O}_{9+x}\text{N}_{17-x}]\text{Cl}$  with  $x \approx 1$  - An Oxonitridoaluminosilicate Chloride**

A. Lieb, R. Lauterbach, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, *632*, 313

**$\text{BaSm}_5[\text{Si}_9\text{Al}_3\text{N}_{20}]\text{O}$  – A Nitridoaluminosilicate Oxide with a New Structure Type Composed of “Star-Shaped”  $[\text{N}^{(4)}(\text{Si},\text{Al})\text{N}_3]_4$  Units as Secondary Building Units**

A. Lieb, W. Schnick  
*Solid State Sci.* **2006**, *8*, 185

**Hochdrucksynthese von  $\text{BaSr}_2\text{P}_6\text{N}_{12}$  und  $\text{BaCa}_2\text{P}_6\text{N}_{12}$  und Strukturvergleich der Reihe  $\text{BaP}_2\text{N}_4$ ,  $\text{BaCa}_2\text{P}_6\text{N}_{12}$  und  $\text{BaSr}_2\text{P}_6\text{N}_{12}$**

F. Karau, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, 632, 231

**Zur Kenntnis der Kristallstruktur von Melem  $\text{C}_6\text{N}_7(\text{NH}_2)_3$**

A. Sattler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, 632, 238

**Illumination System Comprising a Radiation Source and a Fluorescent Material**

P.J. Schmidt, T. Juestel, H. Hoeppe, W. Schnick  
*PCT Int. Appl.* **2005**, WO 2005083037 A1, 33 pp., Philips Intellectual Property & Standards GmbH, Germany; Koninklijke Philips Electronics N.V.; Lumileds Lighting U.S. Llc.

**Darstellung und Kristallstruktur von Diamminmagnesiumdiazid  $\text{Mg}(\text{NH}_3)_2(\text{N}_3)_2$**

F. Karau, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, 632, 49

**Syntheses and Crystal Structure of Lithium Tetrametaphosphimate Tetrahydrate**

**$\text{Li}_4(\text{PO}_2\text{NH})_4 \cdot 4\text{H}_2\text{O}$**   
S.R. Römer, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, 632, 59

**Synthese, Kristallstruktur und festkörper-NMR-spektroskopische Untersuchung neuer Oxonitridosilicate der Mischkristallreihe  $\text{Ba}_{4-x}\text{Ca}_x\text{Si}_6\text{N}_{10}\text{O}$**

F. Stadler, O. Oeckler, W. Schnick  
*Z. Anorg. Allg. Chem.* **2006**, 632, 54

**$\text{Ce}_{10}[\text{Si}_{10}\text{O}_9\text{N}_{17}]\text{Br}$ ,  $\text{Nd}_{10}[\text{Si}_{10}\text{O}_9\text{N}_{17}]\text{Br}$  and  $\text{Nd}_{10}[\text{Si}_{10}\text{O}_9\text{N}_{17}]\text{Cl}$  Oxonitridosilicate Halides with a New Layered Structure Type**

A. Lieb, W. Schnick  
*J. Solid State Chem.* **2005**, 178, 3323

**Crystal Structure of Guanylurea Sulphate Hydrate  $[\text{H}_2\text{NC}(=\text{O})\text{NHC}(\text{NH}_2)_2]_2\text{SO}_4 \cdot 2\text{H}_2\text{O}$**

B.V. Lotsch, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 2967

**Synthesis, Crystal Structures and Properties of the Trimetaphosphimates  $\text{NaBa}(\text{PO}_2\text{NH})_3$ ,  $\text{KSr}(\text{PO}_2\text{NH})_3 \cdot 4\text{H}_2\text{O}$ , and  $\text{NH}_4\text{Sr}(\text{PO}_2\text{NH})_3 \cdot 4\text{H}_2\text{O}$**

S. Correll, S. Sedlmaier, W. Schnick  
*Solid State Sci.* **2005**, 7, 1261

**Darstellung und Kristallstruktur von Cadmiumazid  $\text{Cd}(\text{N}_3)_2$**

F. Karau, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 2315

**Thermal Conversion of Guanylurea Dicyanamide into Graphitic Carbon Nitride via Prototype  $\text{CN}_x$  Precursors**

B.V. Lotsch, W. Schnick  
*Chem. Mater.* **2005**, 17, 3976

**Synthesis and Crystal Structure Determination by X-ray Powder Diffraction of Nickel Tetrametaphosphimate Octahydrate  $\text{Ni}_2(\text{PO}_2\text{NH})_4 \cdot 8\text{H}_2\text{O}$**

S.R. Römer, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 1749



**Synthese, Kristallstruktur und Festkörper-NMR-spektroskopische Untersuchung des Oxonitridosilicates  $\text{BaSi}_6\text{N}_8\text{O}$**

F. Stadler, R. Kraut, O. Oeckler, S. Schmid, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 1773

**Highly Efficient All-Nitride Phosphor-Converted White Light Emitting Diode**

R. Mueller-Mach, G. Mueller, M.R. Krames, H.A. Höpfe, F. Stadler, W. Schnick, T. Juestel, P. Schmidt  
*Phys. Status Solidi (a)* **2005**, 202, 1727

**Synthesen, Kristallstrukturen und spektroskopische Eigenschaften des Melem-Adduktes  $\text{C}_6\text{N}_7(\text{NH}_2)_3 \cdot \text{H}_3\text{PO}_4$  sowie der Melemium-Salze  $(\text{H}_2\text{C}_6\text{N}_7(\text{NH}_2)_3)\text{SO}_4 \cdot 2\text{H}_2\text{O}$  und  $(\text{HC}_6\text{N}_7(\text{NH}_2)_3)\text{ClO}_4 \cdot \text{H}_2\text{O}$**

A. Sattler, L. Seyfarth, J. Senker, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 2545

**Synthese, Kristallstruktur und Eigenschaften von Chrom(III)-trimetaphosphimat-Heptahydrat,  $\text{Cr}(\text{PO}_2\text{NH})_3 \cdot 7 \text{H}_2\text{O}$**

S. Correll, S. Sedlmaier, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 1359

**Synthesis, Crystal Structure Determination from X-Ray Powder Diffractometry and Vibrational Spectroscopic Properties of  $\text{Mg}[\text{N}(\text{CN})_2]_2 \cdot 4\text{H}_2\text{O}$**

E. Irran, B. Jürgens, S. Schmid, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 1512

**Catalytic Formation and Crystal Structure of Cyanoguanylurea  $\text{H}_2\text{NC}(=\text{O})\text{NHC}(\text{NH}_2)\text{NCN}$**

B.V. Lotsch, W. Schnick  
*Z. Naturforsch.* **2005**, 60b, 377

**Crystal Structure and Mechanical Properties of  $\text{SrSi}_7\text{N}_{10}$**

G. Pilet, H.A. Höpfe, W. Schnick, S. Esmailzadeh  
*Solid State Sci.* **2005**, 7, 391

**Synthese, Kristallstruktur und spektroskopische Untersuchungen von  $\text{Ba}_5[\text{BO}_3]_3\text{CN}$**

S. Schmid, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 1139

**High-Pressure Synthesis and X-ray Powder Structure Determination of the Nitridophosphate  $\text{BaP}_2\text{N}_4$**

F. W. Karau, W. Schnick  
*J. Solid State Chem.* **2005**, 178, 135

**Synthesis and Characterization of the Rare-Earth Dicyanamides  $\text{Ln}[\text{N}(\text{CN})_2]_3$  with  $\text{Ln} = \text{La, Ce, Pr, Nd, Sm, and Eu}$**

B. Jürgens, E. Irran, W. Schnick  
*J. Solid State Chem.* **2005**, 178, 72

**Oxonitridosilicate Chlorides – Synthesis, Single-Crystal X-ray and Neutron Powder Diffraction, Chemical Analysis and Properties of  $\text{Ln}_4[\text{Si}_4\text{O}_{3+x}\text{N}_{7-x}]\text{Cl}_{1-x}\text{O}_x$  with  $\text{Ln} = \text{Ce, Pr, Nd}$  and  $x \approx 0.2$**

A. Lieb, M.T. Weller, P.F. Henry, R. Niewa, R. Pöttgen, R.-D. Hoffmann, H.E. Höfer, W. Schnick  
*J. Solid State Chem.* **2005**, 178, 976

**$\text{SrSi}_6\text{N}_8$  – A Reduced Nitridosilicate with a Si-Si Bond**

F. Stadler, O. Oeckler, J. Senker, H. A. Höpfe, P. Kroll, W. Schnick  
*Angew. Chem.* **2005**, 117, 573; *Angew. Chem. Int. Ed.* **2005**, 44, 567

**Syntheses, Crystal Structures and Properties of the Tetrametaphosphimates  $\text{M}^{\text{II}}_2(\text{PO}_2\text{NH})_4 \cdot 8\text{H}_2\text{O}$  with  $\text{M}^{\text{II}} = \text{Mg, Mn, Co}$  and  $\text{Zn}$**

S.R. Römer, W. Schnick  
*Z. Anorg. Allg. Chem.* **2005**, 631, 31

**High-Pressure Phase Transition of the Oxonitridosilicate Chloride  $\text{Ce}_4[\text{Si}_4\text{O}_{3+x}\text{N}_{7-x}]\text{Cl}_{1-x}\text{O}_x$  with  $x = 0.12$  and  $0.18$**

A. Friedrich, K. Knorr, A. Lieb, S. Rath, M. Hanfland, B. Winkler, W. Schnick  
*Z. Kristallogr.* **2005**, 220, 245

**Crystal Structure and Thermal Solid-State Reactivity of Ammonium Cyanoureate  $\text{NH}_4[\text{H}_2\text{NC}(=\text{O})\text{NCN}]$**

B.V. Lotsch, W. Schnick  
*Z. Naturforsch.* **2004**, 59b, 1229

**Illumination System Comprising a Radiation Source and a Fluorescent Lanthanide-Doped Metal Oxide Nitride Silicate Phosphor**

T. Juestel, P. Schmidt, H. Hoeppe, W. Schnick, W. Mayr  
*PCT Int. Appl.* **2004**, WO 2004055910 A1, 24 pp., Philips Intellectual Property & Standards GmbH, Germany; Koninklijke Philips Electronics N.V.; Lumileds Lighting U.S. Llc.

**$\text{Li}_{12-x}\text{H}_{x-y+z}[\text{P}_{12}\text{O}_y\text{N}_{24-y}]\text{X}_z$  ( $\text{X} = \text{Cl}, \text{Br}$ ) – Oxonitridophosphate mit NPO-Zeolithstruktur**

S. Correll, N. Stock, O. Oeckler, J. Senker, T. Nilges, W. Schnick  
*Z. Anorg. Allg. Chem.* **2004**, 630, 2205

**Plasma Display Screen with Blue-Emitting Phosphor**

T. Jüstel, W. Mayr, P.J. Schmidt, W. Schnick  
*PCT Int. Appl.* **2004**, WO 2004047138 A2, 10 pp., Philips Intellectual Property & Standards GmbH, Germany; Koninklijke Philips Electronics NV.

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*PCT Int. Appl.* **2005**, WO 2005116163 A1, 35 pp, Philips Intellectual Property & Standards GmbH, Germany; Koninklijke Philips Electronics NV; Lumileds Lighting US, Llc.

**$\text{Ca}[\text{Si}_2\text{O}_2\text{N}_2]$  – A Novel Layer Silicate**

H.A. Höpfe, F. Stadler, O. Oeckler, W. Schnick  
*Angew. Chem.* **2004**, 116, 5656; *Angew. Chem. Int. Ed.* **2004**, 43, 5540

**Towards Novel C-N Materials: Crystal Structures of Two Polymorphs of Guanidinium Dicyanamide and Their Thermal Conversion into Melamine**

B.V. Lotsch, W. Schnick  
*New J. Chem.* **2004**, 28, 1129

**Europium-Activated Alkaline Earth Silicon Nitride Oxide Phosphors and Luminescent Screens and Light-Emitting Devices Employing the Phosphors**

P. Schmidt, T. Juestel, W. Mayr, H.-D. Bausen, W. Schnick, H. Hoeppe  
*PCT Int. Appl.* **2004**, WO 2004036962 A1, 25 pp., Philips Intellectual Property & Standards GmbH, Germany; Koninklijke Philips Electronics NV; Lumileds Lighting US, Llc.

**Rubidium Metaborate,  $\text{Rb}_3\text{B}_3\text{O}_6$**

S. Schmid, W. Schnick  
*Acta Crystallogr.* **2004**, C60, i69

**Synthesis, Crystal Structures and Properties of the Bis-(trimetaphosphimato)-metallates**

**$\text{Na}_4\{\text{Co}[(\text{PO}_2\text{NH})_3]_2\} \cdot 12\text{H}_2\text{O}$  and  $\text{Na}_4\{\text{Ni}[(\text{PO}_2\text{NH})_3]_2\} \cdot 12\text{H}_2\text{O}$**

S. Correll, N. Stock, W. Schnick  
*Solid State Sci.* **2004**, 6, 953

**Nonlinear Optical Susceptibilities  $\chi^{(2)}$  of Nitridosilicate Powders**

H. Lutz, S. Joosten, J. Hoffmann, P. Lehmeier, A. Seilmeier, H. A. Höpfe, W. Schnick  
*J. Phys. Chem. Solids* **2004**, 65, 1285

**Magnetic Investigations and  $^{151}\text{Eu}$  Mössbauer Spectroscopy of  $M\text{YbSi}_4\text{N}_7$  with  $M = \text{Sr}, \text{Ba}, \text{Eu}$**

H.A. Höpfe, H. Trill, G. Kotzyba, B.D. Mosel, R. Pöttgen, W. Schnick

*Z. Anorg. Allg. Chem.* **2004**, 630, 224

**Phase Transition of a Dicyanamide with Rutile-Like Structure: Syntheses and Crystal Structures of  $\alpha$ - and  $\beta$ - $\text{Cd}[\text{N}(\text{CN})_2]_2$**

B. Jürgens, E. Irran, H.A. Höpfe, W. Schnick

*Z. Anorg. Allg. Chem.* **2004**, 630, 219

**Characterization of the Thermally Induced Topochemical Solid-State Transformation of  $\text{NH}_4[\text{N}(\text{CN})_2]$  into  $\text{NCN}=\text{C}(\text{NH}_2)_2$  by Means of X-ray and Neutron Diffraction as well as Raman and Solid-State NMR Spectroscopy**

B.V. Lotsch, J. Senker, W. Schnick

*Inorg. Chem.* **2004**, 43, 895

**Synthesis, Crystal Structure and Properties of Rubidium Dihydrogentricyanomelaminat Semihydrate  $\text{Rb}[\text{H}_2\text{C}_6\text{N}_9] \cdot \frac{1}{2}\text{H}_2\text{O}$**

B. Jürgens, H.A. Höpfe, W. Schnick

*Z. Anorg. Allg. Chem.* **2004**, 630, 35

**Synthese und Kristallstruktur von *bis*-1,3-Dimethoxyethan-trichloro-samarium(III) und *tris*-N,N-Diisopropylcarbamato-samarium(III)**

U. Baisch, W. Schnick

*Z. Anorg. Allg. Chem.* **2003**, 629, 2073

**Investigation of Structural and Dynamic Properties of  $\text{NH}_4[\text{N}(\text{CN})_2]$  by Means of X-ray and Neutron Powder Diffraction as well as Vibrational and Solid-State NMR Spectroscopy**

B.V. Lotsch, J. Senker, W. Kockelmann, W. Schnick

*J. Solid State Chem.* **2003**, 176, 180

**Melem (2,5,8-Triamino-tri-s-triazine), an Important Intermediate During Condensation of Melamine Rings to Graphitic Carbon Nitride: Synthesis, Structure Determination by X-ray Powder Diffractometry, Solid-State NMR, and Theoretical Studies**

B. Jürgens, E. Irran, J. Senker, P. Kroll, H. Müller, W. Schnick

*J. Am. Chem. Soc.* **2003**, 125, 10288

**Synthesis, Spectroscopic Properties, and Crystal Structure of the Oxonium Acid  $[\text{H}(\text{OEt}_2)_2]^+ [\text{Ti}_2\text{Cl}_9]^-$**

S. Rannabauer, T. Habereeder, H. Nöth, W. Schnick

*Z. Naturforsch.* **2003**, 58b, 745

**$\text{Li}_x\text{H}_{12-x-y+z}[\text{P}_{12}\text{O}_y\text{N}_{24-y}]\text{Cl}_z$  – An Oxonitridophosphate with a Zeolitelike Framework Structure Composed of 3-Rings**

S. Correll, N. Stock, O. Oeckler, W. Schnick

*Angew. Chem.* **2003**, 115, 3674; *Angew. Chem. Int. Ed.* **2003**, 42, 3549

**High-Temperature Synthesis, Single-Crystal X-ray Structure Determination and Solid-State NMR Investigations of  $\text{Ba}_7[\text{SiO}_4][\text{BO}_3]_3\text{CN}$  and  $\text{Sr}_7[\text{SiO}_4][\text{BO}_3]_3\text{CN}$**

S. Schmid, J. Senker, W. Schnick

*J. Solid State Chem.* **2003**, 174, 221

**Synthese, Kristallstruktur und spektroskopische Charakterisierung von Bis(dimethylammonium)hexachlorotitanat  $[\text{Me}_2\text{NH}_2]_2[\text{TiCl}_6]$**

S. Rannabauer, W. Schnick

*Z. Naturforsch.* **2003**, 58b, 410

**Synthesis and Structural Investigation of  $\text{La}_{13}\text{Si}_{18}\text{Al}_{12}\text{O}_{15}\text{N}_{39}$**

S. Esmailzadeh, W. Schnick

*Solid State Sci.* **2003**, 5, 503

**Oligonary Nitrides and Oxonitrides of Si, P, Al, and B in Combination with Rare Earth or Transition Metals as well as Molecular Precursor Compounds with Nitrido Bridges M-N-Si (M = Ti, Zr, Hf, W, Sn)**

W. Schnick, R. Bettenhausen, B. Götze, H.A. Höpfe, H. Huppertz, E. Irran, K. Köllisch, R. Lauterbach, M. Orth, S. Rannabauer, T. Schlieper, B. Schwarze, F. Wester  
*Z. Anorg. Allg. Chem.***2003**, 629, 902

**Synthesis, Crystal Structure Determination from X-ray Powder Diffractometry and Vibrational Spectroscopy of the Tricyanomelaminates Monohydrates  $M_3[C_6N_9] \cdot H_2O$  (M = K, Rb)**

E. Irran, B. Jürgens, W. Schnick  
*Solid State Sci.* **2002**, 4, 1305

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B. Jürgens, H.A. Höpfe, E. Irran, W. Schnick  
*Inorg. Chem.***2002**, 41, 4849

**A Density Functional Study of Phosphorus Nitride  $P_3N_5$ : Refined Geometries, Properties, and Relative Stability of  $\alpha$ - $P_3N_5$  and  $\gamma$ - $P_3N_5$  and a Further Possible High-Pressure Phase  $\delta$ - $P_3N_5$  with Kyanite-Type Structure**

P. Kroll, W. Schnick  
*Chem. Eur. J.* **2002**, 8, 3530

**Synthesis, Crystal Structure, Magnetism, and Optical Properties of  $Gd_3[SiON_3]O$  - An Oxonitridosilicate Oxide with Noncondensed  $SiON_3$  Tetrahedra**

H.A. Höpfe, G. Kotzyba, R. Pöttgen, W. Schnick  
*J. Solid State Chem.* **2002**, 167, 393

**Synthese und Kristallstruktur des ersten Oxonitridoborates -  $Sr_3[B_3O_3N_3]$**

S. Schmid, W. Schnick  
*Z. Anorg. Allg. Chem.***2002**, 628, 1192

**Synthesis, Crystal Structure, Vibrational Spectroscopy, and Thermal Behaviour of Lead Dicyanamide  $Pb[N(CN)_2]_2$**

B. Jürgens, H.A. Höpfe, W. Schnick  
*Solid State Sci.* **2002**, 4, 821

**Multianvil-Synthese, Pulver-Röntgenstrukturanalyse,  $^{31}P$ -MAS-NMR- und FTIR-Spektroskopie sowie Materialeigenschaften von  $\gamma$ - $P_3N_5$ , einer Hochdruckphase von binärem Phosphor(V)-nitrid mit verzerrt quadratischen  $PN_5$ -Pyramiden und  $PN_4$ -Tetraedern**

K. Landskron, H. Huppertz, J. Senker, W. Schnick  
*Z. Anorg. Allg. Chem.***2002**, 628, 1465

**Reaktion von Bis(trimethylsilylamino)dichlorsilan mit Titantetrachlorid – Synthese und Kristallstruktur von  $[\mu-CITiCl_2N(SiMe_3)SiCl_2NH_2]_2$**

S. Rannabauer, R. Bettenhausen, W. Schnick  
*Z. Anorg. Allg. Chem.***2002**, 628,373

**Hyperfine Interactions in the 13 K Ferromagnet  $Eu_2Si_5N_8$**

H.A. Höpfe, H. Trill, B.D. Mosel, H. Eckert, G. Kotzyba, R. Pöttgen, W. Schnick  
*J. Phys. Chem. Solids***2002**, 63, 853

**Systematic Investigation of Tri- and Tetrametaphosphimates**

S. Correll, N. Stock, W. Schnick  
*Phosphorus Sulfur Silicon Relat. Elem.***2001**, 168/169, 321

**High-Temperature Synthesis, Crystal Structure, Optical Properties, and Magnetism of the Carbidonitridosilicates  $Ho_2[Si_4N_6C]$  and  $Tb_2[Si_4N_6C]$**

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**High-Temperature High-Pressure Synthesis of the Highly Condensed Nitridophosphates NaP<sub>4</sub>N<sub>7</sub>, KP<sub>4</sub>N<sub>7</sub>, RbP<sub>4</sub>N<sub>7</sub>, and CsP<sub>4</sub>N<sub>7</sub> and Their Crystal-Structure Determinations by X-ray Powder Diffraction**

K. Landskron, E. Irran, W. Schnick

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N. Stock, E. Irran, W. Schnick  
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R. Bettenhausen, W. Milius, W. Schnick  
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N. Stock, W. Herrendorf, J. Beck, W. Schnick  
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S. Horstmann, E. Irran, W. Schnick  
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B. Schwarze, W. Milius, W. Schnick  
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S. Horstmann, W. Schnick  
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**$\text{Mg}_2\text{PN}_3$  und  $\text{Ca}_2\text{PN}_3$  - Phosphor(V)-nitride mit eindimensional unendlichen Ketten eckenverknüpfter  $\text{PN}_4$ -Tetraeder**

V. Schultz-Coulon, W. Schnick  
*Z. Anorg. Allg. Chem.* **1997**, 623, 69

**Synthese, Kristallstruktur und Eigenschaften von 1,1,1,3,3,3-Hexaamino-1 $\lambda^5$ ,3 $\lambda^5$ -diphosphazenumchlorid[(NH<sub>2</sub>)<sub>3</sub>PNP(NH<sub>2</sub>)<sub>3</sub>]Cl**

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*Angew. Chem.* **1996**, 108, 2115; *Angew. Chem. Int. Ed. Engl.* **1996**, 35, 1983

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*Acta Crystallogr.* **1996**, C52, 2645

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T. Schlieper, W. Schnick  
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**Synthese, Kristallstruktur und Eigenschaften von Tetraaminophosphonium-chlorid [P(NH<sub>2</sub>)<sub>4</sub>]Cl**

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