

## Publications, Prof. Dr. Anja-Verena Mudring

<http://www.researcherid.com/rid/C-4739-2014>

<http://orcid.org/0000-0002-2800-1684>

<https://scholar.google.com/citations?user=1wofyBoAAAAJ&hl=en>

### Peer-reviewed original articles

#### 2020

**224.** S. P. Kelley, V. Smetana, J.S. Nuss, D. A. Dixon, M. Vasiliu, **A.-V. Mudring**, R. D. Rogers, Dehydration of  $\text{UO}_2\text{Cl}_2 \cdot 3\text{H}_2\text{O}$  and  $\text{Nd}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$  with a Soft Donor Ligand and Comparison of Their Interactions through X-ray Diffraction and Theoretical Investigation, *Inorg. Chem.*, **2020**, 59, 2861-2869. DOI: 10.1021/acs.inorgchem.9b03228.

**223.** V. Smetana, S. P. Kelley, **A.-V. Mudring**, R.D. Rogers, A fivefold  $\text{UO}_2^{2+}$  node is a path to dodecagonal quasicrystal approximants in coordination polymers, *Science Advances* **2020**, 6, eaay7685. DOI: 10.1126/sciadv.aay7685.

**222.** X. Wang, M. Valldor, E. T. Spielberg, F.W. Heinemann, K. Meyer, A.-V. Mudring, Paramagnetic Iron-Containing Ionic Liquid Crystals, *Mol. Liq.* **2020**, xxx, xxx-xxx. DOI: 10.1016/j.molliq.2020.112583.

**221.** V. Babizhetskyy, V. Levytskyy, V. Smetana, M. Wilk-Kozubek, O. Tsisar, L. Piskach, O. Parasyuk, **A.-V. Mudring**, New cation-disordered quaternary selenides  $\text{Tl}_2\text{Ga}_2\text{TiSe}_6$  ( $Tt = \text{Ge}, \text{Sn}$ ), *Z. Naturforsch. B*, **2020**, 75, 135-142. DOI: 10.1515/znb-2019-0169.

**220.** F. Guillou, D. Paudyal, Y. Mudryk, A. K. Pathak, V. Smetana, **A.-V. Mudring**, V. K. Pecharsky, Metamagnetic transition, magnetocaloric effect and electronic structure of the rare-earth antiperovskite  $\text{SnOEu}_3$ , *JMMM*, **2020**, 501, 166405. DOI: 10.1016/j.jmmm.2020.166405.

**219.** D. Prodius, K. Gandha, **A.-V. Mudring**, I. Nlebelim, Sustainable Urban Mining of Critical Elements from Magnet and Electronic Wastes, *ACS Sus. Chem. Eng.*, **2020**, 8, 1455-1463. DOI: 10.1021/acssuschemeng.9b05741.

**218.** T. Alammar, I.Z. Hlova, S. Gupta, V.K. Pecharsky, **A.-V. Mudring**, Mechanochemical Synthesis, Characterization and Luminescent Properties of Lanthanide Benzene-1,4-Dicarboxylate Coordination Polymers  $(\text{LnGd})(1,4\text{-BDC})_3(\text{H}_2\text{O})_4$ ;  $\text{Ln} = \text{Sm}, \text{Eu}, \text{Tb}$ , *New J. Chem.*, **2020**, 44, 1054-1062. DOI: 10.1039/C9NJ02583A.

**217.** V. Smetana, S. P. Kelley, H. M. Titi, X. Hou, S.-F. Tang, **A.-V. Mudring**, R. D. Rogers, Synthesis of Anhydrous Acetates for the Components of Nuclear Fuel Recycling in Dialkylimidazolium Acetate Ionic Liquids, *Inorg. Chem.* **2020**, 59, 818-828. DOI: 10.1021/acs.inorgchem.9b03077.

**216.** S. P. Kelley, H. Pei, V. Smetana, **A.-V. Mudring**, R. D. Rogers, Structural Consequences of Halogen Bonding in Dialkylimidazolium: A New Design Strategy for Ionic Liquids Illustrated with the  $\text{I}_2$  Co-Crystal and Acetonitrile Solvate of 1,3-Dimethylimidazolium Iodide, *Cryst. Growth Des.*, **2020**, 20, 498-505. DOI: 10.1021/acs.cgd.9b01454.

**215.** O. Renier, G. Bousrez, K. Stappert, M. Wilk-Kozubek, B. Adranno, H. Pei, E. T. Spielberg, V. Smetana, **A.-V. Mudring**, Photoisomerization and Mesophase Formation in Azo-Ionic Liquids, *Crystal Growth & Des.*, **2020**, *20*, 214-225. DOI: 10.1021/acs.cgd.9b01018.

## 2019

**214.** G. Tessitore, **A.-V. Mudring**, K. Krämer, Upconversion luminescence in sub-10 nm  $\beta$ -NaGdF<sub>4</sub>: Yb<sup>3+</sup>, Er<sup>3+</sup> nanoparticles: An improved synthesis in anhydrous ionic liquids, *RSC Advances*, **2019**, *9*, 34784-34792. DOI: 10.1039/C9RA05950D.

**213.** A. Provino, V. Smetana, T. Hackett, D. Paudyal, M. Kashyap, C. Bernini, A. Bhattacharyya, S. Dhar, M. Pani, F. Gatti, **A.-V. Mudring**, P. Manfrinetti, Stability, crystal-chemistry and magnetism of U<sub>2+x</sub>Ni<sub>21-x</sub>B<sub>6</sub> and Nb<sub>3-y</sub>Ni<sub>20+y</sub>B<sub>6</sub> and the role of U in the formation of the quaternary U<sub>2-z</sub>Nb<sub>z</sub>Ni<sub>21</sub>B<sub>6</sub> and U<sub>δ</sub>Nb<sub>3-δ</sub>Ni<sub>20</sub>B<sub>6</sub> systems, *Inorg. Chem.*, **2019**, *58*, 15045-15059. DOI: 10.1021/acs.inorgchem.9b01440.

**212.** N. S. Sangeetha, L.-L. Wang, A.V. Smirnov, V. Smetana, **A.-V. Mudring**, D.D Johnson, M.A. Tanatar, R. Prozorov, D.C. Johnston, Non-Fermi-liquid behaviors associated with a magnetic quantum-critical point in Sr(Co<sub>{1-x}</sub>Ni<sub>{x}</sub>)<sub>2</sub>As<sub>2</sub> single crystals, *Phys. Rev. B*, **2019**, *100*, 094447.

**211.** N.S. Sangeetha, V Smetana, **A-V Mudring**, DC Johnston, Helical Antiferromagnetic Ordering in EuNi<sub>{1.95}</sub>As<sub>2</sub>, *Phys. Rev. B*, **2019**, *100*, 094438.

**210.** G. Wang, M. Valldor, S. Siebeneichler, M. Wilk-Kozubek, V. Smetana, **A.-V. Mudring**, Ionothermal synthesis, structures and magnetism of three new open framework iron halide-phosphates, *Inorg. Chem.* **2019**, *58*, 13203-13212. DOI: 10.1021/acs.inorgchem.9b02028.

**209.** D. Chand, M. Wilk-Kozubek, V. Smetana, **A.-V. Mudring**, An alternative to the popular imidazolium ionic liquids: 1,2,4-Triazolium ionic liquids with enhanced thermal and chemical stability, *ACS Sus. Chem. Eng.*, **2019**, *7*, 15995-16006. DOI: 10.1021/acssuschemeng.9b02437.

**208.** G. Wang, M. Valldor, K.V. Dorn, M. Wilk-Kozubek, V. Smetana, **A.-V. Mudring**, Ionothermal Synthesis Enables Access to 3D Open Framework Manganese Phosphates Containing Extra-large 18-Ring Channels with Stunning Optical and Magnetic Properties, *Chem. Mat.*, **2019**, *31*, 7329-7339. DOI: 10.1021/acs.chemmater.9b01935

**207.** S.-F. Tang, **A.-V. Mudring**, Design of highly luminescent ionic liquids based on lanthanide saccharianates, *Inorg. Chem.*, **2019**, *58*, 11569-11578. DOI: 10.1021/acs.inorgchem.9b01411.

**206.** H. Nasser Abdelhamid, M. Wilk-Kozubek, A. M. El-Zohry, A. Valiente, A. Bermejo-Gomez, B. Martín-Matute, **A.-V. Mudring**, X. Zou, Luminescence Properties for of a Family of Highly Stable Lanthanide Metal-Organic Frameworks, *Micro. Meso. Mat.*, **2019**, *279*, 400-406. DOI: 10.1016/j.micromeso.2019.01.024.

**205.** Y. Mudryk, V. Smetana, V. Pecharsky, **A.-V. Mudring**, J. Liu, Anomalous effects of Sc substitution and processing on magnetism and structure of  $(\text{Gd}_{1-x}\text{Sc}_x)_5\text{Ge}_4$ , *J. Magnet. Magnet. Mat.* **2019**, *474*, 482-492. DOI: 10.1016/j.jmmm.2018.11.004.

## 2018

**204.** M. Rhodehouse, T. Bell, V. Smetana, **A.-V. Mudring**, G.H. Meyer, An Obscured or Nonexistent Binary Intermetallic,  $\text{Co}_7\text{Pr}_{17}$ , its Existent Neighbor  $\text{Co}_2\text{Pr}_5$ , and Two New Ternaries in the System Co/Sn/Pr,  $\text{CoSn}_3\text{Pr}_{1-x}$  and  $\text{Co}_{2-x}\text{Sn}_7\text{Pr}_3$ , *Cryst. Growth & Des.* **2018**, *18*, 6273-6283. DOI: 10.1021/acs.cgd.8b01141

**203.** **A.-V. Mudring**, E. Spielberg, B. Mallick, J. Schaumann, P. Campbell, K. Szeto, Sodium Salicylate: An in-depth thermal and photophysical study, *Chem. Eur. J.*, **2018**, *24*, 15638-15648. DOI: 10.1002/chem.201803045.

**202.** T. Bell, C. Celania, V. Smetana, **A.-V. Mudring**, G.H. Meyer,  $\text{Tb}_3\text{Pd}_2$ ,  $\text{Er}_3\text{Pd}_2$  and  $\text{Er}_6\text{Co}_{5-x}$ : Structural Variations and Bonding in Rare Earth Richer Binary Intermetallics, *Acta Cryst. C*, **2018**, *C74*, 991-996. DOI: 10.1107/S2053229618010549.

**201.** M. Rhodehouse, T. Bell, V. Smetana **A.-V. Mudring**, G.H. Meyer, From the non-existent polar intermetallic  $\text{Pt}_3\text{Pr}_4$  via  $\text{Pt}_{2-x}\text{Pr}_3$  to novel Pt/Sn/Pr ternaries, *Inorg. Chem.* **2018**, *57*, 9949-9961. DOI: 10.1021/acs.inorgchem.8b01121.

**200.** T. Alammar, I.Z. Hlova, S. Gupta, V.K. Pecharsky, **A.-V. Mudring**, Luminescent Properties of Mechanochemically Synthesized Rare-Earth Containing MIL-78 MOF, *Dalton Trans.* **2018**, *47*, 7594-7601. DOI: 10.1039/C7DT04771A.

**199.** D. Prodius, M. Wilk-Kozubek, **A.-V. Mudring**, Synthesis, structural characterization and luminescent properties of 1-carboxymethyl-3-ethylimidazolium chloride, *Acta Cryst. C*, **2018**, *74*, 653-658. DOI: 10.1107/S2053229618005272.

**198.** N. S. Sangeetha, V.K. Anand, E. Cuervo-Reyes, V. Smetana, **A.-V. Mudring**, D. C. Johnston, Enhanced moments of Eu in single crystals of the metallic helical antiferromagnet  $\text{EuCo}_{\{2-y\}}\text{As}_2$ , *Phys. Rev. B.* **2018**, *97*, 144403. DOI: <https://doi.org/10.1103/PhysRevB.97.144403>. Editor's suggestion.

**197.** V. Smetana, Y. Mudryk, V. K. Pecharsky, **A.-V. Mudring**, Controlling Magnetism via Transition Metal Exchange in the Series of Intermetallics  $\text{Eu}(T1,T2)_5\text{In}$  ( $T = \text{Cu}, \text{Ag}, \text{Au}$ ), *J. Mat. Chem. C* **2018**, *6*, 1353-1362. DOI: 10.1039/C7TC04964A. COVER IMAGE

**196.** C. Celania, V. Smetana, A. Provino, P. Manfrinetti, **A.-V. Mudring**,  $R_{14}(\text{Au}, M)_{51}$  ( $R = \text{Y}, \text{La-Nd}, \text{Sm-Tb}, \text{Ho}, \text{Er}, \text{Yb}, \text{Lu}$ ;  $M = \text{Al}, \text{Ga}, \text{Ge}, \text{In}, \text{Sn}, \text{Sb}, \text{Bi}$ ): Stability Ranges and Site Preference in the  $\text{Gd}_{14}\text{Ag}_{51}$  Structure Type, *Cryst. Growth & Des.* **2018**, *18*, 993-1001. DOI: 10.1021/acs.cgd.7b01469

**195.** J.E. Namanga, N. Gerlitzki, V. Smetana, **A.-V. Mudring**, Optimizing green light emitting electrochemical cells: Stability improvement without compromising the efficiency, *ACS Appl. Mat. Interf.* **2018**, *10*, 11026-11036. DOI: 10.1021/acsami.7b18159.

**194.** C. Celandia, V. Smetana, **A.-V. Mudring**, Bringing Order to Large Scale Disordered Complex Metal Alloys:  $\text{Gd}_2\text{Au}_{15-x}\text{Sb}_x$  and  $\text{BaAu}_x\text{Ga}_{12-x}$ , *CrystEngComm* **2018**, *20*, 348-355 DOI: 10.1039/C7CE01865G.

**193.** G. Tessitore, **A.-V. Mudring**, K. W. Krämer, Luminescence and energy transfer in  $\beta\text{-NaGdF}_4\text{:Eu}^{3+},\text{Er}^{3+}$  nanocrystalline samples from a room temperature synthesis, *New J. Chem.* **2018**, *42*, 237-245. DOI: 10.1039/C7NJ03242K.

**192.** N. S. Sangeetha, V. Smetana, **A.-V. Mudring**, D. C. Johnston, Antiferromagnetism in semiconducting  $\text{SrMn}_2\text{Sb}_2$  and  $\text{BaMn}_2\text{Sb}_2$  single crystals, *Phys. Rev. B.* **2018**, *97*, 014402. <https://journals.aps.org/prb/abstract/10.1103/PhysRevB.97.014402>

## 2017

**191.** N. S. Sangeetha, V. Smetana, **A.-V. Mudring**, D. C. Johnston, Anomalous Composition-Induced Crossover in the Magnetic Properties of the Itinerant-Electron Antiferromagnet  $\text{Ca}_{1-x}\text{Sr}_x\text{Co}_{2-y}\text{As}_2$ , *Phys. Rev. Lett.* **2017**, *119*, 257203. DOI: 10.1103/PhysRevLett.119.257203

**190.** M. Di Marcantonio, J. E. Namanga, N. Gerlitzki, F. Vollkommer, **A.-V. Mudring**, G. Bacher, E. Nannen, Bright and Stable Greenish Hybrid Light Emitting Electrochemical Cells, *J. Mat. Chem. C*, **2017**, *5*, 12062-12068. DOI: 10.1039/C7TC02976D.

**189.** C. Celandia, V. Smetana, **A.-V. Mudring**, Crystal Structures and new perspectives on  $\text{Y}_3\text{Au}_4$  and  $\text{Y}_{15}\text{Au}_{51}$ , *Acta Cryst. C* **2017**, *C73*, 692-696, DOI: 10.1107/S2053229617011068.

**188.** M. Li, V. Smetana, T. Alammar, Y. Mudryk, V. Pecharsky, **A.-V. Mudring**, Borophosphates with Helical Chains, *Inorg. Chem.* **2017**, *56*, 11104-11112. DOI: 10.1021/acs.inorgchem.7b01423.

**187.** C. Celandia, V. Smetana, A. Provino, P. Manfrinetti, V. Pecharsky, **A.-V. Mudring**,  $\text{R}_3\text{Au}_9\text{Pn}$  ( $R = \text{Y, Gd-TM}$ ;  $\text{Pn} = \text{Sb, Bi}$ ): A Link between  $\text{Cu}_{10}\text{Sn}_3$  and  $\text{Gd}_{14}\text{Ag}_{51}$ , *Inorg. Chem.* **2017**, *56*, 7247-7256, DOI: 10.1021/acs.inorgchem.7b00898.

**186.** T. Alammar, I. Slowing, J. Anderegg, **A.-V. Mudring**, Ionic Liquid-Assisted Microwave Synthesis of Solid Solutions of Perovskite  $\text{Sr}_{1-x}\text{Ba}_x\text{SnO}_3$  Nanocrystals for Photocatalytic Applications, *ChemSusChem* **2017**, *10*, 3387-3401. DOI: 10.1002/cssc.201700615. *Back cover.*

**185.** T. Alammar, I. Hamm, V. Grasmik, M. Wark, **A.-V. Mudring**, Microwave-Assisted Synthesis of Perovskite  $\text{SrSnO}_3$  Nanocrystals in Ionic Liquids for Photocatalytic Applications, *Inorg. Chem.*, **2017**, *56*, 6920-6932. DOI: 10.1021/acs.inorgchem.7b00279.

**184.** P. Ghosh, R.K. Sharma, Y.N. Chouryal, **A.-V. Mudring**: Size of the rare-earth ions: a key factor in phase tuning and morphology control of binary and ternary rare-earth fluoride materials, *RSC Adv.* **2017**, *7*, 33467-33476. DOI: 10.1039/c7ra06741k.

- 183.** G. Tessitore, **A.-V. Mudring**, K. W. Krämer, Room temperature synthesis of  $\beta$ -NaGdF<sub>4</sub>:RE<sup>3+</sup> (RE=Eu, Er) nanocrystallites and their luminescence, *J. Lumin.* **2017**, *189*, 91-98. DOI: 10.1016/j.jlumin.2017.03.021.
- 182.** J.E. Namanga, N. Gerlitzki, B. Mallick, **A.-V. Mudring**, Long term stable deep red light-emitting electrochemical cell based on an emissive, rigid cationic Ir(III) complex, *J. Mat. Chem. C* **2017**, *5*, 3049-3055, DOI: 10.1039/C6TC04547B.
- 181.** J.E. Namanga, N. Gerlitzki, V. Smetana, **A.-V. Mudring**, Scrutinizing design principles towards efficient, long-term stable green light emitting light emitting electrochemical cells, *Adv. Func. Mat.* **2017**, *27*, 1605588 (8 pages) DOI: 10.1002/adfm.201605588.
- 180.** I. Bigun, S. Steinberg, V. Smetana, Y. Mudryk, Y. Kalychak, L. Havela, V.K. Pecharsky, **A.-V. Mudring**, Magnetocaloric Behavior in Ternary Europium Indides EuT<sub>5</sub>In: Probing the Design Capability of First-Principles-Based Methods on the Multifaceted Magnetic Materials, *Chem. Mat.* **2017**, *29*, 2599-2614. DOI: 10.1021/acs.chemmater.6b04782.
- 179.** I. Bigun, V. Smetana, Y. Mudryk, I. Hlova, M. Dzevenko, L. Havela, Y. Kalychak, V. Pecharsky, **A.-V. Mudring**, EuNi<sub>5</sub>InH<sub>1.5-x</sub> (x = 0–1.5): Hydrogen Induced Structural and Magnetic Transitions, *J. Chem. Mat.* **2017**, *5*, 2994-3006. DOI: 10.1039/C7TC00121E.
- 178.** J. Schaumann, M. Loor, D. Ünal, **A.-V. Mudring**, S. Heimann, U. Hagemann, S. Schulz, F. Maculewicz, G. Schierning, Improving the zT value of thermoelectrics by nanostructuring: Tuning the nanoparticle morphology of Sb<sub>2</sub>Te<sub>3</sub> by ionic liquids, *Dalton Trans.* **2017**, *46*, 656-668. DOI: 10.1039/c6dt04323b.  
*Inside Front Cover.*
- 177.** V. Smetana, S. Steinberg, **A.-V. Mudring**, Layered Structures and Disordered Polyanionic Nets in the Cation-Poor Polar Intermetallics CsAu<sub>1.4</sub>Ga<sub>2.8</sub> and CsAu<sub>2</sub>Ga<sub>2.6</sub>, *Crystal Growth & Des.* **2017**, *17*, 693-700. DOI: 10.1021/acs.cgd.6b01536.
- 176.** D. Prodius, V. Smetana, S. Steinberg, M. Wilk-Kozubek, Y. Mudryk, V. K. Pecharsky, **A.-V. Mudring**, Breaking the paradigm: record quindecim charged magnetic ionic liquids, *Materials Horizon* **2017**, *4*, 217-222. DOI: 10.1039/C6MH00468G.  
*Inside Front Cover.*
- 175.** J. Cybinska, M. Guzik, C. Lorbeer, E. Zych, Y. Guyot, G. Boulon, **A.-V. Mudring**, Design of LaPO<sub>4</sub>: Nd<sup>3+</sup> materials by using ionic liquids, *Opt. Mat.* **2017**, *63*, 76-87. DOI: 10.1016/j.optmat.2016.09.025
- 174.** J. Cybinska, C. Lorbeer, E. Zych, **A.-V. Mudring**, Ionic liquid supported synthesis of nano-sized rare earth doped phosphates, *J. Lumin.* **2017**, *63*, 76-87. DOI: 10.1016/j.jlumin.2017.02.033
- 173.** S. Anghel, S. Golbert, A. Meijerink, **A.-V. Mudring**, Divalent Europium doped CaF<sub>2</sub> and BaF<sub>2</sub> nanocrystals from ionic liquids, *J. Lumin.* **2017**, *189*, 2-8. DOI: 10.1016/j.jlumin.2016.10.007

**172.** V. Smetana, **A.-V. Mudring**, Cesium Platinide Hydride  $\text{Cs}_9\text{Pt}_4\text{H} \equiv 4\text{Cs}_2\text{Pt} \cdot \text{CsH}$ : An Intermetallic Double Salt Featuring Metal Anions, *Angew. Chem. Int. Ed.* **2016**, *47*, 14838-14841. DOI:10.1002/anie.201606682

Cover Image: DOI: 10.1002/anie.201609985

**171.** A. Provino, N.S. Sangeetha, S.K. Dhar, V. Smetana, K.A. Gschneidner Jr., V.K. Pecharsky, P. Manfrinetti, **A.-V. Mudring**, New  $\text{R}_3\text{Pd}_5$  Compounds (R = Sc, Y, Gd–Lu): Formation and Stability, Crystal Structure, and Antiferromagnetism, *Cryst. Growth Des.* **2016**, *16*, 6001–6015. DOI: 10.1021/acs.cgd.6b01045

**170.** A. Provino, S. Steinberg, V. Smetana, U. Paramanik, P. Manfrinetti, S.K. Dhar, **A.-V. Mudring**, Gold in the Layered Structures of  $\text{R}_3\text{Au}_7\text{Sn}_3$ : From Relativity to Versatility, *Crystal Growth & Des.* **2016**, *16*, 5657-5668. DOI: 10.1021/acs.cgd.6b00478

**169.** G. Wang, **A.-V. Mudring**, The missing hydrate  $\text{AlF}_3 \cdot 6\text{H}_2\text{O} = [\text{Al}(\text{H}_2\text{O})_6]\text{F}_3$ : Ionothermal synthesis, crystal structure and characterization of aluminum fluoride Hexahydrate, *Solid State Sci.* **2016**, *61*, 58-62. DOI: 10.1016/j.solidstatesciences.2016.09.007

**168.** A. Povino, V. Smetana, D. Paudyal, K.A. Gschneidner Jr, A.-V. Mudring, V.K. Pecharsky, P. Manfrinetti, M. Putti,  $\text{Gd}_3\text{Ni}_2$  and  $\text{Gd}_3\text{Co}_x\text{Ni}_{2-x}$ : magnetism and unexpected Co/Ni crystallographic ordering, *J. Mat. Chem. C*, **2016**, *4*, 6078-6089. DOI: 10.1039/C6TC01035K

**167.** P. Ghosh, **A.-V. Mudring**, Phase selective synthesis of quantum cutting nanophosphors and the observation of a spontaneous room temperature phase transition *Nanoscale*, **2016**, *8*, 8160-8169. DOI: 10.1039/c6nr00172f.

**166.** J. Cybińska, C. Lorbeer, **A.-V. Mudring**, Ionic liquid assisted microwave synthesis route towards color-tunable luminescence of lanthanide- doped  $\text{BiPO}_4$ , *J. Luminescence*, **2016**, *169*, 541-647. DOI:10.1016/j.jlumin.2015.06.051.

**165.** T. Alammar, J. Cybinska, P.S. Campbell, **A.-V. Mudring**, Sonochemical Synthesis of Highly Luminescent  $\text{Ln}_2\text{O}_3:\text{Eu}^{3+}$  (Gd, Y, La) Nanocrystals, *J. Luminescence* **2016**, *169*, 587-593. DOI:10.1016/j.jlumin.2015.05.004.

**164.** J. Cybińska, M. Wozniak, **A.-V. Mudring**, E. Zych, Controllable synthesis of nanoscale  $\text{YPO}_4:\text{Eu}$  in an ionic liquid, *J. Luminescence*, **2016**, *169*, 868-873. DOI:10.1016/j.jlumin.2015.07.008.

## 2015

**163.** **A.-V. Mudring**, Elucidating the structure of ionic liquids by X-ray diffraction – New Opportunities for Materials Design, Transactions of the American Crystallographic Society, Crystallography for Sustainability, **2015**, *45*, 46-57, <http://www.amerystalassn.org/documents/2015%20Transactions/Mudring.pdf>

**162.** V. Smetana, S. Steinberg, Y. Mudryk, V. Pecharsky, G.J. Miller, **A.-V. Mudring**, Cation-Poor Complex Metallic Alloys in Ba(Eu)-Au-Al(Ga) Systems: identifying the Keys

that Control Structural Arrangements and Atom Distribution at the Atomic Level, *Inorg. Chem.* **2015**, 54, 10296-10308. DOI: 10.1021/acs.inorgchem.5b01633.

**161.** K. Stappert, G. Lipinski, G. Kopiec, E.T. Spielberg, **A.-V. Mudring**, Mesophase stabilization in ionic liquid crystals through pairing equally shaped mesogenic cations and anions, *Crystal Growth Des.* **2015**, 15, 5388-5396. DOI:10.1021/acs.cgd.5b01024.

**160.** M. Ivanova, S. Kareth, E.T. Spielberg, **A.-V. Mudring**, M. Petermann, Silica ionogels synthesized with imidazolium based ionic liquids in presence of supercritical CO<sub>2</sub>, *J. Supercritical Fluids* **2015**, 105, 60-65. DOI:10.1016/j.supflu.2015.01.014.

**159.** S. Steinberg, N. Card, **A.-V. Mudring**, From the Ternary Eu(Au/In)<sub>2</sub> and EuAu<sub>4</sub>(Au/In)<sub>2</sub> with Remarkable Au/In Colorings to a New Structure Type: The Gold-rich Eu<sub>5</sub>Au<sub>16</sub>(Au,In)<sub>6</sub> Structure, *Inorg. Chem.* **2015**, 54, 8187-8196. DOI: 10.1021/acs.inorgchem.5b00257.

**158.** K. Stappert, J. Muthmann, E.T. Spielberg, **A.-V. Mudring**, Azobenzene-Based Organic Salts with Ionic Liquid and Liquid Crystalline Properties, *Crystal Growth Des.* **2015**, 15, 4701-4712. DOI:10.1021/acs.cgd.5b01023.

**157.** S. Heimann, St. Schulz, J. Schaumann, **A.-V. Mudring**, J. Stoetzel, F. Maculewicz, G. Schierning, Record figure of merit values of highly stoichiometric Sb<sub>2</sub>Te<sub>3</sub> porous bulk synthesized from tailor-made molecular precursors in ionic liquids, *J. Mat. Chem. C* **2015**, 3, 10375-10380. DOI:10.1039/c5tc01248a.

**156.** A. Provino, S. Steinberg, V. Smetana, R. Kulkarni, S.K. Dhar, P. Manfrinetti, A.-V. Mudring, The Polar Intermetallics Y<sub>3</sub>Au<sub>7</sub>Sn<sub>3</sub> and Gd<sub>3</sub>Au<sub>7</sub>Sn<sub>3</sub>: Novel Au@Au<sub>6</sub> Clusters, Remarkable Physical Properties and Chemical Bonding, *J. Mat. Chem. C* **2015**, 3, 8311-8321. DOI:10.1039/C5TC00884K. Cover Image.

**155.** V. Smetana, S. Steinberg, N. Card **A.-V. Mudring**, G. Miller, Crystal Structure and Bonding in BaAu<sub>5</sub>Ga<sub>2</sub> and AeAu<sub>4+x</sub>Ga<sub>3-x</sub> (Ae = Ba and Eu): Hexagonal Diamond-Type Au Frameworks and Remarkable Cation/Anion Partitioning in the Ae-Au-Ga Systems, *Inorg. Chem.* **2015**, 54, 1010-1018. DOI:10.1021/ic502402y.

**154.** K. Stappert, D. Ünal, B. Mallick, **A.-V. Mudring**, The influence of the counter anion on the ability of 1-dodecyl-3-methyltriazolium ionic liquids to form mesophases, *Cryst. Growth Des.* **2015**, 15, 752-758. DOI:10.1021/cg501564j.

**153.** K. Richter, C. Lorbeer, **A.-V. Mudring**, A novel approach to optically active ion doped luminescent materials via electron beam evaporation into ionic liquids, *Chem. Commun.* **2015**, 51, 114-117. DOI: 10.1039/C4CC05817H.

**152.** K. Stappert, **A.-V. Mudring**, Triazolium Based Ionic Liquid Crystals: Effect of Asymmetric Substitution, *RSC Advances* **2015**, 5, 16886-16896. DOI:10.1039/C4RA14961K.

**151.** T. Alammar, Kit Chow, **A.-V. Mudring**, Energy efficient of microwave synthesis of mesoporous Ce<sub>0.5</sub>M<sub>0.5</sub>O<sub>2</sub> (Ti, Zr, Hf) nanoparticles for low temperature CO Oxidation in an ionic liquid – a comparative study, *New J. Chem.*, **2015**, 39, 1339 - 1347. DOI: 10.1039/C4NJ00951G.

**150.** T. Alammar, H. Noei, Y. Wang, W. Grünert, **A.-V. Mudring**, Ionic Liquid-Assisted Sonochemical Preparation of CeO<sub>2</sub> Nanoparticles for CO Oxidation, *ACS Sustainable Chemistry and Engineering* **2015**, *3*, 42-54. DOI:10.1021/sc500387k.

**149.** T. Alammar, I. Hamm, M. Wark, A.-V. Mudring, Low Temperature Route to Metal Titanate Perovskite Nanoparticles for Photocatalytic Hydrogen Formation, *Appl. Catalysis B* **2015**, *178*, 20-28. DOI:10.1016/j.apcatb.2014.11.010.

## 2014

**148.** C. Lorbeer, F. Behrends, J. Cybinska, H. Eckert, **A.-V. Mudring**, Charge compensation in RE<sup>3+</sup> (RE=Eu, Gd) and M<sup>+</sup> (M=Li, Na, K) co-doped alkaline earth nanofluorides obtained by microwave reaction with reactive ionic liquids leading to improved optical properties, *J. Mat. Chem. C* **2014**, *2*, 9439-9450. DOI: 10.1039/C4TC01214C.

**147.** C. Lorbeer, **A.-V. Mudring**, Quantum cutting in nanoparticles producing two green photons, *Chem. Commun.* **2014**, *50*, 13282-13284. DOI: 10.1039/C4CC04400B.

**146.** A.-M. Hanu, S. Kareth, A. Puls, M. Ivanova, B. Mallick, **A.-V. Mudring**, M. Petermann, Marcus, Influence of scCO<sub>2</sub>, Ultrasound, and Quaternary Ammonium Salt on Gelation Time and Structural Characteristics of Silica, *Chemical Engineering & Technology* **2014**, *37(11)*, 1873-1878. DOI:10.1002/ceat.201300722.

**145.** G. Wang, M. Valldor, B. Mallick, **A.-V. Mudring**, Ionothermal Synthesis of The First Open-Framework Metal Fluoro-phosphates with a Kagomé Lattice Network exhibiting Canted Anti-Ferromagnetism, *J. Mat. Chem. C* **2014**, *2*, 7417-7427. DOI: 10.1039/C4TC00290C.

**144.** S.F. Tang, C. Lorbeer, X. Wang, P. Ghosh, **A.-V. Mudring**, Highly luminescent molten salts containing well shielded lanthanide centered complex anions and bulky imidazolium counteranions, *Inorg. Chem.* **2014**, *53*, 9027-99035. DOI:10.1021/ic500979p.

**143.** E.T. Spielberg, E. Edengeißer, B. Mallick, M. Havenith, **A.-V. Mudring**: (C<sub>1</sub>C<sub>4</sub>mpyr)[Cu(SCN)<sub>2</sub>]: Coordination Polymer and Ionic Liquid, *Chem. Eur. J.*, **2014**, *20*, 5338-5345. DOI:10.1002/chem.201302777.

**142.** D. Yaprak, E.T. Spielberg, T. Bäcker, M. Richter, B. Mallick, A. Klein, **A.-V. Mudring**, A roadmap to uranium ionic liquids: anti-crystal engineering, *Chem. Eur. J.* **2014**, *20*, 6482-6493. DOI:10.1002/chem.201303333.

**141.** P. Campbell, M. Yang, J. Cybinska, D. Pitz, **A.-V. Mudring**, Highly luminescent and colour-tuneable salicylate ionic liquids, *Chem. Eur. J.*, **2014**, *20*, 4704-4712. DOI:10.1002/chem.201301363.

**140.** A. Babai, G. Kopiec, A. Lackmann, B. Mallick, S. Pitula, S.-F. Tang, **A.-V. Mudring**, Eu<sup>3+</sup> a dual probe for the determination of IL anion donor power: A combined luminescence and spectroscopic and electrochemical approach, *J. Mol. Liq.* **2014**, *92*, 191-198. DOI:10.1016/j.molliq.2014.03.005.

- 139.** D. König, K. Richter, A. Siegel, **A.-V. Mudring**, A. Ludwig, High-throughput fabrication of binary alloy nanoparticle libraries by combinatorial sputtering in ionic liquids, *Adv. Func. Mat.*, **2014**, *24*, 2049-2056. DOI:10.1002/adfm.201303140.
- 138.** M. Yang, B. Mallick, **A.-V. Mudring**, A systematic study on the mesomorphic behavior of asymmetrical 1,3-dialkylimidazolium bromides, *Cryst. Growth Des.* **2014**, *14*, 1561-1571. DOI:10.1021/cg401396n.
- 137.** M. Yang, P. Campbell, C. Santini, **A.-V. Mudring**, Small nickel nanoparticle arrays from long chain imidazolium liquids, *Nanoscale*, **2014**, *6*, 3367-3375. DOI:10.1039/c3nr05048c.
- 136.** G. Wang, M. Valldor, E. Spielberg, **A.-V. Mudring**, Ionothermal Synthesis, Crystal Structure, and Magnetic Study of Co<sub>2</sub>PO<sub>4</sub>OH Isostructural with Caminite, *Inorg. Chem.* **2014**, *53*, 3072-3077. DOI:10.1021/ic4029904.
- 135.** K. Stappert, D. Ünal, B. Mallick, **A.-V. Mudring**, New Triazolium Based Ionic Liquid Crystals, *J. Mat. Chem. C* **2014**, *2*, 7976-7986. DOI: 10.1039/C3TC31366B.
- 134.** C. Lorbeer, J. Cybinska, **A.-V. Mudring**, Reaching Quantum Yields >> 100% in nanomaterials, *J. Mat. Chem. C*, **2014**, *2*, 1862-1868. DOI: 10.1039/C3TC31662A.
- 133.** M. Yang, K. Stappert, **A.-V. Mudring**, Bis-cationic ionic liquids, *J. Mat. Chem. C*, **2014**, *2*, 458-473. DOI: 10.1039/C3TC31368A.

## 2013

- 132.** I.S. Helgadottir, P.P. Arquillière, P. Bréa, C.C. Santini, P.-H. Haumesser, K. Richter, A.-V. Mudring, M. Aouine: Synthesis of bimetallic nanoparticles in ionic liquids: Chemical routes vs physical vapor deposition, *Microelectronic Engineering*, **2013**, *107*, 229-232. DOI: 10.1016/j.mee.2012.09.015.
- 131.** A. Metlen, B. Mallick, R.W. Murphy, **A.-V. Mudring**, R.D. Rogers, Phosphonium Chloromercurate Room Temperature Ionic Liquids of Variable Composition, *Inorg. Chem.*, **2013**, *52*, 13997-14009. DOI: 10.1021/ic401676r.
- 130.** S. Schulz, S. Heimann, K. Kaiser, W. Assenmacher, T. Brüggemann, B. Mallick, **A.-V. Mudring**, Solution based synthesis of GeTe octahedra at low temperatures, *Inorg. Chem.* **2013**, *52*, 14326-14333. DOI: 10.1021/ic402266j.
- 129.** C. Lorbeer, **A.-V. Mudring**, Ionic Liquid-Assisted Route to Nanocrystalline Single-Phase Phosphors for White Light Emitting Diodes, *ChemSusChem*, **2013**, *6*, 2382-2387. DOI: 10.1002/cssc.201200915.
- 128.** C. Walbaum, M. Richter, U. Sachs, I. Pantenburg, S. Riedel, **A.-V. Mudring**, G. Meyer, Iodine-iodine bonding makes tetra(diiodide)chloride, [Cl(I<sub>2</sub>)<sub>4</sub>]<sup>-</sup>, planar, *Angew. Chem. Int. Ed.*, **2013**, *52*, 12732-12735. DOI: 10.1002/anie.201305412.

**127.** T. Alammar, H. Noei, Y. Wang, **A.-V. Mudring**, Mild yet phase-selective preparation of TiO<sub>2</sub> nanoparticles from ionic liquids – a critical study, *Nanoscale*, **2013**, *5*, 8045-8055. DOI: 10.1039/C3NR00824J.

**126.** M. Yang, B. Mallick, **A.-V. Mudring**, On the mesophase formation of 1,3-dialkylimidazolium ionic liquids, *Cryst. Growth Des.* **2013**, *13*, 3068-3077. DOI: 10.1021/cg4004593.

**125.** P. S. Campbell, C. Lorbeer, J. Cybinska, **A.-V. Mudring**, One-Pot Synthesis of Luminescent Polymer-Nanoparticle Composites from Task-Specific Ionic Liquids, *Adv. Funct. Mater.*, **2013**, *23*, 2924-2931. DOI: 10.1002/adfm.201202472.

**124.** C. Lorbeer, A.-V. Mudring, White Light Emitting Single Phosphors via Triply Doped LaF<sub>3</sub> Nanoparticles, *J. Phys. Chem. C*, **2013**, 12229-12238. DOI: 10.1021/jp312411f.

**123.** S. Laufer, S. Strobel, T. Schleid, J. Cybinska, **A.-V. Mudring**, I. Hartenbach, Yttrium(III) oxomolybdates(VI) as potential host materials for luminescence applications: an investigation of Eu<sup>3+</sup>-doped Y<sub>2</sub>[MoO<sub>4</sub>]<sub>3</sub> and Y<sub>2</sub>[MoO<sub>4</sub>]<sub>2</sub>[Mo<sub>2</sub>O<sub>7</sub>], *N. J. Chem.* **2013**, *37*, 1919-1926. DOI: 10.1039/C3NJ00166K.

**122.** Q. Ju, **A.-V. Mudring**, Phase and Morphology Selective Interface-Assisted Synthesis of Highly Luminescent Ln<sup>3+</sup>-doped NaGdF<sub>4</sub> Nanorods, *RSC Advances*, **2013**, *3*, 8172-8175. DOI: 10.1039/C3RA40755A.

**121.** Q. Ju, P.S. Campbell, **A.-V. Mudring**: Interface-assisted ionothermal synthesis, phase tuning, surface modification and bioapplication of Ln<sup>3+</sup>-doped NaGdF<sub>4</sub> nanocrystals, *J. Mater. Chem. B*, **2013**, *1*, 179-185. DOI: 10.1039/C2TB00052K.

## 2012

**120.** C. Rustige, M. Brühmann, S. Steinberg, E. Meyer, K. Daub, S. Zimmermann, M. Wolberg, **A.-V. Mudring**, G. Meyer: The Prolific {ZR<sub>6</sub>}X<sub>12</sub>R and {ZR<sub>6</sub>}X<sub>10</sub> Structure Types with Isolated Endohedrally Stabilized (Z) Rare-Earth Metal (R) Cluster Halide (X) Complexes, *Z. anorg. allg. Chem.*, **2012**, *638*, 1922–1931. DOI: 10.1002/zaac.201200209.

**119.** A.S.R. Chesman, M. Yang, N.D. Spiccia, G.B. Deacon, S.R. Batten, **A.-V. Mudring**: Lanthanoid-Based Ionic Liquids Incorporating the Dicyanonitrosomethanide Anion, *Chem. Eur. J.*, **2012**, *18*, 9580–9589. DOI: 10.1002/chem.201103379.

**118.** G. Wang, M. Valldor, C. Lorbeer, **A.-V. Mudring**: Ionothermal Synthesis of the First Luminescent Open-Framework Manganese Borophosphate with Switchable Magnetic Properties, *Eur. J. Inorg. Chem.*, **2012**, *18*, 3032-3038. DOI: 10.1002/ejic.201200110.

**117.** S. Schlamp, J. Schulten, R. Betz, T. Bauch, **A.-V. Mudring**, B. Weber: Synthesis of Anionic Spin Crossover Complexes with Schiff Base like Ligands, *Z. anorg. allg. Chem.*, **2012**, *638*, 1093–1102. DOI: 10.1002/zaac.201200162.

**116.** C. Seidel, C. Lorbeer, J. Cybińska, **A.-V. Mudring**, U. Ruschewitz: Lanthanide Coordination Polymers with Tetrafluoroterephthalate as a Bridging Ligand: Thermal and Optical Properties, *Inorg. Chem.*, **2012**, *51* (8), 4679-4688. DOI: 10.1021/ic202655d.

**115.** T. Bäcker, **A.-V. Mudring**: Betaine Chloride-Betaine Tetrachloridoferrate(III)—An Ionic Liquid Related Crystal Structure Governed by the Pearson Concept, *Crystals*, **2012**, *2*, 110-117. DOI: 10.3390/cryst2010110.

**114.** A.S.R. Chesman, M. Yang, B. Mallick, T.M. Ross, I.A. Gass, G.B. Deacon, S.R. Batten, **A.-V. Mudring**: Melting point suppression in new lanthanoid(III) ionic liquids by trapping of kinetic polymorphs: an *in situ* synchrotron powder diffraction study, *Chem. Commun.*, **2012**, *48*, 124-126. DOI: 10.1039/C1CC14744G.

**113.** B. Mallick, A. Melten, M. Nieuwenhuyzen, R.-D. Rogers, **A.-V. Mudring**: Mercuric Ionic Liquids: [C<sub>n</sub>mim][HgX<sub>3</sub>], Where n = 3, 4 and X = Cl, Br, *Inorg. Chem.*, **2012**, *51* (1), 193-200. DOI: 10.1021/ic201415d.

**112.** T. Alammar, O. Shekhah, J. Wohlgemuth, **A.-V. Mudring**: Ultrasound-assisted synthesis of mesoporous β-Ni(OH)<sub>2</sub> and NiO-nano-sheets using ionic liquids, *J. Mater. Chem.*, **2012**, *22*, 18252-18260. DOI: 10.1039/C2JM32849F.

**111.** C. Lorbeer, J. Cybinska, **A.-V. Mudring**: Phosphate protected fluoride nano-phosphors, *J. Mater. Chem.*, **2012**, *22*, 9505-9508. DOI: 10.1039/C2JM15471D.

## 2011

**110.** T. Alammar, **A.-V. Mudring**: Sonochemical Synthesis of 0D, 1D, and 2D Zinc Oxide Nanostructures in Ionic Liquids and Their Photocatalytic Activity, *ChemSusChem*, **2011**, *12*, 1796-1804. DOI:10.1002/cssc.201100263.

**109.** C. Lorbeer, J. Cybinska, E. Zych, **A.-V. Mudring**: Highly doped alkaline earth nanofluorides synthesized from ionic liquids, *Opt. Mat.* **2011**, *21*, 3207. DOI: 10.1016/j.optmat.2011.04.019.

**108.** C. Fiolka, M. Richter, I. Pantenburg, **A.-V. Mudring**, G. Meyer: (B15C5)BiI<sub>3</sub>(I<sub>2</sub>): Molecular Benzo-15-crown-5-BiI<sub>3</sub> Complexes Bridged by Iodine Molecules to Chains, *Crystals*, **2011**, *1*(4), 220-228. DOI: 10.3390/cryst1040220.

**107.** M. Hellwig, H. Parala, J. Cybinska, D. Barreca, A. Gasparotto, B. Niermann, H.-W. Becker, D. Rogalla, J. Feydt, S. Irsen, **A.-V. Mudring**, J. Winter, R.-A. Fischer, A. Devi: Atomic Vapor Deposition Approach to In<sub>2</sub>O<sub>3</sub> Thin Films, *J. Nanoscience and Nanotechnol.*, **2011**, *11*, 9, 8094-8100. DOI: 10.1166/jnn.2011.5024.

**106.** M. Brühmann, **A.-V. Mudring**, M. Valldor, G. Meyer: {Os<sub>5</sub>Lu<sub>20</sub>}I<sub>24</sub>, the First Extended Cluster Complex of Lutetium with Eight-Coordinate Endohedral Osmium Atoms in Two Different Environments, *Eur. J. Inorg. Chem.*, **2011**, *26*, 4083. DOI: 10.1002/ejic.201100451.

**105.** J. Bäcker, S. Mihm, B. Mallick, M. Yang, G. Meyer, **A.-V. Mudring**: Crystalline and Liquid Crystalline Organic-Inorganic Hybrid Salts with Cation-Sensitized Hexanuclear

Molybdenum Cluster Complex Anion Luminescence: *Eur. J. Inorg.Chem.*, **2011**, *26*, 4089-4095. DOI: 10.1002/ejic.201100365.

**104.** A. Getsis, **A.-V. Mudring**: Switchable Green and White Luminescence in Terbium-based Ionic Liquid Crystals, *Eur. J. Inorg. Chem.*, **2011**, *21*, 3207–3213. DOI: 10.1002/ejic.201100168.

**103.** T. Bäcker, O. Breunig, M. Valldor, K. Merz, V. Vasylyeva, **A.-V. Mudring**: In-situ crystal growth and properties of the magnetic ionic liquid [C<sub>2</sub>mim][FeCl<sub>4</sub>], *Cryst. Growth Des.*, **2011**, *11*, 2564-2571. DOI: 10.1021/cg200326n.

**102.** G.Wang, **A.-V. Mudring**: A New Open-Framework Iron Borophosphate from Ionic Liquids: KFe[BP<sub>2</sub>O<sub>8</sub>(OH)], *Crystals*, **2011**, *1*, 22-27. DOI: 10.3390/cryst1020022.

**101.** J. Beekhuizen, **A.-V. Mudring**, G. Meyer: Linear Trimeric Hafnium Clusters in Hf<sub>0.86(1)</sub>I<sub>3</sub>, *Crystals*, **2011**, *1*, 40. DOI: 10.3390/cryst1020040.

**100.** C. Lorbeer, J. Cybinska, E. Zych, **A.-V. Mudring**: Ionic Liquid based Synthesis – A Low Temperature Route to Nanophosphates, *ChemSusChem*, **2011**, *4*, 595-598. DOI: 10.1002/cssc.201100095.

**99.** S.-F. Tang, **A.-V. Mudring**: Ionic liquids as Crystallization Media: Weakly-Coordinating Anions Do Coordinate in <sup>1</sup><sub>∞</sub>[Eu(OTf)<sub>3</sub>(CH<sub>3</sub>CN)<sub>3</sub>], *Cryst. Growth Des.*, **2011**, *11*, 1437-1440. DOI: 10.1021/cg200064n.

(featured in Nachrichten der Chemie 2011)

**98.** K. Richter, A. Birkner, **A.-V. Mudring**: Stability and growth behavior of transition metal nanoparticles in ionic liquids prepared by thermal evaporation: how stable are they really?, *Phys. Chem. Chem. Phys.*, **2011**, *13*, 7136–7141. DOI: 10.1039/C0CP02623A.

**97.** C. Lorbeer, J. Cybinska, **A.-V. Mudring**: Europium(III) Fluoride Nanoparticles from Ionic Liquids: Structural, Morphological, and Luminescent Properties: *Cryst. Growth Des.*, **2011**, *11*, 1040-1048. DOI: 10.1021/cg101140r.

**96.** R. Starosta, M. Puchalska, J. Cybinska, M. Barys, **A.-V. Mudring**: Structures, electronic properties and solid state luminescence of Cu(I) iodide complexes with 2,9-dimethyl-1,10-phenanthroline and aliphatic aminomethylphosphines or triphenylphosphine, *Dalton Trans.*, **2011**, *40*, 2459. DOI: 10.1039/C0DT01284J.

**95.** M. Larres, **A.-V. Mudring**, G. Meyer: The First Lanthanide Telluride-Bromide: La<sub>3</sub>Te<sub>4</sub>Br, a Valence Compound, *Crystals*, **2011**, *1*, 15-21. DOI: 10.3390/cryst1010015.

**94.** P. Ghosh, S.-F. Tang, **A.-V. Mudring**: Efficient quantum cutting in hexagonal NaGdF<sub>4</sub>:Eu<sup>3+</sup> nanorods, *J. Mater. Chem.* **2011**, *21*, 8640-8644, (HOT Article). DOI: 10.1039/C1JM10728C.

**2010**

- 93.** A. Babai, S. Pitula, **A.-V. Mudring**: Structural and Electrochemical Properties of Yb<sup>III</sup> in Various Ionic Liquids, *Eur. J. Inorg. Chem.*, **2010**, *31*, 4933-4937. DOI: 10.1002/ejic.201000323.
- 92.** K. Habermehl, **A.-V. Mudring**, G. Meyer: The Last of the Five: the Elusive “Tantalum(III)Bromide”, a Perovskite-Related Salt,  $[\{Ta_6\}Br_{12}]Br_3[TaBr_6]_{0.86}$ , *Eur. J. Inorg. Chem.*, **2010**, *26*, 4076. DOI: 10.1002/ejic.201000581.
- 91.** S. Pitula, **A.-V. Mudring**: Optical basicity of ionic liquids, *Phys. Chem. Chem. Phys.*, **2010**, *12*, 7056-7063. DOI: 10.1039/B925606G.
- 90.** N.-V. Prondzinski, J. Cybinska, **A.-V. Mudring**: Easy access to ultra long-time stable, luminescent europium(II) fluoride nanoparticles in ionic liquids, *Chem. Commun.*, **2010**, *46*, 4393- 4395. DOI: 10.1039/c000817f.
- 89.** N. Herzmann, M. Brühmann, **A.-V. Mudring**, G. Meyer: Chains of Face-Sharing{ZPr<sub>6</sub>} Octahedra with Alternating Endohedral Iridium Atoms and Chloride Ions in {(Ir,Cl)Pr<sub>6</sub>}Cl<sub>11</sub>, *Inorg. Chem.*, **2010**, *49*, 5347. DOI: 10.1021/ic100487k.
- 88.** S. Zimmermann, M. Brühmann, F. Casper, O. Heyer, T. Lorenz, C. Felser, **A.-V. Mudring**, G. Meyer: Eight-Coordinate Endohedral Rhenium, Osmium and Iridium Atoms in Rare-Earth Halide Cluster Complexes, *Eur. J. Inorg. Chem.*, **2010**, *18*, 2613-2619. DOI: 10.1002/ejic.201000223.
- 87.** A. Getsis, **A.-V. Mudring**: A Luminescent Ionic Liquid Crystal: [C<sub>12</sub>mim]<sub>4</sub>[EuBr<sub>6</sub>]Br, *Eur. J. Inorg. Chem.*, **2010**, *14*, 2172-2177. DOI: 10.1002/ejic.200901220.
- 86.** J. Bartosik, **A.-V. Mudring**: [Ni(tmen)(acac)][B(Ph)<sub>4</sub>] a probe for the anion basicity of ionic liquids, *Phys. Chem. Chem. Phys.*, **2010**, *12*, 4005-4011. DOI: 10.1039/B920530F.
- 85.** K. Richter, A. Birkner, **A.-V. Mudring**: Stabilizer-Free Metal Nanoparticles and Metal–Metal Oxide Nanocomposites with Long-Term Stability Prepared by Physical Vapor Deposition into Ionic Liquids, *Angew. Chem. Int. Ed.*, **2010**, *49*, 2431-2435. DOI: 10.1002/anie.200901562.
- 84.** S. Pitula, **A.-V. Mudring**: Synthesis, Structure, and Physico-optical Properties of Manganate(II)-Based Ionic Liquids, *Chemistry – Eur. J.*, **2010**, *16*, 3355-3365. DOI: 10.1002/chem.200802660.
- 83.** T. Alammari, A. Birkner, O. Shekhah, **A.-V. Mudring**: Sonochemical preparation of TiO<sub>2</sub> nanoparticles in the ionic liquid 1-(3-Hydroxypropyl)-3-methylimidazoliumbis(trifluoromethylsulfonyl)imide, *Mat. Chem. Phys.*, **2010**, *120*, 109-113. DOI:10.1016/j.matchemphys.2009.10.029.
- 82.** E. Boros, M.-J. Earle, M.-A. Gilea, A. Metlen, **A.-V. Mudring**, F. Rieger, A.J. Robertson, K.-R. Seddon, A.A.Tomaszowska, L. Trusov, J.S. Vyle: On the dissolution of non-metallic solid elements (sulfur, selenium, tellurium and phosphorus) in ionic liquids, *Chem. Commun.*, **2010**, *46*, 716-718. DOI: 10.1039/B910469K.

**81.** C. Lorbeer, J. Cybinska, **A.-V. Mudring**: Facile preparation of quantum cutting GdF<sub>3</sub>:Eu<sup>3+</sup> nanoparticles from ionic liquids, *Chem. Commun.*, **2010**, 46, 571-573 (HOT Article). DOI: 10.1039/B919732J

**80.** T. Bäcker, **A.-V. Mudring**: Sodium Trinitratouranyl(VI) Na[UO<sub>2</sub>(NO<sub>3</sub>)<sub>3</sub>], *Z. Allg. Anorg. Chem.*, **2010**, 636, 1002-1005. DOI: 10.1002/zaac.201000033.

**79.** A. Getsis, **A.-V. Mudring**: Lanthanide Containing Ionic Liquid Crystals: EuBr<sub>2</sub>, SmBr<sub>3</sub>, TbBr<sub>3</sub> and DyBr<sub>3</sub> in C<sub>12</sub>mimBr, *Z. Allg. Anorg. Chem.*, **2010**, 636, 1726-1734. DOI: 10.1002/zaac.201000070.

## 2009

**78.** X. Wang, F.-W. Heinemann, M. Yang, B. Melcher, M. Fekete, **A.-V. Mudring**, P. Wasserscheid, K. Meyer: A new class of double alkyl-substituted, liquid crystalline imidazolium ionic liquids—a unique combination of structural features, viscosity effects, and thermal properties, *Chem. Commun.*, **2009**, 7405-7407. DOI: 10.1039/B914939B.

**77.** A. Getsis, B. Balke, C. Felser, **A.-V. Mudring**: Dysprosium-Based Ionic Liquid Crystals: Thermal, Structural, Photo- and Magnetophysical Properties, *Cryst. Growth Des.*, **2009**, 9, 4429-4437. DOI: 10.1021/cg900463b.

**76.** T. Alammar, **A.-V. Mudring**: Ultrasound-Assisted Synthesis of CuO Nanorods in a Neat Room-Temperature Ionic Liquid, *Eur. J. Inorg. Chem.*, **2009**, 19, 2765-2768. DOI:10.1002/ejic.200900093.

**75.** S.-F. Tang, **A.-V. Mudring**: Terbium β-Diketonate Based Highly Luminescent Soft Materials, *Eur. J. Inorg. Chem.*, **2009**, 19, 2769-2775. DOI: 10.1002/ejic.200900114.

**74.** S.-F. Tang, **A.-V. Mudring**: The Missing Link Crystallized from the Ionic Liquid 1-Ethyl-3-methylimidazolium Tosylate: Bis-aqua-(p-toluenesulfonato-O)-europium(III)-bis-p-toluenesulfonate Dihydrate, *Cryst. Growth Des.*, **2009**, 9, 2549-2551. DOI: 10.1021/cg900025x.

**73.** T. Alammar, **A.-V. Mudring**: Facile preparation of Ag/ZnO nanoparticles via photoreduction, *J. Mat. Sci.* **2009**, 44, 3218-3222. DOI:10.1007/s10853-009-3429-4.

**72.** T. Alammar, **A.-V. Mudring**: Facile ultrasound-assisted synthesis of ZnO nanorods in an ionic liquid, *Mat. Lett.* **2009**, 63, 732-735. DOI: 10.1016/j.matlet.2008.12.035.

**71.** S.-F. Tang, **A.-V. Mudring**: Two Cyano-Functionalized, Cadmium-Containing Ionic Liquids, *Eur. J. Inorg. Chem.* **2009**, 9, 1145-1148. DOI: 10.1002/ejic.200801142.

**70.** P. Nockemann, K. Binnemans, B. Thijs, T.-N. Parac-Vogt, K. Merz, **A.-V. Mudring**, P.-C. Menon, R.-N. Rajesh, G. Cordoyiannis, J. Thoen, J. Leys, C. Glorieux: Temperature-driven Mixing-Demixing Behavior of Binary Mixtures of the Ionic Liquid Choline Bis(trifluoromethylsulfonyl)imide and Water, *J. Phys. Chem. B*, **2009**, 113, 1429-1437. DOI: 10.1021/jp808993t.

69. K. Richter, T. Bäcker, **A.-V. Mudring**: Facile, environmentally friendly fabrication of porous silver monoliths using the ionic liquid N-(2-hydroxyethyl)ammonium formate, *Chem. Commun.*, **2009**, 301-303. DOI: 10.1039/B815498H.
68. S.-F. Tang, J. Cybinska, **A.-V. Mudring**: Luminescent Soft Material: Two New Europium-Based Ionic Liquids, *Helv. Chim. Acta*, **2009**, 92, 2375-2386.
67. T. Timofte, **A.-V. Mudring**: A Systematic Study on the Crystal Structures of TIMX<sub>4</sub> (M= Al, Ga; X = Cl, Br, I), *Z. Anorg. Allg. Chem.*, **2009**, 635, 840-847. DOI: 10.1002/zaac.200801375.
66. T. Timofte, S. Bremm, **A.-V. Mudring**, G. Meyer: (NH<sub>4</sub>)[GaCl<sub>3</sub>] and (NH<sub>3</sub>)[InCl<sub>3</sub>] Revisited, *Z. Anorg. Allg. Chem.*, **2009**, 635, 1890-1893. DOI: 10.1002/zaac.200900008.
65. A. Getsis, **A.-V. Mudring**, Structural and Thermal Behaviour of the Pyrrolidinium Based Ionic Liquid Crystals [C<sub>10</sub>mpyr]Br and [C<sub>12</sub>mpyr]Br, *Z. Anorg. Allg. Chem.* **2009**, 635, 2214-2221. DOI: 10.1002/zaac.200900216.

## 2008

64. A. Getsis, **A.-V. Mudring**: Imidazolium based ionic liquid crystals: structure, photophysical and thermal behaviour of [C<sub>n</sub>mim]Br • xH<sub>2</sub>O (n = 12, 14; x=0, 1), *Cryst. Res. Technol.*, **2008**, 43, 1187-1196. DOI: 10.1002/crat.200800345.
63. N. Herzmann, **A.-V. Mudring**, G. Meyer: Seven-coordinate ruthenium atoms sequestered in praseodymium clusters in the chloride {RuPr<sub>3</sub>}Cl<sub>3</sub>, *Inorg. Chem.*, **2008**, 47, 7954-7956. DOI: 10.1021/ic800907c.
62. B. Mallick, H. Kierspel, **A.-V. Mudring**: (CrCl<sub>3</sub>)<sub>3</sub>@2[C<sub>4</sub>mim][OMe]-Molecular Cluster-Type Chromium(III) Chloride Stabilized in a Salt Matrix, *J. Am. Chem. Soc.*, **2008**, 130, 10068-10069. DOI: 10.1021/ja803322k.
61. S.-F. Tang, A. Babai, **A.-V. Mudring**: Europium-Based Ionic Liquids as Luminescent Soft Materials, *Angew. Chem. Int. Ed.*, **2008**, 47, 7631-7634. DOI: 10.1002/anie.200801159.
60. B. Mallick, B. Balke, C. Felser, **A.-V. Mudring**: Dysprosium Room-Temperature Ionic Liquids with Strong Luminescence and Response to Magnetic Fields, *Angew. Chem. Int. Ed.*, **2008**, 47, 7635-7638. DOI: 10.1002/anie.200802390.
59. A. Getsis, **A.-V. Mudring**: Tetrakis(acetonitrile)-dibromo-nickel(II), [Ni(CH<sub>3</sub>CN)<sub>4</sub>Br<sub>2</sub>], *Z. Anorg. Allg. Chem.*, **2008**, 634, 2130-2132. DOI: 10.1002/zaac.200700509.
58. T. Timofte, **A.-V. Mudring**: Indium(I) Tetraiodoaluminate, InAlI<sub>4</sub>, *Z. Anorg. Allg. Chem.*, **2008**, 634, 622-623. DOI: 10.1002/zaac.200700525.
57. T. Timofte, **A.-V. Mudring**: Indium(I) Heptachlorogallate(III), InGa<sub>2</sub>Cl<sub>7</sub>, *Z. Anorg. Allg. Chem.*, **2008**, 634, 624-625. DOI: 10.1002/zaac.200700526.

**56.** G. Meyer, R. Wiglucz, I. Pantenburg, **A.-V. Mudring**: Tantalum(IV) Iodide: A Molecular Solid Consisting of Dimers of Dimers,  $Ta_4I_{16}$ , *Z. Anorg. Allg. Chem.*, **2008**, *634*, 825-828. DOI: 10.1002/zaac.200700529.

**55.** A. Babai, A.-V. Mudring: The First Homoleptic Bis(trifluoromethanesulfonyl)amide Complex of Yttrium:  $[bmim][Y(Tf_2N)_4]$ , *Z. Anorg. Allg. Chem.*, **2008**, *634*, 938-940. DOI: 10.1002/zaac.200700545.

**54.** A. Getsis, **A.-V. Mudring**: Tetrakis(acetonitrile)-dibromo-nickel(II)-di-acetonitrile,  $[Ni(CH_3CN)_4Br_2] \cdot 2CH_3CN$ , *Z. Anorg. Allg. Chem.*, **2008**, *634*, 619-621. DOI: 10.1002/zaac.200800179.

**53.** F. Rieger, **A.-V. Mudring**:  $Pb(18\text{-crown-}6)Cl_2$  and  $Hg(18\text{-crown-}6)I_2$ : Molecular Dihalides Trapped in a Crown Ether, *Z. Anorg. Allg. Chem.*, **2008**, *634*, 2989-2993. DOI: 10.1002/zaac.200800365.

## 2007

**52.** F. Rieger, A.-V. Mudring: Synthesis, Structure, and Electronic and Physical Properties of  $Tl_2TeS_3$ , the First Characterized Thallium(I) Thiotellurate(IV), *Chem. Mater.*, **2007**, *19*, 221-228.

**51.** F. Rieger, A.-V. Mudring: Phase transition in  $Tl_2TeO_3$ : influence and origin of the thallium lone pair distortion, *Inorg. Chem.*, **2007**, *46*, 446-452. DOI: 10.1021/ic061273j

**50.** A.-V. Mudring: Thallium Halides – New Aspects of the Stereochemical Activity of Electron Lone Pairs of Heavier Main-Group Elements, *Eur. J. Inorg. Chem.*, **2007**, *6*, 882. <https://doi.org/10.1002/ejic.200600975>

**49.** N. v. Prondzinski, A. Babai, A.-V. Mudring, K. Merz:  $[(bmpyr)_2\{Zn(OC_6H_3(NO_2)_2)_4\}]$ : Influence of an Ionic Liquid on Liquid/Liquid Extraction of Metal Ions in a Biphasic System, *Z. Anorg. Allg. Chem.*, **2007**, *633*, 1490-1492.

**48.** T. Timofte, S. Pitula, A.-V. Mudring: Ionic liquids with Perfluorinated Alkoxyaluminates, *Inorg. Chem.*, **2007**, *46*, 10938-10940.

## 2006

**47.** L. Jongen, A.-V. Mudring, G. Meyer: The Molecular Solid  $Sc_{24}C_{10}I_{30}$ : A Truncated, Hollow T4 Supertetrahedron of Iodine Filled with a T3 Supertetrahedron of Scandium that Encapsulates the Adamantoid  $Sc_4C_{10}$ , *Angew. Chem. Int. Ed.*, **2006**, *45*, 1886-1889.

**46.** A.-V. Mudring, T. Timofte, A. Babai: Cluster-type basic lanthanide iodides  $[M_6(\mu^6-O)(\mu^3-OH)_8(H_2O)_{24}]I_8(H_2O)_8$  (M=Nd, Eu, Tb, Dy), *Inorg. Chem.*, **2006**, *45*, 5162-5166.

**45.** A. Babai, A.-V. Mudring: Crystal Engineering in Ionic Liquids. The Crystal Structures of  $[Mppyr]_3[NdI_6]$  and  $[Bmpyr]_4[NdI_6][Tf_2N]$ , *Inorg. Chem.*, **2006**, *45*, 4874-4876.

44. A. Babai, A.-V. Mudring: Homoleptic Alkaline Earth Metal Bis(trifluoromethanesulfonyl)imide Complex Compounds Obtained from an Ionic Liquid, *Inorg. Chem.*, **2006**, *45*, 3249-3255.
43. A. Babai, A.-V. Mudring: The Octanuclear Europium Cluster  $[\text{bmypr}]_6[\text{Eu}_8(\mu^4\text{-O})(\mu^3\text{-OH})_{12}(\mu^2\text{-OTf})_{14}(\mu^1\text{-Tf})_2](\text{HOTf})_{1.5}$  Obtained from the Ionic Liquid  $[\text{bmpyr}][\text{OTf}]$ , *Z. Anorg. Allg. Chem.*, **2006**, *632*, 1956-1958.
42. G.Meyer, M. Nolte, A.-V. Mudring:  $\text{HgCl}_2(\text{Caf})$ : Co-crystallization of Mercuric Chloride and Caffeine, *Z. Anorg. Allg. Chem.* **2006**, *632*, 107-110.
41. A. Babai, A.-V. Mudring: The first homoleptic bis(trifluoromethanesulfonyl)amide complex compounds of trivalent f-elements, *Dalton Trans.*, **2006**, 1828-1830.
40. A.-V. Mudring, A. Babai, S. Arenz, R. Giernoth, K. Binnemanns, K. Driesen, P. Nockemann: Strong luminescence of rare earth compounds in ionic liquids: Luminescent properties of lanthanide(III) iodides in the ionic liquid 1-dodecyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide, *J. Alloys and Comp.*, **2006**, *418*, 204-208.
39. A. Babai, A.-V. Mudring: Rare-earth iodides in ionic liquids: Crystal structures of  $[\text{bmpyr}]_4[\text{LnI}_6][\text{Tf}_2\text{N}]$  (Ln = La, Er), *J. Alloys and Comp.*, **2006**, *418*, 122-127.

## 2005

38. F. Rieger, A.-V. Mudring: Crystal Structure of Rubidium Tetraiodothallate(III) Dihydrate,  $\text{RbTlI}_4 \cdot 2\text{H}_2\text{O}$ , *Z. Anorg. Allg. Chem.* **2005**, *631*, 1571-1573.
37. N. Gerlitzki, A.-V. Mudring, G.Meyer:  $\text{Ba}_6\text{Pr}_3\text{I}_{19}$ : Linear  $[\text{Pr}_3\text{I}_{16}]$  Trimers with Two Excess Electrons in a Three-Centre-Two-Electron Bond, *Z. Anorg. Allg. Chem.*, **2005**, *631*, 381-384.
36. A.-V. Mudring, A. Babai,  $[\text{Nd}_6(\mu^6\text{-O})(\mu^3\text{-OH})_8(\text{H}_2\text{O})_{24}]\text{I}_8(\text{H}_2\text{O})_{12}$  - the First Basic Rare Earth Iodide with an Oxygen-centred  $\text{M}_6\text{X}_8$ -Cluster Core, *Z. Anorg. Allg. Chem.*, **2005**, *631*, 261-263.
35. S. Arenz, A. Babai, K. Binnemanns, K. Driesen, R. Giernoth, A.-V. Mudring, P. Nockemann: Intense near-infrared luminescence of anhydrous lanthanide(III) iodides in an imidazolium ionic liquid, *Chem. Phys. Lett.* **2005**, *402*, 75-79. DOI: 10.1016/j.cplett.2004.12.008.
34. F. Rieger, A.-V. Mudring: Inorganic Supramolecular Host Architectures:  $[(\text{M}@18\text{c}6)_2][\text{TlI}_4] \cdot 2\text{H}_2\text{O}$ , M = 0.5 Tl,  $(\text{NH}_4, \text{NH}_3)$ ,  $(\text{H}_3\text{O}, \text{H}_2\text{O})$ , *Inorg. Chem.*, **2005**, *44*, 9340-9346.
33. A.-V. Mudring, J.-D. Corbett: Importance of Cations in the Properties of Zintl-Phases: The Electronic Structure of and Bonding in Metallic  $\text{Na}_6\text{TlSb}_4$ , *Inorg. Chem.*, **2005**, *44*, 5636.
32. P. Schwerdtfeger, R. Bast, M.-C.-L. Gerry, C. Jacob, M. Jansen, V. Kellö, A.-V. Mudring, A.J. Sadlej, T. Saue, T. Söhnle, F.-E. Wagner: The quadrupole moment of the  $3/2^+$  nuclear

ground state of  $^{197}\text{Au}$  from electric field gradient relativistic coupled cluster and density-functional theory of small molecules and the solid state, *J. Chem. Phys.*, **2005**, *122*, 124317.

**31.** A. Getsis, A.-V. Mudring: 1-Dodecyl-3-methylimidazolium bromide monohydrate, *Acta Cryst.* **2005**, *E61*, o2945-o2946. <https://doi.org/10.1107/S1600536805025717>

**30.** A. Babai, A.-V. Mudring: N-Methyl-N-propylpyrrolidinium iodide, *Acta Cryst.*, **2005**, *E61*, o2913-o2915.

**29.** A. Babai, A.-V. Mudring: 1-Ethyl-2,3-dimethylimidazolium bromide monohydrate, *Acta Cryst.*, **2005**, *E61*, o1534-o1535.

**28.** T. Timofte, A.-V. Mudring: Indium(I) tetrachloroaluminate, *Acta Cryst.*, **2005**, *E61*, i199-i200.

**27.** T. Timofte, A. Babai, G. Meyer, A.-V. Mudring: Praseodymium triiodide nonahydrate, *Acta Cryst.*, **2005**, *E61*, i94-i95.

**26.** T. Timofte, A. Babai, G. Meyer, A.-V. Mudring: Neodymium triiodide nonahydrate, *Acta Cryst.*, **2005**, *E61*, i87-i88.

**25.** A. Babai, A.-V. Mudring: Rare-Earth Iodides in Ionic Liquids: The Crystal Structure of  $[\text{SEt}_3]_3[\text{LnI}_6]$  (Ln = Nd, Sm), *Inorg. Chem.*, **2005**, *44*, 8168-8169.

**24.** A.-V. Mudring, F. Rieger: Lone Pair Effect in Thallium(I) Macrocyclic Compounds, *Inorg. Chem.*, **2005**, *44*, 6240-6243. DOI: 10.1021/ic050547k

**23.** A.-V. Mudring, A. Babai, S. Arenz, R. Giernoth: The “Noncoordinating” Anion  $\text{Tf}_2\text{N}^-$  Coordinates to  $\text{Yb}^{2+}$ : A Structurally Characterized  $\text{Tf}_2\text{N}^-$  Complex from the Ionic Liquid  $[\text{mppyr}][\text{Tf}_2\text{N}]$ , *Angew. Chem. Int. Ed.*, **2005**, *44*, 5485-5488. DOI: 10.1002/anie.200501297.

**22.** A. BABAI, A.-V. MUDRING: ANHYDROUS PRASEODYMIUM SALTS IN THE IONIC LIQUID  $[\text{BMPYR}][\text{Tf}_2\text{N}]$ : STRUCTURAL AND OPTICAL PROPERTIES OF  $[\text{BMPYR}]_4[\text{PrI}_6][\text{Tf}_2\text{N}]$  AND  $[\text{BMPYR}]_2[\text{Pr}(\text{Tf}_2\text{N})_5]$ , *CHEM. MATER.*, **2005**, *17*, 6230-6238.

## 2004

**21.** A.-V. Mudring, J.-D. Corbett: Unusual Electronic and Bonding Properties of the Zintl Phase  $\text{Ca}_5\text{Ge}_3$  and Related Compounds. A Theoretical Analysis, *J. Am. Chem. Soc.*, **2004**, *126*, 5277-5281.

**20.** L. Jongen, A.-V. Mudring, A. Möller, G. Meyer: An Oxygen-Centered Titanium Square Embedded in a Cuboctahedron of Iodine in the Salt  $\text{K}_4[\{\text{Ti}_4\text{O}\}\text{I}_{12}]$ , *Angew. Chem. Int. Ed.*, **2004**, *43*, 3183-3185.

**19.** N. Gerlitzki, G. Meyer, A.-V. Mudring, J.D. Corbett: Praseodymium diiodide,  $\text{PrI}_2$ , revisited by synthesis, structure determination and theory, *J. Alloys and Compd.*, **2004**, *380*, 211-218.

18. B.M. Sobotka, A.-V. Mudring, A. Möller: Synthesis, Crystal Structures and Properties of  $\text{Na}_2\text{ReO}_3$  and a Second Modification of  $\text{Na}_5\text{ReO}_6$ , *Z. Anorg. Allg. Chem.*, **2004**, 630, 2377-2383.

17. G. Meyer, I. Jurkiewicz, M. Nolte, A.-V. Mudring: Strong Attraction of Caffeine to the Mercurous Dumbbell in the Salt  $[\text{Hg}_2(\text{Caf})_2](\text{ClO}_4)_2(\text{H}_2\text{O})_2$ , *Z. Anorg. Allg. Chem.*, **2004**, 630, 1933-1936.

## 2003

16. S. Krämer, M. Mehring, A.-V. Mudring, M. Jansen: Localized Charge Transfer in  $\text{CsAuNH}_3$ :  $^1\text{H}$  and  $^{133}\text{Cs}$  Nuclear Magnetic Resonance, *J. Phys. Chem. B*, **2003**, 107, 4922-4926. DOI: 10.1021/jp022509h

15. B. Li, A.-V. Mudring, J.-D. Corbett: Valence Compounds versus Metals. Synthesis, Characterization, and Electronic Structure of Cubic  $\text{Ae}_4\text{Pn}_3$  Phases in the Systems  $\text{Ae}=\text{Ca}$ ,  $\text{Sr}$ ,  $\text{Ba}$ ,  $\text{Eu}$ ;  $\text{Pn}=\text{As}$ ,  $\text{Sb}$ ,  $\text{Bi}$ , *Inorg. Chem.*, **2003**, 42, 6940-6945.

14. A.M. Guloy, A.-V. Mudring, J.-D. Corbett: Nine Hexagonal  $\text{Ca}_5\text{Pb}_3\text{Z}$  Phases in Stuffed  $\text{Mn}_5\text{Si}_3$ -Type Structures with Transition Metal Interstitial Atoms Z. Problems with Classical Valence States in Possible Zintl Phases, *Inorg. Chem.*, **2003**, 42, 6673-6681.

## 2002

13. A.-V. Mudring, M. Jansen, J. Daniels, S. Krämer, M. Mehring, J.-P. Ramalho, A.-H. Romero, M. Parrinello: Cesiumauride Ammonia (1/1),  $\text{CsAu} \cdot \text{NH}_3$ : A Crystalline Analogue to Alkali Metals Dissolved in Ammonia?, *Angew. Chem. Int. Ed.*, **2002**, 114, 128-132. DOI: 10.1002/1521-3757(20020104)114:1<128::AID-ANGE128>3.0.CO;2-U

## 2001

12. A.-V. Mudring, M. Jansen: Darstellung und Kristallstruktur von  $\text{Rb}_4\text{Br}_2\text{O}$  und  $\text{Rb}_6\text{Br}_4\text{O}$ , *Z. Anorg. Allg. Chem.*, **2001**, 627, 1606-1610.

11. A.-V. Mudring, M. Jansen: Synthese, Kristallstruktur und Eigenschaften von  $\text{Na}_2\text{RbAuO}_2$ , *Z. Anorg. Allg. Chem.*, **2001**, 627, 135-138.

10. A.-V. Mudring, M. Jansen: Synthese und Kristallstruktur von  $\text{Cs}_3\text{AuO}_2$ , *Z. Anorg. Allg. Chem.*, **2001**, 627, 77-80.

9. A.-V. Mudring, M. Jansen:  $\text{Rb}_8\text{AlO}_4\text{Au}_3$  - Ein Aluminat-Aurid, *Z. Naturforsch.*, **2001**, 56b, 433-436.

8. A.-V. Mudring, M. Jansen: Darstellung und Kristallstruktur von  $\text{Cs}_6\text{Cl}_4\text{O}$ , *Z. Naturforsch.*, **2001**, 56b, 209-212.

7. A.-V. Mudring, M. Jansen: Single Crystal Structure of  $\text{Rb}_4\text{Cl}_2\text{O}$ , *Z. Krist. NCS*, **2001**, 216, 483.

6. A.-V. Mudring, M. Jansen: Crystal Structure of RbAuO, *Z. Krist. NCS*, **2001**, 216, 482.
5. A.-V. Mudring, M. Jansen: Crystal Structure Refinement of CsAuO, *Z. Krist. NCS*, **2001**, 216, 481.
4. A.-V. Mudring, M. Jansen: Crystal Structure of NaAuO<sub>2</sub>, *Z. Krist. NCS*, **2001**, 216, 326.
3. A.-V. Mudring, M. Jansen: Crystal Structure of Cs<sub>2</sub>RbAuO, *Z. Krist. NCS* **2001**, 216, 325.
2. A.-V. Mudring, M. Jansen: Base-induced disproportionation of elemental gold, *Angew. Chem. Int. Ed. Engl.* **2000**, 39, 3066-3067. DOI: 10.1002/1521-3773(20000901)39:17<3066::AID-ANIE3066>3.0.CO;2-J

## 2000

1. A.-V. Mudring, J. Nuss, U. Wedig, M. Jansen: MixedValent Gold Oxides: Syntheses, Structures, and Properties of Rb<sub>5</sub>Au<sub>3</sub>O<sub>2</sub>, Rb<sub>7</sub>Au<sub>5</sub>O<sub>2</sub> and Cs<sub>7</sub>Au<sub>5</sub>O<sub>2</sub>, *J. Solid State Chem.* **2000**, 155, 29-36. <https://doi.org/10.1006/jssc.2000.8881>

## Peer-reviewed conference contributions

5. A. Provino, A. Pathak, V. Pecharsky, M. Putti, C. Ferdeghini, V. Smetana, A. Mudring, P. Manfrinetti, Nanomaterials for Energy Conversion – The Synthesis of Highly Crystalline Ytterbium(III)Fluoride Nanoparticles From Ionic Liquids, *Bull. Am. Chem. Soc.* **2018**, <http://meetings.aps.org/Meeting/MAR18/Session/C30.1>
4. C. Lorbeer, A.-V. Mudring, Nanomaterials for Energy Conversion – The Synthesis of Highly Crystalline Ytterbium(III)Fluoride Nanoparticles From Ionic Liquids, Proceedings for the 39<sup>th</sup> Intl Conference and Exhibition on Advanced Ceramics and Composites, Daytona 2015.
3. M. Grodzicki, B. Mallick, A.-V. Mudring: Electronic and magnetic structure of  $(\text{CrCl}_3)_3$ , *J. Phys.: Conf. Ser.*, **2010**, 200. DOI: 10.1088/1742-6596/200/3/032020
2. A. Ispas, M. Buschbeck, S. Pitula, **A.-V. Mudring**, M. Uhlemann, A. Bund, F. Endres: Electrodeposition of Co, Sm and Co-Sm Thin Layers, *ECS Trans.*, **2009**, 16, 119-127. Not listed in Web of Science.
1. A. Ispas, M. Buschbeck, M. Uhlemann, A. Bund, S. Pitula, A.-V. Mudring, F. Endres: Electrodeposition of Ferromagnetic Materials from Air and Water Stable Ionic Liquids, *ECS Trans.*, **2008**, 13, 113-119. Not listed in Web of Science

## Monographs

-

## Research review articles

**R10.** A. Ovchinnikov, V. Smetana, **A.-V. Mudring**, Metallic alloys at the edge of complexity: structural aspects, chemical bonding and physical properties, *J. Phys. Cond. Mat.* **2020**, *xx*, xxx-xxx. DOI: xxx, accepted.

**R9.** V. Smetana, M. Wilk-Kozubek, **A.-V. Mudring**, Active-transition-metal tellurides: through crystal structures to physical properties, *Cryst. Growth Des.*, **2019**, *19*, 5429-5440. DOI: 10.1021/acs.cgd.8b01582.

**R8.** C. Celania, **A.-V. Mudring**, Structures, Properties, and Potential Applications of Rare Earth-Noble Metal Tellurides, *J. Solid State Chem.*, **2019**, *274*, 243-258. DOI: 10.1016/j.jssc.2019.03.009.

**R7.** D. Prodius, **A.-V. Mudring**, Rare earth metal-containing ionic liquids, *Coord. Chem. Rev.* **2018**, *363*, 1-16. DOI: 10.1016/j.ccr.2018.02.004.

**R6.** V. Smetana, M. Rhodehouse, G. Meyer, **A.-V. Mudring**, Gold Polar Intermetallics: The Influence of Relativity on Structural Versatility and Exclusive Bonding Motifs, *Acc. Chem. Res.* **2017**, *50*, 2633-2641. DOI: 10.1021/acs.accounts.7b00316

**R5.** R.K. Sharma, **A.-V. Mudring**, P. Ghosh: Recent trends in binary and ternary rare-earth fluoride nanophosphors: How structural and physical properties influence optical behaviour, *J. Lumin.* **2017**, *189*, 44-63. <http://doi.org/10.1016/j.jlumin.2017.03.062>.

**R4.** M. Li, **A.-V. Mudring**, New developments in the synthesis, structure and applications of borophosphates and metalloborophosphates, *Crystal Growth Des.* **2016**, *16*, 2441-2458. DOI: 10.1021/acs.cgd.5b01035.

**R3.** K. Richter, P. S. Campbell, T. Bäcker, A. Schimitzek, D. Yaprak, **A.-V. Mudring**, Ionic Liquids for the Synthesis of Nanoparticles, *physica status solidi b*, **2013**, *250*, 1152-1164.

**R2.** **A.-V. Mudring**, S.-F. Tang: Ionic Liquids for Lanthanide and Actinide Chemistry, *Eur. J. Inorg. Chem.*, **2010**, *18*, 2569-2581. DOI: 10.1002/ejic.201000297.

**R1.** **A.-V. Mudring**: Solidification of Ionic Liquids: Theory and Techniques, *Aust. J. Chem.*, **2010**, *63*, 544-564. DOI: 10.1071/CH10017.

## Book Chapters (B)

**B11.** D. Prodius, **A.-V. Mudring**, Coordination Chemistry in Rare Earth Containing Ionic Liquids, *Handbook on the Physics and Chemistry of Rare Earths*, **2016**, 50, 395-420. DOI: <http://dx.doi.org/10.1016/bs.hpcr.2016.09.002>

**B10.** P. Ghosh, C. Lorbeer, **A.-V. Mudring**, Nanofluorides for environmentally benign lighting and energy conversion in solar cells, in *Fluorine-Related nanoscience with Energy Applications*, *ACS Symposium Series*, **2011**, 1064, 87-99.

**B9.** **A.-V. Mudring**, T. Alammar, T. Bäcker, K. Richter, Nanoparticle Synthesis in ionic Liquids, in *Ionic Liquids: From Knowledge to Application*, Eds. N.V. Pechkova, R.D. Rogers, K.R. Seddon, *ACS Symposium Series* **2009**, 1030, 177-188.

**B8.** **A.-V. Mudring**: Spectroscopy and ionic liquids, *Topics in Current Chemistry*, **2009**, 290, 285. DOI:10.1007/128\_2008\_45.

**B7.** **A.-V. Mudring**: Complexation studies of f-elements in ionic liquids. Solvent Extraction: Fundamentals to Industrial Applications, Proceedings of ISEC 2008 International Solvent Extraction Conference, Tucson, AZ, United States, Sept. 15-19, 2008, **2008** (2) 1271.

**B6.** **A.-V. Mudring**: Ionic Liquids as Versatile Media in Lanthanide Chemistry, in: R. Rogers, K. Seddon (Eds.) *ACS Symposium Series* (2007).

**B5.** **A.-V. Mudring**: Stereochemical activity of lone pairs in heavier main group elements, in: G. Meyer, D. Naumann, L. Wesemann (Eds.), *Inorganic Chemistry in Focus III*, Wiley VCH, Chapter 2, p. 15-28 (2006).

**B4.** G. Meyer, L. Jongen, **A.-V. Mudring**, A. Möller: Divalent Scandium?, in: G. Meyer, D. Naumann, L. Wesemann (Eds.), *Inorganic Chemistry in Focus II*, Wiley VCH, Chapter 7, p. 105-120 (2005).

**B3.** **A.-V. Mudring**: Inorganic Problems in: *Preparatory Problems for the 36<sup>th</sup> International Chemistry Olympiad*, Kiel 2004.

**B2.** **A.-V. Mudring**, J. Nuss, M. Jansen: *New gold compounds with unusual properties*, *Jahresbericht der Max-Planck-Gesellschaft* (2002).

**B1.** M. Jansen, **A.-V. Mudring**: The Chemistry of Gold Oxides, in: H. Schmidbaur (Ed.), *Gold - Progress in Chemistry, Biochemistry and Technology*, Wiley, Chichester, p. 747-793 (1999).

## Books

1. A.-V. MUDRING: Darstellung intermetallischer Phasen durch Metallverdampfung, Wissenschaft und Technik Verlag, Berlin (2001).
2. A.-V. MUDRING: Ein Beitrag zur Chemie des Goldes – Darstellung, Struktur und Eigenschaften von Auriden, Auraten und Auridauraten, Wissenschaft und Technik Verlag, Berlin (2001).
3. A.-V. MUDRING, I. PANTENBURG: Conference Proceedings der XXI. Tage der Seltenen Erden – Terrae Rarae 2008, NWT-Verlag, Bornheim (2008).

## Popular science publications including books/presentations

-

## Guest Editor

1. G. Miller, G. Meyer, A.-V. Mudring, Corbett Special Issue Editorial, *Inorg. Chem.* **2015**, *54*, 16886-16896. DOI:10.1021/ic5026125

## Obituaries

1. G. Meyer, A.-V. Mudring, K.R. Poepelmeier, John D. Corbett (1926-2013), *Angew. Chem. Int. Ed.* **2013**, *52*, 13513-13514. DOI:10.1002/anie.201309705

## Contributions to Published Conference Proceedings

- 37.** N. HERZMANN, A.-V. MUDRING, G. MEYER: Seven-Coordinate Ruthenium in the New Praseodymium Cluster Chloride  $\{\text{RuPr}_3\}\text{Cl}_3$ , *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P07-22-304 (ISBN 978-3-941372-00-9).
- 36.** B. MALLICK, J. CYBINSKA, A.-V. MUDRING: Luminescent and structural behaviour of copper(I)-doped rare earth containing ionic liquids, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-10-311 (ISBN 978-3-941372-02-3).
- 35.** CH. LORBEER, J. CYBINSKA, A.-V. MUDRING: Spectroscopic properties of  $\text{GdF}_3:\text{Eu}^{3+}$  nanocrystals synthesized via microwave synthesis in ionic liquids, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-08-194 (ISBN 978-3-941372-02-3).
- 34.** J. CYBINSKA, A.-V. MUDRING, G. MEYER: IR and Vis emission of  $\text{K}_2\text{LnCl}_5$  (Ln=Gd, La) crystals doped by  $\text{Tb}^{3+}$  and  $\text{Yb}^{3+}$  ions, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-08-194 (ISBN 978-3-941372-02-3).
- 33.** CH. LORBEER, J. CYBINSKA, A.-V. MUDRING: Rhombic  $\text{YbF}_3$  and  $\text{GdF}_3:\text{Yb}^{3+}$  nanoparticles synthesized in ionic liquids, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-08-122 (ISBN 978-3-941372-02-3).
- 32.** M. KAPPELS, A.-V. MUDRING: Lanthanide-containing Ionic Liquid Crystals, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-10-119 (ISBN 978-3-941372-02-3).
- 31.** N.V. PRONDZINSKI, A.-V. MUDRING: Luminescent lanthanide nanoparticles via metal vapour synthesis in ionic liquids, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-09-120 (ISBN 978-3-941372-02-3).
- 30.** S. TANG, A.-V. MUDRING: A sweet luminescent ionic liquid, *Programme and Abstracts of the 7th International Conference on f Elements (7 ICfE), incorporating XXII. Tage der Seltenen Erden - Terrae Rarae 2009*, **2009**, P04-10-120 (ISBN 978-3-941372-02-3).
- 29.** B. MALLICK, B. BALCKE, C. FELSER, A.-V. MUDRING: Rare Earth Containing Luminescent and Magnetic Ionic Liquids, *Conference Proceedings der XXI. Tage der Seltenen Erden - Terrae Rarae 2008*, **2008**, 63 (ISBN 978-3-941372-00-9).
- 28.** CH. LORBEER, K. RICHTER, A.-V. MUDRING: Synthesis of  $\text{EuF}_3$ -Nanoparticles in Ionic Liquids via Microwave and Conventional Heating, *Conference Proceedings der XXI. Tage der Seltenen Erden - Terrae Rarae 2008*, **2008**, 62 (ISBN 978-3-941372-00-9).
- 27.** N. HERZMANN, A.-V. MUDRING, G. MEYER: Seven-Coordinate Ruthenium in the New Praseodymium Cluster Chloride  $\{\text{RuPr}_3\}\text{Cl}_3$ , *Conference Proceedings der XXI. Tage der Seltenen Erden - Terrae Rarae 2008*, **2008**, 54 (ISBN 978-3-941372-00-9).

26. A. GETSIS, A.-V. MUDRING: Lanthanidomesogens, *Conference Proceedings der XXI. Tage der Seltenen Erden - Terrae Rarae 2008*, **2008**, 50 (ISBN 978-3-941372-00-9).
25. T. TIMOFTE, A.-V. MUDRING: Crystal Structure, Thermal and Spectroscopic Properties of the Ionic Liquid [bmim][Al(hfip)<sub>4</sub>], *Z. Krist. Suppl. Vol.* **2007**, 070-08-id235.
24. F. RIEGER, A.-V. MUDRING: Structures and properties of new thallium tellurites, *Z. Krist. Suppl. Vol.* **2007**, 080-08-id179.
23. A. GETSIS, A.-V. MUDRING: [C<sub>12</sub>mim]<sub>4</sub>[EuBr<sub>6</sub>]Br·CH<sub>3</sub>CN: A Lanthanide Based Ionic Liquid Crystal, *Z. Krist. Suppl. Vol.* **2007**, 041-01-id177.
22. A.-V. MUDRING: Ionic Liquids – New Versatile Materials in: M. Lein (ed.) Proceedings of the NZIC 2006, Massey University Press, Palmerston North, Vol. 1, 91. ISBN-10: 0-473-11854-8
21. T. TIMOFTE, A.-V. MUDRING: Ionic Liquids with Weakly Coordinating Anions, *Z. Anorg. Allg. Chem.* **2006**, 632, 2164.
20. A. BABAI, A.-V. MUDRING: Solvent-Solute Interactions, *Z. Anorg. Allg. Chem.* **2006**, 2163.
19. F. RIEGER, A.-V. MUDRING: New Thallium Sulfotellurites, *Z. Anorg. Allg. Chem.* **2006**, 632, 2113.
18. A. GETSIS, A.-V. MUDRING: Ionic Liquid Crystals, *Z. Anorg. Allg. Chem.* **2006**, 632, 2106.
17. F. RIEGER, A.-V. MUDRING: [(M@18-crown-6)<sub>2</sub>][TlI<sub>4</sub>]: Decorated MgCu<sub>2</sub> structure, *Z. Krist.* **2005**, *Suppl.* 22, 73.
16. T. TIMOFTE, A. BABAI, A.-V. MUDRING: Rare-Earth Triiodide- Hydrates, *Z. Krist.* **2005**, *Suppl.* 22, 169.
15. A. BABAI, A.-V. MUDRING: Crystal structures of [BMPYRR]<sub>4</sub>[MI<sub>6</sub>][BTA] – BMPYRR = 1,1 butylmethyl-pyrrolidinium; BTA = bis(trifluoromethanesulfonyl)amide and M = La, Pr, Nd, Sm, Er, *Z. Krist.* **2005**, *Suppl.* 22, 168.
14. L. JONGEN, A.-V. MUDRING, G. MEYER: Crystal Structure of K<sub>4</sub>Ti<sub>4</sub>OBr<sub>12</sub>, *Z. Krist.* **2004**, *Suppl.* 21, 166.
13. A.-V. MUDRING: A novel type of closed-shell interactions? Chemical bonding in {AgHg<sub>2</sub>}<sup>3+</sup>, *Z. Anorg. Allg. Chem.* **2004**, 630, 1745.
12. F. RIEGER, A.-V. MUDRING: Kristallstruktur von [Tl(18-Krone-6)TlI<sub>4</sub>] als Beitrag zum Redoxverhalten von Thallium, *Z. Krist.* **2004**, *Suppl.* 21, 73.
11. F. RIEGER, A.-V. MUDRING: Stereochemistry and bonding of Tl(I) in macrocyclic polyethers, *Z. Anorg. Allg. Chem.* **2004**, 630, 1755.

10. A.-V. MUDRING, J.D. CORBETT: Influence of cations on physical properties of the Zintl phases, *Z. Anorg. Allg. Chem.* **2004**, 630, 1746.
9. A. BABAI, A.-V. MUDRING, S. ARENZ, R. GIERNOTH, P. NOCKEMANN: Spectroscopic properties of rare earth iodides in the ionic liquid [C<sub>12</sub>mim][BTA], *Z. Anorg. Allg. Chem.* **2004**, 630, 1697.
8. A.-V. MUDRING, M. JANSEN: Polytypie von CsAu·NH<sub>3</sub>, *Z. Krist.* **2002**, Suppl. 19, 114.
7. A.-V. MUDRING, M. JANSEN: Darstellung und Einkristallstrukturbestimmung von Oxidhalogeniden des Typs M<sub>4</sub>X<sub>6</sub>O (M = Sr, Ba; X = Br, I), *Z. Krist.* **2002**, Suppl. 19, 114.
6. A.-V. MUDRING: Neue Einblicke in die Chemie des Goldes, *Z. Anorg. Allg. Chem.* **2002**, 628, 2157.
5. A.-V. MUDRING, J. D. CORBETT: The metallic behavior of electronprecise Zintl compounds: A theoretical investigation of the electronic structure of Ca<sub>5</sub>Ge<sub>3</sub>, *Z. Anorg. Allg. Chem.* **2002**, 628, 2226.
4. A.-V. MUDRING, M. JANSEN, H. EBERT, F.E. WAGNER: Elektronische Eigenschaften von (Rb/Cs)<sub>3</sub>AuO, *Z. Anorg. Allg. Chem.* **2002**, 628, 2225.
3. A.-V. MUDRING, M. JANSEN: Gemischte Auridaurate der Zusammensetzung Cs<sub>7-x</sub>Rb<sub>x</sub> Au<sub>5</sub>O<sub>2</sub>, *Z. Anorg. Allg. Chem.* **2002**, 628, 2200.
2. A.-V. MUDRING, M. JANSEN: Aufbauprinzip von Alkalimetallhalogeniden, *Z. Krist.* **2001**, Suppl. 18, 121.
1. A.-V. MUDRING, M. JANSEN: Kristallchemische Äquivalenz von Gold- und schwereren Halogenanionen in Halogenid- und Auridauraten, *Z. Krist.* **2001**, Suppl. 18, 117.

## Patents and Patent Applications

1. T. Woike, A. Schuy, J. Krause, D. Schaniel, S. Pitula, A.-V. Mudring: *Photostability of solution of fluorescent dyes in ionic liquids in the presence of an electron acceptor*. PCT Int. Appl. (2010), WO 2010091848.
2. T. Woike, A. Schuy, J. Krause, D. Schaniel, S. Pitula, A.-V. Mudring: *Photostability of solution of fluorescent dyes in ionic liquids in the presence of an electron acceptors*. Ger. Offen. (2010) DE 10 2009 000 784.
3. A.-V. Mudring, P.S. Campbell, J. Cybinska, P. Ghosh, C. Lorbeer, D. Pitz, N. von Prondzinski,: *Polymerisierbare Ionische Flüssigkeiten für Photonische Anwendungen*. Ger. Offen. (2012) DE 10 2012 105 782.6.
4. A.-V. Mudring, D. Prodius: *Separation of Terbium(III,IV) Oxide*, Provisional Patent, US 62184664, 2015, USA.
5. A.-V. Mudring, D. Prodius: *Separation of Terbium(III,IV) Oxide*, Utility Patent, US 15/185,075, 2016, USA. Granted **Patent number:** 10029920
6. A.-V. Mudring, D. Prodius: *Separating Rare Earth Oxalates*, Provisional Patent Application, US 62/494,101, 2016, USA
7. A.-V. Mudring, Ikenna C. Nbeledim, D. Prodius: *Dissolution and Separation of Rare Earth Metals*, US Provisional Patent Application, US 62/495,211, 2016, USA.
8. A.-V. Mudring, Ikenna C. Nbeledim, D. Prodius: *Dissolution and Separation of Rare Earth Metals*, US Provisional Patent Application, United States provisional application Ser. No. 62/495,211, 2016, USA. Publication number: 20180312941