

# INSTITUT FÜR ANORGANISCHE CHEMIE

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Prof. Dr. Franc Meyer  
 Prof. Dr. Sven Schneider  
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 Prof. Dr. Dietmar Stalke  
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 Dr. Christian Sindlinger

Emeriti:

Prof. Dr. Dr. h. c. mult. Herbert W. Roesky  
 Prof. George M. Sheldrick

## LISTE DER VERÖFFENTLICHUNGEN

### 2020

1. **Abbenseth, Josh ; Schneider, Sven :**  
     A Terminal Chlorophosphinidene Complex  
*Z. anorg. allg. Chem.* **2020**, *646*(13), 565-569 (*open access*)
2. **Abbenseth, Josh ; Oudsen, Jean-Pierre H. ; Venderbosch, Bas ; Demeshko, Serhiy ; Finger, Markus ; Herwig, Christian ; Würtele, Christian ; Holthausen, Max C. ; Limberg, Christian ; Tromp, Moniek ; Schneider, Sven :**  
     Examination of Protonation-Induced Dinitrogen Splitting by *in Situ* EXAFS Spectroscopy  
*Inorg. Chem.* **2020**, *59*(19), 14367-14375
3. **Bakker, Anne ; Freitag, Matthias ; Kolodzeiski, Elena ; Bellotti, Peter ; Timmer, Alexander ; Ren, Jindong ; Schulze Lammers, Bertram ; Moock, Daniel ; Roesky, Herbert W. ; Mönig, Harry ; Amirjalayer, Saeed ; Fuchs, Harald ; Glorius, Frank :**  
     Ein elektronenreiches cyclisches (Alkyl)(amino)carben auf Au(111)-, Ag(111)- und Cu(111)-Oberflächen ;  
     An electron-rich cyclic (alkyl)(amino)carbene on Au(111)-, Ag(111)- and Cu(111) surfaces  
*Angew. Chem.* **2020**, *132*(32), 13745-13749 ; *Angew. Chem. Int. Ed.* **2020**, *59*(32), 13643-13646  
     Highlighted as very important paper
4. **Banerjee, Samya ; Dutta, Sayan ; Sarkar, Samir Kumar ; Graw, Nico ; Herbst-Irmer, Regine ; Koley, Debasis ; Stalke, Dietmar ; Roesky, Herbert W. :**  
     Amidinate based indium(III) monohalides and  $\beta$ -diketiminate stabilized In(II)-In(II) bond: Synthesis, crystal structure, and computational study  
*Dalton Trans.* **2020**, *49*(40), 14231-14236
5. **Chen, Yilin ; Li, Jiancheng ; Jiang, Wenjun ; Zhao, Jinbo ; Zhu, Hongping ; Muhammed, Shahila ; Parameswaran, Pattiyl ; Roesky, Herbert W. :**  
     A C2-linked bis-silene formed without using metals and the transformation into the bis-silyl and bis-silylium C4 cumulenes  
*Organometallics* **2020**, *39*(23), 4282-4286
6. **Chiang, Chuan-Kuei ; Chu, Kai-Ti ; Lin, Chia-Chin ; Xie, Shi-Rou ; Liu, Yu-Chiao ; Demeshko, Serhiy ; Lee, Gene-Hsiang ; Meyer, Franc ; Tsai, Ming-Li ; Chiang, Ming-Hsi ; Lee, Chien-Ming :**  
     Photoinduced NO and HNO Production from Mononuclear {FeNO}<sup>6</sup> Complex Bearing a Pendant Thiol  
*J. Am. Chem. Soc.*, **2020**, *142*(19), 8649-8661

7. **Dorazio**, Sarina J. ; **Vogel**, Anastasia ; **Dechert**, Sebastian ; **Nevonen**, Dustin E. ; **Nemykin**, Victor N. ; **Brückner**, Christian ; **Meyer**, Franc :  
Siamese-Twin Porphyrin Goes Platinum: Group 10 Monometallic, Homobimetallic, and Heterobimetallic Complexes  
*Inorg. Chem.* **2020**, *59*(10), 7290-7305
8. **Du**, Jia-Pei ; **Siewert**, Inke  
An Electrochemical and Spectroscopic Study on  $\text{Re}(\text{CO})_3(\text{L})\text{Cl}$  in Dimethylformamide ( $\text{L} = 2,2'$ -Bipyridine)  
*Z. anorg. allg. Chem.* **2020**, *646*(13), 705-711
9. **Fokin**, Igor ; **Siewert**, Inke :  
Chemoselective Electrochemical Hydrogenation of Ketones and Aldehydes with a Well-Defined Base-Metal Catalyst  
*Chem. Eur. J.* **2020**, *26*, 14137-14143 (open access)
10. **Hassenrück**, Christopher ; **Azarkh**, Mykhailo ; **Drescher**, Malte ; **Linseis**, Michael ; **Demeshko**, Serhiy ; **Meyer**, Franc ; **Winter**, Rainer F. :  
Redox Isomeric Ferrocenyl Styrylruthenium Radical Cations with Diphenyl-Substituted  $\beta$ -Ketoenolato Ligands  
*Organometallics* **2020**, *39*(1), 153-164
11. **Hua**, Shao-An ; **Cattaneo**, Mauricio ; **Oelschlegel**, Manuel ; **Heindl**, Moritz ; **Schmid**, Lucius ; **Dechert**, Sebastian ; **Wenger**, Oliver S. ; **Siewert**, Inke ; **González**, Leticia ; **Meyer**, Franc :  
Electrochemical and Photophysical Properties of Ruthenium(II) Complexes Equipped with Sulfurated Bipyridine Ligands  
*Inorg. Chem.* **2020**, *59*(7), 4972-4984
12. **Hua**, Shao-An ; **Cattaneo**, Mauricio ; **Oelschlegel**, Manuel ; **Heindl**, Moritz ; **Schmid**, Lucius ; **Dechert**, Sebastian ; **Wenger**, Oliver S. ; **Siewert**, Inke ; **González**, Leticia ; **Meyer**, Franc : Electrochemical and Photophysical Properties of Ruthenium(II) Complexes Equipped with Sulfurated Bipyridine Ligands  
*Inorg. Chem.* **2020**, *59*(7), 4972-4984
13. **Jana**, Manish ; **White**, Corey J. ; **Pal**, Nabhendu ; **Demeshko**, Serhiy ; **Cordes** (née Kupper), Claudia ; **Meyer**, Franc ; **Lehnert**, Nicolai ; **Majumdar**, Amit :  
Functional Models for the Mono- and Dinitrosyl Intermediates of FNORs: Semireduction versus Superreduction of NO  
*J. Am. Chem. Soc.*, **2020**, *142*(14), 6600-6616
14. **Krause**, Lennard ; **Niepötter**, Benedikt ; **Schürmann**, Christian J. ; **Stalke**, Dietmar ; **Herbst-Irmer**, Regine : Statement issued on ‘metrics for crystallographic diffraction- and fit-data: a review of existing ones and the need for new ones’ from Julian Henn  
*Crystallogr. Rev.* **2020**, *26*(1), 56-57
15. **Kupski**, Oliver ; **Funk**, Lisa-Marie ; **Sautner**, Viktor ; **Seifert**, Franziska ; **Worbs**, Brigitte ; **Ramsbeck**, Daniel ; **Meyer**, Franc ; **Diederichsen**, Ulf ; **Buchholz**, Mirko ; **Schilling**, Stephan ; **Demuth**, Hans-Ulrich ; **Tittmann**, Kai :  
Hydrazides Are Potent Transition-State Analogues for Glutaminyl Cyclase Implicated in the Pathogenesis of Alzheimer’s Disease  
*Biochemistry* **2020**, *59*(28), 2585-2591
16. **Li**, Bin ; **Yang**, Ying ; **Zhu**, Hongping ; **Roesky**, Herbert W. :  
 $\beta$ -Diketiminato)aluminum Hydroxides and the Chalcogenide Derivatives: Precursors for Homo- and Heterometallic Complexes with Al-E-M (E = chalcogen, M = metal) Frameworks  
*Coordination Chem. Rev.* **2020**, *429*, 213625
17. **Li**, Jiancheng ; **Wu**, Peng ; **Jiang**, Wenjun ; **Li**, Bin ; **Wang**, Binju ; **Zhu**, Hongping ; **Roesky**, Herbert W. : An Unusual and Facile Synthetic Route to Alumoles  
*Angew. Chem.* **2020**, *132*(25), 10113-10117 ; *Angew. Chem. Int. Ed.* **2020**, *59*(25), 10027-10031  
Highlighted as a hot paper
18. **Li**, Jiancheng ; **Liu**, Yashuai ; **Kundu**, Subrata ; **Keil**, Helena ; **Zhu**, Hongping ; **Herbst-Irmer**, Regine ; **Stalke**, Dietmar ; **Roesky**, Herbert W. : Reactions of Amidinate-Supported Silylene with Organoboron Dihalides  
*Inorg. Chem.* **2020**, *59*(12), 7910-7914

19. Liu, Peiwen ; Pang, Bo ; Dechert, Sebastian ; Zhang, Xizhou Cecily ; Andreas, Loren B. ; Fischer, Steffen ; Meyer, Franc ; Zhang, Kai : Structure Selectivity of Alkaline Periodate Oxidation on Lignocellulose for Facile Isolation of Cellulose Nanocrystals  
*Angew. Chem.* **2020**, *132*(8), 3244-3251 ; *Angew. Chem. Int. Ed.* **2020**, *59*(8), 3218-3225
20. Liu, Yang ; Resch, Stefan G. ; Klawitter, Iris ; Cutsail III, George E. ; Demeshko, Serhiy ; Dechert, Sebastian ; Kühn, Fritz E. ; DeBeer, Serena ; Meyer, Franc : An Adaptable N-Heterocyclic Carbene Macrocycle Hosting Copper in Three Oxidation States  
*Angew. Chem.* **2020**, *132*(14), 5745-5754 ; *Angew. Chem. Int. Ed.* **2020**, *59*(14), 5696 – 5705 (open access)
21. Liu, Yashuai ; Keil, Helena ; Yang, Zhi ; Herbst-Irmer, Regine ; Roesky, Herbert W. ; Stalke, Dietmar : Phosphorus Silicon Compounds from the Reduction of MesP(H)SiCl<sub>2</sub>Ph/Carbene with and without Metal  
*Eur. J. Inorg. Chem.* **2020**, (23), 2273-2278
22. Naumova, Maria A. ; Kalinko, Aleksandr ; Wong, Joanne W. L. ; Alvarez Gutierrez, Sol ; Meng, Jie ; Liang, Mingli ; Abdellah, Mohamed ; Geng, Huifang ; Lin, Weihua ; Kubicek, Katharina ; Biednov, Mykola ; Lima, Frederico ; Galler, Andreas ; Zalden, Peter ; Checchia, Stefano ; Mante, Pierre-Adrien ; Zimara, Jennifer ; Schwarzer, Dirk ; Demeshko, Serhiy ; Murzin, Vadim ; Gosztola, David ; Jarenmark, Martin ; Zhang, Jianxin ; Bauer, Matthias ; Latevi Lawson Daku, Max ; Khakhulin, Dmitry ; Gawelda, Wojciech ; Bressler, Christian ; Meyer, Franc ; Zheng, Kaibo ; Canton, Sophie E. : Exploring the light-induced dynamics in solvated metallogrid complexes with femtosecond pulses across the electromagnetic spectrum  
*J. Chem. Phys.*, **2020**, *152*(21), 214301, 1-11
23. Naumova, Maria A. ; Kalinko, Aleksandr ; Wong, Joanne W. L. ; Abdellah, Mohamed ; Geng, Huifang ; Domenichini, Edoardo ; Meng, Jie ; Alvarez Gutierrez, Sol ; Mante, Pierre-Adrien ; Lin, Weihua ; Zalden, Peter ; Galler, Andreas ; Lima, Frederico ; Kubicek, Katharina ; Biednov, Mykola ; Britz, Alexander ; Checchia, Stefano ; Kabanova, Victoria ; Wulff, Michael ; Zimara, Jennifer ; Schwarzer, Dirk ; Demeshko, Serhiy ; Murzin, Vadim ; Gosztola, David ; Jarenmark, Martin ; Zhang, Jianxin ; Bauer, Matthias ; Latevi Lawson Daku, Max ; Gawelda, Wojciech ; Khakhulin, Dmitry ; Bressler, Christian ; Meyer, Franc ; Zheng, Kaibo ; Canton, Sophie E. : Revealing Hot and Long-Lived Metastable Spin States in the Photoinduced Switching of Solvated Metallogrid Complexes with Femtosecond Optical and X ray Spectroscopies  
*J. Phys. Chem. Lett.* **2020**, *11*(6), 2133–2141
24. Paul, Lucas A. ; Rajabi, Sheida ; Jooss, Christian ; Meyer, Franc ; Ebrahimi, Fatemeh ; Siewert, Inke : A Dinuclear Rhenium Complex in the Electrochemically Driven Homogeneous and Heterogeneous H<sup>+</sup>/CO<sub>2</sub> Reduction  
*Dalton Trans.* **2020**, *49*(5), 8367-8374 (open access)
25. Paul, Lucas A. ; Röttcher, Nico C. ; Zimara, Jennifer ; Borter, Jan-Hendrik ; Du, Jia-Pei ; Schwarzer, Dirk ; Mata, Ricardo A. ; Siewert, Inke : Photochemical Properties of Re(CO)<sub>3</sub> Complexes with and without a Local Proton Source and Implications for CO<sub>2</sub> Reduction Catalysis;  
*Organometallics* **2020**, *39*(13), 2405-2414
26. Ramler, Jacqueline ; Radacki, Krzysztof ; Abbenseth, Josh ; Lichtenberg, Crispin : Combined experimental and theoretical studies towards mutual osmium–bismuth donor/acceptor bonding  
*Dalton Trans.* **2020**, *49*(26), 9024-9034
27. Roesky, Herbert W. : Surprising results in fluorine chemistry and related elements  
In: The curious world of fluorinated molecules. Edited by K. Seppelt  
San Diego: Elsevier, **2020**, 303-317  
(*Progress in Fluorine Science*; **6**) Paperback ISBN: 9780128198742
28. Samanta, Ramesh C. ; Meyer, Tjark H. ; Siewert, Inke ; Ackermann, Lutz : Renewable Resources for Sustainable Metallaelectro-Catalysed C–H Activation  
*Chem. Sci.* **2020**, *11*, 8657-8670 (open access)

- 29.** **Sarkar**, Samir Kumar ; **Chaliha**, Rinkumoni ; **Siddiqui**, Mujahuddin M.; **Banerjee**, Samya ; **Münch**, Annika ; **Herbst-Irmer**, Regine, **Stalke**, Dietmar ; **Jemmis**, Eluvathingal D. ; **Roesky**, Herbert W. : A Neutral Three-Membered  $2\pi$  Aromatic Disilaborirane and the Unique Conversion to a Four-Membered  $\text{BSi}_2\text{N}$ -Ring  
*Angew. Chem.* 2020, **132**(51), 23215-23219 ; *Angew. Chem. Int. Ed.* 2020, **59**(51), 23015-23019
- 30.** **Schillmöller**, Timo ; **Ruth**, Paul Niklas ; **Herbst-Irmer**, Regine ; **Stalke**, Dietmar : Three colour solid-state luminescence from positional isomers of facilely modified thiophosphoranyl anthracenes  
*Chem. Commun.* 2020, **56**(54), 7479-7482
- 31.** **Siddiqui**, Mujahuddin M. ; **Banerjee**, Samya ; **Bose**, Sanjoy ; **Sarkar**, Samir Kumar ; **Gupta**, Sandeep K. ; **Kretsch**, Johannes ; **Graw**, Nico ; **Herbst-Irmer**, Regine ; **Stalke**, Dietmar ; **Dutta**, Sayan ; **Koley**, Debasis ; **Roesky**, Herbert W. : Cyclic (Alkyl)(Amino)Carbene-Stabilized Aluminum and Gallium Radicals Based on Amidinate Scaffolds  
*Inorg. Chem.* 2020, **59**(16), 11253-11258
- 32.** **Stevens**, Hendrik ; **Duan**, Peng-Cheng ; **Dechert**, Sebastian ; **Meyer**, Franc : Competing  $\text{H}_2$  versus Intramolecular C–H Activation at a Dinuclear Nickel Complex via Metal–Metal Cooperative Oxidative Addition  
*J. Am. Chem. Soc.*, 2020, **142**(14), 6717-6728
- 33.** **Sun**, Jian ; **Abbenseeth**, Josh ; **Verplancke**, Hendrick ; **Diefenbach**, Martin ; **de Bruin**, Bas ; **Hunger**, David ; **Würtele**, Christian ; **van Slageren**, Joris ; **Holthausen**, Max C. ; **Schneider**, Sven : A Platinum(II) Metallonitrene with a Triplet Ground State  
*Nature Chem.*, 2020, 1-8 (PDF)
- 34.** **Sunstrup**, Lisa ; **Stein**, Felix ; **Klein**, Johannes ; **Wilting**, Alexander ; **Parlane**, Fraser G. L. ; **Brown**, Christopher M. ; **Fiedler**, Jan ; **Berlinguette**, Curtis P. ; **Siewert**, Inke ; **Sarkar**, Biprajit : Rhenium Complexes of Pyridyl-Mesoionic Carbenes: Photochemical Properties and Electrocatalytic  $\text{CO}_2$  Reduction  
*Inorg. Chem.* 2020, **59**(7), 4215-4227
- 35.** **Ueda**, Jumpei ; **Wylezich**, Thomas ; **Kunkel**, Nathalie ; **Tanabe**, Setsuhisa : Red Luminescence of  $\text{Eu}^{2+}$  in  $\text{K}_2\text{MgH}_4$  and Comparison with  $\text{KMgH}_3$ ,  
*J. Mater. Chem. C* 2020, **8**, 5124-5130
- 36.** **van Alten**, Richt S. ; **Wätjen**, Florian ; **Demeshko**, Serhiy ; **Miller**, Alexander J. M. ; **Würtele**, Christian ; **Siewert**, Inke ; **Schneider**, Sven : (Electro-)chemical Splitting of Dinitrogen with a Rhenium Pincer Complex;  
*Eur. J. Inorg. Chem.* 2020, (15-16), 1402-1410  
Cover Feature: *Eur. J. Inorg. Chem.* 2020, (15-16), 1348.  
(Special Issue: Nitrogen Fixation) (open access)
- 37.** **Wang**, Lianke ; **Gennari**, Marcello ; **Cantú Reinhard**, Fabián G. ; **Padamati**, Sandeep K. ; **Philouze**, Christian ; **Flot**, David ; **Demeshko**, Serhiv ; **Browne**, Weslev R. ; **Meyer**, Franc ; **de Visser**, Sam P. ; **Duboc**, Carole :  $\text{O}_2$  Activation by Non-Heme Thiolate-Based Dinuclear Fe Complexes  
*Inorg. Chem.* 2020, **59**(5), 3249-3259
- 38.** **Wang**, Lianke ; **Gennari**, Marcello ; **Barrozo**, Alexandre ; **Fize**, Jennifer ; **Philouze**, Christian ; **Demeshko**, Serhiy ; **Meyer**, Franc ; **Orio**, Maylis ; **Artero**, Vincent ; **Duboc**, Carole : Role of the Metal Ion in Bio-Inspired Hydrogenase Models: Investigation of a Homodinuclear FeFe Complex vs Its Heterodinuclear NiFe Analogue  
*ACS Catal.* 2020, **10**(1), 177-186
- 39.** **Wilken**, Mona ; **Siewert**, Inke : Electrocatalytic Hydrogen Production with a Molecular Cobalt Complex in Aqueous Solution  
*ChemElectroChem* 2020, **7**(1), 217-221 (open access)
- 40.** **Wu**, Jianfeng ; **Demeshko**, Serhiy ; **Dechert**, Sebastian ; **Meyer**, Franc : Hexanuclear  $[\text{Cp}^*\text{Dy}]_6$  single-molecule magnet  
*Chem. Commun.* 2020, **56**(27), 3887 – 3890
- 41.** **Wylezich**, Thomas ; **Valois**, Renaud ; **Suta**, Markus ; **Mutschke**, Alexander ; **Ritter**, Clemens ; **Meijerink**, Andries ; **Karttunen**, Antti J. ; **Kunkel**, Nathalie : Borate Hydrides as a New Material Class: Structure, Computational Studies, and Spectroscopic Investigations on  $\text{Sr}_5(\text{BO}_3)_3\text{H}$  and  $\text{Sr}_5(^{11}\text{BO}_3)_3\text{D}$   
*Chem. Eur. J.* 2020, **26**(51), 11742-11750 (open access)

42. **Zhong**, Mingdong ; **Sinhababu**, Soumen ; **Roesky**, Herbert W. :  
The unique  $\beta$ -diketiminate ligand in aluminum(I) and gallium(I) chemistry  
*Dalton Trans.* **2020**, *49*(5), 1351- 1364 ; DOI: 10.1039/c9dt04763h (open access)