

2021/2022

- [667] W. Lu, N. Hensiek, K. Saha, R. D. Dewhurst, M. Härterich, C. Pranckevicius, S. Hagspiel, M. Dietz, I. Krummenacher H. Braunschweig
Electron-precise Dicationic Tetraboranes: Syntheses, Structures and Rearrangement to a Zwitterionic Diborene and a 1,3-Azaborinine
submitted.
- [666] J. Bachmann, A. Helbig, M. Crumbach, I. Krummenacher, H. Braunschweig, H. Helten
Fusion of Aza- and Oxadiborepins with Furans via a Reversible Ring Opening Process
Furnishes Versatile Building Blocks for Extended π -Conjugated Materials
submitted.
- [665] M. Dietz, M. Arrowsmith, S. Reichl, L. I. Lugo-Fuentes, J. O. C. Jiménez-Halla, M. Scheer, H. Braunschweig
Stable Two-Legged Parent Piano-Stool and Mixed Diborabenzene-E4 (E = P, As) Sandwich Complexes of Group 8
Angew. Chem. **2022**, 134; *Angew. Chem. Int. Ed.* **2022**, 61,
accepted.
- [664] M. Dömling, T. E. Stennett, A. Belyaev, B. Hupp, C. Claes, S. Ullrich, S. Endres, E. Freytag, T. Kramer, T. Kupfer, F. Schorr, T. Thiess, M. Arrowsmith, A. Steffen, H. Braunschweig
Synthesis and Fluorescence Studies of Diborene Coinage Metal Complexes
submitted.
- [663] F. Full, Q. Wölflick, K. Radacki, H. Braunschweig, A. Nowak-Król
Enhanced Optical Properties of Azaborole Helicenes by Lateral and Helical Extension
Chem. Eur. J. **2022**, 28,
accepted.
- [662] T. Bischof, X. Guo, I. Krummenacher, L. Beßler, Z. Lin, M. Finze, H. Braunschweig,
Alkene insertion reactivity of a *o*-carboranyl-substituted 9-borafluorene
Chem. Sci. **2022**, 13, 7492–7497.
- [661] L. C. Haufe, M. Arrowsmith, M. Dietz, A. Gärtner, R. Bertermann, H. Braunschweig,
Spontaneous N₂-diboranylation of [W(N₂)₂(dppe)₂] with B₂Br₄(SMe₂)₂
Dalton Trans. **2022**, 51,
accepted.
- [660] A. Okorn, A. Jayaraman, L. Englert, M. Arrowsmith, T. Swoboda, J. Weigelt, C. Brunecker, M. Hess, A. Lamprecht, C. Lenczyk, M. Rang, H. Braunschweig,
Synthesis and hydrogenation of polycyclic aromatic hydrocarbon-substituted diborenes via uncatalysed hydrogenative B–C bond cleavage
Chem. Sci. **2022**, 13, 7566–7574.
- [659] G. Horrer, I. Krummenacher, S. Mann, H. Braunschweig, U. Radius
N-Heterocyclic Carbene and Cyclic (Alkyl)(amino)carbene Complexes of Vanadium(III) and Vanadium(V)
Dalton Trans. **2022**, 51, 11054–11071.
- [658] M. Ferger, C. Roger, E. Köster, F. Rauch, S. Lorenzen, I. Krummenacher, A. Friedrich, M. Koščak, D. Nestić, D. Majhen, H. Braunschweig, C. Lambert, I. Piantanida, T. B. Marder
Electron-Rich EDOT Linkers in Tetracationic bis-Triarylborane Chromophores: Influence on Water-Stability, Bio-macromolecule Sensing, and Photoinduced Cytotoxicity
Chem. Eur. J. **2022**, 28,
accepted.
- [657] L. Kuehn, L. Zapf, L. Werner, M. Stang, S. Würtemberger-Pietsch, I. Krummenacher, H. Braunschweig, E. Lacôte, U. Radius, T. B. Marder
NHC induced radical formation *via* homolytic cleavage of B–B bonds and its role in organic reactions
Chem. Sci. **2022**, 13, 8321–8333.
- [656] J. Weiser, J. Cui, R. D. Dewhurst, H. Braunschweig, B. Engels, F. Fantuzzi,
Structure and bonding of proximity-enforced main-group dimers stabilized by a rigid naphthyridine diimine ligand
submitted.

- [655] S. Hagspiel, F. Fantuzzi, M. Arrowsmith, A. Gärtner, M. Fest, J. Weiser, B. Engels, H. Helten, H. Braunschweig, Modulation of the Naked-eye and Fluorescence Colour of a Protonated Boron-doped Thiazolothiazole by Anion-dependent Hydrogen Bonding *Chem. Eur. J.* **2022**, *28*, [accepted](#).
- [654] R. Dolai, B. J. Elvers, T. Singh, N. Chrysochos, R. Kumar, B. Joseph, M. K. Nayak, A. Maiti, A. Jayaraman, I. Krummenacher, J. Mondal, H. Braunschweig, C. B. Yildiz, C. Schulzke, A. Jana Carbodicarbenes and Striking Redox Transitions of their Conjugate Acids: Influence of NHC vs. CAAC as Donor Substituents [submitted](#).
- [653] G. K. Kole, M. Koščak, A. Amar, D. Majhen, K. Božinović, Z. Brkljaca, M. Ferger, E. Michail, S. Lorenzen, A. Friedrich, I. Krummenacher, M. Moos, H. Braunschweig, A. Boucekine, C. Lambert, J.-F. Halet, I. Piantanida, K. Müller-Buschbaum, T. B. Marder Methyl Viologens of Bis-(4'-ethynylpyridyl)arenes - Structures, Photophysical and Electrochemical Studies, and their Potential Application in Biology *Chem. Eur. J.* **2022**, *28*, e202200753.
- [652] T. Wiesner, Z. Wu, J. Han, L. Ji, A. Friedrich, I. Krummenacher, M. Moos, C. Lambert, H. Braunschweig, B. Rudin, H. Reiss, O. Tverskoy, F. Rominger, A. Dreuw, T. B. Marder, J. Freudenberg, U. H. F. Bunz, The Radical Anion, Dianion and Electron Transport Properties of Tetraiodo-Tetraazapentacene *Chem. Eur. J.* **2022**, *28*, [accepted](#).
- [651] J. Cui, J. Weiser, F. Fantuzzi, M. Dietz, Y. Yatsenko, A. Häfner, S. Nees, I. Krummenacher, M. Zhang, K. Hammond, P. Roth, W. Lu, R. D. Dewhurst, B. Engels, H. Braunschweig A Six-Electron Donor Proximity-Enforced Bis(germylene) [submitted](#).
- [650] F. Lindl, F. Fantuzzi, L. Mailänder, C. Hörl, G. Bélanger-Chabot, H. Braunschweig, Azidoborolate anions and azidoborole adducts: isolable forms of an unstable borole azide *Chem. Commun.* **2022**, *58*, 4735–4738.
- [649] F. Schorr, M. Arrowsmith, F. Fantuzzi, A. Rempel, H. Braunschweig 1,2-Dialkynyldiboranes(4): B–B versus C≡C bond reactivity *Dalton Trans.* **2022**, *51*, 6197–6203.
- [648] A. Stoy, M. Härterich, R.D. Dewhurst, J.O. Jimenez-Halla, P. Endres, M. Eißlein, T. Kupfer, H. Braunschweig Evidence for Borylene Carbonyl (LHB=C=O) and Base-Stabilized (LHB=O) and Base-Free Oxoborane (RB≡O) Intermediates in the Reactions of Diborenes with CO₂ *J. Am. Chem. Soc.* **2022**, *144*, 3376–3380.
- [647] S. Fuchs, A. Jayaraman, I. Krummenacher, L. Haley, M. Baštovanović, M. Fest, K. Radacki, H. Helten, H. Braunschweig Diboramacrocycles: reversible borole dimerisation-dissociation systems *Chem. Sci.* **2022**, *13*, 2932–2938.
- [646] R. Moral, F. Fantuzzi, R. D. Dewhurst, H. Braunschweig, A. K. Phukan¹ Probing the Potential of Hitherto Unexplored Base-Stabilized Borylenes in Dinitrogen Binding *Chem. Eur. J.* **2021**, e202104123.
- [645] D. Dhara, A. Jayaraman, M. Härterich, R. D. Dewhurst, H. Braunschweig Generation of a transient base-stabilised arylaluminum for the facile deconstruction of aromatic molecules *Chem. Sci.* **2022**, *13*, 5631–5638.
- [644] W. Lu, A. Jayaraman, F. Fantuzzi, R. D. Dewhurst, M. Härterich, M. Dietz, S. Hagspiel, I. Krummenacher, K. Hammond, J. Cui, H. Braunschweig An Unsymmetrical, Cyclic Diborene Based on a Chelating CAAC Ligand and its Small-Molecule Activation and Rearrangement Chemistry *Angew. Chem.* **2022**, *134*, e202113947; *Angew. Chem. Int. Ed.* **2022**, *61*, e202113947.

- [643] M. Huang, J. Hu, I. Krummenacher, A. Friedrich, H. Braunschweig, S. A. Westcott, U. Radius, T. B. Marder
Base-Mediated Radical Borylation of Alkyl Sulfones
Chem. Eur. J. **2022**, *28*, e202103866.
- [642] J. Selby, M. Holzapfel, K. Radacki, A. K. Swaina, H. Braunschweig, C. Lambert
Polymeric Indolenine-Squaraine Foldamers with a Preferred Helix Twist Sense and their Chiroptical Absorption and Emission Properties
Macromolecules **2022**, *55*, 421–436.
- [641] S. Jana, B. J. Elvers, S. Pätsch, P. Sarkar, I. Krummenacher, M. K. Nayak, N. Chrysochos, S. K. Pati, C. Schulzke, H. Braunschweig, C. B. Yildiz, A. Jana
Air and moisture stable para- and ortho-quinodimethane derivatives derived from bis-N-heterocyclic olefins
submitted.
- [640] M. Dietz, M. Arrowsmith, A. Gärtner, K. Radacki, R. Bertermann, H. Braunschweig,
Harnessing the Electronic Differences Between CAAC-Stabilised 1,4-Diborabenzene and 9,10-Diboraanthracene for the Synthesis of Chalcogen-Bridged Bicyclic Structures
Chem. Commun. **2021**, *57*, 13526–13529.
- [639] M. Arrowsmith, S. Endres, M. Heinz, V. Nestler, M. C. Holthausen, H. Braunschweig¹
Probing the Boundaries between Lewis-Basic and Redox Behavior of a Parent Borylene
Chem. Eur. J. **2021**, *27*, 17660–17668.
- [638] M. Härterich, B. Ritschel, M. Arrowsmith, J. Böhnke, I. Krummenacher, A. K. Phukan, H. Braunschweig
Hybrid Inorganic-Organic Cross-Metathesis between Diborenes and Acetylene
J. Am. Chem. Soc. **2021**, *143*, 18339–18345.
- [637] S. Kachel, A. Jayaraman, A. Okorn, I. Krummenacher, R. Drescher, C. Brunecker, S. Fuchs, M. Heß, T. E. Stennett, H. Braunschweig
Azide-alkyne cycloadditions with an electronically activated alkyne: indole formation *via* 1-aryl-1,2,3-triazole-derived imino carbenes
Chem. Commun. **2022**, *58*, 2331–2334.
- [636] A. K. Swain, K. Radacki, H. Braunschweig, P. Ravat
Pyrene-Fused [7]Helicenes Connected via Hexagonal and Heptagonal Rings: Stereospecific Synthesis and Chiroptical Properties
J. Org. Chem. **2022**, *87*, 993–1000.
- [635] A. Maiti, B. J. Elvers, S. Bera, F. Lindl, I. Krummenacher, P. Ghosh, H. Braunschweig, C. B. Yildiz, C. Schulzke, A. Jana
Disclosing Cyclic(Alkyl)(Amino)Carbenes as a One-Electron Reductant: Synthesis of Acyclic(Amino)(Aryl)Carbene-Based Kekulé Diradicaloids
Chem. Eur. J. **2022**, e202104567.
- [634] S. Nees, F. Fantuzzi, T. Wellnitz, M. Fischer, J.-E. Siewert, J. T. Goettel, A. Hofmann, M. Härterich, H. Braunschweig, C. Hering-Junghans
Cyclo-Dipnictadialanes
Angew. Chem. **2021**, *133*, 24520–24528; *Angew. Chem. Int. Ed.* **2021**, *60*, 24318–24325.
- [633] F. Zhang, K. Radacki, H. Braunschweig, C. Lambert, P. Ravat
Zinc-[7]helicenocyanine and Its Discrete π -Stacked Homochiral Dimer
Angew. Chem. **2021**, *133*, 23848–23852; *Angew. Chem. Int. Ed.* **2021**, *60*, 23656–23660.
- [632] J. Cui, M. Dietz, M. Härterich, F. Fantuzzi, W. Lu, R. D. Dewhurst, H. Braunschweig
Diphosphino-Functionalized 1,8-Naphthyridines: a Multifaceted Ligand Platform for Boranes and Diboranes
Chem. Eur. J. **2021**, *27*, 15751–15756.
- [631] F. Schorr, N. Schopper, N. Riensch, F. Fantuzzi, M. Neder, R. Dewhurst, T. Thiess, T. Brückner, K. Hammond, H. Helten, M. Finze, H. Braunschweig
Controlled Synthesis of Oligomers Containing Main-Chain B(sp²)-B(sp²) Bonds
Chem. Eur. J. **2021**, *27*, 16043–16048.
- [630] A. Matler, M. Arrowsmith, F. Schorr, A. Hermann, A. Hofmann, C. Lenczyk, H. Braunschweig
Reactivity of Terminal Iron Borylenes and Bis(borylenes) with Carbodiimides: Cycloaddition, Metathesis, Insertion and C–H Activation Pathways
Eur. J. Inorg. Chem. **2021**, *22*, 4619–4631.

- [629] M. Gerlach, S. Monninger, D. Schleier, P. Hemberger, J. T. Goettel, H. Braunschweig, I. Fischer
Photoelectron Photoion Coincidence Spectroscopy of NCl_3 and NCl_2
ChemPhysChem **2021**, *22*, 2164–2167
- [628] S. M. Berger, J. Rühle, J. Schwarzmann, A. Phillipps, A.-K. Richard, M. Feger, I. Krummenacher, L.-M. Tumor, Ž. Ban, I. Crnolatac, D. Majhen, I. Barišić, I. Piantanida, D. Schleier, S. Griesbeck, A. Friedrich, H. Braunschweig, T. B. Marder
Bithiophene-Cored, *mono*-, *bis*-, and *tris*-(Trimethylammonium)-Substituted, *bis*-Triarylborane Chromophores: Effect of the Number and Position of Charges on Cell Imaging and DNA/RNA Sensing
Chem. Eur. J. **2021**, *27*, 14057–14072.
- [627] W. D. do Pim, I. F. Silva, E. N. da Silva Júnior, H. O. Stumpf, W. X. C. Oliveira, E. F. Pedrosa, C. B. Pinheiro, Y. Journaux, F. Fantuzzi, I. Krummenacher, H. Braunschweig, B. Engels, J. Cano, M. Julve, C. L. M. Pereira
Unexpected formation of a dodecanuclear $\{\text{Co}^{\text{II}}_6\text{Cu}^{\text{II}}_6\}$ nanowheel under ambient conditions: magneto-structural correlations
Dalton Trans. **2021**, *50*, 12430–12434.
- [626] C. Czernetzki, M. Arrowsmith, F. Fantuzzi, A. Gärtner, T. Tröster, I. Krummenacher, F. Schorr, H. Braunschweig
A Neutral Beryllium(I) Radical
Angew. Chem. **2021**, *133*, 20944–20948; *Angew. Chem. Int. Ed.* **2021**, *60*, 20776–20780.
- [625] M. K. Nayak, P. Sarkar, B. J. Elvers, S. Mehta, I. Krummenacher, F. Zhang, T. Vijayakanth, R. S. Narayanan, R. Dolai, B. Roy, V. Malik, H. Rawat, A. Mondal, P. Ravat, R. Boomishankar, S. K. Pati, C. Schulzke, H. Braunschweig, A. Jana
A bis-NHC-CAAC Dimer Derived Dicationic Diradical
submitted.
- [624] R. Drescher, L. Wüst, C. Mihm, I. Krummenacher, A. Hofmann, J. Goettel, H. Braunschweig
Synthesis, structure and insertion reactivity of Lewis acidic 9-aluminafluorenes
Dalton **2021**, *50*, 10400–10404.
- [623] D. Dhara, P. K. Pal, R. Dolai, N. Chrysochos, H. Rawat, B. J. Elvers, I. Krummenacher, H. Braunschweig, C. Schulzke, V. Chandrasekhar, U. D. Priyakumar, A. Jana
Synthesis and reactivity of NHC-coordinated phosphinidene oxide
Chem. Commun. **2021**, *57*, 9546–9549.
- [622] L. Fritze, M. Fest, A. Helbig, T. Bischof, I. Krummenacher, H. Braunschweig, M. Finze, H. Helten
Boron-Doped α -Oligo- and Polyfurans: Highly Luminescent Hybrid Materials, Color-Tunable through the Doping Density
Macromolecules **2021**, *54*, 16, 7653–7665.
- [621] R. Drescher, B. Ritschel, R. D. Dewhurst, A. Deißberger, A. Hofmann, H. Braunschweig,
Synthesis of Novel Six-, Seven- and Eight-Membered Aluminum-Containing Rings by Alumole Ring Expansion
Chem. Commun. **2021**, *57*, 7505–7508.
- [620] C. Brunecker, M. Arrowsmith, F. Fantuzzi, H. Braunschweig,
Platinum-Templated Coupling of B=N Units. Synthesis of BNB Analogues of 1,3-Dienes and a Butatriene
Angew. Chem. **2021**, *133*, 17000–17004; *Angew. Chem. Int. Ed.* **2021**, *60*, 16864–16868.
- [619] J. Ramler, F. Fantuzzi, F. Geist, A. Hanft, H. Braunschweig, B. Engels, C. Lichtenberg,
The Dimethylbismuth Cation: Entry into Dative Bi–Bi Bonding and Unconventional Methyl Exchange
Angew. Chem. **2021**, *133*, 24592–24598; *Angew. Chem. Int. Ed.* **2021**, *60*, 24388–24394.
- [618] X. Jia, J. Nitsch, Z. Wu, A. Friedrich, J. Krebs, I. Krummenacher, F. Fantuzzi, H. Braunschweig, M. Moos, C. Lambert, B. Engels, T. B. Marder,
One- and Two-Electron Reduction of Triarylborane-Based Helical Donor-Acceptor Compounds
Chem. Sci. **2021**, *13*, 11864–11872.

- [617] A. Stoy, M. Arrowsmith, M. Eyßlein, T. Dellermann, J. Mies, K. Radacki, T. Kupfer, H. Braunschweig
NHC-stabilized 1,2-Dihalodiborenes: Synthesis, Characterization and Reactivity Toward Elemental Chalcogens
Inorg. Chem., **2021**, *60*, 12625–12633.
- [616] F. Fantuzzi, Y. Jiao, R. D. Dewhurst, F. Weinhold, H. Braunschweig, B. Engels
Can a Wanzlick-Like Equilibrium Exist Between Dicoordinate Borylenes and Diborenes?
Chem. Sci. **2022**, *13*, 5118–5129.
- [615] L. Englert, U. Schmidt, M. Dömling, M. Passargus, T. E. Stennett, A. Hermann, M. Arrowsmith, M. Härterich, J. Müssig, A. Phillipps, D. Prieschl, A. Rempel, F. Rohm, K. Radacki, F. Schorr, T. Thiess, J. O. C. Jiménez-Halla, H. Braunschweig
Reactions of diborenes with terminal alkynes: mechanisms of ligand-controlled anti-selective hydroalkynylation, cycloaddition and C≡C triple bond scission
Chem. Sci. **2021**, *12*, 9506–9515.
- [614] S. Hagspiel, D. Elezi, M. Arrowsmith, F. Fantuzzi, A. Vargas, A. Rempel, M. Härterich, I. Krummenacher, H. Braunschweig
Reactivity of cyano- and isothiocyanatoborylenes: metal coordination, one-electron oxidation and boron-centred Brønsted basicity
Chem. Sci. **2021**, *12*, 7937–7942.
- [613] S. Hagspiel, F. Fantuzzi, R. D. Dewhurst, A. Gärtner, F. Lindl, A. Lamprecht, H. Braunschweig,
Adducts of the Parent Boraphosphaketene H₂BPCO and their Decarbonylative Insertion Chemistry
Angew. Chem. **2021**, *133*, 13780–13784; *Angew. Chem. Int. Ed.* **2021**, *60*, 13666–13670.
- [612] M. Heß, I. Krummenacher, T. Dellermann, H. Braunschweig
Rhodium-Mediated Stoichiometric Synthesis of Mono-, Bi-, and Bis-1,2-Azaborinines: 1-Rhoda-3,2-azaboroles as Reactive Precursors
Chem. Eur. J. **2021**, *27*, 9503–9507.
- [611] A. Gärtner, M. Marek, M. Arrowsmith, D. Auerhammer, K. Radacki, D. Prieschl, R. D. Dewhurst, H. Braunschweig,
Boron- vs. Nitrogen-Centered Nucleophilic Reactivity of (Cyano)hydroboryl Anions: Synthesis of Cyano(hydro)organoboranes and 2-Aza-1,4diborabutatrienes
Chem. Eur. J. **2021**, *27*, 9694–9699.
- [610] A. Mahata, N. Chrysochos, I. Krummenacher, S. Chandra, H. Braunschweig, C. Schulzke, B. Sarkar, C. B. Yildiz, A. Jana
 α,α' -Diamino-*p*-tetrafluoroquinodimethane: stability of one- and two-electron oxidized species and fixation of molecular oxygen
J. Org. Chem. **2021**, *86*, 10467–10473.
- [609] T. Brückner, F. Fantuzzi, T. E. Stennett, I. Krummenacher, B. Engels, H. Braunschweig,
Isolation of Neutral, Mono- and Dicationic B₂P₂ Rings by Diphosphorus Addition to a Boron–Boron Triple Bond
Angew. Chem. **2021**, *133*, 13774–13779; *Angew. Chem. Int. Ed.* **2021**, *60*, 13661–13665.
- [608] F. Schorr, F. Fantuzzi, R. D. Dewhurst, H. Braunschweig
Dialkynyldiboranes(4) and the selectable reactivity of their C–H, C≡C and B–B bonds
Chem. Commun. **2021**, *57*, 2645–2648.
- [607] F. Lindl, X. Guo, I. Krummenacher, F. Rauch, A. Rempel, V. Paprocki, T. Dellermann, T. E. Stennett, A. Lamprecht, T. Brückner, K. Radacki, G. Bélanger-Chabot, T. B. Marder, Z. Lin, H. Braunschweig
Rethinking Borole Cycloaddition Reactivity
Chem. Eur. J. **2021**, *27*, 11226–11233.
- [606] M. Crumbach, J. Bachmann, L. Fritze, A. Helbig, I. Krummenacher, H. Braunschweig, H. Helten
Dithiophene-Fused Oxadiborepins and Azadiborepins: A New Class of Highly Fluorescent Heteroaromatics
Angew. Chem. **2021**, *133*, 9376–9381 submitted; *Angew. Chem. Int. Ed.* **2021**, *60*, 9290–9295.

- [605] M. Fischer, S. Nees, T. Kupfer, J. T. Goettel, H. Braunschweig, C. Hering-Junghans
Isolable Phospha- and Arsaalumenes
J. Am. Chem. Soc. **2021**, *143*, 4106–4111.
- [604] N. A. Riensch, L. Swoboda, A. Lik, I. Krummenacher, H. Braunschweig, H. Helten
Conjugated Bis(triarylboranes) with Disconnected Conjugation
Z. anorg. allg. Chem. **2021**, *647*, 421–424.
- [603] J. Krebs, M. Haehnel, I. Krummenachera, A. Friedrich, H. Braunschweig, M. Finze, L. Ji, T. B. Marder
Synthesis and Structure of an *o*-Carboranyl-Substituted Three-Coordinate Borane Radical Anion
Chem. Eur. J. **2021**, *27*, 8159–8167.
- [602] A. Maiti, F. Zhang, I. Krummenacher, M. Bhattacharyya, S. Mehta, B. Engels, A. Mondal, H. Braunschweig, P. Ravat, A. Jana
Anionic Boron- and Carbon-Based Hetero-Diradicaloids Spanned by a *p*-Phenylene Bridge
J. Am. Chem. Soc. **2021**, *143*, 3687–3692.
- [601] K. Saha, D. K. Roy, R. D. Dewhurst, S. Ghosh, H. Braunschweig
Recent Advances in the Synthesis and Reactivity of Transition-Metal σ -Borane/-Borate Complexes
Acc. Chem. Res. **2021**, *54*, 1260–1273.
- [600] L. Wu, R. D. Dewhurst, H. Braunschweig, Z. Lin
C-C versus C-H activation: the carbene π -accepting ability controls the intramolecular reactivities of mono(carbene)-stabilized borylenes
Organometallics **2021**, *40*, 766–775.
- [599] S. Hagspiel, M. Arrowsmith, F. Fantuzzi, A. Vargas, A. Rempel, A. Hermann, T. Brückner, H. Braunschweig
Highly Colored Boron-Doped Thiazolothiazoles from the Reductive Dimerization of Boron Isothiocyanates
Angew. Chem. **2021**, *133*, 6519–6524; *Angew. Chem. Int. Ed.* **2021**, *60*, 6446–6450.
- [598] Y. –M. Tian, X.-N. Guo, H. Braunschweig, U. Radius, T. B. Marder
Photoinduced and Photocatalyzed Borylation for the Synthesis of Organoboron Compounds
Chem. Rev. **2021**, *121*, 3561–3597.
- [597] C. Brunecker, M. Arrowsmith, J. H. Müssig, J. Böhnke, A. Stoy, M. Heß, A. Hofmann, C. Lenczyk, C. Lichtenberg, J. Ramler, A. Rempel, H. Braunschweig
Synthesis and characterisation of boranediyl- and diboranediyl-bridged diplatinum A-frame complexes
Dalton **2021**, *50*, 3506–3515.
- [596] R. Rausch, A.-M. Krause, I. Krummenacher, H. Braunschweig, F. Würthner
Nitronyl Nitroxide Bifunctionalized Electron-Poor Chromophores: Synthesis of Stable Dye Biradicals by Lewis Acid Promoted Desilylation
J. Org. Chem. **2021**, *86*, 2447–2457.
- [595] G. K. Kole, J. Merz, A. Amar, B. Fontaine, A. Boucekkine, J. Nitsch, S. Lorenzen, A. Friedrich, I. Krummenacher, M. Koščak, H. Braunschweig, I. Piantanida, J.-F. Halet, K. Müller-Buschbaum, T. B. Marder
2- and 2,7-Substituted *para-N*-Methylpyridinium Pyrenes: Syntheses, Molecular and Electronic Structures, Photophysical, Electrochemical, and Spectroelectrochemical Properties and Binding to Double-Stranded (ds) DNA
Chem. Eur. J. **2021**, *27*, 2837–2853.
- [594] J. He, F. Rauch, I. Krummenacher, H. Braunschweig, M. Finze, T. B. Marder
Two derivatives of phenylpyridyl-fused boroles with contrasting electronic properties: decreasing and enhancing the electron accepting ability
Dalton **2021**, *50*, 353–361.
- [593] M. Rang, F. Fantuzzi, M. Arrowsmith, E. Beck, R. Witte, A. Matler, A. Rempel, T. Bischof, K. Radacki, B. Engels, H. Braunschweig
Reduction and Rearrangement of a Boron(I) Carbonyl Complex
Angew. Chem. **2021**, *133*, 3000–3005; *Angew. Chem. Int. Ed.* **2021**, *60*, 2963–2968.

- [592] J. He, F. Rauch, A. Friedrich, J. Krebs, I. Krummenacher, R. Bertermann, J. Nitsch, H. Braunschweig, M. Finze, T. B. Marder
Phenylpyridyl-Fused Boroles: A Unique Coordination Mode and Weak B–N Coordination-Induced Dual Fluorescence
Angew. Chem. **2021**, *133* 4883–4890, submitted; *Angew. Chem. Int. Ed.* **2021**, *60*, 4833–4840.
- [591] Z.-F. Jiao, Y.-M. Tian, X.-N. Guo, U. Radius, H. Braunschweig, T. B. Marder, X.-Y. Guo
Visible-Light-Driven Borylation of Alkyl Bromides and Chlorides Catalyzed by Graphene-Supported Cu-Pd Alloy Nanoparticles
J. Catal. **2021**, *395*, 258–265.
- [590] T. Brückner, M. Heß, T. E. Stennett, A. Rempel, H. Braunschweig
Synthesis of Boron Analogues of Enamines via Hydroamination of a Boron-Boron Triple Bond
Angew. Chem. **2021**, *133* 747–752; *Angew. Chem. Int. Ed.* **2021**, *60*, 736–741.
- [589] N. A. Riensch, M. Fest, L. Fritze, A. Helbig, I. Krummenacher, H. Braunschweig, H. Helten
Bifuran-bridged bisboranes: highly luminescent B-doped oligoheteroarenes
New. J. Chem. **2021**, *45*, 14920–14924.
- [588] P. Schmid, J. Klopff, N. B. Schröder, H. Braunschweig, V. Engel, R. D. Dewhurst, F. Fantuzzi, B. Engels
Twisting versus delocalization in CAAC- and NHC-stabilized boronbased biradicals: the role of sterics and electronics
Chem. Eur. J. **2021**, *27*, 5160–5170.
- [587] R. Rausch, M. Roehr, D. Schmid, I. Krummenacher, H. Braunschweig, F. Würthner
Tuning phenoxy-substituted diketopyrrolopyrroles from quinoidal to biradical ground states through (hetero-)aromatic linkers
Chem. Sci. **2021**, *12*, 793–802.
- [586] D. K. Roy, T. Tröster, F. Fantuzzi, R. D. Dewhurst, C. Lenczyk, K. Radacki, C. Pranckevicius, B. Engels, H. Braunschweig
Isolation and Reactivity of an Antiaromatic s-Block Metal Compound
Angew. Chem. **2021**, *133*, 3856–3863; *Angew. Chem. Int. Ed.* **2021**, *60*, 3812–3819.
- 2020**
- [585] B. Macha, D. Dhara, K. Radacki, R. D. Dewhurst, H. Braunschweig
Intermetallic transfer of unsymmetrical borylene fragments: isolation of the second early transition-metal terminal borylene complex and other rare species
Dalton **2020**, *49*, 17719–17724.
- [584] R.-S. Sauer, I. Krummenacher, E. E. Bankoglu, S. Yang, B. Oehler, F. Schöppler, M. Mohammadi, P. Güntzel, A. Ben-Kraeim, U. Holzgrabe, H. Stopper, J. A. Broscheit, H. Braunschweig, N. Roewer, A. Brack, H. Rittner
Stabilization of delphinidin in a complex with sulfobutylether- β -cyclodextrin allows for antinociception in inflammatory pain
Antioxidants & Redox Signaling, **2020**, *33*, doi.org/10.1089/ars.2019.7957.
- [583] U. Schmidt, F. Fantuzzi, M. Arrowsmith, A. Hermann, D. Prieschl, A. Rempel, B. Engels, H. Braunschweig
Tunable reduction of cymantrenylboranes to diborenes or borylene-derived boratafulvenes
Chem. Commun. **2020**, *56*, 14809–14812.
- [582] Y.-M. Tian, X.-N. Guo, I. Krummenacher, Z. Wu, J. Nitsch, H. Braunschweig, U. Radius, T. B. Marder
Visible-Light-Induced Ni-Catalyzed Radical Borylation of Chloroarenes
J. Am. Chem. Soc. **2020**, *142*, 18231–18242.
- [581] M. W. Kuntze-Fechner, H. Verplancke, L. Tendera, M. Diefenbach, I. Krummenacher, H. Braunschweig, T. B. Marder, M. C. Holthausen, U. Radius
Coligand role in the NHC nickel catalyzed C–F bond activation: investigations on the insertion of bis(NHC) nickel into the C–F bond of hexafluorobenzene
Chem. Sci. **2020**, *11*, 11009–11023.
- [580] C. Pranckevicius, M. Weber, I. Krummenacher, A. K. Phukan, H. Braunschweig
Phosphinoborylenes as stable sources of fleeting borylenes
Chem. Sci. **2020**, *11*, 11055–11059.

- [579] R.D. Dewhurst, M.-A. Légaré, H. Braunschweig
Towards the catalytic activation of inert small molecules by main-group ambiphiles
Commun Chem. **2020**, *3*, Article number: 131.
- [578] C. Saalfrank, F. Fantuzzi, T. Kupfer, B. Ritschel, K. Hammond, I. Krummenacher, R. Bertermann, R. Wirthensohn, M. Finze, P. Schmid, V. Engel, B. Engels, H. Braunschweig
cAAC-Stabilized 9,10-diboraanthracenes—Acenes with Open-Shell Singlet Biradical Ground States
Angew. Chem. **2020**, *133*, 19502–19507; *Angew. Chem. Int. Ed.* **2020**, *59*, 19338–19343 (VIP).
- [577] A. Rempel, S. K. Møllerup, F. Fantuzzi, A. Herzog, A. Deißberger, R. Bertermann, B. Engels, H. Braunschweig
Functionalization of N₂ via Formal 1,3-Haloboration of a Tungsten(0) σ -Dinitrogen Complex
Chem. Eur. J. **2020**, *26*, 16019–16027.
- [576] Y.-M. Tian, X.-N. Guo, Z. Wu, A. Friedrich, S. A. Westcott, H. Braunschweig, U. Radius, T. B. Marder
Ni-Catalyzed Traceless, Directed C3-Selective C–H Borylation of Indoles
J. Am. Chem. Soc. **2020**, *142*, 13136–13144.
- [575] S. Nees, T. Kupfer, A. Hofmann, H. Braunschweig
Planar Cyclopenten-4-yl Cations: Highly Delocalized π Aromatics Stabilized by Hyperconjugation
Angew. Chem. **2020**, *133*, 18971–18978; *Angew. Chem. Int. Ed.* **2020**, *59*, 18809–18815.
- [574] F. Rauch, J. Krebs, J. Günther, A. Friedrich, M. Hähnel, I. Krummenacher, H. Braunschweig, M. Finze, T. B. Marder
Electronically Driven Regioselective Iridium-Catalyzed C–H Borylation of Donor- π -Acceptor Chromophores Containing Triarylboron Acceptors
Chem. Eur. J. **2020**, *26*, 10626–10633.
- [573] S. Liu, M.-A. Légaré, T. Dellermann, A. Hofmann, H. Braunschweig
Transition-metal-carbene-like intermolecular insertion of a borylene into C–H bonds
Chem. Commun. **2020**, *56*, 7277–7280.
- [572] F. Rauch, P. Endres, A. Friedrich, D. Sieh, M. Hähnel, I. Krummenacher, H. Braunschweig, M. Finze, L. Ji, T. B. Marder
An Iterative Divergent Approach to Conjugated Starburst Borane Dendrimers
Chem. Eur. J. **2020**, *26*, 12951–12963.
- [571] M. Heß, T. E. Stennett, R. Bertermann, M. Schock, M. Schäfer, T. Thiess, H. Braunschweig
Diverse ring-opening reactions of rhodium η^4 -azaborete complexes
Chem. Sci. **2020**, *11*, 9134–9140.
- [570] D. Prieschl, M. Arrowsmith, M. Dietz, A. Rempel, M. Müller, H. Braunschweig
Synthesis of polyheterocyclic 1,1-diboryltriazenes by γ -nitrogen insertion of azides into activated B–B single bonds
Chem. Commun. **2020**, *56*, 5681–5684.
- [569] Z.-F. Jiao, Y.-M. Tian, B. Zhang, C.-H. Hao, Y. Qiao, Y.-X. Wang, Y. Qin, U. Radius, H. Braunschweig, T. B. Marder, X.-N. Guo, X.-Y. Guo
High photocatalytic activity of a NiO nanodot-decorated Pd/SiC catalyst for the Suzuki-Miyaura cross-coupling of aryl bromides and chlorides in air under visible light
J. Catal. **2020**, 517–524.
- [568] J. Merz, L. Dietrich, J. Nitsch, I. Krummenacher, H. Braunschweig, M. Moos, D. Mims, C. Lambert, T. B. Marder
Synthesis, Photophysical and Electronic Properties of Mono-, Di-, and Tri-Amino-Substituted Ortho-Perylenes, and Comparison to the Tetra-Substituted Derivative
Chem. Eur. J. **2020**, *26*, 12050–12059.
- [567] A. Narsaria, F. Rauch, J. Krebs, P. Endres, A. Friedrich, I. Krummenacher, H. Braunschweig, M. Finze, J. Nitsch, F. M. Bickelhaupt, T. B. Marder
Computationally Guided Molecular Design to Minimize the LE/CT Gap in D- π -A Fluorinated Triarylboranes for Efficient TADF via D and π -Bridge Tuning
Adv. Funct. Mater. **2020**, *30*, 2002064.

- [566] R. Drescher, S. Lin, A. Hofmann, C. Lenczyk, S. Kachel, I. Krummenacher, Z. Lin, H. Braunschweig
Ring expansion of alumoles with organic azides: selective formation of six-membered aluminum-nitrogen heterocycles
Chem. Sci. **2020**, *11*, 5559–5564
- [565] C. Brunecker, J. H. Müssig, M. Arrowsmith, F. Fantuzzi, A. Stoy, J. Böhnke, A. Hofmann, B. Engels, H. Braunschweig
Borandiyl- and Diboran(4)-1,2-diyl-bridged Platinum A-Frame Complexes
Chem. Eur. J. **2020**, *26*, 8518–8523.
- [564] S. Liu, M.-A. Légaré, J. Seufert, D. Prieschl, A. Rempel, L. Englert, T. Dellermann, V. Paprocki, A. Stoy, H. Braunschweig
2,2'-Bipyridyl as a Redox-Active Borylene Abstraction Agent
Inorg. Chem., **2020**, *59*, 10866–10873.
- [563] T. Thiess, G. Bélanger-Chabot, F. Fantuzzi, M. Michel, M. Ernst, B. Engels, H. Braunschweig
Diborane(4) Azides: Surprisingly Stable Sources of Transient Iminoboranes
Angew. Chem. **2020**, *133*, 15608–15614; *Angew. Chem. Int. Ed.* **2020**, *59*, 15480–15486.
- [562] A. Hermann, M. Arrowsmith, D. E. Trujillo-Gonzalez, J. O. C. Jiménez-Halla, A. Vargas H. Braunschweig
Trapping of a Borirane Intermediate in the Reductive Coupling of an Arylborane to a Diborene
J. Am. Chem. Soc. **2020**, *142*, 5562–5567.
- [561] I. Krummenacher, J. K. Schuster, H. Braunschweig
Synthesis and Reactivity of Bora- and Boratabenzenes
in Patai's Chemistry of Functional Groups (Eds. Ilan Marek and Mark Gandelman)
2019, DOI:10.1002/9780470682531.PAT0969.
- [560] W. C. Ewing, T. Dellermann, Y. T. A. Wong, J. D. Mattock, A. Vargas, D. L. Bryce, R. D. Dewhurst, H. Braunschweig
 π -Complexes of Diborynes with Main Group Atoms
Chem. Asian J. **2020**, *15*, 1553–1557
- [559] M.-A. Légaré, G. Bélanger-Chabot, M. Rang, R. D. Dewhurst, I. Krummenacher, R. Bertermann, H. Braunschweig
One-pot, room-temperature conversion of dinitrogen to ammonium chloride at a main-group element
Nature Chem. **2020**, *12*, 1076–1080.
- [558] A. Hermann, T. Zorn, M. Arrowsmith, F. Fantuzzi, B. Ritschel, B. Engels, I. Krummenacher, K. Radacki, H. Braunschweig
Oxidation, Coordination and Nickel-Mediated Deconstruction of a Highly Electron-Rich Diboron Analogue of 1,3,5-Hexatriene
Angew. Chem. **2020**, *133*, 15847–15855; *Angew. Chem. Int. Ed.* **2020**, *59*, 15717–15725.
- [557] S. Hagspiel, M. Arrowsmith, F. Fantuzzi, A. Hermann, V. Paprocki, R. Drescher, I. Krummenacher, H. Braunschweig
Reduction of a dihydroboryl cation to a boryl anion and its air-stable, neutral hydroboryl radical through hydrogen shuttling
Chem. Sci. **2020**, *11*, 551–555.
- [556] F. Rauch, S. Fuchs, A. Friedrich, D. Sieh, I. Krummenacher, H. Braunschweig, M. Finze, T. B. Marder
Highly Stable, Readily Reducible, Fluorescent, Trifluoromethylated 9-Borafluorenes
Chem. Eur. J. **2020**, *26*, 12794–12808.
- [555] T. Thiess, M. Ernst, T. Kupfer, H. Braunschweig
Facile Access to Substituted 1,4-Diaza-2,3-Diborinines
Chem. Eur. J. **2020**, *26*, 2967–2972.
- [554] D. Prieschl, G. Bélanger-Chabot, X. Guo, M. Dietz, M. Müller, I. Krummenacher, Z. Lin, H. Braunschweig
Synthesis of Complex Boron-Nitrogen Heterocycles Comprising Borylated Triazines and Tetrazines Under Mild Conditions
J. Am. Chem. Soc. **2020**, *142*, 1065–1076.

- [553] G. Horrer, M. J. Krahfuß, K. Lubitz, I. Krummenacher, H. Braunschweig, U. Radius, N-Heterocyclic Carbene and Cyclic (Alkyl)(amino)carbene Complexes of Titanium(IV) and Titanium(III)
Eur. J. Inorg. Chem. **2020**, *21*, 281-291.
- [552] J. H. Muessig, P. Lisinetskaya, R. D. Dewhurst, R. Bertermann, M. Thaler, R. Mitrić, H. Braunschweig
Tetraiododiborane(4) (B₂I₄) is a Polymer Based on sp^{dihydroboryl} Boron in the Solid State
Angew. Chem. **2020**, *132*, 5574–5579; *Angew. Chem. Int. Ed.* **2020**, *59*, 5531–5535.
- [551] T. E. Stennett, A. Jayaraman, T. Brückner, L. Schneider, H. Braunschweig
Hydrophosphination of boron-boron multiple bonds
Chem. Sci. **2020**, *11*, 1335–1341.
- [550] J. T. Goettel, H. Gao, S. Dotzauer, H. Braunschweig
^{Me}CAAC=N⁻: A Cyclic (Alkyl)(Amino)Carbene Imino Ligand
Chem. Eur. J. **2020**, *26*, 1136–1143.
- [549] J. Merz; M. Dietz; Y. Vonhausen; F. Wöber; A. Friedrich; D. Sieh; I. Krummenacher; H. Braunschweig; M. Moos; M. Holzapfel; C. Lambert; T. B. Marder,
Synthesis, Photophysical and Electronic Properties of New Red to NIR Emitting Donor-Acceptor Pyrene Derivatives
Chem. Eur. J. **2020**, *26*, 438–453.
- [548] U. Schmidt, L. Werner, M. Arrowsmith, A. Deissenberger, A. Hermann, A. Hofmann, S. Ullrich, J. D. Mattock, A. Vargas, H. Braunschweig
Trans-Selective Insertional Dihydroboration of a *cis*-Diborene: Synthesis of Linear sp³-sp²-sp³-Triboranes and Subsequent Cationization
Angew. Chem. **2020**, *132*, 333–337; *Angew. Chem. Int. Ed.* **2020**, *59*, 325–329.
- [547] Z. Huang, S. Wang, R. D. Dewhurst, N. V. Ignat'ev, M. Finze, Braunschweig
Boron: Its role in energy related research and applications
Angew. Chem. **2020**, *131*, 8882–8900; *Angew. Chem. Int. Ed.* **2020**, *59*, 8800–8816
- [546] V. Paprocki, P. Hrobárik, K. L. M. Harriman, M. S. Luff, T. Kupfer, M. Kaupp, M. Murugesu, H. Braunschweig
Stable Actinide π Complexes of a Neutral 1,4-Diborabenzene
Angew. Chem. **2020**, *131*, 13209–13216; *Angew. Chem. Int. Ed.* **2020**, *59*, 13109–13115.
- [545] M. Rang, H. Braunschweig
Die Verkettung zweier Stickstoffmoleküle
Chem. Unserer Zeit, **2020**, *54*, 8–9.
- 2019**
- [544] T. Ribbeck, C. Kerpen, C. Schmidle, F. Keppner, J. A. P. Sprenger, M. Arrowsmith, H. Braunschweig, N. V. Ignat'ev, M. Finze
The Hydroxytricyanoborate Anion: Synthetic Aspects and Structural, Chemical, and Spectroscopic Properties
Inorg. Chem., **2019**, *58*, 16689-16702.
- [543] C. Lenczyk, D. K. Roy, K. Oberdorf, J. Nitsch, R. D. Dewhurst, K. Radacki, J.-F. Halet, T. B. Marder, F. M. Bickelhaupt, H. Braunschweig
Toward Transition-Metal-Templated Construction of Arylated B₄ Chains by Dihydroborane Dehydrocoupling
Chem. Eur. J. **2019**, *25*, 16544–16549.
- [542] S. K. Mellerup, Y. Cui, F. Fantuzzi, P. Schmid, J. T. Goettel, G. Bélanger-Chabot, M. Arrowsmith, I. Krummenacher, Q. Ye, V. Engel, B. Engels, H. Braunschweig
Lewis-Base Stabilization of the Parent Al(I) Hydride under Ambient Conditions
J. Am. Chem. Soc. **2019**, *141*, 16954–16960.
- [541] T. Brückner, T. E. Stennett, M. Heß, H. Braunschweig
Single and Double Hydroboration of B-B Triple Bonds and Convergent Routes to a Cationic Tetraborane
J. Am. Chem. Soc. **2019**, *141*, 14898–14903.
- [540] T. Thiess, S. K. Mellerup, A. Schulz, H. Braunschweig
B–B Cleavage and Ring-Expansion of a 1,4,2,3-Diazadiborinine with N-Heterocyclic Carbenes
Chem. Eur. J. **2019**, *25*, 13572–13578.

- [539] J. He, F. Rauch, A. Friedrich, D. Sieh, T. Ribbeck, I. Krummenacher, H. Braunschweig, M. Finze, T. B. Marder
N-Heterocyclic Olefins as Electron Donors in Combination with Triarylborane Acceptors: Synthesis, Optical and Electronic Properties of D- π -A Compounds
Chem. Eur. J. **2019**, *25*, 13777–13784.
- [538] C. Lenczyk, D. K. Roy, J. Nitsch, K. Radacki, F. Rauch, R. D. Dewhurst, F. M. Bickelhaupt, T. B. Marder, H. Braunschweig
Steric Effects Dictate the Formation of Terminal Arylborylene Complexes of Ruthenium from Dihydroboranes
Chem. Eur. J. **2019**, *25*, 13566–13571.
- [537] Y. Hattori; E. Michail; A. Schmiedel; M. Moos; M. Holzapfel; I. Krummenacher; H. Braunschweig; U. Müller; J. Pflaum; C. Lambert
Luminescent Mono-, Di-, and Triradicals: Bidding Polychlorinated Triarylmethyl Radicals by Triarylamines and Triarylboranes
Chem. Eur. J. **2019**, *25*, 15463–15471.
- [536] D. Prieschl, M. Dietz, J. H. Muessig, K. Wagner, I. Krummenacher, H. Braunschweig
Pseudodiborenes: hydride-bridged diboranes(5) as two-electron reductants of chalcogens
Chem. Commun. **2019**, *55*, 9781–9784.
- [535] C. Prankevicius, C. Herok, F. Fantuzzi, B. Engels, H. Braunschweig
Bond-Strengthening Backdonation in Aminoborylene-Stabilized-Aminoborylenes: At the Intersection of Borylenes and Diborenes
Angew. Chem. **2019**, *131*, 13025–13029; *Angew. Chem. Int. Ed.* **2019**, *58*, 12893–12897.
- [534] G. Bélanger-Chabot, H. Braunschweig
Hexahalodiborate Dianions: A New Family of Binary Boron Halides
Angew. Chem. **2019**, *131*, 14408–14412(VIP); *Angew. Chem. Int. Ed.* **2019**, *58*, 14270–14274 (VIP).
- [533] J. Merz, A. Steffen, J. Nitsch, J. Fink, C. B. Schürger, A. Friedrich, I. Krummenacher, H. Braunschweig, M. Moos, D. Mims, C. Lambert, T. B. Marder
Synthesis, photophysical and electronic properties of tetra- donor- or acceptor-substituted ortho-perylenes displaying four reversible oxidations or reductions
Chem. Sci. **2019**, *10*, 7516–7534.
- [532] A. Schumann, F. Reiß, H. Jiao, J. Rabeah, J.-E. Siewert, I. Krummenacher, H. Braunschweig, C. Hering-Junghans
A selective route to aryl-triphosphiranes and their titanocene-induced fragmentation
Chem. Sci. **2019**, *10*, 7859–7867.
- [531] L. Ji, S. Hahn, P. Biegger, H. Reiss, J. Han, A. Friedrich, I. Krummenacher, H. Braunschweig, M. Moos, J. Freudenberg, C. Lambert, A. Dreuw, T. B. Marder, U. H. F. Bunz
Mono- and Dianion of a Bis(benzobuta)tetraazapentacene Derivative
Chem. Eur. J. **2019**, *25*, 9840–9845.
- [530] A. J. Martínez-Martínez, A. R. Kennedy, V. Paprocki, F. Fantuzzi, R. D. Dewhurst, C. T. O'Hara, H. Braunschweig, R. E. Mulvey
Selective mono- and dimetallation of a group 3 sandwich complex
Chem. Commun. **2019**, *55*, 9677–9680.
- [529] T. Brückner, M. Arrowsmith, M. Heß, K. Hammond, M. Müller, H. Braunschweig
Synthesis of fused B,N-heterocycles by alkyne cleavage, NHC ring-expansion and C-H activation at a diboryne
Chem. Commun. **2019**, *55*, 6700–6703.
- [528] L. Englert, A. Stoy, M. Arrowsmith, J. H. Muessig, M. Thaler, A. Deißberger, A. Häfner, J. Böhnke, F. Hupp, J. Seufert, J. Mies, A. Damme, T. Dellermann, K. Hammond, T. Kupfer, K. Radacki, T. Thiess H. Braunschweig
Stable Lewis Base Adducts of Tetrahalodiboranes: Synthetic Methods and Structural Diversity
Chem. Eur. J. **2019**, *25*, 8612–8622.
- [527] C. Lenczyk, D. K. Roy, B. Ghosh, J. Schwarzmann, A. K. Phukan H. Braunschweig
First Bis(σ)-borane Complexes of Group 6 Transition Metals: Experimental and Theoretical Studies
Chem. Eur. J. **2019**, *25*, 8585–8589.

- [526] M. Dömling, M. Arrowsmith, U. Schmidt, L. Werner, A. C. Castro, J. O. C. Jiménez-Halla, J. Müssig, D. Prieschl, H. Braunschweig
Spontaneous *trans*-Selective Transfer Hydrogenation of Apolar Boron–Boron Double Bonds
Angew. Chem. **2019**, *131*, 9884–9889; *Angew. Chem. Int. Ed.* **2019**, *58*, 9782–9786.
- [525] S. Y. Ketkov, S. Y. Tzeng, E. A. Rychagova, L. V. Kalakutskaya, M. Fuss, H. Braunschweig, W.-B. Tzeng
Rydberg state mediated multiphoton ionization of $(\eta^7\text{-C}_7\text{H}_7)(\eta^5\text{-C}_5\text{H}_5)\text{Cr}$: DFT-supported experimental insights into molecular and electronic structures of excited sandwich complexes,
Phys. Chem. Chem. Phys., **2019**, *21*, 9665–9671.
- [524] A. Hofmann, M.-A. Légaré, L. Wüst, H. Braunschweig
Heterodiatomic Multiple Bonding in Group 13: A Complex with a B–Al π Bond Reduces CO₂
Angew. Chem. **2019**, *131*, 9878–9883; *Angew. Chem. Int. Ed.* **2019**, *58*, 9776–9781.
- [523] M. Arrowsmith, J. I. Schweizer, M. Heinz, M. Härterich, I. Krummenacher, M. C. Holthausen, H. Braunschweig
Synthesis and reduction chemistry of mixed-Lewis-base-stabilized chloroborylenes
Chem. Sci. **2019**, *10*, 5095–5103.
- [522] S. Liu, M.-A. Légaré, A. Hofmann, A. Rempel, S. Hagspiel, H. Braunschweig
Synthesis of unsymmetrical B₂E₂ and B₂E₃ heterocycles by borylene insertion into boradichalcogeniranes
Chem. Sci. **2019**, *10*, 4662–4666.
- [521] J. H. Muessig, T. E. Stennett, U. Schmidt, R. D. Dewhurst, L. Mailänder, H. Braunschweig
Oxidative Addition of Arsenic Halides to Platinum(0)
Dalton **2019**, *48*, 3547–3550.
- [520] J. H. Muessig, M. Thaler, R. D. Dewhurst, V. Paprocki, J. Seufert, J. D. Mattock, A. Vargas, H. Braunschweig
Phosphine-Stabilized Diiododiborenes: Isolable Diborenes with Six Labile Bonds
Angew. Chem. **2019**, *131*, 4451–4456; *Angew. Chem. Int. Ed.* **2019**, *58*, 4405–4409.
- [519] T. E. Stennett, P. Bissinger, S. Griesbeck, S. Ullrich, I. Krummenacher, M. Auth, A. Sperlich, M. Stolte, K. Radacki, C.-J. Yao, F. Würthner, A. Steffen, T. B. Marder, H. Braunschweig
Near-Infrared Quadrupolar Chromophores Combining Three-Coordinate Boron-Based superdonor and -acceptor units
Angew. Chem. **2019**, *131*, 6516–6521; *Angew. Chem. Int. Ed.* **2019**, *58*, 6449–6454.
- [518] T. Brückner, R. D. Dewhurst, T. Dellermann, M. Müller, H. Braunschweig
Mild synthesis of diboryldiborenes by diboration of B–B triple bonds
Chem. Sci. **2019**, *10*, 7375–7378.
- [517] A. Hofmann, C. Prankevicius, T. Tröster, H. Braunschweig
Aluminum(I)/Boron(III) Redox Reactions
Angew. Chem. **2019**, *131*, 3664–3668; *Angew. Chem. Int. Ed.* **2019**, *58*, 3625–3629.
- [516] A. Deissenberger, E. Welz, R. Drescher, I. Krummenacher, R. D. Dewhurst, B. Engels, H. Braunschweig
A New Class of Neutral Boron-Based Diradicals Spanned by a Two-Carbon Bridge
Angew. Chem. **2019**, *131*, 1857–1861; *Angew. Chem. Int. Ed.* **2019**, *58*, 1842–1846.
- [515] A. Hofmann, T. Tröster, T. Kupfer, H. Braunschweig
Monomeric Cp^{3t}Al(I): Synthesis, reactivity, and the concept of valence isomerism
Chem. Sci. **2019**, *10*, 3421–3428.
- [514] J. K. Schuster, D. K. Roy, C. Lenczyk, J. Mies, H. Braunschweig
New Outcomes of Beryllium Chemistry: Lewis Base Adducts for Salt Elimination Reactions
Inorg. Chem., **2019**, *58*, 2652–2658.
- [513] M.-A. Légaré, M. Rang, G. Bélanger-Chabot, J. I. Schweizer, I. Krummenacher, M. Arrowsmith, M. C. Holthausen, H. Braunschweig
The Reductive Coupling of Dinitrogen
Science **2019**, *363*, 1329–1332.
- [512] M. Meier, L. Ji, J. Nitsch, I. Krummenacher, A. Deissenberger, D. Auerhammer, M. Schäfer, T. B. Marder, H. Braunschweig
Preparation and Characterization of a π -Conjugated Donor-Acceptor System Containing the Strongly Electron-Accepting Tetraphenylborolyl Unit
Chem. Eur. J. **2019**, *25*, 4707–4712.

- [511] J. T. Goettel, H. Braunschweig
Recent Advances in Boron-Centered Ligands and Their Transition Metal Complexes
Coord. Chem. Rev. **2019**, *380*, 184–200.
- [510] F. Lindl, S. Lin, I. Krummenacher, C. Lenczyk, A. Stoy, M. Müller, Z. Lin, H. Braunschweig
1,2,3-Diazaborinine: A BN Analogue of Pyridine Obtained by Ring Expansion of a Borole with an Organic Azide
Angew. Chem. **2019**, *131*, 344–348; *Angew. Chem. Int. Ed.* **2019**, *58*, 338–342.
- [509] M.-A. Légaré, C. Pranckevicius, H. Braunschweig
The Metallomimetic Chemistry of Boron
Chem. Rev. **2019**, *119*, 8231–8261.
- [508] Q. Zhao, R. D. Dewhurst, H. Braunschweig, X. Chen
A New Perspective on Borane Chemistry: the Nucleophilicity of the Bonding Pair Electrons of the B-H Bond
Angew. Chem. **2019**, *130*, 3302–3313; *Angew. Chem. Int. Ed.* **2019**, *57*, 3268–3278.
- 2018**
- [507] Y.-M. Tian, X.-N. Guo, M. Kuntze-Fechner, I. Krummenacher, H. Braunschweig, U. Radius, A. Steffen, T. B. Marder
Selective Photocatalytic C-F Borylation of Polyfluoroarenes by Rh/Ni Dual Catalysis Providing Valuable Fluorinated Arylboronate Esters
J. Am. Chem. Soc. **2018**, *140*, 17612–17623.
- [506] M. Arrowsmith, J. D. Mattock, I. Krummenacher, A. Vargas, H. Braunschweig
Facile Synthesis of a Stable Dihydroborate Anion
Angew. Chem. **2018**, *130*, 15493–15497 (VIP); *Angew. Chem. Int. Ed.* **2018**, *57*, 15272–15275 (VIP).
- [505] T. E. Stennett, R. Bertermann, H. Braunschweig
Construction of Linear and Branched Tetraboranes via 1,1- and 1,2-Diboration of Diborenes
Angew. Chem. **2018**, *130*, 16123–16128; *Angew. Chem. Int. Ed.* **2018**, *57*, 15896–15901.
- [504] T. E. Stennett, J. D. Mattock, L. Pentecost, A. Vargas, H. Braunschweig
Chelated Diborenes and their Inverse-Electron-Demand Diels-Alder Reactions with Dienes
Angew. Chem. **2018**, *130*, 15493–15497 (VIP); *Angew. Chem. Int. Ed.* **2018**, *57*, 15276–15281 (VIP).
- [503] J. H. Muessig, D. Prieschl, A. Deißberger, R. D. Dewhurst, M. Dietz, J. O. C. Jiménez-Halla, A. Trumpp, S. R. Wang, C. Brunecker, A. Haefner, A. Gärtner, T. Thiess, J. Böhnke, K. Radacki, R. Bertermann, T. B. Marder, H. Braunschweig
Reactivity of Tetrahalo- and Difluorodiboranes(4) toward Lewis-Basic Platinum(0): Bis(boryl), Borylborate and Doubly Boryl-Bridged Platinum Complexes
J. Am. Chem. Soc. **2018**, *140*, 13056–13063.
- [502] S. Liu, M. Légaré, A. Hofmann, H. Braunschweig
A Boradiselenirane and a Boraditellurirane: Isolable Heavy Analogs of Dioxiranes and Dithiiranes
J. Am. Chem. Soc. **2018**, *140*, 11223–11226.
- [501] E. Welz, J. Böhnke, R. D. Dewhurst, H. Braunschweig, B. Engels
Unravelling the Dramatic Electrostructural Differences Between N-Heterocyclic Carbene- and Cyclic (Alkyl)(amino)carbene -Stabilized Low-Valent Main Group Species
J. Am. Chem. Soc. **2018**, *140*, 12580–12591.
- [500] H. Kelch, S. Kachel, J. Wahler, M. A. Celik, A. Stoy, I. Krummenacher, T. Kramer, K. Radacki, H. Braunschweig
Borabicyclo[3.2.0]heptadiene: A Fused Bicyclic Isomer of Borepin
Chem. Eur. J. **2018**, *24*, 15387–15391.
- [499] J. Böhnke, M. Arrowsmith, H. Braunschweig
Reactivity Enhancement of a Zerovalent Diboron Compound by Desymmetrization
J. Am. Chem. Soc. **2018**, *140*, 10368–10373.
- [498] L. Winner, G. Bélanger-Chabot, M. A. Celik, M. Schäfer, H. Braunschweig
Intriguing migrations in transient iminoborane adducts: two new pathways to aminoboranes
Chem. Commun. **2018**, *54*, 9349–9351.

- [497] L. Winner, W. C. Ewing, K. Geetharani, T. Dellermann, B. Jouppi, T. Kupfer, M. Schäfer, H. Braunschweig
Spontaneous Metal-Free Transfer Hydrogenation of Iminoborane with Ammonia Borane and Amine Boranes
Angew. Chem. **2018**, *130*, 12455–12459; *Angew. Chem. Int. Ed.* **2018**, *57*, 12275–12279.
- [496] C. Pranckevicius, J. O. C. Jimenez-Halla, M. Kirsch, I. Krummenacher, H. Braunschweig
Complexation and Release of N-Heterocyclic Carbene-Aminoborylene Ligands from Group VI and VIII Metals
J. Am. Chem. Soc. **2018**, *140*, 10524–10529.
- [495] H. Reiss, L. Ji, J. Han, S. Koser, O. Tverskoy, I. Bravić, F. Rominger, J. Freudenberg, M. Moos, A. Friedrich, I. Krummenacher, C. Lambert, H. Braunschweig, F. Hinkel, A. Dreuw, T. B. Marder, U. H. F. Bunz
Bromination Improves the Electron Mobility of Tetraazapentacene
Angew. Chem. **2018**, *130*, 9688–9692; *Angew. Chem. Int. Ed.* **2018**, *57*, 9543–9547.
- [494] A. Hermann, J. Cid, J. D. Mattock, R. D. Dewhurst, I. Krummenacher, A. Vargas, M. J. Ingleson, H. Braunschweig
Diboryldiborenes: π -Conjugated B₄ Chains Isoelectronic to the Butadiene Dication
Angew. Chem. **2018**, *130*, 10248–10252; *Angew. Chem. Int. Ed.* **2018**, *57*, 10091–10095.
- [493] J. Cid, A. Hermann, J. E. Radcliffe, L. D. Curless, H. Braunschweig, M. J. Ingleson
Synthesis of Unsymmetrical Diboron(5) Compounds and Their Conversion to Diboron(5) Cations
Organometallics **2018**, *37*, 1992–1998.
- [492] D. K. Roy, I. Krummenacher, T. Stennett, C. Lenczyk, T. Thiess, H. Braunschweig
Selective one- and two-electron reductions of a haloborane enabled by a π -withdrawing carbene ligand
Chem. Commun. **2018**, *54*, 9015–9018.
- [491] K. Meyer, H. Braunschweig
Organometallic Chemistry in Europe
Organometallics **2018**, *37*, 625–627.
- [490] A. Hofmann, A. Lamprecht, J. O. C. Jiménez-Halla, T. Tröster, R. D. Dewhurst, C. Lenczyk, H. Braunschweig
Lewis-Base-Induced Disproportionation of a Dialane
Chem. Eur. J. **2018**, *24*, 11795–11802.
- [489] J. Seufert, E. Welz, I. Krummenacher, V. Paprocki, J. Böhnke, S. Hagspiel, R. D. Dewhurst, R. Tacke, B. Engels, H. Braunschweig
Isolation and Characterization of Crystalline, Neutral Diborane(4) Radicals
Angew. Chem. **2018**, *130*, 10912–10915; *Angew. Chem. Int. Ed.* **2018**, *57*, 10752–10755.
- [488] J. K. Schuster, J. H. Muessig, R. D. Dewhurst, H. Braunschweig
Reactions of Digallanes with p- and d-Block Lewis Bases: Adducts, Bis(gallyl) Complexes and Naked Ga⁺ as Ligand
Chem. Eur. J. **2018**, *24*, 9692–9697.
- [487] L. Winner, A. Hermann, G. Bélanger-Chabot, O.F. González-Belman, J. O. C. Jiménez-Halla, H. Braunschweig
Cleavage of BN triple bonds by main group reagents
Chem. Commun. **2018**, *54*, 8210–8213.
- [486] J. Böhnke, T. Brückner, A. Hermann, O. F. González-Belman, M. Arrowsmith, J. O. C. Jiménez-Halla, H. Braunschweig
Single and double activation of acetone by isolobal B \equiv N and B \equiv B triple bonds
Chem. Sci. **2018**, *9*, 5354–5359.
- [485] Z. Wang, Y. Zhou, J. Zhang, I. Krummenacher, H. Braunschweig, Z. Lin
DFT Studies on the Reactions of Boroles with Alkynes
Chem. Eur. J. **2018**, *24*, 9612–9621.
- [484] M. Arrowsmith, J. D. Mattock, J. Böhnke, I. Krummenacher, A. Vargas, H. Braunschweig
Direct access to a cAAC-supported dihydrodiborene and its dianion
Chem. Commun. **2018**, *54*, 4669–4672.
- [483] A. Stoy, J. Böhnke, J. O. C. Jiménez-Halla, R. D. Dewhurst, T. Thiess, H. Braunschweig
CO₂ Binding and Splitting by Boron–Boron Multiple Bonds
Angew. Chem. **2018**, *130*, 6055–6059; *Angew. Chem. Int. Ed.* **2018**, *57*, 5947–5951.

- [482] M. Nutz, B. Borthakur, C. Pranckevicius, R. D. Dewhurst, M. Schäfer, T. Dellermann, F. Glaab, M. Thaler, A. K. Phukan, H. Braunschweig
Release of Isonitrile- and NHC-Stabilized Borylenes from Group VI Terminal Borylene Complexes
Chem. Eur. J. **2018**, *24*, 6843–6847.
- [481] S. R. Wang, D. Prieschl, J. D. Mattock, M. Arrowsmith, C. Pranckevicius, T. E. Stennett, R. D. Dewhurst, A. Vargas, H. Braunschweig
Bottleable Neutral Analogues of $[B_2H_5]^-$ as Versatile and Strongly Binding η^2 Donor Ligands
Angew. Chem. **2018**, *130*, 6456–6460; *Angew. Chem. Int. Ed.* **2018**, *57*, 6347–6351.
- [480] T. E. Stennett, J. D. Mattock, I. Vollert, A. Vargas, H. Braunschweig
Unsymmetrical, Cyclic Diborenes and Thermal Rearrangement to a Borylborylene
Angew. Chem. **2018**, *130*, 4162–4167; *Angew. Chem. Int. Ed.* **2018**, *57*, 4098–4102.
- [479] L. Ji, I. Krummenacher, A. Friedrich, A. Lorbach, M. Haehnel, K. Edkins, H. Braunschweig, T. B. Marder
Synthesis, Photophysical, and Electrochemical Properties of Pyrenes Substituted with Donors or Acceptors at the 4- or 4,9-Positions
J. Org. Chem. **2018**, *83*, 3599–3606.
- [478] H. Braunschweig, R. D. Dewhurst, O. F. González-Belman, A. Hofmann, J. O. C. Jimenez-Halla, S. Kachel, A. Lamprecht
Dialumination of unsaturated species with a reactive bis(cyclopentadienyl) dialane
Chem. Commun. **2018**, *54*, 1639–1642.
- [477] J. Böhnke, H. Braunschweig, J. O. C. Jiménez-Halla, I. Krummenacher, T. E. Stennett
Half-Sandwich Complexes of an Extremely Electron-Donating, Redox-Active η^6 -Diborabenzene Ligand
J. Am. Chem. Soc. **2018**, *140*, 848–853.
- [476] C. Leroy, J. K. Schuster, T. Schaefer, K. Müller-Buschbaum, H. Braunschweig, D. L. Bryce
Linear dicoordinate beryllium: a 9Be solid-state NMR study of a discrete zero-valent s-block beryllium complex
Can. J. Chem. **2018**, *96* 646–652.
- [475] D. Auerhammer, M. Arrowsmith, J. Böhnke, H. Braunschweig, R. D. Dewhurst, T. Kupfer
Closely related yet different: a borylene and its dimer are non-interconvertible but connected through reactivity
Chem. Sci. **2018**, *9*, 2252–2260.
- [474] R. Rausch, D. Schmidt, D. Bialas, I. Krummenacher, H. Braunschweig, F. Würthner
Stable Organic (Bi)Radicals by Delocalization of Spin Density into the Electron-Poor Chromophore Core of Isoindigo
Chem. Eur. J. **2018**, *24*, 3420–3424.
- [473] H. Braunschweig, A. Damme, K. Dück, I. Krummenacher, V. Paprocki, K. Radacki, J. Ramler, C. Schneider
Boryl- and Silyl-Substituted Mixed Sandwich Compounds of Scandium
Chem. Eur. J. **2018**, *24*, 2403–2409.
- [472] M.-A. Légaré, G. Bélanger-Chabot, R. D. Dewhurst, E. Welz, I. Krummenacher, B. Engels, H. Braunschweig,
Nitrogen fixation and reduction at boron
Science **2018**, *359*, 896–900.
- [471] D. Auerhammer, M. Arrowsmith, P. Bissinger, H. Braunschweig, T. Dellermann, T. Kupfer, C. Lenczyk, D. K. Roy, M. Schäfer, C. Schneider
Increasing the Reactivity of Diborenes: Derivatization of NHC-Supported Dithienyldiborenes with Electron-Donor Groups
Chem. Eur. J. **2018**, *24*, 266 – 273.
- [470] H. Braunschweig, R. D. Dewhurst, J. O. C. Jimenez-Halla, E. Matito, J. H. Muessig
Transition Metal π -Ligation of a Tetrahalodiborane
Angew. Chem. **2018**, *130*, 419–423; *Angew. Chem. Int. Ed.* **2018**, *57*, 412–416.
- [469] J. Böhnke, T. Dellermann, M. A. Celik, I. Krummenacher, R. D. Dewhurst, S. Demeshko, W. C. Ewing, K. Hammond, M. Heß, E. Bill, E. Welz, M. Röhr, R. Mitrić, B. Engels, F. Meyer, H. Braunschweig
Isolation of diborenes and their 90°-twisted diradical congeners
Nature Communications, **2018**, *9*, Article number 1197.

- [468] H. Braunschweig, C. Brunecker, R. D. Dewhurst, C. Schneider
Does Lewis basicity correlate with catalytic performance in zerovalent group 8 Complexes?
Z. Naturforsch. **2018**, *73*, 149–153.
- 2017**
- [467] S. R. Wang, M. Arrowsmith, H. Braunschweig, R. D. Dewhurst, V. Paprockia, L. Winner
CuOTf-mediated intramolecular diborene hydroarylation
Chem. Commun. **2017**, *53*, 11945–11947.
- [466] L. Ji, A. Friedrich, I. Krummenacher, A. Eichhorn, H. Braunschweig, M. Moos, S. Hahn, F. Geyer, O. Tverskoy, J. Han, C. Lambert, A. Dreuw, T. B. Marder, U. H. F. Bunz
Preparation, Properties, and Structures of the Radical Anions, and Dianions of Azapentacenes
J. Am. Chem. Soc. **2017**, *139*, 15968–15976.
- [465] H. Braunschweig, M. Dömling, S. Kachel, H. Kelch, T. Kramer, I. Krummenacher, C. Lenczyk, S. Lin, Z. Lin, C. Possiel, K. Radacki
Abnormal Tin-Boron Exchange in the Attempted Synthesis of a Borylated Borole
Chem. Eur. J. **2017**, *23*, 16167–16170.
- [464] S. Liu, M. Légaré, D. Auerhammer, A. Hofmann, H. Braunschweig
The First Boron-Tellurium Double Bond: Direct Insertion of Heavy Chalcogens into a Mn=B Double Bond
Angew. Chem. **2017**, *129*, 15968–15971; *Angew. Chem. Int. Ed.* **2017**, *56*, 15760–15763.
- [463] M. Arrowsmith, J. Böhnke, H. Braunschweig, M. A. Celik
Reactivity of a Dihydrodiborene with CO: Coordination, Insertion, Cleavage, and Spontaneous Formation of a Cyclic Alkyne
Angew. Chem. **2017**, *129*, 14475–14480; *Angew. Chem. Int. Ed.* **2017**, *56*, 14287–14292.
- [462] D. Auerhammer, M. Arrowsmith, H. Braunschweig, R. D. Dewhurst, J. O. C. Jiménez Halla, T. Kupfer
Nucleophilic addition and substitution at coordinatively saturated boron by facile 1,2-hydrogen shuttling onto a carbene donor
Chem. Sci. **2017**, *8*, 7066–7071.
- [461] J. Böhnke, H. Braunschweig, A. Deißberger, T. Dellermann, R. D. Dewhurst, S. Kachel, H. Kelch, D. Prieschl
Alkylideneborate zwitterions and C-C coupling by atypical diboration of electron-rich alkynes
Chem. Commun. **2017**, *53*, 12132–12135.
- [460] S. R. Wang, M. Arrowsmith, H. Braunschweig, R. D. Dewhurst, M. Dömling, J. D. Mattock, C. Pranckevicius, A. Vargas
Monomeric 16-Electron π -Diborene Complexes of Zn(II) and Cd(II)
J. Am. Chem. Soc. **2017**, *139*, 10661–10664.
- [459] M. Arrowsmith, D. Auerhammer, R. Bertermann, H. Braunschweig, M. A. Celik, J. Erdmannsdörfer, T. Kupfer, I. Krummenacher
From Borane to Borylene without Reduction: Ambiphilic Behavior of a Monovalent Silylisonitrile Boron Species
Angew. Chem. **2017**, *129*, 11417–11421; *Angew. Chem. Int. Ed.* **2017**, *56*, 11263–11267.
- [458] J. Merz, J. Fink, A. Friedrich, I. Krummenacher, H. Al Mamari, S. Lorenzen, M. Hähnel, A. Eichhorn, M. Moos, M. Holzapfel, H. Braunschweig, C. Lambert, A. Steffen, L. Ji, T. B. Marder
Pyrene Molecular Orbital Shuffle—Controlling Excited State and Redox Properties by Changing the Nature of the Frontier Orbitals
Chem. Eur. J. **2017**, *23*, 13164–13180.
- [457] H. Braunschweig, T. Brückner, A. Deißberger, R. D. Dewhurst, A. Gackstatter, A. Gärtner, A. Hofmann, T. Kupfer, D. Prieschl, T. Thiess, S. R. Wang
Reaction of Dihalodiboranes(4) with a N-Heterocyclic Silylene: Facile Construction of 1-Aryl-2-Silyl-1,2-Diboraindanes
Chem. Eur. J. **2017**, *23*, 9491–9494.
- [456] G. Bélanger-Chabot, H. Braunschweig, D. K. Roy
Recent Developments in Azaborinine Chemistry
Eur. J. Inorg. Chem. **2017**, *18*, 4353–4368.

- [455] M. Arrowsmith, J. Böhnke, H. Braunschweig, A. Deißberger, R. D. Dewhurst, W. C. Ewing, C. Hörl, J. Mies, J. H. Muessig
Simple solution-phase syntheses of tetrahalodiboranes(4) and their labile dimethylsulfide adducts
Chem. Commun. **2017**, 53, 8265–8267.
- [454] Z. Wang, Y. Zhou, K.-H. Lee, W. H. Lam, R. D. Dewhurst, H. Braunschweig, T. B. Marder, Z. Lin
DFT Studies of Dimerization Reactions of Boroles
Chem. Eur. J. **2017**, 23, 11587–11597.
- [453] A. Lehmann, L. Lechner, K. Radacki, H. Braunschweig, U. Holzgrabe
Crystal structure of (3S*,4R*)-4-fluoro-3-(4-methoxyphenyl)-1-oxo-2-phenyl-1,2,3,4-tetrahydroisoquinoline-4-carboxylic acid
Acta Cryst. **2017**, E73, 867–870.
- [452] S. R. Wang, M. Arrowsmith, J. Böhnke, H. Braunschweig, T. Dellermann, R. D. Dewhurst, Hauke Kelch, I. Krummenacher, J. D. Mattock, J. H. Müssig, T. Thiess, A. Vargas, J. Zhang
Engineering a Small HOMO-LUMO Gap and Intramolecular C–H Borylation by Diborene/Anthracene Orbital Intercalation
Angew. Chem. **2017**, 129, 8122–8126; *Angew. Chem. Int. Ed.* **2017**, 56, 8009–8013.
- [451] B. Borthakur, H. Braunschweig, A. Deißberger, T. Dellermann, R. D. Dewhurst, I. Krummenacher, M. Nutz, A. K. Phukan, M. Schäfer
Synthesis and Trapping of Iminoboranes by M=B/C=N Bond Metathesis
Angew. Chem. **2017**, 129, 8084–8089; *Angew. Chem. Int. Ed.* **2017**, 56, 7975–7979.
- [450] H. Braunschweig, M. A. Celik, T. Dellermann, G. Frenking, K. Hammond, F. Hupp, H. Kelch, I. Krummenacher, F. Lindl, L. Mailänder, J. H. Müssig, A. Ruppert
Scope of the Thermal Ring Expansion Reaction of Boroles with Organoazides
Chem. Eur. J. **2017**, 23, 8006–8013
- [449] J. Schäfer, M. Holzappel, B. Mladenova, D. Kattinig, I. Krummenacher, H. Braunschweig, G. Grampp, C. Lambert
Hole Transfer Processes in *meta*- and *para*-Conjugated Mixed Valence Compounds: Unforeseen Effects of Bridge Substituents and Solvent Dynamics
J. Am. Chem. Soc. **2017**, 139, 6200–6209.
- [448] M. Arrowsmith, J. Böhnke, H. Braunschweig, H. Gao, M. A. Légaré, V. Paprocki, J. Seufert
Synthesis and Reduction of Sterically Encumbered Mesoionic Carbene-Stabilized Aryldihaloboranes
Chem. Eur. J. **2017**, 23, 12210–12217.
- [447] H. Braunschweig, T. Dellermann, R. D. Dewhurst, B. Hupp, T. Kramer, J. Mattock, J. Mies, A. K. Phukan, A. Steffen, A. Vargas
Strongly Phosphorescent Transition Metal π Complexes of Boron-Boron Triple Bonds
J. Am. Chem. Soc. **2017**, 139, 4887–4893.
- [446] H. Braunschweig, I. Krummenacher, M.-A. Légaré, A. Matler, K. Radacki, Q. Ye
Main-Group Metallomimetics – Unprecedented Transition Metal-like Photolytic CO Substitution at Boron
J. Am. Chem. Soc. **2017**, 139, 1802–1805.
- [445] M. Arrowsmith, H. Braunschweig, K. Radacki, T. Thiess, A. Turkina
Facile Access to Unprecedented Electron-Precise Monohydrodiboranes(4), *cis*-1,2-Dihydrodiboranes(4), and a 1,1-Dihydrodiborane(5)
Chem. Eur. J. **2017**, 23, 2179–2184.
- [444] H. Braunschweig, R. D. Dewhurst, W. E. Ewing, M. Schäfer
Isolation of a Reactive Cyclopropane Intermediate via a Unique Catalyst-Free Spontaneous Cyclopropanation Step at 0 °C
Chem. Eur. J. **2017**, 23, 5953–5956.
- [443] H. Braunschweig, I. Krummenacher, C. Lichtenberg, J. D. Mattock, M. Schäfer, U. Schmidt, C. Schneider, T. Steffenhagen, S. Ullrich, A. Vargas
Dibora[2]ferrocenophane: A Carbene-Stabilized Diborene in a Strained *cis*-Configuration
Angew. Chem. **2017**, 129, 907–911; *Angew. Chem. Int. Ed.* **2017**, 56, 889–892.
- [442] M. Arrowsmith, H. Braunschweig, T. E. Stennett
Formation and Reactivity of Electron-Precise B–B Single and Multiple Bonds
Angew. Chem. **2017**, 129, 100–120; *Angew. Chem. Int. Ed.* **2017**, 56, 96–115.

- [441] N. Arnold, R. Bertermann, M. Bickelhaupt, H. Braunschweig, M. Drisch, M. Finze, F. Hupp, J. Poater, J. A. P. Sprenger
Formation of a Trifluorophosphane Platinum(II) Complex by P–F Bond Activation of Phosphorus Pentafluoride with a Pt⁰ Complex
Chem. Eur. J. **2017**, *23*, 5948–5952.
- 2016**
- [440] M. B. Ansell, G. E. Kostakis, H. Braunschweig, O. Navarro, J. Spencer
Synthesis of Functionalized Hydrazines: Facile Homogenous (N-Heterocyclic Carbene)-Palladium(0) Catalyzed Diboration and Silaboration of Azobenzenes
Adv. Synth. Catal. **2016**, *358*, 3765–3769.
- [439] R. Bertermann, J. Böhnke, H. Braunschweig, R. D. Dewhurst, T. Kupfer, J. H. Muessig, L. Pentecost, K. Radacki, S. S. Sen, A. Vargas
Dynamic, Reversible Oxidative Addition of Highly Polar Bonds to a Transition Metal
J. Am. Chem. Soc. **2016**, *138*, 161400–16147.
- [438] M. Arrowsmith, D. Auerhammer, R. Bertermann, H. Braunschweig, G. Bringmann, M. A. Celik, R. D. Dewhurst, M. Finze, M. Grüne, M. Hailmann, T. Hertle, I. Krummenacher
Generation of Dicoordinate Boron(I) Units by Fragmentation of a Tetra-Boron(I) Molecular Square
Angew. Chem. **2016**, *128*, 14680 – 14684; *Angew. Chem. Int. Ed.* **2016**, *55*, 14464 –14468.
- [437] R. Bertermann, H. Braunschweig, M. A. Celik, T. Dellermann, H. Kelch
Cyclisation of biscarbenoids – a novel mode of cyclobutadiene stabilisation
Chem. Commun. **2016**, *52*, 13249 –13252.
- [436] A. Gackstatter, H. Braunschweig, T. Kupfer, C. Voigt, N. Arnold
N-Heterocyclic Silylenes in Boron Chemistry: Facile Formation of Silylboranes and Silaborinines
Chem. Eur. J. **2016**, *22*, 16415 – 16419.
- [435] R. Bissert, H. Braunschweig, R. D. Dewhurst, C. Schneider
Metal-Only Lewis Pairs Based on Zerovalent Osmium
Organometallics **2016**, *35*, 2567–2573.
- [434] N. Arnold, H. Braunschweig, R. D. Dewhurst, F. Hupp, K. Radacki, A. Trumpp
Desymmetrizing Electron-Deficient Diboranes(4): Diverse Products and Their Reactivity
Chem. Eur. J. **2016**, *22*, 13927–13934.
- [433] M. Arrowsmith, J. Böhnke, H. Braunschweig, M. A. Celik, T. Dellermann, K. Hammond
Uncatalyzed Hydrogenation of First-Row Main Group Multiple Bonds
Chem. Eur. J. **2016**, *22*, 17169–17172.
- [432] H. Kelch, S. Kachel, M. A. Celik, M. Schäfer, B. Wennemann, K. Radacki, A. R. Petrov, M. Tamm, H. Braunschweig
Elucidating the Reactivity of Vicinal Dicarbenoids: From Lewis Adduct Formation to B–C Bond Activation
Chem. Eur. J. **2016**, *22*, 13815–13818.
- [431] M. Schäfer, N. A. Beattie, K. Geetharani, J. Schäfer, W. C. Ewing, M. Krahfuß, C. Hörl, S. A. Macgregor, C. Lambert, H. Braunschweig,
Synthesis of Functionalized 1,4-Azaborinines by the Cyclization of Di-*tert*-butyliminoborane and Alkynes
J. Am. Chem. Soc. **2016**, *138*, 8212–8220.
- [430] H. Braunschweig, J. O. C. Halla, K. Radacki, R. Shang
Direct Conversion from Terminal Borylene into Terminal Phosphinidene
Angew. Chem. **2016**, *128*, 12864–12868; *Angew. Chem. Int. Ed.* **2016**, *55*, 12673–12677.
- [429] U. S. D. Paul, H. Braunschweig, U. Radius
Iridium-catalysed dehydrocoupling of aryl phosphine-borane adducts: synthesis and characterisation of high molecular weight poly(phosphinoboranes)
Chem. Commun. **2016**, *52*, 8573–8576.
- [428] H. Braunschweig, S. Demeshko, W. C. Ewing, I. Krummenacher, B. B. Macha, J. D. Mattock, F. Meyer, J. Mies, M. Schäfer, A. Vargas
A Binuclear 1,1'-Bis(boratabenzene) Complex: Unprecedented Intramolecular Metal–Metal Communication through a B–B Bond
Angew. Chem. **2016**, *128*, 7839–7842; *Angew. Chem. Int. Ed.* **2016**, *55*, 7708–7711.

- [427] H. Braunschweig, I. Krummenacher, L. Mailänder, L. Pentecost, A. Vargas
Formation of a Stable Radical by Oxidation of a Tetraorganoborate
Chem. Commun. **2016**, 52, 7005–7008.
- [426] N. Arnold, H. Braunschweig, W. C. Ewing, T. Kupfer, K. Radacki, T. Thiess, A. Trumpp
Controlling Regiochemistry in the Syntheses of Boraindanes from Diborane(4) Starting
Materials
Chem. Eur. J. **2016**, 22, 11441–11449.
- [425] H. Braunschweig, A. Damme, R. D. Dewhurst, K. Radacki, F. Weißenberger, B. Wennemann,
Q. Ye
Fundamental Differences between Group 8 Metals: Unexpected Oxidation State Preferences
and Mechanisms in Ruthenium Borylene Complex Formation
Chem. Eur. J. **2016**, 22, 8471–8474.
- [424] H. Braunschweig, M.-A. Légaré, A. Matler, B. Wennemann
Silylosmium Anions for the Synthesis of Borylosmium(II) Complexes by Salt Elimination
Eur. J. Inorg. Chem. **2016**, 18, 3376–3379.
- [423] H. Braunschweig, M. A. Celik, R. D. Dewhurst, K. Ferkinghoff, A. Hermann, J. O. C. Jimenez-
Halla, T. Kramer, K. Radacki, R. Shang, E. Siedler, F. Weißenberger, C. Werner
Interactions of Isonitriles with Metal–Boron Bonds: Insertions, Coupling, Ring Formation, and
Liberation of Monovalent Boron
Chem. Eur. J. **2016**, 22, 11736–11744.
- [422] N. Arnold, H. Braunschweig, A. Damme, R. D. Dewhurst, L. Pentecost, K. Radacki, S.
Stellwag-Konertz, T. Thiess, A. Trumpp, A. Vargas
New outcomes of Lewis base addition to diboranes(4): electronic effects override strong steric
disincentives
Chem. Commun. **2016**, 52, 4898–4901.
- [421] H. Braunschweig, P. Constantinidis, T. Dellermann, W. C. Ewing, I. Fischer, M. Hess, F. R.
Knight, A. Rempel, C. Schneider, S. Ullrich, A. Vargas, J. D. Woollins
Highly Strained Heterocycles Constructed from Boron–Boron Multiple Bonds and Heavy
Chalcogens
Angew. Chem. **2016**, 128, 5697–5700; *Angew. Chem. Int. Ed.* **2016**, 55, 5606–5609.
- [420] H. Braunschweig, M. A. Celik, R. D. Dewhurst, K. Ferkinghoff, K. Radacki, F. Weißenberger
Boron-Metallated Borirenes and Bis(Borirenes)
Chem. Eur. J. **2016**, 22, 8596–8602.
- [419] R. D. Dewhurst, R. Claessen, H. Braunschweig
Two-Dimensional But Not Flat: An All-Boron Graphene with a Corrugated Structure
Angew. Chem. **2016**, 128, 4948–4950; *Angew. Chem. Int. Ed.* **2016**, 55, 4866–4868.
- [418] M. Arrowsmith, J. Böhnke, H. Braunschweig,* M. A. Celik, C. Claes, W. C. Ewing, Ivo
Krummenacher, K. Lubitz, C. Schneider
Neutral Diboron Analogues of Archetypal Aromatic Species by Spontaneous Cycloaddition
Angew. Chem. **2016**, 128, 11441–11445; *Angew. Chem. Int. Ed.* **2016**, 55, 11271–11275.
- [417] M. Schäfer, J. Schäfer, W. C. Ewing, M. Krahuß, M. W. Kuntze-Fechner, M. Wehner, R. D.
Dewhurst, C. Lambert,* H. Braunschweig*
Regioselective Catalytic and Stepwise Routes to Bulky, Functional-Group-Appended and
Luminescent 1,2-Azaborinines
Chem. Eur. J. **2016**, 22, 8603–8609.
- [416] H. Braunschweig, R. D. Dewhurst, C. Schneider
Steric Control between Neutral Metal-Only Lewis Pairs and Metal-Stabilized Gallium and
Gallinium Cations
Organometallics **2016**, 35, 1002–1007.
- [415] M. Arrowsmith, H. Braunschweig, M. A. Celik, T. Dellermann, R. D. Dewhurst, W. C. Ewing, K.
Hammond, T. Kramer, I. Krummenacher, J. Mies, K. Radacki, J. K. Schuster
Neutral zero-valent s-block complexes with strong multiple bonding
Nature Chem. **2016**, 8, 890–894.
- [414] N. Arnold, H. Braunschweig, R. D. Dewhurst, W. C. Ewing
Unprecedented Borane, Diborane(3), Diborene, and Borylene Ligands via Pt-Mediated Borane
Dehydrogenation
J. Am. Chem. Soc. **2016**, 138, 76–79.

- [413] H. Braunschweig, R. D. Dewhurst, L. Pentecost, K. Radacki, A. Vargas, Q. Ye
Dative Bonding between Group 13 Elements Using a Boron-Centered Lewis Base
Angew. Chem. **2016**, *128*, 447–451; *Angew. Chem. Int. Ed.* **2016**, *55*, 436–440.
- [412] H. Braunschweig, M. A. Celik, R. D. Dewhurst, S. Kachel, B. Wennemann,
Mild and Complete Carbonyl Ligand Scission on a Mononuclear Transition Metal Complex
Angew. Chem. **2016**, *128*, 5160–5164; *Angew. Chem. Int. Ed.* **2016**, *55*, 5076–5080.
- [411] H. Braunschweig, R. D. Dewhurst, K. Ferkinghoff
Carbene-induced synthesis of the first boronium cations using the $[(\eta^5\text{-C}_5\text{Me}_5)\text{Fe}(\text{CO})_2]^-$
anion as unlikely leaving group
Chem. Commun. **2016**, *52*, 183–185.
- [410] H. Braunschweig, W.C. Ewing, S. Ghosh, T. Kramer, J.D. Mattock, S. Östreicher, A. Vargas,
C. Werner
Trimetallaborides as starting points for the syntheses of large metal-rich molecular borides and
clusters
Chem. Sci. **2016**, *7*, 109–116.
- [409] H. Braunschweig, I. Krummenacher
Electrochemical Behavior and Redox Chemistry of Boroles in *Organic Redox Systems:
Synthesis, Properties and Applications* (Hrsg.: T. Nishinaga),
Wiley, **2016**, *17*, 503–522.
- 2015**
- [408] N. Arnold, S. Mozo, U. Paul, U. Radius, H. Braunschweig
Aryldihydroborane Coordination to Iridium and Osmium Hydrido Complexes
Organometallics **2015**, *34*, 5709–5715.
- [407] H. Braunschweig, J. O. C. Jimenez-Halla, K. Radacki, R. Shang
A metal-mediated boron-centred isomerization reaction *via* C–H activation
Chem. Commun. **2015**, *51*, 16569–16572.
- [406] H. Braunschweig, C. Brunecker, R. D. Dewhurst, C. Schneider, B. Wennemann
Lewis Acid Binding and Transfer as a Versatile Experimental Gauge of the Lewis Basicity of
 Fe^0 , Ru^0 and Pt^0 Complexes.
Chem. Eur. J. **2015**, *21*, 19195–19201.
- [405] P. Bissinger, H. Braunschweig, M. A. Celik, C. Claes, R. D. Dewhurst, S. Endres, H. Kelch, T.
Kramer, I. Krummenacher, C. Schneider
Synthesis of cyclic diborenes with unprecedented *cis*-configuration
Chem. Commun. **2015**, *51*, 15917–15920.
- [404] T. Kupfer, H. Braunschweig, K. Radacki
The Triboracyclopropenyl Dianion: The Lightest Possible Main-Group-Element Hückel π
Aromatic
Angew. Chem. **2015**, *127*, 15299–15303; *Angew. Chem. Int. Ed.* **2015**, *54*, 15084–15088.
- [403] H. Braunschweig, F. Hupp, I. Krummenacher, L. Mailänder, F. Rauch
Ring Expansions of Boroles with Diazo Compounds: Steric Control of C or N Insertion and
Aromatic / Nonaromatic Products
Chem. Eur. J. **2015**, *21*, 17844–17849.
- [402] D. Schmidt, M. Son, J. Lim, M.-J. Lin, I. Krummenacher, H. Braunschweig, D. Kim, F.
Würthner
Perylene Bisimide Radicals and Biradicals: Synthesis and Molecular Properties
Angew. Chem. **2015**, *127*, 14186–14190; *Angew. Chem. Int. Ed.* **2015**, *54*, 13980–13984.
- [401] J. Böhnke, H. Braunschweig, T. Dellermann, W. C. Ewing, K. Hammond, T. Kramer, J. O. C.
Jimenez-Halla, J. Mies,
The Synthesis of $\text{B}_2(\text{SIDip})_2$ and its Reactivity Between the Diboracumulenic and Diborynic
Extremes
Angew. Chem. **2015**, *127*, 14006–14010, *Angew. Chem. Int. Ed.* **2015**, *54*, 13801–13805.
- [400] H. Braunschweig, I. Krummenacher, L. Mailänder, F. Rauch
O,N,B-Containing eight-membered heterocycles by ring expansion of boroles with nitrones
Chem. Commun. **2015**, *51*, 14513–14515.

- [399] H. Braunschweig, A. Damme, K. Dück, M. Fuß, C. Hörl, T. Kramer, I. Krummenacher, T. Kupfer, C. Schneider
Ansa Complexes of $[\text{Mn}(\eta^5\text{-C}_5\text{H}_5)(\eta^6\text{-C}_6\text{H}_6)]$: Preparation, Characterization, and Reactivity of $[\eta]$ Manganoarenophanes ($n = 1, 2, 3$)
Chem. Eur. J. **2015**, *21*, 14797–14803.
- [398] N. Arnold, H. Braunschweig, P. B. Brenner, M. A. Celik, R. D. Dewhurst, M. Hähnel, T. Kramer, I. Krummenacher, T. B. Marder
 Correlations and Contrasts in Homo- and Heteroleptic Cyclic (Alkyl)(amino)carbine-Containing Pt^0 Complexes
Chem. Eur. J. **2015**, *21*, 12357–12362.
- [397] H. Braunschweig, W. C. Ewing, K. Ferkinghoff, A. Hermann, T. Kramer, R. Shang, E. Siedler, C. Werner
 Activation of boryl-, borylene and metalloborylene complexes by isonitriles
Chem. Commun. **2015**, *51*, 13032–13035.
- [396] H. Braunschweig, R. D. Dewhurst, K. Radacki, B. Wennemann, Q. Ye
 1,2-Halosilane vs. 1,2-alkylborane elimination from (boryl)(silyl) complexes of iron: switching between borylenes and silylenes just by changing the alkyl group
Chem. Commun. **2015**, *51*, 15465–15468.
- [395] H. Braunschweig, T. Dellermann, W. C. Ewing, T. Kramer, C. Schneider, S. Ullrich,
 Reductive Insertion of Elemental Chalcogens into Boron–Boron Multiple Bonds
Angew. Chem. **2015**, *127*, 10409–10413; *Angew. Chem. Int. Ed.* **2015**, *54*, 10271–10275 (VIP).
- [394] R. Bertermann, H. Braunschweig, T. Dellermann, R. D. Dewhurst, W. C. Ewing, T. Kramer, J. Mies, A. K. Phukan, A. Vargas
 Exclusive π Encapsulation of Light Alkali Metal Cations by a Neutral Molecule
Angew. Chem. **2015**, *127*, 13282–13286; *Angew. Chem. Int. Ed.* **2015**, *54*, 13090–13094.
- [393] L. Ji, R. Edkins, A. Lorbach, I. Krummenacher, C. Brückner, A. Eichhorn, H. Braunschweig, B. Engels, P. Low, T. B. Marder
 Electron Delocalization in Reduced Forms of 2-(BMes₂)pyrene and 2,7-Bis(BMes₂)pyrene
J. Am. Chem. Soc. **2015**, *137*, 6750–6753.
- [392] H. Braunschweig, A. Gackstatter, T. Kupfer, T. Scheller, F. Hupp, A. Damme, N. Arnold and W. C. Ewing
 Generation of 1,2-azaboretidines *via* reduction of ADC borane adducts
Chem. Sci. **2015**, *6*, 3461–3465.
- [391] R. D. Dewhurst, E. C. Neeve, H. Braunschweig, T. B. Marder
 $\text{sp}^2\text{-sp}^3$ diboranes: astounding structural variability and mild sources of nucleophilic boron for organic synthesis
Chem. Commun. **2015**, *51*, 9594–9607.
- [390] H. Braunschweig, A. Gackstatter, T. Kupfer, K. Radacki, S. Franke, K. Meyer, K. Fucke, M.-H. Lemée-Cailleau
 UraniumHydridoborates: Synthesis, Magnetism and X-ray/Neutron Diffraction Structures
Inorg. Chem. **2015**, *54*, 8022–8028.
- [389] Z. Zhang, R. M. Edkins, M. Haehnel, M. Wehner, A. Eichhorn, L. Mailänder, M. Meier, J. Brand, F. Brede, H. Braunschweig, and T. B. Marder
 Taming the beast: fluoromesityl groups induce a dramatic stability enhancement in boroles
Chem. Sci. **2015**, *6*, 5922–5927.
- [388] H. Braunschweig, M. A. Celik, K. Dück, F. Hupp, I. Krummenacher,
 f-Block *Ansa* Complexes in the Solid State: [3]Thoro- and [3]Uranocenophanes
Chem. Eur. J. **2015**, *21*, 9339–9342.
- [387] H. Braunschweig, R. D. Dewhurst, S. Mozo
 Building Electron-Precise Boron-Boron Single Bonds: Imposing Monogamy on a Promiscuous Element
Chem. Cat. Chem. **2015**, *7*, 1630–1638.
- [386] J. Brand, H. Braunschweig, R. D. Dewhurst, F. Hupp, K. Lang
 Synthesis and Hydroboration of a Mixed-Donor Iminoboryl Complex of Platinum
Eur. J. Inorg. Chem. **2015**, *17*, 2592–2595.

- [385] H. Braunschweig, W. C. Ewing, T. Kramer, J. D. Mattock, A. Vargas, C. Werner
Organometallic Probe for the Electronics of Base-Stabilized Group 11 Metal Cations
Chem. Eur. J. **2015**, *21*, 12347–12356.
- [384] F. A. Perras, W. C. Ewing, T. Dellermann, J. Böhnke, S. Ulrich, T. Schäfer, H. Braunschweig, D. L. Bryce
Spying on the boron-boron triple bond using spin-spin coupling measured from ^{11}B solid-state NMR spectroscopy
Chem. Sci. **2015**, *6*, 3378–3382.
- [383] H. Braunschweig, R. D. Dewhurst, F. Hupp, M. Nutz, K. Radacki, C. Tate, A. Vargas, Q. Ye
Multiple complexation of CO and related ligands to a main-group element
Nature, **2015**, 327–330.
- [382] H. Braunschweig, M. A. Celik, F. Hupp, I. Krummenacher, L. Mailänder
Formation of BN Isosteres of Azo Dyes by Ring Expansion of Boroles with Azides
Angew. Chem. **2015**, *127*, 6445–6449; *Angew. Chem. Int. Ed.* **2015**, *54*, 6347–6351.
- [381] H. Braunschweig, R. Shang
Reactivity of Transition Metal Borylene Complexes: Recent Advances in B–C and B–B Bond Formation via Borylene Ligand Coupling
Inorg. Chem. **2015**, *54*, 3099–3106.
- [380] M. Steeger, S. Griesbeck, A. Schmiedel, M. Holzapfel, I. Krummenacher, H. Braunschweig, C. Lambert
On the Relation of Energy Transfer Between IV-CT States and Electron Transfer Between Redox Centres in Multidimensional Chromophores Based on Polychlorinated Triphenylmethyl Radicals and Triarylamines
Phys. Chem. Chem. Phys., **2015**, *17*, 11848–11867.
- [379] J. Böhnke, H. Braunschweig, T. Dellermann, W. C. Ewing, T. Kramer, I. Krummenacher, A. Vargas
From an Electron-Rich Bis(boraketenimine) to an Electron-Poor Diborene
Angew. Chem. **2015**, *127*, 4551–4555; *Angew. Chem. Int. Ed.* **2015**, *54*, 4469–4473.
- [378] H. Braunschweig, Q. Ye, M. A. Celik, K. Radacki, R. D. Dewhurst
Cyclization of a 1,4-Diborabutadiene Ligand with Both Atoms of CO
Angew. Chem. **2015**, *127*, 5154–5157; *Angew. Chem. Int. Ed.* **2015**, *54*, 5065–5068.
- [377] H. Braunschweig, R. D. Dewhurst, T. Kramer
Synthesis of the First Heteroaryl-Substituted Boryl Complexes: Strong Stabilizing Effects of Boron–Aryl π -Conjugation
Inorg. Chem. **2015**, *54*, 3619–3621.
- [376] S. Bertsch, J. Brand, H. Braunschweig, F. Hupp, K. Radacki
Platinum Oxoboryl Complexes as Substrates for the Formation of 1:1, 1:2 and 2:1 Lewis Acid-Base Adducts and 1,2-Dipolar Additions
Chem. Eur. J. **2015**, *21*, 6278–6285.
- [375] J. O. C. Jimenez-Halla, E. Matito, M. Solà, H. Braunschweig, C. Hörl, I. Krummenacher, J. Wahler
A theoretical study of the aromaticity in neutral and anionic borole compounds
Dalton **2015**, *44*, 6740–6747.
- [374] P. V. Simpson, K. Radacki, H. Braunschweig, U. Schatzschneider
An iridium *N*-heterocyclic carbene complex $[\text{IrCl}(\text{CO})_2(\text{NHC})]$ as a carbon monoxide-releasing molecule (CORM)
J. Organomet. Chem. **2015**, *782*, 116–123.
- [373] N. Arnold, H. Braunschweig, P. B. Brenner, R. Dewhurst, T. Kramer, K. Radacki
Investigation of Steric Factors Involved in the Formation of Terminal Cationic Platinum Arylborylene Complexes
Organometallics **2015**, *34*, 2343–2347.
- [372] H. Braunschweig, K. Radacki, R. Shang
Side-on coordination of boryl and borylene complexes to cationic coinage metal fragments
Chem. Sci. **2015**, *6*, 2989–2996.
- [371] H. Braunschweig, R. D. Dewhurst, F. Hupp, J. Wolf
Unprecedented Oxidative Addition and Metal-Only Lewis Pair Chemistry of Antimony Trihalides
Chem. Eur. J. **2015**, *21*, 1860–1862

- [370] H. Braunschweig, C. Brückner, M. A. Celik, K. Dück, F. Hupp, T. Kramer, J. Krebs, I. Krummenacher
Ansa-Bridged Bis(benzene)Titanium Complexes
Chem. Eur. J. **2015**, *21*, 11056–11064.
- [369] H. Braunschweig, A. Damme, S. Demeshko, K. Dück, T. Kramer, I. Krummenacher, F. Meyer, K. Radacki, S. Stellwag-Konertz, G. R. Whittell
A Paramagnetic Heterobimetallic Polymer: Synthesis, Reactivity, and Ring-Opening Polymerization of Tin-Bridged Homo- and Heteroleptic Vanadoarenophanes
J. Am. Chem. Soc. **2015**, *137*, 1492–1500.
- [368] H. Braunschweig, C. Claes, A. Damme, A. Deißberger, R. D. Dewhurst, C. Hörl, T. Kramer
A facile and selective route to remarkably inert monocyclic NHC-stabilized boriranes
Chem. Commun. **2015**, *51*, 1627–1630.
- [367] H. Braunschweig, W. C. Ewing, K. Geetharani, M. Schäfer
The Reactivities of Iminoboranes with Carbenes: BN Isosteres of Carbene-Alkyne Adducts
Angew. Chem. **2015**, *127*, 1682–1685; *Angew. Chem. Int. Ed.* **2015**, *54*, 1662–1665.
- [366] M. Schäfer, I. Krummenacher, H. Braunschweig, M. Finze
Boron Clusters with a Ferrocenylalkynyl Group Bonded to Boron: Synthesis, Characterization, and Electrochemical Trends
Z. anorg. allg. Chem. **2015**, *641*, 660–668.
- [365] P. Bissinger, H. Braunschweig, A. Damme, C. Hörl, I. Krummenacher, T. Kupfer
Boron as a Powerful Reductant: Synthesis of a Stable Boron-Centered Radical-Anion Radical-Cation Pair
Angew. Chem. **2015**, *127*, 366–369; *Angew. Chem. Int. Ed.* **2015**, *54*, 359–362.
- [364] H. Braunschweig, A. Damme, R. D. Dewhurst, H. Kelch, B. B. Macha, K. Radacki, A. Vargas, Q. Ye
Platinum *trans*-Bis(borirene) Complexes Displaying Coplanarity and Communication Across a Platinum Metal Center
Chem. Eur. J. **2015**, *21*, 2377–2386.
- [363] H. Braunschweig, S. Ghosh, J. O. C. Jimenez-Halla, J. H. Klein, C. Lambert, K. Radacki, A. Steffen, A. Vargas, J. Wahler
A Combined Experimental and Theoretical Study on the Isomers of 2,3,4,5-Tetracarba-*nido*-Hexaborane(6) Derivatives and Their Photophysical Properties
Chem. Eur. J. **2015**, *21*, 210–218.
- [362] T. Arnold, H. Braunschweig, W. C. Ewing, T. Kramer, J. Mies, J. K. Schuster
Beryllium bis(diazaboroly): old neighbors finally shake hands
Chem. Commun. **2015**, *51*, 737–740.
- [361] P. Bissinger, A. Steffen, A. Vargas, R. D. D. Dewhurst, A. Damme, H. Braunschweig
Unexpected Luminescence Behavior of Coinage Metal π -Diborene Complexes
Angew. Chem. **2015**, *127*, 4436–4440; *Angew. Chem. Int. Ed.* **2015**, *54*, 4362–4366.
- [360] H. Braunschweig, M. A. Celik, R. D. Dewhurst, M. Heid, F. Hupp and S. S. Sen
Stepwise isolation of low-valent, low-coordinate Sn and Pb mono- and dications in the coordination sphere of platinum
Chem. Sci. **2015**, *6*, 425–435.
- [359] J. Böhnke, H. Braunschweig, P. Constantinidis, T. Dellermann, W. C. Ewing, I. Fischer, K. Hammond, F. Hupp, J. Mies, H.-C. Schmitt, A. Vargas
Experimental Assessment of the Strengths of B–B Triple Bonds
J. Am. Chem. Soc. **2015**, *137*, 1766–1769.

2014

- [358] H. Braunschweig, T. Kramer,
Crystal structure of μ -1 κ C:2(η^2)-carbonyl-carbonyl-1 κ C-chlorido-2 κ Cl- μ -chloridoborylene-1:2 κ^2 B:B-[1(η^5)-pentamethylcyclopentadienyl](tricyclohexylphosphane-2 κ P)iron(II)platinum(II) benzene monosolvate
Acta Cryst. **2014**, *E70*, 421–423.
- [357] H. Braunschweig, R. D. Dewhurst, F. Hupp, C. Schneider
Silver(I) and thallium(I) cations as unsupported bridges between two metal bases
Chem. Commun. **2014**, *50*, 15685–15688.

- [356] H. Braunschweig, R. D. Dewhurst
Boron-Boron Multiple Bonding: From Charged to Neutral and Back Again
Organometallics **2014**, *33*, 6271–6277.
- [355] F. Hupp, M. Ma, F. Kroll, J. O. C. Jimenez-Halla, R. D. Dewhurst, K. Radacki, A. Stasch, C. Jones, H. Braunschweig
Platinum Complexes Containing Pyramidalized Germanium and Tin Dihalide Ligands Bound through σ, σ M=E Multiple Bonds
Chem. Eur. J. **2014**, *20*, 16888–16898.
- [354] H. Braunschweig, C. Hörl
Unexpected cluster formation upon hydroboration of a neutral diborene with 9-BBN
Chem. Commun. **2014**, *50*, 10983–10985.
- [353] H. Braunschweig, R. D. Dewhurst, T. Kramer, E. Siedler
A Simple Decarbonylative Route to Heterodinuclear Alkylborylene Complexes
Organometallics **2014**, *33*, 3877–3881.
- [352] H. Braunschweig, R. D. Dewhurst, F. Hupp, C. Kaufmann, A. K. Phukan, C. Schneider, Q. Ye
Gauging metal Lewis basicity of zerovalent iron complexes *via* metal-only Lewis pairs
Chem. Sci. **2014**, *5*, 4099–4104.
- [351] Y.-L. Rao, C. Hörl, H. Braunschweig, S. Wang
Reversible Photochemical and Thermal Isomerization of Azaboratabisnorcaradiene to Azaborabenzotropilidene
Angew. Chem. **2014**, *126*, 9232–9263; *Angew. Chem. Int. Ed.* **2014**, *53*, 9086–9089.
- [350] H. Braunschweig, Q. Ye, A. Vargas, R. D. Dewhurst, F. Hupp
Complete and Partial 1,2-Additions across Transition Metal-Boron Double Bonds
J. Am. Chem. Soc. **2014**, *136*, 9560–9563.
- [349] F. Holzmeier, M. Lang, P. Hemberger, A. Bodi, M. Schäfer, R. D. Dewhurst, H. Braunschweig, I. Fischer
Photoionization and Pyrolysis of a 1,4-Azaborinine: Retro-Hydroboration in the Cation and Identification of Novel Organoboron Ring Systems
Chem. Eur. J. **2014**, *20*, 9683–9692.
- [348] P. Bissinger, H. Braunschweig, A. Damme, I. Krummenacher, A. K. Phukan, K. Radacki, S. Sugawara
Isolation of a Neutral Boron-Containing Radical Stabilized by a Cyclic (Alkyl)(Amino)Carbene
Angew. Chem. **2014**, *126*, 7488–7491; *Angew. Chem. Int. Ed.* **2014**, *53*, 7360–7363.
- [347] J. Böhnke, H. Braunschweig, W. C. Ewing, C. Hörl, T. Kramer, I. Krummenacher, J. Mies, A. Vargas
Diborabutatriene: An Electron-Deficient Cumulene
Angew. Chem. **2014**, *126*, 9228–9231; *Angew. Chem. Int. Ed.* **2014**, *53*, 9082–9085.
- [346] H. Braunschweig, C. Hörl, L. Mailänder, K. Radacki, J. Wahler
Antiaromaticity to Aromaticity: From Boroles to 1,2-Azaborinines by Ring Expansion with Azides
Chem. Eur. J. **2014**, *20*, 9858–9861.
- [345] S. Bertsch, H. Braunschweig, R. D. Dewhurst, K. Radacki, C. Saalfrank, B. Wennemann, Q. Ye
Partially and Fully Reversible Solvation-Controlled Borylene Swapping and Metal-Only Lewis Pair Formation
Organometallics **2014**, *33*, 3649–3651.
- [344] H. Braunschweig, R. D. Dewhurst, K. Radacki, C. W. Tate, A. Vargas
Trihapto Ligation of a Borirene to a Single Metal Atom: A Heterocyclic Analogue of the η^3 -Cyclopropenyl Ligand
Angew. Chem. **2014**, *126*, 6378–6381; *Angew. Chem. Int. Ed.* **2014**, *53*, 6263–6266.
- [343] R. Bertermann, H. Braunschweig, R. D. Dewhurst, C. Hörl, T. Kramer, I. Krummenacher
Evidence for Extensive Single-Electron-Transfer Chemistry in Boryl Anions: Isolation and Reactivity of a Neutral Borole Radical
Angew. Chem. **2014**, *126*, 5557–5561; *Angew. Chem. Int. Ed.* **2014**, *53*, 5453–5457.
- [342] H. Braunschweig, P. Bissinger, A. Damme, T. Kupfer, I. Krummenacher, A. Vargas
Boron Radical Cations from the Facile Oxidation of Electron-Rich Diborenes
Angew. Chem. **2014**, *126*, 5797–5801; *Angew. Chem. Int. Ed.* **2014**, *53*, 5689–5693.

- [341] T. Arnold, H. Braunschweig, A. Damme, C. Hörl, T. Kramer, I. Krummenacher, J. Mager
Tin-bridged *ansa* Metallocenes of the Late Transition Metals Cobalt and Nickel: Preparation,
Molecular and Electronic Structures, and Redox Chemistry
Organometallics **2014**, *33*, 1659–1664.
- [340] R. Bertermann, H. Braunschweig, W. C. Ewing, T. Kramer, A. K. Phukan, A. Vargas, C.
Werner
Synthesis and characterization of a mercury-containing trimetalloboride
Chem. Commun. **2014**, *50*, 5729–5732.
- [339] H. Braunschweig, T. Kramer, K. Radacki, R. Shang, E. Siedler, C. Werner
Isolation of the key intermediates of base-promoted borylene–carbonyl coupling reactions
Chem. Sci. **2014**, *5*, 2271–2276.
- [338] S. Bertsch, R. Bertermann, H. Braunschweig, A. Damme, R. D. Dewhurst, A. K. Phukan, C.
Saalfrank, A. Vargas, B. Wennemann, Q. Ye
Metal-Only Lewis Pairs by Reversible Insertion of Ruthenium and Osmium Fragments into
Metal-Boron Double Bonds
Angew. Chem. **2014**, *126*, 4326–4329; *Angew. Chem. Int. Ed.* **2014**, *53*, 4240–4243.
- [337] H. Braunschweig, A. Damme, R. D. Dewhurst, T. Kramer, I. Krummenacher, A. K. Phukan
Short Survey of the Chemical Reduction Behavior of the Base-Stabilized Iron Dichloroboryl
Complexes [(η^5 -C₅Me₅)Fe(CO)₂BCl₂(LB)]
Organometallics **2014**, *33*, 604–606.
- [336] H. Braunschweig, K. Geetharani, J. O. C. Jimenez-Halla, M. Schäfer
Direct Synthetic Route to Functionalized 1,2-Azaborinines
Angew. Chem. **2014**, *126*, 3568–3572; *Angew. Chem. Int. Ed.* **2014**, *53*, 3500–3504.
- [335] J. Brand, H. Braunschweig, F. Hupp, K. Radacki, S. S. Sen
A B–C Double Bond Unit Coordinated to Platinum: An Alkylideneboryl Ligand that is
Isoelectronic to Neutral Aminoborylene Ligands
Angew. Chem. **2014**, *126*, 2273–2277; *Angew. Chem. Int. Ed.* **2014**, *53*, 2240–2244.
- [334] H. Braunschweig, R. D. Dewhurst, C. Hörl, A. K. Phukan, F. Pinzner, S. Ullrich
Direct Hydroboration of B=B Bonds: A Mild Strategy for the Proliferation of B–B Bonds.
Angew. Chem. **2014**, *126*, 3305–3308; *Angew. Chem. Int. Ed.* **2014**, *53*, 3241–3244.
- [333] H. Braunschweig, C. K. L. Brown, R. D. Dewhurst, J. O. C. Jimenez-Halla, T. Kramer, I.
Krummenacher, B. Pfaffinger
Boryl-Functionalized σ -Alkynyl and Vinylidene Rhodium Complexes: Synthesis and Electronic
Properties
Chem. Eur. J. **2014**, *20*, 1427–1433.
- [332] T. Arnold, H. Braunschweig, A. Damme, I. Krummenacher, K. Radacki
Synthesis and Structure of Group IV Distanna[2]metallocenophanes
Organometallics **2014**, *33*, 254–259.
- [331] H. Braunschweig, T. Dellermann, S. Stellwag-Konertz, J. Mies, K. Radacki, A. Vargas
Strained *ansa* Half Sandwich Complexes of Ruthenium and Osmium and a Non-Iron-
Metallopolymers by Ring-Opening Polymerization
Organometallics **2014**, *33*, 1536–1539.
- [330] C. Nagel, S. McLean, R. K. Poole, H. Braunschweig, T. Kramer, U. Schatzschneider
Introducing [Mn(CO)₃(tpa- κ^3 N)]⁺ as a novel photoactivatable CO-releasing molecule with well-
defined iCORM intermediates – synthesis, spectroscopy, and antibacterial activity
Dalton **2014**, *43*, 9986–9997.
- [329] J. Brand, H. Braunschweig, S. S. Sen
B=B and B \equiv E (E = N and O) Multiple Bonds in the Coordination Sphere of Late Transition
Metals
Acc. Chem. Res. **2014**, *47*, 180–191.
- [328] H. Braunschweig, R. Bertermann, C. K. L. Brown, A. Damme, R. D. Dewhurst, C. Hoerl, T.
Kramer, B. Pfaffinger, K. Radacki
Diverse reactions of N-heterocyclic carbenes with an alkynylborane and isolation of a reactive
zwitterionic borataallene
Chem. Commun. **2014**, *50*, 97–99.

2013

- [327] H. Braunschweig, J. Bauer, S. Bertsch, R. D. Dewhurst, K. Ferkinghoff, C. Hörl, K. Kraft, K. Radacki
Hydridoborylene Complexes and Di-, Tri-, and Tetranuclear Borido Complexes with Hydride Ligands
Chem. Eur. J. **2013**, *19*, 17608–17612.
- [326] H. Braunschweig, J. Maier, K. Radacki, J. Wahler
Ring-Expansion of 7-Boranorbornadienes by Coordination with a N-Heterocyclic Carbene
Organometallics **2013**, *32*, 6353–6359.
- [325] H. Braunschweig, F. Guethlein, L. Mailänder, T. B. Marder
Synthesis of Catechol-, Pinacol-, and Neopentylglycolborane through the Heterogeneous Catalytic B–B Hydrogenolysis of Diboranes(4)
Chem. Eur. J. **2013**, *19*, 14831–14835.
- [324] H. Braunschweig, K. Radacki, R. Shang
 σ -Coordination of metal-boryl bonds to gold(I)
Chem. Commun. **2013**, *49*, 9905–9907.
- [323] P. Bissinger, H. Braunschweig, A. Damme, R. D. Dewhurst, K. Kraft, T. Kramer, K. Radacki
Base-Stabilized Boryl and Cationic Haloborylene Complexes of Iron
Chem. Eur. J. **2013**, *19*, 13402–13407.
- [322] H. Braunschweig, Q. Ye, A. Vargas, K. Radacki, A. Damme
Phosphine-Triggered Co-catenation of :BR and CO on an Iron Atom
Angew. Chem. **2013**, *125* 10851–10854; *Angew. Chem. Int. Ed.* **2013**, *52*, 10657–10660.
- [321] J. Bauer, H. Braunschweig, C. Hörl, K. Radacki, J. Wahler
Synthesis of Zwitterionic Cobaltocenium Borate and Borata-alkene Derivatives from a Borole-Radical Anion
Chem. Eur. J. **2013**, *19*, 13396–13401.
- [320] H. Braunschweig, A. Damme, C. Hörl, T. Kupfer, J. Wahler
Si-H Bond Activation at the Boron Center of Pentaphenylborole
Organometallics **2013**, *32*, 6800–6803.
- [319] H. Braunschweig, Q. Ye, A. Damme, K. Radacki
Synthesis and structure of the first heterodinuclear bis(borylene) complexes
Chem. Commun. **2013**, *49*, 7593–7595.
- [318] A. Rammo, I. Bejan, A. Meltzer, K. Radacki, H. Braunschweig, D. Scheschkewitz
1,2-Disilabicyclo[1.1.1]pentan-4-ones from a Disilene and Acryloyl Chlorides
Austr. J. Chem. **2013**, *66*, 1311–1314.
- [317] H. Braunschweig, V. Dyakonov, B. Engels, Z. Falk, C. Hörl, J. H. Klein, T. Kramer, H. Kraus, I. Krummenacher, C. Lambert, C. Walter
Multiple Reduction of 2,5-Bis(boroly)thiophene: Isolation of a Negative Bipolaron by Comproportionation
Angew. Chem. **2013**, *125*, 13088–13092; *Angew. Chem. Int. Ed.* **2013**, *52*, 12852–12855.
- [316] H. Braunschweig, R. D. Dewhurst, C. Hörl, K. Radacki, C. W. Tate, A. Vargas, Q. Ye
Reductive Borylene-CO Coupling with a Bulky Arylborylene Complex
Angew. Chem. **2013**, *125*, 10307–10310; *Angew. Chem. Int. Ed.* **2013**, *52*, 10120–10123.
- [315] P. Bissinger, H. Braunschweig, A. Damme, T. Kupfer, K. Radacki
An Electron Precise, Tetrahedral μ_3 Boride Complex
Angew. Chem. **2013**, *125*, 7176–7179; *Angew. Chem. Int. Ed.* **2013**, *52*, 7038–7041.
- [314] J. Bauer, H. Braunschweig, A. Damme, J. O. C. Jimenez-Halla, T. Kramer, K. Radacki, R. Shang, E. Siedler, Q. Ye
Metathesis Reactions of a Manganese Borylene Complex with Polar Heteroatom-Carbon Double Bonds: A Pathway to Previously Inaccessible Carbene Complexes
J. Am. Chem. Soc. **2013**, *135*, 8726–8734.
- [313] H. Braunschweig, A. Damme, R. D. Dewhurst, T. Kramer, T. Kupfer, K. Radacki, E. Siedler, A. Trumpp, K. Wagner, C. Werner
Quaternizing Diboranes(4): Highly Divergent Outcomes and an Inorganic Wagner-Meerwein Rearrangement
J. Am. Chem. Soc. **2013**, *135*, 8702–8707.

- [312] H. Braunschweig, F. Hupp, T. Kramer, J. Mager
Structure and Reactivity of Distanna[2]metallocenophanes of Ruthenium and Osmium
Inorg. Chem. **2013**, *52*, 9060–9065.
- [311] J. Bauer, H. Braunschweig, R. D. Dewhurst, K. Radacki
Reactivity of Lewis Basic Platinum Complexes Towards Fluoroboranes
Chem. Eur. J. **2013**, *19*, 8797–8805.
- [310] H. Braunschweig, A. Damme, T. Kupfer
Diboran(4)ylplatinum(II) Complexes
Inorg. Chem. **2013**, *52*, 7822–7824.
- [309] H. Braunschweig, P. Brenner, R. D. Dewhurst, K. Radacki
A Base-Stabilized Iodoborylene Complex of Platinum(II)
Z. Naturforsch. **2013**, 747–749.
- [308] H. Braunschweig, K. Radacki, Q. Ye
Synthesis and Structure of a Carbene-Stabilized Boraallene Coordinated to Rhodium
Inorg. Chem. **2013**, *52*, 5639–5641.
- [307] H. Braunschweig, A. Damme, T. Kupfer
Conversion of *trans*-Diboran(4)yl Platinum Complexes into Their *cis*-Bisboryl Analogues
Chem. Eur. J. **2013**, *19*, 14682–14686.
- [306] H. Braunschweig, F. Güthlein
Transition-metal catalyzed synthesis of diboranes(4)
Eur. Pat. Appl. **2013**, EP 2554547 A1 20130206.
- [305] T. Arnold, H. Braunschweig, J. O. C. Jimenez-Halla, K. Radacki, S. S. Sen
Simultaneous Fragmentation and Activation of White Phosphorus
Chem. Eur. J. **2013**, *19*, 9114–9117.
- [304] H. Braunschweig, A. Damme
Thermodynamic control of oxidative addition and reductive elimination processes in *cis*-bis(dimethoxyboryl)-bis(tricyclohexylphosphine)platinum(II)
Chem. Commun. **2013**, *49*, 5216–5218.
- [303] H. Braunschweig, I. Krummenacher, J. Wahler
Free Boroles: the Effect of Antiaromaticity on their Physical Properties and Chemical Reactivity
Adv. Organomet. Chem. **2013**, *61*, 1–53.
- [302] H. Braunschweig, P. Brenner, K. Radacki
Wolfphos in Sheep's Clothing: The First Trinuclear Triboryl- And Other Boryl Platinum Complexes Featuring a Flexible Phosphine Ligand
Z. anorg. allg. Chem. **2013**, *639*, 1129–1133.
- [301] G. Bringmann, G. Zhang, T. Büttner, G. Bauckmann, T. Kupfer, H. Braunschweig, R. Brun, V. Mudogo
Jozimine A2: The First Dimeric Dioncophyllaceae-Type Naphthylisoquinoline Alkaloid, with Three Chiral Axes and High Antiplasmodial Activity
Chem. Eur. J. **2013**, *19*, 916–923.
- [300] H. Braunschweig, R. D. Dewhurst, V. H. Gessner
Transition Metal Borylene Complexes
Chem. Soc. Rev., **2013**, *42*, 3197–3208.
- [299] H. Braunschweig, A. Damme, T. Kupfer
Synthesis of a bicyclic diborane by selective boron carbon bond formation
Chem. Commun. **2013**, *49*, 2774–2776.
- [298] H. Braunschweig, P. Brenner, R. D. Dewhurst, J. O. C. Jimenez-Halla, T. Kupfer, D. Rais, K. Uttinger
Maximizing Coordinative and Electronic Unsaturation: Three-Coordinate Dicationic Platinum Complexes
Angew. Chem. **2013**, *125*, 3055–3058; *Angew. Chem. Int. Ed.* **2013**, *52*, 2981–2984.
- [297] H. Braunschweig, T. Dellermann, R. D. Dewhurst, W. C. Ewing, K. Hammond, J. O. C. Jimenez-Halla, T. Kramer, I. Krummenacher, J. Mies, A. K. Phukan, A. Vargas
Metal-free binding and coupling of carbon monoxide at a boron–boron triple bond
Nature Chem. **2013**, *5*, 1025–1028.

- [296] H. Braunschweig, C.-W. Chiu, D. Gamon, K. Größ, C. Hörl, T. Kupfer, K. Radacki, J. Wahler
[Lewis Acid-Base Adducts of 1-Mesityl - and 1-Chloro -2,3,4,5-tetraphenylborole
Eur. J. Inorg. Chem. **2013**, *15*, 1525–1530.
- [295] T. Arnold, H. Braunschweig, F. Hupp, K. Radacki, S. S. Sen
Reactions of a [1],[1]Disilamolybdenocenophane with Unsaturated Compounds
Eur. J. Inorg. Chem. **2013**, *15*, 5027–5032.
- [294] H. Braunschweig, A. Damme, R. D. Dewhurst, S. Ghosh, T. Kramer, B. Pfaffinger, K. Radacki, A. Vargas
Electronic and Structural Effects of Stepwise Borylation and Quaternization on Borirene Aromaticity
J. Am. Chem. Soc. **2013**, *135*, 1903–1911.
- [293] H. Braunschweig, A. Damme, R. D. Dewhurst, T. Kramer, S. Östreicher, K. Radacki, A. Vargas
Ditopic Ambiphilicity of an Anionic Dimetalloborylene Complex.
J. Am. Chem. Soc. **2013**, *135*, 2313–2320.
- [292] H. Braunschweig, R. D. Dewhurst
Single, Double, Triple Bonds and Chains: The Formation of Electron-Precise B–B Bonds
Angew. Chem. **2013**, *125* 3658–3667; *Angew. Chem. Int. Ed.* **2013**, *52*, 3574–3583.
- [291] H. Braunschweig, R. Bertermann, A. Damme, T. Kupfer
A dinuclear platinum complex featuring the diboran(4)-1,2-diyl ligand in a μ^2 -bridging coordination mode
Chem. Commun. **2013**, *49*, 2439–2441.
- [290] H. Braunschweig, T. Herbst, K. Radacki, C. W. Tate, A. Vargas
Cyclic (amino)(imino)carbene complexes by borylene transfer to isocyanides
Chem. Commun. **2013**, *49*, 1702–1704.
- [289] H. Braunschweig, K. Radacki, R. Shang, C. W. Tate
Reversible Intramolecular Coupling of the Terminal Borylene and a Carbonyl Ligand of [Cp(CO)₂Mn=B-tBu]
Angew. Chem. **2013**, *125*, 757–761; *Angew. Chem. Int. Ed.* **2013**, *52*, 729–733.
- [288] H. Braunschweig, F. Breher, S. Capper, K. Dück, M. Fuß, J. O. C. Jimenez-Halla, I. Krummenacher, T. Kupfer, D. Nied, K. Radacki
Heteroleptic [η]Chromoarenophanes: *ansa* Complexes Derived from [Cr(η^5 -C₅H₅)(η^6 -C₆H₆)]
Chem. Eur. J. **2013**, *19*, 270–281 (VIP).
- [287] H. Braunschweig, A. Damme, R. D. Dewhurst, A. Vargas
Bond-strengthening π backdonation in a transition-metal π -diborene complex.
Nature Chem. **2013**, *5*, 115-121.

2012

- [286] A. Damme and H. Braunschweig
Synthesis and characterization of diborane compounds
Acta Cryst. (2012). A68, s251.
- [285] P. Brenner and H. Braunschweig
The *trans*-influence of the boryl ligand in square-planar platinum(II) complexes
Acta Cryst. (2012). A68, s77.
- [284] H. Braunschweig, A. Damme, J. O. C. Jimenez-Halla, C. Hörl, I. Krummenacher, T. Kupfer, L. Mailänder, K. Radacki
1-Heteroaromatic-Substituted Tetraphenylboroles: π - π Interactions Between Aromatic and Antiaromatic Rings Through a B–C Bond
J. Am. Chem. Soc. **2012**, *134*, 20169–20177.
- [283] H. Braunschweig, A. Damme, J. Mies, M. Schäfer
Insertion of Chalcogens and Bis(*tert*-butylisonitril)palladium(0) into a Strained Ruthenium Half Sandwich Complex
Z. Naturforsch. **2012**, *67b*, 1173–1177.
- [282] H. Braunschweig, A. Damme, T. Kupfer
Evidence for a Strong *trans* Influence of the Diboran(4)yl Ligand
Chem. Eur. J. **2012**, *18*, 15927–15931 (VIP).

- [281] H. Braunschweig, C. Hörl, F. Hupp, K. Radacki, J. Wahler
Borole-Derived Spirocyclic Tetraorganoborate
Organometallics **2012**, *31*, 8463–8466.
- [280] B. Bagh, N. C. Breit, K. Harms, G. Schatte, I. J. Burgess, H. Braunschweig, J. Müller
[1.1]Ferrocenophanes and Bis(ferrocenyl) Species with Aluminum and Gallium as Bridging
Elements: Synthesis, Characterization, and Electrochemical Studies
Inorg. Chem. **2012**, *51*, 11155–11167.
- [279] J. Bauer, H. Braunschweig, K. Radacki
Transmetallation between Metal-Only Lewis Pairs: A new rhodium alane complex
Chem. Commun. **2012**, *48*, 10407–10409.
- [278] H. Braunschweig, A. Damme, J. O. C. Jimenez-Halla, B. Pfaffinger, K. Radacki, J. Wolf
Metal-Mediated Synthesis of 1,4-Di-*tert*-butyl-1,4-azaborine
Angew. Chem. **2012**, *124*, 10177–10180; *Angew. Chem. Int. Ed.* **2012**, *51*, 10034–10037.
- [277] J. Bauer, H. Braunschweig, A. Damme, K. Radacki
Reversible Insertion of Platinum into Coinage Group Metal–Halogen Bonds
Angew. Chem. **2012**, *124*, 10173–10176; *Angew. Chem. Int. Ed.* **2012**, *51*, 10030–10033.
- [276] H. Braunschweig, C.-W. Chiu, A. Damme, B. Engels, D. Gamon, C. Hörl, T. Kupfer, I.
Krummenacher, K. Radacki, C. Walter
Oligo(boroly)benzenes – Synthesis and Properties
Chem. Eur. J. **2012**, *18*, 14292–14304.
- [275] H. Braunschweig, A. Damme, K. Hammond, J. Mager
Synthesis and Structure of New [3]Silametalocenophanes of Group 8 Metals
Organometallics **2012**, *31*, 6317–6321.
- [274] P. Bissinger, H. Braunschweig, A. Damme, T. Kupfer, A. Vargas
Base-Stabilized Diborenes: Selective Generation and η^2 Side-on Coordination to Silver(I)
Angew. Chem. **2012**, *124*, 10069–10073; *Angew. Chem. Int. Ed.* **2012**, 9931–9934.
- [273] H. Braunschweig, A. Damme, R.D. Dewhurst, F. Hupp, J. O.C. Jimenez-Halla, K. Radacki
 σ -Donor– σ -acceptor plumblyene ligands: synergic π -donation between
ambiphilic Pt0 and PbII fragments
Chem. Commun. **2012**, *48*, 10410–10412.
- [272] N. Arnold, H. Braunschweig, A. Damme
Bis[μ -di(*isopropylphosphanido*)- $\kappa^2P:P$]bis[hydrido](triiisopropyl-phosphane- κP)platinum(II)]
Acta Cryst. **2012**, *E68*, m808.
- [271] H. Braunschweig, Q. Ye, K. Radacki, A. Damme
Borylene Transfer from an Iron Bis(borylene) Complex: Synthesis of 1,4-Diboracyclo-
hexadiene and 1,4-Dibora-1,3-Butadiene Complexes
Angew. Chem. **2012**, *124*, 7959–7962; *Angew. Chem. Int. Ed.* **2012**, *51*, 7839–7842.
- [270] H. Braunschweig, R. D. Dewhurst, K. Hammond, J. Mies, A. Vargas, K. Radacki
Ambient-Temperature Isolation of a Compound with a Boron-Boron Triple Bond
Science **2012**, *336*, 1420–1422.
- [269] H. Braunschweig, A. Damme, J. O. C. Jimenez-Halla, T. Kupfer, K. Radacki
Phosphine Adducts of 1,2-Dibromo-1,2-dimesityldiborane(4): Between Bridging Halides and
Rearrangement Processes
Angew. Chem. **2012**, *124*, 6372–6376; *Angew. Chem. Int. Ed.* **2012**, *51*, 6267–6271.
- [268] H. Braunschweig, P. Brenner, R. D. Dewhurst, F. Güthlein, J. O. C. Jimenez-Halla, K.
Radacki, J. Wolf, L. Zöllner
Observation of Elementary Steps in the Catalytic Borane Dehydrocoupling Reaction
Chem. Eur. J. **2012**, *18*, 8605–8609.
- [267] H. Braunschweig, A. Damme, D. Gamon, H. Kelch, I. Krummenacher, T. Kupfer, K. Radacki
Synthesis, Coordination Behavior and Reduction Chemistry of Cymantrenyl-1,3-bis(2,3,4,5-
tetraphenyl)borole
Chem. Eur. J. **2012**, *18*, 8430–8436.
- [266] H. Braunschweig, Q. Ye, A. Vargas, R. D. Dewhurst, K. Radacki, A. Damme
Controlled homocatenation of boron on a transition metal
Nature Chem. **2012**, *4*, 563–567.

- [265] H. Braunschweig, C.-W. Chiu, D. Gamon, M. Kaupp, I. Krummenacher, T. Kupfer, R. Müller, K. Radacki,
Synthesis, Structure and Reactivity of Borole-Functionalized Ferrocenes
Chem. Eur. J. **2012**, *18*, 11732–11746.
- [264] J. Bauer, H. Braunschweig, R. D. Dewhurst
Metal-Only Lewis Pairs with Transition Metal Lewis Bases
Chem. Rev. **2012**, *112*, 4329–4346.
- [263] G. Hiltensperger, N. G. Jones, S. Niedermeier, A. Stich, J. Jung, S. Puhl, A. Damme, H. Braunschweig, L. Meinel, M. Engstler, U. Holzgrabe
Synthesis and Structure-Activity Relationships of New Quinolone-type Molecules against *Trypanosoma brucei*
J. Med. Chem. **2012**, *55*, 2538–2548.
- [262] K. H. Fischer, M. Schneider, I. Fischer, B. Pfaffinger, H. Braunschweig, B. Sztaray, A. Bodi
Bonding in a Borylene Complex Investigated by Photoionization and Dissociative Photoionization
Chem. Eur. J. **2012**, *18*, 4533–4540 (VIP).
- [261] N. Arnold, H. Braunschweig, P. Brenner, J. Oscar C. Jimenez-Halla, T. Kupfer, K. Radacki
Reactivity of Boryl Complexes: Synthesis and Structure of New Neutral and Cationic Platinum Boryls and Borylenes
Organometallics **2012**, *31*, 1897–1907.
- [260] H. Braunschweig, V. Dyakonov, J. O. C. Jimenez-Halla, K. Kraft, I. Krummenacher, K. Radacki, A. Sperlich, J. Wahler
An Isolable Radical Anion Based on the Borole Framework
Angew. Chem. **2012**, *124*, 3031–3034; *Angew. Chem. Int. Ed.* **2012**, *51*, 2977–2980.
- [259] H. Braunschweig, K. Radacki, Quing Ye
High yield synthesis of a neutral and carbonyl-rich terminal arylborylene complex
Chem. Commun. **2012**, *48*, 2701–2703.
- [258] J. Bauer, H. Braunschweig, K. Gruss, F. Hupp, T. Kramer
New Metal-Only-Lewis-Pairs: Elucidating the Electronic Influence of *N* Heterocyclic Carbenes and Phosphines on the Dative Pt-Al Bond
Inorg. Chem. **2012**, *51*, 5617–5626.
- [257] H. Braunschweig, C. Claes, F. Güthlein
Dehydrocoupling of catecholborane catalyzed by group 4 compounds
J. Organomet. Chem. **2012**, *706-707*, 144–145.
- [256] H. Braunschweig, M. Friedrich, K. Radacki, J. Wolf
Synthesis and Reactivity of Palladium- and Platinum-Bridged Heterobimetallic [3]Trochrocenophanes
Organometallics **2012**, *31*, 3027–3034.
- [255] H. Braunschweig, P. Brenner, R. D. Dewhurst, I. Krummenacher, B. Pfaffinger, A. Vargas
Unsupported boron-carbon σ -coordination to platinum as an isolable snapshot of σ -bond activation
Nature Communications., **2012**, *3*, Article Number 872, DOI:10.1038/NCOMMS1884.
- [254] H. Braunschweig, R. Dörfler, K. Hammond, T. Kramer, J. Mies, K. Radacki, M. Schäfer
Synthesis and Structure of Distanna and Tristanna Ansa Half-Sandwich Complexes of Ruthenium and Nickel
Inorg. Chem. **2012**, *51*, 1225–1227.
- [253] Y. Kirchwehm, A. Damme, T. Kupfer, H. Braunschweig, A. Krüger
Ortho-methylated Tribenzotriquinacenes—paving the way to curved carbon networks
Chem. Commun. **2012**, *48*, 1502–1504.
- [252] H. Braunschweig, R. Dörfler, J. Mies, K. Radacki, M. Schmitt
Iron ansa half sandwich complexes bearing a bridging distannadiyl moiety
J. Organomet. Chem. **2012**, *697*, 26–30.
- [251] J. Bauer, H. Braunschweig, R. D. Dewhurst, K. Kraft, K. Radacki
Monohaloboryls (BH X^-) as Bridging Ligands: Observable Dinuclear σ -(Halo)boryl Intermediates in the Synthesis of Metalloborylenes
Chem. Eur. J. **2012**, *18*, 2327–2334.

[250] H. Braunschweig, T. Kupfer
[n]Borametalloarenophanes (n = 1, 2): Strained Systems with Uncommon Reactivity Patterns
Eur. J. Inorg. Chem. **2012**, *14*, 1319–1332.

[249] H. Braunschweig, R. Dewhurst, K. Kraft, S. Östreicher, K. Radacki
Planar Four-Coordinate Boron: A Single, Flat Boron Atom as a Ligand for Four Metals
Angew. Chem. **2012**, *124*, 2225–2228; *Angew. Chem. Int. Ed.* **2012**, *51*, 2183–2186.

2011

[248] J. Bauer, H. Braunschweig, A. Damme, K. Gruß, K. Radacki
Extending unsupported metal-only Lewis pairs to palladium
Chem. Commun. **2011**, *47*, 12783–12785.

[247] H. Braunschweig
Non-iron [n]Metalloarenophanes-Synthesis, Structure and Reactivity
Polymer Preprints, **2011**, *52*, 867.

[246] H. Braunschweig
Non-iron [n]metalloarenophanes
ABSTR PAP AM CHEM S: 242nd ACS Meeting, POLY-550, AUG 28–SEP 01 2011, **2011**.

[245] P. Bissinger, H. Braunschweig, A. Damme, R. Dewhurst, T. Kupfer, K. Radacki, K. Wagner
Generation of a Carbene-stabilized Bora-borylene and its Insertion into a C-H Bond
J. Am. Chem. Soc. **2011**, *133*, 19044–19047.

[244] H. Braunschweig, R. Dörfler, M. Friedrich, M. Kraft, A. Oechsner
Catalytic Activity of [2]Borametalloarenophanes
Z. anorg. allg. Chem. **2011**, *637*, 2125–2128.

[243] H. Braunschweig, F. Güthlein
Transition-Metal-Catalyzed Synthesis of Diboranes(4)
Angew. Chem. **2011**, *123*, 12821–12824; *Angew. Chem. Int. Ed.* **2011**, *50*, 12613–12616.

[242] H. Braunschweig, M. Drisch, M. Friedrich; T. Kupfer, K. Radacki
Metal-Enriched [3]Trochrocenophanes: Bimetallic Metalloarenophanes by Coordination to Chelating Bisphosphanyles
Organometallics **2011**, *30*, 5202–5207.

[241] H. Braunschweig, R. Bertermann, P. Brenner, M. Burzler, R. Dewhurst, K. Radacki, F. Seeler
trans-[Pt(BCat')Me(PCy₃)₂]: An Experimental Case Study of Reductive Elimination Processes in Pt-Boryls through Associative Mechanisms
Chem. Eur. J. **2011**, *17*, 11828–11837 (VIP).

[240] H. Braunschweig, R. Dörfler, J. Mies, A. Oechsner
Sterically Demanding Hetero-Substituted [2]Borametalloarenophanes of Group IV Metals: Synthesis, Structure and Reactivity
Chem. Eur. J. **2011**, *17*, 12101–12107.

[239] H. Braunschweig, T. Kupfer
Recent developments in the chemistry of antiaromatic boroles
Chem. Commun. **2011**, *47*, 10903–10914.

[238] J. Bauer, H. Braunschweig, K. Kraft, K. Radacki
Oxidative Addition of Boron Trifluoride to a Transition Metal
Angew. Chem. **2011**, *123*, 10641–10644; *Angew. Chem. Int. Ed.* **2011**, *50*, 10457–10460.

[237] H. Braunschweig, A. Damme, T. Kupfer
Unexpected Bonding Mode of the Diboran(4)yl Ligand: Combining the Boryl Motif with a Dative Pt-B Interaction
Angew. Chem. **2011**, *123*, 7317–7320; *Angew. Chem. Int. Ed.* **2011**, *50*, 7179–7182.

[236] H. Braunschweig, C.-W. Chiu, A. Damme, K. Ferkinghoff, K. Kraft, K. Radacki, J. Wahler
Unwinding Antiaromaticity in 1-Bromo-2,3,4,5-tetraphenylborole
Organometallics **2011**, *30*, 3210–3216.

[235] M. M. Safont-Sempere, P. Osswald, M. Stolte, M. Grüne, M. Renz, M. Kaupp, K. Radacki, H. Braunschweig, F. Würthner
Impact of Molecular Flexibility on Binding Strength and Self-Sorting of Chiral π -Surfaces
J. Am. Chem. Soc. **2011**, *133*, 9580–9591.

- [234] C. J. Adams, H. Braunschweig, M. Fuß, K. Kraft, T. Kupfer, I. Manners, K. Radacki, G. R. Whittell
Syntheses of Group 4 *ansa*-Trovacene Complexes and Conversion of [1]Silatrovacenophanes into Paramagnetic Metallopolymers by Ring-Opening Polymerization
Chem. Eur. J. **2011**, *17*, 10379-10387.
- [233] H. Braunschweig, A. Damme, D. Gammon, T. Kupfer, K. Radacki
Synthesis and Coordination Chemistry of 1-Cymantrenyl-2,3,4,5-tetraphenyl borole
Inorg. Chem. **2011**, *50*, 4250–4252.
- [232] F. Bauer, H. Braunschweig, K. Größ, T. Kupfer
Diboration of Dialkynes with [2]Boraferrocenophanes
Organometallics **2011**, *30*, 2869-2884.
- [231] T. Arnold, H. Braunschweig, K. Größ
cyclo-Tri- μ -oxido-tris{[(η^5 , η^5 -1,2-bis(cyclopentadienyl)-1,1,2,2-tetramethyldisilane]zirconium(IV))}: a trimeric disila-bridged oxidozirconocene
Acta Cryst. **2011**, *E67*, m391.
- [230] J. Pfister, C. Schon, W. Roth, C. Kaiser, C. Lambert, K. Größ, H. Braunschweig, I. Fischer, R. F. Fink, B. Engels
Paracyclophanes as Model Compounds for Strongly Interacting π -Systems, Part 3: Influence of the Substitution Pattern on Photoabsorption Properties
J. Phys. Chem. **2011**, *115*, 3583-3591.
- [229] H. Braunschweig, Q. Ye, A. Damme, T. Kupfer, K. Radacki, and J. Wolf
Synthesis of 1-Aza-2-borabutatriene Rhodium Complexes by Thermal Borylene Transfer from [(OC)₅Mo=BN(SiMe₃)₂]
Angew. Chem. **2011**, *123*, 9634–9638; *Angew. Chem. Int. Ed.* **2011**, *50*, 9462-9466.
- [228] H. Braunschweig, M. Fuß, T. Kupfer, K. Radacki
Selective Dilithiation of [Ti(η^5 -C₅H₅)(η^8 -C₈H₈)] and Subsequent Conversion into Neutral and Cationic *ansa*-Complexes
J. Am. Chem. Soc. **2011**, *133*, 5780–5783.
- [227] H. Braunschweig, M. Friedrich, T. Kupfer, K. Radacki
Heteroleptic [1]zirconametalloareneophanes: potential precursors to metal-enriched metallopolymers
Chem. Commun. **2011**, *47*, 3998–4000.
- [226] H. Braunschweig, S. Ghosh, T. Kupfer, K. Radacki, J. Wahler
High-Yield Synthesis of a Hybrid 2,3,4,5-Tetracarba-1,6-*nido*-hexaborane(6) Cluster with an *exo*-Polyhedral Boracycle
Chem. Eur. J. **2011**, *17*, 4081–4084.
- [225] H. Braunschweig, Q. Ye, K. Radacki, T. Kupfer
Reactivity of a platinum-substituted borirene
J. Chem. Soc., Dalton Trans. **2011**, *40*, 3421–3760.
- [224] P. Bissinger, H. Braunschweig, K. Kraft, T. Kupfer
Trapping the Elusive Parent Borylene
Angew. Chem. **2011**, *123*, 4801–4804; *Angew. Chem. Int. Ed.* **2011**, *50*, 4704–4707.
- [223] K. K. Pandey, H. Braunschweig, M. Forster, K. Größ, K. Radacki
Carbonyl and Fluoroborylene Complexes of Platinum(0): Synthesis and Structure of [(Cy₃P)₂Pt(CO)] and [(Cy₃P)₂Pt(CO)₂]; DFT Study of [(Me₃P)₂PtL] and [(Me₃P)₂PtL₂] (L = CO, BF)
Inorg. Chem. **2011**, *50*, 1816–1819.
- [222] H. Braunschweig, R. Dörfler, K. Größ, K. Radacki
Synthesis and Reactivity of a Dilithiated Molybdenum Half-Sandwich Complex
Z. anorg. allg. Chem. **2011**, *637*, 381-385.
- [221] H. Braunschweig, K. Größ
Synthesis and Structural Characterization of the Dinuclear Beryllium Species [Be₂Cl₂(m-Cl)₂(PCy₃)₂]
Z. Naturforsch. **2011**, *66b*, 55–57.

- [220] K. Ansorg, H. Braunschweig, C.-W. Chiu, B. Engels, D. Gamon, M. Hügel, T. Kupfer, K. Radacki
The Pentaphenylborole–2,6-Lutidine Adduct: A System with Unusual Thermo-chromic and Photochromic Properties
Angew. Chem. **2011**, *123*, 2885–2888; *Angew. Chem. Int. Ed.* **2011**, *50*, 2833–2836.
- [219] K. K. Pandey, H. Braunschweig, A. Lledós
Nature of Bonding in Terminal Borylene, Alylene and Gallylene complexes of Vanadium and Niobium $[(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_3\text{M}(\text{ENR}_2)]$ (M = V, Nb; E = B, Al, Ga; R = CH₃, SiH₃, CMe₃, SiMe₃): A DFT Study
Inorg. Chem. **2011**, *50*, 1402–1410.
- [218] H. Braunschweig, R. Dörfler, K. Größ, J. Köhler, K. Radacki
Insertion vs. Ligand Exchange: The Reactivity of Distanna-ansa-Half Sandwich Complexes towards Isocyanide and Phosphine Complexes of Nickel and Palladium
Organometallics **2011**, *30*, 305–312.
- [217] F. Bauer, H. Braunschweig, K. Größ, K. K. Pandey
Unexpected Generation of Diastereomers by Double Diboration of a Dialkyne
Chem. Eur. J. **2011**, *17*, 5230–5233.
- [216] H. Braunschweig, R. D. Dewhurst
Transition metals as Lewis bases: “Z-type” boron ligands and metal-to-boron dative bonding
J. Chem. Soc. Dalton Trans. **2011**, *40*, 549–558.
- [215] H. Braunschweig, M. Gross, K. Kraft
Synthesis and reactivity of [2]disilaniobocenophanes
J. Organomet. Chem. **2011**, *696*, 568–571.
- [214] H. Braunschweig, R. D. Dewhurst, K. Kraft, K. Radacki
Borido complexes *via* intermetallic metalloborylene transfer
Chem. Commun. **2011**, *47*, 9900–9902.
- [213] H. Braunschweig, C.-W. Chiu, T. Kupfer, K. Radacki
NHC-Stabilized 1-Hydro-1*H*-borole and Its Nondegenerate Sigmatropic Isomers
Inorg. Chem. **2011**, *50*, 4247–4249.
- [212] H. Braunschweig, P. Brenner, Q. Ye, K. Radacki, G. Frenking, S. De
Borylene-Based Functionalization of Iron-Alkynyl- σ -Complexes and Stepwise Reversible Metal-Boryl-to-Borirene Transformation: Synthesis, Characterization and Density Functional Theory Studies
Inorg. Chem. **2011**, *50*, 62–71.
- [211] K. K. Pandey, H. Braunschweig
DFT Study on the Alkylborylene and Haloborylene Complexes of Manganese and Rhenium: Structure and Bonding Energy Analysis in $[(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_2\text{M}(\text{BR})]$ and $[(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_2\text{M}(\text{BX})]$ (M = Mn, Re; R = Me, Et, ⁱPr, ^tBu; X = F, Cl, Br, I)
Eur. J. Inorg. Chem. **2011**, *13*, 2045–2056.
- [210] H. Braunschweig, P. Cogswell, K. Schwab
Synthesis, Structure and Reactivity of Complexes Containing a Transition Metal-Bismuth Bond
Coord. Chem. Rev. **2011**, *255*, 101–117.
- 2010**
- [209] H. Braunschweig, A. Damme
1,2-Bis(dimethylamino)-1,2-bis(2,4,6-triisopropylphenyl)diborane(4)
Acta Cryst. **2010**, *E66*, o3367.
- [208] H. Braunschweig, J. Mies, R. Dörfler, K. Hammond, K. Radacki
Synthesis and Structure of Trisila-bridged *ansa* Half-sandwich Complexes of Group 6 Metals
Eur. J. Inorg. Chem. **2010**, 5383–5385.
- [207] P. Bissinger, H. Braunschweig, T. Kupfer, K. Radacki
Monoborane NHC Adducts in the Coordination Sphere of Transition Metals
Organometallics **2010**, *29*, 3987–3990.
- [206] H. Braunschweig, A. Damme, T. Kupfer
New [2]Boraferrocenophane and Diferrocenyldiborane(4) Derivatives
Eur. J. Inorg. Chem. **2010**, *28*, 4423–4426.

- [205] H. Braunschweig, K. Kraft, T. Kupfer, E. Siedler
A Manganese- σ -Borane Complexes of Dihaloboranes
Z. anorg. allg. Chem. **2010**, 636, 2565–2567.
- [204] H. Braunschweig, F. Breher, C.-W. Chiu, D. Gamon, D. Nied, K. Radacki
Reduction Chemistry of Ferrocenylborole
Angew. Chem. **2010**, 122, 9159–9162; *Angew. Chem. Int. Ed.* **2010**, 49, 8975–8978.
- [203] H. Braunschweig, P. Brenner, M. Gross, K. Radacki
Reactivity of [1],[1]Disilamolybdenocenophane towards zerovalent Platinum Complexes
J. Am. Chem. Soc. **2010**, 132, 11343–11349.
- [202] H. Braunschweig, C.-W. Chiu, J. Wahler, K. Radacki, T. Kupfer
Chemical Reduction and Dimerization of 1-Chloro-2,3,4,5-tetraphenylborole
Chem. Eur. J. **2010**, 16, 12229–12239.
- [201] H. Bera, H. Braunschweig, A. Oechsner, R. Sigriz, F. Seeler
Synthesis of a distanna [2]ferrocenophane and reactivity of [2]ferrocenophanes towards elemental sulfur and selenium
J. Organomet. Chem. **2010**, 695, 2609–2613.
- [200] H. Braunschweig, M. Fuß, S. K. Mohapatra, K. Kraft, T. Kupfer, M. Lang, K. Radacki, C. G. Daniliuc, P. G. Jones, M. Tamm
Synthesis and Reactivity of Boron-, Silicon-, and Tin-Bridged *ansa*-Cyclopentadienyl–Cycloheptatrienyl Titanium Complexes (Troticenophanes)
Chem. Eur. J. **2010**, 16, 11732–11743.
- [199] H. Braunschweig, P. Brenner, P. Cogswell, K. Kraft, K. Schwab
Oxidative addition of the bismuth-chloride bond: synthesis and structure of *trans*-[PtCl(PCy₃)₂{BiCl₂}]
Chem. Commun. **2010**, 7894–7896.
- [198] H. Braunschweig, F. Matz, K. Radacki, A. Schneider
Reactivity of a Platinum Iminoboryl Complex towards Element-Hydrogen Bonds of Opposing Polarity
Organometallics **2010**, 29, 3457–3462.
- [197] S. Bertsch, H. Braunschweig, B. Christ, M. Forster, K. Schwab, K. Radacki
Towards Homoleptic Borylene Complexes – Incorporation of two Borylene Ligands into a Mononuclear Iridium Species
Angew. Chem. **2010**, 122, 9707–9710; *Angew. Chem. Int. Ed.* **2010**, 49, 9517–9520.
- [196] H. Braunschweig, K. Radacki, A. Schneider
Reactivity of an oxoboryl complex toward fluorinated aryl boron reagents
Chem. Commun. **2010**, 6473–6475.
- [195] H. Braunschweig, K. Kraft, S. Östreicher, K. Radacki, F. Seeler
Neutral and Anionic Transition-Metal-Base-Stabilized Metalloborylene Complexes
Chem. Eur. J. **2010**, 16, 10635–10637 (VIP).
- [194] J. Bauer, H. Braunschweig, P. Brenner, K. Kraft, K. Radacki, K. Schwab
Late Transition Metal Complexes as Tunable Lewis-bases
Chem. Eur. J. **2010**, 16, 11985–11992.
- [193] K. K. Pandey, P. Patidara, H. Braunschweig
Structure and Bonding Energy Analysis of M-Ga Bonds in Dihalogallyl Complexes [X(PMe₃)₂M(GaX₂)] (M = Ni, Pd, Pt; X = Cl, Br, I)
Inorg. Chem. **2010**, 49, 6994–7000.
- [192] H. Bera, H. Braunschweig, R. Dörfler, T. Kupfer, K. Radacki, F. Seeler
Half-sandwich Tungsten Complexes with Metal- and η^5 -Cyclopentadienyl-bound Functional Stannyl Groups and their Transformation into *ansa* Complexes
Organometallics **2010**, 29, 5111–5120.
- [191] H. Braunschweig, K. Kraft, K. Radacki, S. Stellweg
Molybdenum-Boron Bonds in the Crystal – Structural Characterization of K[(η^5 -C₅H₅)Mo(CO)₃] and [(η^5 -C₅H₅) (OC)₃Mo-B(NMe₂)-B(NMe₂)Br]
Z. Naturforsch. **2010**, 65b, 1073–1076.
- [190] H. Braunschweig, K. Radacki, A. Schneider
Cyclodimerization of an Oxoboryl Complex Induced by *trans* Ligand Abstraction
Angew. Chem. **2010**, 122, 6130–6133; *Angew. Chem. Int. Ed.* **2010**, 49, 5993–5996 (VIP).

- [189] H. Braunschweig, R. Dewhurst
Fashionably Late: Synthesis and Characterization of Transition Metal-Fluoroborylene Complexes
Angew. Chem. **2010**, *122*, 3486 – 3488; *Angew. Chem. Int. Ed.* **2010**, *49*, 3412–3414.
- [188] H. Braunschweig, K. Radacki, A. Schneider
Oxoboryl Complexes: Boron–Oxygen Triple Bonds stabilized in the Coordination Sphere of Platinum
Science, **2010**, *328*, 345–347.
- [187] H. Braunschweig, R. D. Dewhurst, K. Wagner, K. Schwab
[N',N''-bis[2,6-bis(1-methylethyl)phenyl]-N,N-dimethylguanidinato-κN',κN'']dibromoborane
Acta Cryst. **2010**, *E66*, o610.
- [186] J. Köhler, S. Lindenmaier, I. Fischer, H. Braunschweig, T. Kupfer, D. Gamon, C.-W. Chiu
Probing Antiaromaticity: Resonance Raman Investigation of a series of differently substituted boroles
J. Raman Spectrosc. **2010**, *41*, 636-641; online DOI 10.1002/jrs.2491.
- [185] V. Alptüzün, M. Prinz, V. Hörr, J. Scheiber, K. Radacki, A. Fallarero, P. Vuorela, B. Engels, H. Braunschweig, E. Erciyas, U. Holzgrabe
Interaction of (benzylidene-hydrazono)-1,4-dihydropyridines with beta-amyloid, acetylcholine and butyrylcholine esterases
Bioorg. Med. Chem. **2010**, *18*, 2049–2059.
- [184] H. Braunschweig, C.-W. Chiu, K. Radacki, T. Kupfer
Synthesis and Structure of a Carbene-Stabilized π-Boryl Anion
Angew. Chem. **2010**, *122*, 2085–2088; *Angew. Chem. Int. Ed.* **2010**, *49*, 2041–2044 (VIP).
- [183] H. Braunschweig, R. D. Dewhurst, A. Schneider
Electron-Precise Coordination Modes of Boron-Centered Ligands
Chem. Rev. **2010**, *110*, 3924–3957.
- [182] F. Bauer, H. Braunschweig, K. Schwab
1,1-Diboration of isocyanides with [2]borametalloarenophanes
Organometallics **2010**, *29*, 934–938.
- [181] H. Braunschweig, C.-W. Chiu, K. Radacki, P. Brenner
Platinum substituted boroles
Chem. Commun. **2010**, 916–918.
- [180] H. Braunschweig, K. Radacki, K. Schwab
An early-late heterobimetallic complex with an unsupported dative bond: synthesis and structure of [(Cy₃P)₂Pt–ZrCl₄]
Chem. Commun. **2010**, 913–915.
- [179] T. Arnold, H. Braunschweig, M. Gross, M. Kaupp, R. Müller, K. Radacki
Electronic Structure and Reactivity of a [1],[1]Disilamolybdenocenophane
Chem. Eur. J. **2010**, *16*, 3014–3020.
- [178] H. Braunschweig, T. Kupfer
Non-Iron [n]Metalloarenophanes
Acc. Chem. Res. **2010**, *43*, 455–465.

2009

- [177] S. Yu. Ketkov, N. A. Isachenkov, H. Braunschweig, T. Kupfer
Electronic structures of mixed sandwich *ansa*-complexes of chromium as studied by gas-phase absorption spectroscopy and quantum chemistry
Russ.Chem.Bull., Int.Ed., **2009**, *58*, 682–690.
- [176] M. Breuning, T. Häuser, C. Mehler, C. Däschlein, C. Strohmam, A. Öchsner, H. Braunschweig
Enantioselective synthesis of tricyclic amino acid derivatives based on a rigid 4-azatricyclo[5.2.1.0_{2,6}]decane skeleton
Beilstein J. Org. Chem. **2009**, *5*, No. 81. doi:10.3762/bjoc.5.81
- [175] U. Mayerhöffer, K. Deing, K. Größ, H. Braunschweig, K. Meerholz, F. Würthner
Outstanding Short-Circuit Currents in BHJ Solar Cells Based on NIR-Absorbing Acceptor-Substituted Squaraines
Angew. Chem. **2009**, *121*, 8934–8937; *Angew. Chem. Int. Ed.* **2009**, *48*, 8776–8779.

- [174] H. Braunschweig, R. D. Dewhurst, K. Radacki, K. Wagner
Dichlorophenylborane-2-(dicyclohexylphosphino)-2',4',6'-triisopropylbiphenyl
Acta Cryst. **2009**, *E65*, o2787.
- [173] H. Braunschweig, Q. Ye, K. Radacki
Borylene-based functionalization of Pt-alkynyl complexes by photochemical borylene transfer from [(OC)₅Cr=BN(SiMe₃)₂]
Chem. Commun. **2009**, 6979–6981.
- [172] H. Braunschweig, P. Brenner, R. D. Dewhurst, M. Kaupp, R. Müller, S. Östreicher
A Trimetallic Gold-Boride Complex with an Unprecedented Type of Fluxional Metall-Boron Bonding
Angew. Chem. **2009**, *121*, 9916–9919; *Angew. Chem. Int. Ed.* **2009**, *48*, 9735–9738.
- [171] H. Braunschweig, C.W. Chiu, K. Radacki, D. Gamon
Synthesis and characterization of a platinum η^1 -borole complex
ABSTR PAP AM CHEM S: 238th ACS Meeting, INOR-592, 16–20 AUG 2009, **2009**.
- [170] H. Braunschweig, B. Grünewald, K. Schwab, R. Sigritz
1,1'-Diborylferrocenes from [2]Boraferrocenophanes by Boron–Boron Exchange
Eur. J. Inorg. Chem. **2009**, 4860–4863.
- [169] H. Braunschweig, T. Herbst, K. Radacki, G. Frenking, M. A. Celik
Chemoselective Boron-Carbon Bond Cleavage by Hydroboration of Borirenes
Chem. Eur. J. **2009**, *15*, 12099–12106.
- [168] H. Bera, H. Braunschweig, R. Dörfler, K. Hammond, A. Öchsner, K. Radacki, K. Uttinger
Synthesis, Structure and Reactivity of Disila- and Distanna *ansa* Half-Sandwich Complexes of Molybdenum and Tungsten
Chem. Eur. J. **2009**, *15*, 12092–12098.
- [167] H. Braunschweig, R. D. Dewhurst
Borylene Complexes as Reagents in Organic and Organometallic Synthesis
Chim. Oggi-Chem. Today. **2009**, *27*, 27–29.
- [166] H. Braunschweig, R. D. Dewhurst, K. Kraft, K. Radacki
Low-Coordinate Boride Ligands: A True Trimetalloborane
Angew. Chem. **2009**, *121*, 5951–5954; *Angew. Chem. Int. Ed.* **2009**, *48*, 5837–5840.
- [165] H. Braunschweig, T. Herbst, D. Rais, S. Ghosh, T. Kupfer, K. Radacki, A. Crawford, R. Ward, T. Marder, I. Fernandez, G. Frenking
Borylene-Based Direct Functionalization of Organic Substrates: Synthesis, Characterization and Photophysical Properties of π -Conjugated Borirenes
J. Am. Chem. Soc. **2009**, *131*, 8989–8999.
- [164] H. Braunschweig, B. Christ, M. Colling-Hendelkens, M. Forster, K. Götz, M. Kaupp, K. Radacki, F. Seeler
Synthesis, Structure, and Bonding of Novel Homodinuclear Cobalt and Nickel Borylene Complexes.
Chem. Eur. J. **2009**, *15*, 7150–7155.
- [163] H. Braunschweig, P. Brenner, K. Radacki
A Bromide bridged Platinum(II) complex as Precursor to a neutral Platinum Compound with a Base-Stabilized Borylene Ligand
Z. anorg. allg. Chem. **2009**, *635*, 2089–2092.
- [162] H. Braunschweig, T. Kupfer, J. Mies, A. Oechsner
Disfluorenyl[2]borametallocenophanes of Group 4 Metals: Synthesis and Structure
Eur. J. Inorg. Chem. **2009**, 2844–2850.
- [161] R. Schmidt, J. Hak Oh, Y. Sun, M. Deppisch, A. Krause, K. Radacki, H. Braunschweig, M. Könemann, P. Erk, Z. Bao, F. Würthner
High-Performance Air-Stable n-Channel Organic Thin Film Transistors Based on Halogenated Perylene Bisimide Semiconductors
J. Am. Chem. Soc. **2009**, *131*, 6215–6228.
- [160] H. Braunschweig, K. Gruss, K. Radacki
Complexes with Dative Bonds between d- and s-Block Metals: Synthesis and Structure of [(Cy₃P)₂Pt–Be(Cl)X] (X = Cl, Me)
Angew. Chem. **2009**, *121*, 4303–4305; *Angew. Chem. Int. Ed.* **2009**, *48*, 4239–4241.

- [159] H. Braunschweig, R. D. Dewhurst
Reversible σ -Borane-to-Borylene Transformation: A Little Something For Everyone
Angew. Chem. **2009**, *121*, 1925–1927; *Angew. Chem. Int. Ed.* **2009**, *48*, 1893–1895.
- [158] H. Braunschweig, M. Forster, F. Seeler
Synthesis and Structure of Heterodinuclear Rhodium and Iridium Borylene Complexes
Chem. Eur. J. **2009**, *15*, 469–473.
- [157] H. Braunschweig, R. Dörfler, J. Mager, K. Radacki, F. Seeler
Structural characterization of the anionic halfsandwich complex $[\text{Li}(\text{TMEDA})_2][\text{Mo}(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_3]$ and its reactivity towards stannanes and distannanes
J. Organomet. Chem. **2009**, *694*, 1134–1137.
- [156] H. Braunschweig, M. Fuß, K. Radacki, K. Uttinger
Synthesis of chloro boryl complexes by oxidative addition of B-Cl bonds
Z. anorg. allg. Chem. **2009**, *635*, 208–210.
- [155] K. Götz, M. Kaupp, H. Braunschweig, D. Stalke
Comparative Analysis of Electron Density and Electron-Localization Function for Dinuclear Manganese Complexes with Bridging Boron- and Carbon-Centered Ligands
Chem. Eur. J. **2009**, *15*, 623–632.

2008

- [154] G. Bringmann, D. Götz, T. Gulder, T. Gehrke, T. Bruhn, T. Kupfer, K. Radacki, H. Braunschweig, A. Heckmann, C. Lambert
Axially Chiral β,β -Bisporphyrins: Synthesis and Configurational Stability Tuned by the Central Metals
J. Am. Chem. Soc. **2008**, *130*, 17812–17825.
- [153] C. E. Anderson, H. Braunschweig, R. D. Dewhurst
Borylene transfer from transition metal borylene complexes
Organometallics **2008**, *27*, 6381–6389.
- [152] H. Braunschweig, K. Radacki, K. Uttinger
Syntheses and structures of mono- and dinuclear cationic base-stabilized platinum borylene complexes
Organometallics **2008**, *27*, 6005–6012.
- [151] H. Braunschweig, K. Gruss, K. Radacki
The reactivity of Pt^0 complexes towards gallium(III) halides: Synthesis of a platinum gallane complex and oxidative addition of gallium halides to Pt^0
Inorg. Chem. **2008**, *47*, 8595–8597.
- [150] H. Braunschweig, M. Gross, K. Radacki, C. Rothgaengel
Intramolecular Activation of a Disila[2]molybdenocenophanedihydride: Synthesis and Structure of a [1],[1]Metalloarenophane
Angew. Chem. **2008**, *120*, 10127–10129; *Angew. Chem. Int. Ed.* **2008**, *47*, 9979–9981.
- [149] H. Braunschweig, M. Gross, K. Hammond, M. Friedrich, M. Kraft, A. Oechsner, K. Radacki, S. Stellwag
[2]Borametalloenophanes of Group 4 Metals: Synthesis and Structure
Chem. Eur. J. **2008**, *14*, 8972–8979.
- [148] H. Braunschweig, M. Kaupp, C. Lambert, D. Nowak, K. Radacki, S. Schinzel, K. Uttinger
Synthesis and Structure of a Ferrocenyl Boron Dication
Inorg. Chem. **2008**, *47*, 7456–7458.
- [147] H. Braunschweig, F. Breher, M. Kaupp, M. Groß, T. Kupfer, D. Nied, K. Radacki, S. Schinzel
Synthesis, Crystal Structure, EPR and DFT studies and Redox Properties of [2]Tetramethyldisilacobaltocenophane
Organometallics **2008**, *27*, 6427–6433.
- [146] H. Braunschweig, T. Kupfer
Direct functionalization at the boron centre of antiaromatic chloroborole
Chem. Commun. **2008**, 4487–4489.
- [145] H. Braunschweig, K. Radacki, K. Uttinger
T-Shaped Platinum Boryl Complexes – Synthesis and Structure
Chem. Eur. J. **2008**, *14*, 7858–7866.

- [144] H. Braunschweig, M. Kaupp, C. J. Adams, T. Kupfer, K. Radacki, S. Schinzel
Synthesis, Reactivity and Electronic Structure of [n]Vanadoarenophanes: An Experimental and Theoretical Study
J. Am. Chem. Soc. **2008**, *130*, 11376–11393.
- [143] H. Braunschweig, M. Burzler, R. D. Dewhurst, K. Radacki
A Linear, Anionic Dimetalloborylene Complex
Angew. Chem. **2008**, *120*, 5732–5735; *Angew. Chem. Int. Ed.* **2008**, *47*, 5650–5653.
- [142] H. Braunschweig, R. D. Dewhurst, T. Herbst, K. Radacki
Reactivity of a Terminal Chromium Borylene Complex Towards Olefins: Insertion of a Borylenes into a C–H Bond
Angew. Chem. **2008**, *120*, 6067–6069; *Angew. Chem. Int. Ed.* **2008**, *47*, 5978–5980.
- [141] H. Braunschweig, M. Forster, T. Kupfer, F. Seeler
Borylene Transfer under Thermal Conditions for the Synthesis of Rhodium and Iridium Borylene Complexes
Angew. Chem. **2008**, *120*, 6070–6072; *Angew. Chem. Int. Ed.* **2008**, *47*, 5981–5983.
- [140] H. Braunschweig, H. Green, K. Radacki, K. Uttinger
Synthesis of g1-borazine complexes of palladium and platinum
J. Chem. Soc. Dalton Trans. **2008**, 3531–3534.
- [139] H. Braunschweig, M. Burzler, R. Dewhurst, K. Radacki, F. Seeler
Dimanganese Bridging Borylene Complexes and their Reactions with Unsaturated Pd(0) Complexes – Syntheses, Structures and Calculated Properties
Z. anorg. allg. Chem. **2008**, *634*, 1875–1879.
- [138] H. Braunschweig, T. Kupfer, K. Radacki, A. Schneider, F. Seeler, K. Uttinger, H. Wu
Synthesis and Reactivity Studies of Iminoboryl Complexes
J. Am. Chem. Soc. **2008**, *130*, 7974–7983.
- [137] T. Auch, H. Braunschweig, K. Radacki, R. Sigrütz, U. Siemeling, S. Stellweg
Synthesis and Crystal Structure of 1,3-Diphenyl-2-ferrocenyl-1,3,2-diazaborna-[3]-ferrocenophane
Z. Naturforsch. **2008**, *63b*, 920–922.
- [136] H. Braunschweig, C. Kollann, F. Seeler
Transition Metal Borylene Complexes
Struct. Bond. **2008**, *130*, 1–27.
- [135] U. Flierler, M. Burzler, D. Leusser, J. Henn, H. Ott, H. Braunschweig, D. Stalke
Electron Density Investigation of Metal-Metal Bonding in the Dinuclear “Borylene” Complex $[\{\text{Cp}(\text{CO})_2\text{Mn}\}_2(\mu\text{-BtBu})]$
Angew. Chem. **2008**, *120*, 4393–4397; *Angew. Chem. Int. Ed.* **2008**, *47*, 4321–4325.
- [134] H. Braunschweig, T. Kupfer
Stoichiometric and Homogeneous-Catalytic Diboration of the N=N Double Bond of Azobenzene
J. Am. Chem. Soc. **2008**, *130*, 4242–4243.
- [133] H. Braunschweig, K. Kraft, T. Kupfer, K. Radacki, F. Seeler
 B^+ in the Coordination Sphere of Two Transition Metals
Angew. Chem. **2008**, *120*, 5009–5011; *Angew. Chem. Int. Ed.* **2008**, *47*, 4931–4933.
- [132] H. Braunschweig, C. J. Adams, T. Kupfer, I. Manners, R. Richardson, G. R. Whittell
Synthesis of a Paramagnetic Polymer by Ring-Opening Polymerization of a Strained [1]Vanadoarenophane
Angew. Chem. **2008**, *120*, 3886–3889; *Angew. Chem. Int. Ed.* **2008**, *47*, 3826–3829, (VIP).
- [131] H. Braunschweig, K. Groß, K. Radacki, K. Uttinger
Oxidative Addition of B–Br bonds to Pd^0 – Synthesis and Structure of *trans*-Bromo(boryl)palladium Complexes
Eur. J. Inorg. Chem. **2008**, 1462–1466.
- [130] H. Braunschweig, I. Fernandez, G. Frenking, T. Kupfer
Structural Evidence for the Antiaromaticity in Free Boroles
Angew. Chem. **2008**, *120*, 1977–1980; *Angew. Chem. Int. Ed.* **2008**, *47*, 1951–1954.

- [129] H. Braunschweig, R. Leech, D. Rais, K. Radacki, K. Uttinger
Conversion of *trans*-Bromoboryl Platinum Complexes into their *cis*-Analogues upon Treatment with Chelating Bisphosphines
Organometallics **2008**, *27*, 418–422.
- [128] L. Apostolico, H. Braunschweig, A. G. Crawford, T. Herbst, D. Rais
Group VI Metal aminoborylene complex-catalyzed demercuration reactions of bis(alkynyl)mercurials
Chem. Commun. **2008**, 497–498.
- [127] H. Bera, H. Braunschweig, R. Dörfler, K. Radacki
Synthesis of a bimetallic platinum–tungsten complex with a bridging *l*-diboranyl–oxycarbyne moiety
J. Chem. Soc., Dalton Trans. **2008**, 440–443.

2007

- [126] H. Braunschweig, M. Groß, K. Radacki
Synthesis, Molecular Structure and Reactivity of the First Strained [2]Silanickelocenophane
Organometallics **2007**, *26*, 6688–6690.
- [125] H. Braunschweig, M. Burzler, K. Radacki, F. Seeler
Borylene Metathesis through [2+2] Cycloaddition
Angew. Chem. **2007**, *119*, 8217–8219; *Angew. Chem. Int. Ed.* **2007**, *46*, 8071–8073.
- [124] H. Braunschweig, K. Radacki, D. Rais, A. Schneider, F. Seeler
Reactivity of a Platinum Iminoboryl Complex toward Lewis and Brønsted Acids
J. Am. Chem. Soc. **2007**, *129*, 10350–10351.
- [123] H. Braunschweig, K. Radacki, K. Uttinger
Syntheses of Mono- and Dinuclear Diiodoboryl Complexes of Platinum
Inorg. Chem. **2007**, *46*, 8796–8800.
- [122] P. Bissinger, H. Braunschweig, F. Seeler
Syntheses and Structure of Bridged Haloborylene Complexes
Organometallics **2007**, *26*, 4700–4701.
- [121] H. Braunschweig, K. Gruss, K. Radacki
Interaction between *d*- and *p*-Metals: Synthesis and Structure of Platinum Alane Adducts
Angew. Chem. **2007**, *119*, 7929–7931; *Angew. Chem. Int. Ed.* **2007**, *46*, 7782–7784.
- [120] S. Mathur, T. Rügamer, H. Braunschweig, G. D'Andola
Investigations on Chemical Vapor Deposition of Magnesium-Boron-Containing Metal-Organic Precursors
Z. anorg. allg. Chem. **2007**, *633*, 2459–2462.
- [119] H. Braunschweig, T. Kupfer
Transition-Metal Catalyzed Bis-Silylation of Propyne by [2]Chromoarenophanes
Organometallics **2007**, *26*, 4634–4638.
- [118] H. Braunschweig, M. Burzler, T. Kupfer, K. Radacki, F. Seeler
Synthesis and Electronic Structure of a Terminal Alkylborylene Complex
Angew. Chem. **2007**, *119*, 7932–7934; *Angew. Chem. Int. Ed.* **2007**, *46*, 7785–7787.
- [117] H. Braunschweig, T. Kupfer, M. Lutz, K. Radacki
Ansa [1]Trochrocenophanes and Their Related Unstrained 1,1'-Disubstituted Counterparts: Synthesis and Electronic Structure
J. Am. Chem. Soc. **2007**, *129*, 8893–8906.
- [116] H. Braunschweig, P. Brenner, A. Müller, K. Radacki, D. Rais, K. Uttinger
Experimental Studies on the *trans*-Influence of Boryl Ligands in Square-Planar Platinum(II) Complexes
Chem. Eur. J. **2007**, *13*, 7171–7176.
- [115] H. Braunschweig, K. Radacki, K. Uttinger
Synthesis and Characterization of Semi-Bridging Molybdenum Borylene Complexes
Eur. J. Inorg. Chem. **2007**, 4350–4356.
- [114] H. Braunschweig, H. Bera, S. Stellwag, S. Schwarz, Y. Hemberger, K. Radacki
[$\{\text{Br}_2\text{B}(\eta^5\text{-C}_5\text{H}_4)\}\text{Mn}(\text{CO})_3$] – A versatile Precursor for Boron-based Ligands
Z. anorg. allg. Chem. **2007**, *633*, 2314–2320.

- [113] H. Braunschweig, M. Forster, K. Radacki, F. Seeler, G. R. Whittell
Stepwise Intermetal Borylene Transfer: Synthesis and Structure of Mono- and Dinuclear Cobalt Borylene Complexes
Angew. Chem. **2007**, *119*, 5304–5306; *Angew. Chem. Int. Ed.* **2007**, *46*, 5212–5214 (VIP).
- [112] H. Braunschweig, H. Bera, B. Geibel, R. Dörfler, D. Götz, F. Seeler, T. Kupfer
Synthesis of Half-sandwich Tungsten Chlorogermyl and Chlorostannyl Complexes
Eur. J. Inorg. Chem. **2007**, 3416–3424.
- [111] H. Braunschweig, G. Frenking, K. Radacki, F. Seeler, I. Fernández
Synthesis and Electronic Structure of a Ferroborylene
Angew. Chem. **2007**, *119*, 5307–5310; *Angew. Chem. Int. Ed.* **2007**, *46*, 5215–5218.
- [110] H. Braunschweig, N. Buggisch, U. Englert, M. Homberger, T. Kupfer, D. Leusser, M. Lutz, K. Radacki
Dilithiation of Bis(benzene)molybdenum and Subsequent Isolation of a Molybdenum-Containing Paracyclophane
J. Am. Chem. Soc. **2007**, *129*, 4840–4846.
- [109] H. Braunschweig, F. Seeler, R. Sigriz
Alternative synthesis and crystal structure of a [2]boraferrocenophane
J. Organomet. Chem. **2007**, *692*, 2354–2356.
- [108] H. Braunschweig, G.K.B. Clentsmith, S. Hess, T. Kupfer, K. Radacki
Interaction of Dilithiated Ferrocene with AlMe₂Cl Reagents
Inorg. Chim. Acta **2007**, *360*, 1274–1277.
- [107] H. Braunschweig, K. Radacki, K. Uttinger
Synthesis and Structure of a Cationic Platinum Borylene Complex
Angew. Chem. **2007**, *119*, 4054–4057; *Angew. Chem. Int. Ed.* **2007**, *46*, 3979–3982.
- [106] H. Braunschweig
Lithiumboryl – A Synthone for a Nucleophilic Boryl Anion
Angew. Chem. **2007**, *119*, 1990–1992; *Angew. Chem. Int. Ed.* **2007**, *46*, 1946–1948.
- [105] B. Blank, H. Braunschweig, M. Colling-Hendelkens, C. Kollann, K. Radacki, D. Rais, K. Uttinger, G. R. Whittell
Aminoborylene Complexes of Group 6 Elements and Iron: A Synthetic, Structural and Quantum Chemical Study
Chem. Eur. J., **2007**, *13*, 4770–4781.
- [104] H. Braunschweig, T. Kupfer, K. Radacki
Selective Dimetallation of [Mn(η^5 -C₅H₅)(η^6 -C₆H₆)]: Crystal Structure and Conversion to Strained [n]Metalloarenophanes
Angew. Chem. **2007**, *119*, 1655–1658; *Angew. Chem. Int. Ed.* **2007**, *46*, 1630–1633.

2006

- [103] G. D'Andola, H. Braunschweig, T. Welton
Organoborates as potential anions for novel ionic liquids
Proc. Electrochem. Soc. **2006**, 2004–2024 (Molten Salts XIV), 556–563.
- [102] H. Braunschweig, T. Kupfer
Bis(η^6 -trimethylsilylbenzene)chromium(0)
Acta Cryst. **2006**, *E62*, m3502–m3503.
- [101] H. Braunschweig, M. Kraft, F. Seeler
N,N-Diethylpyrrolidinium-pentachloro-tetrahydrofuranozirconate
Acta Cryst. **2006**, *E62*, m3267–m3268.
- [100] H. Braunschweig
Functionalization of unsaturated organic substrates by borylene transfer
ABSTR PAP, 232nd ACS National Meeting, INOR-414, 10 SEP, **2006**.
- [99] H. Braunschweig, T. Kupfer, M. Lutz, K. Radacki, F. Seeler, R. Sigriz
Metal-Mediated Diboration of Alkynes with [2]Borametallophenanes under Stoichiometric, Homogeneous, and Heterogeneous Conditions
Angew. Chem. **2006**, *118*, 8217–8220; *Angew. Chem. Int. Ed.* **2006**, *45*, 8048–8051 (VIP).

- [98] G. Bringmann, H. Scharl, K. Maksimenka, K. Radacki, H. Braunschweig, P. Wich, C. Schmuck
Atropodiastereoselective Cleavage of Configurationally Unstable Biaryl Lactones with Amino
Acid Esters
Eur. J. Org. Chem. **2006**, *19*, 4297–4540.
- [97] H. Braunschweig, K. Radacki, D. Rais, K. Uttinger
Synthesis and Reactivity of Semi-bridging Borylene Complexes
Organometallics **2006**, *25*, 5159–5164.
- [96] H. Braunschweig, K. Radacki, F. Seeler, G. R. Whittell
Synthesis and Reactivity of Dihaloboryl Complexes
Organometallics **2006**, *25*, 4605–4610.
- [95] H. Braunschweig, M. Lutz, K. Radacki, A. Schaumlöffel, F. Seeler, C. Unkelbach
Facile Syntheses of Trovacene, the Formation of [n]Boratrovacenophanes (n = 1, 2) and
Reactivity Towards [Pt(PEt₃)₄]
Organometallics **2006**, *25*, 4433–4435.
- [94] H. Braunschweig, M. Kraft, S. Schwarz, F. Seeler, S. Stellwag
Preparation and Structural Characterization of Transition Metal Complexes Featuring the
Cymantrenyl(bromo)boryl Ligand
Inorg. Chem. **2006**, *45*, 5275–5277.
- [93] H. Braunschweig, C. Burschka, M. Burzler, S. Metz, K. Radacki
Molecular Structure and Cluster Formation Reaction of a *tert*-Butylborylene Complex
Angew. Chem. **2006**, *118*, 4458–4461; *Angew. Chem. Int. Ed.* **2006**, *45*, 4352–4355.
- [92] H. Braunschweig, C. Kollann, D. Rais
Transition Metal Complexes of Boron – New Insights and Novel Coordination Modes
Angew. Chem. **2006**, *118*, 5380–5400; *Angew. Chem. Int. Ed.* **2006**, *45*, 5254–5274.(VIP).
- [91] H. Braunschweig, M. Kraft, K. Radacki, S. Stellwag
Piperidino-Substituted [1]Borametallophenes. Synthesis, Reactivity, and Structure
Z. Naturforsch. **2006**, *61b*, 509–516.
- [90] D. P. Zlotos, C. Traenkle, A. Abdelrahman, D. Guendisch, K. Radacki, H. Braunschweig, K.
Mohr
6H, 13H-Pyrazino[1,2-a;4,5-a']diindole analogs: Probing the pharmacophore for allosteric
ligands of muscarinic M₂ receptors
Bioorganic & Medicinal Chemistry Letters, **2006**, *16*(6), 1481–1485.
- [89] H. Braunschweig, M. Forster, K. Radacki
Borylene Transfer under Thermal Conditions: Synthesis and Structure of a Tetra-rhodium
Bisborylene Complex
Angew. Chem. **2006**, *118*, 2187–2189; *Angew. Chem. Int. Ed.* **2006**, *45*, 2132–2134.
- [88] H. Braunschweig, H. Bera, D. Götz, K. Radacki
Phosphine-Substituted Diborane(4)yl Complexes of Tungsten
Z. Naturforsch. **2006**, *61b*, 29–32.
- [87] H. Braunschweig, K. Radacki, D. Rais, F. Seeler
Boron in the Coordination Sphere of Three Transition-Metal Atoms: Syntheses and Structures
of Metalloborylenes Stabilized by a Transition-Metal Base
Angew. Chem. **2006**, *118*, 1087–1090; *Angew. Chem. Int. Ed.* **2006**, *45*, 1066–1069 .
- [86] H. Braunschweig, F. M. Breitling, K. Kraft, M. Kraft, F. Seeler, S. Stellwag, K. Radacki
Substituted Ferrocenylboranes – Potential Ligand Precursors for *ansa*-Metallocenes,
Constrained Geometry Complexes and *ansa*-Diamido Complexes
Z. anorg. allg. Chem. **2006**, *632*, 269–278.
- [85] H. Braunschweig, K. Radacki, D. Rais, K. Uttinger
Synthesis and Characterization of Palladium and Platinum Iminoboryl Complexes
Angew. Chem. **2006**, *118*, 169–172; *Angew. Chem. Int. Ed.* **2006**, *45*, 162–165.
- [84] H. Braunschweig, F. M. Breitling
Constrained geometry complexes – Synthesis and applications
Coord. Chem. Rev. **2006**, *250*, 2691–2720.
- [83] H. Braunschweig, F. M. Breitling, C. Burschka, F. Seeler
Derivatisation of boryl substituted titanium half-sandwich complexes – Molecular structures of
[Ti{(η⁵-C₅H₄)B(NiPr₂)N(H)*t*Bu}Cl₂(NMe₂)] and [{TiCl₂(μ-{OB(NHMe₂)-η⁵-C₅H₄})}₂-μ-O]
J. Organomet. Chem. **2006**, *691*, 702–710.

- [82] H. Braunschweig, G. D'Andola, T. Welton, A. J. P. White
Synthesis and Structure of Novel Organocycloborates
Chem. Eur. J. **2006**, *12*, 600–606.
- [81] A. Bartole-Scott, H. Braunschweig, T. Kupfer, M. Lutz, I. Manners, T. Nguyen, K. Radacki, F. Seeler
Synthesis of *ansa*-[*n*]Silacyclopentadienyl-Cycloheptatrienyl-Chromium Complexes (*n* = 1, 2):
Novel Precursors for Polymers Bearing Chromium in the Backbone
Chem. Eur. J. **2006**, *12*, 1266–1273.

2005

- [80] H. Braunschweig, D. Rais
Boron – A Meeting Point
Angew. Chem. **2005**, *117*, 8036–8038; *Angew. Chem. Int. Ed.* **2005**, *44*, 7826–7828.
- [79] H. Braunschweig, T. Herbst, D. Rais, F. Seeler
Synthesis of Borirenes by Photochemical Borylene-Transfer from [(OC)₅M=BN(SiMe₃)₂] (M = Cr, Mo) to Alkynes
Angew. Chem. **2005**, *117*, 7627–7629; *Angew. Chem. Int. Ed.* **2005**, *44*, 7461–7463 (VIP).
- [78] H. Braunschweig, F. M. Breitling, K. Radacki, F. Seeler
Synthesis and molecular structure of boron-bridged constrained geometry complexes of zirconium and hafnium
J. Organomet. Chem. **2005**, *690*, 5000–5005.
- [77] H. Braunschweig, F. M. Breitling, F. Seeler
rac-(*tert*-Butylamino)(diisopropylamino)(9-fluorenyl)borane
Acta Cryst. **2005**, *E61*, 2303–2304.
- [76] H. Braunschweig, F. M. Breitling, F. Seeler
rac-(Diisopropylamino)(1-indenyl)(isopropylamino)borane
Acta Cryst. **2005**, *E61*, 2343–2344.
- [75] H. Braunschweig, K. Radacki, D. Rais, D. Scheschkewitz
A T-Shaped Platinum(II) Boryl Complex as the Precursor to a Platinum Compound with a Base-Stabilized Terminal Borylene Ligand
Angew. Chem. **2005**, *117*, 5796–5799; *Angew. Chem. Int. Ed.* **2005**, *44*, 5651–5654 (VIP & cover page).
- [74] H. Braunschweig, G. Whittell
Boron as a Bridging Ligand
Chem. Eur. J. **2005**, *11*, 6128–6133.
- [73] H. Braunschweig, M. Kraft, K. Radacki, S. Stellwag
[1]Borametallophenanes as Catalysts for Ethene Polymerization
Z. anorg. allg. Chem. **2005**, *631*, 2858–2866.
- [72] H. Braunschweig, D. Rais
Reactivity of Terminal Transition Metal Borylene Complexes
Heteroatom Chem. **2005**, *16*, 566–571.
- [71] H. Braunschweig, M. Lutz, K. Radacki
Synthesis of *ansa*-[2]Boracyclopentadienylcycloheptatrienylchromium and Its Reaction to the *ansa*-Platinabis(boryl) Complex by Oxidative Addition of the Boron–Boron Bond
Angew. Chem. **2005**, *117*, 5792–5796; *Angew. Chem. Int. Ed.* **2005**, *44*, 5647–5651.
- [70] H. Braunschweig, M. Kraft, K. Radacki, S. Stellwag
[1]Borahafnocenophanes: Synthesis, Structure and Catalytic Activity
Eur. J. Inorg. Chem. **2005**, 2754–2759.
- [69] H. Braunschweig, D. Rais, K. Uttinger
Terminal Borylene Complexes Stabilized by a Transition-Metal Base
Angew. Chem. **2005**, *117*, 3829–3832; *Angew. Chem. Int. Ed.* **2005**, *44*, 3763–3766.
- [68] H. Braunschweig, C. Burschka, G. K. B. Clentsmith, T. Kupfer, K. Radacki
Ferrocenylalanes: Solid State and Solution Structures of some Novel Aluminium-Bridged *ansa*-Ferrocenes
Inorg. Chem. **2005**, *44*, 4906–4908.

- [67] H. Braunschweig, M. Groß, M. Kraft, M. O. Kristen, D. Leusser
[2]Borametallophenanes of Zr and Hf: Synthesis, Structure and Polymerization Activity
J. Am. Chem. Soc. **2005**, *127*, 3282–3283.
- [66] H. Braunschweig, K. Radacki, D. Scheschkewitz, G. R. Whittell
Boron as a Bridging Ligand
Angew. Chem. **2005**, *117*, 1685–1688; *Angew. Chem. Int. Ed.* **2005**, *44*, 1658–1660 (VIP).
- [65] H. Braunschweig, K. Radacki, D. Rais, F. Seeler, K. Uttinger
Heterodinuclear Bridged Borylene Complexes
J. Am. Chem. Soc. **2005**, *127*, 1386–1387.
- [64] H. Braunschweig, K. Radacki, D. Rais, G. R. Whittell
A Boryl Bridged Complex: An Unusual Coordination Mode of the BR₂ Ligand
Angew. Chem. **2005**, *117*, 1217–1219; *Angew. Chem. Int. Ed.* **2005**, *44*, 1192–1194 (VIP).

2004

- [63] H. Braunschweig, G. D'Andola, T. Welton
Synthesis and characterization of novel organoborates via Grignards reagents ABSTR PAP
AM CHEM S 228th ACS Meeting, INOR-541, 22 AUG 04, **2004**.
- [62] H. Braunschweig, K. Radacki, D. Rais, F. Seeler
Preparation and Structural Characterization of Transition Metal Complexes Featuring the
Ferrocenyl(bromo)boryl ligand
Organometallics **2004**, *23*, 5545–5549.
- [61] H. Braunschweig, K. Radacki, F. Seeler, G. R. Whittell
Synthesis of [(η^5 -C₅H₅)Fe(CO)₂BCl₂-NC₅H₄-4-Me]: from [(η^5 -C₅H₅)Fe(CO)₂BCl₂]: First
Preparation of a Lewis Acid–Base Adduct from a Boryl Complex
Organometallics **2004**, *23*, 4178–4180.
- [60] H. Braunschweig, G. D'Andola, T. Welton, A. J. P. White
Novel organocycloborates via Grignards reagents
Chem. Commun. **2004**, 1738–1739.
- [59] H. Braunschweig, M. Homberger, C. Hu, X. Zheng, E. Gullo, G. Clentsmith, M. Lutz
Synthesis and Structure of [Cr{(η^6 -C₆H₅)₂B{NtBu(SiMe₃)}}] and
[Cr{(η^6 -C₆H₅)₂(BNMe₂)₂]: The First Boron-Bridged Metalloarenophanes
Organometallics **2004**, *23*, 1968–1970.
- [58] H. Braunschweig, F. M. Breitling, U. Englert, C. von Koblinski, A. J. P. White, D. J. Williams
Synthesis and structure of boron-bridged constrained geometry complexes of titanium
J. Chem. Soc., Dalton Trans. **2004**, 938–943.
- [57] H. Braunschweig
Borylenes as Ligands to Transition Metals
Adv. Organomet. Chem. **2004**, *51*, 163–192.
- [56] H. Braunschweig, M. Colling, C. Hu, K. Radacki
Reactivity of the bridged borylene complex [μ -BCl{(η^5 -C₅H₄Me)Mn(CO)₂}₂]
Inorg. Chim. Acta **2004**, *357*, 1822–1828.

2003

- [55] H. Braunschweig, F. M. Breitling, E. Gullo, M. Kraft
The chemistry of [1]borametallophenanes and related compounds
J. Organomet. Chem. **2003**, *680*, 31–42.
- [54] H. Braunschweig, F. M. Breitling, M. Homberger, C. von Koblinski, A. J. P. White, D. J.
Williams
Cyclopentadienyl(diamino)boranes and their Derivatives – a Family of Versatile Ligand
Precursors for Constrained Geometry Complexes
Z. anorg. allg. Chem. **2003**, *629*, 2244–2250.
- [53] H. Braunschweig, M. Colling, C. Hu
Unprecedented Reactivity of the Bridged Borylene Complex
[μ -BCl{(η^5 -C₅H₄Me)Mn(CO)₂}₂] toward Pyridine
Inorg. Chem. **2003**, *42*, 941–943.

- [52] H. Braunschweig, M. Kraft, M. Homberger, F. M. Breitling, A. J. B. White, U. Englert, P. B. Hitchcock
Synthesis and structures of $[\text{Yb}\{\eta^5\text{-}(\text{C}_5\text{H}_4)\text{B}(\text{N}^i\text{Pr}_2)\text{NH}^t\text{Bu}\}_2\{\text{N}(\text{SiMe}_3)_2\}]$ and $[\text{Zr}\{\eta^5\text{-}(\text{C}_9\text{H}_6)\text{B}(\text{N}(\text{SiMe}_3)_2)(\text{C}_9\text{H}_7)\}\text{Cl}_2]$
Appl. Organometal. Chem. **2003**, *17*, 421–428.
- [51] H. Braunschweig, K. W. Klinkhammer, M. Koster, K. Radacki
Formation, Structure and Reactivity of Boryloxycarbyne Complexes of Group 6 Metals
Chem. Eur. J. **2003**, *9*, 1303–1309.
- [50] H. Braunschweig, C. von Koblinski, F. M. Breitling, K. Radacki, C. Hu, L. Wesemann, T. Marx, I. Pantenburg
Synthesis and structure of $[\text{Zr}\{\eta^5\text{-}\eta^1\text{-C}_9\text{H}_6\text{B}(\text{N}^i\text{Pr}_2)\text{NPh}\}_2]$: a new complex with a boron-bridged amido-indenyl ligand
Inorg. Chim. Acta **2003**, *350*, 467–474.
- [49] H. Braunschweig, M. Colling
The Chemistry of Borylene Complexes
Eur. J. Inorg. Chem. **2003**, 393–403.
- [48] H. Braunschweig, M. Colling, C. Hu, K. Radacki
 $[(\eta^5\text{-C}_5\text{H}_5)(\text{OC})_3\text{V}=\text{B}=\text{N}(\text{SiMe}_3)_2]$: A Half-Sandwich Complex with a Terminal Borylene Ligand
Angew. Chem. **2003**, *115*, 215–218; *Angew. Chem. Int. Ed.* **2003**, *42*, 205–208.

2002–2000

- [47] H. Braunschweig, M. Colling, C. Kollann, U. Englert
The first silyl- and germyl boryl complexes: synthesis from novel dichloro(silyl)- and dichloro(germyl)boranes, structure and reactivity
J. Chem. Soc., Dalton Trans. **2002**, 2289–2296.
- [46] H. Braunschweig, M. Koster
Synthesis and Reactivity of Diborane(4)yl Complexes
Z. Naturforsch. **2002**, *57b*, 483–487.
- [45] H. Braunschweig, M. Colling, C. Hu, K. Radacki
From Classical to Nonclassical Metal–Boron Bonds: Synthesis of a Novel Metallaborane
Angew. Chem. **2002**, *114*, 1415–1417; *Angew. Chem. Int. Ed.* **2002**, *41*, 1359–1361.
- [44] Berenbaum, H. Braunschweig, R. Dirk, U. Englert, J. C. Green, F. Jäkle, I. Manners
Synthesis, electronic structure, and novel reactivity of strained, boron-bridged [1]ferrocenophanes
ABSTR PAP AM CHEM S 221: 358-INOR Part 1 APR 1, 2001.
- [43] H. Braunschweig, M. Colling, C. Kollann, K. Merz, K. Radacki
 $[(\text{OC})_5\text{Cr}=\text{BSi}(\text{SiMe}_3)_3]$: A Terminal Borylene Complex with an Electronically Unsaturated Boron Atom
Angew. Chem. **2001**, *113*, 4327–4329; *Angew. Chem. Int. Ed.* **2001**, *40*, 4198–4200.
- [42] H. Braunschweig, M. Colling, C. Kollann, H.-G. Stammler, B. Neumann
Terminal Borylene Complexes as a Source for the Borylene $\text{B}=\text{N}(\text{SiMe}_3)_2$: Alternative Synthesis and Structure of $[(\text{OC})_5\text{Cr}=\text{B}=\text{N}(\text{SiMe}_3)_2]$
Angew. Chem. **2001**, *113*, 2359–2361; *Angew. Chem. Int. Ed.* **2001**, *40*, 2298–2300.
- [41] H. Braunschweig in *Inorganic Chemistry Highlights* (Eds.: G. Meyer, D. Naumann, L. Wesemann),
Wiley-VCH, Weinheim, New York, **2001**, 213–218.
- [40] H. Braunschweig, M. Colling
Transition metal complexes of boron – synthesis, structure and reactivity
Coord. Chem. Rev. **2001**, *223*, 1–51.
- [39] H. Braunschweig, C. von Koblinski, M. Neugebauer, U. Englert, X. Zheng
Synthesis and structure of aminobis(η^1 -cyclopentadienyl)boranes and related compounds
J. Organomet. Chem. **2001**, *619*, 305–312.
- [38] H. Braunschweig, C. Von Koblinski, M. O. Kristen
Metallocenkomplexes suitable as olefin polymerization catalysts
EP 1140955, **2001**, 27 pp.

- [37] H. Braunschweig, M. Colling
The Chemistry of Bridged Borylene Complexes
J. Organomet. Chem. **2000**, 614–615, 18–26.
- [36] H. Braunschweig, C. von Koblinski, U. Englert
Synthesis and structure of the first boron bridged constrained geometry complexes
Chem. Commun. **2000**, 1049–1050.
- [35] H. Braunschweig in *Contemporary Boron Chemistry* (Eds.: M. G. Davidson, A. K. Hughes, T. B. Marder, K. Wade), The Royal Society of Chemistry, Cambridge, **2000**, S. 371–378.
- [34] H. Braunschweig, R. Dirk, U. Englert, A. Berenbaum, J. C. Green, A. J. Lough, I. Manners
Synthesis, Electronic Structure and Novel Reactivity of Strained Boron-Bridged [1]Ferrocenophanes
J. Am. Chem. Soc. **2000**, 122, 5765–5774.

1999–1990

- [33] H. Braunschweig, C. von Koblinski, M. Mamuti, U. Englert, R. Wang
Synthesis and Structure of [1]Borametallophenanes of Titanium, Zirconium, and Hafnium
Eur. J. Inorg. Chem. **1999**, 1899–1904.
- [32] H. Braunschweig, M. Koster
Diborane(4)yl and bridged borylene complexes from 1,2-dipyrrolidino- and 1,2-dipiperidinodiborane(4) derivatives,
J. Organomet. Chem. **1999**, 588, 231–234.
- [31] H. Braunschweig, C. Kollann
Reaktionen von $[(\eta^5\text{-C}_5\text{R}_5)_2\text{WH}_2]$ mit Boranen
Z. Naturforsch. **1999**, 54b, 839–842.
- [30] H. Braunschweig, C. Kollann, M. Koster, U. Englert, M. Müller
Synthesis and Structure of Trinuclear Boryloxycarbyne Complexes
Eur. J. Inorg. Chem. **1999**, 2277–2281.
- [29] H. Braunschweig, M. Koster, K. W. Klinkhammer
Unique Rearrangement of an Oxycarbyne Complex: Synthesis and Structure of Novel Diborane(4)yl Complexes
Angew. Chem. **1999**, 111, 2368–2370, *Angew. Chem. Int. Ed.* **1999**, 38, 2229–2231.
- [28] H. Braunschweig, C. Kollann, K. W. Klinkhammer
Boryl and Bridged Borylene Complexes of Iron and Ruthenium
Eur. J. Inorg. Chem. **1999**, 1523–1529.
- [27] H. Braunschweig, M. Koster, R. Wang
Diborane(4)yl Complexes of Molybdenum and Ruthenium
Inorg. Chem. **1999**, 38, 415–416.
- [26] H. Braunschweig, C. von Koblinski, R. Wang
Synthesis and Structure of the First [1]Boratitanocenophanes
Eur. J. Inorg. Chem. **1999**, 69–73.
- [25] H. Braunschweig, C. Kollann, U. Englert
Synthesis and Structure of the First Terminal Borylene Complexes
Angew. Chem. **1998**, 110, 3355–3357, *Angew. Chem. Int. Ed.* **1998**, 37, 3179–3180.
- [24] H. Braunschweig, C. Kollann, U. Englert
Boryl- and Bridging Boryleneiron Complexes from Aminodichloroboranes
Eur. J. Inorg. Chem. **1998**, 465–468.
- [23] H. Braunschweig
Transition Metal Complexes of Boron
Angew. Chem. **1998**, 110, 1882–1898, *Angew. Chem. Int. Ed.* **1998**, 37, 1786–1801.
- [22] H. Braunschweig, C. Kollann, M. Müller
Synthesis and Structure of the First η^1 -Borazine Complexes,
Eur. J. Inorg. Chem. **1998**, 291–293.
- [21] D. P. Gates, R. Rulkens, R. Dirk, P. Nguyen, J. K. Pudelski, R. Resendes, H. Braunschweig, I. Manners
Highly Strained Metallocenophanes: Synthesis and Ring-Opening of Sulfur-, Selenium- and Boron- Bridged [1]Ferrocenophanes
Phosphorus, Sulfur, and Silicon, and Related Elements, **1997**, 124 & 125, 561–565.

- [20] H. Braunschweig in *Advances in Boron Chemistry* (Hrsg.: W. Siebert), The Royal Society of Chemistry, Cambridge, **1997**, S. 381–384.
- [19] H. Braunschweig, R. Dirk, M. Müller, P. Nguyen, R. Resendes, D. P. Gates, I. Manners Incorporation of a First Row Element into the Bridge of a Strained Metallacene: Synthesis of a Boron-Bridged [1]Ferrocenophane *Angew. Chem.* **1997**, *109*, 2433–2435; *Angew. Chem. Int. Ed.* **1997**, *36*, 2338–2340.
- [18] H. Braunschweig, M. Müller
New Borylene Complexes of the Type $[\mu\text{-BX}\{\eta^5\text{-C}_5\text{H}_4\text{Me}\}\text{Mn}(\text{CO})_2\}_2$; Substitution Reactions at the Metal Coordinated Borylene Moiety *Chem. Ber.* **1997**, *130*, 1295–1298.
- [17] H. Braunschweig, R. Dirk, U. Englert
Synthesis and Reactions of $\{o\text{-}[\text{Bis}(\text{dimethylamino})\text{boryl}]\text{methyl}\}\text{phenyl}\}$ diphenylphosphane *Z. anorg. allg. Chem.* **1997**, *623*, 1093–1097.
- [16] H. Braunschweig, C. Drost, P. B. Hitchcock, M. F. Lappert, L. J.-M. Pierssens
A Dinuclear Tin(II) Amide, a *meta*-Stannylaminocyclophane and its Orthostannation Derivative, a Dimeric Trinuclear Tin(II) Cluster *Angew. Chem.* **1997**, *109*, 285–288; *Angew. Chem. Int. Ed.* **1997**, *36*, 261–263.
- [15] H. Braunschweig, B. Ganter
Convenient synthesis of $\text{K}[(\text{C}_5\text{H}_4\text{Me})\text{MnH}(\text{CO})_2]$ and reactions with $\text{Cl}_2\text{B}[\text{N}(\text{SiMe}_3)_2]$ and $\text{B}_2\text{R}_2\text{Cl}_2$ (R = Me₂N, Me₃C) *J. Organomet. Chem.* **1997**, *545*, 163–167.
- [14] H. Braunschweig, R. Dirk, B. Ganter
 $\{[\text{Bis}(\text{dimethylamino})\text{boryl}]\text{methyl}\}$ dimethylphosphane as ligand in transition metal complexes *J. Organomet. Chem.* **1997**, *545*, 257–266.
- [13] H. Braunschweig, T. Wagner
Zur Umsetzung von Bis(η^5 -cyclopentadienyl)dihydridowolfram mit Halogenboranen *Z. Naturforsch.* **1996**, *51b*, 1618–1620.
- [12] H. Braunschweig, J. Müller, B. Ganter
Molecular Structure of $[\text{CpFe}(\text{CO})_2]_2\text{AlAr}$ (Ar = 2-[(Dimethylamino)-methyl]phenyl): An Alanediyl Complex with Two Fe-Al Bonds *Inorg. Chem.* **1996**, *35*, 7443–7444.2
- [11] H. Braunschweig, B. Ganter, M. Koster, T. Wagner
Diboran(4)yl Groups as Ligands to Transition Metals *Chem. Ber.* **1996**, *129*, 1099–1101.
- [10] H. Braunschweig, B. Gerhus, P. B. Hitchcock, M. F. Lappert
Synthesis and Characterisation of *N,N'*-Disubstituted 1,2-phenylenebis-(amido)tin(II) Compounds *Z. anorg. allg. Chem.* **1995**, *621*, 1922–1928.
- [9] H. Braunschweig, T. Wagner
Synthesis and Structure of the First Transition Metal Borylene Complexes *Angew. Chem.* **1995**, *107*, 904–905, *Angew. Chem. Int. Ed.* **1995**, *34*, 825–826.
- [8] H. Braunschweig, T. Wagner
Zur Addition von Alkyldichlorboranen an Bis(η^5 -cyclopentadienyl)dihydrido-wolfram *Chem. Ber.* **1994**, *127*, 1613–1614.
- [7] H. Braunschweig, P. B. Hitchcock, M. F. Lappert, L. J.-M. Pierssens
Synthese, Strukturen und Reaktionen zweier Bis(diaminostannylene) und eines Bis(diaminogermylens) mit zentralem C₆-Ring *Angew. Chem.* **1994**, *106*, 1243–1245; *Angew. Chem. Int. Ed.* **1994**, *33*, 1156–1158.
- [6] H. Braunschweig, T. P. Spaniol, P. Paetzold
Zur Bildung eines Fe₂(CO)₆-Komplexes mit (Boryloxy)allyl-Brücke *Chem. Ber.* **1994**, *127*, 91–92.
- [5] H. Braunschweig, P. Paetzold, R. Boese
Weitere Reaktionen der Iminoborane RB≡NR' mit Neopentylidentantal-Komplexen *Chem. Ber.* **1993**, *126*, 1571–1577.

- [4] H. Braunschweig, P. Paetzold, T. P. Spaniol
 Weitere Reaktionen des Amino(imino)borans $\text{Me}_3\text{Si}(f\text{Bu})\text{N}=\text{B}=\text{N}f\text{Bu}$ und des
 Alkyliden(amino)borans $\text{Me}_3\text{Si}(f\text{Bu})\text{N}=\text{B}=\text{CH}f\text{Bu}$
Chem. Ber. **1993**, *126*, 1565–1569.
- [3] H. Braunschweig, R. W. Chorley, P. B. Hitchcock, M. F. Lappert
 The First Monomeric Prochiral Tin(II) Complexes $\text{Sn}[\text{N}(\text{SiMe}_3)_2]\text{X}$
 $[\text{X} = \text{C}_6\text{H}_2f\text{Bu}_{2-2,6-\text{Me}-4}$, **1** or $\text{NCMe}_2(\text{CH}_2)_3\text{CMe}_2$, **2**]; the X-Ray Structure of **1** and Oxidative
 Addition Reactions of **2**
J. Chem. Soc., Chem. Commun. **1992**, 1311–1313.
- [2] H. Braunschweig, I. Manners, P. Paetzold
 Die Reaktion von (Butadien)zirconocen mit Iminoboranen
Z. Naturforsch. **1990**, *45b*, 1453–1454.
- [1] H. Braunschweig, P. Paetzold, R. Boese
 [2 + 2]-Cycloaddition von Iminoboranen mit einem Neopentylidentantal-Komplex
Chem. Ber. **1990**, *123*; 485–487.

Book reviews

- [1] H. Braunschweig
Chemie in unserer Zeit, **1998**, *32*, XIII.
- [2] H. Braunschweig
Chemie in unserer Zeit, **2000**, *34*, 264.
- [3] H. Braunschweig
Nachrichten aus der Chemie, **2000**, 379.
- [4] H. Braunschweig
Nachrichten aus der Chemie, **2000**, 535.

Further publications

Between 03.2001 and 12.2006 125 contributions to „Notizen“ in *Nachrichten aus der Chemie*.