

# CARBORANE- AND POLYBORON CLUSTER-RELATED PUBLICATIONS APPEARING IN 2020

## CARBORANES

### o-Carborane

**Azaheterocyclic Derivatives of *ortho*-Carborane: Synthetic Strategies and Application Opportunities**  
Smyshliaeva, Lidiia A.; Varaksin, Mikhail V.; Charushin, Valery N.; et al., *Synthesis-Stuttgart* **2020**, 52, 337

**Prediction of energetic properties of carboranyl tetrazoles based on DFT study**  
Borisov, Yurii A.; Makarenkov, Anton V.; Kiselev, Sergey S.; et al., *Mater. Chem. Phys.* **2020**, 240, Article number 122209

**Do Gold(III) Complexes Form Hydrogen Bonds? An Exploration of Au-III Dicarboranyl Chemistry**  
Chambrier, Isabelle; Hughes, David L.; Jeans, Rebekah J.; et al., *Chem. Eur. J.* **2020**, 26, 939

**The Lewis acidity of borylcarboranes**  
Benton, Amanda; Watson, James D.; Mansell, Stephen M.; et al., *J. Organometal. Chem.* **2020**, 907, Article Number 121057

**Aggregation-induced emission characteristics of o-carborane-functionalized fluorene and its heteroanalogs: the influence of heteroatoms on photoluminescence**  
Wu, Xueyan; Guo, Jixi; Lv, Yan; et al., *Materials Chemistry Frontiers* **2020**, 4, 257

**Homocoupling of CO and isocyanide mediated by a C,C'-bis(silylenyl)-substituted *ortho*-carborane**  
Xiong, Yun; Yao, Shenglai; Szilvasi, Tibor; et al., *Chem. Commun.* **2020**, 56, 747

**Pd-Catalyzed Selective Bifunctionalization of 3-Iodo-o-Carborane by Pd Migration**  
Ge, Yixiu; Zhang, Jie; Qiu, Zaozao; Xie, Zuowei, *Angew. Chem. Int. Ed.* **2020**, 59, 4851

**Transition-State-like Planar Structures for Amine Inversion with Ultralong C-C Bonds in Diamino-o-carborane and Diamino-o-dodecahedron**  
Nilangshu Mandal, Arun K. Pal, Pranab Gain, Ahsan Zohaib, Ayan Datta, *J. Am. Chem. Soc.* **2020**, 142, 5331

**Oxidative Generation of Boron-Centered Radicals in Carboranes**  
Harrison A. Mills, Joshua Martin, Arnold L. Rheingold, Alexander M Spokoyny, *J. Am. Chem. Soc.* **2020**, 142, 4586

**One-Pot Process to Carborano-Coumarin via Catalytic Cascade Dehydrogenative Cross-Coupling**  
Au, Yik Ki; Lyu, Hairong; Quan, Yangjian, Xie, Zuowei, *Chinese J. Chem.* **2020**, 38, 383

**Synthesis and X-ray single crystal structure of first aromatic *ortho*-di-tert-butyl azolo[1,2,4]triazine**  
Ivanov, Sergey M.; Sivaev, Igor B, *J. Heterocyclic Chem.* **2020**, 57, 1428

**Magnetic properties of *closo*-carborane-based Co(II) single-ion complexes with O, S, Se, and Te bridging atoms**  
Ona, Ofelia B.; Alcoba, Diego R.; Massaccesi, Gustavo E.; et al., *Polyhedron* **2020**, 176, Article number UNSP 114257

**Activation of C–C Bonds via  $\sigma$ -Bond Metathesis: Hydroborenium-Catalyzed Hydrogenolysis of Cyclopropanes**  
Bo Su, Yawei Li, Zhen Hua Li, Jun-Li Hou, Huadong Wang, *Organometallics* **2020**, 39, 4159

**Copper-Catalyzed Electrochemical Selective B-H Oxygenation of o-Carboranes at Room Temperature**  
Yik Ki Au, Hairong Lyu,, Yangjian Quan, Zuowei Xie, *J. Am. Chem. Soc.* **2020**, 142, 6940

**Iridium-Catalyzed Regioselective B(3)-Alkenylation/B(3,6)-Dialkenylation of o-Carboranes by Direct B-H Activation**  
Cheng, Ruofei; Qiu, Zaozao; Xie, Zuowei, *Chem. Eur. J.* **2020**, 26, 7144

**Versatility and adaptative behaviour of the P^N chelating ligand MeDalphos within gold(i) pi complexes**  
Navarro, Miquel; Toledo, Alberto; Mallet-Ladeira, Sonia; et al., *Chem. Sci.* **2020** 11, 2750

**Transition-Metal-Catalyzed Regioselective Functionalization of Monophosphino-o-Carboranes**  
Zhang, Zi-Yang; Zhang, Xuepeng; Yuan, Jia; et al., *Chem. Eur. J.* **2020**, 26, 5037  
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**Halogen-MIDLINE HORIZONTAL ELLIPSE Halogen interactions in decahalo-*closo*-carboranes: CSD analysis and theoretical study**  
de las Nieves Pina, Maria; Bauza, Antonio; Frontera, Antonio, *Phys. Chem. Chem. Phys.* **2020**, 22, 6122

**Modeling of the spatial and electronic structure and the dipole moment of titanocene dicarboranyl**

Loukova, G., V; Milov, A. A.; Vasiliev, V. P.; et al., *Russ. Chem. Bull.* **2020**, *69*, 218

**[2 + 2] Cycloaddition of *o*-Carboryne with Vinyl Ethers: Synthesis of Carborane-Fused Cyclobutanes**

Jie Zhang and Zuwei Xie\*, *Organometallics* **2020**, *39*, 4214

**Too Persistent to Give Up: Aromaticity in Boron Clusters Survives Radical Structural Changes**

Jordi Poater, Clara Viñas, Ines Bennour, Silvia Escayola, Miquel Solà, Francesc Teixidor, *J. Am. Chem. Soc.* **2020**, *142*, 9396

**Direct unconstrained variable-metric localization of one-electron orbitals**

Ziling Luo, Rustam Z. Khaliullin, *J. Chem. Theory Computation* **2020**, *16*, 3558

**Synthesis of Polyhedral Borane Cluster Fused Heterocycles via Transition Metal Catalyzed B-H Activation**

Cao, Ke; Zhang, Cai-Yan; Xu, Tao-Tao; et al., *Molecules* **2020**, *25*, Article number 391

***O*-Carboranylene versus Phenylene Backbones in Cyclization Reactions of 1,2 Diketones with Hydrosilanes**

Kuldeep Jaiswal, Karina Chulsky, Mark Gandelman, Roman Dobrovetsky\*, *Organometallics* **2020**, *39*, 4232

**Boosting Circularly Polarized Luminescence of Organic Conjugated Systems via Twisted Intramolecular Charge Transfer**

Li, Junfeng; Hou, Chenxi; Huang, Chao; et al., *Research* **2020**, Article number UNSP 3839160

**Palladium-catalyzed intramolecular dehydrogenative coupling of BH and OH: synthesis of carborane-fused benzoxaboroles**

Cui, Chun-Xiao; Zhang, Jie; Qiu, Zaozao; et al., *Dalton Trans.* **2020**, *49*, 1380

**Blue Emitting Star-Shaped and Octasilsesquioxane-Based Polyanions Bearing Boron Clusters. Photophysical and Thermal Properties**

Cabrera-Gonzalez, Justo; Chaari, Mandi; Teixidor, Francesc; et al., *Molecules* **2020**, *25*, Article number 1210

**Triazine-cored dendritic molecules containing multiple *o*-carborane clusters**

Jena, Bibhuti Bhusan; Jena, Soumya Ranjan; Swain, Biswa Ranjan; et al., *Appl. Organometal. Chem.* **2020**, *34*, Article number e5754

**Simple Electrochemical Characterization of *ortho*-carborane and Some of its Exo-skeletal Derivatives**

Fojt, Lukas; Nekvinda, Jan; El Anwar, Suzan; et al., *Electroanalysis* **2020**, *32*, 1859

**Iridium-Catalyzed Cyclative Indenylation and Dienylation through Sequential B(4)–C Bond Formation, Cyclization, and Elimination from *o*-Carboranes and Propargyl Alcohols**

Yonghyeon Baek, Kiun Cheong, Gi Hoon Ko, Gi Uk Han, Sang Hoon Han, Dongwook Kim, Kooyeon Lee, and Phil Ho Lee\* *J. Am. Chem. Soc.* **2020**, *142*, 9890

**Carborane bridged ferrocenyl conjugated molecules: synthesis, structure, electrochemistry and photophysical properties**

Yan, Jian-Feng; Zhu, Gai-Ge; Yuan, Ye; et al., *New J. Chem.* **2020**, *44*, 7569

**Hydrogen vs. Halogen Bonds in 1-Halo-*Closo*-Carboranes**

Alkorta, Ibon; Elguero, Jose; Oliva-Enrich, Josep M., *Materials* **2020**, *13*, Article number 2163

**Synthesis of boronated meso-arylporphyrins via copper-catalyzed 1,3-dipolar cycloaddition reaction and their binding ability towards albumin and low density lipoproteins**

Ol'shevskaya, Valentina A.; Zaitsev, Andrei, V; Makarenkov, Anton, V; et al., *J. Organometal. Chem.* **2020**, *916*, Article number 121248

***o*-Carborane based and atomically-precise metal clusters as hypergolic materials**

Qian-You Wang, Jie Wang, Shan Wang, Zhao-Yang Wang, Man Cao, Chunlin He, Junqing Yang, Shuang-Quan Zang, and Thomas C. W. Mak, *J. Am. Chem. Soc.* **2020**, *142*, 12010

**Synthesis and Structural Characterization of the Ruthenium Complex Based on 1,2-Dicarba-*closo*-dodecaborane-1,2-dithiolate Ligand and FcCH(OH)C equivalent to CH**

Hu, J. R.; Wang, J. H.; Jin, K. G.; et al., *Russ. J. Coord. Chem.* **2020**, *46*, 437

**Deboronation-Induced Ratiometric Emission Variations of Terphenyl-Based *Closo*-*o*-Carboranyl Compounds: Applications to Fluoride-Sensing**

So, Hyunhee; Mun, Min Sik; Kim, Mingji; et al., *Molecules* **2020**, *25*, 2413

**Correlating the Structural and Photophysical Properties of *Ortho*, *Meta*, and *Para*-Carboranyl-Anthracene Dyads**  
Marsh, Adam, V; Dyson, Matthew J.; Cheetham, Nathan J.; et al., *Adv. Electronic Mater.* **2020**, Article number 2000312

**Redox Noninnocent Monoatomic Silicon(0) Complex (“Silylone”): Its One-Electron-Reduction Induces an Intramolecular One-Electron-Oxidation of Silicon(0) to Silicon(I)**

Shenglai Yao, Arseni Kostenko, Yun Xiong, Ales Ruzicka, and Matthias Driess\*, *J. Am. Chem. Soc.* **2020**, *142*, 12608

**Palladium-Catalyzed Carbonylative Annulation of 1-Hydroxy-*o*-Carborane and Internal Alkynes via Regioselective B-H Activation**

Au, Yik Ki; Quan, Yangjian; Xie, Zuowei, *Chem. Asian J.* **2020**, *15*, 2170

**Ir-catalyzed selective dehydrogenative cross-coupling of aryls with *o*-carboranes via a mixed directing-group strategy**

Chen, Yu; Quan, Yangjian; Xie, Zuowei, *Chem. Commun.* **2020**, *56*, 7001

**Manipulating the AIE and low-temperature phosphorescence properties of *o*-carborane-imidazole derivatives via fine tuning their structural features**

Shan, Huici; Liu, Anjie; Lv, Yan; et al., *Dyes and Pigments* **2020**, *180*, Article number 108400

**Synthesis and structure of 3-aryloxy derivatives of *ortho*-carborane**

Shmalko, Akim, V; Anufriev, Sergei A.; Stogniy, Marina Yu; et al., *New J. Chem.* **2020**, *44*, 10199

**Palladium-catalyzed regioselective synthesis of B(4,5)- or B(4)-substituted *o*-carboranes containing  $\alpha,\beta$ -unsaturated carbonyls**

Zhang, Chuyi; Wang, Qian; Tian, Song; et al., *Org. Biomolec. Chem.* **2020**, *18*, 4723

**Mechanistic Studies of Transition-Metal-Catalyzed [2 + 2 + 2] Cycloaddition Reactions**

Anna Roglans\*, Anna Pla-Quintana\*, and Miquel Solà\*, *Chem. Rev.* **2020**, asp (review)

**Persistent Homology for the Quantitative Analysis of the Structure and Stability of Carboranes**

Chen Dong; Zhang Ming-Zheng; Chen Hai-Biao; et al., *Chinese J. Struct. Chem.* **2020**, *39*, 999

**Polyazomethine and polyphenylene based on 1,2-bis(4-acetylbenzyl)-*o*-carborane**

Kushakova, N. S.; Naumkin, A. V.; Suntsova, I. B.; et al., *Russ. Chem. Bull.* **2020**, *69*, 1138

**Insights into the effects of substitution position on the photophysics of mono-*o*-carborane-substituted pyrenes**

Kim, Seonah; Lee, Ji Hye; So, Hyunhee; et al. *Inorg. Chem. Frontiers* **2020**, *7*, 2949

**Solution-Phase Synthesis of a Base-Free Benzoborirene and a Three-Dimensional Inorganic Analogue**

Hui Zhang, Junyi Wang, Weiguang Yang, Libo Xiang, Weicheng Sun, Wenbo Ming, Yinxin Li, Zhenyang Lin, and Qing Ye, *J. Am. Chem. Soc.* **2020**, *142*, 17243

**Spirofluorene-Based *o*-Carboranyl Compounds: Insights into the Rotational Effect of Carborane Cages on Photoluminescence**

Kim, Seonah; Lee, Ji Hye; So, Hyunhee; et al., *Chem. Eur. J.* **2020**, *26*, 548

**Cu(I)-Catalyzed Cycloaddition of Vinylacetylene *ortho*-Carborane and Arylazides in the Design of 1,2,3-Triazolyl-Modified Vinylcarborane Fluorophores**

Lidia A. Smyshliaeva, Mikhail V. Varaksin\*, Ekaterina I. Fomina, Muthipeedika N. Joy, Vasiliy A. Bakulev, Valery N. Charushin, and Oleg N. Chupakhin\*, *Organometallics* **2020**, *39*, 3679

**Spontaneous Resolution of Chiral Multi-Thiolate-Protected Ag<sub>30</sub> Nanoclusters**

Jia-Hong Huang, Zhao-Yang Wang\*, Shuang-Quan Zang\*, and Thomas C. W. Mak, *ACS Central Science* **2020**, *6*, 1971

**Bis(silylene)-Stabilized Monovalent Nitrogen Complexes**

Yao, Shenglai; Szilvasi, Tibor; Xiong, Yun; et al., *Angew. Chem. Int. Ed.* **2020**, *59*, 22043

**Magnesium-mediated sp<sup>3</sup> C-H activation in cascade cyclization of 1-arylethynyl-2-alkyl-*o*-carboranes: efficient synthesis of carborane-fused cyclopentanes**

Zhang, Jie; Tang, Cen; Xie, Zuowei, *Chem. Sci.* **2020**, *11*, 9925

**C-H Functionalization Reactions of Phenyl and Vinyl Carbocations Paired with Weakly Coordinating Anions**

Popov, Stasik; Shao, Brian; Bagdasarian, Alex L.; et al., *Synlett* **2020**, *31*, 1851

**Palladium-Catalyzed Oxidative Annulation of 1-Hydroxy-*o*-Carborane with Internal Alkynes: Facile Synthesis of Carborane-Fused Oxaboroles**

Cheng, Ruofei; Qiu, Zaozao; Xie, Zuowei, *Chinese J. Chem.* **2020**, *38*, 1575

**Transition-Metal-Free Cross-Coupling Reaction of Iodocarboranes with Terminal Alkynes Enabled by UV Light: Synthesis of 1-Alkynyl-*o*-Carboranes and Carborane-Fused Cyclics**

Hangcheng Ni, Zhenpin Lu, and Zuowei Xie, *J. Am. Chem. Soc.* **2020**, *142*, 18661

**Bis(pentafluorophenyl)-*o*-carborane and its arylthio derivatives: synthesis, electrochemistry and optical properties**

Shida, Naoki; Owaki, Satoshi; Eguchi, Hiroshi; et al., *Dalton Trans.* **2020**, *49*, 12985

**[Si(O<sub>2</sub>C<sub>6</sub>F<sub>4</sub>)<sub>2</sub>]<sub>14</sub>: Self-Assembly of a Giant Perfluorinated Macrocyclic Host by Low-Barrier Si-O Bond Metathesis**

Hartmann, Deborah; Greb, Lutz, *Angew. Chem. Int. Ed.* **2020**, *59*, 22510

**Bromination Mechanism of *closo*-1,2-C<sub>2</sub>B<sub>10</sub>H<sub>12</sub> and the Structure of the Resulting 9-Br-*closo*-1,2-C<sub>2</sub>B<sub>10</sub>H<sub>12</sub> Determined by Gas Electron Diffraction**

Holub, Josef; Vishnevskiy, Yury V.; Fanfrlik, Jindrich; et al., *ChemPlusChem* **2020**, *85*, 2606

**Carboxyl- and amine-functionalized carboranethiol SAMs on Au(111): A dispersion-corrected density functional theory study**

Yortanli, Merve; Mete, Ersen, *Phys. Rev. Mater.* **2020**, *4*, Article Number: 095002

**Regioselective B(3,4)-H arylation of *o*-carboranes by weak amide coordination at room temperature**

Liang, Yu-Feng; Yang, Long; Jei, Becky Bongsuiru; et al., *Chem. Sci.* **2020**, *11*, 10674

**Synthesis of *B*-Chloro(organo)silylmethyl-*o*-carboranes**

Izmaylov, B. A.; Vasnev, V. A.; Markova, G. D., *Doklady Chem.* **2020**, *492*, 73

**Synthesis of *C*-Methoxy- and *C,C'*-Dimethoxy-*ortho*-carboranes**

Stogniy, Marina Yu; Erokhina, Svetlana A.; Sivaev, Igor B.; et al., *J. Organometal. Chem.* **2020**, *927*, Article number: 121523

**A new type of carborane-based electron-accepting material**

Lee, Sunhee; Shin, Jisu; Ko, Doo-Hyun; et al., *Chem. Commun.* **2020**, *56*, 12741

**8-Aminoquinoline as a bidentate traceless directing group for Cu-catalyzed selective B(4,5)-H disulfenylation of *o*-carboranes**

Chen, Yu; Quan, Yangjian; Xie, Zuowei, *Chem. Commun.* **2020**, *56*, 12997

**Planarity of *N*-aryl in appended 1,2,4-triazole-based *o*-carboranyl luminophores: a key factor to control intramolecular charge transfer**

Kim, Mingi; Ryu, Chan Hee; Hong, Ju Hyun; et al., *Inorg. Chem. Frontiers* **2020**, *7*, 4180

**Strong  $\sigma$ -Hole Activation on Icosahedral Carborane Derivatives for a Directional Halide Recognition**

Beau, Maxime; Lee, Sunhee; Kim, Sooyeon; et al., *Angew. Chem. Int. Ed.* **2020**, *60*, 366

**Expanding the Scope of Palladium-Catalyzed B–N Cross-Coupling Chemistry in Carboranes**

Xin Mu, Morgan Hopp, Rafal M. Dziedzic, Mary A. Waddington, Arnold L. Rheingold, Ellen M. Sletten, Jonathan C. Axtell\*, and Alexander M. Spookily\*, *Organometallics* **2020**, *39*, 4380

**Palladium Catalyzed Selective B(3)–H Activation/Oxidative Dehydrogenative Coupling for the Synthesis of Bis(*o*-carborane)s**

Ji Wu, Ke Cao\*, Cai-Yan Zhang, Tao-Tao Xu, Xin-Yu Wen, Bo Li, and Junxiao Yang, *Inorg. Chem.* **2020**, *59*, 17340

**Benchmark Data Sets of Boron Cluster Dihydrogen Bonding for the Validation of Approximate Computational Methods**

Fanfrlik, Jindrich; Pecina, Adam; Rezac, Jan; et al., *ChemPhysChem* **2020**, *21*, 2599

**Inclusion crystals of V-shaped host molecules having trialkoxybenzene moieties with a carborane or benzoquinone derivative**

Kawahata, Masatoshi; Tominaga, Masahide; Komatsu, Ryota; et al., *CrystEngComm* **2020**, *22*, 7648

**One-Pot Synthesis of B-Aryl Carboranes with Sensitive Functional Groups Using Sequential Cobalt- and Palladium-Catalyzed Reactions**

Anufriev, Sergey A.; Shmal'ko, Akim V.; Suponitsky, Kyrill Yu.; et al., *Catalysts* **2020**, *10*, Article number 1348

**Synthesis of new carboranyl organosilicon derivatives - precursors for the preparation of hybrid organo-inorganic materials**

Minyaylo, Ekaterina O.; Anisimov, Anton A.; Zaitsev, Andrei, V; et al., *J. Organometal. Chem.* **2020**, *928*, Article number 121547

**Molecular designs for expanding the limits of ultralong C-C bonds and ultrashort HMIDLINE HORIZONTAL ELLIPSISH non-bonded contacts**

Mandal, Nilangshu; Datta, Ayan, *Chem. Commun.* **2020**, *56*, 15377

**Phosphine oxide-directed palladium-catalyzed B(3)-H arylation of o-carboranes**

Lian, Lingxiang; Lin, Caixia; Yu, Yi; et al., *Tetrahedron Lett.* **2020**, *61*, Article number 152625

**Multiple photoluminescence of spiro[acridine-fluorene]-based o-carboranyl compounds with potential as a visual sensory material**

Mun, Min Sik; Ryu, Chan Hee; So, Hyunhee; et al., *J. Mater. Chem.* **2020**, *8*, 16896

**"Free of Base" Sulfa-Michael Addition for Novel o-Carboranyl-DL-Cysteine Synthesis**

Laskova, Julia; Kosenko, Irina; Ananyev, Ivan; et al., *Crystals* **2020**, *10*, Article number 1133

**Boron-substituted carborane-carbosilane dendrimers: Synthesis and properties**

Minyaylo, E. O.; Anisimov, A. A.; Zaitsev, A. V.; et al., *Reactive Functional Polym.* **2020**, *157*, Article number 104746

**Recent Advances in Transition Metal-Promoted Multicomponent Cascade Reactions for Controlled Synthesis of Complex Carborane Derivatives**

Zhang Huifang; Qiu Zaozao; Xie Zuowei, *Chinese J. Org. Chem.* **2020**, *40*, 3203

## ***m*-Carborane**

**Development of Mercury-catalyzed Reaction and Design of Heterogeneous Catalyst on the Basis of Salt-metathesis Reaction**

Yamamoto, Hirofumi; Yamasaki, Naoto; Sasaki, Ikuo; et al., *J. Synth. Org. Chem. Japan* **2020**, *77*, 982

**Prediction of energetic properties of carboranyl tetrazoles based on DFT study**

Borisov, Yurii A.; Makarenkov, Anton V.; Kiselev, Sergey S.; et al., *Mater. Chem. Phys.* **2020**, *240*, Article number: 122209

**Oxidative Generation of Boron-Centered Radicals in Carboranes**

Harrison A. Mills, Joshua Martin, Arnold L. Rheingold, Alexander M Spokoyny, *J. Am. Chem. Soc.* **2020**, *142*, 4586

**HalogenMIDLINE HORIZONTAL ELLIPSISHalogen interactions in decahalo-*c*loso-carboranes: CSD analysis and theoretical study**

de las Nieves Pina, Maria; Bauza, Antonio; Frontera, Antonio, *Phys. Chem. Chem. Phys.* **2020**, *22*, 6122

**A Highly Water-Stable *meta*-Carborane-Based Copper Metal–Organic Framework for Efficient High-Temperature Butanol Separation**

Lei Gan, Arunraj Chidambaram, Pol G. Fonquernie, Mark E. Light, Duane Choquesillo-Lazarte, Hongliang Huang, Eduardo Solano, Julio Fraile, Clara Viñas, Francesc Teixidor, Jorge A. R. Navarro, Kyriakos C. Stylianou\* José G. Planas\*, *J. Am. Chem. Soc.* **2020**, *142*, 8299

**Study on thermal degradation mechanism of heat-resistant epoxy resin modified with carboranes**

Cui, Meili; Zhang, Lili; Lou, Pingping; et al., *Polymer Degrad. Stabil.* **2020**, *176*, Article number 109143

**Correlating the Structural and Photophysical Properties of *Ortho*, *Meta*, and *Para*-Carboranyl-Anthracene Dyads**

Marsh, Adam, V; Dyson, Matthew J.; Cheetham, Nathan J.; et al., *Adv. Electronic Mater.* **2020**, Article number 2000312

**Influence of Terminal Carboxyl Group on Structure and Reactivity of Functionalized *m*-Carboranethiolate Self-Assembled Monolayers**

Dominic P Goronzy, Jan Stanek, Erin Avery, Han Guo, Zdenek Bastl, Michal Dusek, Nathan M. Gallup, Saliha Gün, Monika Kučeráková, Brian J. Levandowski Jan Machacek, Václav Šícha, John C Thomas, Adem Yavuz, K. N. Houk, Mehmet Fatih Danişman, Ersen Mete, Anastassia N. Alexandrova, Tomas Base, and Paul S. Weiss, *Chem. Mater.* **2020**, *32*, 6800

### **Anthracene-styrene-substituted *m*-carborane derivatives: insights into the electronic and structural effects of substituents on photoluminescence**

Chaari, Mahdi; Kelemen, Zsolt; Choquesillo-Lazarte, Duane; et al., *Inorg. Chem. Frontiers* **2020**, *7*, 2370

### **Multicolor Chemical Imaging by Sum Frequency Generation Imaging Microscopy of Monolayers on Metal Surfaces**

Aleksandr A. Pikalov, Tianlang Yu, Daniela Rodriguez, Han Ju Lee, T. Randall Lee, and Steven Baldelli\*, *J. Phys. Chem. C* **2020**, *124*, 16908

### ***m*-Carborane as a Novel Core for Periphery-Decorated Macromolecules**

Bennour, Ines; Teixidor, Francesc; Kelemen, Zsolt; et al., *Molecules* **2020**, *25*, Article number 2814

### **Novel oligo-*m*-carboranylenemethylenesilanes**

Izmaylov, B. A.; Vasnev, V. A.; Markova, G. D., *Russ. Chem. Bull.* **2020**, *69*, 1130

### **Expanding the Scope of Palladium-Catalyzed B–N Cross-Coupling Chemistry in Carboranes**

Xin Mu, Morgan Hopp, Rafal M. Dziedzic, Mary A. Waddington, Arnold L. Rheingold, Ellen M. Sletten, Jonathan C. Axtell\*, and Alexander M. Spokoiny\*, *Organometallics* **2020**, *39*, 4380

### **Benchmark Data Sets of Boron Cluster Dihydrogen Bonding for the Validation of Approximate Computational Methods**

Fanfrik, Jindrich; Pecina, Adam; Rezac, Jan; et al., *ChemPhysChem* **2020**, *21*, 2599

### **Synthesis of new carboranyl organosilicon derivatives - precursors for the preparation of hybrid organo-inorganic materials**

Minyaylo, Ekaterina O.; Anisimov, Anton A.; Zaitsev, Andrei, V; et al., *J. Organometal. Chem.* **2020**, *928*, Article number 121547

## ***p*-Carborane**

### **Dinuclear acetylide-bridged ruthenium(ii) complexes with rigid non-aromatic spacers**

Naik, Surabhi; Scottwell, Synove O.; Li, Hsiu L.; et al., *Dalton Trans.* **2020**, *49*, 2687

### **Dihydrogen Bond-Interaction-Induced Separation of Hexane Isomers by Self-Assembled Carborane Metallacycles**

Peng-Fei Cui, Yue-Jian Lin, Zhen-Hua Li, Guo-Xin Jin, *J. Am. Chem. Soc.* **2020**, *142*, 8532

### **HalogenMIDLINE HORIZONTAL ELLIPSISHalogen interactions in decahalo-*closo*-carboranes: CSD analysis and theoretical study**

de las Nieves Pina, Maria; Bauza, Antonio; Frontera, Antonio, *Phys. Chem. Chem. Phys.* **2020**, *22*, 6122

### **Correlating the Structural and Photophysical Properties of *Ortho*, *Meta*, and *Para*-Carboranyl-Anthracene Dyads**

Marsh, Adam, V; Dyson, Matthew J.; Cheetham, Nathan J.; et al., *Adv. Electronic Mater.* **2020**, Article number 2000312

## ***Closo*-CB<sub>11</sub>H<sub>12</sub><sup>-</sup> Derivatives**

### **Exhaustive Cyanation of the Dodecaborate Dianion: Synthesis, Characterization, and X-ray Crystal Structure of [B<sub>12</sub>(CN)<sub>12</sub>]<sup>2-</sup>**

Austin A. Kamin, Marcus A. Juhasz\*, *Inorg. Chem.* **2020**, *59*, 189

### **Strongly Coordinating Ligands to Form Weakly Coordinating yet Functional Organometallic Anions**

Steven P. Fisher, Scott G. McArthur, Varun Tej, Sarah E. Lee, Allen L. Chan, Isaac Banda, Aaron Gregory, Kevin Berkley, Charlene Tsay, Arnold L. Rheingold, Gregorio Guisado-Barrios, Vincent Lavallo, *J. Am. Chem. Soc.* **2020**, *142*, 251

### **Understanding Superionic Conductivity in Lithium and Sodium Salts of Weakly Coordinating *Closo*-Hexahalocarborate Anions**

Mathias Jørgensen, Patrick T. Shea, Anton W. Tomich, Joel B. Varley, Marnik Bercx, Sergio Lovera, Radovan Černý, Wei Zhou, Terrence J. Udovic, Vincent Lavallo, Torben R. Jensen, Brandon C. Wood, Vitalie Stavila, *Chemistry of Materials* **2020**, *32*, 1475

### **Icosahedral Carborane Superacids and their Conjugate Bases Comprising H, F, Cl, and CN Substituents: A Theoretical Investigation of Monomeric and Dimeric Cages**

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