

## List of publications: Dr. George E. Cutsail III

### 2020

- Duan, P.-C., Schulz, R.A., Römer, A., Van Kuiken, B.E., Dechert, S., Demeshko, S., **Cutsail III, G.E.**, DeBeer, S., Mata, R.A., Meyer, F. (2020). Ligand Protonation Triggers H<sub>2</sub> Release from a Dinickel Dihydride Complex to Give a Doubly “T”-Shaped Dinickel(I) Metallodiradical *Angewandte Chemie International Edition* <https://doi.org/10.1002/anie.202011494>
- **Cutsail III, G.E.** (2020). Applications of electron paramagnetic resonance spectroscopy to heavy main-group radicals *Dalton Transactions* 49(35), 12128-12135. <https://doi.org/10.1039/D0DT02436H>
- Helling, C., Wölper, C., **Cutsail III, G.E.**, Haberhauer, G., Schulz, S. (2020). A mechanistic study on reactions of group 13 diyls LM with Cp\*SbX<sub>2</sub> - From stibanyl radicals to antimony hydrides *Chemistry – A European Journal* 26(59), 13390-13399. <https://doi.org/10.1002/chem.202001739>
- Van Stappen, C., Decamps, L., **Cutsail III, G.E.**, Bjornsson, R., Henthorn, J.T., Birrell, J.A., DeBeer, S. (2020). The Spectroscopy of Nitrogenases *Chemical Reviews* 120(12), 5005-5081. <https://doi.org/10.1021/acs.chemrev.9b00650>
- Helling, C., **Cutsail III, G.E.**, Weinert, H., Wölper, C., Schulz, S. (2020). Ligand Effects on the Electronic Structure of Heteroleptic Antimony-centered Radicals *Angewandte Chemie International Edition* 59(19), 7561-7568. <https://doi.org/10.1002/anie.202000586>
- **Cutsail III, G.E.**, Blaes, E.J., Pollock, C.J., Bollinger Jr, J.M., Krebs, C., DeBeer, S. (2020). High-resolution iron X-ray absorption spectroscopic and computational studies of non-heme diiron peroxo intermediates *Journal of Inorganic Biochemistry* 203, 110877. <https://doi.org/10.1016/j.jinorgbio.2019.110877>
- Liu, Y., Resch, S.G., Klawitter, I., **Cutsail III, G.E.**, Demeshko, S., Dechert, S., Kühn, F.E., DeBeer, S., Meyer, F. (2020). An Adaptable N-Heterocyclic Carbene Macrocycle Hosting Copper in three Oxidation States *Angewandte Chemie International Edition* 59(14), 5696-5705. <https://doi.org/10.1002/anie.201912745>

### 2019

- McGale, J., **Cutsail III, G.E.**, Joseph, C., Rose, M.J., DeBeer, S. (2019). Spectroscopic X-ray and Mössbauer Characterization of M<sub>6</sub> and M<sub>5</sub> Iron(Molybdenum)-Carbonyl Carbide Clusters: High Carbide-Iron Covalency Enhances Local Iron Site Electron Density Despite Cluster Oxidation *Inorganic Chemistry* 58(19), 12918-12932. <https://doi.org/10.1021/acs.inorgchem.9b01870>
- **Cutsail III, G.E.**, Gagnon, N.L., Spaeth, A.D., Tolman, W.B., DeBeer, S. (2019). Valence-to-Core X-ray Emission Spectroscopy as a Probe of O-O Bond Activation in Cu<sub>2</sub>O<sub>2</sub> complexes *Angewandte Chemie International Edition* 58(27), 9114-9119. <https://doi.org/10.1002/anie.201903749>
- Helling, C., Wölper, C., Schulte, Y., **Cutsail III, G.E.**, Schulz, S. (2019). Synthesis of a Ga-Stabilized As-Centered Radical and a Gallastibene by Tailoring Group 15 Element–Carbon Bond Strengths *Inorganic Chemistry* 58(15), 10323-10332. <https://doi.org/10.1021/acs.inorgchem.9b01519>

## 2018

- **Cutsail III, G.E.**, Banerjee, R., Zhou, A., Que, L., Lipscomb, J.D., DeBeer, S. (2018). High-Resolution EXAFS Provides Evidence for a Longer Fe•••Fe Distance in the Q Intermediate of Methane Monooxygenase *Journal of the American Chemical Society* 140(48), 16807-16820. <https://doi.org/10.1021/jacs.8b10313>
- Galle, L.M., **Cutsail III, G.E.**, Nischwitz, V., DeBeer, S., Span, I. (2018). Spectroscopic characterization of the Co-substituted C-terminal domain of rubredoxin-2 *Biological Chemistry* 399(7), 787-798. <https://doi.org/10.1515/hsz-2018-0142>
- Ganesamoorthy, C., Helling, C., Wolper, C., Frank, W., Bill, E., **Cutsail III, G.E.**, Schulz, S. (2018). From stable Sb- and Bi-centered radicals to a compound with a Ga=Sb double bond *Nature Communications* 9, 87. <https://doi.org/10.1038/s41467-017-02581-2>

## 2017

- Horitani, M., Offenbacher, A.R., Carr, C.A.M., Yu, T., Hoeke, V., **Cutsail III, G.E.**, Hammes-Schiffer, S., Klinman, J.P., Hoffman, B.M. (2017). <sup>13</sup>C ENDOR Spectroscopy of Lipxygenase-Substrate Complexes Reveals the Structural Basis for C-H Activation by Tunneling *Journal of the American Chemical Society* 139(5), 1984-1997. <https://doi.org/10.1021/jacs.6b11856>

## 2016

- Hoffeditz, W.L., Katz, M.J., Deria, P., **Cutsail III, G.E.**, Pellin M.J., Farha, O.K., Hupp, J.T. (2016). One Electron Changes Everything. A Multispecies Copper Redox Shuttle for Dye-Sensitized Solar Cells *The Journal of Physical Chemistry C* 120(7), 3731-3740. <https://doi.org/10.1021/acs.jpcc.6b01020>
- Ding, M., **Cutsail III, G.E.**, Aravena, D., Amoza, M., Rouzières, M., Dechambenoit, P., Losovyj, Y., Pink, M., Ruiz, E., Clérac, R., Smith, J.M. (2016). A low spin manganese(IV) nitride single molecule magnet *Chemical Science* 7(9), 6132-6410. <https://doi.org/10.1039/c6sc01469k>

## 2015

- Anderson, J.S., **Cutsail III, G.E.**, Rittle, J., Connor, B.A., Gunderson, W.A., Zhang, L., Hoffman, B.M., Peters, J.C. (2015). Characterization of an Fe≡N-NH<sub>2</sub> Intermediate Relevant to Catalytic N<sub>2</sub> Reduction to NH<sub>3</sub> *Journal of the American Chemical Society* 137(24), 7803-7809. <https://doi.org/10.1021/jacs.5b03432>
- **Cutsail III, G.E.**, Telser, J., Hoffman, B.M. (2015). Advanced paramagnetic resonance spectroscopies of iron-sulfur proteins: Electron nuclear double resonance (ENDOR) and electron spin echo envelope modulation (ESEEM) *Biochimica et Biophysica Acta (BBA) – Molecular Cell Research* 1853(6), 1370-1394. <https://doi.org/10.1016/j.bbamcr.2015.01.025>

## 2014

- Gunderson, W.A., Suess, D.L.M., Fong, H., Wang, X., Hoffmann, C.M., **Cutsail III, G.E.**, Peters, J.C., Hoffman, B.M. (2014). Free H<sub>2</sub> Rotation vs Jahn-Teller Constraints in the Nonclassical Trigonal (TPB)Co-H<sub>2</sub> Complex *Journal of the American Chemical Society* 136(42), 14998-15009. <https://doi.org/10.1021/ja508117h>

- **Cutsail III, G.E.**, Stein, B.W., Subedi, D., Smith, J.M., Kirk, M.L., Hoffman, B.M. (2014). EPR, ENDOR, and Electronic Structure Studies of the Jahn–Teller Distortion in an Fe<sup>V</sup> Nitride *Journal of the American Chemical Society* 136(35), 12323-12336. <https://doi.org/10.1021/ja505403j>
- Culpepper, M.A., **Cutsail III, G.E.**, Gunderson, W.A., Hoffman, B.M., Rosenzweig, A.C. (2014). Identification of the Valence and Coordination Environment of the Particulate Methane Monooxygenase Copper Centers by Advanced EPR Characterization *Journal of the American Chemical Society* 136(33), 11767-11775. <https://doi.org/10.1021/ja5053126>

## 2013

- Shanmugam, M., Wilcoxon, J., Habel-Rodriguez, D., **Cutsail III, G.E.**, Kirk, M.L., Hoffman, B.M., Hille, R. (2013). <sup>13</sup>C and <sup>63,65</sup>Cu ENDOR studies of CO Dehydrogenase from *Oligotropha carboxidovorans*. Experimental Evidence in Support of a Copper–Carbonyl Intermediate *Journal of the American Chemical Society* 135(47), 17775-17782. <https://doi.org/10.1021/ja406136f>

## 2012

- **Cutsail III, G.E.**, Doan, P.E., Hoffman, B.M., Meyer, J., Telser, J. (2012). EPR and <sup>57</sup>Fe ENDOR investigation of 2Fe ferredoxins from *Aquifex aeolicus* *Journal of Biological Inorganic Chemistry* 17(8), 1137-1150. <https://doi.org/10.1007/s00775-012-0927-7>
- Zielazinski, E.L., **Cutsail III, G.E.**, Hoffman, B.M., Stemmler, T.L., Rosenzweig, A.C. (2012). Characterization of a Cobalt-Specific P<sub>1B</sub>-ATPase *Biochemistry* 51(40), 7891-7900. <https://doi.org/10.1021/bi3006708>
- Culpepper, M.A., **Cutsail III, G.E.**, Hoffman, B.M., Rosenzweig, A.C. (2012). Evidence for Oxygen Binding at the Active Site of Particulate Methane Monooxygenase *Journal of the American Chemical Society* 134(18), 7640-7643. <https://doi.org/10.1021/ja302195p>