

Research Publications

Lisa McElwee-White

- 199 "Focused Electron Beam-induced Deposition from Ru(CO)₄(fumaronitrile): Incomplete Carbonyl Loss and Nitrogen Retention," Jureddy, C.S.; Chaudhary, A.; Singh, R.; McElwee-White, L.; Utke, I., *Eur. Phys. J. B*, **2026**, accepted for publication.
- 198 "Progress Towards a New Class of Area Selective Deposition Using Photoassisted Chemical Vapor Deposition on Thermally Sensitive Substrates," Brewer, C.R.; Singh, R.; Bhattacharyya, D.; Pugh, J.; Sharma, A.; Das, B.; Oni, O.; Caretti, D.; McElwee-White, L.; Walker, A.V., *Advances in Patterning Materials and Processes XLIII*, 2026; Callahan, R., Silva, A. D., Eds.; *Proc. SPIE* 2026; Vol. 13983, 139830E. DOI: 10.1117/12.3090849
- 197 "Excited-state dissociation of (η^4 -diene)Ru(CO)₃ precursors for photo-assisted chemical vapour deposition," Souza, C.P.; Verkhovtsev, A.V.; Walker, A.V.; Mason, N.J.; Solov'yov, A.V.; McElwee-White, L.; Zlatar, M.; Fantuzzi, F., *Phys. Chem. Chem. Phys.*, **2026**, DOI: 10.1039/D6CP00843G.
- 196 "One-Pot, One-Step Mn-bis(imino)pyridine Complexes through Sonochemistry," Arami, J.A.; Yang, X.; Brodie, A.W.; McElwee-White, L.; Yap, G.P.A.; Li, X.; Jurca, T., *Inorg. Chem.*, **2026**, DOI: 10.1021/acs.inorgchem.6c01196.
- 195 "Surface reactions of iron precursors for focused electron beam induced deposition revealed by reflection absorption infrared spectroscopy," Barnewitz, L.; Boeckers, H.; Chaudhary, A.; Lisa McElwee-White, L.; Swiderek, P., *Phys. Chem. Chem. Phys.*, **2026**, 28, 9745-9761. DOI: 10.1039/d6cp00492j.
- 194 "Ion Induced Fragmentation of the FIBID precursor Iron Tetracarbonyl Acrolein," Saha, S.; Chaudhary, A.; Domaracka, A.; Rousseau, P.; Maclot, S.; Srivastav, S.; Kočíšek, J.; McElwee-White, L.; Fedor, J.; Nag, P., *Eur. Phys. J. B*, **2026**, 80, 91. DOI: 10.1140/epjd/s10053-026-01173-4.
- 193 "Electron-induced dissociation of iron tetracarbonyl acrolein," Das, S.; Lyshehuk, H.; Chaudhary, A.; Saha, S.; Kočíšek, J.; McElwee-White, L.; Fedor, J.; Nag, P., *J. Phys. B: At. Mol. Opt. Phys*, **2026**, 59, 035201. DOI: 10.1088/1361-6455/ae3d75.
- 192 "Characteristics of ruthenium films grown from (η^4 -diene)Ru(CO)₃ complexes by atomic layer deposition," McNealy-James, T.; Johnson, J.M.; Singh, R.; Kang, X.; Tomar, L.; Berriel, S.N.; Currie, T.M.; Moolayil, S.M.; Nielsen, O.; Jurca, T.; Rudawski, N.G.; McElwee-White, L.; Banerjee, P., submitted for publication.
- 191 "Self-organized Metal-Carbon Multilayers Formed by Ion Beam Induced Deposition from Trimethyl(methylcyclopentadienyl)platinum(IV)," Eckhert, P.M.; Johnson, J.M.; McElwee-White, L.; Fairbrother, D.H., *Adv. Funct. Mater.*, **2025**, e19982. DOI: 10.1002/adfm.202519982.
- 190 "Photoassisted Chemical Vapor Deposition Using (η^4 -diene)Ru(CO)₃ Precursors," Brewer, C.R.; Das, B.; Singh, R.; Caretti, D.; Bhattacharyya, D.; Oni, O.; Kang, X.; Perry, J.G.; McElwee-White, L.; Walker, A.V., *ACS Appl. Mater. Interfaces*, **2025**, 17, 55034-55044. DOI: 10.1021/acsami.5c11415.
- 189 "Photochemistry of RMn(CO)₅ Complexes as Precursor Candidates for Photoassisted Chemical Vapor Deposition," Das, B.; Perry, J.G.; Walker, A.V.; McElwee-White, L., *Organometallics*, **2025**, 4, 1257-1266. DOI: 10.1021/acs.organomet.5c00078.

- 188 "Low temperature XPS of (η^4 -cyclooctatetraene)Ru(CO)₃," Brewer, C.R.; Veyan, J.-F.; Kang, X.; McElwee-White, L.; Walker, A.V., *Surf. Sci. Spectra*, **2025**, 32, 014008. DOI: 10.1116/6.0004470.
- 187 "Expanding the Scope of Mo(III) Precursor Molecules for Vapor Phase Growth of Mo-Based Materials: Mo(III) Guanidinate," Currie, T.M.; Brodie, A.W.; Javier-Jiménez, D.R.; Bhumika; Arami, J.; Moore, J.; Lee, S.; Yap, G.A.P.; McElwee-White, L.; Jurca, T., *Chem. Eur. J.*, **2025**, 31, e202500244. DOI: 10.1002/chem.202500244.
- 186 "Microwave Spectrum and Molecular Structure Calculations for η^4 -Butadiene Ruthenium Tricarbonyl," Daly, A.M.; Roehling, K.K.; Hill, R.P.; Gonzalez, M.G.; Kang, X.; McElwee-White, L.; Kukolich, S., *J. Mol. Spectrosc.*, **2024**, 405, 111949. DOI: 10.1016/j.jms.2024.111949.
- 185 "Ion-induced Surface Reactions and Deposition from Pt(CO)₂Cl₂ and Pt(CO)₂Br₂," Abdel-Rahman, M.K.; Eckhert, P.M.; Chaudhary, A.; Johnson, J.M.; Yu, J.-C.; McElwee-White, L.; Fairbrother, D.H., *Beilstein J. Nanotechnol.*, **2024**, 15, 1427–1439. DOI: 10.3762/bjnano.15.115.
- 184 "Electron-induced ligand loss from iron tetracarbonyl methyl acrylate," Lyschchuk, H.; Chaudhary, A.; Luxford, T.F.M.; Ranković, M.; Kočišek, J.; Fedor, J.; McElwee-White, L.; Nag, P., *Beilstein J. Nanotechnol.*, **2024**, 15, 797–807. DOI: 10.3762/bjnano.15.66.
- 183 "Electron-induced deposition using Fe(CO)₄MA and Fe(CO)₅ – effect of MA ligand and process conditions," Boeckers, H.; Chaudhary, A.; Martinović, P.; Walker, A.V.; McElwee-White, L.; Swiderek, P., *Beilstein J. Nanotechnol.*, **2024**, 15, 500–516. DOI: 10.3762/bjnano.15.45.
- 182 "Reactions of Ions with Adsorbed Me₃PtCpMe: The Role of Ion Identity," Abdel-Rahman, M.K.; Eckhert, P.; McElwee-White, L.; Fairbrother, D.H., *J. Phys. Chem. C*, **2024**, 128, 7723–7732. DOI: 10.1021/acs.jpcc.4c00630.
- 181 "Aerosol-Assisted Chemical Vapor Deposition of 2H-WS₂ From Single-Source Tungsten Dithiolene Precursors," Germaine, I.M.; Richey, N.E.; Huttel, M.B.; McElwee-White, L., *J. Mater. Chem. C*, **2024**, 12, 3526–3524. DOI: 10.1039/D3TC03755J.
- 180 "Chemistry for the Focused Electron and Ion Beam-Induced Deposition of Metal Nanostructures," Chaudhary, A.; Eckhert, P.; Fairbrother, D.H.; McElwee-White, L., *2023 IEEE Nanotechnology Materials and Devices Conference (NMDC)*, Paestum, Italy, 2023, pp. 501–504, DOI: 10.1109/NMDC57951.2023.10344187.
- 179 (invited paper) "Single-Source Precursors for the Chemical Vapor Deposition of Group 4–6 Transition Metal Dichalcogenides," Germaine, I.M.; McElwee-White, L., *Cryst. Growth Des.* **2024**, 14, 1–16. DOI: 10.1021/acs.cgd.3c00733.
- 178 "Roadmap for focused ion beam technologies," Höflich, K.; Hobler, G.; Allen, F.I.; Wirtz, T.; Rius, G.; McElwee-White, L.; Krasheninnikov, A.; Schmidt, M.; Utke, I.; Klingner, N.; Osenberg, M.; Córdoba, R.; Djurabekova, F.; Manke, I.; Moll, P.; Manoccio, M.; de Teresa, J.M.; Bischoff, L.; Michler, J.; De Castro, O.; Delobbe, A.; Dunne, P.; Dobrovolskiy, O.V.; Frese, N.; Götzhäuser, A.; Mazarov, P.; Koelle, D.; Möller, W.; Pérez-Murano, F.; Philipp, P.; Vollnhals, F.; Hlawacek, G., *Appl. Phys. Rev.*, **2023**, 10, 041311. DOI: 10.1063/5.0162597.

- 177 "Dissociative Electron Attachment and Dissociative Ionization of $\text{CF}_3\text{AuCNC}(\text{CH}_3)_3$, a Potential FEBID Precursor for Gold Deposition," Kamali, A.; Carden, W.G.; Johnson, J.V.; McElwee-White, L.; Ingólfsson, O., *Eur. Phys. J. D*, **2023**, 77, 157. DOI: 10.1140/epjd/s10053-023-00721-6.
- 176 "AACVD of MoS_2 with a Thiourea Sulfur Source: Single-source Precursors vs. Coreactant Mixtures," Germaine, I.M.; Huttel, M.B.; Alderman, M.P.; McElwee-White, L., *ACS Appl. Mater. Interfaces*, **2023**, 15, 37764-37774. DOI: 10.1021/acsami.3c04086.
- 175 "A Molybdenum(III) Amidinate: Synthesis, Characterization and Vapor Phase Growth of Mo-based Materials," Shaw, T.D.; Ali, Z.; Currie, T.M.; Berriel, S.N.; Butkus, B.; Wagner, J.T.; Preradovic, K.; Yap, G.P.A.; Green, J.C.; Banerjee, P.; Sattelberger, A.P.; McElwee-White, L.; Jurca, T.; *ACS Appl. Mater. Interfaces*, **2023**, 15, 35590-35599. DOI: 10.1021/acsami.3c04074.
- 174 "In Support of Early Career Researchers," Bandichhor, R.; Borovik, A.; de Bettencourt-Dias, A.; Eastgate, M.; Radu, N.; Shi, F.; McElwee-White, L., *Org. Lett.*, **2023**, 25, 715-719. DOI: 10.1021/acs.orglett.3c00187. Simultaneously published as *J. Org. Chem.*, **2023**, 88, 1923-1927. DOI: 10.1021/acs.joc.3c00130; *Inorg. Chem.*, **2023**, 62, 2489-2493. DOI: 10.1021/acs.inorgchem.3c00207; *Organometallics*, **2023**, 42, 177-181. DOI: 10.1021/acs.organomet.3c00035; *Org. Process Res. Dev.*, **2023**, 27, 233-237. DOI: 10.1021/acs.oprd.3c00017.
- 173 "Molybdenum (IV) Dithiocarboxylates as Single-Source Precursors for AACVD of MoS_2 Thin Films," Muhammad, S.; Ferenczy, E.T.; Germaine, I.M.; Wagner, J.T.; Jan, M.T.; McElwee-White, L., *Dalton Trans.*, **2022**, 51, 12540-12548. DOI: 10.1039/D2DT01852G.
- 172 "Photochemistry of $(\eta^4\text{-diene})\text{Ru}(\text{CO})_3$ Complexes as Precursor Candidates for Photoassisted Chemical Vapor Deposition," Brewer, C.R.; Sheehan, N.C.; Herrera, J.; Walker, A.V.; McElwee-White, L., *Organometallics*, **2022**, 41, 761-775. DOI: 10.1021/acs.organomet.1c00715.
- 171 "Nanoscale Ru-Containing Deposits from $\text{Ru}(\text{CO})_4\text{I}_2$ via Simultaneous Focused Electron Beam Induced Deposition and Etching in UHV: Mask Repair in EUVL and Beyond," Bilgilişoy, E.; Yu, J.-C.; Preischl, C.; McElwee-White, L.; Steinrück, H.-P.; Marbach, H., *ACS Appl. Nano Mater.*, **2022**, 5, 3855-3865. DOI: 10.1021/acsanm.1c04481.
- 170 "Photoactivated Ru CVD Using $(\eta^3\text{-Allyl})\text{Ru}(\text{CO})_3\text{X}$ (X = Cl, Br, I): From Molecular Adsorption to Ru Thin Film Deposition," Salazar, B.G.; Brewer, C.R.; McElwee-White, L.; Walker, A.V., *J. Vac. Sci. Technol. A*, **2022**, 40, 023404. DOI: 10.1116/6.0001490.
- 169 "The role of low-energy electron interactions in *cis*- $\text{Pt}(\text{CO})_2\text{Br}_2$ fragmentation," Cipriani, M.; Svavarsson, S.; Ferreira da Silva, F.; Lu, H.; McElwee-White, L.; Ingólfsson, O., *Int. J. Mol. Sci.*, **2021**, 22, 8984. DOI: 10.3390/ijms22168984.
- 168 "Charged Particle-Induced Surface Reactions of Organometallic Complexes as a Guide to Precursor Design for Electron and Ion Induced Deposition of Nanostructures," Yu, J.-C.; Abdel-Rahman, M.K.; Fairbrother, D.H.; McElwee-White, L., *ACS Appl. Mater. Interfaces*, **2021**, 13, 48333-48348. DOI: 10.1021/acsami.1c12327.

- 167 "Photochemistry of 1,5-Cyclooctadiene Platinum Complexes for Photoassisted Chemical Vapor Deposition," Liu, H.; Brewer, C.R.; Walker, A.V.; McElwee-White, L., *Organometallics*, **2020**, 39, 4565-4574. DOI: 10.1021/acs.organomet.0c00616.
- 166 "Electron beam-induced deposition of platinum from Pt(CO)₂Cl₂ and Pt(CO)₂Br₂," Mahgoub, A.; Lu, H.; Thorman, R.M.; Preradovic, K.; Jurca, T.; McElwee-White, L.; Fairbrother, D.H.; Hagen, C.W., *Beilstein J. Nanotech.*, **2020**, 11, 1789-1800. DOI: 10.3762/bjnano.11.161.
- 165 "Surface Reactions of Low Energy Argon Ions with Organometallic Precursors," Bilgiliysoy, E.; Thorman, R.M.; Yu, J.C.; Dunn, T.B.; Marbach, H.; McElwee-White, L.; Fairbrother, D.H., *J. Phys. Chem. C*, **2020**, 124, 24795-24808. DOI: 10.1021/acs.jpcc.0c07269.
- 164 "Checking in with Women Materials Scientists During a Global Pandemic: May 2020," Buonsanti, R.; Buriak, J.; Cabana, L.; Cossairt, B.; Dasog, M.; Dehnen, S.; Dempsey, J.; Koziej, D.; Grace, A. N.; McElwee-White, L.; Thomas, C.; Yang, J., *Chem. Mater.* **2020**, 32, 4859-4862. DOI: 10.1021/acs.chemmater.0c02211.
- 163 "Electron-induced reactions of Ru(CO)₄I₂: gas phase, surface, and FEBID," Thorman, R.M.; Jensen, P.A.; Yu, J.C.; Matsuda, S.J.; McElwee-White, L.; Ingólfsson, O.; Fairbrother, D.H., *J. Phys. Chem. C*, **2020**, 124, 10593-10604. DOI: 10.1021/acs.jpcc.0c01801.
- 162 "Precursors for Chemical Vapor Deposition of Tungsten Oxide and Molybdenum Oxide," Ou, N.C.; Su, X.; Bock, D.C.; McElwee-White, L., *Coord. Chem. Rev.*, **2020**, 421, 231459. DOI: 10.1016/j.ccr.2020.213459.
- 161 "Low Temperature Platinum Chemical Vapor Deposition on Functionalized Self-Assembled Monolayers," Salazar, B.G.; Liu, H.; Walker, A.V.; McElwee-White, L., *J. Vac. Sci. Technol. A*, **2020**, 38, 033404. DOI: 10.1116/6.0000087.
- 160 "Dissociation of the FEBID precursor *cis*-Pt(CO)₂Cl₂ driven by low-energy electrons," Ferreira da Silva, F.; Thorman, R.M.; Bjornsson, R.; Lu, H.; McElwee-White, L.; Ingólfsson, O., *Phys. Chem. Chem. Phys.*, **2020**, 22, 6100-6108. DOI: 10.1039/C9CP06633K.
- 159 "Efficient NH₃-based process to remove chlorine from electron beam deposited ruthenium produced from (η³-C₃H₅)Ru(CO)₃Cl," Rohdenburg, M.; Boeckers, H.; Brewer, C.R.; McElwee-White, L.; Swiderek, P., *Sci. Rep.*, **2020**, 10, 10901. DOI: 10.1038/s41598-020-67803-y.
- 158 "Identifying and rationalizing the differing surface reactions of low energy electrons and ions with an organometallic precursor," Thorman, R.M.; Matsuda, S.J.; McElwee-White, L.; Fairbrother, D.H., *J. Phys. Chem. Lett.*, **2020**, 11, 2006-2013. DOI: 10.1021/acs.jpcclett.0c00061.
- 157 (invited paper) "Synthesis and Evaluation of Molybdenum Imido-Thiolato Complexes for the Aerosol-Assisted Chemical Vapor Deposition of Nitrogen-Doped Molybdenum Disulfide," Ou, N.C.; Preradovic, K.; Ferenczy, E.T.; Sparrow, C.B.; Germaine, I.M.; Jurca, T.; Craciun, V.; McElwee-White, L., *Organometallics*, **2020**, 39, 956-966. DOI: 10.1021/acs.organomet.9b00705.
- 156 "Growth of WO_x from Tungsten (VI) Oxo-Fluoroalkoxide Complexes with Partially Fluorinated β-diketonate/β-ketoesterate Ligands: Comparison of Chemical Vapor Deposition to Aerosol-Assisted CVD," Ou, N.C.; Bock, D.C.; Su, X.; Craciun, D.; Craciun, V.; McElwee-White, L., *ACS Appl. Mater. Interfaces*, **2019**, 11, 28180-28188. DOI: 10.1021/acsami.9b08830.

- 155 "Focused Electron Beam Induced Deposition (FEBID) and Post-Growth Purification Using the Heteroleptic Ru Complex ($\eta^3\text{-C}_3\text{H}_5$)Ru(CO)₃Br," Jurczyk, J.; Brewer, C.R.; Hawkins, O.M.; Polyakov, M.N.; Kapusta, C.; McElwee-White, L.; Utke, I., *ACS Appl. Mater. Interfaces*, **2019**, *11*, 28164-28171. DOI: 10.1021/acsami.9b07634.
- 154 (Very Important Paper, front cover paper) "In Situ Investigation of the Thermal Decomposition of Cl₄(CH₃CN)W(NⁱPr) During Simulated Chemical Vapor Deposition," Nolan, M.M.; Kim, S.Y.; Koley, A.; Anderson, T.J.; McElwee-White, L., *Eur. J. Inorg. Chem.*, **2019**, 3661–3666. DOI: 10.1002/ejic.201900627.
- 153 (invited paper) "Dissociative ionization of the potential focused electron beam induced deposition precursor π -allyl ruthenium (II) tricarbonyl bromide, a combined theoretical and experimental study," Cipriani, M.; Thorman, R.M.; Brewer, C.R.; McElwee-White, L.; Ingólfsson, O., *Eur. Phys. J. D*, **2019**, *73*, 227. DOI 10.1140/epjd/e2019-100151-9.
- 152 (invited paper) "Bis(β -ketoiminate) Dioxo Tungsten(VI) Complexes as Precursors for Growth of WO_x by Aerosol-Assisted Chemical Vapor Deposition," Su, X.; Panariti, P.; Abboud, K.A.; McElwee-White, L., *Polyhedron*, **2019**, *169*, 219-227. DOI: 10.1016/j.poly.2019.05.013.
- 151 "Photochemistry of (η^3 -allyl)Ru(CO)₃X Precursors for Photoassisted Chemical Vapor Deposition," Brewer, C.R.; Hawkins, O.M.; Sheehan, N.C.; Bullock, J.D.; Kleiman, V.D.; Walker, A.V.; McElwee-White, L., *Organometallics*, **2019**, *38*, 4363-4370. DOI: 10.1021/acs.organomet.9b00628.
- 150 "Design, Synthesis, and Evaluation of CF₃AuCNR Precursors for Focused Electron Beam Induced Deposition of Gold," Carden, W.G.; Thorman, R.M.; Unlu, I.; Abboud, K.A.; Fairbrother, D.H.; McElwee-White, L., *ACS Appl. Mater. Interfaces*, **2019**, *11*, 11976-11987. DOI: 10.1021/acsami.8b18368n.
- 149 (invited paper) "Synthesis of β -Ketoiminate and β -Iminoesterate Tungsten (VI) Oxo-Alkoxide Complexes as AACVD Precursors for Growth of WO_x Thin Films," Su, X.; Kim, T.; Abboud, K.A.; McElwee-White, L., *Polyhedron*, **2019**, *157*, 548-557. DOI: 10.1016/j.poly.2018.10.035.
- 148 (invited paper) "Mechanism-Based Design of Precursors for Focused Electron Beam Induced Deposition (FEBID)," Carden, W.G.; Lu, H.; Spencer, J.A.; Fairbrother, D.H.; McElwee-White, L., *MRS Commun.*, **2018**, *8*, 343-357. DOI: 10.1557/mrc.2018.77
- 147 "N,N-disubstituted-N'-acylthioureas as modular ligands for deposition of transition metal sulfides," Ali, Z.; Richey, N.E.; Bock, D.C.; Abboud, K.A.; Akhtar, J.; Sher, M.; McElwee-White, L., *Dalton Trans.*, **2018**, *47*, 2719–2726. DOI: 10.1039/C7DT04860B.
- 146 "Electron Induced Surface Reactions of ($\eta^5\text{-C}_5\text{H}_5$)Fe(CO)₂Mn(CO)₅, a Potential Heterobimetallic Precursor for Focused Electron Beam Induced Deposition," Unlu, I.; Johnson, K.R.; Thorman, R.M.; Ingólfsson, O.; McElwee-White, L.; Fairbrother, D.H., *Phys. Chem. Chem. Phys.*, **2018**, *20*, 7862-7874. DOI: 10.1039/c7cp07994j
- 145 (HOT article) "Low energy electron-induced decomposition of ($\eta^5\text{-Cp}$)Fe(CO)₂Mn(CO)₅, a potential bimetallic precursor for focused electron beam induced deposition of alloy structures," Thorman, R.M.; Unlu, I.; Johnson, K.R.; Björnsson, R.; McElwee-White, L.; Fairbrother, D.H.; Ingólfsson, O., *Phys. Chem. Chem. Phys.*, **2018**, *20*, 5644-5656. DOI: 10.1039/C7CP06705D.

- 144 (invited paper) "Synthesis of Tungsten Oxo Fluoroalkoxide Complexes $\text{WO}(\text{OR})_3\text{L}$ as Precursors for Growth of WO_x Nanomaterials by Aerosol-Assisted Chemical Vapor Deposition," Bock, D.C.; Ou, N.C.; Bonsu, R.O.; Anghel, C.; Su, X.; McElwee-White, L., *Solid State Ionics*, **2018**, 315, 77-84. DOI: 10.1016/j.ssi.2017.11.030.
- 143 (Very Important Paper) "Synthesis and Characterization of Tungsten Nitrido Amido Guanidinato Complexes as Precursors for Chemical Vapor Deposition of WN_xC_y Thin Films," Nolan, M.M.; Touchton, A.J.; Richey, N.E.; Ghiviriga, I.; Rocca, J.R.; Abboud, K.A.; McElwee-White, L., *Eur. J. Inorg. Chem.*, **2018**, 46-53. DOI: 10.1002/ejic.201701225.
- 142 "Pt(CO)₂Cl₂ fragmentation upon low energy electron interactions," Ferreira da Silva, F.; Thorman, R.; Lu, H.; McElwee-White, L.; Ingólfsson, O., *J. Phys.: Conf. Ser.*, **2017**, 875, 062035. DOI: 10.1088/1742-6596/875/7/062035.
- 141 (invited paper) "Comparing post-deposition reactions of electrons and radicals with Pt nanostructures created by focused electron beam induced deposition," Spencer, J.A.; Barclay, M.; Gallagher, M.J.; Winkler R.; Unlu, I.; Wu, Y.-C.; Plank, H.; McElwee-White, L.; Fairbrother, D.H., *Beilstein J. Nanotech.*, **2017**, 8, 2410-2424. DOI: 10.3762/bjnano.8.240.
- 140 (back cover paper) "Aerosol-assisted chemical vapor deposition of WS_2 from the single source precursor $\text{WS}(\text{S}_2)(\text{S}_2\text{CNEt}_2)_2$," Richey, N.E.; Haines, C.; Tami, J.L.; McElwee-White, L., *Chem. Commun.*, **2017**, 53, 7728-7731. DOI: 10.1039/C7CC03585C.
- 139 "Low energy electron-induced decomposition of $(\eta^3\text{-C}_3\text{H}_5)\text{Ru}(\text{CO})_3\text{Br}$, a potential focused electron beam induced deposition precursor with a heteroleptic ligand set," Thorman, R.M.; Brannaka, J.A.; McElwee-White, L.; Ingólfsson, O., *Phys. Chem. Chem. Phys.*, **2017**, 19, 13264-13271. DOI:10.1039/C7CP01696D.
- 138 "Halide Effects on the Sublimation Temperature of L-Au-X Complexes: Implications for Their Use as Precursors in Vapor Phase Deposition Methods," Carden, W.G.; Pedziwiatr, J.; Abboud, K.A.; McElwee-White, L., *ACS Appl. Mater. Interfaces*, **2017**, 9, 40998-41005. DOI: 10.1021/acsami.7b12465.
- 137 "Photochemical CVD of Ru on Functionalized Self-Assembled Monolayers from Organometallic Precursors," Johnson, K.R.; Arevalo Rodriguez, P.; Brewer, C.R.; Brannaka, J.A.; Shi, Z.; Yang, J.; Salazar, B.; McElwee-White, L.; Walker, A.V., *J. Chem. Phys.*, **2017**, 146, 052816. DOI: 10.1063/1.4971434.
- 136 (invited paper) "Tungsten Oxide Film and Nanorods Grown by Aerosol-Assisted Chemical Vapor Deposition using κ^2 - β -Diketonate and β -Ketoesterate Tungsten (VI) Oxo-Alkoxide Precursors," Kim, H.; Bonsu, R.O.; Bock, D.C.; Ou, N.C.; Korotkov, R.Y.; McElwee-White, L.; Anderson, T.J., *ECS J. Solid State Sci. Technol.*, **2016**, 5, Q3095-Q3105. DOI: 10.1149/2.0171611jss.
- 135 "Electron Induced Surface Reactions of cis-Pt(CO)₂Cl₂: a Route to Focused Electron Beam Induced Deposition of Pure Pt Nanostructures," Spencer, J.; Wu, Y.-C.; McElwee-White, L.; Fairbrother, D.H., *J. Am. Chem. Soc.*, **2016**, 138, 9172-9182. DOI: 10.1021/jacs.6b04156.
- 134 (front cover paper) "Synthesis and Evaluation of κ^2 - β -Diketonate and β -Ketoesterate Tungsten (VI) Oxo-Alkoxide Complexes as Precursors for Chemical Vapor Deposition of WO_x Thin Films," Bonsu, R.O.; Bock, D.C.; Kim, H.; Korotkov, R.Y.; Abboud, K.A.; Anderson, T.J.; McElwee-White, L., *Dalton Trans.*, **2016**, 45, 10897-10908. DOI: 10.1039/C6DT01078D.

- 133 "Surface Plasmon-Mediated Chemical Solution Deposition of Cu Nanoparticle Films," Qiu, J.; Richey, N.E.; DuChene, J.S.; Zhai, Y.; Zhang, Y.; McElwee-White, L.; Wei, W.D., *J. Phys. Chem. C*, **2016**, *120*, 20775–20780.. DOI: 10.1021/acs.jpcc.6b02020.
- 132 "Effect of Ligand Structure on Chemical Vapor Deposition of WN_xC_y Thin Films from Tungsten Nitrido Complexes of the type $WN(NR_2)_3$," Koley, A.; O'Donohue, C.; Nolan, M.M.; McClain, K.R.; Bonsu, R.O.; Korotkov, R.Y.; Anderson, T.J.; McElwee-White, L., *Chem. Mater.*, **2015**, *27*, 8326–8336. DOI: 10.1021/acs.chemmater.5b03691.
- 131 "Thermal Decomposition of Tungsten Nitrido Precursors for Low Temperature MOCVD of WN_xC_y ," Kim, S.Y.; Koley, A.; Bonsu, R.O.; Nolan, M.M.; McElwee-White, L.; Anderson, T.J., *ECS Transactions*, **2015**, *69*, 101-110.
- 130 "Dioxo-Fluoroalkoxide Tungsten (VI) Complexes for Growth of WO_x Thin Films by Aerosol-Assisted Chemical Vapor Deposition," Bonsu, R.O.; Kim, H.; O'Donohue, C.; Korotkov, R.Y.; Abboud, K.A.; Anderson, T.J.; McElwee-White, L., *Inorg. Chem.* **2015**, *54*, 7536-7547. DOI: 10.1021/acs.inorgchem.5b01124
- 129 "Electron Induced Surface Reactions of η^3 -Allyl Ruthenium Tricarbonyl Bromide [η^3 -(C_3H_5) $Ru(CO)_3Br$]: Contrasting the Behavior of Different Ligands," Spencer, J.; Brannaka, J.A.; Barclay, M.; McElwee-White, L.; Fairbrother, D.H., *J. Phys. Chem C*, **2015**, *119*, 15349–15359. DOI: 10.1021/acs.jpcc.5b03775.
- 128 "Solvent Control of Surface Plasmon Mediated Chemical Deposition of Au Nanoparticles from Alkylgold Phosphine Complexes," Muhich, C.L.; Qiu, J.; Holder, A.M.; Wu, Y.-C.; Weimer, A.W.; Wei, W.D.; McElwee-White, L.; Musgrave, C.B., *ACS Appl. Mater. Interfaces*, **2015**, *7*, 13384–13394. DOI: 10.1021/acsami.5b01918.
- 127 "Aerosol-Assisted Chemical Vapor Deposition of Tungsten Oxide Films and Nanorods from Oxo Tungsten(VI) Fluoroalkoxide Precursors," Kim, H.; Bonsu, R.O.; O'Donohue, C.; Korotkov, R.Y.; McElwee-White, L.; Anderson, T.J., *ACS Appl. Mater. Interfaces*, **2015**, *7*, 2660–2667. DOI: 10.1021/am507706e.
- 126 "Low Temperature Deposition of WN_xC_y Cu Diffusion Barriers using $WN(NEt_2)_3$ as a Single-Source Precursor," O'Donohue, C.T.; McClain, K.R.; Koley, A.; Revelli, J.C.; McElwee-White, L.; Anderson, T.J., *ECS J. Solid State Sci. Tech.*, **2015**, *4*, N3180-N3187. DOI: 10.1149/2.0251501jss
- 125 (invited paper) "Formylation of Amines," Gerack, C.J.; McElwee-White, L., *Molecules*, **2014**, *19*, 7689-7713. DOI:10.3390/molecules19067689.
- 124 (invited paper) "Understanding the Electron Stimulated Surface Reactions of Organometallic Complexes to Enable Design of Precursors for Electron Beam Induced Deposition," Spencer, J.; Rosenberg, S.; Barclay, M.; Wu, Y.-C.; McElwee-White, L.; Fairbrother, D.H., *Appl. Phys. A*, **2014**, *117*, 1631-1644. DOI 10.1007/s00339-014-8570-5.
- 123 "Partially Fluorinated Oxo-alkoxide Tungsten (VI) Complexes as Precursors for Deposition of WO_x Nanomaterials," Bonsu, R.O.; Kim, H.; O'Donohue, C.; Korotkov, R.Y.; McClain, K.R.; Abboud, K.A.; Ellsworth, A.A.; Walker, A.V.; Anderson, T.J.; McElwee-White, L., *Dalton Trans.*, **2014**, *43*, 9226-9233. DOI:10.1039/C4DT00407H

- 122 "Tris(allyl)iridium and -rhodium," John, K. D.; Eglin, J. L.; Salazar, K. V.; Baker, R. T.; Sattelberger, A. P.; Serra, D.; McElwee-White, L., in *Inorganic Syntheses: Vol. 36*; John Wiley & Sons, Inc.: 2014, p. 165-171. DOI: 10.1002/9781118744994.ch32
- 121 "Tungsten Oxytetrachloride and (Acetonitrile)Tetrachlorotungsten Imido Complexes," Reitfort-Baysal, L.L.; Wilder, C.B.; McElwee-White, L., Mijares, K. S., Karcher, J. D. and Maatta, E. A., in *Inorganic Syntheses: Vol. 36*; John Wiley & Sons, Inc.: 2014, p. 142-146. DOI: 10.1002/9781118744994.ch26
- 120 "Tungsten Nitrido Complexes as Precursors for Low Temperature Chemical Vapor Deposition of WN_xCy Films as Diffusion Barriers for Cu Metallization," McClain, K.R.; O'Donohue, C.; Koley, A.; Bonsu, R.O.; Abboud, K.A.; Revelli, J.C.; Anderson, T.J.; McElwee-White, L., *J. Am. Chem. Soc.* **2014**, *136*, 1650-1662. DOI: 10.1021/ja4117582.
- 119 "Heterobimetallic Complexes of Polypyridyl Ligands Containing Paramagnetic Centers: Synthesis and Characterization by IR and EPR," Goforth, S.K.; Walroth, R.C.; Angerhofer, A.; McElwee-White, L., *Inorg. Chem.*, **2013**, *52* (24), 14116–14123. DOI: 10.1021/ic401952s
- 118 "Evaluation of Multisite Polypyridyl Ligands as Platforms for the Synthesis of Rh/Zn, Rh/Pd, and Rh/Pt Heterometallic Complexes," Goforth, S.K.; Walroth, R.C.; McElwee-White, L., *Inorg. Chem.*, **2013**, *52*, 5692–5701. DOI: 10.1021/ic301810y
- 117 "Surface Plasmon Mediated Chemical Solution Deposition of Gold Nanoparticles on a Nanostructured Silver Surface," Qiu, J.; Wu, Y.-C.; Wang, Y.-C.; Engelhard, M.H.; McElwee-White, L.; Weir W.D., *J. Am. Chem. Soc.* **2013**, *135*, 38-41. DOI: 10.1021/ja309392x
- 116 "Oxidative Carbonylation of Amines to Formamides Using $NaIO_4$," Gerack, C.J.; McElwee-White, L., *Chem. Commun.*, **2012**, *48*, 11310–11312. DOI:10.1039/C2CC36809A
- 115 (invited paper) "Synthesis of $WN(NMe_2)_3$ as a Precursor for the Deposition of WN_x Nanospheres," McClain, K.R.; O'Donohue, C.; Shi, Z.; Walker, A.V.; Abboud, K.A.; Anderson, T.; McElwee-White, L., *Eur. J. Inorg. Chem.*, **2012**, 4579–4584. DOI:10.1002/ejic.201200254
- 114 "Experimental and Computational Studies of the Homogeneous Thermal Decomposition of the Tungsten Dimethylhydrazido Complex $Cl_4(CH_3CN)W(NNMe_2)$," Lee, J.; Kim, D.; Kim, O.H.; Anderson, T.J.; Koller, J.; Denomme, D.; Habibi, S.Z.; Ehsan, M.; Eyler, J.R.; McElwee-White, L., *J. Electrochem. Soc.*, **2012**, *159*, H545-H553. DOI: 10.1149/2.002206jes.
- 113 "Catalytic Oxidative Carbonylation of Diamines to Cyclic Ureas," Díaz, D.J.; Darko, A.K.; McElwee-White, L., in *New Trends in Heterocyclic Chemistry*. Gautam, D.C.; Gautam, N.; Gautam, V., Eds. RBSA Publishers: Jaipur, **2012**, 22-33.
- 112 "Catalytic Oxidative Carbonylation of Aryl Amines to Ureas Using $W(CO)_6/I_2$ as Catalyst," Zhang, L.; Darko, A.K.; Johns, J.I.; McElwee-White, L., *Eur. J. Org. Chem.*, **2011**, 6261-6268. DOI: 10.1002/ejoc.201100657.
- 111 "Carbonylation of Functionalized Diamine Diols to Cyclic Ureas: Application to Derivatives of DMP 450," Darko, A.K.; Curran, F.C.; Copin, C.; McElwee-White, L., *Tetrahedron*, **2011**, *67*, 3976-3983. DOI 10.1016/j.tet.2011.04.015.
- 110 "Iron and Ruthenium Heterobimetallic Carbonyl Complexes as Electrocatalysts for Alcohol Oxidation: Electrochemical and Mechanistic Studies," Serra, D.; Correia, M.C.; McElwee-White, L.,

Organometallics, **2011**, 30, 5568–5577. DOI: 10.1021/om101070z.

- 109 (invited paper) "Electrochemical Oxidation of Ethanol using Nafion Electrodes Modified with Heterobimetallic Catalysts," Moghieb, A.; Correia, M.C.; McElwee-White, L., *Inorg. Chim. Acta*, **2011**, 369, 159-164.
- 108 "Deposition of WN_xC_y from the Tungsten Piperidylhydrazido Complex $Cl_4(CH_3CN)W(N\text{-}pip)$ as a Single-Source Precursor," Kim, D.; Kim, O.H.; Ajmera, H.M.; Anderson, T.J.; Koller, J.; Abboud; K.A.; McElwee-White, L., *J. Electrochem. Soc.*, **2011**, 158, H618-H625. DOI:10.1149/1.3561669
- 107 "Analysis of the Homogeneous Thermal Decomposition of the Tungsten Dimethylhydrazido Complex $Cl_4(CH_3CN)W(NNMe_2)$ Using *in situ* Raman Spectroscopy and DFT Calculations," Lee, J.; Kim, D.; Kim, O.H.; Anderson, T.J.; Koller, J.; Denomme, D.; Habibi, S.Z.; McElwee-White, L., *ECS Transactions*, **2010**, 28(15), 15-26.
- 106 (invited paper) "Synthesis and Electronic Structure of Tetra- η^3 -phenylpropargylzirconium," Denomme, D.; Dumbris, S.M.; Hyatt, I.D.; Abboud; K.A.; Ghiviriga, I.; McElwee-White, L., *Organometallics*, **2010**, 29, 5252–5256.
- 105 "Pd/TaN bilayer as a diffusion barrier for directly electroless plated Cu interconnects," Leu, L.C.; Norton, D.P.; McElwee-White, L.; Anderson, T.J., submitted for publication.
- 104 (invited paper) "Dimerization of Ethynylaniline to a Quinoline Derivative Using a Ruthenium/Gold Heterobimetallic Catalyst," Shelton, P.A.; Hilliard, C.R.; Swindling, M.; McElwee-White, L., *ARKIVOC*, **2010**, (viii), 160-166.
- 103 "Computational study on transamination of alkylamides with NH_3 during metalorganic chemical vapor deposition of tantalum nitride," Won, Y.S.; Park, S.S.; Kim, Y.S.; Anderson, T.J.; McElwee-White, L. *J. Cryst. Growth* **2009**, 311, 3587-3591.
- 102 "Stability of Cu/Ir/Si Trilayer Structure to Moderate Annealing," Leu L.C.; Norton, D.P.; Anderson, T.J.; McElwee-White L. *Materials Science in Semiconductor Processing*, **2009**, 12, 151-155.
- 101 "Preparation of Hydantoins by Catalytic Oxidative Carbonylation of α -Amino Amides," Dumbris, S.M.; Díaz, D.J.; McElwee-White, L., *J. Org. Chem.*, **2009**, 74, 8862–8865. DOI: 10.1021/jo9016138.
- 100 "Electrochemical Oxidation of Ethanol Using Heterobimetallic Complexes as an Approach to DEFC Catalysts," Correia, M.C.; Moghieb, A.; Goforth, S.K.; McElwee-White, L. *ECS Transactions*, **2009**, 19(31), 13-21.
- 99 "Deposition of WN_xC_y from the Tungsten Piperidylhydrazido Complex $Cl_4(CH_3CN)W(N\text{-}pip)$ as a Single-Source Precursor," Kim, D.; Kim, O.H.; Ajmera, H.M.; Anderson, T.J.; Koller, J.; McElwee-White, L., *ECS Transactions*, **2009**, 25(8), 541-548. DOI: 10.1149/1.3207637.
- 98 "Mechanism-Based Design of Precursors for MOCVD," McElwee-White, L.; Koller, J.; Kim, D.; Anderson, T.J., *ECS Transactions*, **2009**, 25(8), 161-171. DOI: 10.1149/1.3207587.
- 97 "Deposition of WN_xC_y Thin Films for Diffusion Barrier Application Using the Dimethylhydrazido(2-) Tungsten Complex $(CH_3CN)Cl_4W(NNMe_2)$," Ajmera, H.M.; Anderson, T.J.; Koller, J.; McElwee-White, L.; Norton, D.P., *Thin Solid Films*, **2009**, 517, 6038-6045.

- 96 "NaIO₄-oxidized carbonylation of amines to ureas," Shelton, P.A.; Zhang, Y.; Nguyen, T.H.H.; McElwee-White, L., *Chem. Commun.*, **2009**, 947-949. DOI: 10.1039/b819891h.
- 95 "Chemical Vapor Deposition of WN_xC_y using the Tungsten Piperidylhydrazido Complex Cl₄(CH₃CN)W(N-pip): Deposition, Characterization and Diffusion Barrier Evaluation," Kim, D.; Kim, O.H.; Anderson, T.J.; Koller, J.; McElwee-White, L.; Leu, L.C.; Tsai, J.M.; Norton, D.P., *J. Vac. Sci. Technol. A*, **2009**, 27, 943-950. DOI: 10.1116/1.3106625
- 94 "Properties of reactively sputtered W-B-N thin film as a diffusion barrier for Cu metallization on Si," Leu, L.C.; Norton, D.P.; McElwee-White, L.; Anderson, T.J., *Appl. Phys. A*, **2009**, 94, 691-695.
- 93 "Deposition of WN_xC_y for Diffusion Barrier Application Using the Imido Guanidinato Complex W(NⁱPr)Cl₃[ⁱPrNC(NMe₂)NⁱPr]," Ajmera, H.M.; Heitsch, A.T.; Anderson, T.J.; Wilder, C.B.; Reitfort, L.L.; McElwee-White, L.; Norton, D.P., *J. Vac. Sci. Technol. B*, **2008**, 26, 1800-1807. (Note: this paper was selected for the *Virtual Journal of Nanoscale Science & Technology* **2008** Volume 18, Issue 15)
- 92 "Comparative study of ZrN and Zr-Ge-N as a diffusion barrier for Cu metallization on Si," Leu, L.C.; Sadik, P.; Norton, D.P.; McElwee-White, L.; Anderson, T.J., *J. Vac. Sci. Technol. B*, **2008**, 26, 1723-1727.
- 91 "Deposition of WN_xC_y Using the Allylimido Complexes Cl₄(RCN)W(NC₃H₅): Effect of NH₃ on Film Properties," Ajmera, H.M.; Heitsch, A.T.; Bchir, O.J.; Anderson, T.J.; Reitfort, L.L.; McElwee-White, L., *J. Electrochem. Soc.*, **2008**, 155, H829-H835.
- 90 "Computational Study of the Gas Phase Reactions of Isopropylimido and Allylimido Tungsten Precursors for Chemical Vapor Deposition of Tungsten Carbonitride Films: Implications for the Choice of Carrier Gas," Won, Y.S.; Kim, Y.S.; Anderson, T.J.; McElwee-White, L. *Chem. Mater.*, **2008**, 20, 7246–7251.
- 89 "Ir/TaN as a bilayer diffusion barrier for advanced Cu interconnects," Leu, L.C.; Norton, D.P.; McElwee-White, L.; Anderson, T.J. *Appl. Phys. Lett.*, **2008**, 92, 111917.
- 88 "An N-bridged tritungsten compound for the chemical vapor deposition of WN_x thin films," Koller, J.; McElwee-White, L.; Abboud, K.A., *Acta Cryst.*, **2007**, E63, m2733.
- 87 "Electrochemical Oxidation of Methanol Using Alcohol-Soluble Ru/Pt and Ru/Pd Catalysts," Serra, D.; McElwee-White, L. *Inorg. Chim. Acta*, **2008**, 361, 3237-3246. DOI: 10.1016/j.ica.2007.10.046.
- 86 (cover paper) "Synthesis and Characterization of Diorganohydrazido(2-) Tungsten Complexes," Koller, J.; Ajmera, H.M.; Abboud, K.A.; Anderson, T.J.; McElwee-White, L., *Inorg. Chem.*, **2008**, 47, 4457-4462.
- 85 "Equilibrium Analysis of Zirconium Carbide CVD Growth," Won, Y.S.; Varanasi, V.G.; Kryliouk, O.; Anderson, T.J.; McElwee-White, L.; Perez, R.J., *J. Cryst. Growth*, **2007**, 307, 302-308.
- 84 "Transition Metal-Catalyzed Oxidative Carbonylation of Amines to Ureas," Díaz, D.J.; Darko, A.K.; McElwee-White, L., *Eur. J. Org. Chem.*, **2007**, 4453-4465. DOI: 10.1002/ejoc.200700148
- 83 "Electronic Interactions in Fe- and Ru-Containing Heterobimetallic Complexes: Structural and Spectroscopic Investigations," Serra, D.; Abboud, K.A.; Hilliard, C.R.; McElwee-White, L.,

Organometallics, **2007**, 26, 3085-3093. DOI: 10.1021/om0610750.

- 82 "Investigation of W-Ge-N deposited on Ge as a diffusion barrier for Cu metallization," Rawal, S.; Norton, D.P.; Anderson, T.J.; McElwee-White, L., *Appl. Phys. A.*, **2006**, 85, 325-329.
- 81 "Design of Precursors for the CVD of Inorganic Thin Films," McElwee-White, L. *Dalton Trans.* **2006**, 5327-5333. DOI: 10.1039/B611848H
- 80 "Properties of Ta-Ge-(O)N as a diffusion barrier for Cu on Si," Rawal, S.; Norton, D.P.; Ajmera, H.; Anderson, T.J.; McElwee-White, L., *Appl. Phys. Lett.* **2007**, 90, 051913.
- 79 "Ge/HfN_x diffusion barrier for Cu metallization on Si," Rawal, S.; Norton, D.P.; Kim, K.C.; Anderson, T.J.; McElwee-White, L. *Appl. Phys. Lett.* **2006**, 89, 231914.
- 78 "Homogeneous Decomposition of Aryl- and Alkylimido Precursors for the CVD of Tungsten Nitride: A Combined Density Functional Theory and Experimental Study," Won, Y.S.; Kim, Y.S.; Anderson, T.J.; Reitfort, L.L.; Ghiviriga, I.; McElwee-White, L., *J. Am. Chem. Soc.*, **2006**, 128, 13781-13788.
- 77 "Catalysis of the Electrooxidation of Biomass-Derived Alcohol Fuels," Anthony, C.R.; Serra, D.; McElwee-White, L. in *Materials, Chemicals and Energy from Forest Biomass*. Argyropoulos, D.S., Ed. ACS Symposium Series, **2007**, 954, 296-310.
- 76 "Thermal and Volumetric Studies of Complex Chemical Hydrides: Li-modified/Ti-doped Mg₂FeH₆, Sonicated LiNH₂/LiH and Zn-doped NaBH₄," Srinivasan, S.; Dumbis, S.; Stefanakos, E.; Goswami, Y.; McElwee-White, L. *Mat. Res. Soc. Symp. Proc.*, **2006**, 885, 169-174.
- 75 "Comparative study of HfN_x and Hf-Ge-N copper diffusion barriers on Ge," Rawal, S.; Lambers, E.; Norton, D.P.; Anderson, T.J.; McElwee-White, L., *J. Appl. Phys.*, **2006**, 100, 063532.
- 74 "Synthesis and Structural Investigation of Tungsten Imido Amidinate and Guanidinate Complexes," Wilder, C.B.; Reitfort, L.L.; Abboud, K.A.; McElwee-White, L., *Inorg. Chem.*, **2006**, 45, 263-268. DOI: 10.1021/ic051497m.
- 73 "Selective Catalytic Oxidative Carbonylation of Aminoalcohols to Ureas," Díaz, D.J.; Hylton, K.-G.; McElwee-White, L., *J. Org. Chem.*, **2006**, 71, 734-738. DOI: 10.1021/jo0521908.
- 72 "Properties of W-Ge-N as a diffusion barrier material for Cu," Rawal, S.; Norton, D.P.; Anderson, T.J.; McElwee-White, L., *Appl. Phys. Lett.*, **2005**, 87, 111902.
- 71 "Growth of ZrC Thin Films by Aerosol-Assisted MOCVD," Won, Y.S.; Kim, Y.S.; Kryliouk, O.; Anderson, T.J.; Varanasi, V.G.; Sirimanne, C.T.; McElwee-White, L., *J. Cryst. Growth.*, **2007**, 304, 324-332.
- 70 "Electrocatalytic Oxidation of Methanol," Anthony, C.R.; McElwee-White, L., in *Feedstocks for the Future: Renewables for the Production of Chemicals and Materials*. Bozell, J., Ed. ACS Symposium Series No. 921, **2006**, pp. 130-142.
- 69 "The Tungsten Allylimido Complexes Cl₄(RCN)W(NC₃H₅) as Single-source CVD Precursors for WN_xC_y Thin Films. Correlation of Precursor Fragmentation to Film Properties," Bchir, O.J.; Green, K.M.; Ajmera, H.M.; Zapp, E.A.; Anderson, T.J.; Brooks, B.C.; Reitfort, L.L.; Powell, D.H.; Abboud, K.A.; McElwee-White, L., *J. Am. Chem. Soc.*, **2005**, 127, 7825-7833.

- 68 (cover paper) "Preparation of biotin derivatives by catalytic oxidative carbonylation of diamines," Zhang, Y.; Forinash, K.; Phillips, C.R.; McElwee-White, L., *Green Chem.*, **2005**, 7, 451-455. DOI: 10.1039/B500197h.
- 67 "Electrochemical oxidation of methanol using dppm-bridged Ru/Pd, Ru/Pt, and Ru/Au catalysts," Yang, Y.; McElwee-White, L. *Dalton Trans.*, **2004**, 2352-2356. DOI: 10.1039/B405784h.
- 66 "Selective electrochemical oxidation of methanol to dimethoxymethane using Ru/Sn catalysts," Anthony, C.R.; McElwee-White, L. *J. Mol. Catal. - A: Chem.*, **2005**, 227, 113-117. DOI: 10.1016/j.molcata.2004.10.016.
- 65 "Effect of NH₃ on Film Properties of MOCVD Tungsten Nitride from Cl₄(CH₃CN)W(NⁱPr)," Bchir, O.J.; Kim K.C.; Anderson, T. J.; Craciun, V.; Brooks, B.C.; McElwee-White, L., *J. Electrochem. Soc.*, **2004**, 151, G697-G703.
- 64 "Tungsten Nitride Thin Films Deposited by MOCVD: Sources of Carbon and Effects on Film Structure and Stoichiometry," Bchir, O.J.; Green, K.M.; Hlad, M.S.; Anderson, T. J.; Brooks, B.C.; McElwee-White, L., *J. Cryst. Growth*, **2004**, 261, 280-288.
- 63 "Cl₄(PhCN)W(NPh) as a single-source MOCVD precursor for deposition of tungsten nitride (WN_x) thin films," Bchir, O. J.; Green, K.M.; Hlad, M.S.; Anderson, T. J.; Brooks, B.C.; Wilder, C.B.; Powell, D.H.; McElwee-White, L. *J. Organomet. Chem.*, **2003**, 684, 338-350.
- 62 "MOCVD of Tungsten Nitride Thin Films From the Imido Complex Cl₄(CH₃CN)W(NⁱPr): Effect of NH₃ On Film Properties," Bchir, O.J.; Anderson, T.J.; Brooks, B.C.; McElwee-White, L. in *Chemical Vapor Deposition XVI (CVD-VXI) and EUROCVD 14*, Allendorf, M.; Maury, F.; Teyssandier, F., Ed.; Electrochemical Society: Pennington, NJ, 2003, Proceedings (Electrochemical Society) Vol. 2003-08, p. 424-431.
- 61 "Heterobimetallic complexes with dppm-bridged Ru/Pd, Ru/Pt, Ru/Au and Ru/Cu centers," Yang, Y.; Abboud, K.A.; McElwee-White, L. *Dalton Trans.*, **2003**, 4288-4296. DOI: 10.1039/B307990b.
- 60 "Catalytic Carbonylation of Functionalized Diamines: Application to the Core Structure of DMP 323 and DMP 450," Hylton, K.-G.; Main, A.D.; McElwee-White, L. *J. Org. Chem.*, **2003**, 68, 1615-1617. DOI: 10.1021/jo026816v.
- 59 "MOCVD of Tungsten Nitride (WN_x) Thin Films from the Imido Complex Cl₄(CH₃CN)W(NⁱPr)," Bchir, O. J.; Johnston, S. W.; Cuadra, A.C.; Anderson, T. J.; Ortiz, C.G.; Brooks, B.C.; Powell, D.H.; McElwee-White, L. *J. Cryst. Growth*, **2003**, 249, 262-274.
- 58 "Electrochemical Oxidation of Methanol with Ru/Pd, Ru/Pt and Ru/Au Heterobimetallic Complexes," Matare, G.J.; Tess, M.E.; Abboud, K.A.; Yang, Y.; McElwee-White, L., *Organometallics*, **2002**, 21, 711-716.
- 57 "Catalytic Oxidative Carbonylation of Primary and Secondary Diamines to Cyclic Ureas. Optimization and Substituent Studies," Qian, F.; McCusker, J.E.; Zhang, Y.; Main, A.D.; Chlebowski, M.; Kokka, M.; McElwee-White, L., *J. Org. Chem.*, **2002**, 67, 4086-4092. DOI: 10.1021/jo0109319.
- 56 "MOCVD of WN_x Thin Films Using Novel Imido Precursors," Johnston, S. W.; Ortiz, C. G.; Bchir, O. J.; Zhang, Y.; McElwee-White, L.; Anderson, T. J. in *Chemical Vapor Deposition: CVD XV (15th)*, Allendorf, M. D. and Besmann, T. M., Ed.; Electrochemical Society: Pennington, NJ, 2000,

Proceedings (Electrochemical Society) Vol. 2000-13, pp. 268-276.

- 55 "Catalytic Oxidative Carbonylation of Aliphatic Secondary Amines to Tetrasubstituted Ureas," McCusker, J.E.; Qian, F.; McElwee-White, L., *J. Mol. Catal. - A: Chem.* **2000**, *159*, 11-17. DOI: 10.1016/S1381-1169(00)00164-3.
- 54 "W(CO)₆-Catalyzed Oxidative Carbonylation of Primary Amines to N,N'-Disubstituted Ureas in Single or Biphasic Solvents. Optimization and Functional Group Compatibility Studies." McCusker, J.E.; Main, A.D.; Johnson, K.S.; Grasso, C.A.; McElwee-White, L., *J. Org. Chem.*, **2000**, *65*, 5216-5222. DOI: 10.1021/jo000364+.
- 53 "Ligand-Centered Reactivity of Organometallic Radicals," Torraca, K.E.; McElwee-White, L., *Coord. Chem. Rev.*, **2000**, *206-207*, 469-491.
- 52 "Bimetallic Pt/Ru Complexes as Catalysts for the Electrooxidation of Methanol," Tess, M.E.; Hill, P.L.; Torraca, K.E.; Kerr, M.E.; Abboud, K.A.; McElwee-White, L., *Inorg. Chem.*, **2000**, *39*, 3942-3944. DOI: 10.1021/ic0004434.
- 51 "Spectroscopic and Photophysical Properties of Metal Alkylidynes," McElwee-White, L., *Inter-American Photochemical Society Newsletter*, **1999**, *22*(1), 25-31.
- 50 "Effect of Ligand Variation on the Site of Protonation in the Metal Carbynes CpL₂Mo^oCBu and TpL₂Mo≡CBu [L = CO, P(OR)₃]," Torraca, K.E.; Ghiviriga, I.; McElwee-White, L., *Organometallics*, **1999**, *21*, 2262-2266.
- 49 "Catalytic Oxidative Carbonylation of Primary and Secondary α,ω-Diamines to Cyclic Ureas," McCusker, J.E.; Grasso, C.A.; Main, A.D.; McElwee-White, L., *Organic Letters*, **1999**, *1*, 961-964. DOI: 10.1021/ol990690f.
- 48 "Photophysics and Photoredox Properties of the Tungsten Carbyne Complex Cp{P(OPh)₃}(CO)W≡CPh," Cavalheiro, C.C.S.; Torraca, K.E.; Schanze, K.S.; McElwee-White, L., *Inorg. Chem.*, **1999**, *38*, 3254-3257.
- 47 "Oxidation of the Zwitterionic Tungsten Amide (CO)₅WNPhNPhC(OMe)Ph with Br₂ and PCl₅. Formation of [(PhN)W(CO)₂X₂]₂ and (PhN)W(CO)₂X₂L (X = Br, Cl; L = MeCN, Me₃C₆H₂NH₂ and *i*-BuNH₂)," He, Y., McGowan, P.C.; Abboud, K.A.; McElwee-White, L., *J. Chem. Soc., Dalton Trans.*, **1998**, 3373-3378.
- 46 "Oxidation of Metal Carbynes in the Presence of Alkynes. Alkyne Addition vs. H-Shift in the Carbene Intermediate," Torraca, K.E.; Abboud, K.A.; McElwee-White, L., *Organometallics*, **1998**, *20*, 4413-4416.
- 45 "Oxidative Carbonylation of Primary Amines to Ureas Using Tungsten Carbonyl Catalysts," McCusker, J.E.; Logan, J.; McElwee-White, L., *Organometallics*, **1998**, *17*, 4037-4041. DOI: 10.1021/om980389n.
- 44 "Tricarbonyl bis[1,2,3-triphenyl-1,3-diazaallyl] tungsten(IV)," He, Y.; McElwee-White, L.; Abboud, K.A., *Acta Cryst.* **1999**, *C55*, IUCR9900032. DOI: 10.1107/S0108270199099679.
- 43 "Reaction of the Iodo-bridged Tungsten Dimer [I₂(CO)₂W(NPh)]₂ with LiOCH₃," He, Y.; Abboud, K.A.; McElwee-White, L., *Polyhedron*, **1998**, *17*, 3477-3484.

- 42 "Carbonylation of Amines With a Tungsten(IV) Carbonyl Complex," McCusker, J.E.; Abboud, K.A.; McElwee-White, L., *Organometallics*, **1997**, *16*, 3863-3866. DOI: 10.1021/om970388f
- 41 "Direct Observation of a Hydrogen Abstraction Product Upon Photooxidation of a Tungsten Cyclohexenyl Carbyne Complex," Main, A.D.; McElwee-White, L., *J. Am. Chem. Soc.*, **1997**, *119*, 4551-4552.
- 40 "Formation of α,ω -Dienes Upon Photooxidation of Alkenyl Carbyne Complexes," Torraca, K.E.; Storhoff, D.A.; McElwee-White, L., *J. Organomet. Chem.*, **1998**, *554*, 13-18.
- 39 "Synthesis and Electrochemical Oxidation of Bridged Ruthenium/Platinum Complexes of 1,10-Phenanthroline-5,6-diolate," Hill, P.L.; Lee, L.Y.; Younkin, T.R.; Orth, S.D.; McElwee-White, L., *Inorg. Chem.*, **1997**, *36*, 5655-5657. DOI: 10.1021/ic9706055
- 38 "Organic Products From Oxidation of Metal Carbynes," McElwee-White, L. *Synlett*, **1996**, 806-814.
- 37 "Structure, Reactivity, and Photochemical Properties of the Unusual Tungsten(0) Zwitterionic Amido Complex (CO)₅WNPhNPhC(OMe)Ph," Massey, S.T.; Barnett, N.D.R.; Abboud, K.A.; McElwee-White, L. *Organometallics*, **1996**, *15*, 4625-4631.
- 36 "Synthesis and Electrochemistry of Heterobimetallic Ru/Pt and Mo/Pt Complexes," Orth, S.D.; Terry, M.R.; Abboud, K.; Dodson, B.; McElwee-White, L. *Inorg. Chem.*, **1996**, *35*, 916-922.
- 35 "Oxidation of the Zwitterion (CO)₅WNPhNPhC(OMe)Ph with I₂. Formation of Tungsten (IV) Imido Complexes and a Tungsten (VI) Metallacycle," Barnett, N.D.R.; Massey, S.T.; McGowan, P.C.; Wild, J.J.; Abboud, K.A.; McElwee-White, L. *Organometallics*, **1996**, *15*, 424-428.
- 34 "Photooxidation of Metal Carbynes," McElwee-White, L.; Schoch, T.K. *Current Trends in Coordination Chemistry*, Ondrejovi, G.; Sirota, A., Eds., Slovak Technical University Press, Bratislava, **1995**, pp. 251-256.
- 33 "Photophysics of Tungsten and Molybdenum Aryl Carbyne Complexes. Observation of the Lowest Excited State by Laser Flash Photolysis" Schoch, T.K.; Main, A.D.; Burton, R.D.; Lucia, L.A.; Robinson, E.A.; Schanze, K.S.; McElwee-White, L. *Inorg. Chem.*, **1996**, *35*, 7769-7775. DOI: 10.1021/ic951043x.
- 32 "Formation of Olefins Upon Oxidation of Molybdenum Alkyl Carbynes. Organic Radical Reactivity in an Organometallic Radical Cation," Schoch, T.K.; Orth, S.D.; Zerner, M.C.; Jørgensen, K.A.; McElwee-White, L. *J. Am. Chem. Soc.*, **1995**, *117*, 6475-6482. DOI: 10.1021/ja00129a009.
- 31 "Tungsten (IV) Imido Complexes From Oxidation of a Protected Zero-Valent Nitrene Precursor," McGowan, P.C.; Massey, S.T.; Abboud, K.A.; McElwee-White, L. *J. Am. Chem. Soc.*, **1994**, *116*, 7419-7420.
- 30 "Formation of Pentadienal Complexes Upon Protonation of 1-Alkylcyclopropyl Molybdenum Carbynes. Electronic Effects on Reductive Elimination vs. β -Hydrogen Elimination in Metallacyclohexenones," Mortimer, M.D.; Carter, J.D.; Kingsbury, K.B.; Abboud, K.A.; McElwee-White, L. *J. Am. Chem. Soc.*, **1994**, *116*, 8629-8637.
- 29 "Reactions of (CO)₅W(THF) with Triphenylmethyl Azide and Triptycyl Azide," Massey, S.T.; Mansour, B.; McElwee-White, L. *J. Organomet. Chem.*, **1995**, *485*, 123-126.

- 28 "Formation of 1,3-Diene Complexes Upon Protonation of Cyclopropyl Carbyne Complexes," Kingsbury, K.B.; Carter, J.D.; McElwee-White, L.; Ostrander, R.L.; Rheingold, A.L., *Organometallics*, **1994**, *13*, 1635-1640.
- 27 "Photooxidation of Metal Carbynes," McElwee-White, L.; Kingsbury, K.B.; Carter, J.D., *J. Photochem. Photobiol. A: Chem.* **1994**, *80*, 265-270.
- 26 "Formation of Cyclohexenones and 1,4-Dienes Upon Oxidation of Butenyl Carbyne Complexes," Mortimer, M.D.; Carter, J.D.; McElwee-White, L. *Organometallics*, **1993**, *12*, 4493-4498.
- 25 "Regioselective and Stereoselective Formation of Cyclopentenones Upon Photooxidation of Cyclopropyl Carbyne Complexes," Kingsbury, K.B.; Carter, J.D.; Wilde, A.; Park, H.; Takusagawa, F.; McElwee-White, L., *J. Am. Chem. Soc.*, **1993**, *115*, 10056-10065.
- 24 "Photochemistry of Transition Metal Complexes," McElwee-White, L. in *Encyclopedia of Inorganic Chemistry*. King, R.B., Ed. Wiley, London, **1994**, Vol. 6, pp. 3227-3243.
- 23 "Electrophilic Reactions of Zero-Valent Tungsten Nitrene and Hydrazido Complexes with Phosphines. Synthesis and Structure of $(\text{CO})_4\text{W}(\text{PPh}_2\text{CH}_2\text{PPh}_2\text{NNMe}_2)$." Arndtsen, B.A.; Sleiman, H.F.; McElwee-White, L.; Rheingold, A.L. *Organometallics*, **1993**, *12*, 2440-2444.
- 22 "Photooxidation of Molybdenum and Tungsten Carbynes," McElwee-White, L.; Kingsbury, K.B.; Carter, J.D. in *Transition Metal Carbyne Complexes*. Kreißl, F.R., Ed. NATO ASI Series, Kluwer Academic Publishers, Dordrecht, **1993**, pp. 123-125.
- 21 "Photooxidation of Metal Carbynes," McElwee-White, L.; Kingsbury, K.B.; Carter, J.D. in *Photosensitive Metal-Organic Systems. Mechanistic Principles and Applications*. Kutal, C.; Serpone, N., Eds. ACS Advances in Chemistry Series No. 238, **1993**, pp. 335-349.
- 20 "Stabilization of Zero-Valent Hydrazido Complexes by Phosphine Ligands. Crystal Structure of *fac*-(CO)₃(DPPE)W=NNMe₂, a Nitrene Analogue to Fischer Carbenes," Arndtsen, B.A.; Schoch, T.K.; McElwee-White, L. *J. Am. Chem. Soc.* **1992**, *114*, 7041-7047.
- 19 "Reactions of Acyl-Substituted Molybdenum Carbyne Complexes under Photooxidative and Thermal Conditions. Formation of Cyclopentenones and Oxymetallacycles," Carter, J.D.; Schoch, T.K.; McElwee-White, L. *Organometallics*, **1992**, *11*, 3571-3578.
- 18 "Metathesis and Diaziridination Reactions of $(\text{CO})_5\text{W}=\text{C}(\text{OMe})\text{-}p\text{-XC}_6\text{H}_4$ with *cis*-Azobenzene. Electronic and Solvent Effects," Maxey, C.T.; Sleiman, H.F.; Massey, S.T.; McElwee-White, L. *J. Am. Chem. Soc.* **1992**, *114*, 5153-5160.
- 17 "Structure of (Benzo[c]cinnoline-N')pentacarbonyl; tungsten," Pham, E.K.; McElwee-White, L. *Acta Crystallographica* **1992**, *C48*, 1120-1121.
- 16 "Evidence for Ambiphilic Behavior in $(\text{CO})_5\text{W}=\text{NPh}$. Conversion of Carbonyl Compounds to N-Phenyl Imines via Metathesis," Arndtsen, B.A.; Sleiman, H.F.; Chang, A.K.; McElwee-White, L. *J. Am. Chem. Soc.* **1991**, *113*, 4871-4876. DOI: 10.1021/ja00013a024.
- 15 "Direct Observation of the Low Valent Hydrazido Complex $(\text{CO})_5\text{W}=\text{NNMe}_2$, a Nitrene Analogue of the Heteroatom-Stabilized Fischer Carbenes," Sleiman, H.F.; Arndtsen, B.A.; McElwee-White, L. *Organometallics* **1991**, *10*, 541-543.

- 14 "Photooxidation of the Molybdenum and Tungsten Carbynes (h⁵-C₅H₅)L₂M⁰CR [L = P(OMe)₃, CO and R = Ph, Me, *c*-C₃H₅]," Carter, J.D.; Kingsbury, K.B.; Wilde, A.; Schoch, T.K.; Leep, C.J.; Pham, E.K.; McElwee-White, L. *J. Am. Chem. Soc.* **1991**, *113*, 2947-2954.
- 13 "Formation of Diaziridines by Reaction of (CO)₅W=C(OMe)Ph with Electron-Deficient Azo Compounds," Maxey, C.T.; McElwee-White, L. *Organometallics* **1991**, *10*, 1913-1916.
- 12 "Formation of Cyclopentenone Upon Photooxidation of the Cyclopropyl Carbyne Complex (h⁵-C₅H₅)[P(OCH₃)₃](CO)W⁰C(*c*-C₃H₅)," Kingsbury, K.B.; Carter, J.D.; McElwee-White, L. *J. Chem. Soc., Chem. Comm.*, **1990**, 624-625.
- 11 "Trapping of the Low Valent Nitrene Complex (CO)₅W=NPh with PPh₃. Formation of the Phenylnitrene Transfer Product PhN=PPh₃," Sleiman, H.F.; Mercer, S.; McElwee-White, L. *J. Am. Chem. Soc.* **1989**, *111*, 8007-8009.
- 10 "Photochemical" Azo Metathesis by (CO)₅W=C(OCH₃)CH₃. Isolation of a Zwitterionic Intermediate," Sleiman, H.F.; McElwee-White, L. *J. Am. Chem. Soc.*, **1988**, *110*, 8700-8701. DOI: 10.1021/ja00234a023.
- 9 "Photooxidation of (h⁵-C₅H₅)[P(OMe)₃]₂Mo⁰CPh in CHCl₃. Intermediacy of a 17-Electron Cationic Metal Carbyne," Leep, C.J.; Kingsbury, K.B.; McElwee-White, L. *J. Am. Chem. Soc.* **1988**, *110*, 7535-7536.
- 8 "Rapid, Multistep Rearrangement of Hydrocarbon Triplet Biradicals at 4 K. A Possible Example of Hot Molecule Effects in Frozen Organic Solvents," Jain, R.; McElwee-White, L.; Dougherty, D.A. *J. Am. Chem. Soc.* **1988**, *110*, 552-560.
- 7 "Radical Mechanism for the Decomposition of RuOEP(CH₂CH₃)₂. Determination of the Metal-Carbon Bond Dissociation Energy," Collman, J.P.; McElwee-White, L.; Brothers, P.J.; Rose, E. *J. Am. Chem. Soc.* **1986**, *108*, 1332-1333.
- 6 "The Remarkable Oxygen Affinity of a Mixed Valence Dicobalt Cofacial Porphyrin," Le Mest, Y.; L'Her, M.; Collman, J.P.; Hendricks, N.H.; McElwee-White, L.; *J. Am. Chem. Soc.* **1986**, *108*, 533-535.
- 5 "Reactivity of Zero-Valent Metalloporphyrin Dianions Toward Organic Electrophiles," Collman, J.P.; Brothers, P.J.; McElwee-White, L.; Rose, E. *J. Am. Chem. Soc.* **1985**, *107*, 6110-6111.
- 4 "Cleavage of Ruthenium and Osmium Porphyrin Dimers: Formation of Organometallic Ruthenium Porphyrin Complexes and Highly Reduced Metalloporphyrin Species," Collman, J.P.; Brothers, P.J.; McElwee-White, L.; Rose, E.; Wright L.J. *J. Am. Chem. Soc.* **1985**, *107*, 4570-4571.
- 3 "Concerning the Viability of 1,4,6,9-Spiro[4.4]nonatetrayl as a Reactive Intermediate. New Biradical-to-Biradical Rearrangements," McElwee-White, L.; Dougherty, D.A. *J. Am. Chem. Soc.* **1984**, *106*, 3466-3474.
- 2 "Theoretical Studies of 1,4,6,9-Spiro[4.4]nonatetrayl, an Organic Tetraradical," McElwee-White, L.; Dougherty, D.A.; Goddard, W.A. *J. Am. Chem. Soc.* **1984**, *106*, 3461-3466.
- 1 "Symmetrical Intermediates in C₉H₁₂ Biradical Rearrangements. Possible Intervention of an Organic Tetraradical," McElwee-White, L.; Dougherty, D.A. *J. Am. Chem. Soc.* **1982**, *104*, 4722-4724.

Patents

1. "MOCVD of WN_x Thin Films Using Imido Precursors," McElwee-White, L.; Anderson, T.J.; Johnston, S.W.; Ortiz, C.G.; Bchir, O.J., U.S. patent 6,596,888 issued July 22, 2003.
2. "Tungsten Nitrido Precursors for the CVD of Tungsten Nitride and Oxide Films," McElwee-White, L.; Anderson, T.J.; McClain, K.R.; O'Donohue, C.J., provisional patent filed June 18, 2012, Serial No. 61/661,171. Patent filed June 17, 2013, PCT US2013046390.
3. "Precursors for Electron Beam Induced Deposition of Gold and Silver," McElwee-White, L., Pedziwiatr, J.; Fairbrother, D.H. Patent filed August 26, 2015, PCT US2015046872.
4. "Tungsten Nitrido Precursors for the CVD of Tungsten Nitride, Carbonitride and Oxide Films," McElwee-White, L.; Anderson, T.J.; McClain, K.R.; O'Donohue, C.J., provisional patent filed December 18, 2014, Serial No. 14/575,026. PCT US20150105234.