

Refereed Publications of John Arnold, 1985-2001

- Mullins, S.M.; Duncan, A.P.; Bergman, R.G.; Arnold, J. 'Reactivity of a Titanium Dinitrogen Complex Supported by Guanidinate Ligands: Investigation of Solution Behavior and a Novel Rearrangement of Guanidinate Ligands' *Inorg. Chem.* **2001**, *40*, 6952-6963.
- Hagadorn, J. R.; Arnold, J. "Synthesis, Reactivity, and Crystal Structures of Ferrocene-Substituted Amidinate Derivatives" *Journal of Organometallic Chemistry* **2001**, *637*, 521-530.
- Giesbrecht, G. R.; Shafir, A.; Arnold, J. 'Synthesis and Structure of a Linked-Bis(amidate) Ligand and Some Complexes with Titanium' *Inorg. Chem.* **2001**, *40*, 6069-6072.
- Shafir, A.; Arnold, J. 'Stabilization of a Cationic Ti Center by Ferrocene: A Remarkably Short Ti—Fe Interaction in the Diamide $\{[(\eta^5\text{-C}_5\text{H}_4\text{NSiMe}_3)_2\text{Fe}]\text{TiCl}\}_2^{2+}$ ' *J. Am. Chem. Soc.* **2001**, *123*, 9212-9213.
- Schmidt, J.A.R.; Arnold, J. 'Reactivity of a Tantalum-Lithium Alkylidene Supported by an Anionic Triazacyclononane Ligand' *J. Am. Chem. Soc.* **2001**, *123*, 8424-8425.
- Duncan, A.P.; Mullins, S.M.; Arnold, J.; Bergman, R.G.; 'Synthesis, structural investigation, and reactivity of neutral and cationic bis(guanidinato)zirconium(IV) complexes' *Organometallics* **2001**, *20*, 1808-1819.
- Schmidt, J.A.R.; Chmura, S.A.; Arnold, J. "Alkyl and Alkylidene Tantalum-Lithium Complexes Supported by an Anionic Triazacyclononane Ligand" *Organometallics* **2001**, *20*, 1062-1064.
- Alaimo, P. J.; Peters, D.W.; Arnold, J.; Bergman, R. G. "Suggested Modifications to a Distillation-Free Solvent Purification System" *J. Chem. Educ.* **2001**, *78*, 64.
- Shafir, A.; Power, M.P.; Whitener, G.D.; Arnold, J. "Silylated 1,1'-Diaminoferrocene: Ti and Zr Complexes of a New Chelating Bis-Amide Ligand" *Organometallics* **2001**, *20*, 1365-1369.
- Giesbrecht G.; Whitener, G.D.; Arnold, J. "Mono-Guanidinate Complexes of Lanthanum: Synthesis, Structure and Their Use in Lactide Polymerization" *Dalton Trans.* **2001**, 923-927.
- Bourret-Courchesne, E.; Ye, Q.; Peters, D.W.; Arnold, J.; Ahmed, M.; Irvine, S.J.C.; Kanjolia R.; Smith L.M.; Rushworth, S.A. "Pyrolysis of dimethylhydrazine and its co-pyrolysis with triethylgallium" *J. Cryst. Growth.* **2000**, *217*, 47-54.
- Giesbrecht, G. R.; Shafir, A.; Arnold, J. "Alkali-metal complexes of a triazacyclononane-functionalized tetramethylcyclopentadienyl ligand" *J. Chem. Soc., Dalton Transactions*, **2000**, 4018-4020.
- Giesbrecht, G. R.; Shafir, A.; Arnold, J. "Zirconium complexes of a tacn-derived amido ligand and ring-opening to form a new diamido-amino pincer." *Chemical Communications* **2000**, 2135.
- Shafir, A.; Power, M.P.; Whitener, G.D.; Arnold, J. "Synthesis, Structure, and Properties of 1,1'-Diamino- and 1,1'-Diazaferrocene" *Organometallics* **2000**, *19*, 3978-3982.
- Mullins, S.M.; Hagadorn, J.R.; Bergman, R.G.; Arnold, J., "Synthesis of tantalum fluoride complexes supported by bis(trimethylsilyl)benzamidinate ligands. X-ray structures of $[\text{PhC}(\text{NSiMe}_3)_2]\text{TaF}_3$ and $[\text{PhC}(\text{NSiMe}_3)_2]\text{TaFPh}_2$, *Journal of Organometallic Chemistry* **2000**, *607*, 227-232.
- Gebauer, A.; Schmidt, J.A.R.; Arnold, J.; "Synthesis, Characterization, and Properties of a Lithium 21-Thiaporphyrin Complex", *Inorganic Chemistry*; **2000**; *39*, 3424-3427.
- Giesbrecht G.; Whitener, G.D.; Arnold, J. "Crystal Packing Forces Dictate η^1 - versus η^2 -Coordination of Benzyl Groups in $[\text{Guanidinate}]\text{Zr}(\text{CH}_2\text{Ph})_3$ " *Organometallics* **2000**, *19*, 2809-2812.
- Gebauer, A.; Dawson, D.Y.; Arnold, J. "Neutral π -radicals of lithium porphyrins: synthesis and characterization" *J. Chem. Soc., Dalton Transactions*, **2000**, 111-112.
- Arnold, J. "Alkali Metal Porphyrins" in "The Porphyrin Handbook" Guillard, R., Kadish, K.M., Smith, K. Eds, **1999**, Ch 17.
- Whitener, G.D.; Hagadorn, J.; Arnold, J. "Synthesis and Characterization of a new Class of Chelating Bis(amidinate) Ligands" *J. Chem. Soc., Dalton Transactions*, **1999**, 1249-1256.
- Schmidt, J.; Arnold, J. "Mono-Amidinate Complexes Stabilized by a New Sterically-Hindered Amidine" *Chem. Commun.* **1999**, 2149-2150.
- Kincaid, K.; Gerlach, C.P.; Giesbrecht G.; Hagadorn, J.R.; Whitener, G.D.; Shafir, A.; Arnold, J. "Synthesis, Structure and Coordination Chemistry of a Tridentate, 6-Electron Donor Amidinate Ligand" *Organometallics* **1999**, *18*, 5360-5366.
- Mullins, S.M.; Bergman, R.G.; Arnold, J. "Double Group Transfer Reactions of a Unsaturated Tantalum Methylidene Complex with Pyridine *N*-oxides" *Organometallics* **1999**, *18*, 4465-4467.

Giesbrecht G.; Arnold, J. "Alkali-Metal Guanidates: Solid-State Structural Diversity in Base-Free Derivatives" *J. Chem. Soc., Dalton Transactions*, **1999**, 3601-3604.

Peters, D.W.; Bourret, E.D.; Power, M.P.; Arnold, J. "Reactions of trialkylgalliums with substituted hydrazines leading to the formation of rings and cages: X-ray structures of $(\text{Pr}_2\text{GaNHMe}_2)_2$ and $(\text{MeGaNHNBu})_4$ " *Journal of Organometallic Chemistry* **1999**, 582, 108 – 115.

Timberlake, J. M.; Green, J.; Christou, V.; Arnold, J. "Electronic structure of chalcogenols: photoelectron spectroscopic and theoretical studies of tris(trimethylsilyl)silyl chalcogenols." *J. Chem. Soc.-Dalton Trans.* **1998**, 4029.

Peters, D. W.; Power, M. P.; Bourret, E. D.; Arnold, J. "A Ga_4N_8 cage structure formed by reaction of trimethylgallium with phenylhydrazine." *Chemical Communications* **1998**, 753.

Hagadorn, J. R.; Arnold, J. "Tethered bis-amidates as supporting ligands: A concerted elimination/sigma-pi rearrangement reaction forming an unusual titanium arene complex" *Angew. Chemie-Intl Ed* **1998**, 37, 1729-1731.

Hagadorn, J. R.; Arnold, J. "Titanium(II), -(III), and -(IV) complexes supported by benzamidinate ligands." *Organometallics* **1998**, 17, 1355.

Gerlach, CP; Arnold, J. "Homoleptic selenolates of vanadium(II), -(III), and -(IV): Generation, trapping, and disproportionation of tris[tris(trimethylsilyl)silylselenolate]vanadium." *Inorg. Chem.*, **1998**, 37, 2393-2399.

Gerlach, C.P.; Arnold, J. "Synthesis of $\text{N}(\text{SiMe}_3)_2$ Supported Vanadium(III) Complexes, Including Hydrocarbyl, Tetrahydroborate and Azaalkenylidene Derivatives" *J. Chem. Soc., Dalton Trans.* **1997**, 4795-4806.

Gerlach, C.P.; Arnold, J. "Oxidation Reactions of $[(\text{Me}_3\text{Si})_2\text{N}]_2\text{VX}(\text{THF})$ ($\text{X} = \text{Cl, Me, Ph}$) with CuCl , $\text{PhCH}(\text{O})\text{CH}_2$, and Ph_2CN_2 , and the Syntheses and Structures of the V(III) Anions $\{[(\text{Me}_3\text{Si})_2\text{N}]_2\text{VX}_2\}^-$ ($\text{X} = \text{Cl, Me}$)" *Organometallics*, **1997**, 16, 5148-5157.

Hagadorn, J. R.; Arnold, J. "Preparation of New Zr Benzamidates: Alkyl Derivatives and Low-Valent Chemistry Yielding Metallocycles via Coupling of Alkynes and Ethylene." *J. Chem. Soc., Dalton Trans.* **1997**, 3087-3096.

Dawson, D.Y.; Arnold, J. "Ionic versus Covalent Bonding in Dilithium Porphyrins: X-ray Structure of Dilithium Tetraphenylporphyrin Bis(etherate)." *J. Porph. Phthalocyanines*, **1997**, 1, 121.

Hagadorn, J. R.; Arnold, J. "Reactivity of a Titanium Dinitrogen Complex. Preparation of Complexes Containing $\text{Ti}=\text{E}$, $\text{Ti}_2(\mu\text{-E})_2$, and $\text{Ti}(\eta^2\text{-E}_2)$ ($\text{E} = \text{O, S}$) Functionalities" *Inorg. Chem.* **1997**, 36, 2928-2929.

Dawson, D.Y.; Arnold, J. "Organotantalum Bisamidinate Complexes: Synthesis and Characterization of Methyl, Methylidene, Benzyl, and Imido Derivatives" *Organometallics*, **1997**, 16, 1111-1113.

Bonasia, P. J.; Arnold, J. "Lithium Tris(trimethylsilyl)silyltellurolate Bis(tetrahydrofuran) and Tris(trimethylsilyl)silyltellurol" *Inorg. Synth.* **1997**, 31, 162-165

Hagadorn, J. R.; Arnold, J. "Ferrocene-Substituted Amidinate Derivatives: Synthesis and Crystal Structures of Li, Fe(II), and Co(II) Complexes" *Inorg. Chem.* **1997**, 36, 132-133.

Gerlach, C.P.; Arnold, J. "Synthesis and Reactivity of a Vanadium(III)-Methyl Stabilized by Hexamethylsilazanate Ligands" *Organometallics* **1996**, 17, 5260-5262

Gerlach, C.P.; Arnold, J. "A Comparison of Homoleptic d^1 and d^2 Transition Metal Tellurolates: Syntheses and Crystal Structures of $\text{M}[\text{TeSi}(\text{SiMe}_3)_3]_4$ ($\text{M} = \text{V, Mo}$)" *Chem. Commun.* **1996**, 2565-2566.

Gerlach, C.P.; Arnold, J. "Synthesis, Structure, and Reactivity of Three-Coordinate Vanadium(III) Chalcogenolates and Vanadium(V) Chalcogenide-Chalcogenolates" *Inorg. Chem.* **1996**, 35, 5770-5780.

Dawson, D.; Sangalang, J.; Arnold, J. "Stereochemical Control in Metalloporphyrin Chemistry: Synthesis and Characterization of *cis*- and *trans*- $\text{Sn}(\text{porphyrin})\text{Ph}_2$," *J. Am. Chem. Soc.* **1996**, 118, 6082-6083.

Gerlach, C.P.; Arnold, J. "Synthesis and Reactivity of Group 4 Homoleptic Selenolates and Tellurolates: Lewis Base Induced Conversion to Terminal and Bridging Chalcogenides" *Inorg. Chem.* **1996**, 35, 2758-2766.

Hagadorn, J. R.; Arnold, J. "Low Valent Chemistry of Titanium Benzamidates Leading to New $\text{Ti } \mu\text{-N}_2$, $\mu\text{-O}$, Alkyl Derivatives, and the Cyclometallation of TMEDA" *J. Am. Chem. Soc.* **1996**, 118, 893-894

Hagadorn, J. R.; Arnold, J. "Preparation of Scandium Complexes with Benzamidinate Ligands: Synthesis and Reactivity of -Alkyl and -Hydrido Derivatives" *Organometallics*, **1996**, 15, 984-991

Cheon, J.; Arnold, J.; Yu, K.-M.; Bourret, E. D. "MOCVD of Semiconducting II/VI In_2Se_3 Thin-Films From the Single Source Precursor $\text{In}[\text{SeC}(\text{SiMe}_3)_3]_3$." *Chem. Mater.*, **1995**, *7*, 2273-2276.

Wuller, S.P.; Seligson, A.L.; Mitchell, G.P.; Arnold, J. "Synthesis and Characterization of Group 13 and 15 Selenolates and Tellurolates and the X-Ray Crystal Structures of $\text{Ga}[\text{TeSi}(\text{SiMe}_3)_3]_3$, $\text{In}[\text{SeC}(\text{SiMe}_3)_3]_3$, $\{\text{In}[\text{SeSi}(\text{SiMe}_3)_3]_2(\mu\text{-DMPE})\}$, and $\text{P}[\text{SeSi}(\text{SiMe}_3)_3]_3$ " *Inorg. Chem.*, **1995**, *34*, 4854-4861.

Arnold, J. "The Chemistry of Metal Complexes With Selenolate And Tellurolate Ligands" *Progress in Inorganic Chemistry*, Wiley, **1995**, Vol 43, pp. 353-417.

Brand, H.; Arnold, J. "Recent Developments In The Chemistry Of Early Transition Metal Porphyrin Compounds" *Coord. Chem. Rev.*, **1995**, *140*, 137-168.

Cary, D. R.; Ball, G.E.; Arnold, J. "Trivalent Lanthanide Selenolates and Tellurolates Incorporating Sterically Hindered Ligands and Their Characterization by Multinuclear NMR Spectroscopy and X-Ray Crystallography" *J. Am. Chem. Soc.*, **1995**, *117*, 3492-3501.

Hagadorn, J. R.; Arnold, J. "Preparation of Ti(IV) and Zr(IV) Organometallic Derivatives With N-Based Co-ligands. Formation of a Zirconium(IV) Imido-Iminoacyl Compound by Cleavage of a Carbon-Nitrogen Bond in the Zirconium (IV) Benzamidinate $[\text{PhC}(\text{NSiMe}_3)_2]\text{ZrCl}_2$ " *Organometallics* **1994**, *13*, 4670-4672.

Gindelberger, D. E.; Arnold, J. "Preparation and Properties of Magnesium, Calcium, Strontium, and Barium Selenolates and Tellurolates" *Inorg. Chem.*, **1994**, *33*, 6293-6299.

Brand, H.; Capriotti, J. A.; Arnold, J. "New Early Transition Metal Porphyrins: A New Route to Diorganometallic Complexes of Zr and Hf and the Preparation of Cationic Derivatives" *Organometallics*, **1994**, *13*, 4469-4473

Gindelberger, D. E.; Arnold, J. "Preparation, Characterization and Kinetic Studies of Group 4 Metallocene Complexes with Triphenylsilyltellurolate Ligands" *Organometallics* **1994**, *13*, 4462-4468.

Dawson, D. Y.; Brand, H. and Arnold, J. "Tantalum Porphyrin Complexes. Synthesis of the First Organometallic Group 5 Metalloporphyrins and the X-ray Crystal Structure of the Sandwich Compound $[\text{Ta}(\text{OEP})_2][\text{TaCl}_6]$ " *J. Am. Chem. Soc.*, **1994**, *116*, 9797-9798.

Brand, H.; Capriotti, J. A.; Arnold, J. "New Lithium Porphyrin Derivatives: Synthesis of $\text{Li}_2(\text{TTP})(\text{Et}_2\text{O})_2$ ($\text{P} = \text{TTP}, \text{TBPP}$) and the Solution Structure of $\text{Li}_2(\text{TTP})(\text{Et}_2\text{O})_2$ by ^7Li and ^{15}N NMR" *Inorg. Chem.*, **1994**, *33*, 4334.

Cary, D. R.; Arnold, J. "Synthesis and Characterization of Divalent Lanthanide Selenolates and Tellurolates. X-ray Crystal Structures of $\text{Yb}[\text{SeSi}(\text{SiMe}_3)_3]_2(\text{TMEDA})_2$ and $\{\text{Eu}[\text{TeSi}(\text{SiMe}_3)_3]_2(\text{DMPE})_2\}_2(\mu\text{-DMPE})$ " *Inorg. Chem.*, **1994**, *33*, 1791-1796.

Bonasia, P. J.; Mitchell, G.P.; Hollander, F. J.; Arnold, J. "Synthesis and Characterization of Copper (I) and Silver (I) Tellurolates and Selenolates. The X-ray Crystal Structures of $\{\text{Cu}[\text{SeC}(\text{SiMe}_3)_3]_2\text{PCy}_3\}_2$ and the Homoleptic Silver Selenolate $\text{Ag}_4[\text{SeC}(\text{SiMe}_3)_3]_4$ " *Inorg. Chem.*, **1994**, *33*, 1797-1802.

Brand, H. and Arnold, J. "Facile Reduction of a Dialkyl Zirconium(IV) Octaethylporphyrin Complex by Dihydrogen. Crystal Structure and Spectroscopic Characterization of $(\text{OEP})\text{ZrCH}_2\text{SiMe}_3$ " *Angew. Chemie., Intl Ed, Engl.*, **1994**, *33*, 95-97.

Gindelberger, D. E.; Arnold, J. "Synthesis and Characterization of Some First-Row Transition Metal Tellurolates. X-Ray Crystal Structures of $\text{Mn}[\text{TeSi}(\text{SiMe}_3)_3]_2(\text{dmpe})$, $\text{Fe}[\text{TeSi}(\text{SiMe}_3)_3]_2(\text{dmpe})_2$, $\text{Fe}[\text{TeSi}(\text{SiMe}_3)_3]_2(\text{Cl})(\text{dmpe})_2$, and $\text{Co}[\text{TeSi}(\text{SiMe}_3)_3]_2(\text{PMe}_3)_3$ " *Inorg. Chem.*, **1993**, *32*, 5813-5820.

Bonasia, P. J.; Gindelberger, D. E.; Arnold, J. "Synthesis and Characterization of Gold (I) Thiolates, Selenolates, and Tellurolates: The X-Ray Crystal Structures of $\text{Au}_4[\text{TeC}(\text{SiMe}_3)_3]_4$, $\text{Au}_4[\text{SC}(\text{SiMe}_3)_3]_4$, and $\text{Ph}_3\text{PAu}[\text{TeC}(\text{SiMe}_3)_3]$ " *Inorg. Chem.*, **1993**, *32*, 5126-5131.

Christou, V.; Wuller, S. P.; Arnold, J. "Synthesis, Structure and Reactivity of Group 4 Metallocene Tellurolates. X-ray Crystal Structures of $\text{Cp}_2\text{Zr}[\text{TeSi}(\text{SiMe}_3)_3]_2$, $\text{Cp}'_2\text{Ti}[\text{TeSi}(\text{SiMe}_3)_3]_2$, $\text{Cp}_2\text{Zr}(\eta^2\text{-COMe})[\text{TeSi}(\text{SiMe}_3)_3]$ and $\text{Cp}_2\text{Ti}[\text{TeSi}(\text{SiMe}_3)_3]\text{PMe}_3$." *J. Am. Chem. Soc.*, **1993**, *115*, 10545-10552.

Brand, H.; Arnold, J. "Early Transition Metal Porphyrins: Synthesis, Characterization, and Reactivity of Novel Out-of-Plane Cis-Ligated Zirconium Porphyrin Derivatives." *Organometallics*, **1993**, *12*, 3655-3665.

Arnold, J.; Hoffman, C. G.; Dawson, D. Y. "Preparation, Characterization and Reactivity of Scandium Octaethylporphyrin Complexes. X-Ray Crystal Structures of $(\text{OEP})\text{ScCH}_3$, $(\text{OEP})\text{ScCH}(\text{SiMe}_3)_2$, $(\text{OEP})\text{Sc}(\eta^5\text{-C}_9\text{H}_7)$ and $[(\text{OEP})\text{Sc}]_2(\mu\text{-OH})_2$ " *Organometallics*, **1993**, *12*, 3645-3654.

Christou, V.; John Arnold, J. Formation of Monomeric Terminal Chalcogenides by Template Induced Disilylchalcogenide Eliminations. The Crystal Structures of $\text{ETa}[(\text{Me}_3\text{SiNCH}_2\text{CH}_2)_3\text{N}]$ (E = Se, Te)." *Angew. Chemie, Intl Ed, Engl.*, **1993**, 32, 1450.

Seligson, A. L.; Arnold, J. 'Synthesis, Structure and Reactivity of Homoleptic Tin(II) and Lead(II) Chalcogenolates and Conversion to Metal Chalcogenides. X-ray Crystal Structures of $\{\text{Sn}[\text{TeSi}(\text{SiMe}_3)_3]_2\}$ and $(\text{PMe}_3)\text{Sn}[\text{TeSi}(\text{SiMe}_3)_3]_2$ ' *J. Am. Chem. Soc.* **1993**, 115, 8214-8220.

Bonasia, P. J.; Christou, V.; Arnold, J. 'Alkyl, Silyl, and Germyl Thiolate, Selenolate, and Tellurolate Derivatives and the Interconversion of Silyl Substituted Species by Chalcogen Metathesis' *J. Am. Chem. Soc.* **1993**, 115, 6777-6781.

Seligson, A. L.; Bonasia, P. J.; Arnold, J.; Yu, K.-M.; Walker, J. M.; Bourret, E. D. "Single Source Precursors for the Growth of Metal-Chalcogenide Thin Films" *Proc. Mater. Res. Symp.*, **1993**, 282, 665-670.

Bonasia, P. J.; Arnold, J. "Synthesis and Characterization of Sterically Encumbered Li, Na, and K Aryl Tellurolates and some Pt(II), Ir(I), and Cd(II) Derivatives" *J. Organomet. Chem.* **1993**, 449, 147-157.

Arnold, J.; Dawson, D. Y.; Hoffman, C. G. "Synthesis and Characterization of Lithium, Sodium and Potassium Porphyrin Complexes. X-Ray Crystal Structures of $\text{Li}_2(\text{C}_6\text{H}_{12}\text{O}_2)_2\text{TMPP}$, $\text{Na}_2(\text{THF})_4\text{OEP}$, and $\text{K}_2(\text{pyridine})_4\text{OEP}$." *J. Am. Chem. Soc.* **1993**, 115, 2707-2713.

Cary, D. R.; Arnold, J. "Preparation of Lanthanide Tellurolates and Evidence for the Formation of Cluster Intermediates in Their Thermal Decomposition to Bulk Metal Tellurides." *J. Am. Chem. Soc.* **1993**, 115, 2520-2521.

Martin, P. C.; Arnold, J.; Bocian, D. F. "Spectroscopic Characterization of Zirconium(IV) and Hafnium(IV) Sandwich Porphyrin Complexes" *J. Phys. Chem.* **1993**, 97, 1332-1338.

Arnold, J.; Bonasia, P. J.; Bourret, E. D.; Seligson, A.; Walker, J. "Growth of II-VI Thin-Films from Single-Source Precursors Based on Sterically Encumbered Sitel Ligands" *J. Cryst. Growth*, **1992**, 124, 647-653.

Gindelberger, D. E.; Arnold, J. "Synthesis and Reactivity of Silyltellurolate (Sitel) Derivatives of Magnesium, Calcium, Strontium and Barium and the X-Ray Crystal Structures of $(\text{THF})_2\text{Mg}(\text{Sitel})_2$ and $(\text{THF})_4\text{Ca}(\text{Sitel})_2$ " *J. Am. Chem. Soc.*, **1992**, 114, 6242-6243.

Christou, V.; Arnold, J. 'Synthesis of Reactive Homoleptic Tellurolates of Zirconium and Hafnium and Their Conversion to Terminal Tellurides: A Model for the First Step in the Transformation of Molecules to Solids' *J. Am. Chem. Soc.*, **1992**, 114, 6240-6242.

Bonasia, P. J.; Arnold, J. 'Zinc, Cadmium and Mercury Tellurolates: Hydrocarbon Solubility and Low Coordination Numbers Enforced by Sterically Encumbered Silyltellurolate Ligands' *Inorg. Chem.*, **1992**, 31, 2508-2514.

Bonasia, P. J.; Gindelberger, D. E.; Dabbousi, B. O.; Arnold, J. 'New Reagents for the Synthesis of Compounds Containing Metal-Tellurium Bonds: Sterically Hindered Silyltellurolate Derivatives and the X-Ray Crystal Structures of $[\text{THF}_2\text{LiTeSi}(\text{SiMe}_3)_3]_2$ and $[(12\text{-crown-}4)_2\text{Li}][\text{TeSi}(\text{SiMe}_3)_3]$ ' *J. Am. Chem. Soc.*, **1992**, 114, 5209-5214.

Arnold, J.; Johnson, S. E.; Knobler, C. B.; Hawthorne, M. F. 'A Metalloporphyrin-Carborane Sandwich Compound: Synthesis and X-Ray Crystal Structure of $(\text{OEP})\text{Zr}(\eta^5\text{-}1,2\text{-C}_2\text{B}_9\text{H}_{11})$ ' *J. Am. Chem. Soc.*, **1992**, 114, 3996-3997.

Brand, H.; Arnold, J. 'Early Transition Metal Porphyrins. Synthesis and Reactivity of Some Novel Zirconium Derivatives and the X-Ray Crystal Structure of the First Metalloporphyrin cis-Dialkyl: $(\text{OEP})\text{Zr}(\text{CH}_2\text{SiMe}_3)_2$ ' *J. Am. Chem. Soc.*, **1992**, 114, 2266-2267.

Dabbousi, B. O.; Bonasia, P. J.; Arnold, J. 'Tris(trimethylsilyl)silyltellurol: Preparation, Characterization and Synthetic Utility of a Remarkably Stable Tellurol' *J. Am. Chem. Soc.*, **1991**, 113, 3186-3188.

Arnold, J.; Hoffman, C. G. 'Novel Synthetic Route to Scandium Porphyrin Derivatives and the First Structurally Characterized Metalloporphyrin- η^5 -Cyclopentadienyl Sandwich Compound', *J. Am. Chem. Soc.*, **1990**, 112, 8260-8261.

Bonasia, P. J.; Arnold, J. 'Alkali Metal Tellurolates: Synthesis and X-Ray Crystal Structures of Monomeric Sodium and Potassium Tellurolates with Sterically Hindered Aryls', *J. Chem. Soc., Chem. Commun.*, **1990**, 1299-1301.

Arnold, J. 'The First Structurally Characterized Alkali Metal Porphyrin: ^7Li NMR Behaviour and X-Ray Crystal Structure of the Dilithium Salt of Octaethylporphyrin(2-)', *J. Chem. Soc., Chem. Commun.*, **1990**, 976-978.

Koschmieder, S. U.; McGilligan, B.S.; McDermott, G.; Arnold, J.; Wilkinson, G.; Hussain-Bates, B.; Hursthouse, M.B. 'Aryl and Aryne Complexes of Chromium, Molybdenum and Tungsten', *J. Chem. Soc., Dalton Trans*, **1990**, 3427.

McGilligan, B.S.; Arnold, J.; Wilkinson, G.; Hussain-Bates, B.; Hursthouse, M.B. 'Reactions of Dioxodimesityl Osmium(VI) with Donor Ligands; Reactions of $\text{MO}_2(2,4,6\text{-Me}_3\text{C}_6\text{H}_2)_2$, M = Re, Os with Nitrogen Oxides', *J. Chem. Soc., Dalton Trans*, **1990**, 2465-2475.

Arnold, J.; Wilkinson, G.; Hussain, B.; Hursthouse, M.B. 'Synthesis and X-ray Structure of $\text{Mo}(2\text{-MeC}_6\text{H}_4)_4$. Redox Chemistry of Homoleptic Aryls of Mo, Re, Ru, and Os', *J. Chem. Soc., Dalton Trans*, **1989**, 2149-2153.

Arnold, J.; Engeler, M.P.; Elsner, F.H.; Heyn, R.H.; Tilley, T.D. 'Insertion of Ethylene into Zr-Si and Hf-Si Bonds', *Organometallics*, **1989**, 8, 2284-2286.

Arnold, J.; Wilkinson, G.; Hussain, B.; Hursthouse, M.B. 'Reactivity of the Homoleptic Osmium Aryl $\text{Os}(2\text{-MeC}_6\text{H}_4)_4$: Ligand Induced Reductive Coupling, σ - to π - Rearrangement, and ortho-Hydrogen Activation', *Organometallics*, **1989**, 8, 1362-1369.

Arnold, J.; Wilkinson, G.; Hussain, B.; Hursthouse, M.B. 'Reactions of Oxo Complexes of Osmium and Ruthenium with Carbon Monoxide. X-Ray Structures of $[\text{Os}(\text{O})_2(\text{COOMe})_2(\mu\text{-OMe})_2][\text{NMe}_4]_2$ and $[\text{Ru}(\text{OAc})_3(\text{CO})_3][\text{NPr}_4]$ ', *Polyhedron*, **1989**, 8, 597-602.

Arnold, J.; Wilkinson, G.; Hussain, B.; Hursthouse, M.B. 'Synthesis and Reactivity of Benzyne Derivatives of Rhenium Formed by Facile ortho-Hydrogen Abstraction in a Homoleptic Rhenium Aryl. X-Ray Structure of the Cationic Benzyne $[\text{Re}(\eta^2\text{-}2\text{-MeC}_6\text{H}_3)(2\text{-MeC}_6\text{H}_4)_2(\text{PMe}_2\text{Ph})_2][\text{I}_5]^+$ ', *Organometallics*, **1989**, 8, 415-420.

Arnold, J.; Tilley, T.D.; Rheingold, A.L.; Geib, S.J.; Arif, A.M. 'Carbonylation Chemistry of the Tantalum Silyl $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}(\text{SiMe}_3)\text{Cl}_3$. Synthesis, Characterization and Reaction Chemistry of the Silaacyl $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}[(\eta^2\text{-OC}(\text{SiMe}_3))]_2$ and Derivatives', *J. Am. Chem. Soc.*, **1989**, 111, 149-164.

Arnold, J.; Roddick, D.M.; Tilley, T.D.; Geib, S.J.; Rheingold, A.L. 'Preparation and Characterization of Tris(trimethylsilyl)silyl and Tris(trimethylsilyl)germyl derivatives of Zirconium and Hafnium. X-ray Structures of $(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}_2\text{Zr}[\text{Si}(\text{SiMe}_3)_3]$ and $(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}_2\text{Hf}[\text{Si}(\text{SiMe}_3)_3]$ ', *Inorg. Chem.*, **1988**, 27, 3510-3514.

Arnold, J.; Wilkinson, G.; Hussain, B.; Hursthouse, M.B. 'Redox Chemistry of the Homoleptic Aryl $\text{Os}(2\text{-MeC}_6\text{H}_4)_4$: Synthesis and Characterization of the First Osmium(V) Organometallic $[\text{Os}(2\text{-MeC}_6\text{H}_4)_4][\text{CF}_3\text{SO}_3]$ ', *J. Chem. Soc., Chem. Commun.*, **1988**, 1349-1350.

Arnold, J.; Woo, H-W.; Tilley, T.D.; Rheingold, A.L.; Geib, S.J. 'Reaction of an Early Transition-Metal Silaacyl Complex with Pyridine. Diastereoselectivity in the Formation of a (2-Pyridyl)(silyl)-methoxy Ligand', *Organometallics*, **1988**, 7, 2045-2049.

Arnold, J.; Wilkinson, G.; Hussain, B.; Hursthouse, M.B. 'Formation of a Rhenium Benzyne Derivative by Facile Ligand Induced ortho-Hydrogen Abstraction from a Homoleptic Rhenium Aryl. X-Ray Crystal Structure of $\text{Re}(\eta^2\text{-}2\text{-MeC}_6\text{H}_3)(2\text{-MeC}_6\text{H}_4)_2(\text{PMe}_2\text{Ph})_2$ ', *J. Chem. Soc., Chem. Commun.*, **1988**, 704-705.

Arnold, J.; Tilley, T.D.; Rheingold, A.L.; Geib, S.J. 'An Arbusov-like Reaction in the Trimethyl Phosphite-Silaacyl Adduct $(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}_3\text{Ta}\{\eta^2\text{-OC}(\text{SiMe}_3)\text{-}[\text{P}(\text{OMe})_3]\}$ ', *Inorg. Chem.*, **1987**, 26, 2556-2559.

Arnold, J.; Tilley, T.D.; Rheingold, A.L.; Geib, S.J. 'Preparation and Characterization of Tris(trimethylsilyl)silyl Derivatives of Zinc, Cadmium, and Mercury. X-ray Crystal Structure of $\text{Zn}[\text{Si}(\text{SiMe}_3)_3]_2$ ', *Inorg. Chem.*, **1987**, 26, 2106-2109.

Arnold, J.; Tilley, T.D.; Rheingold, A.L.; Geib, S.J. 'Formation of the Novel Benzophenone Silaacylhydrazonato Complex $(\eta^5\text{-C}_5\text{Me}_5)\text{Cl}_3\text{Ta}[\text{OC}(\text{SiMe}_3)\text{-NNCPh}_2]$ following Addition of Diphenyl-diazomethane to a Sila-acyl Ligand', *J. Chem. Soc., Chem. Commun.*, **1987**, 793-794.

Arnold, J.; Tilley, T.D. 'Insertion of Organic Carbonyls into the Tantalum-Silicon Bond of $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}(\text{SiMe}_3)\text{Cl}_3$. Preparation and Characterization of the α -Silyl-alkoxides $(\eta^5\text{-C}_5\text{Me}_5)\text{TaOCRR}(\text{SiMe}_3)\text{Cl}_3$ ', *J. Am. Chem. Soc.*, **1987**, *109*, 3318-3322.

Arnold, J.; Tilley, T.D.; Rheingold, A.L.; Geib, S.J. 'Preparation and Reaction Chemistry of Trimethylsilyl Derivatives of Niobium. Redox Chemistry of $(\eta^5\text{-C}_5\text{H}_5)_2\text{Nb}(\text{SiMe}_3)\text{Cl}$ and X-ray Structures of $(\eta^5\text{-C}_5\text{H}_5)_2\text{Nb}(\text{SiMe}_3)(\eta^2\text{-C}_2\text{H}_4)$ and $[(\eta^5\text{-C}_5\text{H}_5)_2\text{Nb}(\text{CH}_2\text{SiMe}_3)\text{Cl}]\text{PF}_6$, *Organometallics*, **1987**, *6*, 473-479.

Arnold, J.; Shina, D.N.; Tilley, T.D.; Arif, A.M. 'Preparation and Reaction Chemistry of Trimethylsilyl Derivatives of Tantalum. X-ray Structures of d^0 $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}(\text{SiMe}_3)\text{Cl}_3$ and d^1 $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}(\text{SiMe}_3)(\text{PMe}_3)\text{Cl}_2$, *Organometallics*, **1986**, *5*, 2037-2044.

Arnold, J.; Tilley, T.D.; Rheingold, A.L. 'Tetrahedral Lewis Base Adducts of an Acyl. Preparation and X-ray Structure of the Pyridine Adduct $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}[(\eta^2\text{-OC}(\text{SiMe}_3)(\text{NC}_5\text{H}_5))]$ ', *J. Am. Chem. Soc.*, **1986**, *108*, 5355-5356.

Arnold, J.; Tilley, T.D. 'Ether Cleavage following Insertion of Carbon Monoxide into the Tantalum-Silicon Bond of $(\eta^5\text{-C}_5\text{Me}_5)\text{Ta}(\text{SiMe}_3)\text{Cl}_3$, *J. Am. Chem. Soc.*, **1985**, *107*, 6409-6410.