

CURRICULUM VITAE OF MICHAEL P. CASTELLANI

Address: Department of Chemistry
Marshall University
Huntington, WV 25755

Office: (304)696-6486
Fax: (304)696-3243
Internet: castella@marshall.edu

Birth Date: September 13, 1960; Dover, Delaware.

Education:

Undergraduate: Furman University, Greenville, SC (1978 - 1982) B.S. in Chemistry; Undergraduate research with Prof. Noel A.P. Kane-Maguire.

Graduate: Northwestern University, Evanston, IL (1982 - 1983) M.S. in Chemistry.

University of California at San Diego, La Jolla, CA (1983 - 1986) Ph.D. in Chemistry; Research Advisor, Prof. William C. Troglor. Dissertation title: Tetraphenylcyclopentadienyl Complexes of First Row Transition Metals. (Transferred with WCT to the University of California at San Diego)

Post-Doctoral: University of Oregon, Eugene, OR (1987 - 1988) Research with Prof. David R. Tyler. Research topic: Thermal Disproportionation Reactions of the $(C_5H_5)_2Fe_2(CO)_4$ Dimer.

Academic Positions:

Assistant Professor, Marshall University, 1988 – 1993.

Associate Professor, Marshall University, 1993 – 1999.

Visiting Associate Professor, University of North Texas, 1996 – 97 (Sabbatical leave)

Visiting Associate Professor, Texas Wesleyan University, 1997 – 98 (Leave of absence)

Professor, Marshall University, 1999 – present.

Chair of Chemistry and Head of the Division of Physical Sciences, 2004 – present.

Research Interests:

Synthesis, reactivity, physical properties, and mechanism in organometallic chemistry. Open shell complexes. The effect of large ligands on the reactivity of complexes.

Professional Societies:

American Chemical Society

Council on Undergraduate Research

Honors and Awards:

American Chemical Society Award, Western Carolina's Section (1982)

Camille and Henry Dreyfus Scholar (2001 – 2003)

Chemistry Councilor, Council on Undergraduate Research (2001 – present)

Secretary (2012 – 2014)

Council on Undergraduate Research, Volunteer of the Year (2007)

Marshall University Publications

*Undergraduate student coauthor.

†Masters student coauthor.

1. Synthesis, Molecular Structure, and ^1H NMR, Analysis of Bis(tetraphenylcyclopentadienyl)ruthenium(II). *Hoobler, R.J.; *Adams, J.V.; *Hutton, M.A.; *Francisco, T.W.; Haggerty, B.S.; Rheingold, A.L.; Castellani, M.P. *J. Organomet. Chem.* **1991**, *412*, 157-167.
2. Synthesis, Characterization, and Crystal Structure of the $(\eta^5\text{-C}_5\text{Ph}_5)\text{Cr}(\text{CO})_3$ Radical. *Hoobler, R.J.; *Hutton, M.A.; *Dillard, M.M.; Castellani, M.P.; Rheingold, A.L.; Rieger, A.L.; Rieger, P.H.; Richards, T.C.; Geiger, W.E. *Organometallics* **1993**, *12*, 116-123.
3. Synthesis, Characterization, and Crystal Structure of Bis(tetraphenylcyclopentadienyl)-rhodium(II). †Collins, J.E.; Castellani, M.P.; Rheingold, A.L.; Miller, E.J.; Geiger, W.E.; Rieger, A.L.; Rieger, P.H. *Organometallics* **1995**, *14*, 1232-1238.
4. Substitution Reactions of $(\text{C}_5\text{Ph}_5)\text{Cr}(\text{CO})_3$: Structural, Electrochemical, and Spectroscopic Characterization of $(\text{C}_5\text{Ph}_5)\text{Cr}(\text{CO})_2\text{L}$, L = PMe_3 , PMe_2Ph , and $\text{P}(\text{OMe})_3$. *Hammack, D.J.; *Dillard, M.M.; Castellani, M.P.; Rheingold, A.L.; Rieger, A.L.; Rieger, P.H. *Organometallics* **1996**, *15*, 4791-4797.^{MU}
5. EPR Spectra of $[(\text{Cr}(\text{CO})_2\text{L}(\eta\text{-C}_6\text{Me}_6))]^+$, L = PEt_3 , PPh_3 , $\text{P}(\text{OEt})_3$, $\text{P}(\text{OPh})_3$: Analysis of Line Widths and Determination of Ground State Configuration from Interpretation of ^{31}P Couplings. Castellani, M.P.; Connelly, N.G.; Pike, R.D. Rieger, A.L., Rieger, P.H. *Organometallics* **1997**, *16*, 4369-4376.
6. Molecular Structure of Bis(tetraphenylcyclopentadienyl)rhodium(III) Hexafluorophosphate, $[(\text{C}_5\text{HPh}_4)_2\text{Rh}]\text{PF}_6\cdot\text{CH}_2\text{Cl}_2$. Guzei, I.; Rheingold, A.L.; †Collins, J.E.; Castellani, M.P. *Z. Krist.* **1998**, *213*, 431-433.
7. Steric versus Electronic Control During the Carbonylation of Substituted Thexylboranes. A Semi-Empirical Investigation. Castellani, M.P.; McAllister, M.A.; Hubbard, J.L. *J. Mol. Struct. (THEOCHEM)* **2000**, *496*, 41-65.
8. Halogen Oxidation Reactions of $(\text{C}_5\text{Ph}_5)\text{Cr}(\text{CO})_3$ and Lewis Base Addition To $[(\text{C}_5\text{Ph}_5)\text{Cr}(\mu\text{-X})\text{X}]_2$: Electrochemical, Magnetic, and Raman Spectroscopic Characterization of $[(\text{C}_5\text{Ph}_5)\text{CrX}_2]_2$ and $(\text{C}_5\text{Ph}_5)\text{CrX}_2(\text{THF})$ (X = Cl, Br, I). X-ray Crystal Structure of $[(\text{C}_5\text{Ph}_5)\text{Cr}(\mu\text{-Cl})\text{Cl}]_2$. †Hutton, M.A.; *Durham, J.D.; *Grady, R.W.; *Harris, B.E., *Jarrell, C.S.; *Mooney, J.M.; Castellani, M.P.; Rheingold, A.L.; Rieger, P.H.; Korte, B.J.; Sommer, R.D.; Yee, G.S.; Kölle, U.; Boggess, J.M.; Czernuszewicz, R. *Organometallics* **2001**, *20*, 734-740.

9. Ion-Pairing Thermodynamics for $(\eta^5\text{-pentadienyl})\text{Fe}(\text{CO})_2^-$ (Pentadienyl = MeCp, C_5Me_5 , C_5Ph_5 , C_9H_7) and X-ray Crystal Structure of $[(\eta^5\text{-C}_5\text{Ph}_5)\text{Fe}(\text{CO})_2][\text{PPN}]$. *Carter, B.T., Castellani, M.P.; Rheingold, A.L.; Hwang, S.; Longacre, S.E.; Richmond, M.G. *Organometallics* **2002**, *21*, 373-379.
10. 1,1'-Diethyl-2,2',3,3',4,4',5,5'-octamethylferrocenium Tetracyanoethylenide, $[\text{Fe}(\text{C}_5\text{EtMe}_4)_2]^+ [\text{TCNE}]^-$, a Charge-Transfer Salt Magnetic Solid with a Novel Structural Motif. *Harris, T.D.; Castellani, M.P.; Rheingold, A.L.; Reiff, W.M.; Yee, G.T. *Inorg. Chim. Acta* **2006**, *359*, 4651-4654.
11. Synthesis and X-ray Crystal Structure of $[(\text{C}_5\text{Ph}_5)\text{CrCl}(\mu\text{-Cl})_2\text{Ti}]_2$: An Example of the Rare M-X-Tl^I Linkage (X = Halide). Davis, K.B.;* Harris, T.D.;* Castellani, M.P.; Golen, J.E.; Rheingold, A.L. *Organometallics* **2007**, *26*, 4843-4845.
12. $(\eta^5\text{-Cyclopentadienyl})\text{tricarboxylmanganese(I)}$ Complexes. *Kirk, P.N.; Castellani, M.P. *Inorganic Syntheses* **2014**, *36*, 62-63.

Other Publications

13. Synthesis, Molecular Structure, and 2-D NMR Analysis of Bis(tetraphenylcyclopentadienyl)iron(II). Castellani, M.P.; Wright, J.M.; Geib, S.J.; Rheingold, A.L.; Trogler, W.C. *Organometallics* **1986**, *5*, 1116-1121.
14. Synthesis, Reactivities, Molecular Structures, and Physical Properties of Paramagnetic Bis(tetraphenylcyclopentadienyl) Complexes of Vanadium, Chromium, Cobalt, and Nickel. Castellani, M.P.; Geib, S.J., Rheingold, A.L.; Trogler, W.C. *Organometallics* **1987**, *6*, 1703-1712.
15. Synthesis and Molecular Structure of Chlorobis(tetraphenylcyclopentadienyl)titanium(III). Synthesis and Variable Temperature ¹H NMR Study of Dichlorobis(tetraphenylcyclopentadienyl)titanium(IV). Castellani, M.P.; Geib, S.J.; Rheingold, A.L.; Trogler, W.C. *Organometallics* **1987**, *6*, 2524-2531.
16. Photochemistry of Organometallic Halide Complexes; Mechanisms for the Formation of Ionic Compounds. Pan, X.; Philbin, C.E.; Castellani, M.P.; Tyler, D.R. *Inorg. Chem.* **1988**, *27*, 671-676.
17. Distinction Between Three Possible Radical Chain Mechanisms in the Disproportionation Reactions of $\text{Cp}_2\text{Fe}_2(\text{CO})_4$ (Cp = $\eta^5\text{-C}_5\text{H}_5$) Castellani, M.P.; Tyler, D.T. *Organometallics* **1989**, *8*, 2113-2120.

18. Photophysical Behavior of Doubly Bridged d^7 - d^7 Metal-Metal Bonded Compounds: The Crystal Structure and the Excited- and Ground-State Electronic Spectra of $\text{Re}_2(\text{CO})_2(\text{dmpm})_2$ [dmpm = Bis(dimethylphosphino)methane]. Milder, S.J.; Castellani, M.P.; Weakley, T.J.R.; Tyler, D.R.; Miskowski, V.M.; Stiegman, A.E. *J. Phys. Chem.* **1990**, *94*, 6599-6603.
19. Bis(η^5 -cyclopentadienyl)molybdenum(IV) Complexes. Silavwe, N.D.; Castellani, M.P.; Tyler, D.R. *Inorganic Syntheses* **1992**, *29*, 204-211.
20. Synthesis and Molecular Structure of Bis(tetraphenylcyclopentadienyl)tetrakis(μ -trifluoroacetato)divanadium(III). Castellani, M.P.; Swepston, P.N.; Trogler, W.C. *Inorg. Chim. Acta* **1993**, *205*, 153-156.
21. Equilibrium Constants for Homolysis of Metal-Metal Bonded Organometallic Dimers in Cyclohexane Solution. Reaction of the $(\text{MeCp})\text{Mo}(\text{CO})_3$ Radical with the Nitroxide Radical Trap TMIO. Tenhaeff, S.C.; Covert, K.J.; Castellani, M.P.; Grunkemeier, J.; Kunz, C.; Weakley, T.J.R.; Koenig, T.; Tyler, D.R. *Organometallics* **1993**, *12*, 5000-5004.
22. Observation of a Salt Effect in the Chain Disproportionation Reaction of $\text{Cp}_2\text{Fe}_2(\text{CO})_4$ with Dppe. Castellani, M.P.; Hesse, E.T.; Tyler, D.T. *Organometallics* **1994**, *13*, 399-400.
23. Synthesis of a Mixed Cluster/Binuclear Compound. Electrochemical Properties and X-Ray Diffraction Structure of $\text{Co}_3(\text{CO})_9[\mu_3\text{-CCO}_2\text{CH}_2\text{CH}\{\text{Co}_2(\text{CO})_6\}]$. Castellani, M.P.; Bott, S.G.; Richmond, M.G. *J. Chem. Cryst.* **1998**, *28*, 693-699.
24. Reaction of Ethyl Diazoacetate with $\text{Co}_3(\text{CO})_9(\mu_3\text{-CCl})$: Isolation and X-ray Structures of $\text{Co}_3(\text{CO})_9(\mu_3\text{-CCO}_2\text{Et})$, $\text{Co}_3(\text{CO})_9(\mu_3\text{-CCH}_2\text{CO}_2\text{Et})$, and $[\text{Co}_3(\text{CO})_9(\mu_3\text{-CCHCO}_2\text{Et})]_2$. Castellani, M.P.; Smith, W.G.*; Patel, N.G.*; Bott, S.G.; Richmond, M.G. *J. Chem. Cryst.* **1999**, *29*, 609-617.

In publication 24, the two University of North Texas undergraduate students worked under my immediate supervision.