

CURRICULUM VITAE  
JOSEPH M. O'CONNOR

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**Education**

John Carroll University, University Heights, OH: B.S. (Chemistry), 1976

St. Louis University, St. Louis, MO: M.S. (Chemistry), 1979

*Thesis: "A New Palladium Catalyzed Addition Reaction of Conjugated  
Dienes,"* under the direction of Professor Harold A. Dieck

University of Wisconsin, Madison, WI: Ph.D. (Organic Chemistry), 1984

*Thesis: "Trimethylphosphine Induced Cyclopentadienyl Ligand  
Transformations,"* under the direction of Professor Charles P. Casey

University of California, Berkeley, CA: Postdoctoral Associate, 1984-1985

(under the direction of Professor K. Peter C. Vollhardt)

**Appointments**

1985-1992, Assistant Professor, University of California, San Diego

1992-1998, Associate Professor, University of California, San Diego

1991-1993, Associate Professor, University of Nevada, Reno (on leave from UCSD)

1998-present, Full Professor, University of California, San Diego

**Honors**

UCSD Distinguished Teaching Award for Academic Senate Members, 2012

Fellow, American Association for the Advancement of Science, elected 2011

American Cancer Society Junior Faculty Fellow, 1991-1994

UC Chancellor's Faculty Fellowship, 1986 - 1987

**Memberships**

American Chemical Society

American Association for the Advancement of Science

## Research Presentations

1. American Chemical Society National Meeting, ACS Dow Organometallic Award Session, Denver CO, April 6, 1987
2. Santa Clara University, Santa Clara CA, April 29, 1987
3. Gordon Conference on Organometallic Chemistry (poster), Newport RI, July 20, 1987
4. NSF Organometallic Workshop, Trout Lodge MO, May 20-23, 1988
5. California Institute of Technology, Syncon 1988, Pasadena CA, May 28, 1986
6. Gordon Conference on Organometallic Chemistry (poster), Newport RI, June 27, 1988
7. Hoechst Celanese Corp., Corpus Christi Tech. Center, Corpus Christi TX, July 22, 1988
8. NATO Workshop on Transition-Metal Carbene Complexes, Wilbad-Kreuth West Germany, September 26-30, 1988
9. Eastman Kodak Corporate Research, Rochester NY, October 12, 1988
10. University of Delaware, Newark DE, October 13, 1988
11. DuPont Central Research, Wilmington DE, October 14, 1988
12. University of Nevada, Reno NV, November 4, 1988
13. University of California, Riverside CA, November 11, 1988
14. University of Illinois at Urbana-Champaign, Urbana IL, December 6, 1988
15. Iowa State University, Ames IA, December 7, 1988
16. University of Iowa, Iowa City IA, December 9, 1988
17. University of California, Davis CA, February 9, 1989
18. University of California, Berkeley CA, February 10, 1989
19. University of San Diego, San Diego CA, February 16, 1989
20. University of Minnesota, Minneapolis MN, March 2, 1989
21. University of California, Santa Cruz CA, April 17, 1989
22. California State University, San Jose CA, April 18, 1989
23. Gordon Conference on Organometallic Chemistry (poster), Newport RI, July 20, 1989
24. American Chemical Society Nat'l Meeting, Miami FL, September 14, 1989 (paper 1)
25. American Chemical Society Nat'l Meeting, Miami FL, September 14, 1989 (paper 2)
26. Fifth IUPAC Symposium on Organometallic Chemistry Directed Towards Organic Synthesis, Florence Italy, October 5, 1989
27. Northwestern University, Chicago IL, October 16, 1989
28. University of Chicago, Chicago IL, October 17, 1989
29. University of Wisconsin, Madison WI, October 19, 1989
30. University of Wyoming, Laramie WY, November 10, 1989
31. University of Colorado, Boulder CO, November 14, 1989
32. Utah State University, Logan UT, November 15, 1989
33. University of Utah, Salt Lake City UT, November 16, 1989
34. Brigham Young University, Provo UT, November 17, 1989
35. International Chem. Congress of Pacific Basin Societies, Honolulu HI, December 21, 1989
36. Emory University, Atlanta GA, January 31, 1990
37. Georgia Institute of Technology, Atlanta GA, February 1, 1990
38. University of South Carolina, Columbia SC, February 2, 1990
39. University of North Carolina, Chapel Hill NC, February 5, 1990
40. California Institute of Technology, Pasadena CA, February 16, 1990
41. University of Southern California, Los Angeles CA, February 21, 1990

42. University of Washington, Seattle WA, March 8, 1990
43. University of Oregon, Eugene OR, March 9, 1990
44. University of British Columbia, Vancouver BC, March 12, 1990
45. American Chemical Society National Meeting, Boston MA, April 27, 1990
46. University of California, Santa Barbara CA, May 16, 1990
47. 45th Northwest / 10th Rocky Mountain Regional ACS Meeting, Salt Lake City UT, June 13-15, 1990
48. Lilly Research Laboratories, Indianapolis IN, June 19, 1990
49. Gordon Conference on Organometallic Chemistry (poster), Newport RI, June 25, 1990
50. NSF Workshop on Organic Synthesis and Natural Products Chemistry (WOSNPC-XXI), Fort Collins CO, July 18-22, 1990
51. California State University, San Diego CA, September 10, 1990
52. California State University, Northridge, Los Angeles CA, September 12, 1990
53. University of California, Los Angeles CA, September 27, 1990
54. Cornell University, Ithaca NY, November 6, 1990
55. University of Pennsylvania, Philadelphia PA, November 7, 1990
56. SUNY-Buffalo, Buffalo NY, November 9, 1990
57. University of Rochester, Rochester NY, November 10, 1990
58. Stanford University, Stanford CA, November 14, 1990
59. Exxon Corporate Research, Annandale NJ, December 7, 1990
60. Rutgers University, Piscataway NY, December 10, 1990
61. Yale University, New Haven CT, December 11, 1990
62. Brookhaven National Laboratory, Long Island NY, December 12, 1990
63. American Chemical Society National Meeting, Atlanta GA, April 15, 1991
64. University of Nevada, Reno NV, February 4, 1991
65. George Fox University, Newberg OR, November 6, 1991
66. Reed College, Portland OR, November 7, 1991
67. Nevada Division, American Cancer Society Executive Meeting, Reno NV, December 7, 1991
68. American Chemical Society National Meeting, San Diego CA, March 15, 1994 (paper 1)
69. American Chemical Society National Meeting, San Diego CA, March 17, 1994 (paper 2)
70. University of California, Irvine CA, November 2, 1994
71. University of Southern California, Los Angeles CA, November 3, 1994
72. OMCOS, Organometallic Chemistry Directed toward Organic Synthesis, Santa Barbara CA, August 7, 1995
73. Instituto Tecnológico de Tijuana, Tijuana Mexico, September 29, 1995
74. Gordon Conference on Organometallic Chemistry (poster), Newport RI, July 3, 1996
75. University of California, Santa Barbara CA, January 29, 1997
76. California State University, Long Beach CA, February 12, 1997
77. UCSD Departmental Colloquium, San Diego CA, May 28, 1997
78. John Carroll University, Cleveland OH, November 5, 1997
79. Case Western Reserve University, Cleveland OH, November 6, 1997
80. American Chemical Society National Meeting, Dallas Texas, April 2, 1998
81. Joint US-Taiwan Symposium on Organometallic Chemistry, Taipei Taiwan, April 11, 1999
82. Academia Sinica Institute, Taipei Taiwan, April 14, 1999
83. National Tsing Hua University, Hsinchu Taiwan, April 15, 1999

84. California State University, Long Beach CA, February 2, 2000
85. University of Southern California, Los Angeles CA, April 25, 2000
86. Gordon Conference on Organometallic Chemistry (poster), Newport RI, July 31, 2000
87. American Chemical Society National Meeting, Washington D.C., August 22, 2000
88. University of Maryland, College Park Maryland, October 19, 2000
89. University of Virginia, Charlottesville Virginia, October 20, 2000
90. University of California, Santa Cruz CA, November 27, 2000
91. California State University, San Jose CA, November 28, 2000
92. California State University, Northridge CA, April 18, 2001
93. Institute of Continued Learning, Distinguished Lecture Series, UCSD, November 2, 2001
94. Instituto Tecnológico de Tijuana, Tijuana Mexico, February 22, 2002
95. American Chemical Society National Meeting, Boston, MA August 2002
96. University of California, Syncon 2003, Santa Barbara CA, May 17, 2003
97. American Chemical Society National Meeting, Anaheim CA, March 28, 2004 (paper 1)
98. American Chemical Society National Meeting, Anaheim CA, March 30, 2004 (paper 2)
99. University of California, Syncon 2004, Los Angeles CA, May 15, 2004
100. ACS PRF Summer Course on Crystallography for Organic Chemists, San Diego CA, August 2, 2004
101. 11<sup>th</sup> Symposium on the Latest Trends in Organic Synthesis, St. Catharines Ontario, Canada, August 11-14, 2004
102. Instituto Tecnológico de Tijuana V International Symposium, Chemical Research in the Border Region, Tijuana Mexico, September 29, 2004
103. University of Gottingen, Gottingen Germany, April 11, 2005
104. Hannover University, Hannover Germany, April 12, 2005
105. Technical University at Clausthal, Clausthal Germany, April 13, 2005
106. University of Zurich, Zurich Switzerland, April 22, 2005
107. EUCHEM Stereochemistry Conference, Bürgenstock Switzerland, April 17, 2005
108. Technische Universität München, Germany, April 25, 2005
109. University of Erlangen, Erlangen Germany, April 26, 2005
110. Universität Regensburg, Institut für Organische Chemie, Regensburg Germany, April 27, 2005
111. Southwestern College, Chula Vista CA, May 10, 2005
112. University of California, Syncon 2005, La Jolla CA, May 21, 2005
113. National Tsing Hua University, Hsinchu Taiwan, June 1, 2005
114. Academia Sinica Institute, Taipei Taiwan, June 2, 2005
115. National Taiwan University, Taipei Taiwan, June 3, 2005
116. National Central University, Taipei Taiwan, June 6, 2005
117. Shanghai Institute of Organic Chemistry, Shanghai China, June 9, 2005
118. Frontiers of Organic and Bioorganic Chemistry Symposium, Tianjin University, Tianjin China, June 13, 14, 2005
119. Sichuan University, Chengdu China, June 18, 2005
120. Gordon Research Conference on Organometallic Chemistry, Newport RI, July 13, 2005
121. University of Wisconsin, Madison WI, May 18, 2006
122. University of Chicago, Chicago IL, May 19, 2006
123. University of North Carolina, Charlotte NC, Feb 12, 2007
124. Wake Forest University, Wake Forest NC, Feb 14, 2007
125. University of North Carolina, Chapel Hill NC, Feb 15, 2007

126. Indiana University, Bloomington IN, Nov 5, 2007
127. St. Louis University, St. Louis MO, Nov 6, 2007
128. Washington University, St. Louis MO, Nov 8, 2007
129. American Chemical Society UCSD Student Affiliate, La Jolla CA, Feb 13, 2008
130. University of Rennes 1, Rennes France, April 7, 2008
131. École Polytechnique, Paris France, April 8, 2008
132. University of Pierre & Marie Curie, Paris France, April 9, 2008
133. University of Bordeaux, Bordeaux France, April 10, 2008
134. University of California, Syncon 2008, Los Angeles CA, May 12, 2008
135. American Chemical Society Regional Meeting, Las Vegas NV Sept 26, 2008 (paper 1)
136. American Chemical Society Regional Meeting, Las Vegas NV Sept 26, 2008 (paper 2)
137. UCSD Departmental Colloquium, La Jolla CA, June 17, 2009
138. EUCHEM Stereochemistry Conference (poster), Brunnen Switzerland, May 19, 2009
139. California Institute of Technology, Syncon 2010, Pasadena CA, May 22, 2010
140. UCSD Departmental Colloquium, La Jolla CA, June 16, 2010
141. National Science Foundation Socrates Scholars Program, La Jolla CA, July 6, 2010
142. University of Erlangen, Erlangen Germany, May 6, 2011
143. Universität Regensburg, Institut für Organische Chemie, Regensburg Germany, May 9, 2011
144. Institut de Chimie, Université de Neuchâtel, Switzerland, May 11, 2011
145. Department of Organic Chemistry, Université de Genève, Switzerland, May 12, 2011
146. Department of Chemistry, University of Basel, Switzerland, May 13, 2011
147. Institute für Organische Chemie und Biochemie, Albert-Ludwigs-Universität Freiburg Germany, May 16, 2011
148. Institut für Organische Chemie, Karlsruhe Institute of Technology, Karlsruhe, Germany, May 17, 2011
149. Institute of Chemical Sciences and Engineering, Ecole Polytechnique Federale de Lausanne, Switzerland, May 19, 2011
150. Department of Organic and Industrial Chemistry, University of Milan, Milano, Italy, May 20, 2011
151. University of Zurich, Zurich Switzerland, May 24, 2011
152. University of British Columbia, Vancouver BC, Feb 17, 2012
153. University of Montana, Missoula MT, April 16, 2012
154. Montana State University, Bozeman MT, April 18, 2012
155. Institut de Chimie, Université de Neuchâtel, Switzerland, April 24, 2013
156. University of Zurich, Zurich Switzerland, May 21, 2013
157. American Chemical Society National Meeting, Dallas TX, March 18, 2014
158. University of California, Riverside, Syncon 2014, Riverside CA, May 10, 2014
159. University of California, San Diego, Syncon 2015, La Jolla CA, May 2, 2015
160. California State University, San Diego, San Diego CA Oct 16, 2015
161. International Chemical Congress of the Pacific Basin Societies 2015 (Pacifichem), Honolulu, Hawaii December 18, 2015
162. International Chemical Congress of the Pacific Basin Societies 2015 (Pacifichem), Honolulu, HI, December 19, 2015
163. Southwest Medical University, Luzhuo, China, July 25, 2016
164. GAMESS7557 Conference, Lihue, Kauai HA, January 17, 2017
165. Gordon Conference on Metals in Biology, Ventura CA, Jan 22-27, 2017 (poster)

166. Gordon Conference on Organometallic Chemistry, Newport RI, July 9-14, 2017 (poster)
167. American Chemical Society National Meeting, Washington D.C. ORGN-49, August 20, 2017
168. American Chemical Society National Meeting, Washington D.C. ORGN-50, August 20, 2017
169. American Chemical Society National Meeting, Washington D.C. ORGN-361, August 22, 2017
170. American Chemical Society National Meeting, Washington D.C. INORG-726, August 23, 2017
171. American Chemical Society National Meeting, Washington D.C. INORG-727, August 23, 2017
172. American Chemical Society National Meeting, Boston MA, INORG 290, August 20, 2018
173. American Chemical Society National Meeting, Boston MA, INORG 296, August 20, 2018
174. American Chemical Society National Meeting, Boston MA, INORG 590, August 22, 2018
175. Closing Ceremony Address, The 2<sup>nd</sup> Student Innovation and Entrepreneurship Competition in Pharmacy and Traditional Chinese Medicine, Tianjin University, Tianjin China, Oct 19, 2018

## Publications

1. "Synthesis of Electrophilic (Dimethylcarbene) Iron Complexes." Casey, C. P.; Miles, W. H.; Tukada, H.; O'Connor, J. M. *J. Am. Chem. Soc.* **1982**, *104*, 3761-3762.
2. "Some Aspects of Palladium-Catalyzed Reactions of Aryl and Vinyl Halides with Conjugated Dienes in the Presence of Mild Nucleophiles." O'Connor, J. M.; Stallman, B. J.; Clark, W. G.; Shu, A. Y. L.; Spada, R. E.; Stevenson, T. M.; Dieck, H. A. *J. Org. Chem.* **1983**, *48*, 807-809.
3. "Intermediates in the Associative Phosphine Substitution Reaction of ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)Re(CO)<sub>3</sub>." Casey, C. P.; O'Connor, J. M.; Jones, W. D.; Haller, K. J. *Organometallics* **1983**, *2*, 535-538.
4. "Conversion of an  $\eta^5$ -Cyclopentadienyl Ligand into an  $\eta^2$ -(C,O)-Cyclopentadienylidene Ketene Ligand." Casey, C. P.; O'Connor, J. M. *J. Am. Chem. Soc.* **1983**, *105*, 2919-2920.
5. " $\eta^5$ - to  $\eta^1$ - Conversions of Indenyltricarbonylrhenium." Casey, C. P.; O'Connor, J. M. *Organometallics* **1985**, *4*, 384-388.
6. "Interconversions of  $\eta^5$ -C<sub>5</sub>H<sub>5</sub>,  $\eta^1$ -C<sub>5</sub>H<sub>5</sub>, and Ionic  $\eta^0$ -C<sub>5</sub>H<sub>5</sub> Rhenium Compounds--X-ray Crystal Structure of [Re(NO)(CH<sub>3</sub>)(PMe<sub>3</sub>)<sub>4</sub>]<sup>+</sup>[C<sub>5</sub>H<sub>5</sub>]<sup>-</sup>." Casey, C. P.; O'Connor, J. M.; Haller, K. J. *J. Am. Chem. Soc.* **1985**, *105*, 1241-1246.
7. "The Synthesis and Reactions of a Cyclopentadienylidene Ketene Complex." Casey, C. P.; O'Connor, J. M.; Haller, K. J. *J. Am. Chem. Soc.* **1985**, *107*, 3172-3177.
8. "Stepwise Assembly of a Trinuclear Bis(carbyne) Complex from Cyclopentadienylcobalt Units and Bis(trimethylsilyl) Acetylene: Isolation and Conversion of Cp<sub>2</sub>M<sub>2</sub>(RC≡CR) and (CpM)<sub>3</sub>(RC≡CR) [M = Co, R = (CH<sub>3</sub>)<sub>3</sub>Si]." Eaton, B.; O'Connor, J. M.; Vollhardt, K. P. C. *Organometallics* **1986**, *5*, 394-397.

9. "The First Stable Metallacycle-Carbene Complexes: Structural Characterization of  $\text{Ir}(\text{CR}=\text{CRCR}=\text{CR})(\text{PPh}_3)_2(\text{CO})(=\text{C}(\text{CH}_2)_3\text{O})^+\text{BF}_4^-$  R =  $\text{CO}_2\text{CH}_3$ ." O'Connor, J. M.; Pu, L.; Rheingold, A. L. *J. Am. Chem. Soc.* **1987**, *109*, 7578-7579. [DOI: 10.1021/ja00258a079]
10. "Bimetallic  $\mu$ -Malonyl Compounds. Synthesis, Characterization and Reactivity of  $(\eta^5\text{-C}_5\text{Me}_5)\text{Re}(\text{NO})(\text{PPh}_3)(\mu\text{-}\eta^1, \eta^2\text{-COCH}_2\text{CO})\text{M}(\text{CO})_4$  [M = Re, Mn]." O'Connor, J. M.; Uhrhammer, R.; Rheingold, A. L. *Organometallics* **1987**, *6*, 1987-1989.
11. "Ring-Slippage Chemistry of Transition-Metal Cyclopentadienyl and Indenyl Complexes." O'Connor, J. M.; Casey, C. P. *Chem. Rev.* **1987**, *87*, 307-318.
12. "Nucleophilic Cleavage of the  $sp^3$  Carbon-Oxygen Bond in Alkoxy-carbene Complexes: Conversion of 2-Oxacyclopentylidene Ligands to Pyridinium-Substituted Acyl Ligands." O'Connor, J. M.; Pu, L.; Rheingold, A. L. *Organometallics* **1988**, *7*, 2060-2062.
13. "Observation of a Transition Metal Enol Complex and Stereoselective Keto-Enol Tautomerization in Transition Metal Acyl Compounds." O'Connor, J. M.; Uhrhammer, R. *J. Am. Chem. Soc.* **1988**, *110*, 4448-4450.
14. "Thermodynamic Control of Stereochemistry in Alkylation of Chiral Transition-Metal  $\mu$ -Oxoacyl Compounds: Enolization without Epimerization." O'Connor, J. M.; Uhrhammer, R.; Rheingold, A. L. *Organometallics* **1988**, *7*, 2422-2424.
15. "Metal-Mediated Cyclization of Alkynes and Carbenes: A New Route Toward Highly Substituted Cyclopentanoids." O'Connor, J. M.; Pu, L.; Johnson, J. A.; Uhrhammer, R. in *Advances in Metal Carbene Chemistry*, U. Schubert, Ed., Kluwer Academic, Dordrecht, Holland, **1989**, p. 43-46.
16. "A New Mode of Carbene Reactivity: Coupling with Two Alkynes to Generate Highly Substituted Cyclopentadiene Products." O'Connor, J. M.; Pu, L.; Uhrhammer, R.; Johnson, J. A.; Rheingold, A. L. *J. Am. Chem. Soc.* **1989**, *111*, 1889-1891.
17. "Oxidative Coupling of *cis*-Carbene Ligands: Synthesis, Structure, and Reactivity of an Ir(III) Bis(oxacyclopentylidene) Complex." O'Connor, J. M.; Pu, L.; Rheingold, A. L. *J. Am. Chem. Soc.* **1989**, *111*, 4129-4130.
18. "The Crystal and Molecular Structure of  $[\text{P}(\text{CH}_3)(\text{C}_6\text{H}_5)_3]_2\{\text{IPd}[\text{CC}(=\text{O})(\text{OCH}_3)]_4\}_2$ ." Rheingold, A. L.; Baldacchini, C. J.; O'Connor, J. M.; Huong, J. *Acta Cryst.* **1989**, *C45*, 1626-1628.
19. "Selective Oxidation of a Highly Substituted  $\eta^4$ -Cyclopentadiene Cobalt Complex: Partitioning between Uncomplexed Diene and Cobalticinium Cation Products." O'Connor, J. M.; Johnson, J. A. *Synlett* **1989**, *1*, 57-59.
20. "Synthesis and Characterization of a Novel Bimetallic  $\mu$ -Malonyl Complex. The First X-ray Crystal Structure of Alkali Metal Chelation by a Neutral Malonyl Compound." O'Connor, J. M.; Uhrhammer, R.; Rheingold, A. L.; Staley, D. L. *J. Am. Chem. Soc.* **1989**, *111*, 7633-7634.
21. "Synthesis and Structural Characterization of Annelated Carbon Rings Containing a Bridgehead Transition Metal." O'Connor, J. M.; Pu, L.; Chadha, R. *Angew. Chem.* **1990**, *102*, 586; *Angew. Chem. Int. Ed. Engl.* **1990**, *29*, 543-545. [DOI: 10.1002/anie.199005431]
22. "Synthesis, Structure, and Reactivity of Metallacycle-Carbene and -Bis(Carbene) Complexes: A New Intramolecular Carbene-Carbene Coupling Process." O'Connor, J. M.; Pu, L.; Rheingold, A. L. *J. Am. Chem. Soc.* **1990**, *112*, 6232-6247. [DOI: 10.1021/ja00173a010]

23. "Carbene Ligand Insertion into a Metallacycle Ring: A Metallacyclopentadiene to Metallacyclobutene Conversion." O'Connor, J. M.; Pu, L.; Woolard, S.; Chadha, R. K. *J. Am. Chem. Soc.* **1990**, *112*, 6731-6732. [DOI: 10.1021/ja00174a054]
24. "Synthesis and Structural Characterization of Bimetallic  $\mu$ -Malonyl Complexes." O'Connor, J. M.; Uhrhammer, R.; Chadha, R. K.; Rheingold, A. L. *J. Am. Chem. Soc.* **1990**, *112*, 7585-7598.
25. "Surreptitious Involvement of a Metallacycle Substituent in Metal-Mediated Alkyne Cleavage Chemistry." O'Connor, J. M.; Pu, L. *J. Am. Chem. Soc.* **1990**, *112*, 9013-9015.
26. "Metallacycle Annelation: Reaction of a Metallacycle  $\alpha$ -Substituent and a Vinylidene Ligand to give a Metallabicyclic lactone Complex." O'Connor, J. M.; Pu, L.; Chadha, R. K. *J. Am. Chem. Soc.* **1990**, *112*, 9627-9628. [DOI: 10.1021/ja00182a026]
27. "On the Mechanism of a New Metallacycle Annelation Reaction: Evidence for an Intramolecular Methoxy Group Transfer." O'Connor, J. M.; Pu, L.; Rheingold, A. L. *J. Am. Chem. Soc.* **1990**, *112*, 9663-9665. [DOI: 10.1021/ja00182a049]
28. "Keto-Enol Tautomerization in Metal Acyl Complexes: The Enolization Properties of Bimetallic  $\mu$ -Malonyl Compounds." O'Connor, J. M.; Uhrhammer, R.; Rheingold, A. L.; Roddick, D. M. *J. Am. Chem. Soc.* **1991**, *113*, 4530-4544.
29. "Phosphine Induced Cyclopentadienyl Ring Slippage Catalyzes CO Insertion into a Methyl Rhenium Compound to Produce an Acetyl Rhenium Compound." Casey, C. P.; Widenhoefer, R. A.; O'Connor, J. M. *J. Organomet. Chem.* **1992**, *428*, 99-105.
30. "Metal-Catalyzed Decarbonylation of Primary Aldehydes at Room Temperature." O'Connor, J. M.; Ma, J. *J. Org. Chem.* **1992**, *57*, 5075-5077.
31. "Formation of a Stable Metallacyclobutene Complex from  $\alpha$ -Diazocarbonyl and Alkyne Substrates." O'Connor, J. M.; Ji, H.; Iranpour, M.; Rheingold, A. L. *J. Am. Chem. Soc.* **1993**, *115*, 1586-1588.
32. "Conversion of a Metallaenolate Complex to a Bimetallic  $\mu$ -Ketene Complex: Molecular Structure of  $(\eta^5\text{-C}_5\text{H}_5)(\text{NO})(\text{PPh}_3)\text{Re}[\mu\text{-(COCH}_2\text{)-C}^1\text{:C}^2]\text{Re}(\text{CO})_4(\text{PPh}_3)$ ." O'Connor, J. M.; Uhrhammer, R.; Chadha, R. K. *Polyhedron* **1993**, *12*, 527-532.
33. "Reactivity Studies on Bimetallic  $\mu$ -Malonyl Complexes: Cleavage and Alkylation Chemistry of the Malonyl Ligand." O'Connor, J. M.; Uhrhammer, R.; Rheingold, A. L. *J. Organomet. Chem.* **1993**, *455*, 143-156.
34. "A High Yield Conversion of *trans*-Rh(Cl)(CO)(PPh<sub>3</sub>)<sub>2</sub> to Rh(Cl)(PPh<sub>3</sub>)<sub>3</sub>." O'Connor, J. M.; Ma, J. *Inorg. Chem.* **1993**, *32*, 1866-1867.
35. "Late Metal Metallacyclobutene Chemistry: Conversion to  $\eta^4$ -Vinylketene,  $\eta^4$ -Vinylketenimine, and Furan Products." O'Connor, J. M.; Ji, H.; Rheingold, A. L. *J. Am. Chem. Soc.* **1993**, *115*, 9846-9847.
36. "Synthesis and Structural Characterization of a Diiridium  $\mu$ -Acyl Complex." O'Connor, J. M.; Merwin, R.; Rheingold, A. L.; Adams, M. L. *Organometallics* **1995**, *14*, 2102-2105. [DOI: 10.1021/om00004a072]
37. "Propargyl Alcohol as a Precursor to the  $\eta^1$ -Ethenyl Ligand." O'Connor, J. M.; Hiibner, K.; Rheingold, A. L. *J. Chem. Soc., Chem. Commun.* **1995**, 1209-1210.
38. "A New Metal-Mediated Cyclization: Conversion of a Metallacyclobutene and Alkyne Substrates to  $\eta^4$ -Cyclopentadiene Products." O'Connor, J. M.; Fong, B.; Ji, H.-L.; Hiibner, K.; Rheingold, A. L. *J. Am. Chem. Soc.* **1995**, *117*, 8029-8030.

39. "Formal Vinylidene Ligand Insertion into a Metal Halide Bond." O'Connor, J. M.; Hiibner, K.; Merwin, R.; Pu, L.; Rheingold, A. L. *J. Am. Chem. Soc.* **1995**, *117*, 8861-8862. [DOI: 10.1021/ja00139a024]
40. "Low-valent Organorhenium Compounds." O'Connor, J. M. *Comprehensive Organometallic Chemistry II*, **1995**, Vol 6, 167-229.
41. "New Transition Metal Binding Modes For Creatinine: Molecular Structures of [(C<sub>4</sub>R<sub>4</sub>)Ir(C<sub>4</sub>H<sub>7</sub>N<sub>3</sub>O)(PPh<sub>3</sub>)<sub>2</sub>Cl] and [(C<sub>4</sub>R<sub>4</sub>)Ir(C<sub>4</sub>H<sub>7</sub>N<sub>3</sub>O)(PPh<sub>3</sub>)<sub>2</sub>]BF<sub>4</sub>, (R = CO<sub>2</sub>CH<sub>3</sub>)." O'Connor, J. M.; Hiibner, H.; Rheingold, A. L.; Liable-Sands, L. M. *Polyhedron* **1997**, *16*, 2029-2035.
42. "[2+2+1] Alkyne Cyclotrimerizations: A Metallacyclopentadiene Route to Fulvenes." O'Connor, J. M.; Hiibner, K.; Merwin, R.; Gantzel, P.; Rheingold, A. L.; Fong, B. S. *J. Am. Chem. Soc.* **1997**, *119*, 3631-3632. [doi.org/10.1021/ja970007p]
43. "Hexahapto Metal Coordination to Curved Polyaromatic Hydrocarbon Surfaces: The First Transition Metal Corannulene Complex." Seiders, T. J.; Baldrige, K. K.; O'Connor, J. M.; Siegel, J. S. *J. Am. Chem. Soc.* **1997**, *119*, 4781-4782.
44. "Fluoride Induced Isomerization of Cobalt Diene Complexes." O'Connor, J. M.; Chen, M.-C.; Rheingold, A. L. *Tetrahedron Lett.* **1997**, *38*, 5241-5244.
45. "Diazoketones undergo Reaction with a Cobalt Alkyne Complex to give Highly Functionalized Conjugated Dienes." O'Connor, J. M.; Chen, M.-C.; Frohn, M.; Rheingold, A. L.; Guzei, I. A. *Organometallics* **1997**, *16*, 5589-5591.
46. "Conversion of a Metallacyclobutene to Cobalt-Allene Complexes." O'Connor, J. M.; Chen, M.-C.; Fong, B. S.; Wenzel, A.; Gantzel, P.; Rheingold, A. L.; Guzei, I. A. *J. Am. Chem. Soc.* **1998**, *120*, 1100-1101.
47. "Electrochemistry Studies of a Metallacyclobutene Complex: Synthesis of a Furan Product by Oxidation of a Cobaltacyclobutene." Donovan-Merkert, B. T.; Malik, J.; Gray, L. V.; O'Connor, J. M.; Fong, B. S.; Chen, M.-C. *Organometallics*, **1998**, *17*, 1007-1009.
48. "Envelope-Flip Dynamics in CpCo(diene) Complexes: An ab Initio Quantum Mechanical Study." Baldrige, K. K.; O'Connor, J. M.; Chen, M.-C.; Siegel, J. S. *J. Phys. Chem. A* **1999**, *103*, 10126-10131.
49. "Inhibition and Acceleration of the Bergman Cycloaromatization Reaction by Pentamethylcyclopentadienyl Ruthenium Cation." O'Connor, J. M.; Lee, L. I.; Gantzel, P.; Rheingold, A. L.; Lam, K. C. *J. Am. Chem. Soc.* **2000**, *122*, 12057-12058.
50. "Synthesis and Solid State Characterization of a Meridional Triphos Iridium Metallacycle-Carbene Complex: [{Ph<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>]<sub>2</sub>PPh}Ir(CR=CR=CR){=C(CH<sub>2</sub>)<sub>3</sub>O}][BF<sub>4</sub>] (R = CO<sub>2</sub>Me)." O'Connor, J. M.; Hiibner, K.; Closson, A.; Gantzel, P. *Organometallics* **2001**, *20*, 1482-1485. [doi.org/10.1021/om000848w]
51. "Product Class 6: Organometallic Complexes of Iridium." O'Connor, J. M. *Science of Synthesis* **2001**, *7*, 617-744.
52. "Iridacyclopentadiene Reactions with Terminal Alkynes: Tandem Cycloaromatization and Ortho-Metalation." O'Connor, J. M.; Closson, A.; Hiibner, K.; Merwin, R.; Gantzel, P.; Roddick, D. M. *Organometallics* **2001**, *20*, 3710-3717. [DOI: 10.1021/om0102450]
53. "Hydrotris(pyrazolyl)borate (Tp) Metallacycles: Conversion of a Late-Metal Metallacyclopentene to a Stable Metallacyclopentadiene-Alkene Complex." O'Connor, J. M.; Closson, A.; Gantzel, P. *J. Am. Chem. Soc.* **2002**, *124*, 2434-2435. [doi.org/10.1021/ja0255296]

54. "Ruthenium-Mediated Cycloaromatization of Acyclic Enediynes and Dienynes at Ambient Temperature." O'Connor, J. M.; Friese, S. J.; Tichenor, M. *J. Am. Chem. Soc.* **2002**, *124*, 3506-3507.
55. "Ring-Strain Effects on the Oxidation Potential of Enediynes and Enediyne Complexes." Baldrige, K. K.; Donovan-Merkert, B. T.; O'Connor, J. M.; Lee, L. I.; Closson, A.; Fandrick, D.; Tran, T.; Bunker, K.; Fouzi, M.; Gantzel, P. *Org. Biomol. Chem.* **2003**, *1*, 763-766.
56. "Thermolysis of  $[(\eta^5\text{-C}_5\text{H}_5)\text{Co}(\text{PPh}_3)(\eta^2\text{-DMAD})]$  Revisited: A Solid State Analysis Reveals the True Structure of the Triphenylphosphine-Alkyne Coupling Product." O'Connor, J. M.; Bunker, K. D. *J. Organomet. Chem.* **2003**, *671*, 1-7.
57. "Conversion of  $[(\eta^5\text{-C}_5\text{H}_5)\text{Co}(\text{PPh}_3)_2]$  and Nitro Compounds to Mononuclear  $\eta^1\text{-}(N)$ -Nitrosoalkyl and Dinuclear  $\mu\text{-}[\eta^1\text{-}(N), \eta^2\text{-}(N,O)]$ -Nitrosoaryl Complexes." O'Connor, J. M.; Bunker, K. D. *Organometallics* **2003**, *22*, 5268-5273.
58. "Ring Selectivity and Migratory Aptitude of  $\text{Cp}^*\text{Ru}^+$  Complexation to Acecorannulene." Seiders, T. J.; Baldrige, K. K.; O'Connor, J. M.; Siegel, J. S. *Chem. Commun.* **2004**, 950-952.
59. "Sulfoxide Carbon-Sulfur Bond Activation." O'Connor, J. M.; Bunker, K. D.; Rheingold, A. L.; Zakharov, L. *J. Am. Chem. Soc.* **2005**, *127*, 4180-4181.
60. "An  $\eta^6$ -Dienyne Transition-Metal Complex." O'Connor, J. M.; Friese, S. J.; Rodgers, B. L.; Rheingold, A. L.; Sakharov, L. *J. Am. Chem. Soc.* **2005**, *127*, 9346-9347.
61. "Modern Rhodium-Catalyzed Organic Reactions Edited by P. Andrew Evans (Indiana University)", Wiley-VCH Verlag GmbH & Co. KGaA: Weinheim. 2005. Xxiv + 474 pp. (Book Review) O'Connor, J. M. *J. Am. Chem. Soc.* **2005**, *127*, 15659-15660.
62. "A Transition-Metal-Catalyzed Enediyne Cycloaromatization." O'Connor, J. M.; Friese, S. J.; Rodgers, B. L. *J. Am. Chem. Soc.* **2005**, *127*, 16342-16343.
63. "Bioorganometallics: Biomolecules, Labeling, Medicine Edited by Gerard Jaouen (Ecole Nationale Supérieure de Chimie de Paris)." Wiley-CVH Verlag GmbH & Co. KGaA: Weinheim. 2006. xxii + 444 pp. ISBN 3-527-30990-X. (Book Review) O'Connor, J. M. *J. Am. Chem. Soc.* **2006**, *127*, 9980.
64. "Nucleophilic Addition to a *p*-Benzyne Derived from an Enediyne: A New Mechanism for Halide Incorporation into Biomolecules." Perrin, C. L.; Rodgers, B. L.; O'Connor, J. M. *J. Am. Chem. Soc.* **2007**, *129*, 4795-4799.
65. "Charge-Separation in Reactive Uranium Diazomethane Complexes Leading to C-H Activation and Chemical Transformation." Lam, O. P.; Feng, P. L.; Heinemann, F.; O'Connor, J. M.; Meyer, K. *J. Am. Chem. Soc.* **2008**, *130*, 2806-2816.
66. "Iridium(III) Vinylidene Chemistry: Conversion of an Iridacyclopentadiene-Chlorido Complex and Terminal Alkynes to Iridacyclopentadiene-Vinyl Complexes." O'Connor, J. M.; Wenzel, A. G.; Hiibner, K. *Inorg. Chim. Acta* **2008**, *361*, 3033-3041 (invited manuscript for special issue honoring Prof. Robert Angelici).
67. "Structural and Spectroscopic Characterization of a Charge-Separated Uranium Benzophenone Ketyl Radical Complex." Lam, O. P.; Anthon, C.; Heinemann, F. W.; O'Connor, J. M.; Meyer, K. *J. Am. Chem. Soc.* **2008**, *130*, 6567-6576.
68. "Transition-Metal Hydrides as Hydrogen-Atom Donors: Stronger Metal-Hydrogen Bonds can be Advantageous." O'Connor, J. M.; Friese, S. J. *Organometallics* **2008**, *27*, 4280-1281.

69. "Reactions of a Metallacyclobutene Complex with Alkenes." Holland, R. L.; Bunker, K. D.; Chen, C. H.; DiPasquale, A. G.; Rheingold, A. L.; Baldrige, K. K.; O'Connor, J. M. *J. Am. Chem. Soc.* **2008**, *130*, 10093-10095.
70. "Nitroso Compounds Serve as Precursors to Late-Metal  $\eta^2$ -(N,O)-Hydroxylamido Complexes." Holland, R. L.; O'Connor, J. M. *Organometallics* **2009**, *28*, 394-396.
71. "The Isolation of a Large Cyclopentadienylcobaltsulfide Cluster. The Synthesis and Crystal Structure of Octahedral *closo*-( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>Co)<sub>5</sub>S." Holland, R. L.; O'Connor, J. M.; Rheingold, A. L. *J. Cluster Sci.* **2009**, *20*, 261-265.
72. "A Photochemical Metallocene Route to Anionic Eneidyne: Synthesis, Solid-state Structures, and ab Initio Computations on Cyclopentadienoenediynes." O'Connor, J. M.; Baldrige, K. K.; Rodgers, B. L.; Aubrey, M.; Holland, R. L.; Kassel, W. S.; Rheingold, A. L. *J. Am. Chem. Soc.* **2010**, *132*, 11030-11032.
73. "Synthesis and solid-state structures of (triphos)iridacyclopentadiene complexes as models for vinylidene intermediates in the [2+2+1] cyclotrimerization of alkynes." O'Connor, J. M.; Closson, A. P.; Holland, R. L.; Vélez, C. L.; Cope, S. K.; Moore, C. E.; Gantzel, P.; and Rheingold, A. L. *Inorg. Chim. Acta* **2010**, *364*, 220-225. Invited manuscript for special issue honoring Prof. A. L. Rheingold. [DOI: 10.1016/j.ica.2010.07.052]
74. "Cobalt 1,3-Diisopropyl-1H-imidazol-2-ylidene Complexes: Synthesis, Solid-state Structures, and Quantum Chemistry Calculations." Vélez, C. L.; Markwick, P. R. L.; Holland, R. L.; DiPasquale, A.; Rheingold, A. L.; O'Connor, J. M. *Organometallics* **2010**, *29*, 6695-6702.
75. "Protonation of Cobalt-Allene Constitutional Isomers: Highly Selective Formation of Cobalt-Allyl and Cobaltafuran Complexes." O'Connor, J. M.; Chen, M.-C.; Holland, R. L. *Organometallics* **2010**, *29*, 6161-6164.
76. "NMR Cyberinfrastructure: Web-based Virtual File System for Managing Distributed NMR Data." Youn, C.; Baru, C.; Mrse, A.; O'Connor, J. M. 2010 Gateway Computing Environments Workshop (GCE), 2010, Nov 14, 1-6.
77. "Addition of Dissimilar Carbenes Across an Unsymmetrically Substituted Alkyne: Regio- and Stereoselective Synthesis of Trisubstituted 1,3-Dienes." O'Connor, J. M.; Chen, M.-C.; Holland, R. L.; Rheingold, A. L. *Organometallics* **2011**, *30*, 369-371.
78. "Acceleration of Conjugated Dienyne Cycloaromatization." Hitt, D. M.; O'Connor, J. M. *Chem. Rev.* **2011**, *111*, 7876-7903.
79. "Chemistry at the Alkyne – Carbene Intersection: A Metallacyclobutene –  $\eta^3$ -Vinylcarbene Equilibration." O'Connor, J. M.; Baldrige, K. K.; Vélez, C. L.; Rheingold, A. L.; Moore, C. E. *J. Am. Chem. Soc.* **2013**, *135*, 8826-8830.
80. "Structural Characterization of (C<sub>5</sub>H<sub>5</sub>)Co(PPh<sub>3</sub>)( $\eta^2$ -alkyne) and (C<sub>5</sub>H<sub>5</sub>)Co( $\eta^2$ -alkyne) Complexes of Highly Polarized Alkynes." Baldrige, K. K., Bunker, K. D.; Vélez, C. L.; Holland, R. L.; Rheingold, A. L.; Moore, C. E.; O'Connor, J. M. *Organometallics* **2013**, *32*, 5471-5480.
81. "Synthesis of the Cobalt-alkyne Complex (C<sub>5</sub>H<sub>5</sub>)Co(PPh<sub>3</sub>){ $\eta^2$ -(TMS)C≡C(CO<sub>2</sub>Et)} and Structural Characterization of Trimethylsilyl Substituted Cobaltacyclopentadiene Complexes derived therefrom." Bunker, K. D.; Rheingold, A. L.; Moore, C. E.; Aubrey, M.; O'Connor, J. M. *J. Organometal. Chem.* **2014**, *749*, 100-105.
82. "Structure and Dynamics in Unsymmetrically Substituted Five-Coordinate Iridacyclopentadiene Complexes." Baldrige, K. K.; Siegel, J. S.; O'Connor, J. M. *J.*

- Phys. Org. Chem.* **2015**, 28, 199-202. Invited manuscript for special issue honoring Prof. C. L. Perrin. [DOI: 10.1002/poc.3356]
83. "Stereospecific Oxidative Demetallation of Highly Functionalized CpCo(1,3-Diene) Complexes: An Experimental and Computational Study." Holland, R. L.; O'Connor, J. M.; Bunker, K. D.; Qin, P.; Cope, S. K.; Baldrige, K. K.; Siegel, J. S. *Synlett* **2015**, 26, 2243-2246 (invited manuscript for special issue honoring Prof. K. Peter C. Vollhardt).
  84. "Photoactivated Transition-Metal Triggers for Ambient Temperature Eneidyne and Dienyne Cyclization: Ruthenium- $\eta^6$ -Naphthalene Complexes." Qin, P.; Cope, S. K.; Steger, H.; Veccharelli, K. M.; Holland, R. L.; Hitt, D. M.; Moore, C. E.; Baldrige, K. K.; O'Connor, J. M. *Organometallics* **2017**, 36, 3967-3973. [DOI: 10.1021/acs.organomet.7b00589]
  85. "Stereoselective Formation of  $\eta^6$ -Arene Ruthenium(II) Complexes via Metal-Triggered Bergman and Hopf Cyclizations." Hitt, D. M.; Holland, R. L.; Baldrige, K. K.; Cope, S. K.; O'Connor, J. M. *Organometallics* **2017** 36, 4256-4267. [DOI: 10.1021/acs.organomet.7b00679]
  86. "Triple Carbon – Fluorine Bond Activation for Modification of Metal Ligands: Synthesis of the First  $\eta^5$ -C<sub>5</sub>Me<sub>4</sub>(CHPh)<sub>2</sub> Complex." O'Connor, J. M.; Baldrige, K. K.; Cope, S. K.; Holland, R. L. *Polyhedron* **2019**, 157, 406-409. Invited manuscript in honor of Prof. William Jones. [doi.org/10.1016/j.poly.2018.10.026]
  87. "Metal-Alkyne and Metallacyclobutene Reactivity toward a Diazoacetamide: Conversion to Highly Functionalized 1,3-Diene Complexes and Oxametallacyclopentadienes." Qin, P.; Holland, R. L.; Moore, C. E.; O'Connor, J. M. *Organometallics* **2019**, 38, 863-869. [DOI: 10.1021/acs.organomet.8b00838].
  88. "Acid – Induced Liberation of Polysubstituted Cyclopentadiene Ligands from Cyclopentadienyl Cobalt: A [2 + 2 + 1] Cycloaddition Route Toward 1,2,4-Trisubstituted Cyclopentadienes." Qin, P. Holland, R. L.; Bunker, K. D.; O'Connor, J. M.; Baldrige, K. K.; Rheingold, A. L. *J. Org. Chem.* **2019**, 84, asap. [DOI: 10.1021/acs.joc.9b02182].
  89. "Ambient Temperature Aitken Cycloaromatization of Dienynes: Partitioning Between Hopf and Aitken Pathways." Hitt, D. M.; Qin, P.; Steger, H.; Baldrige, K. K.; Rheingold, A. L.; O'Connor, J. M. *J. Am. Chem. Soc.* **2019**, manuscript in preparation.
  90. "A Chloroform – 1,4-Cyclohexadiene Radical Chain Mechanism for Generation of HCl: Eneidyne Cycloaromatization with Incorporation of Chlorine from Chloroform and Hydrogen from 1,4-Cyclohexadiene." Qin, P.; O'Connor, J. M.; Baldrige, K. K.; Perrin C. P.; Hitt, D. M.; Cope, S. K.; Veccharelli, K. M.; Holland, R. L.; Raub, A. G.; Rheingold, A. L.; **2019**, manuscript in preparation.
  91. "Catalysis of Triene  $6\pi$  Electrocyclization by Metal- $\pi$ -complexation." Qin, P.; Wang, L-A.; O'Connor, J. M.; Baldrige, K. K.; Li, Y.; Tufekci, B.; Chen, J.; Rheingold, A. L. *Nat. Chem.* **2019**, manuscript to be submitted.
  92. "Chemoselective ruthenium-accelerated cycloisomerization of conjugated dienynes." Qin, P.; Steger, H.; O'Connor, J. M.; Baldrige, K. K.; Cope, S. K. *Chem. Sci.* **2019**, manuscript in preparation.
  93. "Late Transition-Metal Metallacyclobutenes from the Reaction of Metal-Alkyne Complexes with  $\alpha$ -Diazocarbonyl compounds." Qin, P.; Holland, R. L.; Bunker, K. D.; Vélez, C. L.; Chen M.-C.; Rheingold, A. L.; Moore, C. E.; O'Connor, J. M.; Baldrige, K. K. **2019**, manuscript in preparation.