

Robert M. Waymouth

Department of Chemistry, Stanford University, Stanford, CA 94305

Ph: (650) 723-4515; FAX: (650) 725-0259

Email: waymouth@stanford.edu website: <http://waymouthlab.stanford.edu>

Personal Data

Birth: May 20, 1960, Warner Robins, Ga.

Education

1987 Ph.D., Chemistry, California Institute of Technology, Pasadena, CA

Research Advisor: Professor R.H. Grubbs

1982 B.A., Chemistry, Summa Cum Laude, Washington and Lee University, Lexington, VA

B.S., Mathematics, Summa Cum Laude, Washington and Lee University, Lexington, VA

Research Advisor: Professor J.K. Shillington

Professional

2014 Professor, by Courtesy, Chemical Engineering, Stanford University, Stanford CA

2000- Robert Eckles Swain Professor of Chemistry, Stanford, CA

1997- Professor, Stanford University, Stanford, CA

1994-97 Associate Professor, Stanford University, Stanford, CA

1988-94 Assistant Professor, Stanford University, Stanford, CA

1987 Postdoctoral Research Fellow, Institut fur Polymere, ETH Zurich, Switzerland

Research Advisor: Professor Piero Pino

Fellowships and Awards

2015 Butler Lectureship, University of Florida

2012 Presidential Green Chemistry Challenge Award, with James L. Hedrick of IBM (EPA)

2009 Cooperative Research Award in Polymer Science and Engineering
with James L. Hedrick of IBM (ACS PMSE Division)

2005 Bass University Fellow in Undergraduate Education, Stanford

2001 Alexander von Humboldt Senior Scientist Award

1997 Wilhelm Manchot Professorship, Technical University of Munich

1997 Walter J. Gores Award for Excellence in Teaching, Stanford

1996 Alan T. Waterman Award, National Science Foundation

1995 Fresenius Award, Phi Lambda Upsilon, Honorary Chemical Society

1995 Arthur C. Cope Scholar Award, American Chemical Society

1994 Bing Fellowship, Undergraduate Teaching Award, Stanford

1993 Phi Beta Kappa Undergraduate Teaching Award, Stanford

1993 Alfred P. Sloan Fellowship, A. P. Sloan Foundation

1993 Union Carbide Innovation Recognition Awardee, Union Carbide

1992 National Science Foundation Young Investigator Award, NSF

1989 Exxon Educational Foundation, Research and Training Award, Stanford

1986 SOHIO Fellowship in Catalysis, California Institute of Technology

1985 W.R. Grace Fellowship, California Institute of Technology

1982 James L. Howe Chemistry Award, Blue Ridge ACS Section

1980 Taylor Scholarship in Mathematics, Phi Beta Kappa

Professional Activities

Science Advisory Board: KAUST Catalysis Center; Science Advisory Board: Washington and Lee University, International Advisory Board, International Symposium on Homogeneous Catalysis, Editorial Board: Journal of Polymer Science, Chemistry; Co-Chair: Stanford Task Force on Advancing the Culture of Laboratory Safety

Publications

1. Waymouth, R.M.; Santarsiero, B.D.; Grubbs, R.H. "Trigonal Bipyramidal Methyl Group Between Two Zirconocene Ketene Centers" *J. Am. Chem. Soc.* **1984**, *106*, 4050-4051.
2. Waymouth, R.M.; Santarsiero, B.D.; Coots, R.J.; Brownikowski, M.J.; Grubbs, R.H. "Trinuclear Zr₂Al μ -Ketene Complexes Containing Bridging Ligands. Implications for Transmetallation Reactions and CO Reduction Chemistry" *J. Am. Chem. Soc.* **1986**, *108*, 1427-1441.
3. Waymouth, R.M.; Clauser, K.R.; Grubbs, R.H. "Reactivity of Group 4 Acyl Complexes: Synthesis of Zirconium Ketone Complexes" *J. Am. Chem. Soc.* **1986**, *108*, 6385-6387.
4. Waymouth, R.M., Bangerter, F.; Pino, P. "Stereochemistry of PtO₂-Catalyzed Hydrogenation of [Ethylene-bis(indenyl)] zirconocene Dichlorides" *Inorg. Chem.* **1988**, *27*, 758.
5. Waymouth, R.M., Grubbs, R.H. "Facile Intramolecular Coupling of Alkyl and Acyl Ligands Induced by Lewis Acids: Mechanistic Studies on the Formation of Zirconium Ketone Complexes" *Organometallics* **1988**, *7*, 1631-1635.
6. Consiglio, G.; Waymouth, R. "Enantioselective Homogeneous Catalysis Involving Transition Metal Allyl Intermediates" *Chem. Rev.* **1989**, *89*, 257.
7. Waymouth, R.M.; Potter, K.S.; Schaefer, W.P.; Grubbs, R.H. "Structure of a Trinuclear Zr₂Al μ -Ketone Complex with a Bridging Trigonal Bipyramidal Methyl Group", *Organometallics*, **1990**, *9*, 2843.
8. Waymouth, R.M.; Pino, P. "Enantioselective Hydrogenation of Olefins with Homogeneous Ziegler-Natta Catalytic Systems", *J. Am. Chem. Soc.*, **1990**, *112*, 4911.
9. Resconi, L.; Waymouth, R.M. "Diastereoselectivity in the Cyclopolymerization of 1,5-Hexadiene." *J. Am. Chem. Soc.*, **1990**, *112*, 4953.
10. Resconi, L.; Coates, G.; Mogstad, A.; Waymouth, R.M. "Stereospecific Cyclopolymerization with Group 4 Metallocenes" *J. Macromol. Sci., Chem.* **1991**, *A28*, 1225-1234.
11. Knight, K.; Waymouth, R.M. "Zirconium Catalyzed Diene and Alkyl-Alkene Coupling Reactions with Magnesium Reagents" *J. Am. Chem. Soc.* **1991**, *113*, 6268-6270.
12. Coates, G.W.; Waymouth, R.M. "Enantioselective Cyclopolymerization of 1,5-Hexadiene: Optically Active Poly(methylene-1,3-cyclopentane)" *J. Am. Chem. Soc.* **1991**, *113*, 6270-6272.
13. Kesti, M.J.; Waymouth, R.M. "Olefin Hydrosilation Catalyzed by Zirconocene Complexes" *J. Organomet. Chem.*, **1991**, *417*, C12-C15.
14. Banovetz, J.P.; Stein, K. M.; Waymouth, R.M. "Stereoselectivity in the Catalytic Oligomerization of Phenylsilane" *Organometallics*, **1991**, *10*, 3430-3432.
15. Kesti, M. R.; Waymouth, R.M. "Group 4 Metallocene Olefin Hydrosilation Catalysts" *Organometallics*, **1992**, *11*, 1095-1103.
16. Mogstad, A.; Waymouth, R.M. "Chain Transfer to Aluminum in the Homogeneous Cyclopolymerization of 1,5-Hexadiene" *Macromolecules*, **1992**, *25*, 2282-2284.
17. Kesti, M.R.; Waymouth, R.M. "Highly Chemo- and Stereoselective Cyclopolymerization of 2-Methyl-1,5-Hexadiene: Chain Transfer via β -CH₃ elimination", *J. Am. Chem. Soc.*, **1992**, *114*, 3565-3566.
18. Kesti, M. R.; Coates, G.W.; Waymouth, R.M. "Homogeneous Ziegler-Natta Polymerization of Functionalized Monomers Catalyzed by Cationic Group IV Metallocenes" *J. Am. Chem. Soc.*, **1992**, *114*, 9679-9680.
19. Coates, G. W.; Waymouth, R.M. "Chiral Polymers via Cyclopolymerization" *J. Mol. Catal.*, **1992**, *76*, 189-194.
20. Wischmeyer, U.; Knight, K.S.; Waymouth, R.M. "Stereoselective Cyclomagnesiumation of 1,6-Heptadienes Catalyzed by Zirconocenes: Effects of Substituents, Solvent and Magnesium Reagent" *Tetrahedron Letters*, **1992**, *33*, 7735-7738.

21. Coates, G.W.; Waymouth, R. M. "Enantioselective Cyclopolymerization of 1,5-Hexadiene Catalyzed by Chiral Zirconocenes: A Novel Strategy for the Synthesis of Optically Active Polymers with Chirality in the Main Chain." *J. Am. Chem. Soc.*, **1993**, *115*, 91-98.
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23. Bovino, S.C.; Coates, G.W.; Banovetz, J.P.; Waymouth, R.M.; Straus, D.A.; Ziller, J.W. "Crystal Structures of $(\eta^5\text{-C}_5\text{Me}_5)(\eta^5\text{-2,4-C}_7\text{H}_{11})\text{Cr}$ and $(\eta^5\text{-C}_5\text{Me}_5)(\eta^5\text{-2,4-C}_7\text{H}_{11})\text{CrCO}$. An example of "S" 2,4-Dimethylpentadienyl Ligand Geometry." *Inorg. Chim. Acta*, **1993**, *203*, 179-183.
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27. Mogstad, A.; Waymouth, R.M. "Synthesis of Diblock Polyolefin and Polyester Copolymers Using Zirconium and Aluminum Catalysts" *Macromolecules* **1994**, *27*, 2313-2315.
28. Knight, K.S.; Waymouth, R.M. "Stereoselective Cyclization via Zirconocene-Catalyzed Intramolecular Olefin Allylation" *Organometallics*, **1994**, *13*, 2575-2577.
29. Hsiao, Y.-L.; Waymouth, R.M. "Free-Radical Hydrosilylation of Poly(phenylsilane): Synthesis of Functionalized Polysilanes", *J. Am. Chem. Soc.*, **1994**, *116*, 9779-9780.
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- S.A.; Iwayanagi, T.; Nishikubo, T; Eds.; ACS Symposium Series 614; American Chemical Society; Washington DC, **1995**, Chapter 23, p. 355-366.
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