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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

- 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 für 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; International Advisory Board, International Symposium on Homogeneous Catalysis, Department Advisory Council, City University of Hong Kong; 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.; Coats, R.J.; Brownikowski, M.J.; Grubbs, R.H. "Trinuclear Zr₂Al μ -Ketene Complexes Containing Bridging Ligands. Implications for Transmetalation 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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28. Knight, K.S.; Waymouth, R.M. "Stereoselective Cyclization via Zirconocene-Catalyzed Intramolecular Olefin Allylation" *Organometallics*, **1994**, *13*, 2575-2577.
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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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