

Paramagnetic Organometallics of Chromium: Structure, reactivity & catalysis

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Paramagnetic Organometallics of Chromium – Structure, Reactivity and Catalysis

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Chromium catalysts are widely used in the polymerization and selective oligomerization of ethylene. The mechanistic details of these reactions are not always well understood and thus an investigation of relevant homogeneous model compounds is informative. While the active oxidation state for polymerization is likely Cr(III), low-valent Cr(I) complexes catalyze the trimerization of ethylene. Potential intermediates, such as mono- and di-nuclear metallacycles have been prepared and their structures and reactivities examined. If nothing else, this seminar will show that there is interesting organometallic chemistry beyond diamagnetic 18-electron compounds.

EDUCATION

University of California, Berkeley; Berkeley, CA, Ph.D. (Inorganic Chemistry), 1982; Thesis Advisor: Prof. R. G. Bergman.
Universität Hamburg; Hamburg, Germany; Vordiplom, May 1977.

PROFESSIONAL EXPERIENCE

Chair, Dept of Chemistry and Biochemistry, University of Delaware, 2007 - 2012
Visiting Scientist, Dept. of Chemistry University of British Columbia, 2001
Associate Director, Center for Catalytic Science and Technology, 1996
Acting Chairman, Dept. of Chemistry and Biochemistry, University of Delaware, 1996
Professor of Chemistry, University of Delaware, 1995 - present
Visiting Scientist, Inorganic Chemistry Laboratory, Oxford University, 1994
Joint appointment in Dept. of Chemical Eng., 1993
Associate Professor, University of Delaware, 1990 - 1995
Assistant Professor, Cornell University, 1983 - 1990
Postdoctoral Associate with Prof. R. R. Schrock, MIT, 1982 - 1983



AWARDS & HONORS

JSPS Invitation Fellowship, Japan Society for the Promotion of Science, 2004
AAAS Fellow, American Assoc. for the Advancement of Science, 1995
Alfred P. Sloan Research Fellow, Alfred P. Sloan Foundation, 1992
Presidential Young Investigator, National Science Foundation, 1985
Award for Newly Appointed Young Faculty in Chemistry, Dreyfus Foundation, 1983
Du Pont Young Faculty Grant, 1983
D. O. Sumek Scholarship and Stanley M. Tasheira Scholarship, UC Berkeley, 1981
Ephraim Weiss Scholarship, UC Berkeley, 1980