

cyclopolymerization of dipropargyl derivatives described above.

We are in the process of writing a large paper on the synthesis of "hybrid" polyacetylenes, random or block copolymers that contain unsubstituted polyene sequences as well as sequences made from diethyl dipropargyl malonate. Such polymers are still soluble and currently are being examined in terms of γ in solution.

In the coming year there is a good possibility that a collaboration to measure nonlinear effects will open up here at MIT. In that case we expect evaluations to proceed much more quickly. One important new direction in the next year will be the preparation of polyenes that contain silver clusters in order to determine the magnitude of the expected "nanocluster enhancement" of γ , a result that can now be anticipated because of the success of the ROMP technology for making polyenes with well-characterized catalysts.

Publications appearing in the last year.

225. "Living Cyclopolymerization of Diethyl Dipropargylmalonate by $\text{Mo}(\text{CH-t-Bu})(\text{NAr})[\text{OCMe}(\text{CF}_3)_2]_2$ in Dimethoxyethane"
Fox, H. H.; Schrock, R. R. *Organometallics* **1992**, *11*, 2763-2765.
229. "Linear Optical Properties of a Series of Linear Polyenes: Implications for Polyacetylene"
Chance, R. R.; Schaffer, H.; Knoll, K.; Schrock, R.; Silbey, R. *Synth. Met.* **1992**, *49-50*, 271.
233. "The Effect of Chain Length on the Conductivity of Polyacetylene. Potential Dependence of the Conductivity of a Series of Polyenes Prepared by a Living Polymerization Method"
Park, L. Y.; Ofer, D.; Schrock, R. R.; Wrighton, M. S. *Chem. Mater.* **1992**, *4*, 1388.
236. "Nonlinear Optical Analysis of a Series of Triblock Copolymers Containing Model Polyenes; The Dependence of Hyperpolarizability on Conjugation Length"
Craig, G. S. W.; Cohen, R. E.; Schrock, R. R.; Silbey, R. J.; Puccetti, G.; Ledoux, I.; Zyss, J. *J. Am. Chem. Soc.* **1993**, *115*, 860.
240. "The Synthesis of Five- and Six-Coordinate Alkylidene Complexes of the Type $\text{Mo}(\text{CHR})(\text{NAr})[\text{OCMe}(\text{CF}_3)_2]_2\text{S}_x$ and Their Use as Living ROMP Initiators or Wittig Reagents"
Fox, H. H.; J.-K. Lee; Park, L. Y.; Schrock, R. R. *Organometallics* **1993**, *12*, 759.