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**Catalysts from Self-Assembled Organometallic Block Copolymers**
DAVID DURKEE, Univ. of California-Berkeley, MARK ELLSWORTH, Tyco Electronics, NITASH BALSARA, Univ. of California-Berkeley — Heterogeneous catalysts were prepared by crosslinking the polyisoprene block of a microphase separated poly(vinyl ferrocenium triflate-*block*-isoprene) copolymer. The poly(vinyl ferrocenium triflate) moieties are responsible for catalytic activity while the polyisoprene block provides the support structure. The efficacy of the catalyst was analyzed by studying the Michael addition of ethyl-2-oxycyclopentane carboxylate and methyl vinyl ketone. The materials were studied via Transmission Electron Microscopy and the reaction rates were monitored by NMR spectroscopy. The activities obtained with our self-assembled heterogeneous catalyst were within experimental error of the rate of monomeric ferrocenium triflate as well as other homogeneous catalyst analogues. Our method for synthesizing catalysts is unique because the structures of both the support and active sites are controlled by molecular self-assembly.

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