

## Publication Abstracts – Materials & Membrane Development

**Pinnau, A. Morisato and Z. He, "Influence of Side-Chain Length on the Gas Permeation Properties of Poly(2-Alkyl Acetylenes)," *Macromolecules* 37, (2004) 2823-2828.**

This paper reports on the influence of the side-chain length on the pure- and mixed-gas permeation properties for a series of systematically modified poly(2-alkylacetylenes). Gas permeability increased by increasing the (i) side-chain length of the polymers and (ii) size and condensability of the penetrants. As the fractional free volume decreases with increased side-chain length, the permeability increases. This behavior is opposite to that observed in polyacetylenes containing terminal bulky side-group substituents.