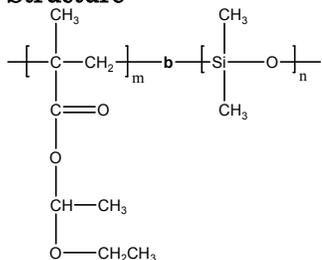


Sample Name: Poly(dimethyl siloxane-b-ethoxy ethyl methacrylate)

Sample # P5726-DMSEtOEtMA

Structure:



Composition:

| | |
|---------------------------------------|-------------|
| Mn x 10 ³ DMS-b-EtOEtMA | Mw/Mn (PDI) |
| 5.0-b-0.50 | 1.15 |

Synthesis Procedure:

Poly(dimethylsiloxane-b-ethoxy ethyl methacrylate) is prepared by living anionic polymerization of hexamethyl cyclotrisiloxane followed by controlled radical polymerization of 1-ethoxyethyl methacrylate. The reaction scheme is illustrated below:

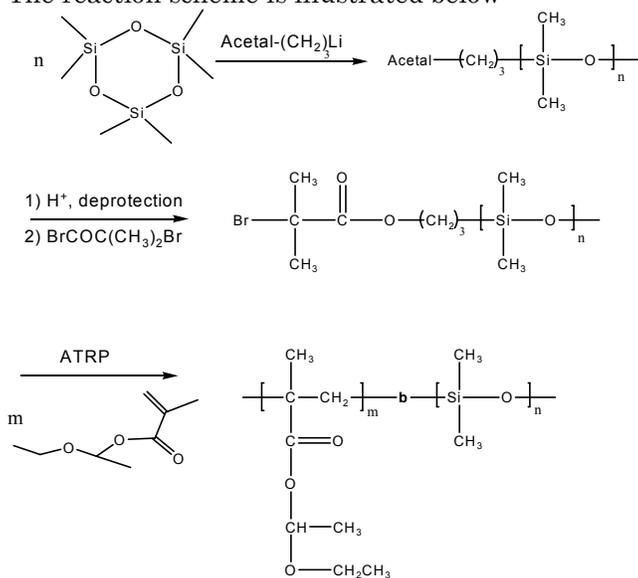
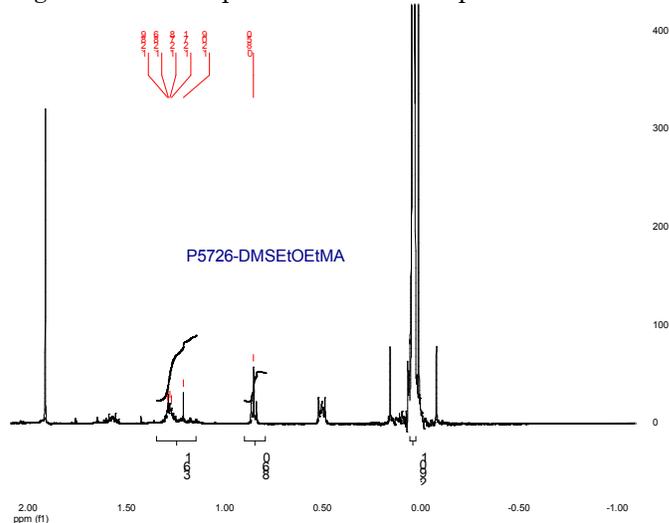


Figure: ¹H NMR spectrum of the sample



Characterization:

An aliquot of the anionic poly(dimethyl siloxane) block was terminated before addition of 1-ethoxyethyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the dimethyl siloxane protons near 0 ppm with the ethoxyethyl methacrylate protons at about 3.7-3.8 ppm (OCH₂). Block copolymer PDI is determined by SEC.

Solubility:

Poly(dimethylsiloxane-b-ethoxy ethyl methacrylate) is soluble in THF and in CHCl₃ it swells.