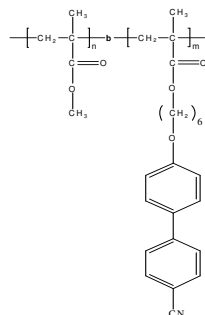
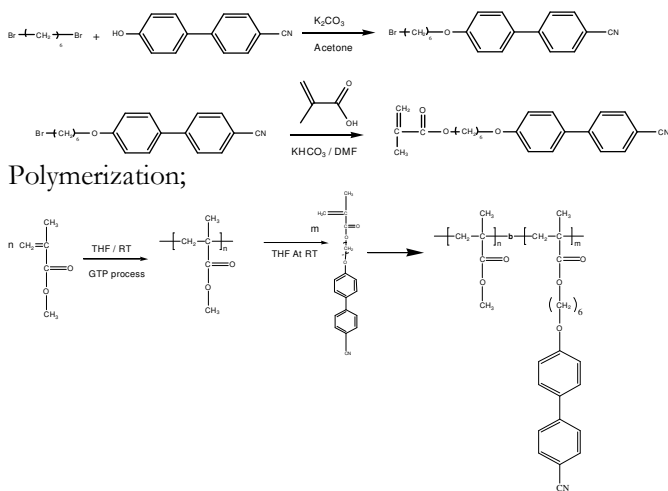


Sample Name:**Poly(Methylmethacrylate-b-6-(4'-cyanobiphenyl-4-yloxy)hexylmethacrylate)****Sample #: P8961-MMA4CNBPHMA****Structure:****Composition:**

Mn x 10 ³ MMA-b-4CNBPHMA	Mw/Mn (PDI)
7.5-b-2.5	1.13
T _g for MMA block:	97°C

Synthesis Procedure:

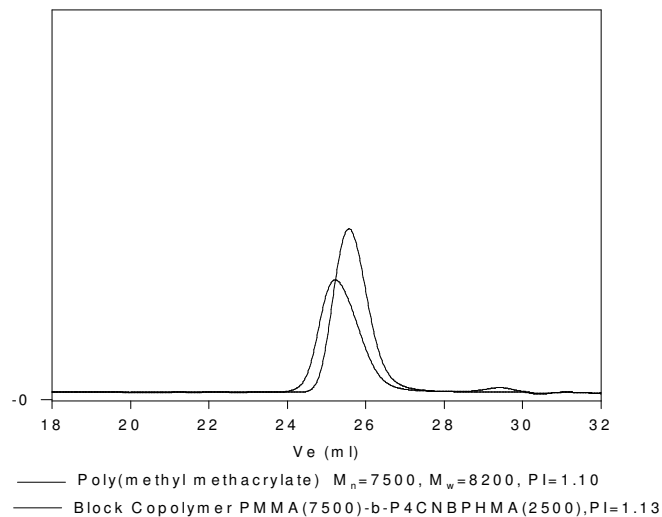
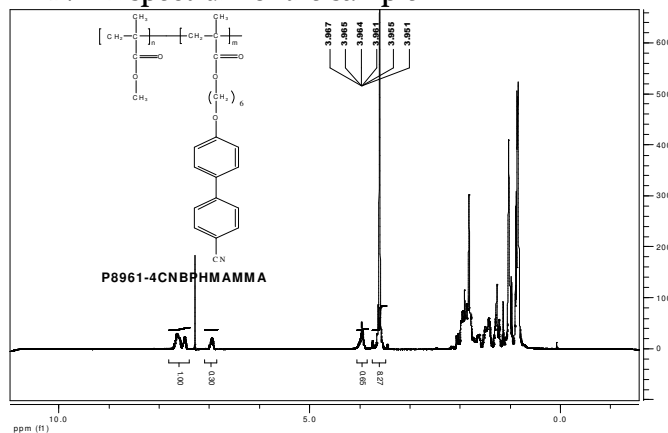
Poly(methylmethacrylate-b-6-(4'-cyanobiphenyl-4-yloxy)hexylmethacrylate) is prepared by GTP-polymerization or anionic living polymerization of MMA with 6-(4'-cyanobiphenyl-4-yloxy)hexylmethacrylate) in THF. 6-(4'-cyanobiphenyl-4-yloxy)hexylmethacrylate) monomer is synthesized by the following routes:

**Characterization:**

Polymer was 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 MMA protons near 3.6 ppm with the 4CNBPHMA protons at about 7.5 ppm. (biphenyl protons).

Solubility: The polymer is soluble in THF, chloroform and toluene. It is precipitated in methanol.

Thermal analysis: Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min.

SEC of the Polymer:**P8961-MMA4CNBPHMA****¹H NMR spectrum of the sample:****DSC thermogram for the sample:**