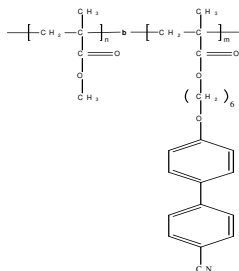


Sample Name:

Poly(Methylmethacrylate-b-6-(4'-cyanobiphenyl-4-yloxy)hexylmethacrylate)

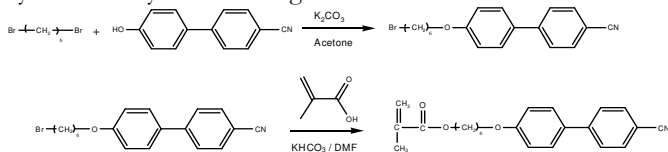
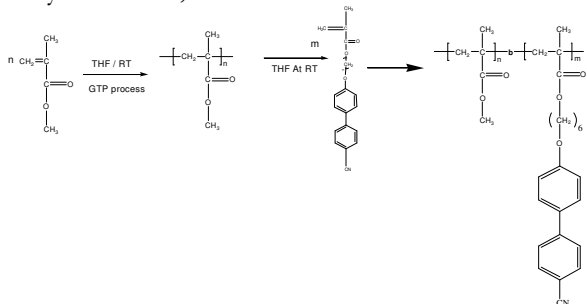
Sample #: P8962-MMA4CNBPHMA

Structure:**Composition:**

| | |
|--|-------------|
| Mn x 10 ³ MMA-b-4CNBPHMA | Mw/Mn (PDI) |
| 27.0-b-3.0 | 1.15 |
| T _g for MMA block: | 118°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:

**Polymerization;****Characterization:**

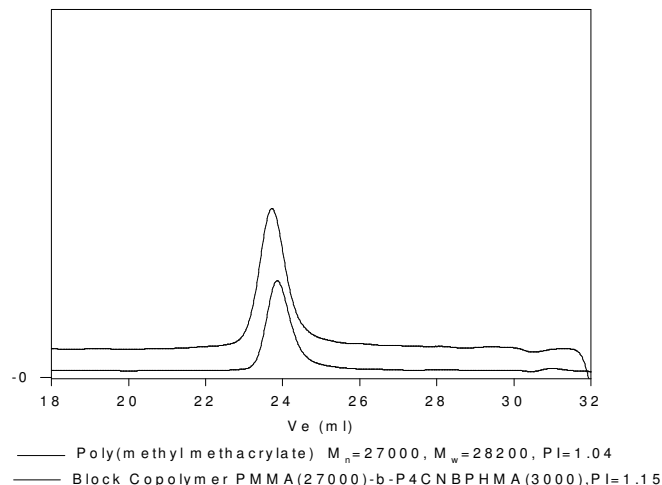
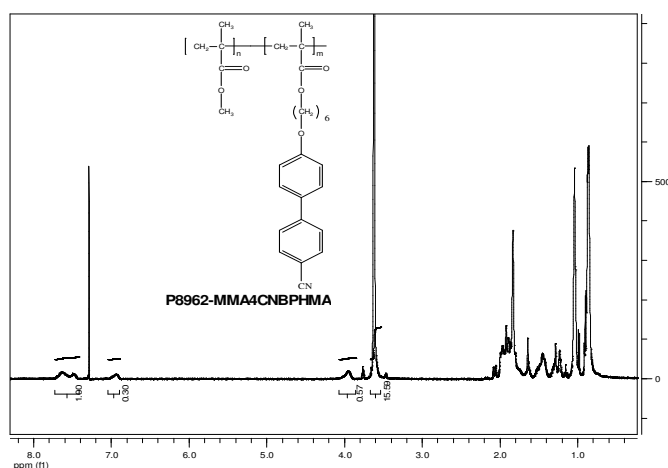
Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the MMA protons near 3.6 ppm with the 4CNBPHMA protons at about 7.5 ppm (biphenyl protons).

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

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

SEC of the Polymer:

P8962-MMA4CNBPHMA

**¹H NMR spectrum of the sample:****DSC thermogram for MMA block:**