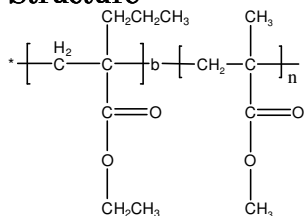


Sample Name: Poly(Ethyl 2-propyl acrylate-b-methyl methacrylate)

Sample #: P5791B-EtPrAMMA

Structure:



Composition:

| | |
|----------------------|-----|
| Mn x 10 ³ | PDI |
| PEtPrA-b-MMA | |
| 10.0-b-20.0 | 1.6 |

Glass transition temperature at a glance

| | |
|--------------|--------|
| PEtPrA block | 50 °C |
| MMA block | 120 °C |

Synthesis Procedure:

Poly(Ethyl 2-propyl acrylate -b- methylmethacrylate) is prepared by living anionic polymerization with sequence addition of Ethyl 2-propyl acrylate followed by addition of methyl methacrylate.

Characterization:

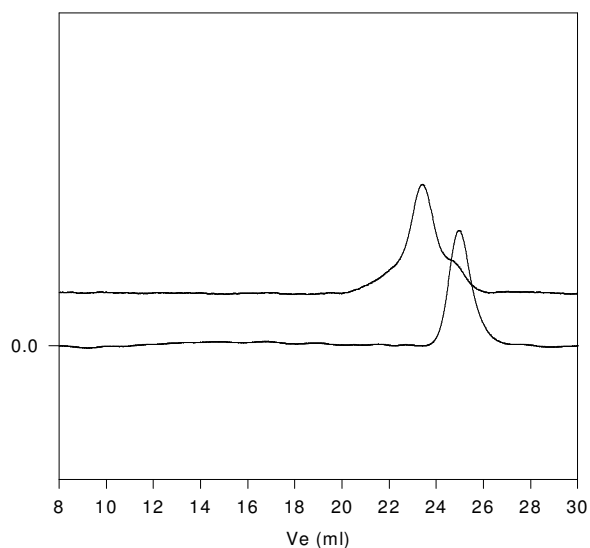
Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the -OCH₂ protons at 4.0 ppm with the peak area of the methyl methacrylate protons at 3.6 ppm. Copolymer PDI is determined by SEC.

Thermal analysis

Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) has been considered.

SEC of the block copolymer:

P5791B-EtPrAMMA



Size exclusion chromatography:

— Poly(Ethyl Propyl acrylate), M_n=10,000, M_w=11000, PI=1.10
— Block Copolymer PEtPrA(10000)-b-PMMA(20000), PI=1.6
composition from H NMR

¹H-NMR of the Block copolymer:

