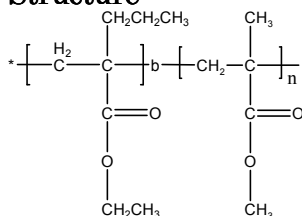


Sample Name: Poly(Ethyl 2-propyl acrylate-b-methyl methacrylate)

Sample #: P5791A-EtPrAMMA

#### Structure:



#### Composition:

$M_n \times 10^3$ PEtPrA-b-MMA	PDI
10.0-b-330.0	1.55

#### Glass transition temperature at a glance

PEtPrA block	Not found For homopolymer $T_g = 48^\circ\text{C}$
MMA block	118 °C

#### Synthesis Procedure:

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

#### Characterization:

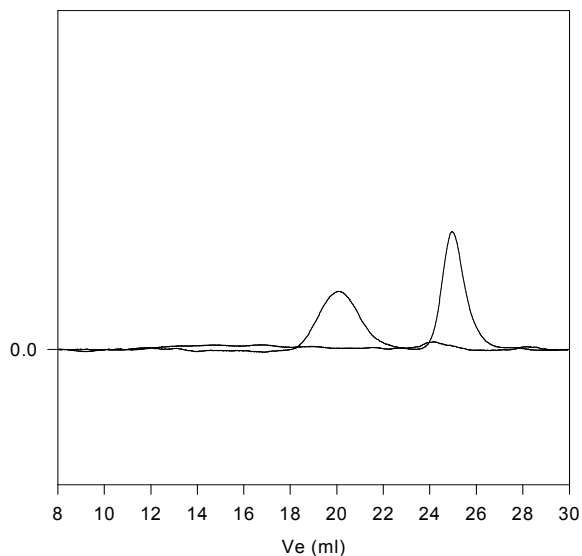
Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from  $^1\text{H-NMR}$  spectroscopy by comparing the peak area of the  $-\text{OCH}_2$  protons at 4.0 ppm with the peak area 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  $10^\circ\text{C}/\text{min}$ . The inflection glass transition temperature ( $T_g$ ) has been considered.

#### SEC of the block copolymer:

P5791A-EtPrAMMA

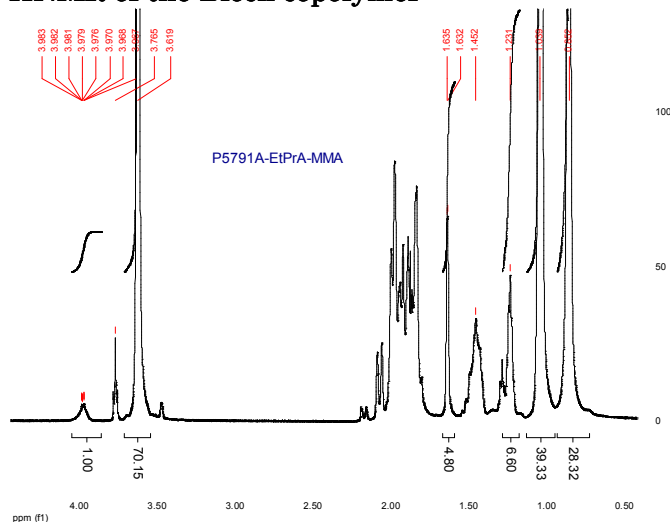


Size exclusion chromatography:

— Poly( Ethyl Propyl acrylate),  $M_n=10,000$ ,  $M_w=11000$ ,  $PI=1.10$

— Block Copolymer PEtPrA(10000)-b-PMMA(330000),  $PI=1.55$  composition from H NMR

#### $^1\text{H-NMR}$ of the Block copolymer:



#### Thermogram for MMA block:

