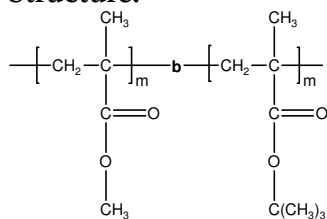


Sample Name: Poly(methyl methacrylate-b-t-butyl methacrylate)

Sample #: P328-MMA_tBuMA

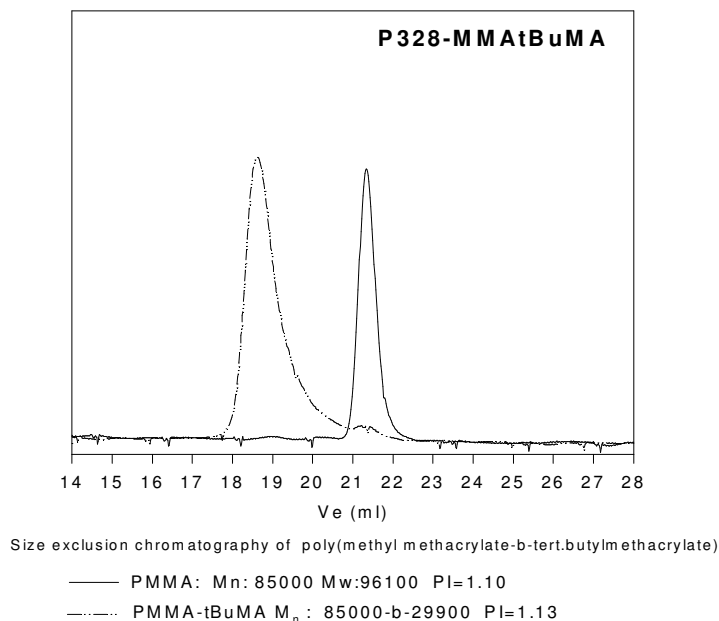
Structure:



Composition:

Mn x 10 ³ PMMA-b-PtBuMA	PDI
281.5-b-49.0	1.18
T _g for MMA block	122°C
T _g for tBuMA block	Not distinct

SEC of the block copolymer:



Synthesis Procedure:

Poly(methyl methacrylate -b- t-butyl methacrylate) is prepared by living anionic polymerization by sequence addition of methyl methacrylate followed by addition of t-butyl methacrylate.

Characterization:

An aliquot of the anionic poly(methyl methacrylate) block was terminated before addition of t-butyl 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 t-butyl methacrylate protons at about 1.43 ppm with the peak area of the methyl methacrylate protons at about 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.

Solubility:

Poly(methyl methacrylate-b-t-butyl methacrylate) is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

DSC thermogram for MMA block

