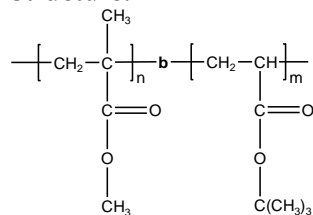


Sample Name: Poly(methyl methacrylate-b-t-butyl acrylate)

Sample #: P9046-MMAAtBuA

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> PMMA-b-PtBuMA	PDI
13.0-b-180.0	1.25

**Glass transition temperature at a glance**

MMA block	Not distinct
t-BuA block	41°C

**Synthesis Procedure:**

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

**Characterization:**

An aliquot of the anionic poly(methyl methacrylate) block was terminated before addition of t-butyl acrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the t-butyl methacrylate protons at 1.43 ppm with the peak area of the methyl methacrylate protons at 3.6 ppm. Copolymer PDI is determined by SEC.

**Thermal analysis**

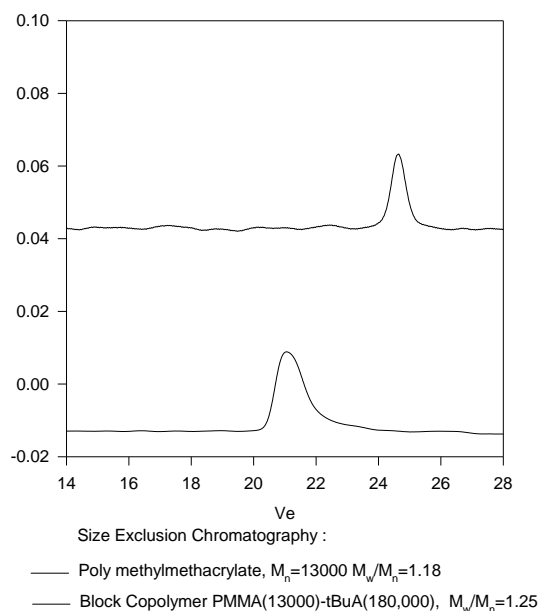
Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T<sub>g</sub>) has been considered.

**Solubility:**

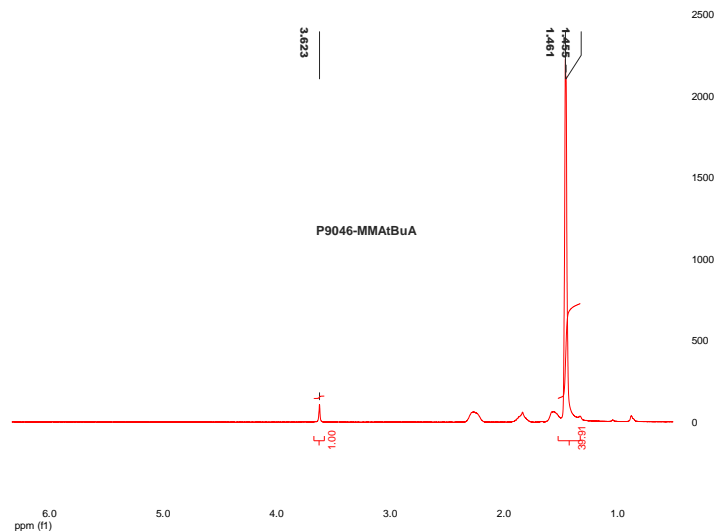
Poly(methyl methacrylate-b-t-butyl methacrylate) is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

**SEC of the block copolymer:**

**P9046-MMAAtBuA**



**NMR of the block copolymer:**



## Thermogram for tBuA block

