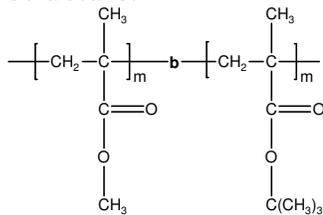


Sample Name: Poly(methyl methacrylate-*b*-*t*-butyl methacrylate)

Sample #: P1199-MMA**t**BuMA

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
PMMA- <i>b</i> -PtBuMA	
3.2- <i>b</i> -3.8	1.11
MMA block	89°C
<i>t</i> -BuMA block	Not distinct

**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.

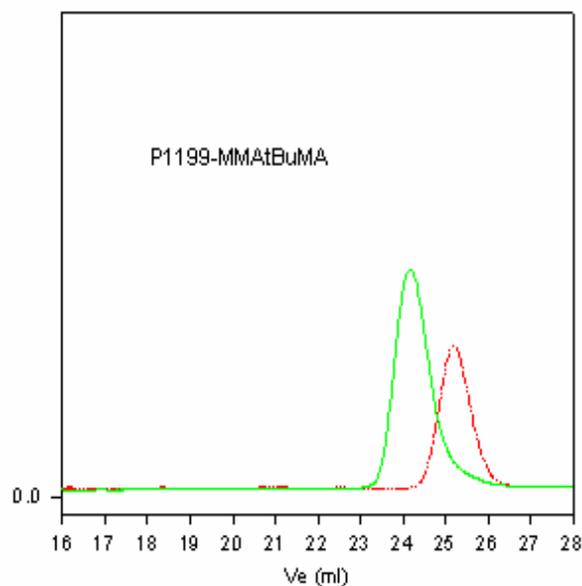
**Characterization:**

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 <sup>1</sup>H-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.

**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:**



Size exclusion chromatography of poly(methyl methacrylate-*b*-*t*-butyl methacrylate)  
[Precursor of P1199-MmMNA]:  
--- Poly methyl methacrylate, M<sub>n</sub>=3200, M<sub>w</sub>=3400, PDI=1.06  
— Block Copolymer D<sub>1</sub>: PMMA(30 units)-*b*-PtBuMA(27 units), PDI=1.11  
— Block Copolymer D<sub>2</sub>: PMMA(30)-*b*-PMANa(27), PDI=1.11

**DSC thermogram for MMA block:**

