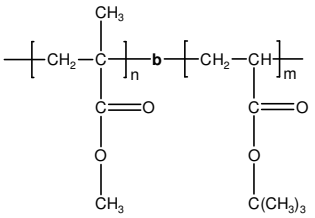
**Sample Name: Poly(methyl methacrylate-b-t-butyl acrylate)**

**Sample #: P2388-MMAtBuA**

**Structure:**



**Composition:**

| Mn x $10^3$ PMMA-b-PtBuMA | PDI |
|---|---|
| 7.4-b-43.5 | 1.07 |

**Synthesis Procedure:**

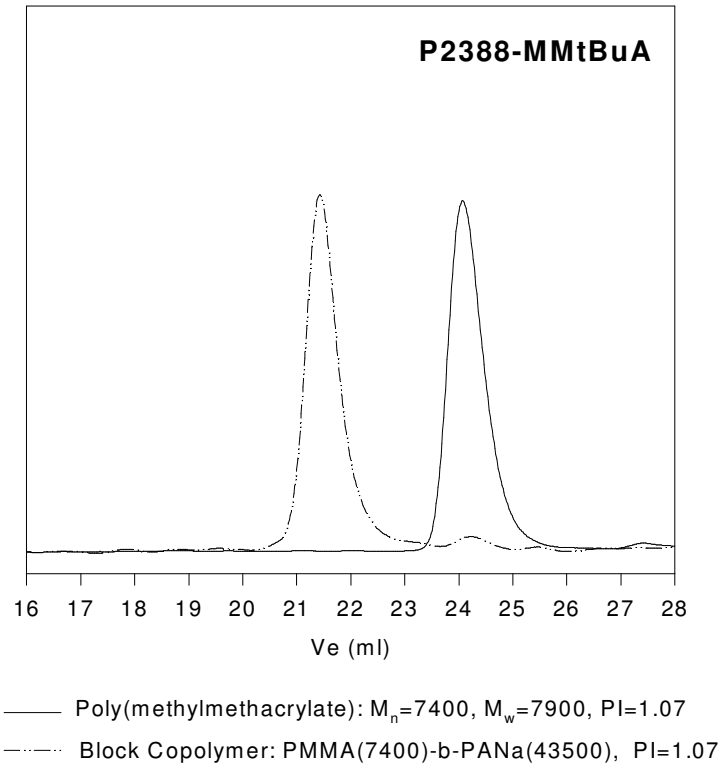
Poly(methyl methacrylate-b-t-butyl acrylate) is prepared by living anionic polymerization with sequence addition of methyl methacrylate followed by addition of t-butyl acrylate.

**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 $^1$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.

**Solubility:**
Poly(methyl methacrylate-b-t-butyl methacrylate) is soluble in THF, $CHCl_3$, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

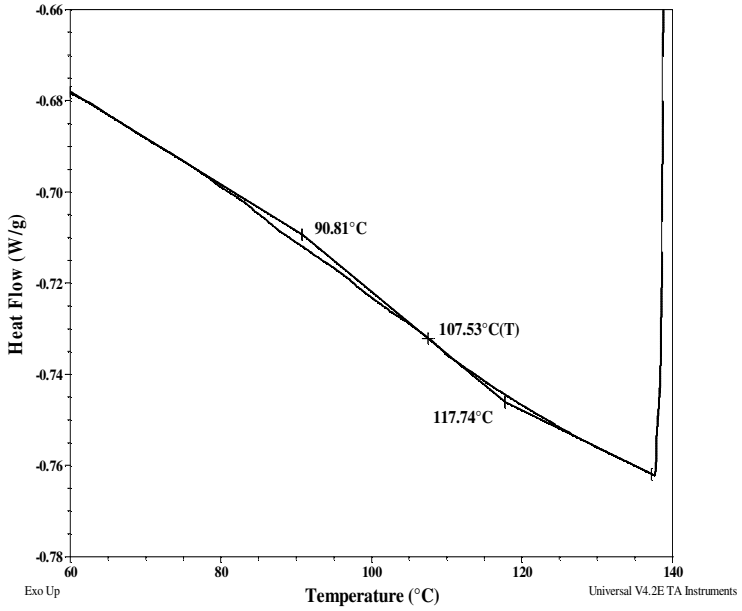
**SEC of the block copolymer:**



## Thermal analysis of sample P2388-MMAtBuA

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.

### Thermogram for MMA block




### Glass transition temperature at a glance

| | |
|---|---|
| **MMA block** | **107°C** |
| **t-BuA block** | **39°C** |

### Thermogram for tBuA block