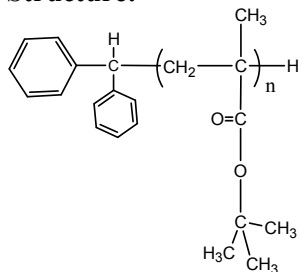


Sample Name: Poly(t-butyl methacrylate)
Atactic microstructure

Sample #: P4665A-tBuMA

Structure:



Composition:

| | |
|-------------------|------|
| $M_n \times 10^3$ | PDI |
| 2120.0 | 1.28 |

Synthesis Procedure:

Poly(t-butyl methacrylate) is obtained by living anionic polymerization of t-butyl methacrylate.

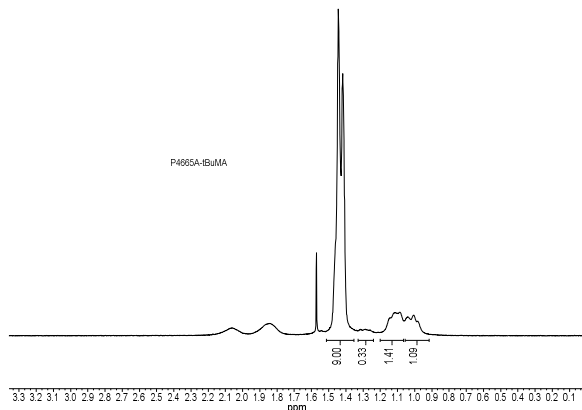
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ^1H NMR.

Solubility:

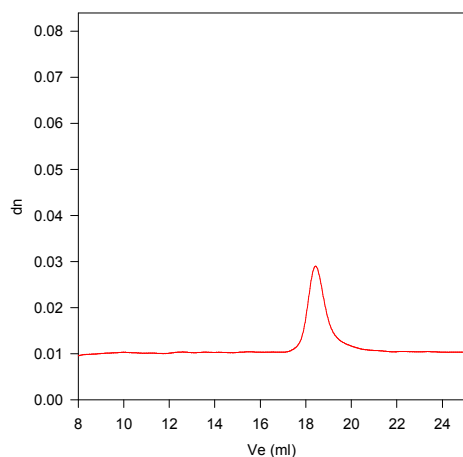
Poly(tert butylmethacrylate) is soluble in THF, CHCl_3 , toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

^1H NMR of the Polymer:



SEC elugram of Homopolymer:

P4665-tBuMA



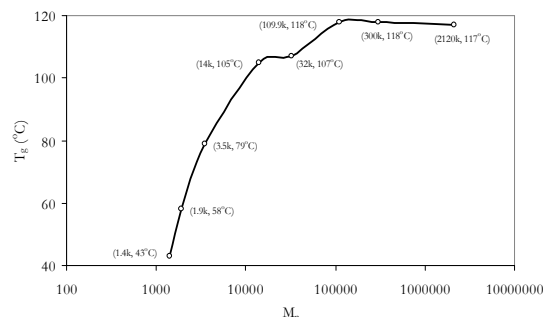
Size Exclusion Chromatography of Poly(t-butyl methacrylate)

$M_n=2120,000$, $M_w=2130000$, $PI=1.28$

Solution Viscosity in THF at 35 °C: 5.305dl/g Radius of Gyration: 69.57 nm
 dn/dc in THF at 30 °C: 0.085ml/g Data from Triple detectors from Viscotek Co.

DSC thermogram of the Product:

T_g of poly t-butyl methacrylate as function of molecular weight



T_g vs MW for selected poly t-butyl acrylate

| $M_n \times 10^3$ | T_g (°C) | $M_n \times 10^3$ | T_g (°C) |
|-------------------|------------|-------------------|------------|
| 1.4 | 43 | 32 | 107 |
| 1.9 | 58 | 109.9 | 118 |
| 3.5 | 79 | 300 | 118 |
| 14 | 105 | 2120 | 117 |

References for further information:

S. K. Varshney, Z. Gao, Xing Fu Zhong, A. Eisenberg "Effect of Lithium Chloride on the "Living" Polymerization of tert-Butylmethacrylate and Polymer Microstructure Using Monofunctional Initiators" Macromolecules, 1994, 27, 1076.