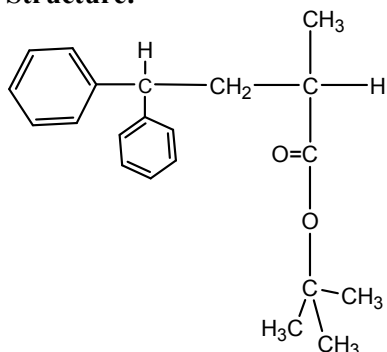


Sample Name: **Poly(t-butyl methacrylate)**
Atactic microstructure

Sample #: **P1187-tBuMA**

Structure:



Composition:

$M_n \times 10^3$	PDI
14.0	1.04
S;H;I	20:75:5

Synthesis Procedure:

Poly(t-butyl methacrylate) is obtained by anionic polymerization using diphenyl methyl potassium as initiator.

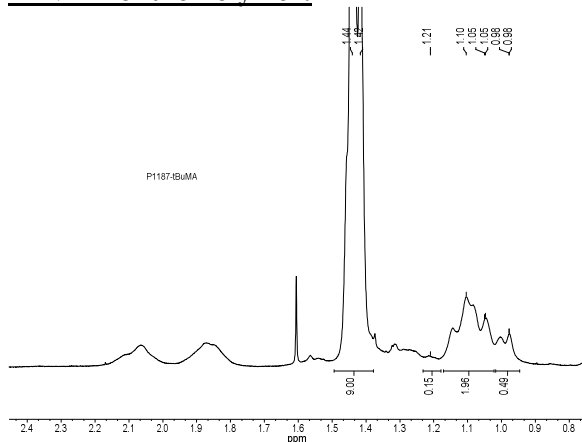
Characterization:

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

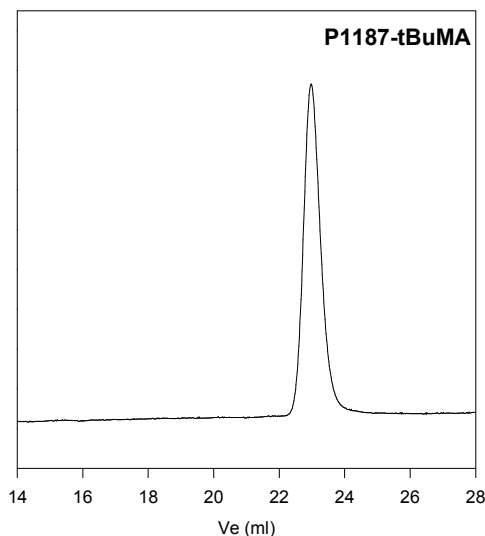
Solubility:

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:



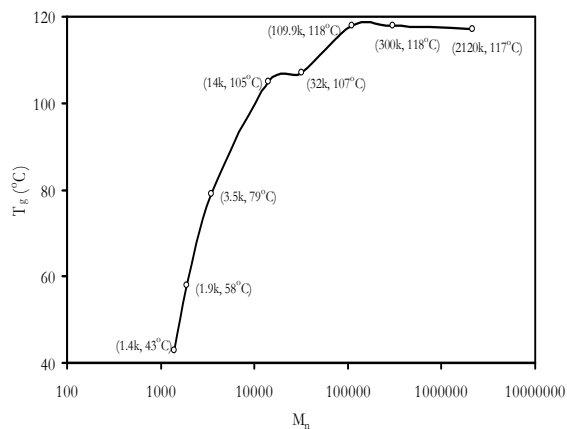
SEC elugram of Homopolymer:



Size Exclusion Chromatography of Poly(t-butyl methacrylate)
 $M_n=14000$, $M_w=14500$ $M_w/M_n=1.04$

DSC thermogram of the Product

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



Tg vs MW for selected poly t-butyl methacrylate

$M_n \times 10^3$	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.