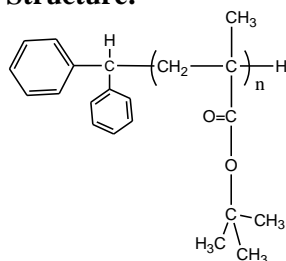


Sample Name: Poly(t-butyl methacrylate)
Atactic rich

Sample #: P1416A-tBuMA

Structure:



Composition:

Mn x 10 ³	PDI
79.5	1.08
S:h:I	0:88:12

Synthesis Procedure:

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

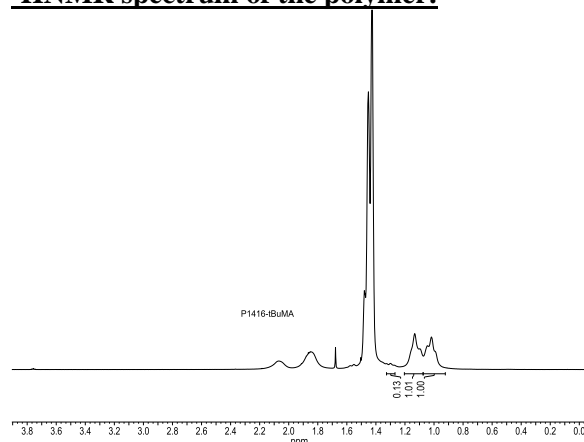
Characterization:

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

Solubility:

Poly(tert butylmethacrylate) is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

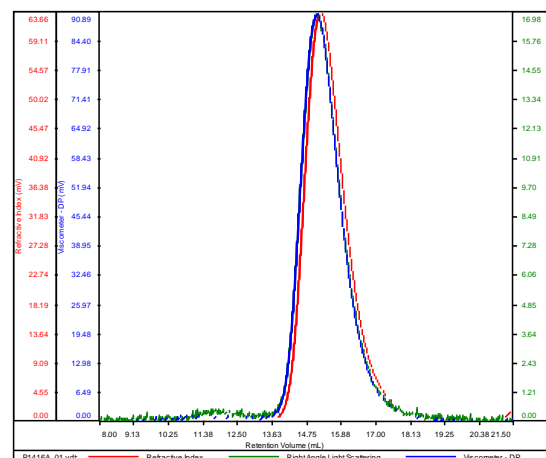
¹H NMR spectrum of the polymer:



SEC elugram of Homopolymer:

P1416A-tBuMA

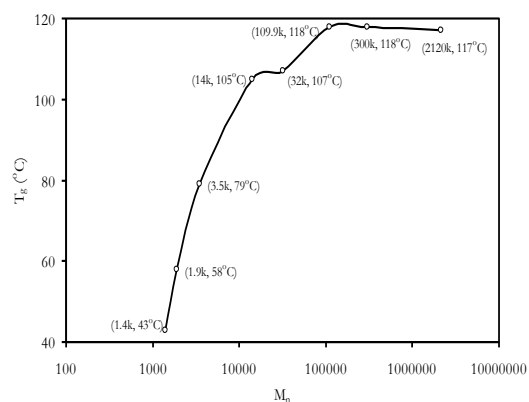
Conc	11.3442
dn/dc	0.0650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k-May2017-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P1416A_01.vdt	79,478	85,784	78,719	1.079	0.1381

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 methacrylate

M _n × 10 ³	T _g (°C)	M _n × 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.