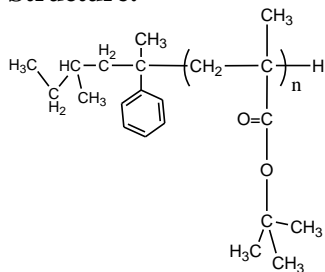


Sample Name: Poly(t-butyl methacrylate)
isotactic microstructure

Sample #: P916D-tBuMA

Structure:



Composition:

Mn x 10 ³	PDI
144.5	1.09
Iso-contents	> 85%

Synthesis Procedure:

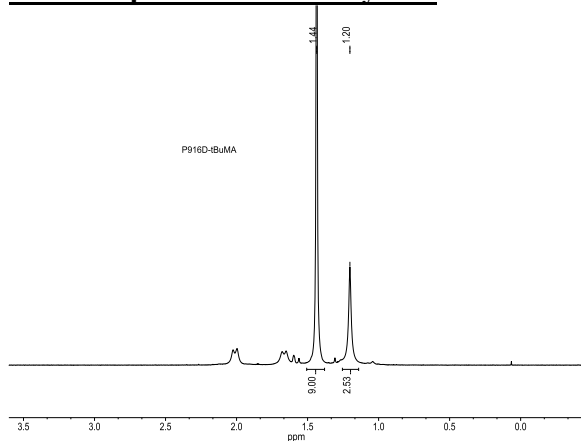
Poly(t-butyl methacrylate) is obtained by living anionic polymerization of t-butyl methacrylate.

Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR. Thermal analysis of the samples 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) of the sample has been considered.

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

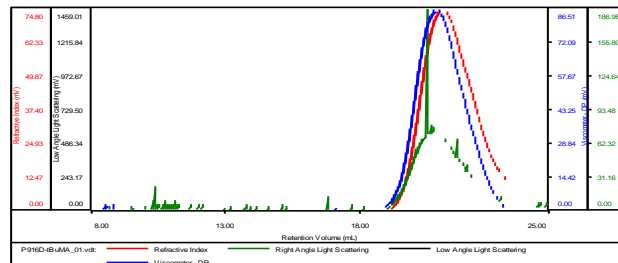
¹H NMR spectrum of the Polymer:



SEC elugram of Homopolymer:

P916D-tBuMA

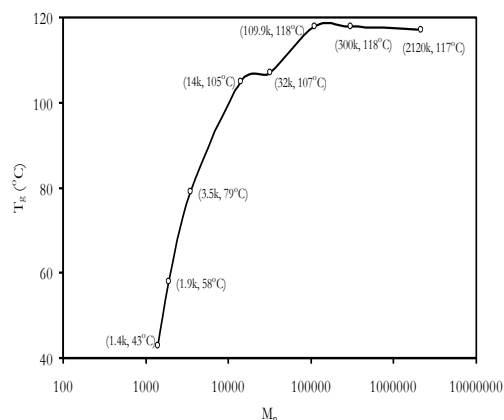
Concentration (mg/mL)	3.5333
Sample dn/dc (mL/g)	0.0840
Method File	PS80K-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P916D-tBuMA_01.vdt	144,672	157,484	1.089	1.4269	150,157

DSC Thermogram for the sample:

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.