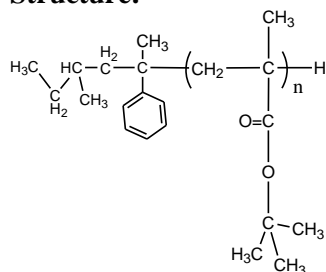


Sample Name: **Poly(t-butyl methacrylate)**  
*isotactic microstructure*

Sample #: **P916B-tBuMA**

Structure:



Composition:

Mn x 10 <sup>3</sup>	PDI
567.5	1.33
Iso-contents	> 87%

Synthesis Procedure:

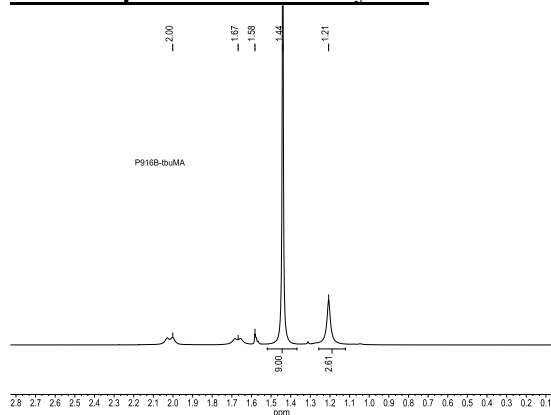
Poly(t-butyl methacrylate) is obtained by living anionic polymerization of t-butyl methacrylate.

Characterization:

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H 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<sub>g</sub>) of the sample has been considered.

**Solubility:** Poly(tert butylmethacrylate) is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

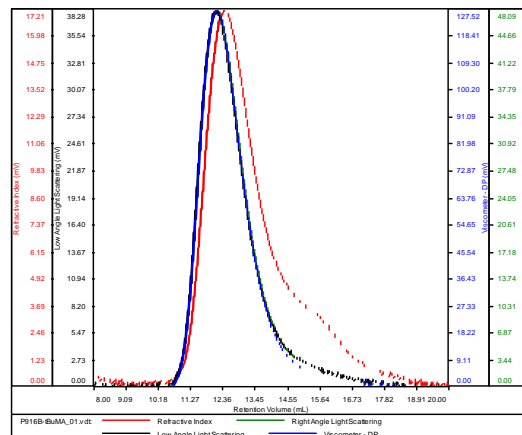
**<sup>1</sup>H NMR spectrum of the Polymer:**



**SEC elugram of Homopolymer:**

P916B-tBuMA

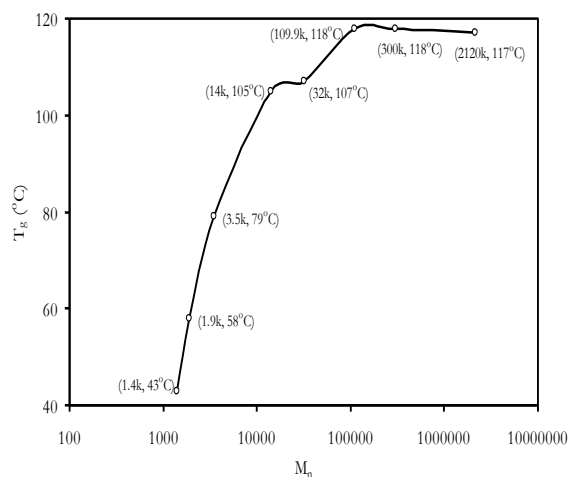
Conc	4.7202
dn/dc	0.0650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k-May2017-0000.vcm



Sample	MW Number Average	MW Weight Average	MW at Peak	Polydispersity	Intrinsic Viscosity
P916B-tBuMA_01.vdt	567,534	759,108	891,811	1.338	0.5619

**DSC Thermogram for the sample:**

T<sub>g</sub> of poly t-butyl methacrylate as function of molecular weight



**T<sub>g</sub> vs MW for selected poly t-butyl methacrylate**

M <sub>n</sub> × 10 <sup>3</sup>	T <sub>g</sub> (°C)	M <sub>n</sub> × 10 <sup>3</sup>	T <sub>g</sub> (°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.