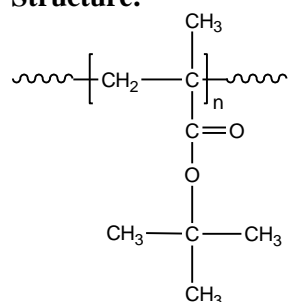


Sample Name: **Poly(t-butyl methacrylate)**  
*Syndio rich*

Sample #: **P40612-tBuMA**

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
33.5	1.05
S;H:I	53:42:4

**Synthesis Procedure:**

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

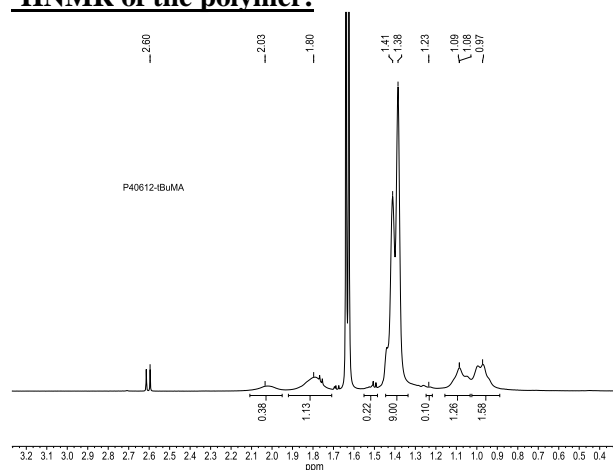
**Characterization:**

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

**Solubility:**

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

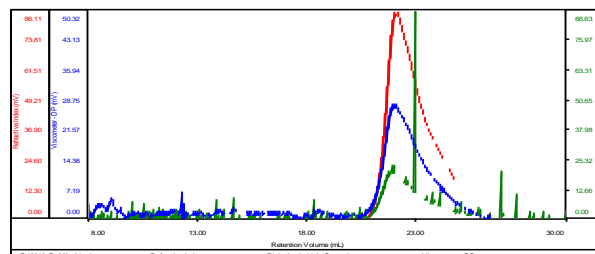
**<sup>1</sup>H NMR of the polymer:**



**SEC elugram of Homopolymer:**

**P40612-tBuMA**

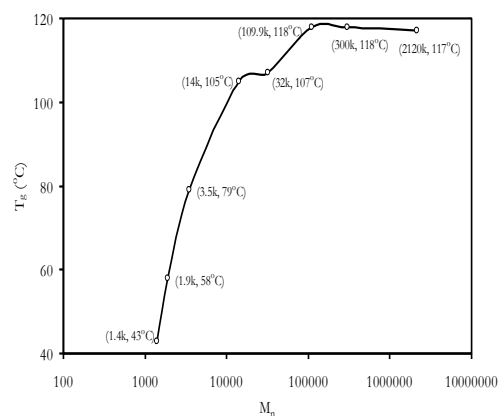
Concentration (mg/mL)	3.7778
Sample dn/dc (mL/g)	0.0840
Method File	PS80K-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40612-tBuMA_01.vdt	33,459	35,071	1.048	0.4465	34,857

**DSC thermogram of the Product:**

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.