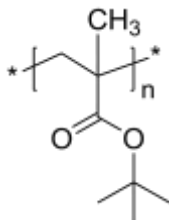


Sample Name: Poly(*tert*-butyl methacrylate)
predominantly atactic

Sample #: P4654A2-tBuMA

Structure:



Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
175	1.2
S:h:I	42:45:13

Glass transition temperature:	$T_g = 115^\circ\text{C}$
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Synthesis procedure:

Poly(*tert*-butyl methacrylate) was obtained by living anionic polymerization. For more details, see ref.[1].

Characterization:

The tacticity of the polymer was calculated from ^1H NMR spectroscopy data.

The molecular weight and polydispersity index (M_w/M_n) of the polymer were determined by size exclusion chromatography (SEC) equipped with a triple detector and using DMF as an eluent.

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of $10^\circ\text{C}/\text{min}$ shortly after creating thermal history of the sample.

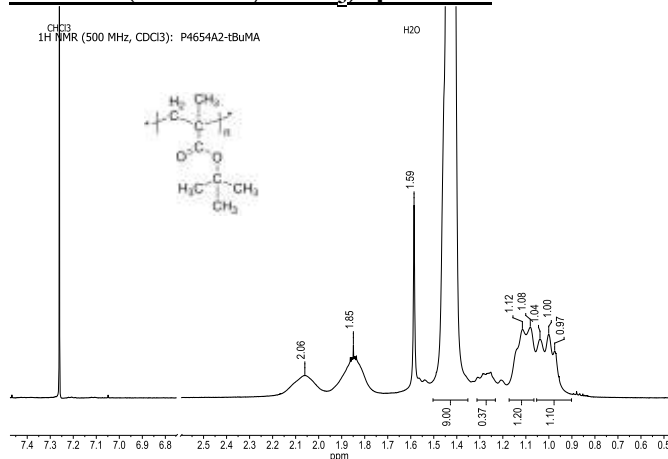
Solubility:

Poly(*tert*-butyl methacrylate) is soluble in THF, chloroform, toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

Reference:

1. S. K. Varshney, Z. Gao, X. F. Zhong, A. Eisenberg, "Effect of Lithium Chloride on the "Living" Polymerization of *tert*-Butylmethacrylate and Polymer Microstructure Using Monofunctional Initiators". *Macromolecules* 1994, 27, 1076.

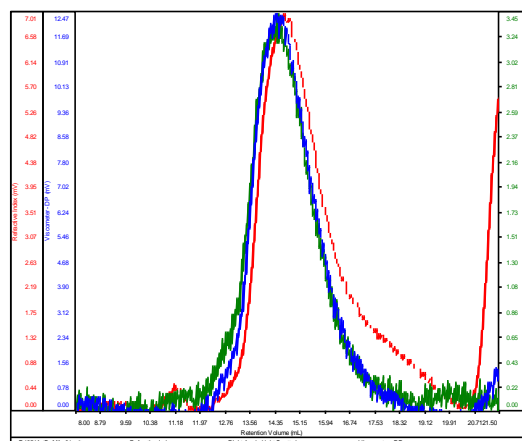
^1H NMR (500 MHz, CDCl_3) spectrum:



SEC elugram of the sample:

P4654A-tBuMA

Conc	2.8552
dn/dc	0.0450
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k-May2017-0000.vcm



Sample	M_n	M_w	M_p	M_w/M_n	IV
P4654A-tBuMA_01.vdt	175,402	213,052	198,366	1.215	0.1141

DSC thermogram (2nd heating scan, $10^\circ\text{C}/\text{min}$):

