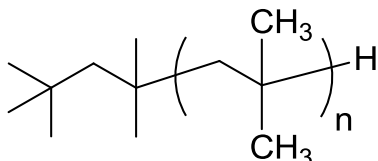


Sample Name: Polyisobutylene

Sample #: P16183E-Ib

Structure:

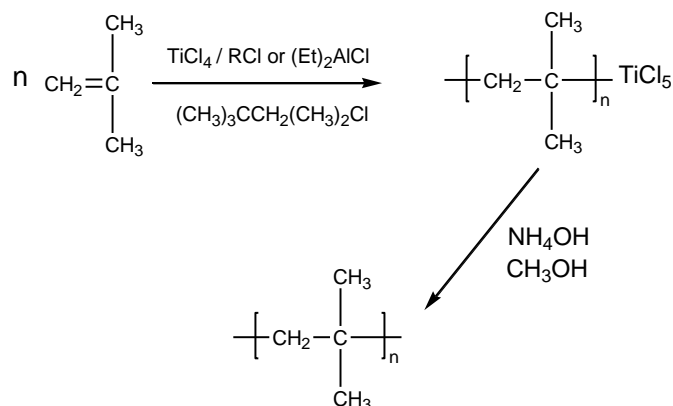


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
0.3	2.3

Synthesis Procedure:

Polyisobutylene was synthesized by living cationic polymerization of isobutylene in hexane at -78°C using a tin-based catalyst and a 2,4,4-dimethyl pentene / HCl initiator. The reaction scheme is shown below:



Purification:

After polymerization, the catalyst residues were removed by filtration and the polymer was washed out with acidic water to neutral pH, followed by freeze drying.

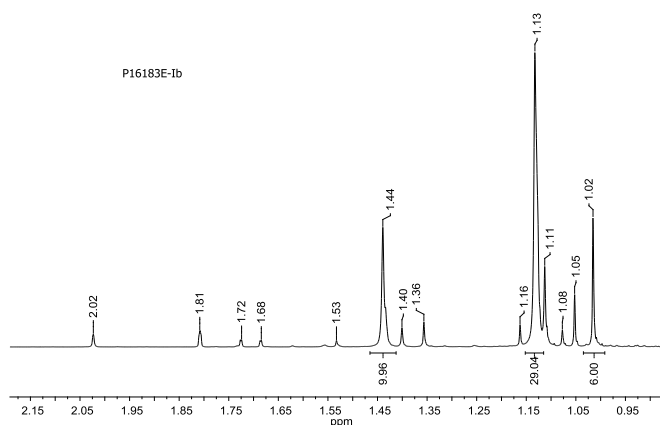
Characterization:

The molecular weight and polydispersity index (M_w/M_n) of polyisobutylene were obtained by size exclusion chromatography (SEC).

Solubility:

Polyisobutylene is soluble in THF, toluene, hexanes, pentane and cyclohexane; and it precipitates from methanol and ethanol.

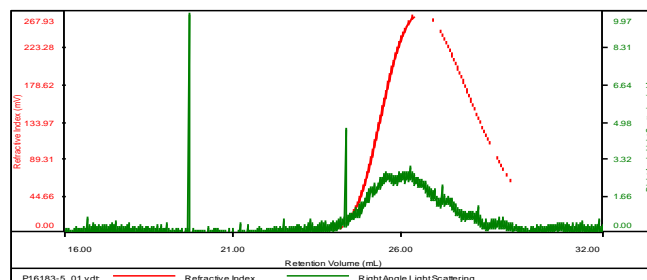
^1H NMR (500 MHz, CDCl_3) spectrum:



SEC of Homopolymer:

P16183-5-IB

Concentration (mg/mL)	11.5666
Sample dn/dc (mL/g)	0.1220
Method File	PS80K-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	M_n (Da)	M_w (Da)	M_w/M_n	IV (dL/g)	M_p (Da)
P16183-5_01.vdt	348	827	2.377	0.1049	905