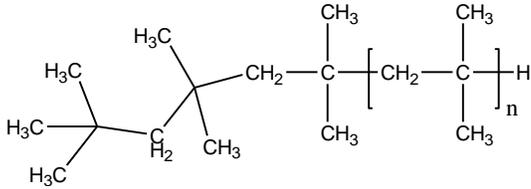


**Sample Name:** Polyisobutylene

**Sample #:** P8883M-1b

**Structure:**

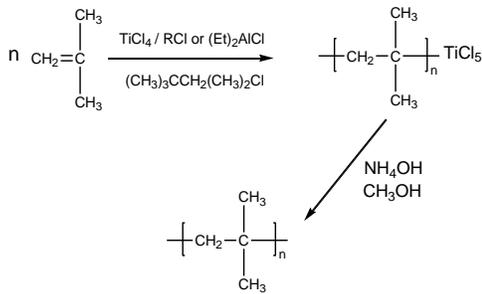


**Composition:**

$M_n \times 10^3$	PDI
114.0	1.14

**Synthesis Procedure:**

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

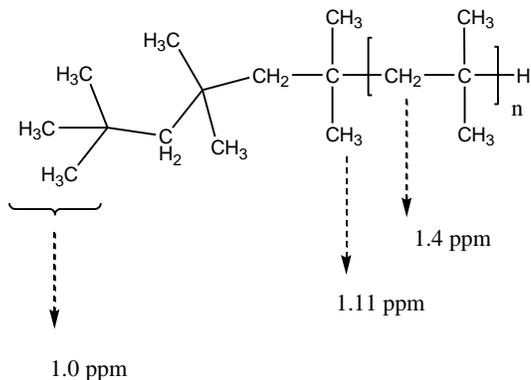


**Purification:**

After polymerization the catalyst residues are removed by filtration and washing with acidic water after which the pH is returned to nominal values and finally the polymer is freeze dried.

**Characterization:**

The molecular weight and polydispersity index (PDI) of polyisobutylene are obtained by size exclusion chromatography.



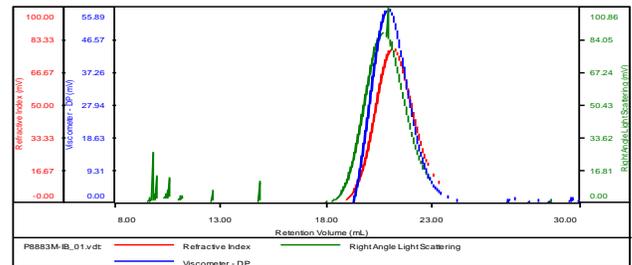
**Solubility:**

Polyisobutylene is soluble in THF, toluene, hexane, pentane and cyclohexane and precipitates from methanol and ethanol.

**SEC elugram of the Sample:**

**P8883M-1B**

Concentration (mg/mL)	2.4922
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)
P8883M-1B_01.vdt	113,950	130,414	1.144	1.2326	115,006