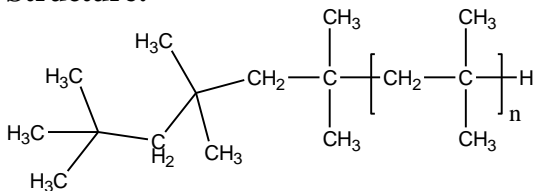


**Sample Name:** Polyisobutylene

**Sample #:** P8883A-IB

**Structure:**

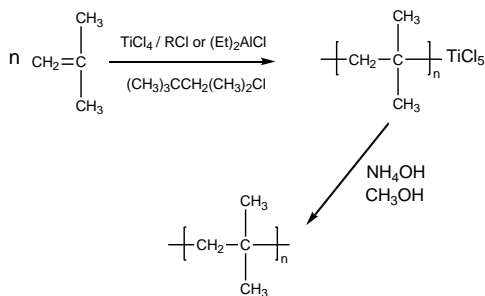


**Composition:**

Mn x 10 <sup>3</sup>	PDI
123.0	1.22

**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:

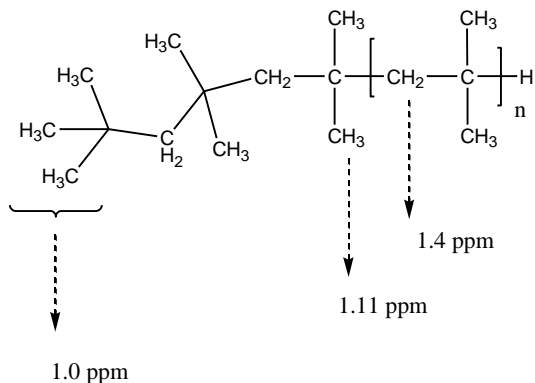


**Purification:**

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.

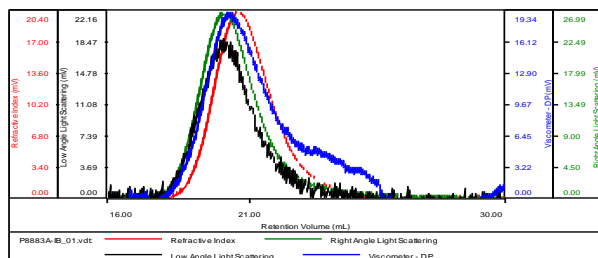


**Solubility:**

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

**SEC elugram of the Sample:**

P8883A-IB	
Concentration (mg/mL)	0.0633
Sample dn/dc (mL/g)	0.1220
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)
P8883A-IB_01.vdt	123,399	149,477	1.211	2.2588	131,299