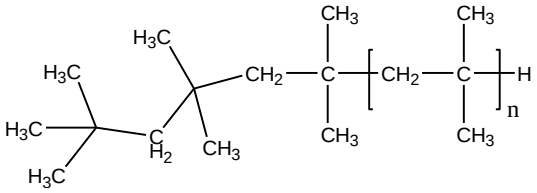
Sample Name: **Polyisobutylene**

Sample #: **P8895A-Ib (Lot 8883KK)**

Structure:

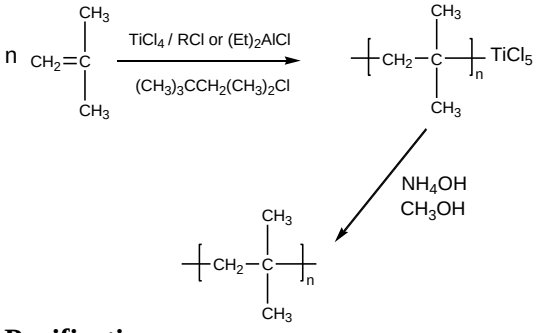


Composition:

Mn x 10^3	PDI
13.9	1.7

Synthesis Procedure:

Polyisobutylene is 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 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.

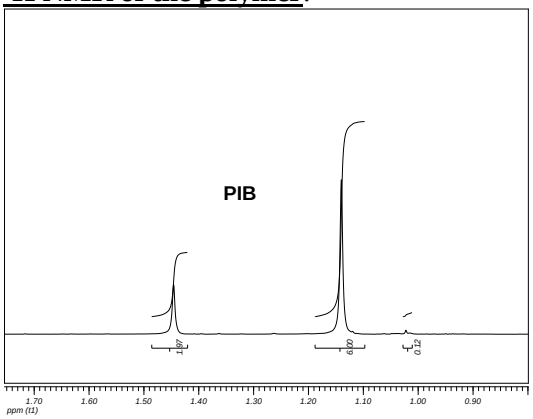
Characterization:

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

Solubility:

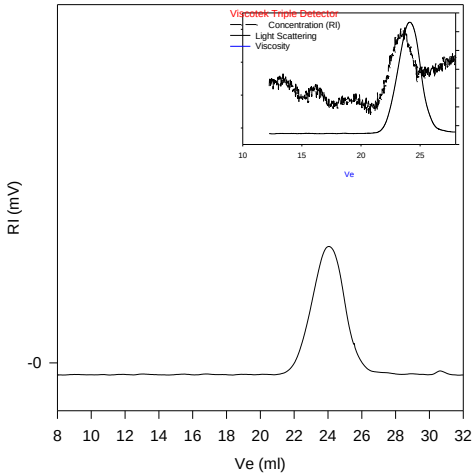
Polyisobutylene is soluble in THF, toluene, hexane, pentane and cyclohexane and precipitates from methanol and ethanol.

^{1}H NMR of the polymer:



SEC of Homopolymer:

P8895A-IB (lot# 8883KK)



Size Exclusion Chromatography of polymer:

—— M_n = 13900, M_w =23800, M_w/M_n = 1.7

Solutuion Viscosity in THF at 35 °C: 0.255dl/g

Rgw: 5.08m

dn/dc in THF at 35 °C: 0.112 ml/g