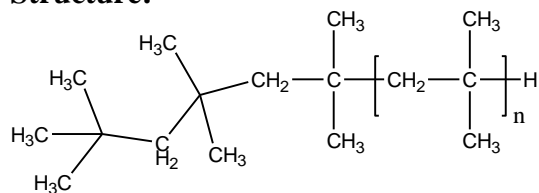


**Sample Name:** Polyisobutylene

**SEC elugram of the Sample:**

**Sample #:** P42413-IB

**Structure:**

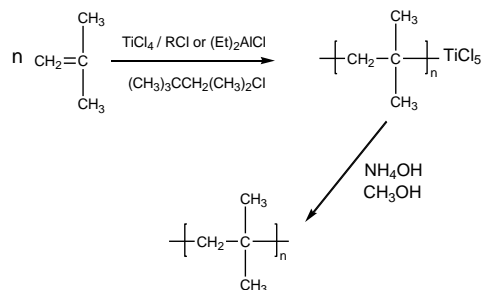


**Composition:**

Mn x 10 <sup>3</sup>	PDI
775.0	1.45

**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.

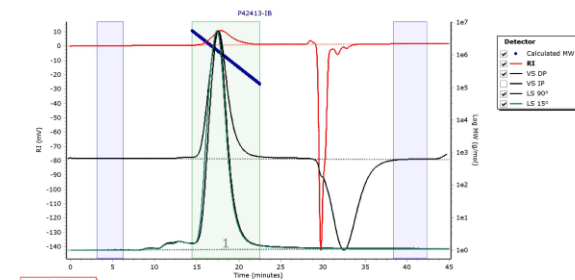
**Solubility:**

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

Agilent GPC/SEC Software

P42413-IB

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	1108429	775562	1128401	1489622	1872783	1434177	1.452