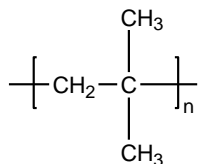


Sample Name: Polyisobutylene

Sample #: P5192-1b

**Structure:**

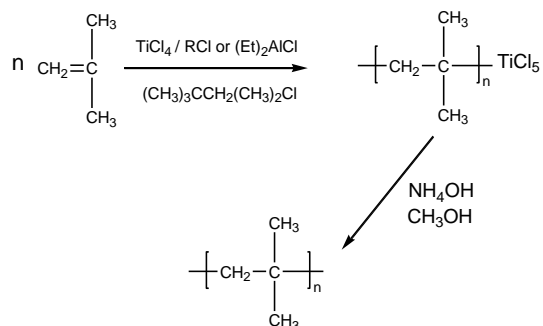


**Composition:**

$M_n \times 10^3$	PDI
37.5	1.9

**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 of Homopolymer:**

