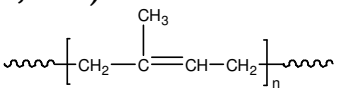
Sample Name: Polyisoprene
1,4- rich addition

Sample #: P5470-Ip
(cis 1,4: 80%; trans 1,4:15% and 3,4:5%)



Mn x 10^3	PDI
9.5	1.06
T_g (°C)	-77

Synthesis Procedure:

Polyisoprene is obtained by living anionic polymerization of isoprene in a-polar media such as cyclohexane, toluene or hexane.

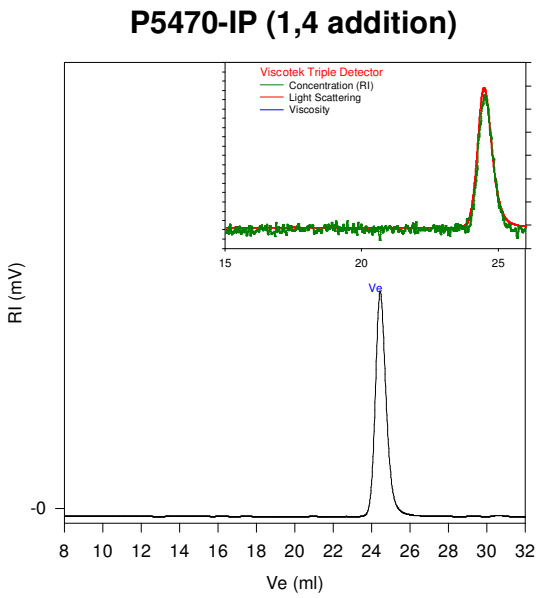
Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min.The inflection glass transition temperature (T_g) has been considered.

Solubility:
Polyisoprene is soluble in THF, toluene, hexane, pentane and cyclohexane and precipitates from methanol.

SEC of Homopolymer:



Size Exclusion Chromatography of Poly isoprene OH terminatedL
—— M_n = 9,500, M_w = 10,000, M_w/M_n = 1.06
Soution Viscosity in THF at 35 oC: 0.222dl/g: Rgw:4.31nnm
dn/dc in THF at 35 oC: 0.125ml/g

Thermogram for the polymer: