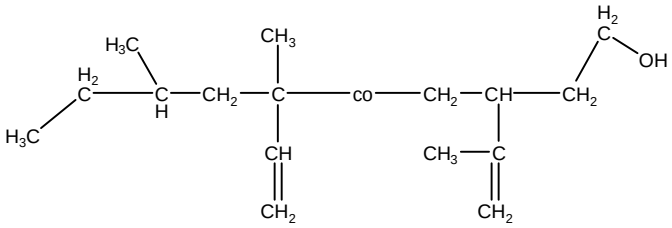
Sample Name:

Hydroxy-terminated Polyisoprene, 1,2 and 3,4 -microstructure rich

Sample #: **P18849-IPOH**

Structure:

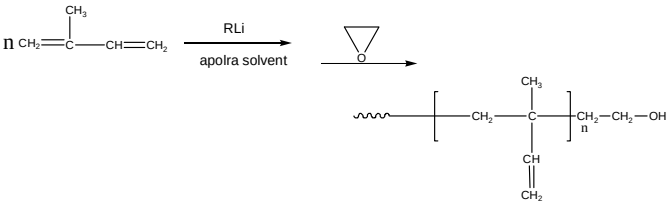


Composition:

Mn x 10^3	PDI
37.0	1.7

Synthesis Procedure:

1,2- and 3,4-addition hydroxy-terminated polyisoprene was prepared by anionic living polymerization in a apolar solvent (THF) followed by termination with ethylene oxide. The scheme of the reaction is illustrated below:



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.

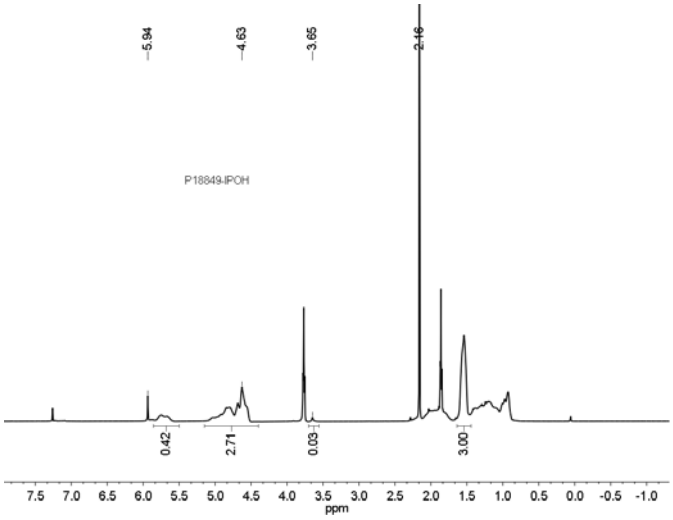
Functionality:

Functionality of the obtained polymer was determined by reacting polymer in dried non quantity of acetic anhydride in the presence of pyridine as a catalyst and the liberated COOH was titrated by acid-base titration.

Solubility:

Hydroxy-terminated polyisoprene is soluble in DMF, THF, toluene, hexane, cyclohexane, and $CHCl_3$. It precipitates from methanol, ethanol, water.

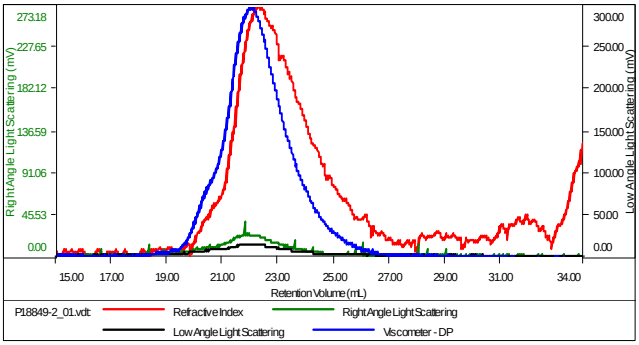
^{1}H NMR (500 MHz, $CDCl_3$):



SEC elugram:

Sample ID: P18849-IPEO

Concentration (mg/mL)	4.7540
Sample dn/dc (mL/g)	0.1200
Method File	PS80K-august 12-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18849-2_01.vdt	37,096	63,654	71,224	1.716	0.4163