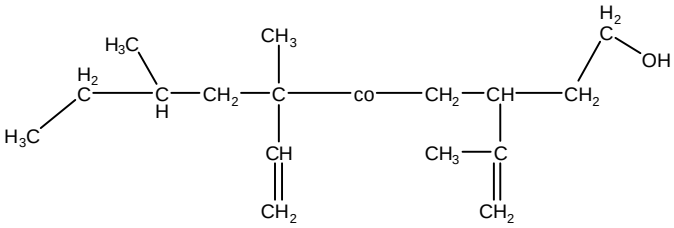
Sample Name:

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

Sample #: **P18851-IPOH**

Structure:

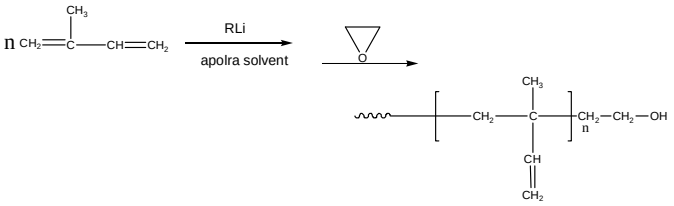


Composition:

Mn x 10^3	PDI
20.5	1.07

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.

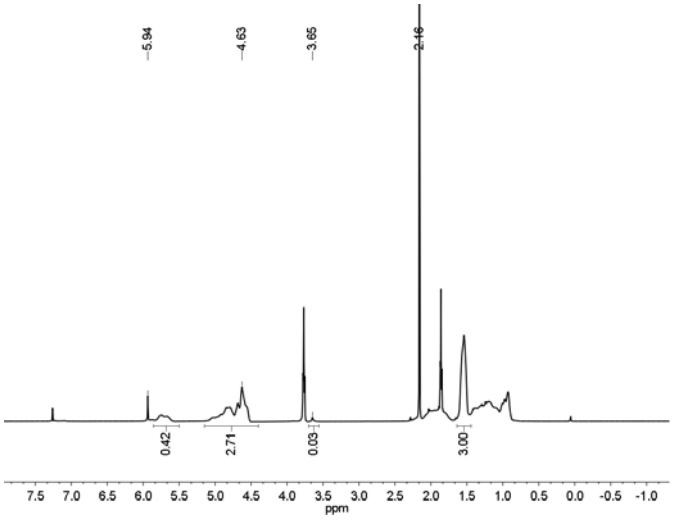
Functionality:

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:

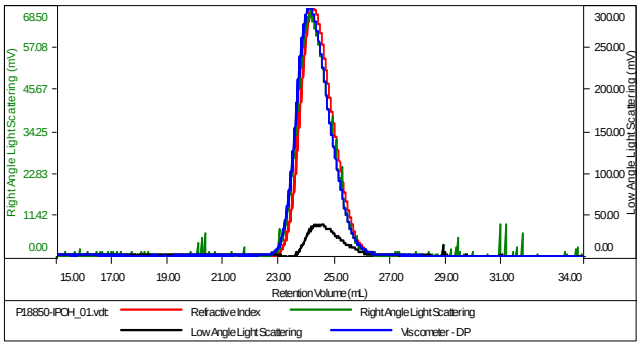
Hydroxy-terminated polyisoprene is soluble in DMF, THF, toluene, hexane, cyclohexane, and $CHCl_3$. It precipitates from methanol, ethanol, water.

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



SEC elugram of P18851-IPOH:

Concentration (mg/mL)	20.9589
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-august 12-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18850-IPOH_01.vdt	20,689	21,186	20,689	1.024	0.2210