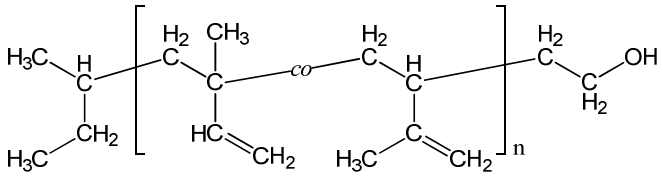
Sample Name:

Hydroxy-terminated Polyisoprene
(1,2- and 3,4-addition)

Sample #: **P19552-IPOH**

Structure:

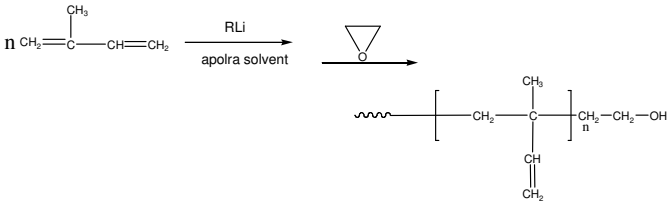


Composition:

Mn x 10^3	PDI
9.5	1.18

Synthesis Procedure:

Hydroxyl-terminated polyisoprene was prepared by anionic living polymerization in 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.

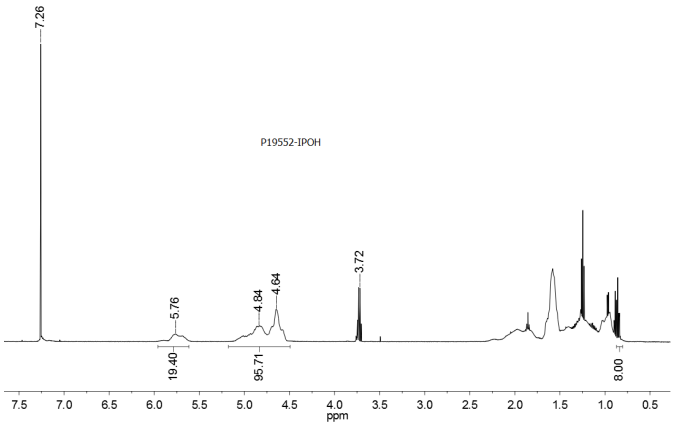
Functionality:

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 chloroform.
It precipitates from methanol, ethanol, and water.

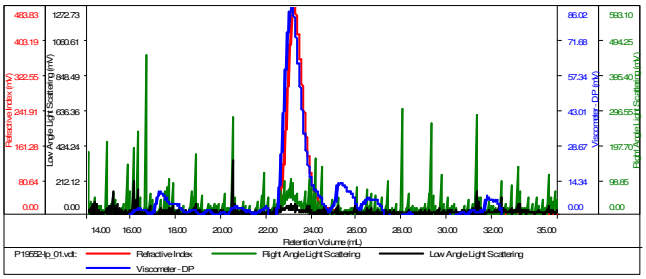
^{1}H NMR (500 MHz, $CDCl_3$) spectrum of the product:



SEC elugram of the product:

Sample ID-P19552-IpOH

Concentration (mg/mL)	3.5784
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-Jan-2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersi	Intrinsic Viscosity (dL/g)
P19552-Ip_01.vdt	9,764	11,527	9,980	1.181	0.7298