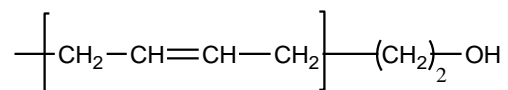


**Sample Name:** Hydroxy Terminated Polybutadiene, 1, 4-microstructure

**Sample #:** P11201-BdOH

**Structure:**

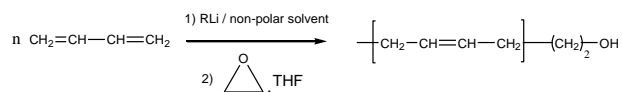


**Composition:**

$M_n \times 10^3$	PDI
60.0	1.09

**Synthesis Procedure:**

1, 4-addition hydroxy terminated polybutadiene was prepared by anionic living polymerization of butadiene in non-polar solvent 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.

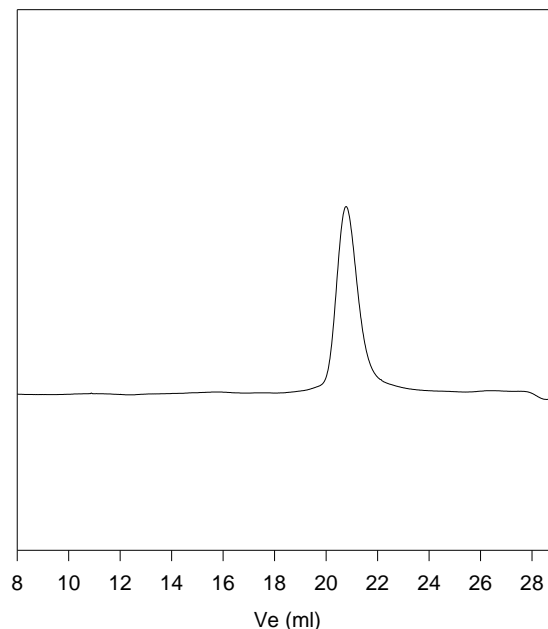
**Functionality:** functionality of the obtained polymer was determined by reacting polymer in dried non quantity of acetic anhydride in the presence of pyridine as a catalyst and the liberated COOH was titrated by acid-base titration.

**Solubility:**

Hydroxy terminated polybutadiene is soluble in DMF, THF, toluene, hexane, cyclohexane and  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water.

**SEC of Sample:**

**P11201-BdOH (1,4 addition)**



Size exclusion chromatography of poly(butadiene)

— Polybutadiene  $M_n=60,000$ ,  $M_w=65,000$ ,  $PI=1.09$