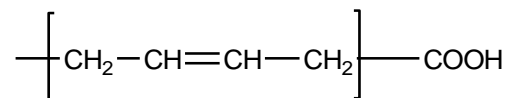


**Sample Name: Carboxy Terminated
Polybutadiene, 1,4-rich microstructure**

Sample #: P2945-BdCOOH

Structure:

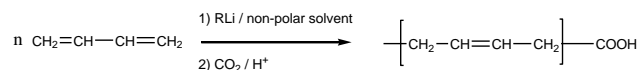


Composition:

Mn x 10 ³	PDI
1.2	1.09

Synthesis Procedure:

1,4-addition carboxy terminated polybutadiene was prepared by anionic living polymerization of butadiene in non-polar media (or in presence of 10% diethyl ether), followed by terminating the polymerization with dried CO₂. The scheme of the reaction is illustrated below:



Characterization:

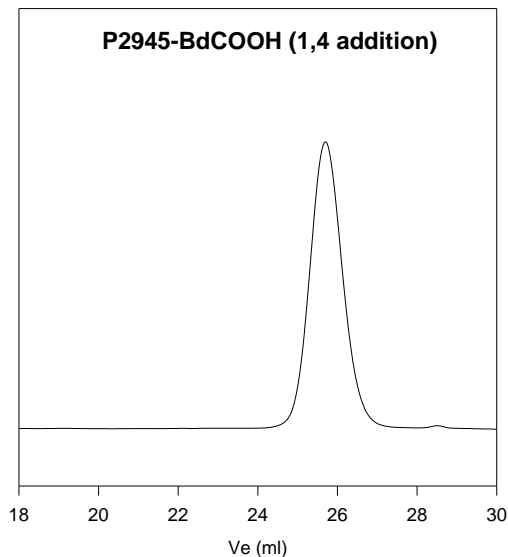
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple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

Functionality: The degree of polymer functionality was determined by acid-base titration.

Solubility:

COOH terminated polybutadiene is soluble in DMF, THF, toluene, hexane, cyclohexane and CHCl₃. It precipitates from methanol, ethanol and water.

SEC of Sample:



Size exclusion chromatography of polybutadiene.

M_n=1200 M_w=1300, PI=1.09, functionality=>0.90%