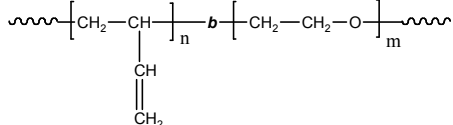


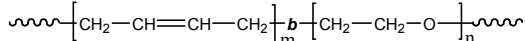
Sample Name: Poly (butadiene-b-ethylene oxide)
Poly butadiene rich in 1,2 or 1,4 microstructure

Sample #: P40462-BdEO
(Poly butadiene block rich in 1,2 microstructure)

Structure of 1,2-rich microstructure about 85%:



Structure of 1,4-rich microstructure:



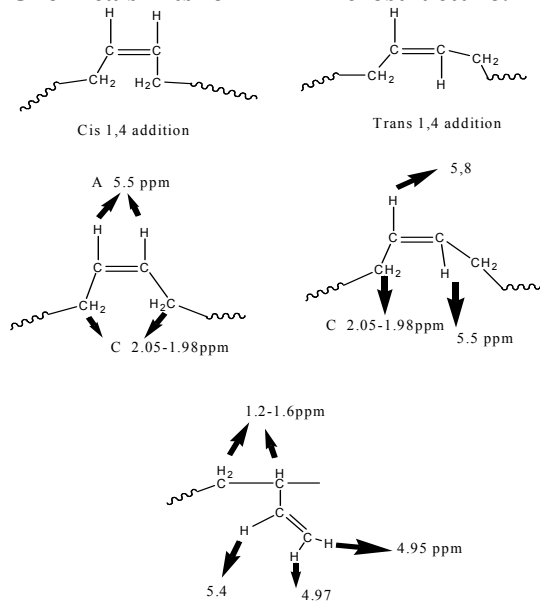
Composition:

Mn x 10 ³ Bd-b-EO	Mw/Mn (PDI)	% 1,2 addition Butadiene
2.9-b-1.3	1.04	70%
Dp: of each block: 54-b-29		

Synthesis Procedure:

The polymer was synthesized by anionic polymerization process.

Chemical shifts for PBD microstructure:



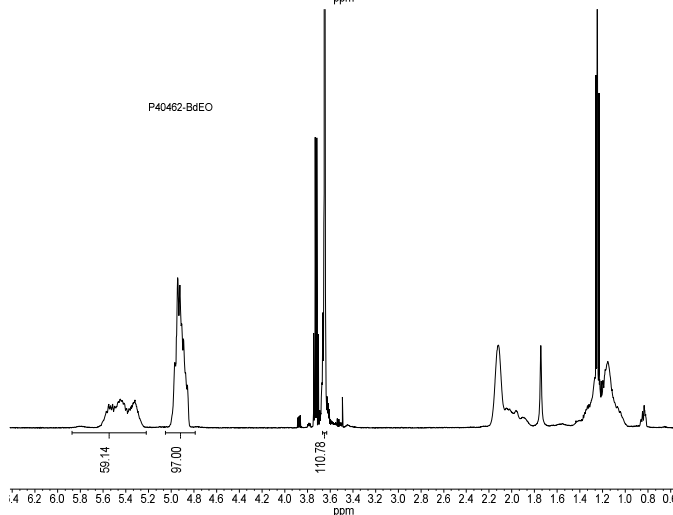
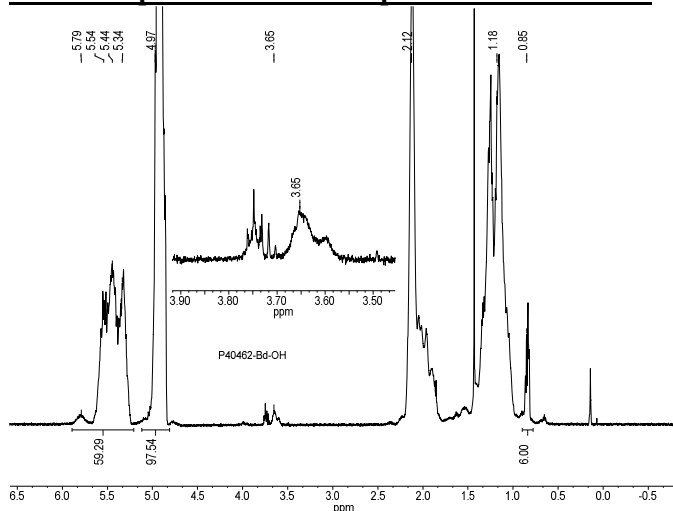
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR.

Solubility:

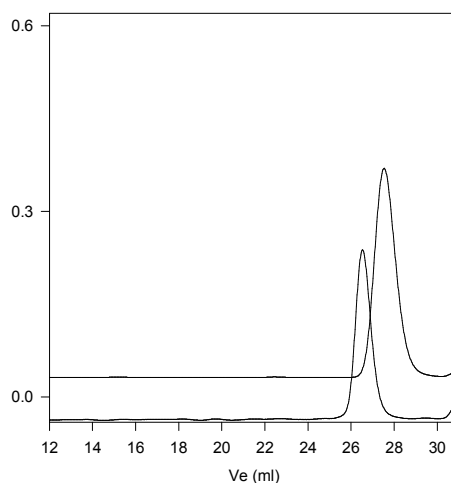
Poly (butadiene-b-ethylene oxide) is soluble in THF, CHCl₃, and toluene. The polymer has variable solubility in hexane, methanol, ethanol and water depending on its composition.

¹H NMR spectrum of the sample BdOH terminated



SEC elugram of the sample:

P40462-Bd_{1,2} rich EO



Size Exclusion Chromatogram of Poly(butadiene-b-ethylene oxide)

— Polybutadiene: M_n=2,900, M_w=3,100, M_w/M_n=1.07

— PBd-b-PEO: M_n PBd(2900)-PEO(1300), M_w/M_n=1.04

The Mn of PEO is calculated from NMR results,