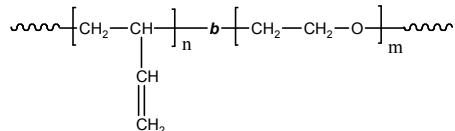


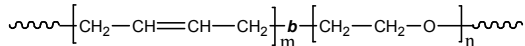
Sample Name: Poly(butadiene-b-ethylene oxide)
Poly butadiene rich in 1,2 or 1,4 microstructure

Sample #: P40494C-BdEO
(poly butadiene block rich in 1,2 microstructure)

Structure of 1,2-rich microstructure about 90%:



Structure of 1,4-rich microstructure:



Composition:

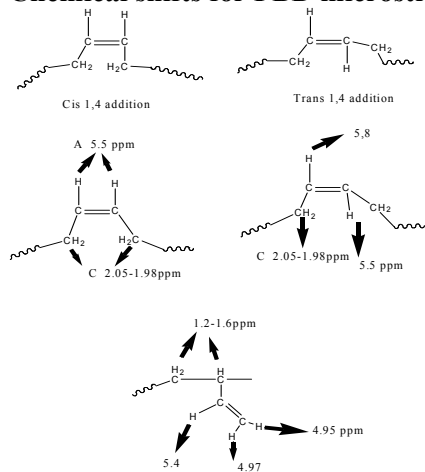
Mn x 10 ³ Bd-b-EO	Mw/Mn (PDI)	% 1,2 addition Butadiene
1.8-b-0.4	1.04	93%

Dp: of each block: 33-b-9		
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Synthesis Procedure:

The polymer was synthesized by anionic polymerization process.

Chemical shifts for PBD microstructure:



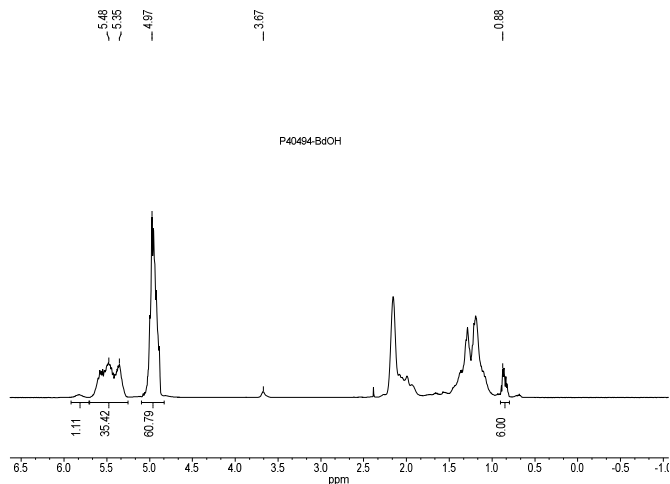
Characterization:

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

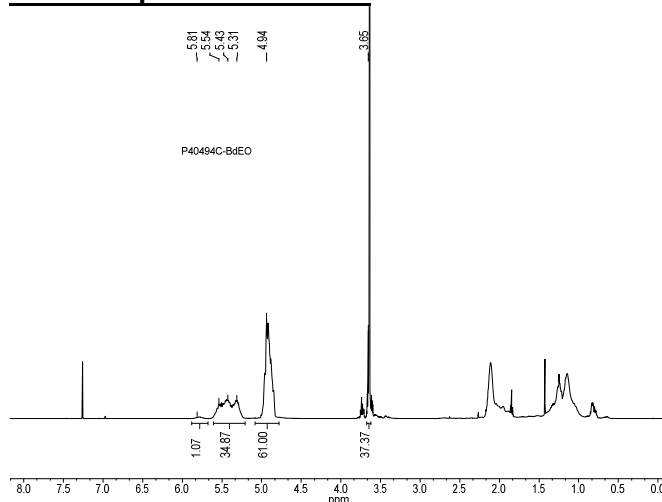
Solubility:

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 BdOH:

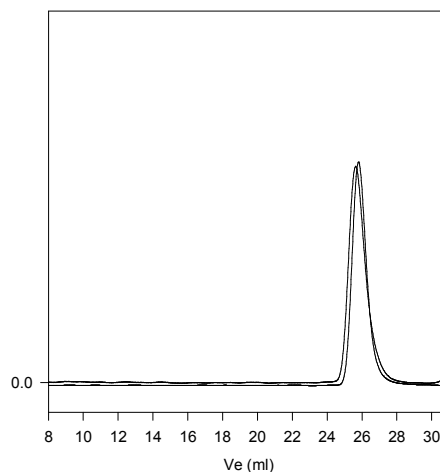


¹H NMR spectrum of BdEO:



SEC elugram of the sample:

P40494C-BdEO



Size exclusion chromatography of poly(butadiene-b-ethylene oxide):

— OH terminated 1,2 polybutadiene M_n=1,800, M_w=1,850, PI=1.04
 — Block Copolymer PBd(1,800)-b-PEO(400), PI=1.04
 (Chemical composition From ¹H NMR)