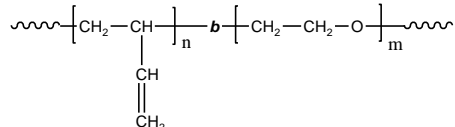


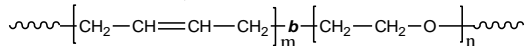
**Sample Name:** Poly(butadiene-b-ethylene oxide)  
Poly butadiene rich in 1,2 or 1,4 microstructure

**Sample #:** P40463A-BdEO  
(poly butadiene block rich in 1,2 microstructure)

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



**Structure of 1,4-rich microstructure:**



**Composition:**

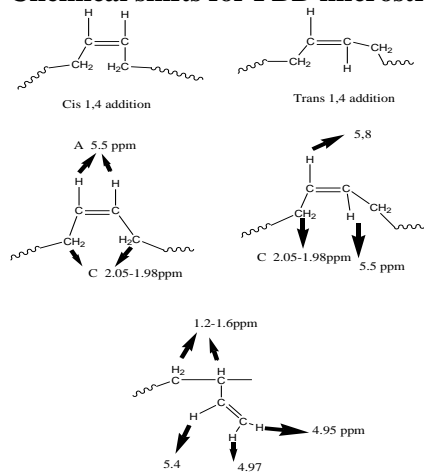
Mn x 10 <sup>-3</sup> Bd-b-EO	Mw/Mn (PDI)	% 1,2 addition Butadiene
1.7-b-1.0	1.04	90%

Dp: of each block: 54-b-29		
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**Synthesis Procedure:**

The polymer was synthesized by anionic polymerization process.

**Chemical shifts for PBD microstructure:**



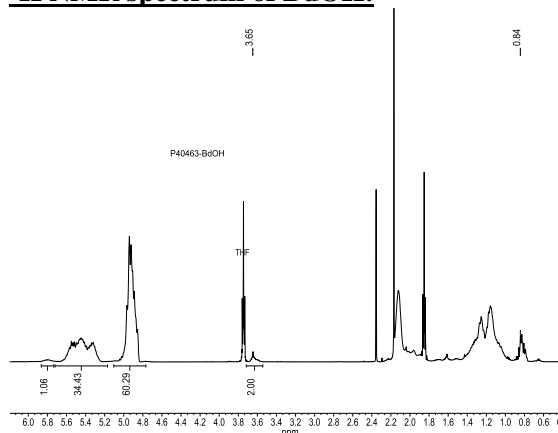
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR

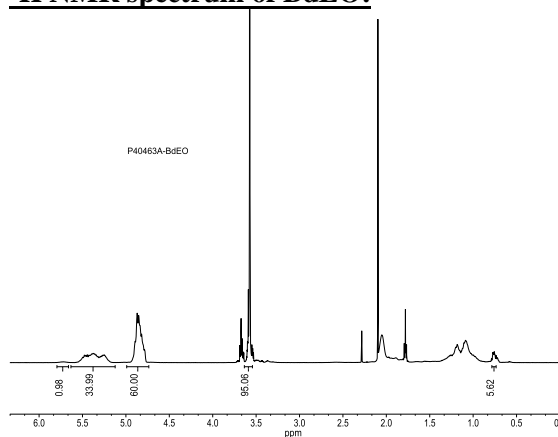
**Solubility:**

Poly(butadiene-b-ethylene oxide) is soluble in THF, CHCl<sub>3</sub>, and toluene. The polymer has variable solubility in hexane, methanol, ethanol and water depending on its composition.

**<sup>1</sup>H NMR spectrum of BdOH:**

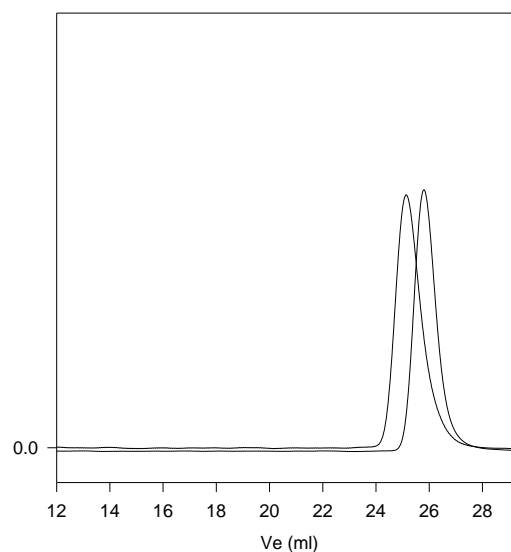


**<sup>1</sup>H NMR spectrum of BdEO:**



**SEC elugram of the sample:**

**P40463A-BdEO**



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

- OH terminated 1,2 polybutadiene M<sub>n</sub>=1,700, M<sub>w</sub>=1,800, PI=1.05
- Block Copolymer PBd(1,700)-b-PEO(1,000), PI=1.04  
(Chemical composition From <sup>1</sup>H NMR)