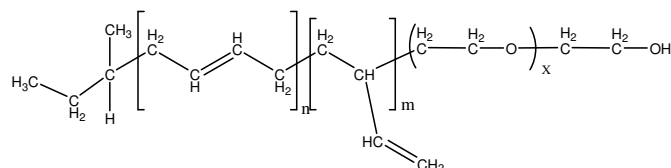


**Sample Name: Poly(butadiene-b-ethylene oxide)**  
*Polybutadiene rich in 1,4 microstructure*

**Sample #: P19917-BdEO**  
*(polybutadiene block rich in 1,4 microstructure)*



#### Composition:

Mn x 10 <sup>3</sup> Bd-b-EO	Mw/Mn (PDI)
32.0-b-59.0	1.09
PBd microstructure	1,4 addition >87%

#### Synthesis Procedure:

The polymer was synthesized by anionic process

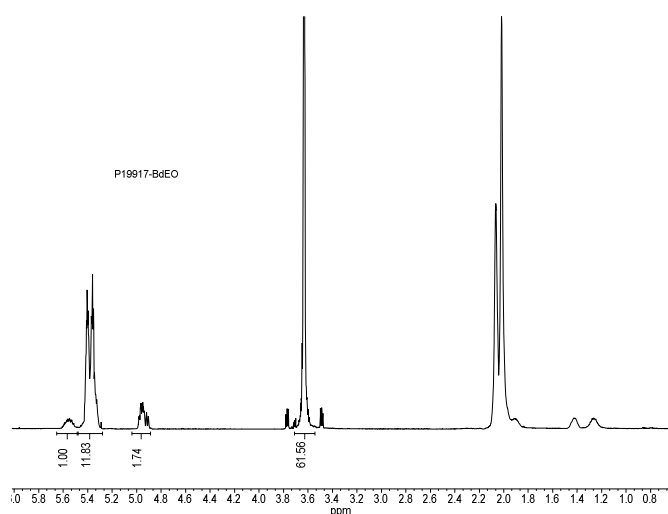
#### Characterization:

The polymer was characterized by <sup>1</sup>H NMR and SEC

#### Solubility:

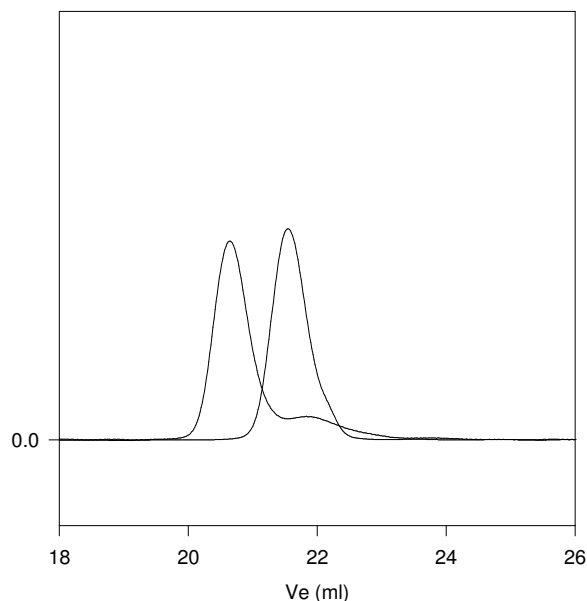
Poly(butadiene-b-ethylene oxide) is soluble in THF, CHCl<sub>3</sub>, and toluene. The polymer has variable solubility in hexane, methanol, ethanol and water depending on its composition.

#### <sup>1</sup>H NMR spectrum of the polymer:



#### SEC elugram of the block copolymer:

##### P19917-BdEO



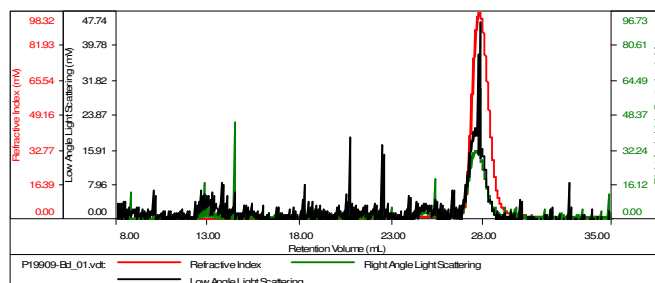
Size exclusion chromatography of poly(butadiene-b-ethylene oxide):

- OH terminated 1,4 polybutadiene M<sub>n</sub>=32000, M<sub>w</sub>=33600 PI=1.05
- Block Copolymer PBd(32000)-b-PEO(59,000), Mw/Mn 1.09 (Composition from <sup>1</sup>H NMR)

#### SEC elugram of BdOH terminated used in this synthesis

##### Sample ID: P19909-BdOH

Concentration (mg/mL)	13.3402
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-May242016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P19909-Bd_01.vdt	32,154	35,024	1.089	0.1805	32,754