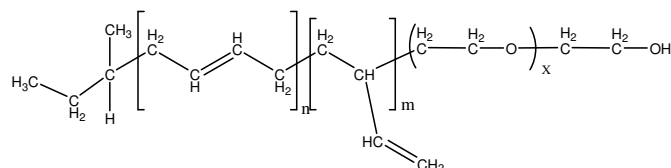


**Sample Name:** Poly(butadiene-b-ethylene oxide)  
Polybutadiene rich in 1,4 microstructure

**Sample #:** P40108A-BdEO  
(polybutadiene block rich in 1,4 microstructure)



### Composition:

Mn x 10 <sup>3</sup> Bd-b-EO	Mw/Mn (PDI)
18.5-b-7	1.04

PBd microstructure	1,4 addition >85%
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### Synthesis Procedure:

The polymer was synthesized by anionic process

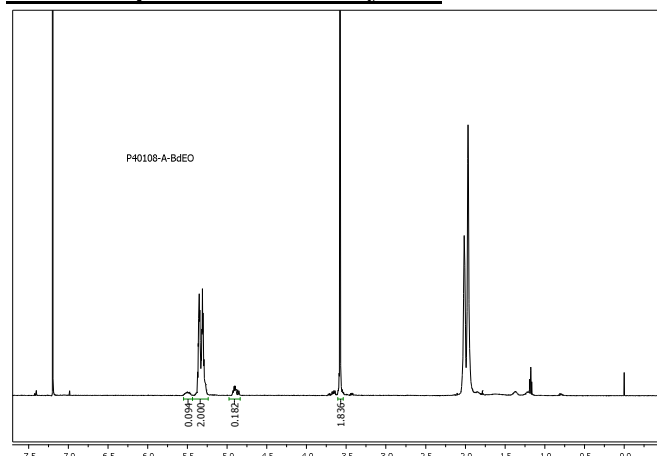
### Characterization:

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.

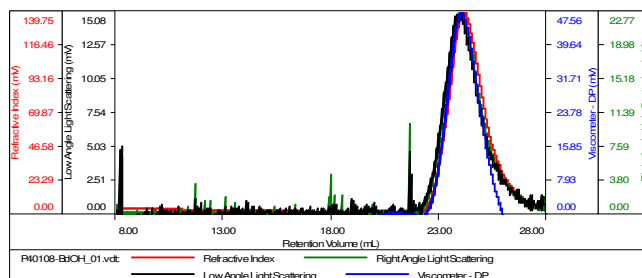
### <sup>1</sup>H NMR spectrum of the Polymer:



### SEC elugram of the first block:

Sample ID: P40108-BdCH

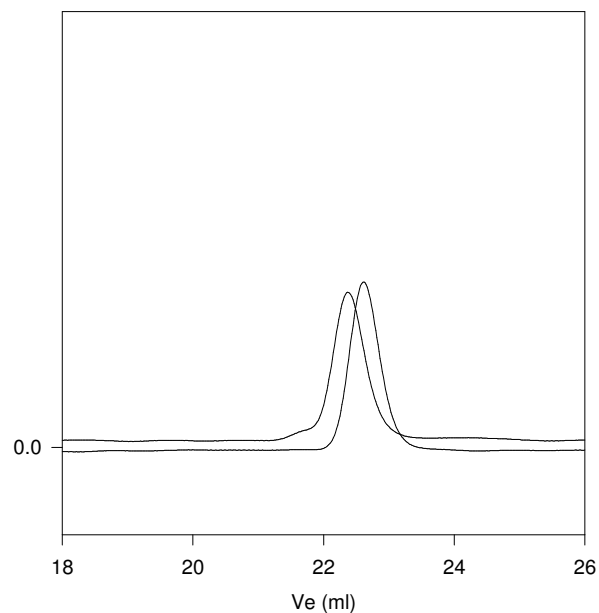
Concentration (mg/mL)	6.3157
Sample dn/dc (mL/g)	0.1090
Method File	PS80K-29August2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40108-BdCH_01.vdt	18,550	19,065	1.028	0.3836	18,476

### SEC elugram of the diblock copolymer:

P40108A-BdEO



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

- 1,4 polybutadiene M<sub>n</sub>=18,500, M<sub>w</sub>=19,000 PI=1.03
- Block Copolymer PBd(18,500)-b-PEO(7000), Mw/Mn 1.04 (Composition from <sup>1</sup>H NMR)