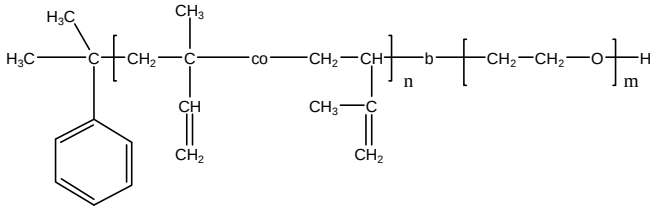
**Sample Name: Poly(Isoprene-b-ethylene oxide)**

**Sample #: P18851D-IPEO**
***(poly isoprene block rich in 1,2 & 3,4 microstructure)***



**Composition:**

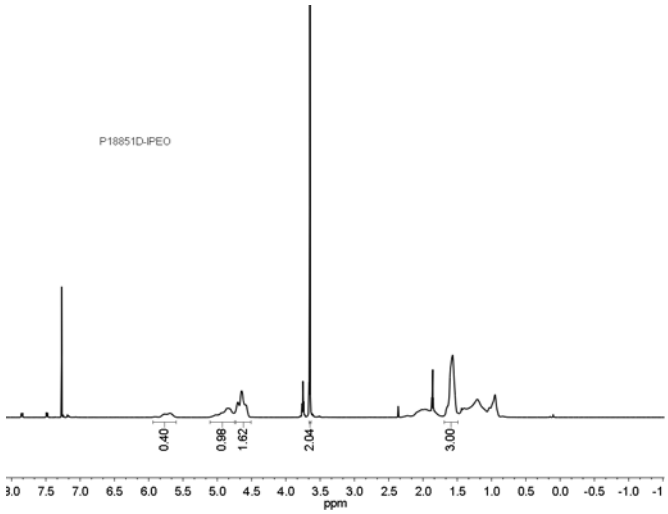
| Mn × $10^3$ PIP-b-EO | Mw/Mn (PDI) |
|---|---|
| 20.5–b–6.5 | 1.06 |

**Synthesis Procedure:**
Poly(isoprene-b-ethylene oxide) was prepared by anionic polymerization process.

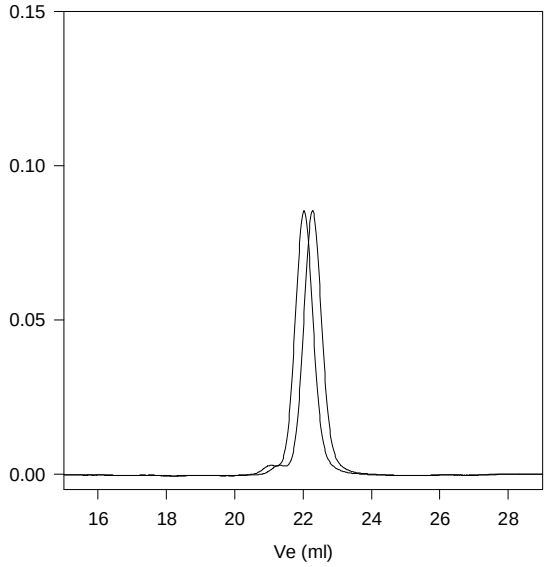
**Characterization:**
OH-Terminated isoprene was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from $^1$HNMR spectroscopy by comparing the peak area of the vinylic butadiene protons at about 5.4 ppm with the ethylene oxide protons at 3.6 ppm.

**Solubility:**
Poly(isoprene-b-ethylene oxide) is soluble in THF, $CHCl_3$, and toluene. The polymer has variable solubility in hexane, methanol, ethanol and water depending on its composition.

**$^1$H NMR spectrum of the sample**




**SEC elugram of PI-PEO diblock copolymer:**




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

—— polyisoprene (1,2 and 3,4 addition) $M_n$=20,500, $M_w$=21,300, PI=1.04

—— Block Copolymer PIP(20,500)-b-PEO(6,500), PI=1.06
Composition from H NMR