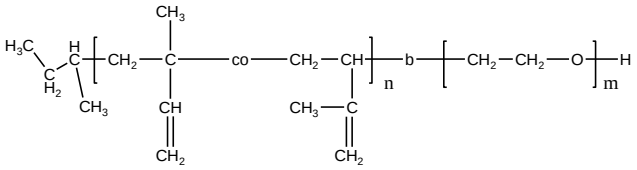
**Sample Name: Poly(Isoprene-b-ethylene oxide)**

**Sample #: P18850-IPEO**

***(poly isoprene block rich in 1,2 & 3,4 microstructure)***



**Composition:**

| $Mn \times 10^3$ PIP-b-EO | Mw/Mn (PDI) |
|---|---|
| 18.5–b–13.5 | 1.07 |

**Synthesis Procedure:**

Poly(isoprene-b-ethylene oxide) was prepared by anionic polymerization process.

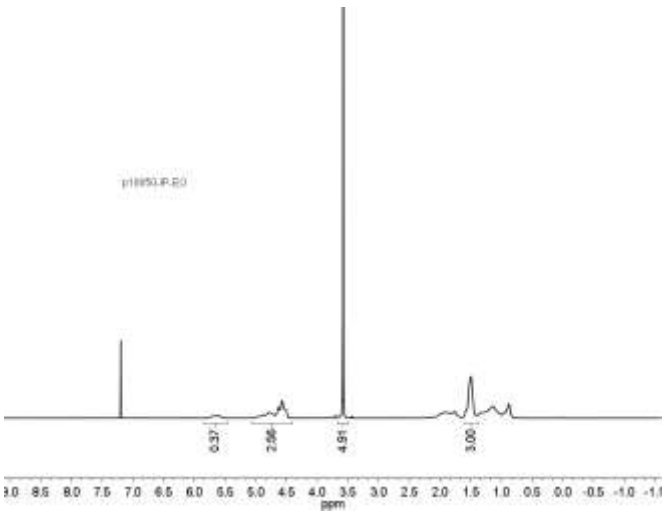
**Characterization:**

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.

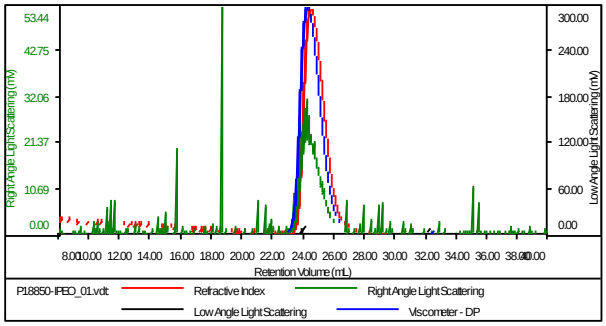
**$^1$H NMR (500 MHz, $CDCl_3$):**



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

**Sample ID: P18850-IPEO**

| | |
|---|---|
| Concentration (mg/mL) | 6.7855 |
| Sample dn/dc (mL/g) | 0.1050 |
| Method File | PS80K-august 5-2014-0002.vcm |
| Column Set | 3x PL 1113-6300 |
| Solvent | THF |




| Sample | Mn | Mw | Mp | Mw/Mn | IV |
|---|---|---|---|---|---|
| P18850-IPEO_01.vdt | 31,360 | 33,603 | 32,981 | 1.072 | 0.3568 |