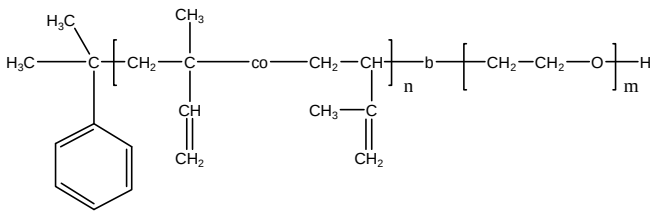
Sample Name: Poly(Isoprene-b-ethylene oxide)

Sample #: P18843-IPEO
(poly isoprene block rich in 1,2 & 3,4 microstructure)

Structure:



Composition:

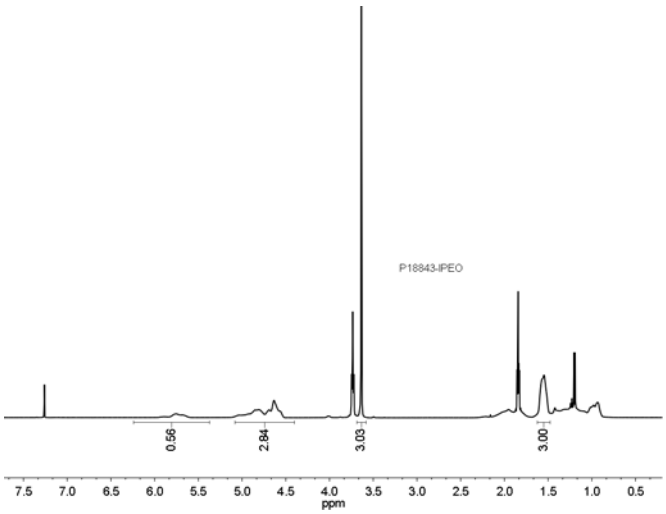
Mn × 10^3 PIP-b-PEO	Mw/Mn (PDI)
60.0-b-30.0	1.06

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

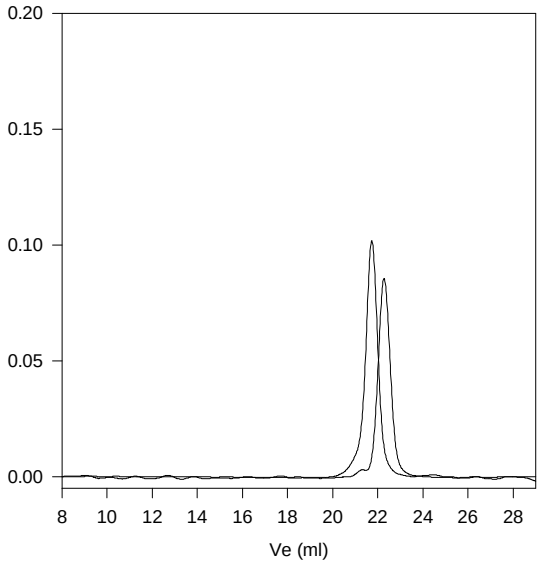
Characterization:
OH-terminated isoprene was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}HNMR spectroscopy by comparing the peak area of the vinylic butadiene protons at about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

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:
P18843-IPEO
Poly isoprene rich in 1,2 and 3,4 addition



Size exclusion chromatography of poly(Isoprene-b-ethylene oxide):
—— polyisoprene (1,2 and 3,4 addition) M_n=60,000, M_w=63,000, PI=1.05
—— Block Copolymer PIP(60,000)-b-PEO(30,000), PI=1.06
Composition from H NMR