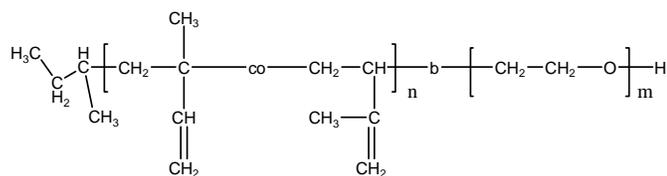


Sample Name: Poly(Isoprene-b-ethylene oxide)

Sample #: P18851A-IPEO
(poly isoprene block rich in 1,2 & 3,4 microstructure)



Composition:

Mn × 10 ³ PIP-b-EO	Mw/Mn (PDI)
20.5-b-0.5	1.06

Synthesis Procedure:

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

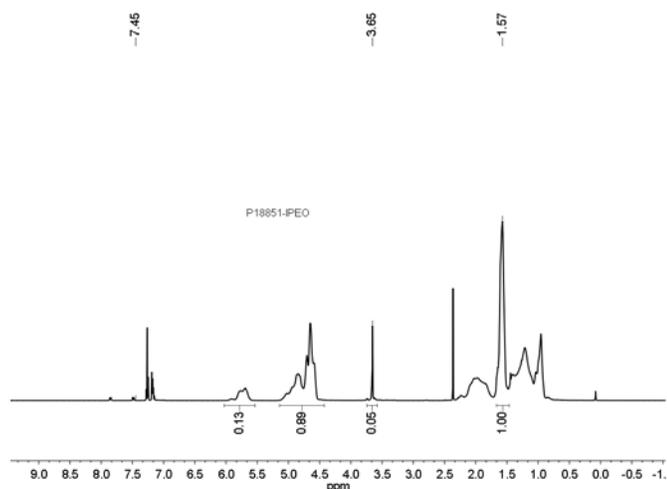
Characterization:

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 ¹H-NMR 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.

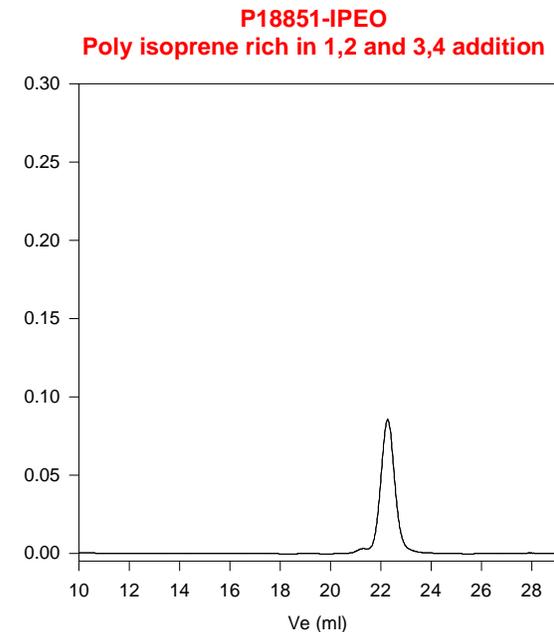
Solubility:

Poly(isoprene-b-ethylene oxide) is soluble in THF, CHCl₃, and toluene. The polymer has variable solubility in hexane, methanol, ethanol and water depending on its composition.

¹H NMR (500 MHz, CDCl₃):



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(500), PI=1.06
Composition from H NMR