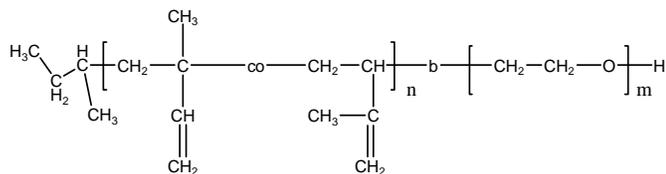


Sample Name: Poly(isoprene-b-ethylene oxide)

Sample #: P18853-IPEO

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



Composition:

$M_n \times 10^3$ PIP-b-EO	Mw/Mn (PDI)
21.5–b–10.0	1.15

Synthesis Procedure:

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

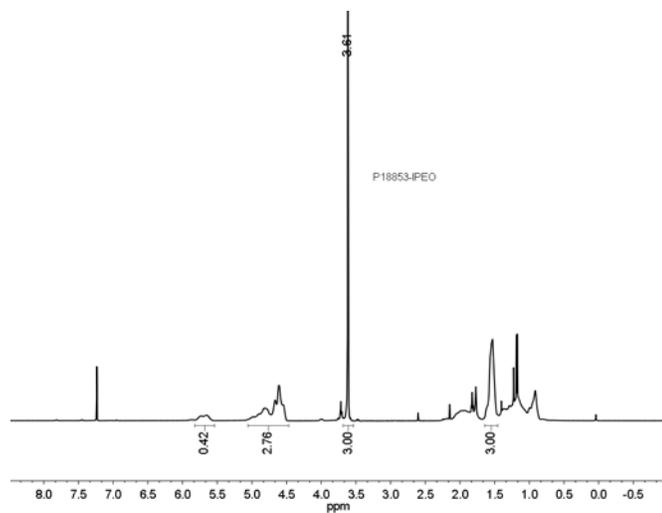
Characterization:

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 $^1\text{H NMR}$ 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. 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.

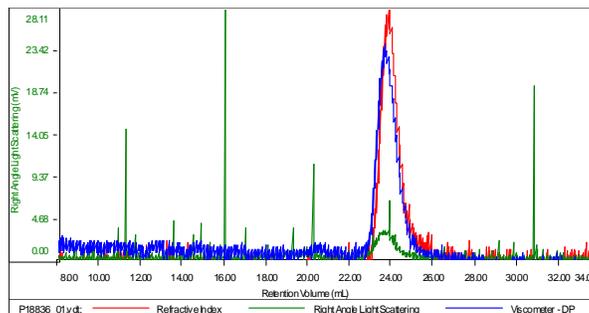
$^1\text{H NMR}$ (500 MHz, CDCl_3):



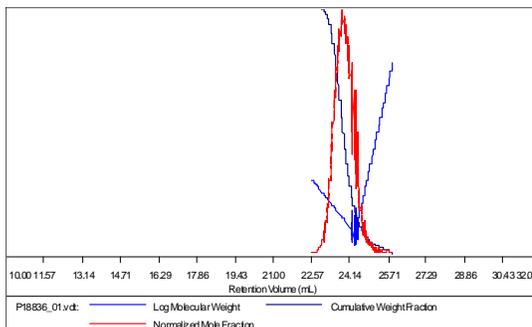
Poly IP-OH used in this extension :

Sample ID: P18834-IPOH

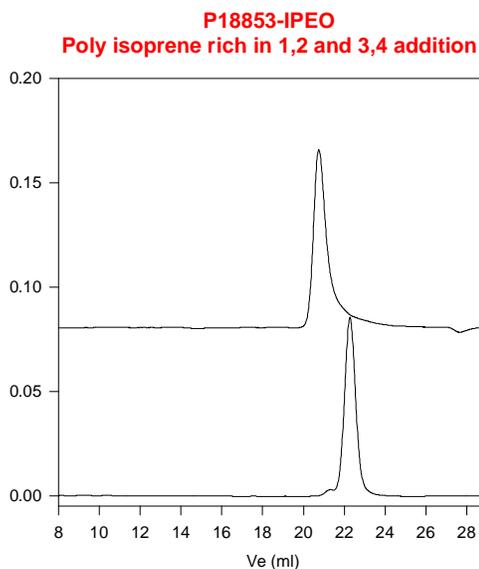
Concentration (mg/mL)	0.7397
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-august 5-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mh	Mw	Mp	Mw/Mh	IV
P18836_01.vdt	21,393	27,269	19,862	1.275	0.2058



SEC elugram of PI-PEO diblock copolymer:



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

— polyisoprene (1,2 and 3,4 addition) $M_n=21,500$, $M_w=27,300$, $PI=1.2$

— Block Copolymer PIP(21,500)-b-PEO(10,000), $PI=1.15$
Composition from H NMR