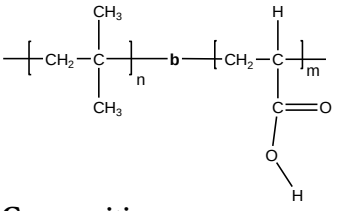
Sample Name: **Poly(isobutylene-b-Acrylic acid)**
Sample #: **P9238-IBAA**

Structure:



Composition:

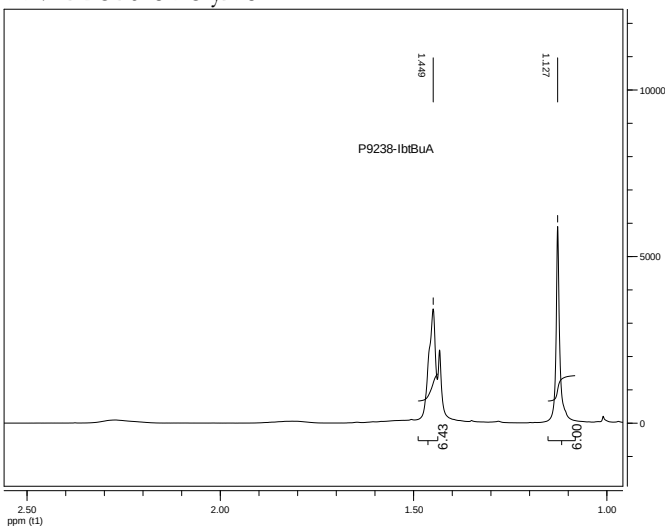
Mn × 10^3 Ib-b-AA	Mw/Mn (PDI)
5.0-b-4.5	1.30

Synthesis Procedure:
Poly(isobutylene-b- tert.butylacrylate) is prepared by cationic polymerization of isobutylene to obtained functionalized poly isobutylene . This end group converted to anionic species followed by living anionic polymerization of tert.butylacrylate in the presence of LiCl as additive. . Tert.butyl ester converted to acrylic acid by acid hydrolysis.

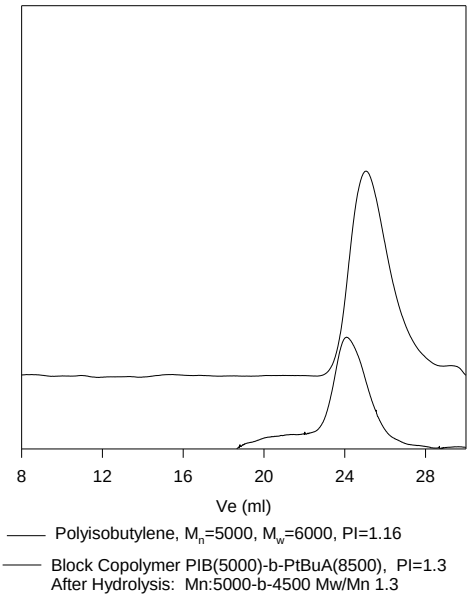
Characterization:
An aliquot of the poly(isobutylene) block was terminated before addition of tert.butylacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy by comparing the peak area of the isobutylene protons at 1.1 ppm with the peak area of tert.butyl acrylate protons at 1.4 ppm. Block copolymer PDI is determined by SEC.

Solubility: Poly(isobutylene-b-Acrylic acid) is soluble in THF with a drop of Methanol

HNMR of the Polymer:



SEC profile of the block copolymer
P9238--IBtBuA for PIBAA



DSC thermogram for Ib block: