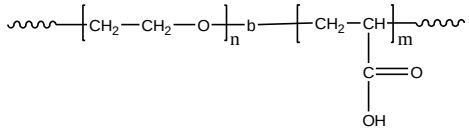
Sample Name:**Poly(ethylene oxide -b- acrylic acid)**

Sample #: **P10961A-EOAA**

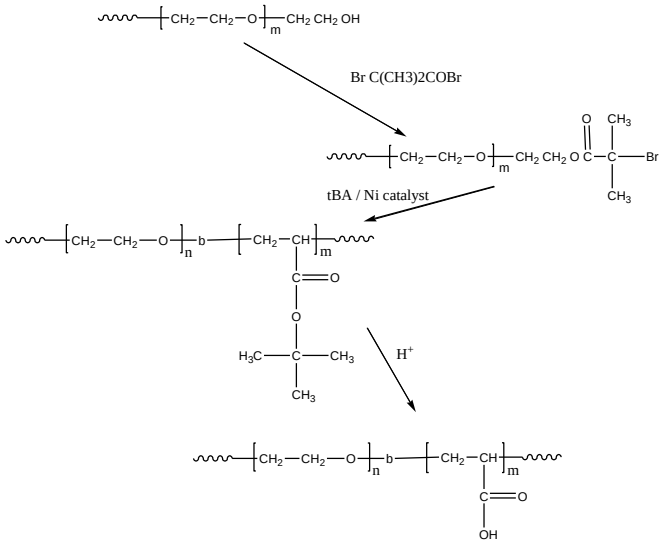
Structure:



Composition:

$Mn \times 10^3$ PEO-b-PAA	PDI
3.8-b-7.5	1.3

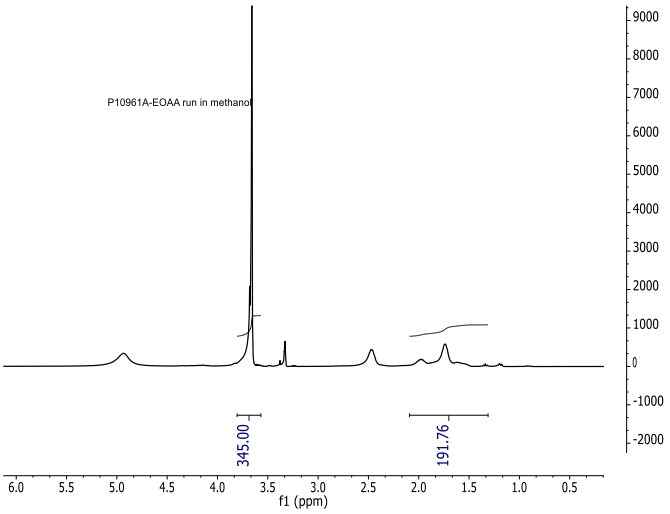
Synthesis Procedure:
The polymer is prepared by the following scheme:



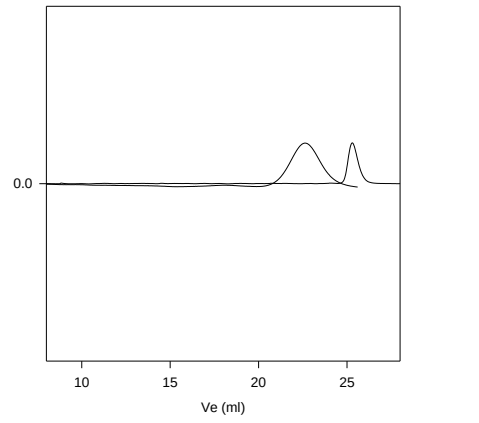
Characterization:
The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy of poly(ethylene oxide -b- t-butyl acrylate) by comparing the peak area of the t-butyl acrylate protons at 1.43 ppm with the peak area of the ethylene oxide protons at 3.6 ppm, then transferred to the EOAA form accordingly. Copolymer PDI is determined by SEC of poly(ethylene oxide -b- t-butyl acrylate).

Solubility:
The polymer is soluble in CHCl3, methanol, and THF. It precipitated out from cold hexane or ether.

H-NMR Spectrum of the block copolymer:



SEC of the block copolymer before hydrolysis:



Size exclusion chromatography of poly(ethylene oxide-t-butyl acrylate)
—— Poly(ethylene oxide), M_n=3800, M_w=4000, PI=1.05
—— Block Copolymer PEO(3800)-b-PtBA(12,600 from NMR), PI=1.3
After hydrolysis
Block Copolymer PEO(3800)-b-PAA(7500 from NMR), PI=1.3