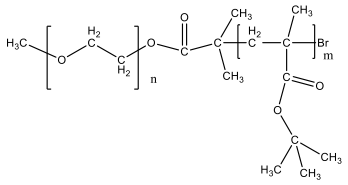
Sample Name: **Poly(ethylene oxide)-b-poly(tert-butyl methacrylate)**

Sample #: **P43929-EOtBuMA**

Structure:

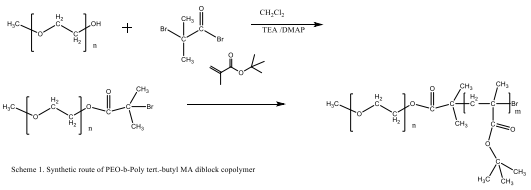


Composition:

Mn x 10^3 PEO-b-tBuMA	PDI
5.0-b-5.2	1.06

Synthesis Procedure:

Poly(Ethylene oxide-t-Butyl methacrylate) is prepared as shown in the scheme below:



Scheme 1. Synthetic route of PEO-b-Poly tert.-butyl MA diblock copolymer

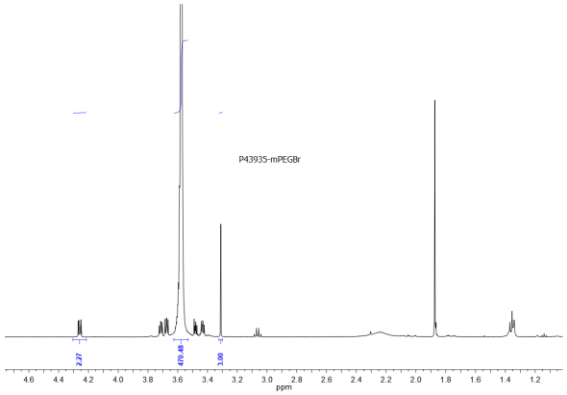
Characterization:

Polymer composition was determined by H NMR taking the integration of PEG block at 3.66 ppm and tert.Butyl ester of t-BuMA block at 1.4 ppm. Molecular weights of the first block and the Mw/Mn of the final and the first block was determined by SEC in THF.

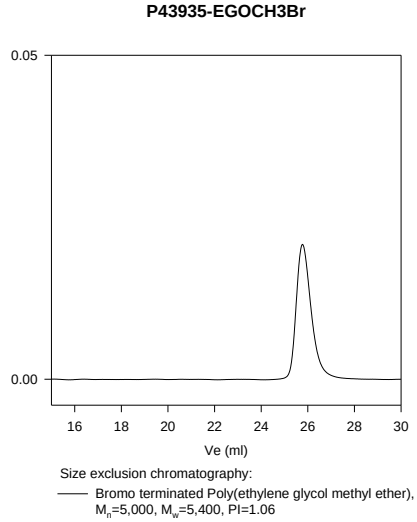
Solubility:

Poly(ethylene oxide -b- tBuMA) is soluble in CHCl3, THF, toluene. The polymer precipitated out from hexane.

H NMR spectrum of the PEGBr Mn of 5000:



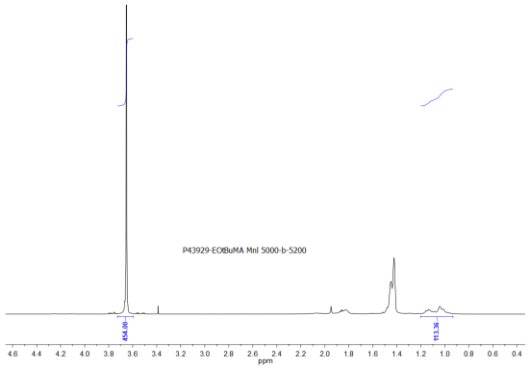
SEC profile of the PEG Sample:



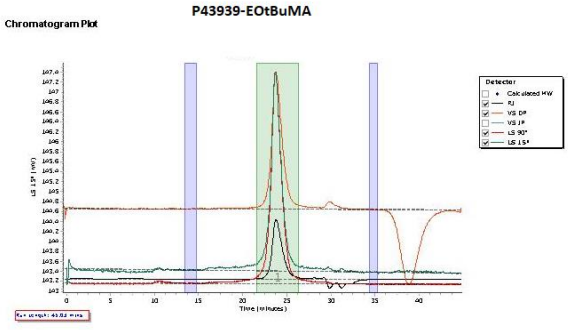
Size exclusion chromatography:

—— Bromo terminated Poly(ethylene glycol methyl ether), M_n=5,000, M_w=5,400, PI=1.06

^{1}H-NMR Spectrum of the block copolymer:



SEC elugram of the block copolymer:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	11359	10174	10796	11396	12008	11213	1.061