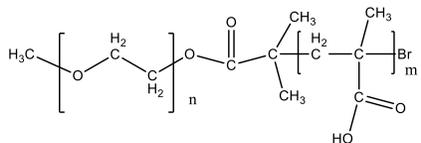


Sample Name:
Poly(ethylene oxide)-b-poly(methacrylic acid)

Sample #: P43938A-EOMAA

Structure:

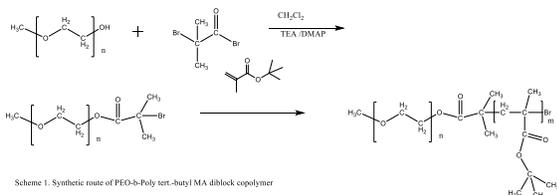


Composition:

Mn x 10 ³ PEO-b-MAA	PDI
5.0-b-2.5	2.0

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

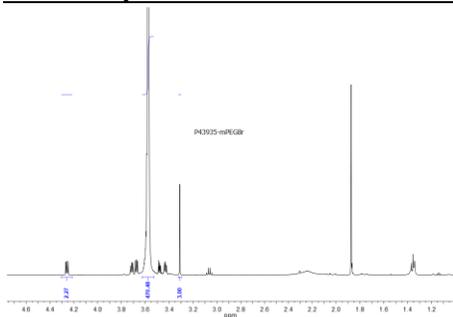
Characterization:

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.

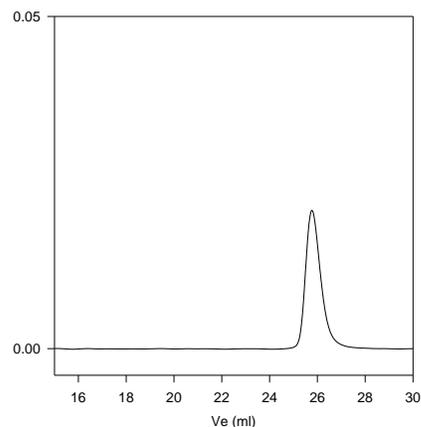
Solubility:

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



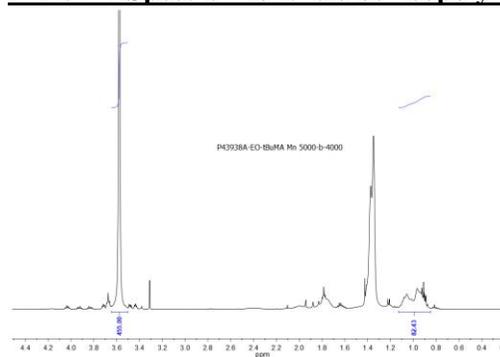
SEC profile of the mPEG-Br used:
P43935-EGOCH3Br



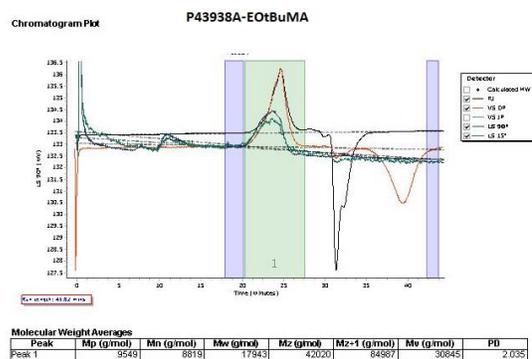
Size exclusion chromatography:

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

1H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz-1 (g/mol)	Mw (g/mol)	PI
Peak 1	3543	8819	17943	42020	84267	30845	2.035

After Hydrolysis of tert butyl ester to PEO-b-MAA Mn: 5000-b-2,500