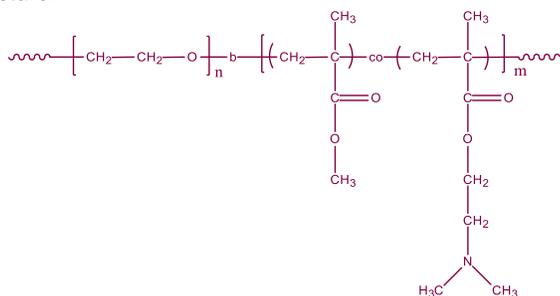


Sample Name: Poly(ethylene oxide -b- (methyl methacrylate-co-N,N-dimethylaminoethyl methacrylate))

Sample #: P6434-EOMMADMAEMA

Structure:

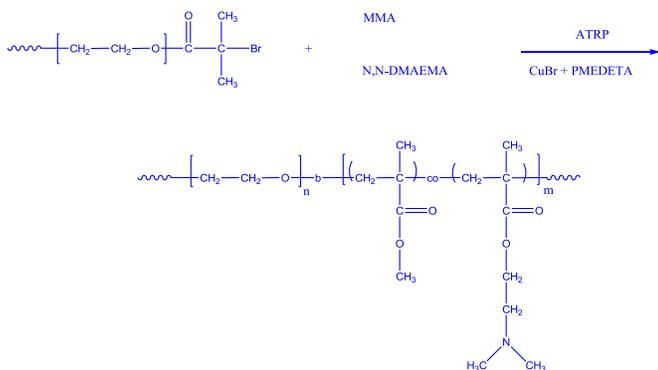


Composition:

$M_n \times 10^3$ PEO-b-MMAcoDMAEMA	PDI
5.0-1.0 (MMA/DMAEMA=8.8)	1.15

Synthesis Procedure:

Poly(ethylene oxide -b- (methyl methacrylate-co-N,N-dimethylaminoethyl methacrylate)) was prepared by ATRP using bromo-terminated poly(ethylene glycol) as the macro-initiator. The scheme of the reaction is illustrated below:



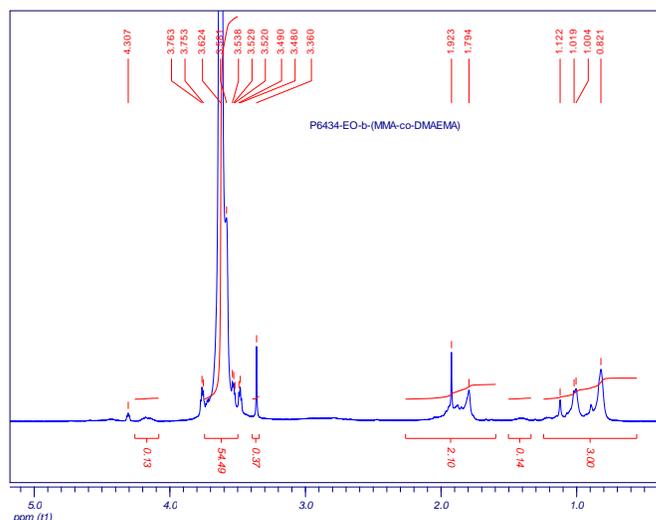
Characterization:

PEG-Br and final block copolymer were analyzed by size exclusion chromatography (SEC) to obtain the molecular weight of PEG and polydispersity index (PDI) for both PEG and block copolymer. The final block copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy by comparing the protons from ethylene oxide ($-\text{CH}_2-$) with the methyl protons from MMA ($-\text{O-CH}_3$).

Solubility:

Poly(ethylene oxide -b- (methyl methacrylate-co-N,N-dimethylaminoethyl methacrylate)) is soluble in THF, acetone, and chloroform and it precipitates out in hexane or ether.

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



SEC of the block copolymer:

P6434-EOMMADMAEMA

