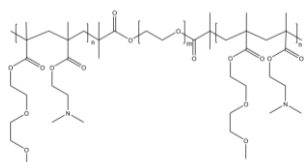


Sample Name: Poly (Diethylene glycol methylethermethacrylate-co-[N,N-dimethylamino]ethyl methacrylate)-b-Poly ethylene glycol-b- Poly(Diethylene glycol methylethermethacrylate-co-[N,N-dimethylamino]ethyl methacrylate)

Sample #: P43948B-DEGMEOMA-DMAEMA-b-PEG-DEGMEOMA-DMAEMA

Structure:



Composition:

$M_n \times 10^3$ PEG Block	$M_n \times 10^3$ total	Mw/Mn
20.0	69.5	2.0
DEG-MeOMA (108)-DMAEMA(24)-PEG(455)- DEGMeOMA(108)-DMAEMA(24)		
Mn: 20,500-4,000-b-20,000-b-20,500-b-4,000		

Synthesis Procedure:

The polymer is prepared by ATRP process using α - ω -dibromo PEG.

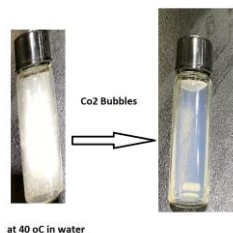
Characterization:

The molecular weight and polydispersity index (PDI) were calculated by SEC using water as eluent. The copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy.

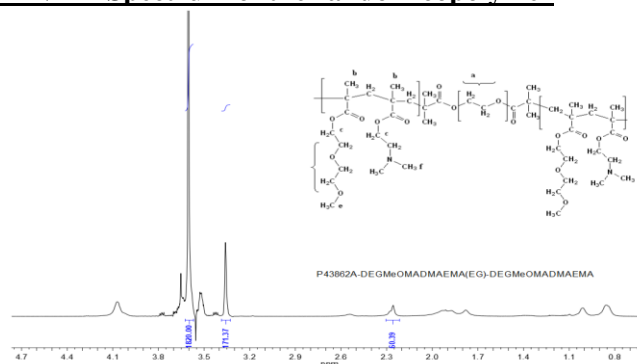
Solubility:

The polymer is soluble in water. 1mg polymer in Water does not give a clear solution. After heating solution to about 40 °C by bubbling CO_2 , it gives clear solution immediately.

CO₂- responsive Polymer Materials

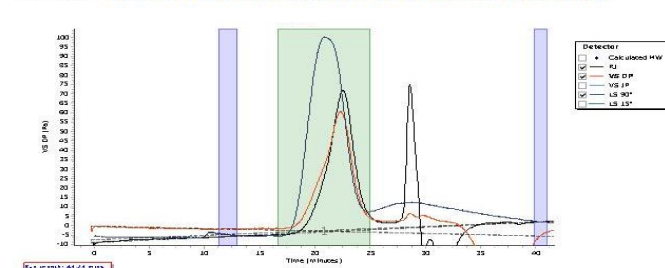


$^1\text{H-NMR}$ Spectrum of the random copolymer



SEC of the random copolymer

Chromatogram P43948-DEGMeOMA-DMAEMA-PEG-b-DMAEMA-DEO-MeoMA



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mw (g/mol)	PDI
Peak 1	78804	69512	142215	310068	557609	260461	2.046