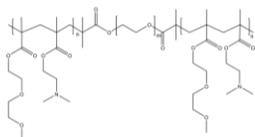


**Sample Name:** Poly (Diethylene glycol methylethermethacrylate-co-[N,N-dimethylamino]ethyl methacrylate)-b-Poly ethylene glycol-b- Poly(Diethylene glycol methylethermethacrylate-co-[N,N-dimethylamino]ethyl methacrylate)

**Sample #:** P43856D-DEGMEOMA-DMAEMA-b-PEG-DEGMEOMA-DMAEMA

**Structure:**



**Composition:**

$Mn \times 10^3$ PEG Block	$Mn \times 10^3$ total	Mw/Mn
20	71	2.5
Feed mole DEG-MeOMA 0.530 mole DMAEMA 0.09 mole PEG central Block 0.5 mole		
DEG-MEOMA(116)-DMAEMA(27)- PEG(454)-DEG-MEOMA(116)- DMAEMA(27)		

**Synthesis Procedure:**

The polymer is prepared by ATRP process using  $\alpha$ - $\omega$ -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. **Polymer might contain some HomoPEO to be removed from Acetone-Hexane mixture.**

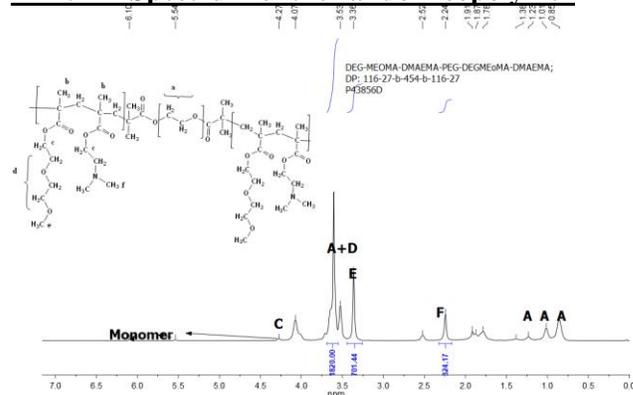
**Solubility:**

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<sub>2</sub>, it gives clear solution immediately.

**CO<sub>2</sub>- responsive Polymer Materials:**



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



**SEC of the random copolymer**

