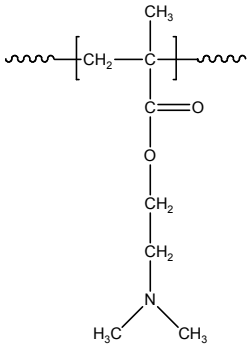
Sample Name:
Poly(N,N-dimethylaminoethyl methacrylate)

Sample #: **P6166-DMAEMA**

Structure:



Composition:

$Mn \times 10^3$	PDI
53.7	1.07
T_g (°C)	29

Synthesis Procedure:
Poly(N,N-dimethylaminoethyl acrylamide) is obtained by

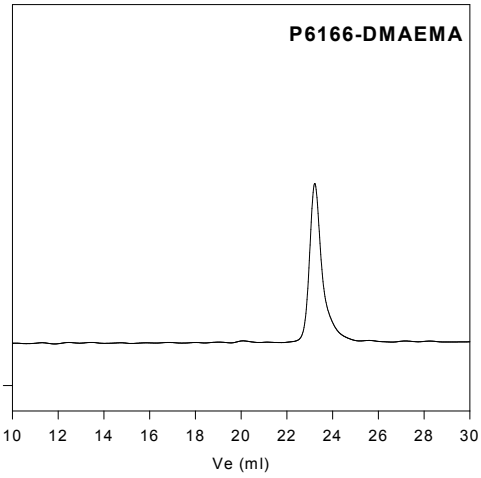
Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Thermal analysis:
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min.The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:
Poly(N,N-dimethylaminoethyl acrylamide) is soluble in THF, $CHCl_3$, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

SEC of Homopolymer:



Size Exclusion Chromatography of poly(N,N-dimethylaminoethyl methacrylate):
—— M_n = 53700, M_w = 57700, M_w/M_n = 1.07
Rg = 7.80 nm (from Viscotek Triple detector)

DSC thermogram for the polymer: