

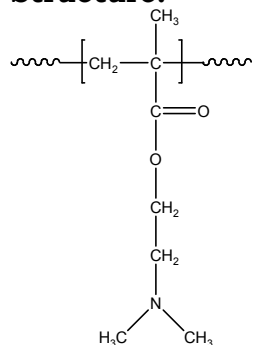
Sample Name:

Poly(N,N-dimethylaminoethyl methacrylate)

Sample #: **P9741-DMAEMA**

(obtained by anionic polymerization)

Structure:



Composition:

| | |
|---------------------------|-------------------------------|
| Mn × 10 ³ | PDI |
| 35.0 | 1.08 |
| T _g (°C) | 23 |
| Microstructure of polymer | Syndio: hetero:iso 68:30:2 |

Synthesis Procedure:

Poly(N,N-dimethylaminoethyl methacrylate) is obtained by anionic or free radical or by GTP process.

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.

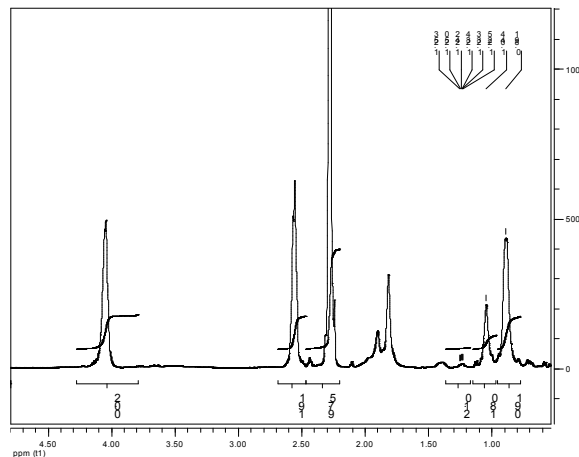
Thermal analysis:

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:

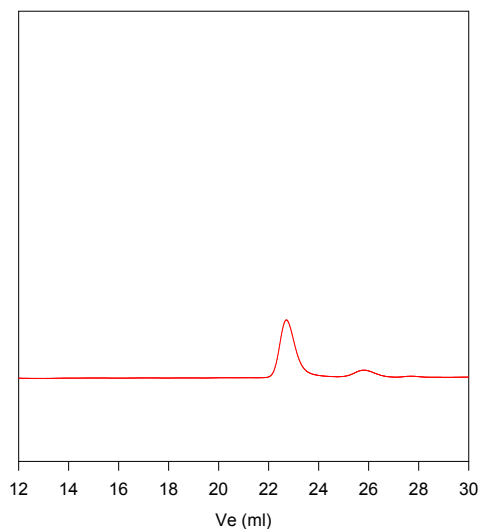
Poly(N,N-dimethylaminoethyl methacrylate) is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

1H NMR of the Polymer:



SEC of Homopolymer:

P9741-DMAEMA



Size exclusion chromatograph of Poly(N,N-dimethylaminoethyl methacrylate):

M_n=35,000; M_w=37,800 M_w/M_n=1.08

DSC thermogram for the polymer:

