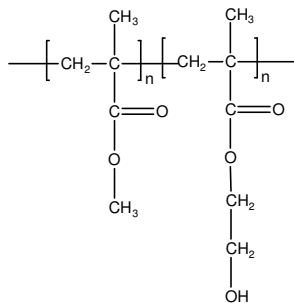


Sample Name:

Poly(methylmethacrylate-b-2-hydroxy ethyl methacrylate)

Sample #: P6603-MMAHEMA

Structure:



Composition:

$M_n \times 10^3$ MMA-b-HEMA	PDI
17.0-b-17.5	1.20
T_g for MMA block: 126°C	T_g for HEMA block: 74°C

Synthesis Procedure:

Poly(Methyl methacrylate-b-2-hydroxy ethyl methacrylate) Block copolymer is synthesized by living anionic polymerization with sequence addition of methyl methacrylate followed by addition of protecting hydroxyl HEMA (trimethyl siloxy ethyl methacrylate monomer). The obtained polymer was precipitation in methanol/acidic to deprotect the hydroxyl group.

Characterization:

Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from HNMR.

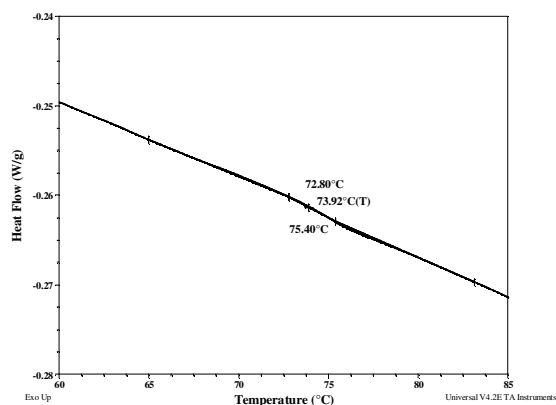
Thermal analysis:

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).

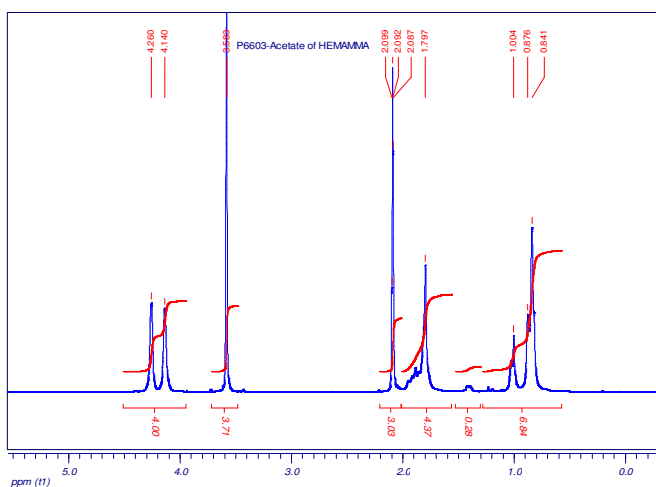
Solubility:

Polymer is soluble in DMF.

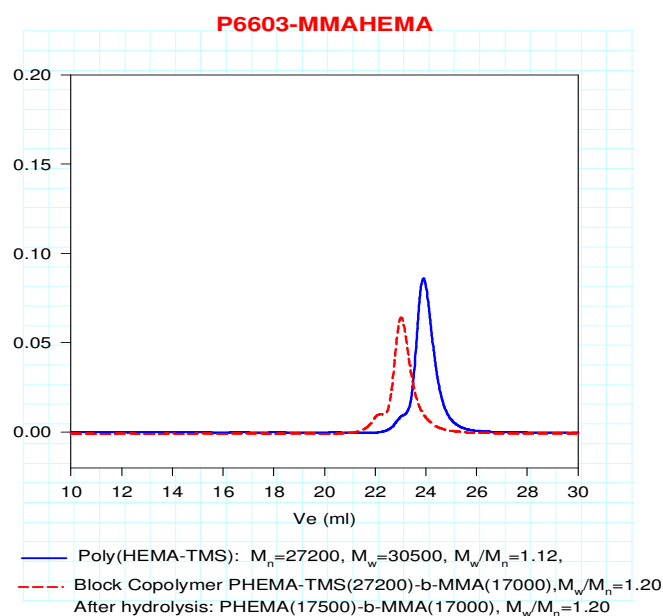
DSC thermogram for HEMA block:



¹H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:



DSC thermogram for MMA block:

