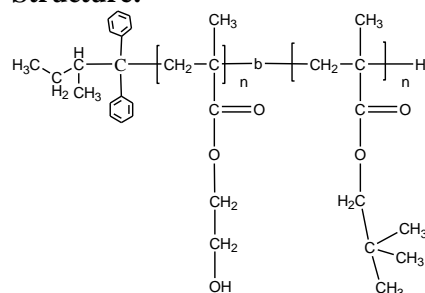


Sample Name: Poly (2-hydroxyethyl methacrylate)-b-neopentyl methacrylate)

Sample #: P3963-HEMANPMA

Structure:



Composition:

Mn × 10 ³ HEMA-b-NPMA	PDI
6.8-b-370.0	1.15
54 units per HEMA block	T _g for NPMA block: 122 °C

Synthesis:

The diblock copolymer was synthesized by anionic polymerization process.

Characterization:

The polymer was characterized by size exclusion chromatography (SEC).

Thermal analysis

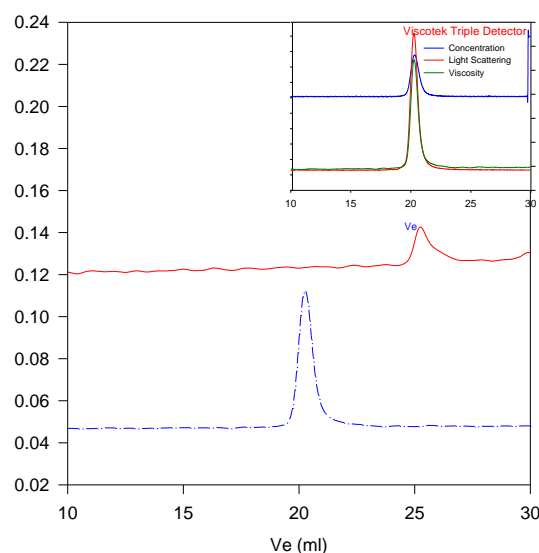
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Poly(2-hydroxy ethyl methacrylate-b-neopentyl methacrylate) is soluble in DMF, THF and CHCl₃ (depends upon block composition) but insoluble in water. The polymer is insoluble in hexane while HEMA chain is too long.

SEC of the block copolymer:

P3963-HEMANPMA



Size Exclusion Chromatography of poly(HEMATMS-NPMA):

— PolyTrimethylsiloxy hydroxy ethylmethacrylate
M_n=6800, M_w=7500, M_w/M_n=1.08,
--- Diblock Copolymer PHEMATMS(6800)-b-PNPMA(370000), M_w/M_n=1.15
R_g = 28.20nm, [η] = 1.434 (dL/g) (in THF at 30°C)
(Viscotek Triple detector vlaue)
After hydrolysis:
PHMA-b-NPMA Dp: 32 units-b-2372

DSC thermogram for NPMA block:

