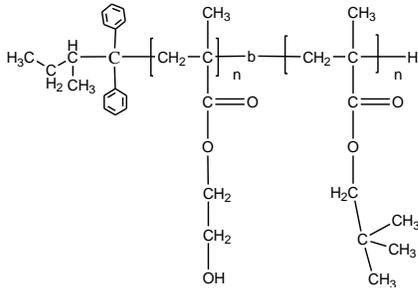


Sample Name: Poly (2-hydroxyethyl methacrylate – b-neopentyl methacrylate)

Sample #: P3962-HEMANPMA

Structure:



Composition:

$M_n \times 10^3$ HEMA -b- NPMA	PDI
3.5-b-235.0	1.10
27 units per HEMA block	T_g for NPMA block: 122 °C

Synthesis:

The polymer was synthesized by anionic polymerization process.

Characterization:

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

Thermal analysis

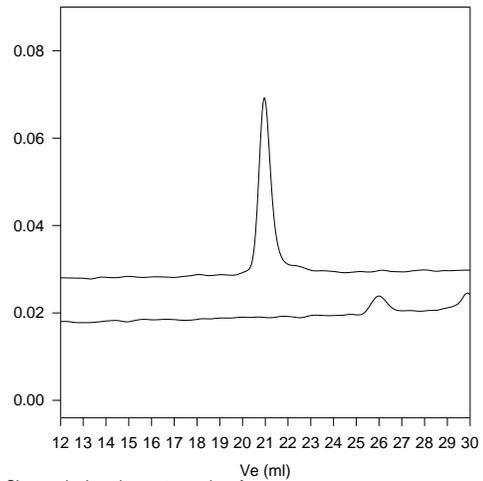
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Poly(2-hydroxy ethyl methacrylate-b-neopentyl methacrylate) is soluble in DMF, THF and $CHCl_3$ (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:

P3962-HEMANPMA



Size exclusion chromatography of poly(2-Hydroxy ethylmethacrylate(protected with TMS)-b-neopentylmethacrylate)

— Poly 2 hydroxy ethyl methacrylate (protected with TMS) $M_n=5000$, $M_w=5200$, $PI=1.04$

— Block copolymer M_n : 2-HEMA-TMS(5000)-b-NPMA(235000)

M_w/M_n 1.1

Block Copolymer after deprotecting hydroxy group:

D_p : HEMA (27units)-b-PNPMA(1506 units), $PI=1.1$

M_n : 3500-b-235000

DSC thermogram for NPMA block:

