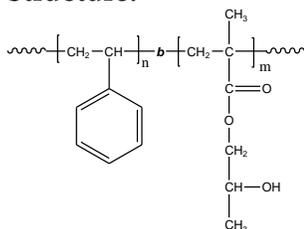


Sample Name:
Poly(styrene-b-hydroxypropyl methacrylate)

Sample #: P3309-SHPMA

Structure:



Composition:

Mn x 10 ³ S-b-HPMA	Mw/Mn (PDI)
20.0-b-4.0	1.10

Glass transition temperature at a glance

T _g for PS block	97°C
T _g for HPMA	Not distinct

Synthesis Procedure:

Poly(styrene-b-hydroxy propyl methacrylate) is prepared by living anionic polymerization by sequence addition of styrene followed by 2-hydroxypropyl methacrylate and deprotection of the OH group.

Characterization:

An aliquot of the polystyrene block was terminated before addition of 2-hydroxypropyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the styrene protons at 6.3-7.2 ppm with the peak area of 2-propyl methacrylate at ppm. Block copolymer PDI is determined by 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(styrene-b-hydroxy propyl methacrylate) is soluble in DMF.

Thermogram for PS block:

