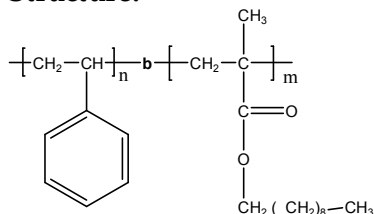


Sample Name:

Poly(styrene-b-nonyl methacrylate)

Sample #: P9335-SNMA**Structure:****Composition:**

Mn × 10 ³ S-b-NMA	Mw/Mn (PDI)
35.0-b-58.0	1.18

Glass transition temperature at a glance

T _g for PS block	100 °C
T _g for NMA block	52 °C

Synthesis Procedure:

Poly(styrene-b-n-hexylmethacrylate) is prepared by living anionic polymerization by sequence addition of styrene followed by n-hexyl methacrylate.

Characterization:

An aliquot of the polystyrene block was terminated before addition of n-Hexyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI).

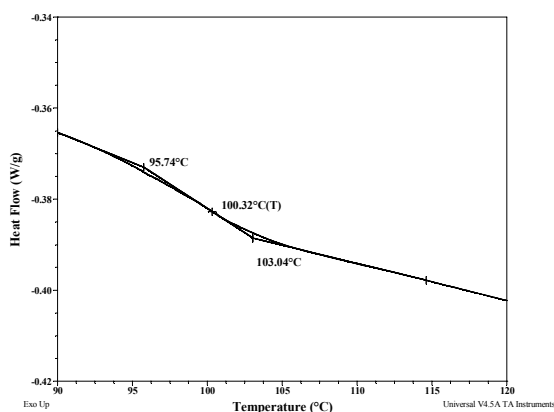
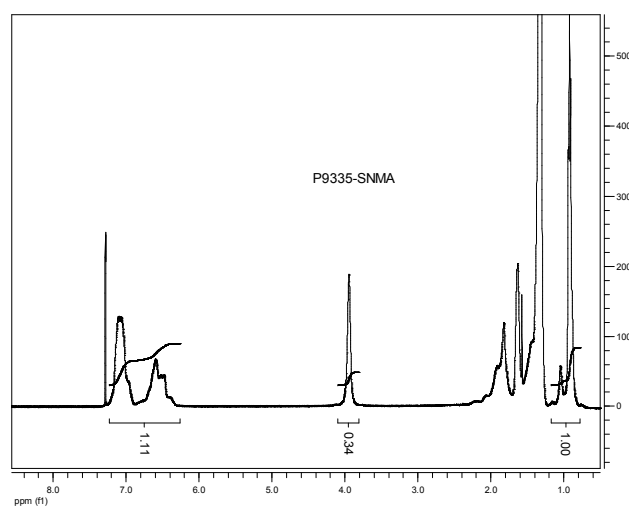
The final block copolymer composition by ¹H-NMR spectroscopy in CdCl₂. For n-hexyl methacrylate the CH₃ protons from alpha methyl was considered to calculate the compositions and its microstructure. The ester OCH₂ protons indicate that the commercial n-Hexyl methacrylate might contain some other isomers of n-Hexyl methyl ester. Block copolymer PDI is determined by SEC.

Thermal analysis:

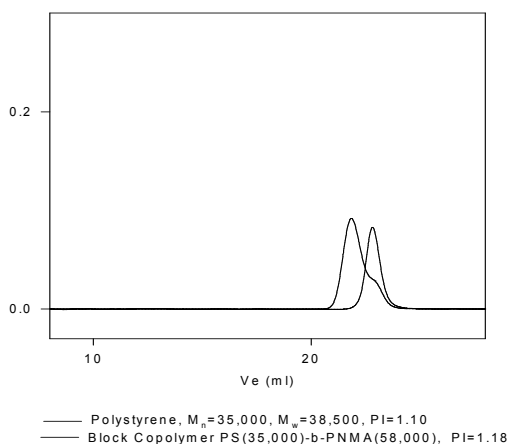
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Poly(styrene-b-n-hexylmethacrylate) is soluble in toluene, THF CHCl₃, and precipitated in methanol.

Thermograms for PS block:**HNMR of the Polymer****SEC profile of the block copolymer**

P9335-SNMA

**Thermograms for NMA block:**