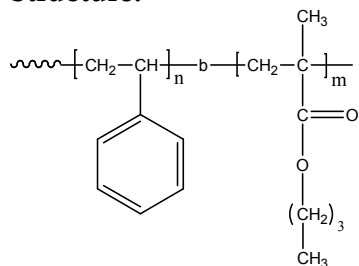


Sample Name: Poly(styrene-b-n-butyl methacrylate)

Sample #: P2491 SnBuMA

¹H NMR profile of the block copolymer

Structure:



Composition:

Mn x 10 ³ S-b-nBuMA	PDI
220-b-17.0	1.13

Synthesis Procedure:

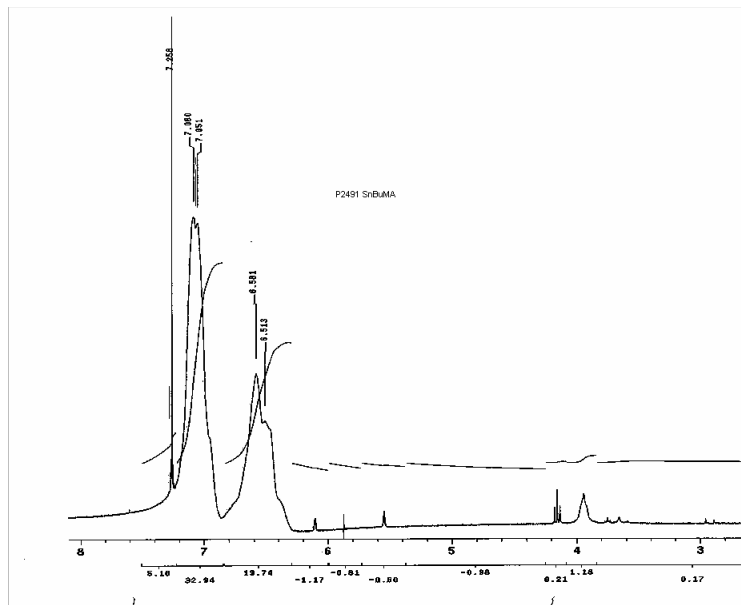
Poly(styrene-b-n-butyl methacrylate) is prepared by anionic polymerization with sequence addition of styrene followed by n-butyl methacrylate.

Characterization:

An aliquot of the polystyrene block was terminated before addition of n-butyl 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 s-butyl methacrylate protons at 3.9 ppm. Block copolymer PDI is determined by SEC.

Solubility:

Poly(styrene-b-n-butyl methacrylate) is soluble in CHCl₃, THF, dioxane toluene and precipitated out from methanol/water.



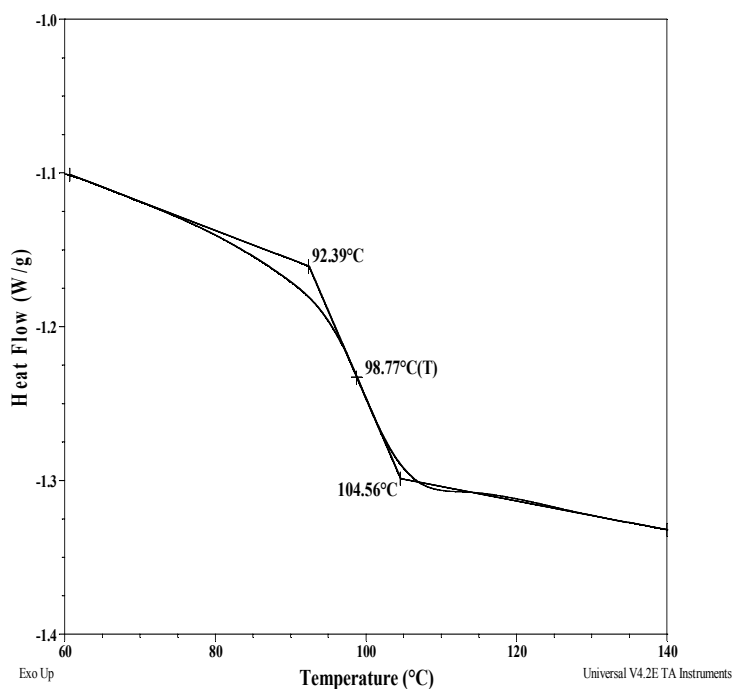
Thermal analysis of sample P2491 SnBuMA

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).

Glass transition temperature at a glance

T_g for PS block	99°C
T_g for nBuMA block	22°C

Thermogram of PS block:



Thermogram for nBuMA block

