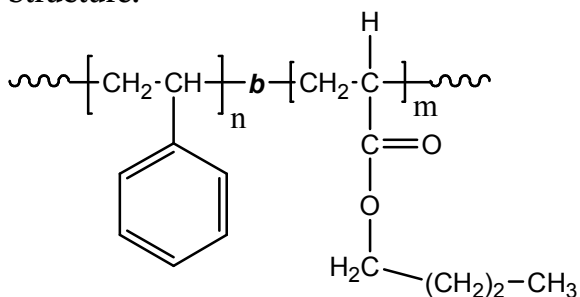


Sample Name: Poly(styrene-b-n-butyl acrylate)

Sample #: P4873B-SBuA

Structure:



Composition:

Mn x 10 ³ S-b-nBuA	PDI
16.0-b-7.5	1.15

Glass transition temperature at a glance

MMA block	77°C
t-BuA block	Not distinct

Synthesis Procedure:

Poly(styrene-b-n-butyl acrylate) is prepared by the transesterification of the poly (Styrene-b-tert.butyl acrylate) di block copolymer.

Characterization:

An aliquot of the polystyrene block was terminated before addition of methyl acrylate 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 t-butyl acrylate protons at 1.43 ppm. Block copolymer PDI is determined by SEC.

Thermal analysis

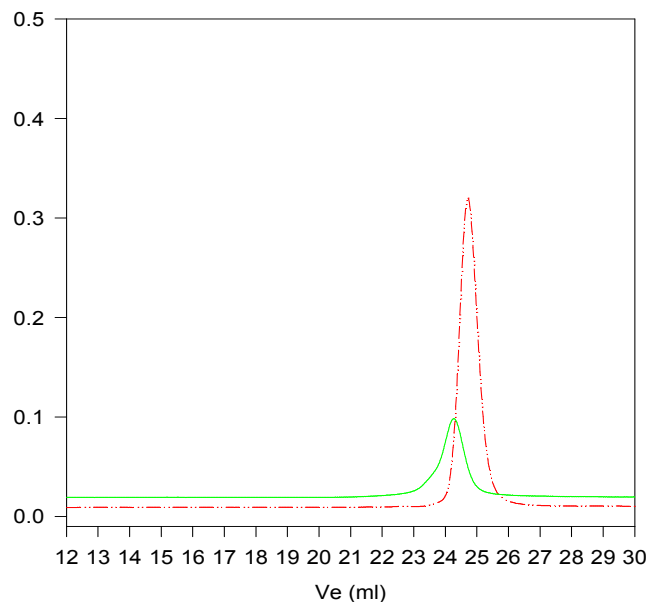
Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) has been considered.

Solubility:

Polymer is soluble in CHCl₃, THF and toluene.

SEC of the block copolymer:

P4873B-SnBuA



Size exclusion chromatography of polystyrene-b-poly(t-butyl acrylate)

--- Polystyrene, M_n=16000, M_w=17000, PI=1.06
— Block Copolymer PS(16000)-b-PtBuA(7500), PI=1.15

Thermogram for PS block

