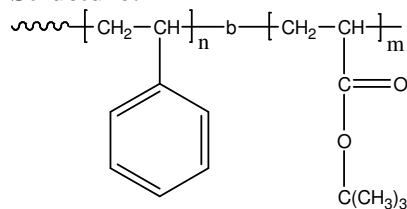


Sample Name: Poly(Chloro methyl styrene-b-t-butyl acrylate)

Sample #: P1377B-CMStBuA

Structure:



Composition:

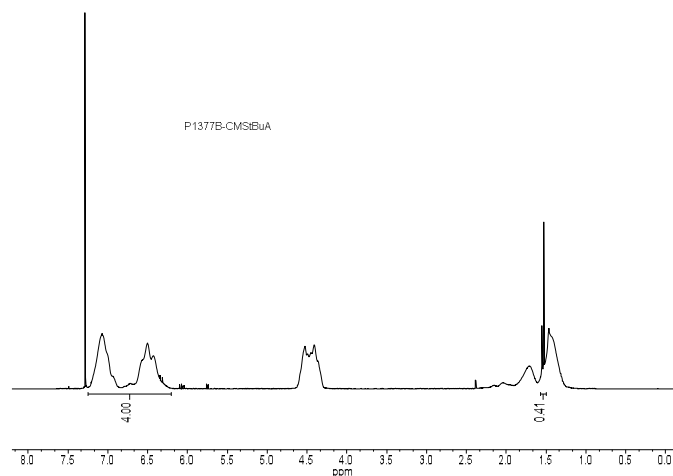
Mn x 10 ³ S-b-BuA	PDI
39.5-b-2.0	1.6

Synthesis Procedure: by radical process

Characterization:

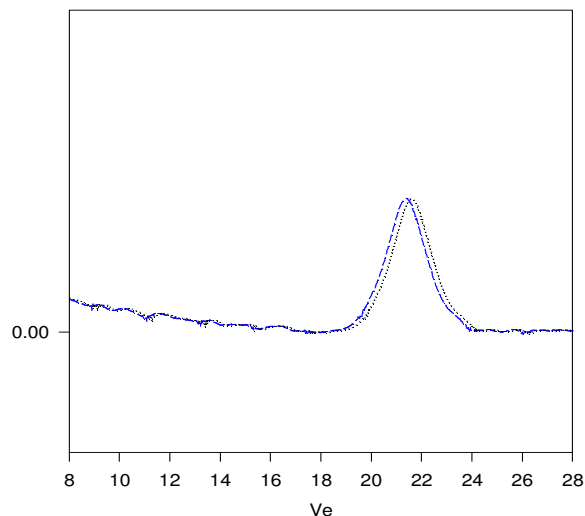
An aliquot of the polystyrene block was terminated before addition of methyl acrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak 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.

¹H-NMR Spectrum of the block copolymer



SEC of the block copolymer:

P1377B-CMStBuA



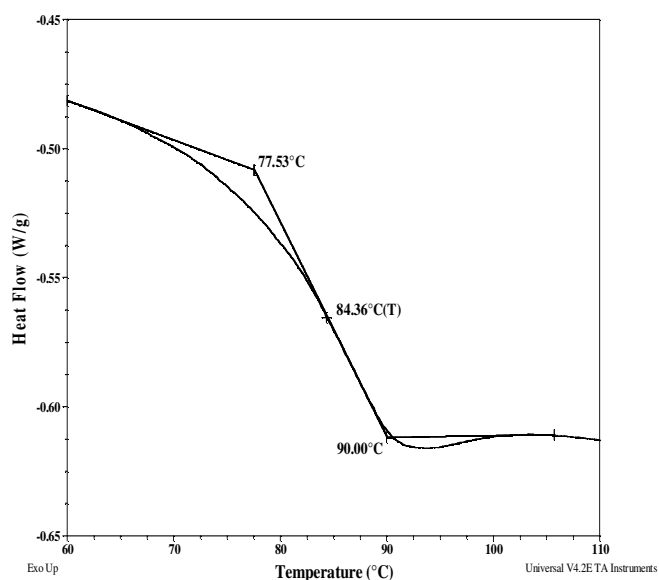
Size Exclusion Chromatography :

--- Poly(chloromethyl styrene), M_n=39500, M_w=60500, M_w/M_n=1.54
..... Block Copolymer PCMS(39500)-b-PtBuA(2000), M_w/M_n=1.6

Thermal analysis of sample P1377-A-CMStBuA

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).

Thermogram of PCMS block:



Glass transition temperature at a glance

T_g for PS block	84°C
T_g for tBuA block	05°C

Thermogram for tBuA block:

