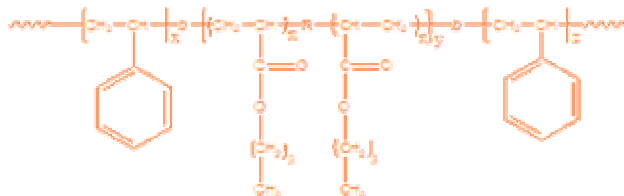


Sample Name:

Poly(Styrene -b-n-butyl acrylate-b-Styrene)

Sample #: P1120-SnBuAS

Structure:

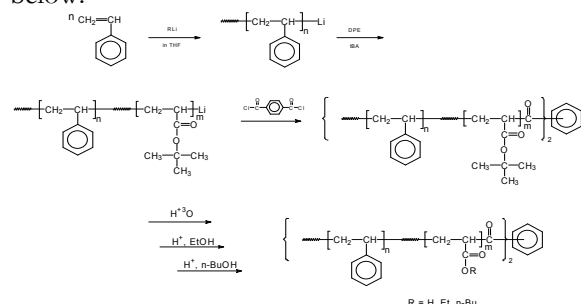


Composition:

Mn x 10 ³	PDI
15.0-b-50.0-b-15.0	1.18
T _g for nBuA block	-46°C
T _g for PS block	68°C

Synthesis Procedure:

The copolymer was prepared by a coupling reaction of poly(styrene-*t*-butylacrylate) anion with bis-acid chloride at -30°C [Ref. *S. K. Varshney et al., Macromolecules*, **32**, 235, 1999]. The acid block was obtained by a hydrolysis reaction, and the other ester (ethyl, *n*-butyl) blocks were prepared by a transesterification. The scheme of the reaction is illustrated below:



Characterization:

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

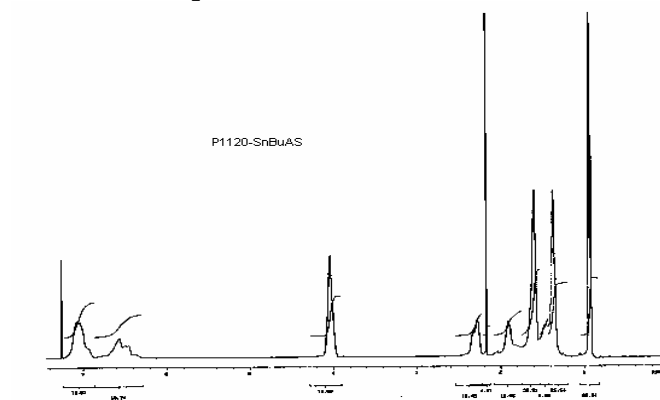
Thermal analysis:

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).

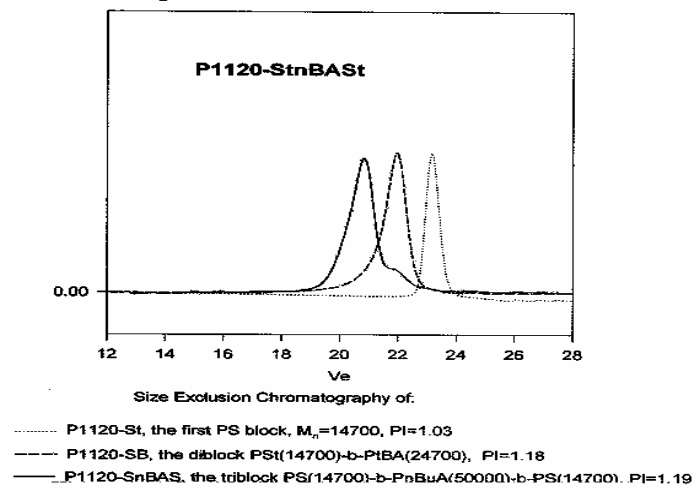
Solubility:

Polymer is soluble in THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water and hexanes (depending on the compositions).

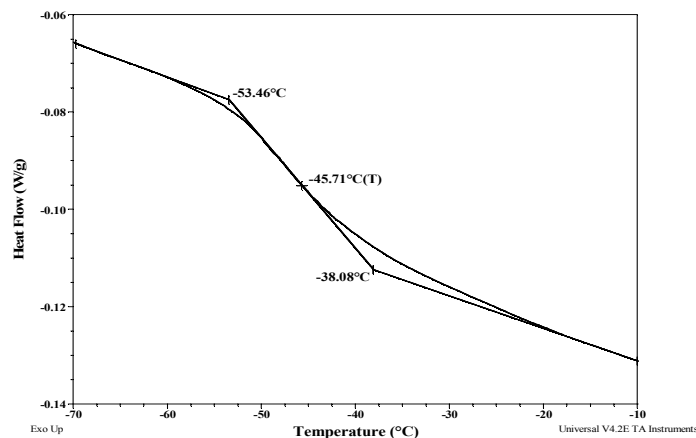
¹H NMR of Sample:



SEC of Sample:



DSC thermogram for nBuA block:



DSC thermogram for PS block:

