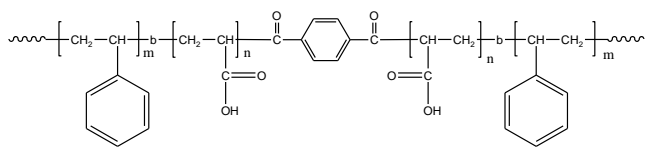
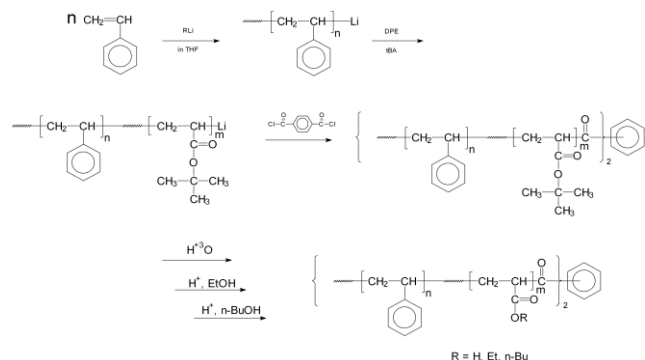


Sample Name:**Poly(Styrene-b-acrylic acid-b-Styrene)****Sample #: P11156-SAAS****Structure:****Composition:**

Mn x 10 ³ (S-b-AA-b-S)	PDI
13.0-b-40.0-b-13.0	1.27
T _g for PS block:	90°C
T _g for AA block:	116°C

Synthesis Procedure:

Poly(styrene-*b*-tert. butylacrylate-*b*-styrene) is prepared by living anionic polymerization. The details are available in the cited reference. The scheme of the reaction is illustrated below:

**Characterization:**

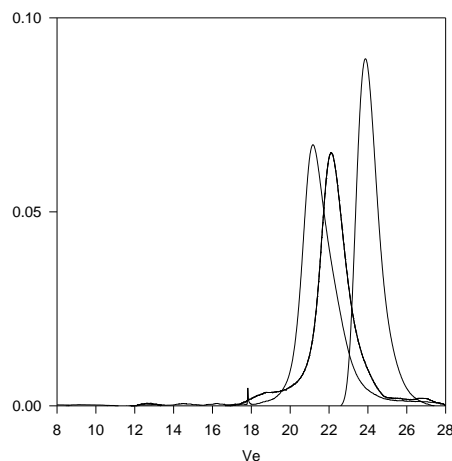
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

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).

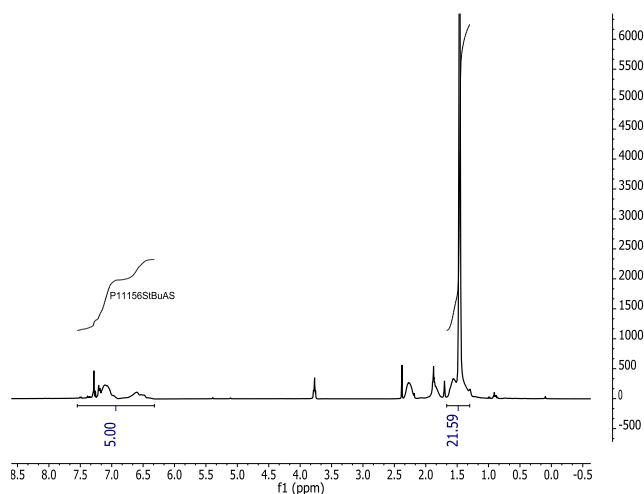
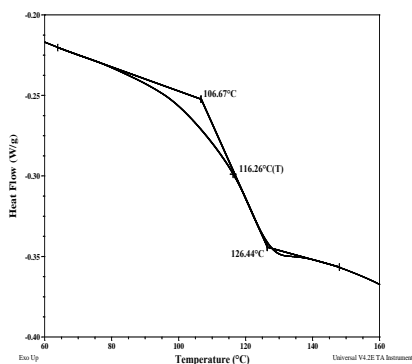
Solubility:

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

SEC of Sample:**P11156-StBuAS For SAAS**

Size Exclusion Chromatography of:

— PS, the first PS block, M_n=13,000, PI=1.10
 PStBuA, the diblock PS(13,000)-b-PtBuA(35,000), PI=1.19
 — StBuAS, the triblock PS(13,000)-b-PtBuA(70,000)-b-PS(13,000), PI=1.27
 Hydrolysis of tert buty ester:
 SAAS Mn 13,000-b-40,000-b-13,000

**DSC thermograms for the sample:****Reference:**

S.K. Varshney, P. Kesani, N. Agarwal, J. Xin. Zhang, and M. Rafailovich. Synthesis of ABA type thermoplastic elastomers based on Polyacrylates, *Macromolecules*, 1999, 32, 235.