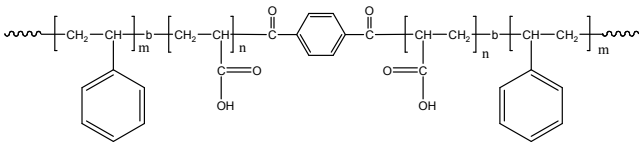
Sample Name:
Poly(Styrene-b-acrylic acid-b-Styrene)
Sample #: P2976-SAAS
Structure:



Composition:

Mn x 10^3 (S-b-AA-b-S)	PDI
2.5-b-50.0-b-2.5	1.17
T_g for PS block:	Not distinct
T_g for AA block:	98°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:

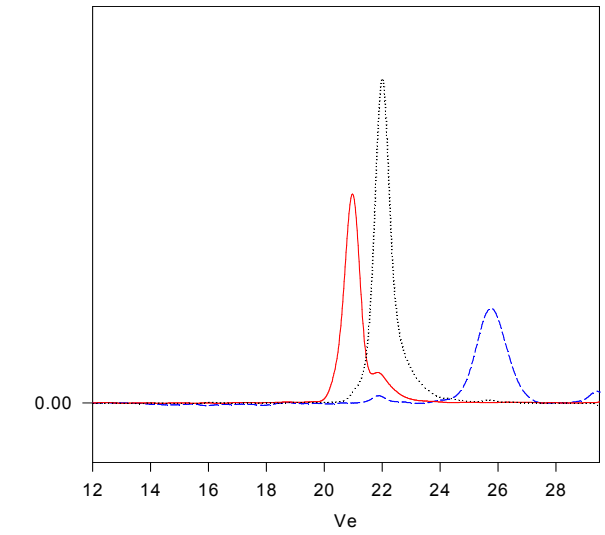
Characterization:
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

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 $CHCl_3$. It precipitates from methanol, ethanol, water and hexanes (depending on the compositions).

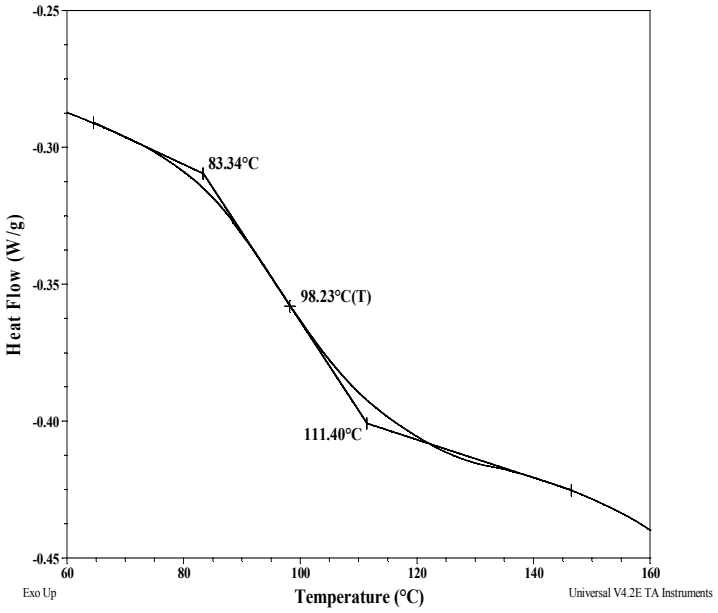
SEC of Sample:

P2976-StBAS (precursor for P2976-SAAS)



Size Exclusion Chromatography of:
P2976-St, the first PS block, M_n=2500, PI=1.15
P2976-StBuA, the diblock PSt(2500)-b-PtBA(45000), PI=1.11
P2976-StBAS, the triblock PS(2500)-b-PtBuA(90000)-b-PS(2500), PI=1.12
After hydrolysis of tert.butylacrylate
PS(2500)-b-AA(50000)-b-Ps(2500) PI: 1.17

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.