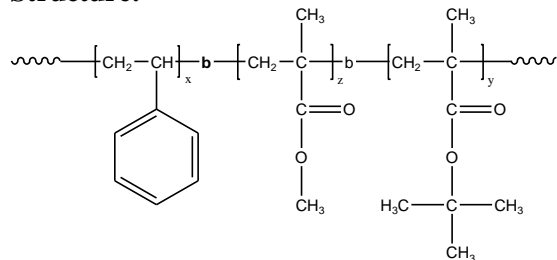Sample Name:
Poly(styrene-b-methylmethacrylate-b-tert.-butylmethacrylate)

Sample #: **P11046-SMMAtBuMA**

Structure:

Composition:

Mn x 10^3 S-b-MMA-b-tBuMA	PDI
129.0-b-161.0-b-12.0	1.16

Synthesis:
The polymer was prepared by living anionic polymerization with sequence addition of styrene, methyl methacrylate (MMA) and tert-butylmethacrylate.

Characterization:
The chemical composition of block copolymer was calculated from proton NMR using CDCl$_3$ as solvent. The molecular weights and polydispersity index (PDI) of final block were obtained from size exclusion chromatography (SEC) in THF.
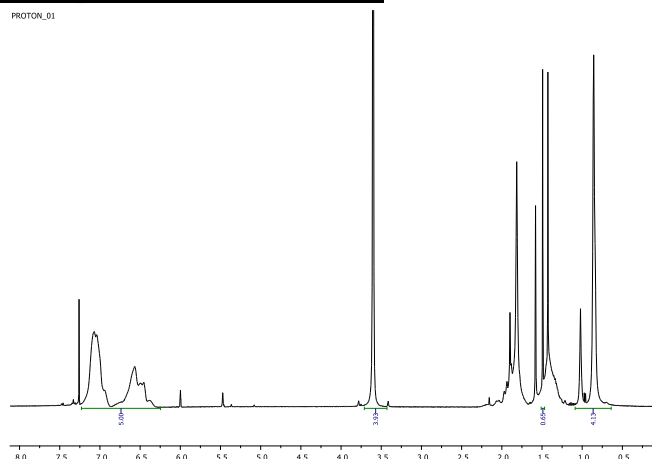
Thermal analysis:
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10ºC/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (Tg).
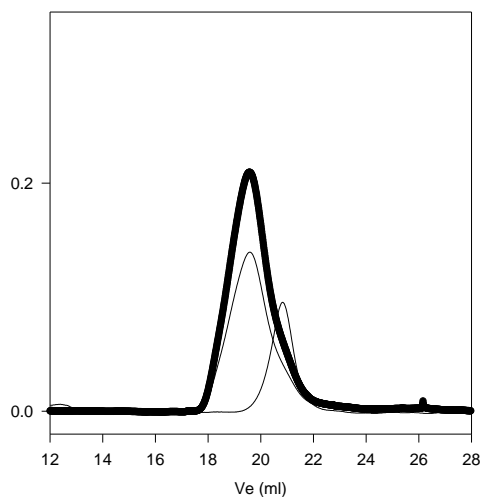
Solubility:
Polymer is soluble in THF, toluene, and CHCl$_3$. The polymer readily precipitates from hexanes, ether and water.

^{1}HNMR spectrum of the Polymer:

SEC profile of the polymer:

P11046-SMMAtBuMA

Size exclusion chromatography of poly(St-b-b-MMA-tBuMA)

—— PS, M$_n$=129,000, Mw/Mn=1.18

—— Poly(S-b-MMA-tBuMA): PS(129,000)-b-MMA(161,000) -t BuMA(12,000) Mw/Mn=1.16