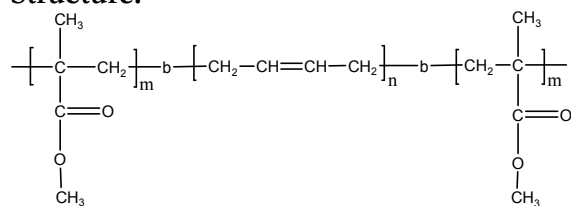


Sample Name:

Poly(methyl methacrylate-*b*-butadiene-*b*-methyl methacrylate)

Sample #: P1123-MMABdMMA

Structure:**Composition:**

Mn x 10 ³	PDI
63.2-60.0-63.2	1.23
T _g for Bd block	-63°C
T _g for MMA block	132°C

Synthesis Procedure:

Poly(methyl methacrylate-*b*-butadiene-*b*-methyl methacrylate) is prepared by living anionic polymerization using a bifunctional initiator with sequence addition of butadiene followed by methylmethacrylate.

Characterization:

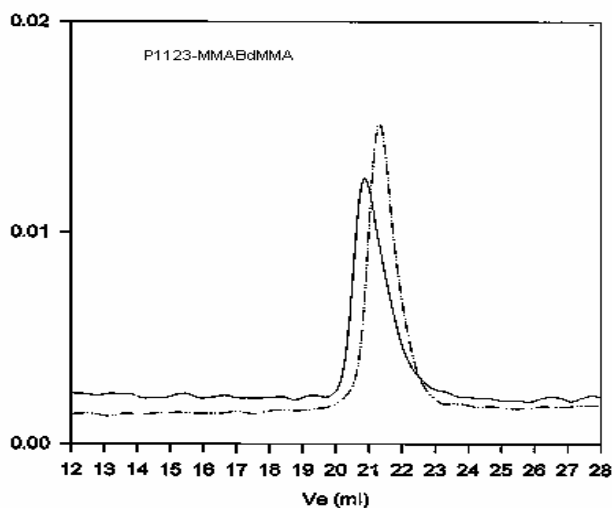
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Thermal analysis:

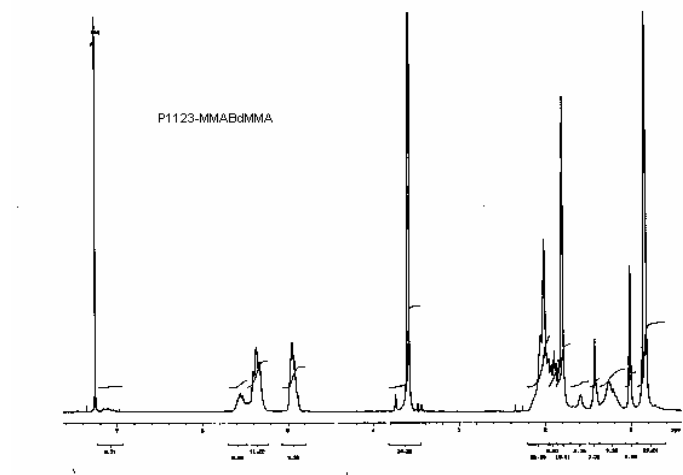
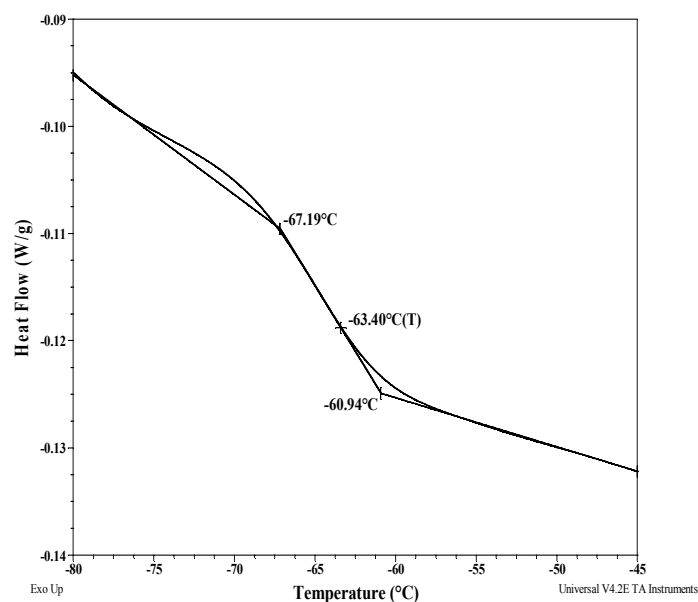
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

The tri-block polymer is soluble in THF, toluene and CHCl₃.

SEC of Sample:

Size exclusion chromatography of:
Poly(methylmethacrylate-*b*-butadiene-*b*-methylmethacrylate)
--- Poly(butadiene block), M_n=60000, M_w=64000, PI=1.10
— Triblock Copolymer PMMA(63200)-*b*-Bd(60000)-*b*-PMMA(63200), PI=1.23

¹H NMR of the sample:**DSC thermogram for Bd block:****DSC thermogram for MMA block:**