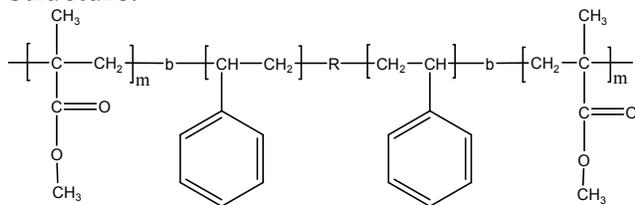


**Sample Name:**

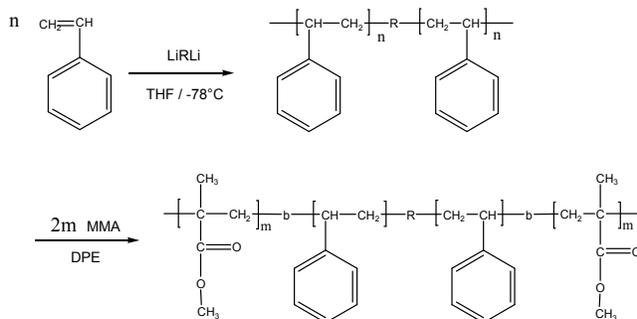
Poly(methyl methacrylate-*b*-styrene-*b*-methyl methacrylate)

**Sample #: P1816-MMASMA****Structure:****Composition:**

Mn x 10 <sup>3</sup>	PDI
220.0- <i>b</i> -17.0- <i>b</i> -220.0	1.13
T <sub>g</sub> for MMA block (°C)	131
T <sub>g</sub> for S block (°C)	Not observed

**Synthesis Procedure:**

Poly(methyl methacrylate-*b*-styrene-*b*-methyl methacrylate) is prepared by living anionic polymerization with sequence addition of styrene followed by methyl methacrylate, using difunctional initiator. The scheme of the reaction is illustrated below:

**Characterization:**

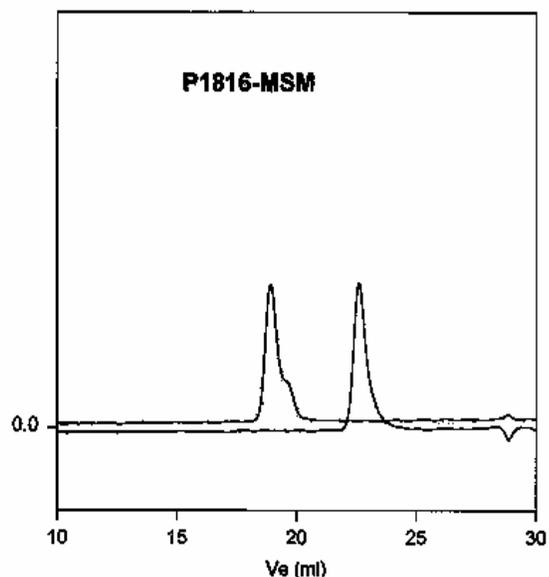
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**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<sub>g</sub>).

**Solubility:**

Polymer is soluble in THF, CHCl<sub>3</sub>, dioxane and benzene

**SEC of Sample:**

— Polystyrene, M<sub>n</sub>=17000, M<sub>w</sub>=18500, PI=1.09

— Block Copolymer PMMA(220000)-PSt(17000)-PMMA(220000), PI=1.13

**DSC thermogram for MMA block:**