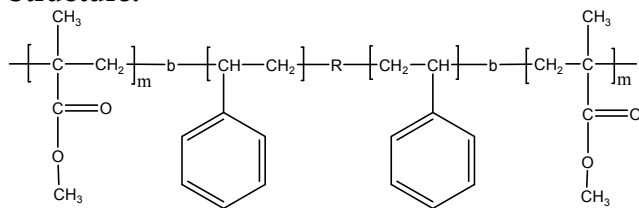


**Sample Name:**

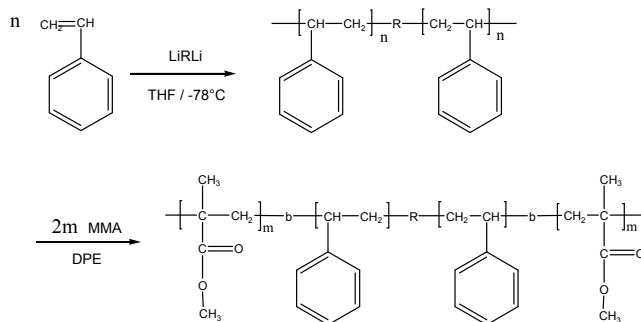
Poly(methyl methacrylate-*b*-styrene-*b*-methyl methacrylate)

**Sample #: P9215-MMAS MMA****Structure:****Composition:**

$M_n \times 10^3$	PDI
6.5- <i>b</i> -8.0- <i>b</i> -6.5	1.16
$T_g$ for PS block:	104°C
$T_g$ for MMA block	115°C

**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:**

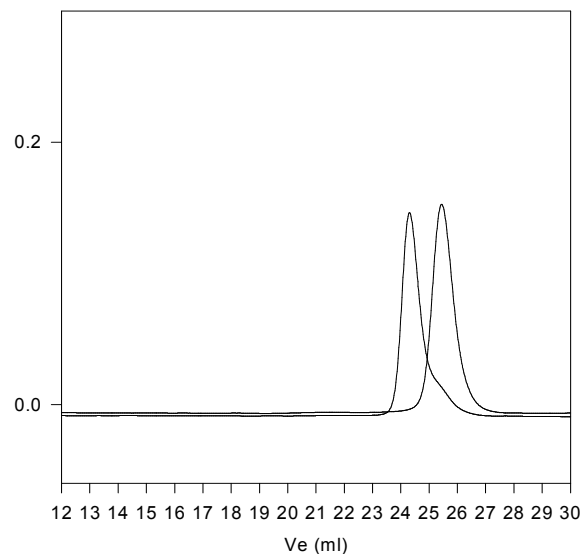
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

**Solubility:**

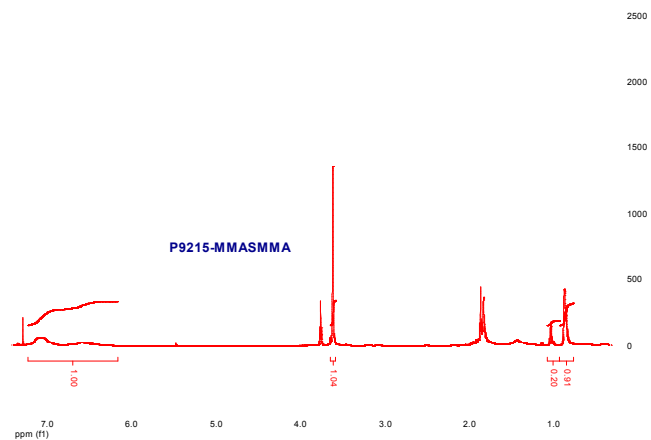
Polymer is soluble in THF,  $\text{CHCl}_3$ , dioxane and benzene

**SEC of Sample:**

**P9215-MMAS MMA**



Block Copolymer PMMA(6500)-PS(8000)-PMMA(6500), PI=1.16

**HNMR of the Polymer:****DSC thermogram for the polymer:**