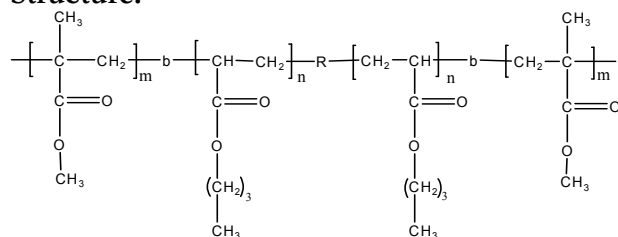


**Sample Name:**

Poly(methyl methacrylate-b-n-butyl acrylate-b-methyl methacrylate)

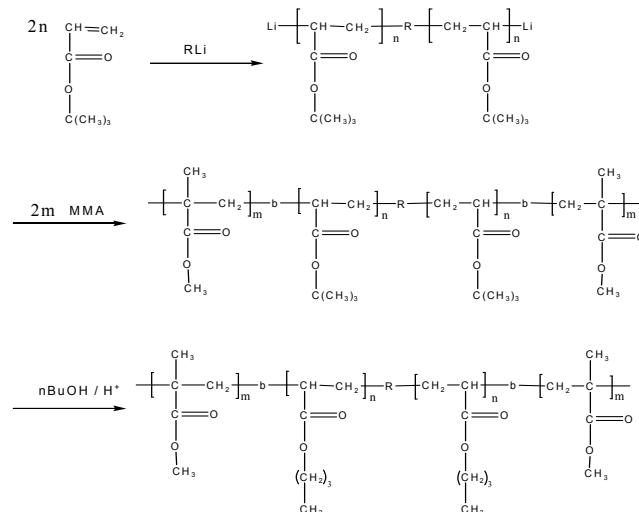
**Sample #:** P2392-MMA<sub>n</sub>BuAMMA

**Structure:****Composition:**

Mn x 10 <sup>3</sup>	PDI
13.0-58.5-13.0	1.20
T <sub>g</sub> for nBuA block (°C)	-39
T <sub>g</sub> for MMA block (°C)	123

**Synthesis Procedure:**

Poly(methyl methacrylate-b-n-butyl acrylate-b-methyl methacrylate) was prepared by living anionic polymerization with sequence addition of tert-butyl acrylate (tBA), followed by methyl methacrylate (MMA) using a difunctional initiator. t-butyl ester was converted to n-butyl ester by transesterification. The scheme of the reaction is illustrated below:

**Characterization:**

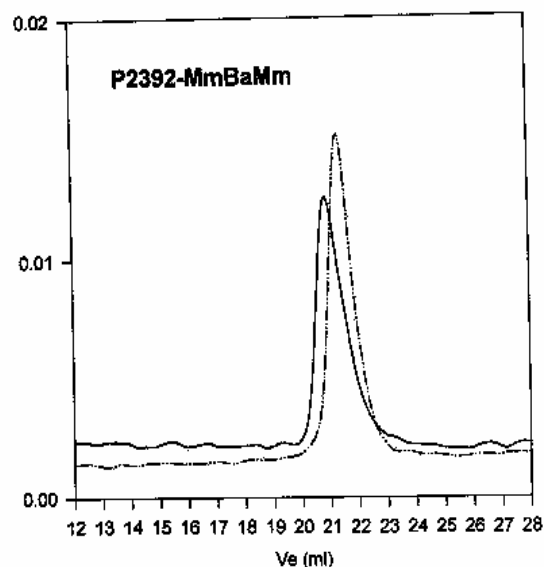
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**Thermal analysis:**

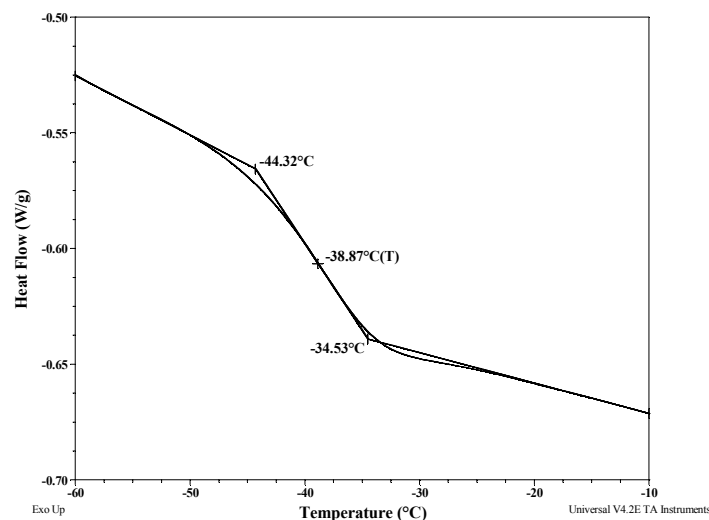
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**Solubility:**

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

**SEC of Sample:**

Size exclusion chromatography of:  
Poly(methylmethacrylate-b-n-butyl acrylate-b-methylmethacrylate)  
Poly(tert.butylacrylate), M<sub>n</sub>=58500, M<sub>w</sub>=67800, PI=1.16  
This block has been transesterified to poly n-butylacrylate  
Triblock Copolymer PMMA(13000)-b-nBuA(58500)-b-PMMA(13000), PI=1.20

**DSC thermograms for nBuA block:****DSC thermograms for MMA block:**