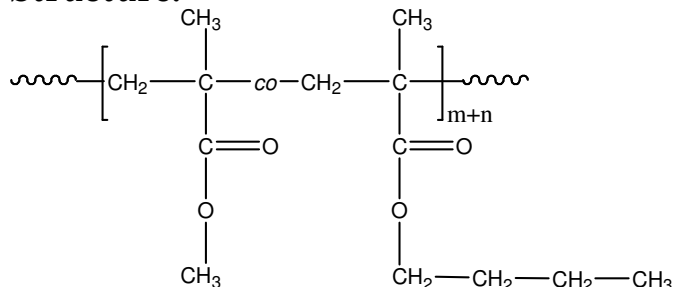


### Sample Name:

Random Copolymer Poly(methyl methacrylate-co-n-butyl methacrylate)

### Sample #: P18648-MMA<sub>n</sub>BuMA<sub>r</sub>an

### Structure:



### Composition:

$\text{Mn} \times 10^3$ PMMA-co-PnBuMA	PDI
20.0	1.06
MMA:nBuMA molar ratio	65:35

### Synthesis Procedure:

Random Copolymer Poly(methyl methacrylate-co-n-butyl methacrylate) is prepared by anionic polymerization

### Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from  $^1\text{H-NMR}$  spectroscopy by comparing the peak area of OCH<sub>3</sub> ester protons from MMA at 3.6ppm and OCH<sub>2</sub> protons of nBuMA at 4.0 ppm

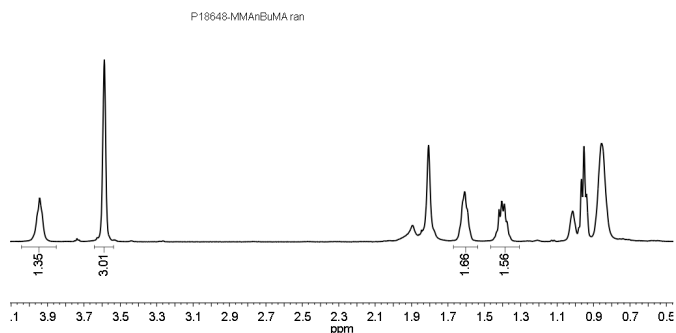
### Thermal analysis

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 polymer is soluble in  $\text{CHCl}_3$ , THF, DMF, and precipitated out from methanol and hexane.

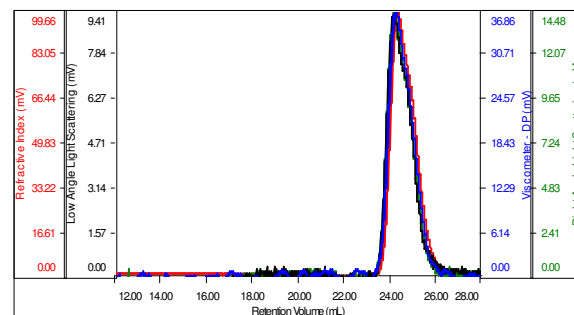
### $^1\text{H-NMR}$ Spectrum of the random copolymer:



### SEC of the random copolymer:

Sample ID: P18648-MMA<sub>n</sub>BuMA<sub>r</sub>an

Concentration (mg/mL)	15.0846
Sample elute (mL/g)	0.0840
Method File	PS80K-Apr15-2014-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	M <sub>n</sub>	M <sub>w</sub>	M <sub>p</sub>	M <sub>w</sub> /M <sub>n</sub>	IV
p18648-MMA <sub>n</sub> BuMA <sub>r</sub> an_01.vcl	19,701	20,676	20,604	1.050	0.0572

