Sample Name:
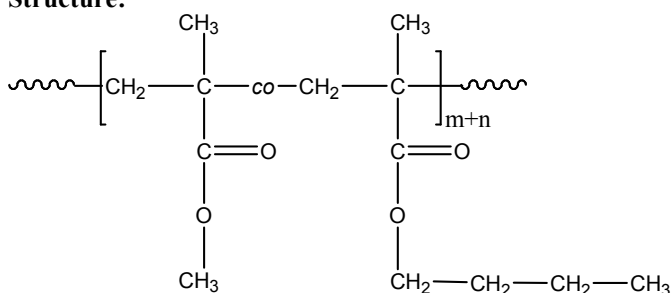
Random Copolymer Poly(methyl methacrylate-co-n-butyl methacrylate)

Sample #: P11176-MMAnBuMAran

Structure:

Composition:

Mn x 10^3 PMMA-co-PnBuMA	PDI
26.2	1.06
T_g of random polymer	51.5 ^{0}C mid point
MMA:nBuMA molar ratio	30:70

Synthesis Procedure:

Random Copolymer Poly(methyl methacrylate-co-n-buthyl methacrylate) is prepared by anionic polymerization
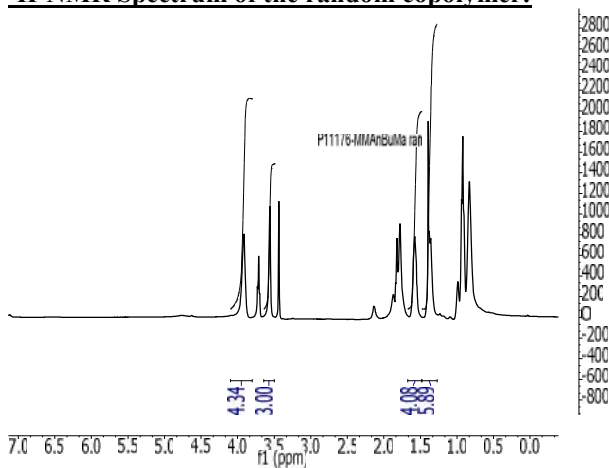
Characterization:

The polymer was analyzed by size exclusion chromatography (SEC). Copolymer composition was calculated from ^{1}H NMR.

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).
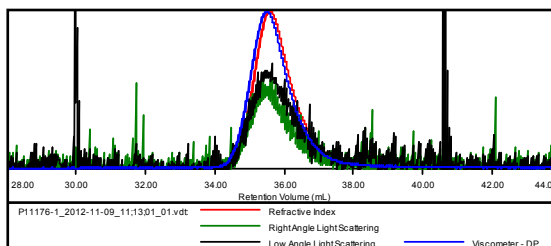
Solubility:

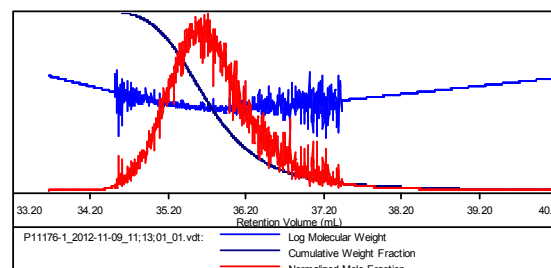The polymer is soluble in CHCl$_3$, THF, DMF, Acetone and precipitated out from methanol and hexane.

^{1}H-NMR Spectrum of the random copolymer:

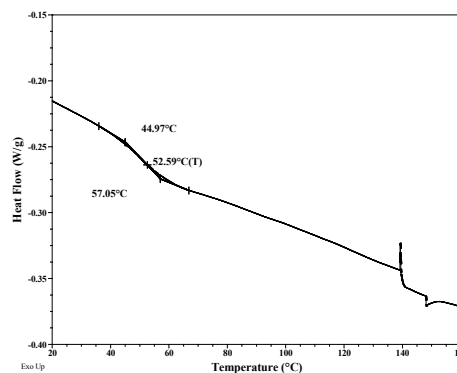**SEC of the random copolymer:**

Sample ID: P11176-1-MMAnBuMA

Concentration (mg/mL)	14.5807
Sample dn/dc (mL/g)	0.0800
Method File	PS80K-Nov-2012-0000.vcm
Column Set	3xPL 1113-6300
System	System 1

Sample	Mn (Da)	Mw (Da)	Mp (Da)	MwMn	IV (dL/g)
P11176-1_2012-11-09_11;13;01_01.vdt	26,250	27,698	25,459	1.055	0.1665

Thermogram for the sample in Duplicate:
Heating rate : 10 ^{o}C/minute:

DSC of P11176-1-MMAnBuMA-1:

DSC of P11176-1-MMAnBuMA-2: