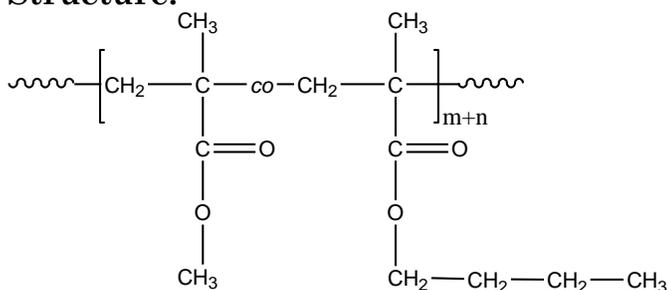


Sample Name:

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

Sample #: P10560-MMA_nBuMA_r

Structure:



Composition:

Mn x 10 ³ PMMA-co-PnBuMA	PDI
30.3	1.14
T _g of random polymer	52 oC
MMA:nBuMA molar ratio	50:50

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 ¹H-NMR spectroscopy by comparing the peak area of OCH₃ ester protons from MMA at 3.6ppm and OCH₂ protons of nBuMA at 4.0 ppm

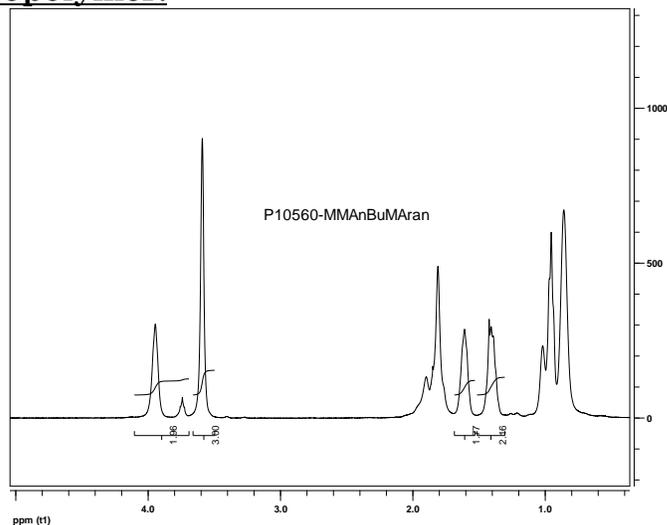
Thermal analysis

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 CHCl₃, THF, DMF, and precipitated out from methanol and hexane.

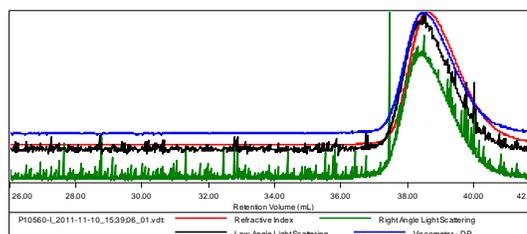
¹H-NMR Spectrum of the random copolymer:



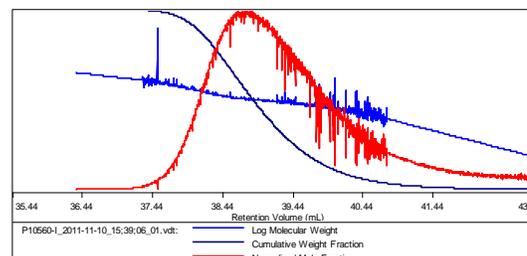
SEC of the random copolymer:

Sample ID: P10560-I-MMA_nBuMA

Concentration (mg/mL)	6.9920
Sample dn/dc (mL/g)	0.0800
Method File	PS80K-Oct-0000.v cm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P10560-I_2011-11-10_15:39:06_01.vdt	30,290	34,665	35,096	1.144	0.2577



Thermogram for the sample:

