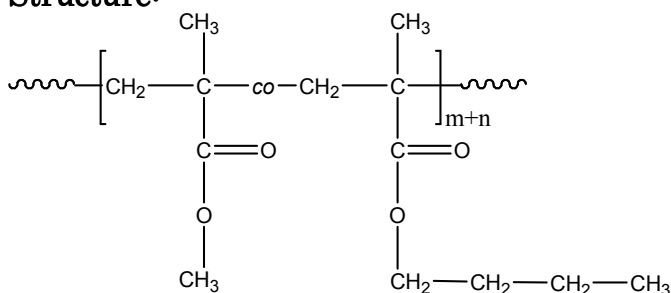


Sample Name:

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

Sample #: P13114-MMA_nBuMA_r**Structure:****Composition:**

Mn x 10 ³ PMMA-co-PnBuMA	PDI
20.0	1.15
T _g of random polymer	109 °C
MMA:nBuMA molar ratio	87:13

Synthesis Procedure:

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

Characterization:

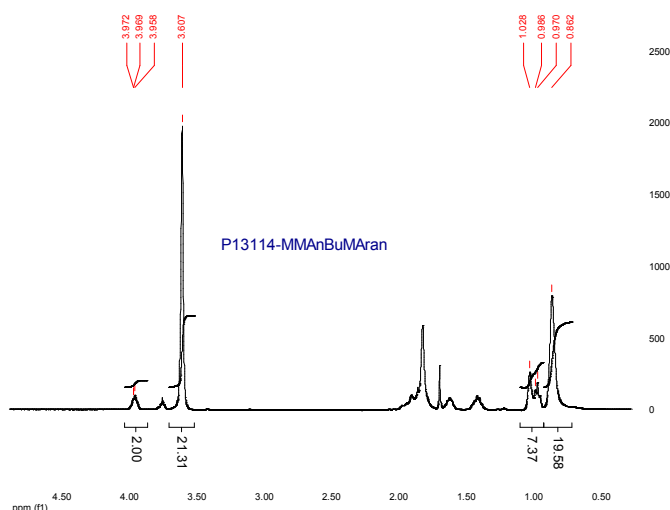
The polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of OCH₃ ester protons from MMA at 3.6ppm and OCH₂ protons of nBuMA at 4.0 ppm

Thermal analysis

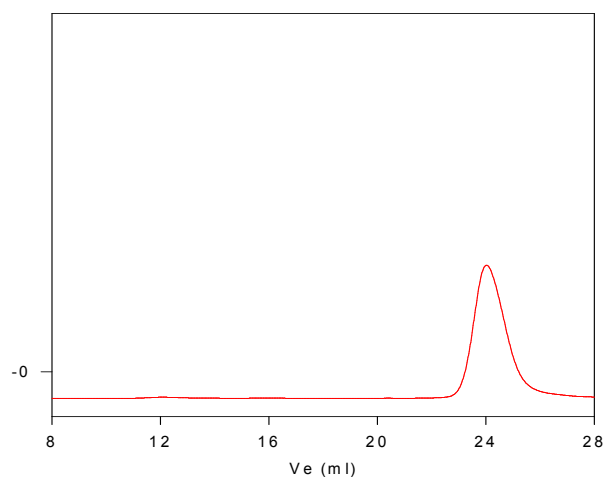
Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter (DSC) at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

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:**

P13114-MMA_nBuMA_r



Size exclusion chromatograph of random copolymer:

M_n=20,000, M_w=23000, M_w/M_n=1.15

MMA molar % by HNMR: 87%

Thermogram for the sample: