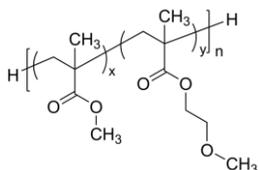


Sample Name:

**Poly(methyl methacrylate-co-2-methoxyethyl methacrylate), random**

Sample #: P42963C-MMA2MeOEMAran

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> PMMA-co-MeOEMA	PDI
12.0	1.09

T <sub>g</sub> of random polymer:35
PMMA (mole%): 45

**Synthesis Procedure:**

Random Copolymer is prepared by group transfer 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 <sup>1</sup>H-NMR spectroscopy by comparing the peak area the aromatic protons of ppm with the protons of methyl methacrylate at about ppm that deducts the contribution of the styrene back bone protons.

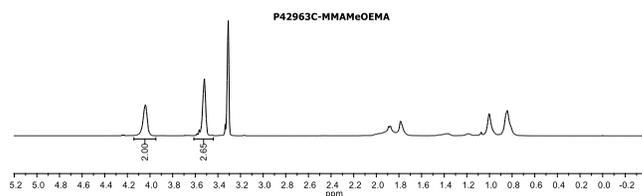
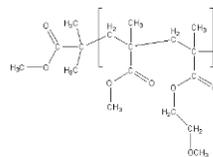
**Thermal analysis**

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>).

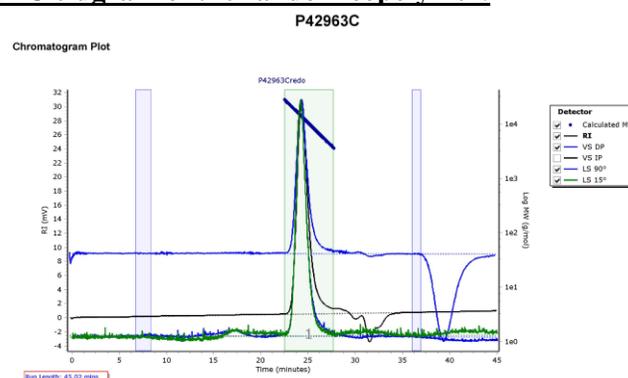
**Solubility:**

The polymer is soluble in CHCl<sub>3</sub>, THF, DMF, and toluene. It precipitated out from methanol and water.

**<sup>1</sup>H-NMR Spectrum of the random copolymer:**



**SEC elugram of the random copolymer:**



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	13971	11996	13114	13997	14740	13766	1.093

Processing Parameters

**DSC Thermogram for the sample:**

