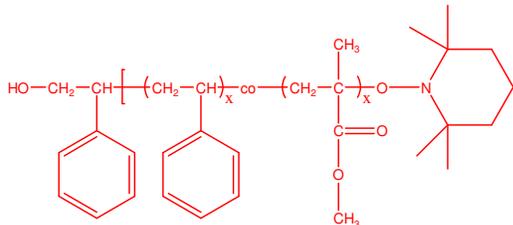


Sample Name:

Random Copolymer Poly(styrene-co-methyl methacrylate), α -Hydroxyl- ω -Tempo moiety Terminated

Sample #: P18363-SMMAranOHT

Structure:

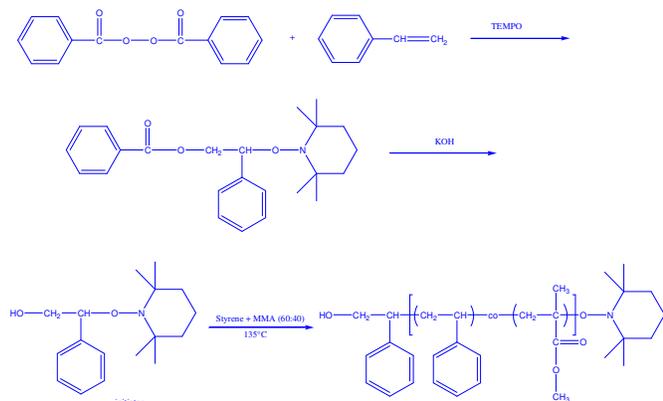


Composition:

Mn x 10 ³ (Styrene content mol%)	Mw/Mn (PDI)
9.5 (42%)	1.35

Synthesis Procedure:

Hydroxy terminated poly(styrene-co-methyl methacrylate) is prepared by stable free radical polymerization at 135°C. The reaction scheme is shown below:



Characterization:

An aliquot of the copolymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI), the instrument was calibrated by Polystyrene standards. The chemical composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the phenyl protons at 6.8-7.4 ppm with the peak area of methyl methacrylate at 2.6-3.6 ppm.

Solubility:

Poly(styrene-co-methyl methacrylate) is soluble in THF, DMF, Toluene and chloroform. Precipitate from methanol and Hexanes.

Figure: ¹H NMR spectrum

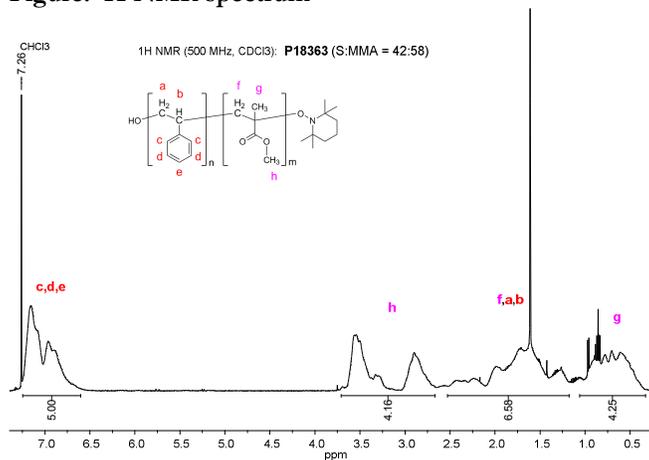
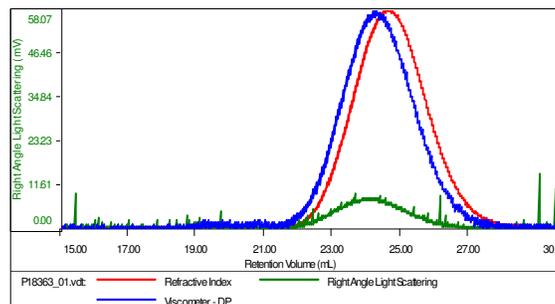


Figure: SEC profile of the random copolymer

Sample ID: P18363-SMMAranOHT

Concentration (mg/mL)	5.3489
Sample ch/dc (mL/g)	0.1850
Method File	PS80K-Apr15-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18363_01.vdt	9,617	12,972	11,036	1.349	0.1183

