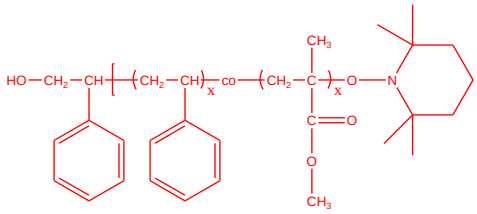
Sample Name: **Random Copolymer Poly(styrene-co-methyl methacrylate), α-Hydroxyl-ω-Tempo moiety Terminated**

Sample #: **P8596-SMMAranOHT-lot# P44448**

Structure:

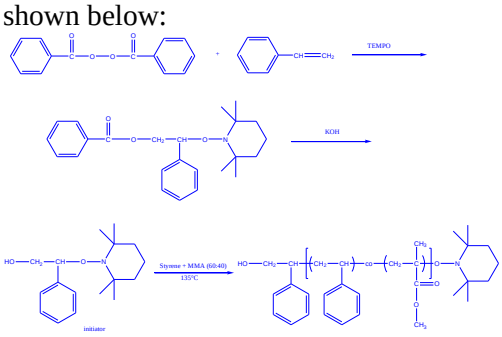


Composition:

Mn x 10^3	Mw/Mn (PDI)
8.5	1.04
Styrene content mol%: 66%	

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:



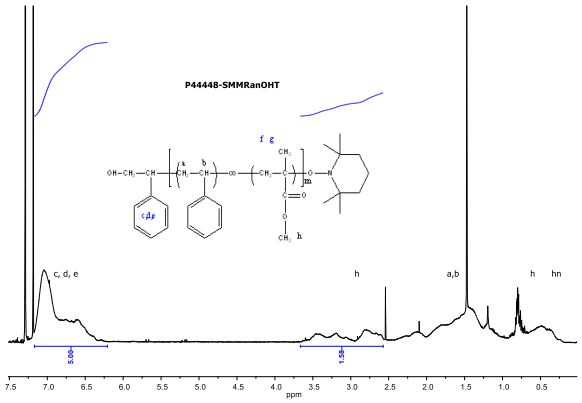
Characterization:

An aliquot of the copolymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI), the instrument calibrated by Polystyrene standards. The chemical composition was calculated from ^{1}H-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.

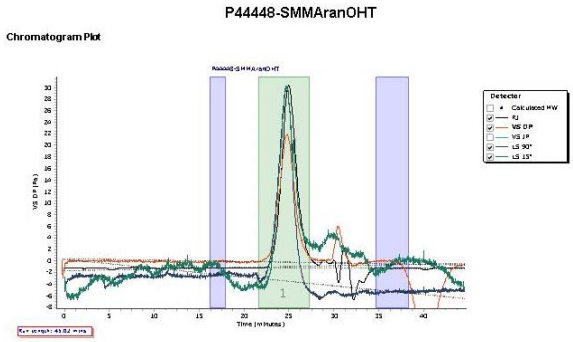
Solubility:

Poly(styrene-co-methyl methacrylate) is soluble in THF, DMF, toluene and chloroform. It precipitates from methanol and hexanes.

^{1}H NMR spectrum of the Sample:



SEC elugram of the polymer:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	9140	8767	9129	9498	9873	9510	1.041