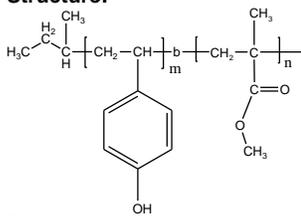


Sample Name:
Poly(4-hydroxy styrene-b-Methylmethacrylate)

Sample #: P18298A-4OHSMMA

Structure:



Composition:

Mn x 10 ³ 4OHS-b-MMA	Mw/Mn (PDI)
13.0-b-39.0	1.2

Synthesis Procedure:

Poly(4-methoxy styrene-b-MMA) is prepared by living anionic polymerization by sequence addition of 4-methoxyl styrene followed by methylmethacrylate. The obtained polymer converted to Poly (4 Hydroxy styrene-b-MMA) di block copolymer.

Characterization Block was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the 4 methoxy styrene protons at 6.3-7.2 ppm with the peak area of 4-methoxy styrene at 3.7ppm and MMA –Methyl ester at 3.6 ppm . HNMR of the diblock 4OHS-b-MMA was carried out in acetone to illustrate quantitative hydrolysis of methyl ether to OH.

Solubility: Polymer is soluble in THF, acetone

Figure: ¹H NMR spectrum of the sample P(4MeOS-b-MMA):

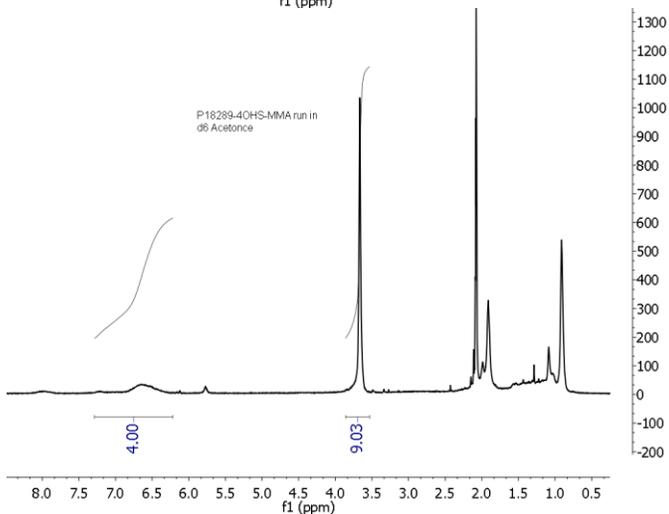
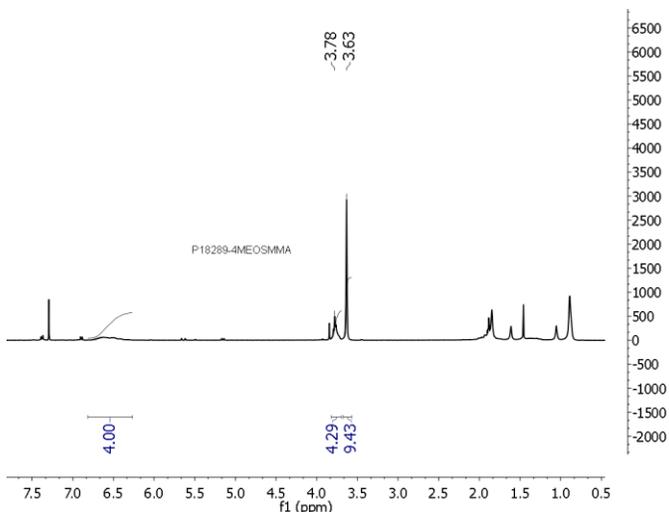
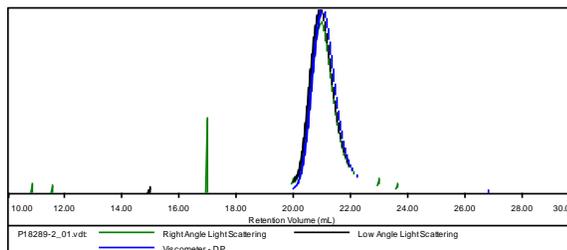


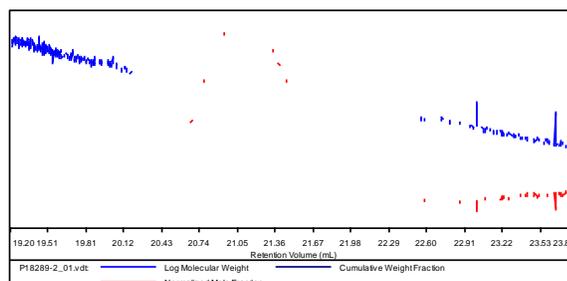
Figure: SEC profile of the block copolymer

Sample ID:
P18289-4MEOSMMA

Concentration (mg/mL)	2.1582
Sample dn/dc (mL/g)	0.1450
Method File	PS80K-NOV-2013-0001.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18289-2_01.vdt	126,049	136,079	134,801	1.080	1.1214



Mn in the form of 4Methoxy styrene-b-MMA:

40,000-b-86,000

Mn after Hydrolysis of methyl ether to Phenol:

36,000-b-86,000