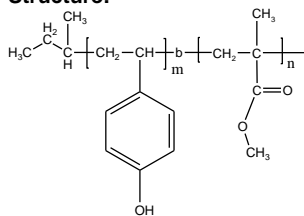


**Sample Name:**  
Poly(4-hydroxy styrene-b-Methylmethacrylate)

**Sample #:** P18303A-4OHS MMA

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> 4OHS-b-MMA	Mw/Mn (PDI)
36.5-b-150.0	1.07

**Synthesis Procedure:**

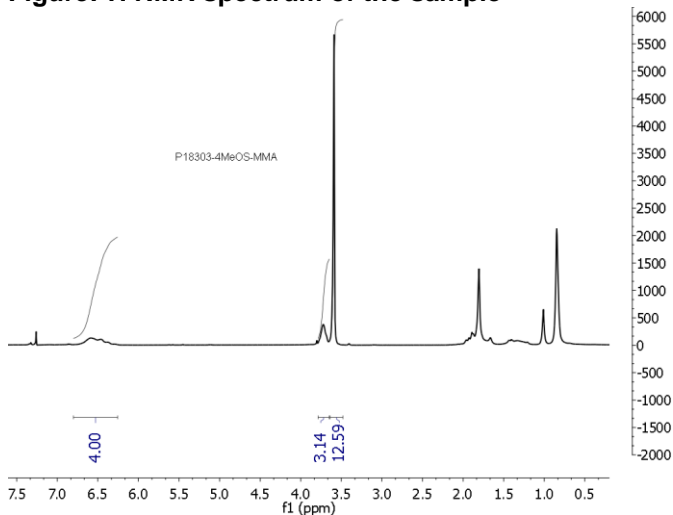
Poly(4- methoxy styrene-b-MMA) is prepared by living anionic polymerization by sequence addition of 4-methoxyl styrene followed by methylmethacrylate. The obtained polymer converted to Poly (4 Hydroxy styrene-b-MMA) di block copolymer.

**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 <sup>1</sup>H-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 methoxy ether to OH.

**Solubility:** Polymer is soluble in THF, acetone

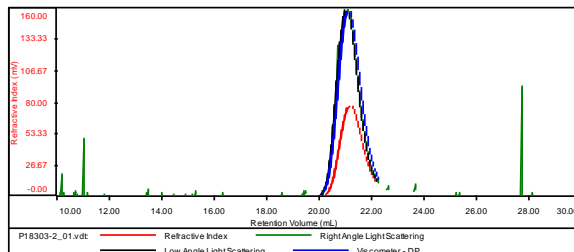
**Figure:** <sup>1</sup>H NMR spectrum of the sample P(4MeOS-b-MMA):

**Figure:** <sup>1</sup>H NMR spectrum of the sample

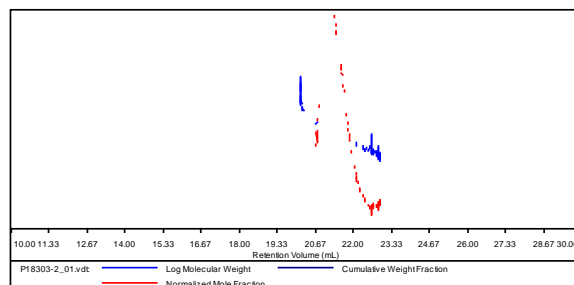


**Figure: SEC profile of the block copolymer**  
Sample ID: P18303-4MeOSMMA

Concentration (mg/mL)	4.5509
Sample dn/dc (mL/g)	0.1000
Method File	PS80K-NOV-2013-0001.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18303-2_01.vdt	191,640	204,337	213,476	1.066	0.4811



Mn in the form of 4Methoxy styrene-b-MMA:  
40,000-b-150,000  
Mn after Hydrolysis of methyl ether to Phenol:  
36,500-b-150,000