Sample Name: Poly(methylene)-b-poly(styrene)

Sample #: P42201-M-S

Structure:

$$\begin{array}{c} H_2C \\ \downarrow \\ H_3C \end{array} \begin{array}{c} H_2 \\ \downarrow \\ H_3C \end{array} \begin{array}{c} H_2 \\ \downarrow \\ M \end{array} \begin{array}{c} O \\ \downarrow \\ C \\ \downarrow \\ C \\ C \end{array} \begin{array}{c} CH_3 \\ \downarrow \\ CH_3 \end{array} \begin{array}{c} CH_2 \\ \downarrow \\ CH_3 \end{array} \begin{array}{c} H \\ \downarrow \\ M \end{array} \begin{array}{c} S \\ \downarrow \\ S \end{array}$$

Composition:

Mn x 10 ³ PM-b-PS	PDI
1.0-b-4.5	1.2

Synthesis:

The following reaction scheme shows how the product was prepared:

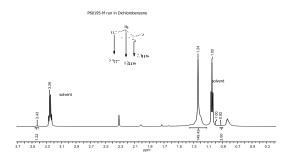
Characterization:

The molecular weight and polydispersity index obtained by size (PDI) exclusion chromatography (SEC) in Toluene at 70oC. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

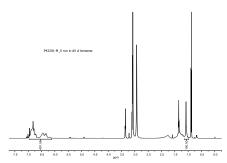
Solubility:

Poly(methylene)-b-poly(styrene) is soluble in hot toluene and hot xylene. The polymer is insoluble in hexane, methanol and ethers.

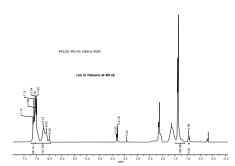
HNMR spectrum of Poly Methylene OH terminated (lot# P60195) run in d5 Chlorobenzene:



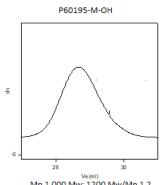
HNMR spectrum of the Sample runs in d5 **Chlorobenzene:**



HNMR spectrum of the Sample runs in Toluene at 80 °C:



SEC profile of the Poly Methylene OH terminated (lot# P60195):



Mn 1,000 Mw: 1200 Mw/Mn 1.2