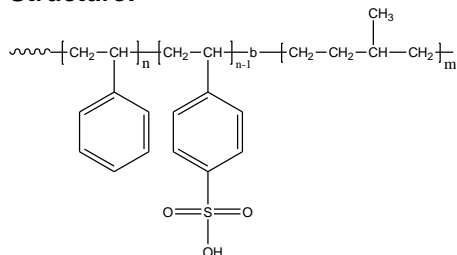


**Sample Name:** Poly(styrene-co-4-styrene sulfonic acid)-b-poly(ethylene propylene)

**Synonym:** Poly(4-styrene sulfonic acid)-b-poly(2-methyl butylene)

**Sample #:** P5644A-SSO3HMB

**Structure:**

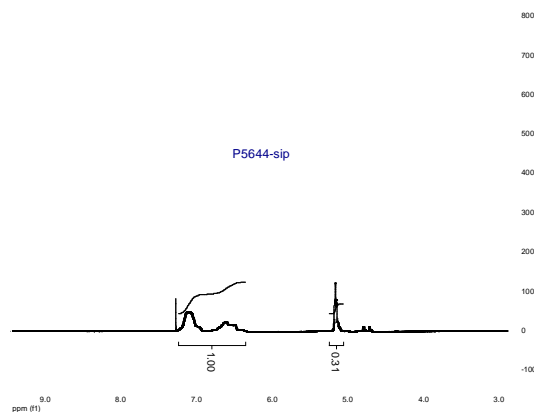


**Composition:**

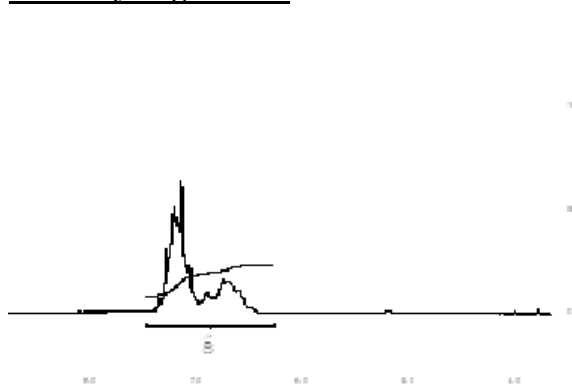
Mn x 10 <sup>3</sup> SSO3H-b-MB	Mw/Mn (PDI)
46.0-b-33.0	1.10

Degree of sulfonation on Polystyrene block about 62% by FTIR and by titration 68%

**<sup>1</sup>H-NMR Spectrum of the block copolymer Poly (styrene-b-isoprene):**

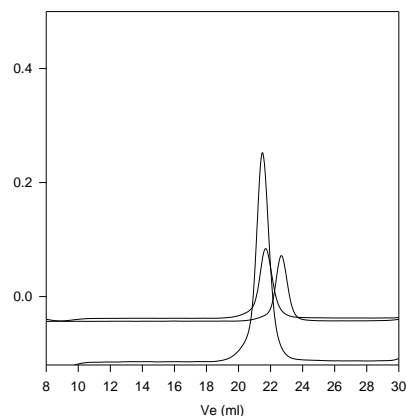


**After Hydrogenation:**



**SEC of Sample of the block copolymer:**

P5644-SMB



Size exclusion chromatography of polystyrene-b-polyisoprene<sub>1,4</sub> addition  
Polystyrene, M<sub>n</sub>=32000, Mw=35000 PI=1.09

Block Copolymer:  
PS-IP(32000)-b-PI(3200), PI=1.10 (by H NMR)  
After Hydrogenation Mn: 32,000-b-33,000 Mw/Mn 1.10

In Hydrogenation: The characteristics at 885 and 846cm<sup>-1</sup> should be disappeared.

In sulfonation on the styrene ring: the characteristics at 1411, 1126, 1033 and 1001 cm<sup>-1</sup> must be observed these are characteristics at the benzene ring. The characteristics at 1411cm<sup>-1</sup> in particular is a characteristic for the styrene at para position is sulfonated

**FTIR of the SSO3H-MB**

**Calibration of FTIR:**

