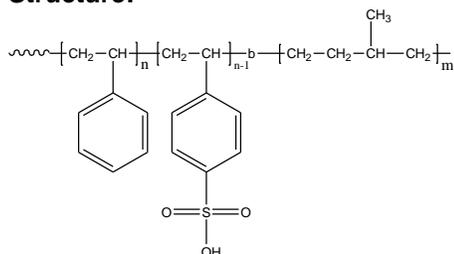


Sample Name: Poly(styrene-co-4-styrene sulfonic acid)-b-poly(ethylene propylene)

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

Sample #: P5644A-SSO3HMB

Structure:

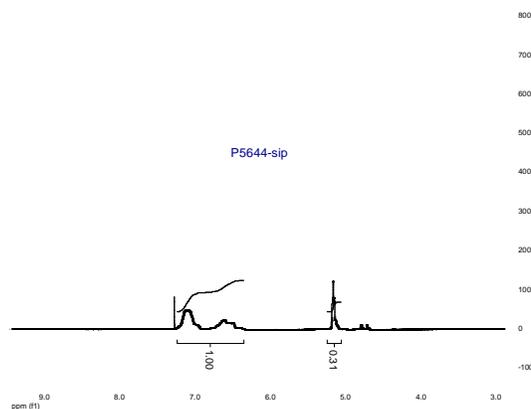


Composition:

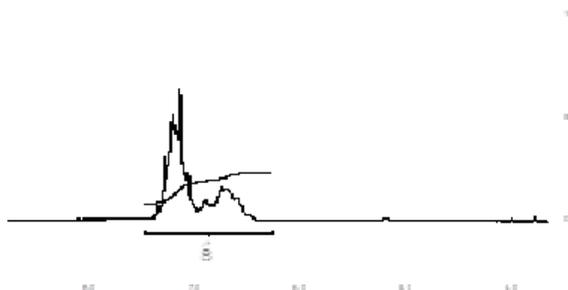
Mn x 10 ³ SSO3H-b-MB	Mw/Mn (PDI)
46.0-b-33.0	1.10

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

¹H-NMR Spectrum of the block copolymer Poly (styrene-b-isoprene):

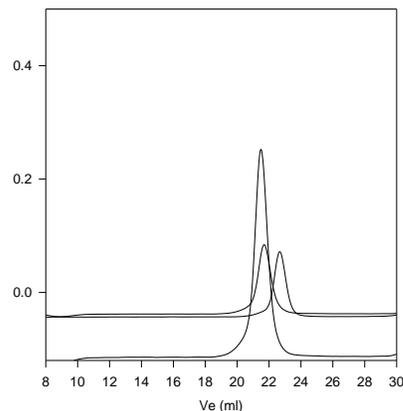


After Hydrogenation:



SEC of Sample of the block copolymer:

P5644-SMB



Size exclusion chromatography of polystyrene-b-polyisoprene_{1,4} addition
 — Polystyrene, M_n=32000, M_w=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⁻¹ should be disappeared.

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

FTIR of the SSO3H-MB

Calibration of FTIR:

