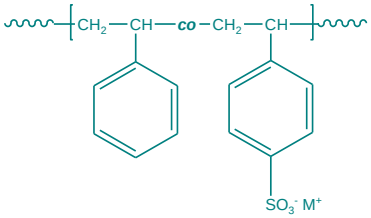
Sample Name: **Ionomer of Poly (styrene-co-4-styrene sulfonic acid)**

Sample #: **P16313B-SSO3H**

**Structure:**



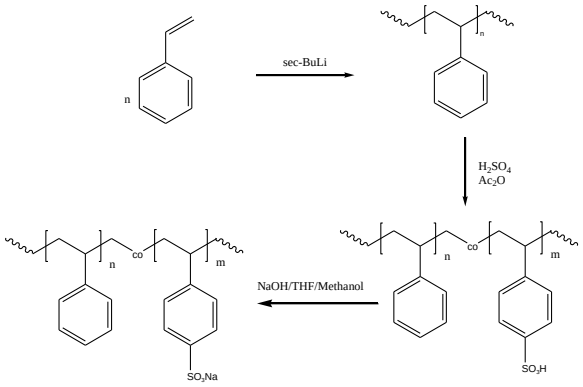

M = H

**Composition:**

| Mn x $10^3$ | Mole% of SO3H | PDI |
|---|---|---|
| 23.5 | 30% | 1.03 |

**Synthesis Procedure:**

Poly(styrene-co-4-styrene sulfonic acid) is synthesized by partially sulfonation of monodispersed polystyrene and the reaction scheme is shown below.



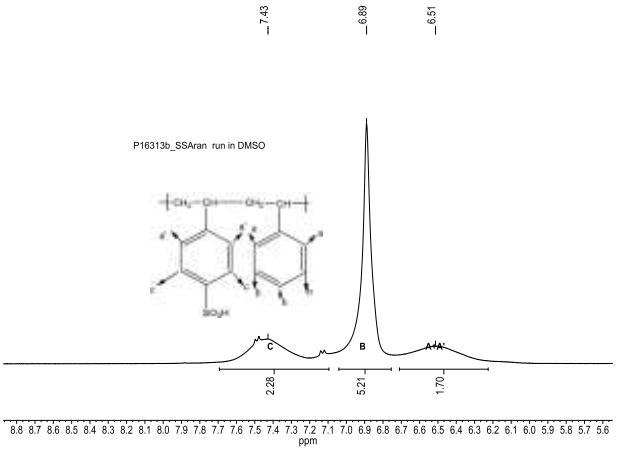

**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and $^1$H NMR.

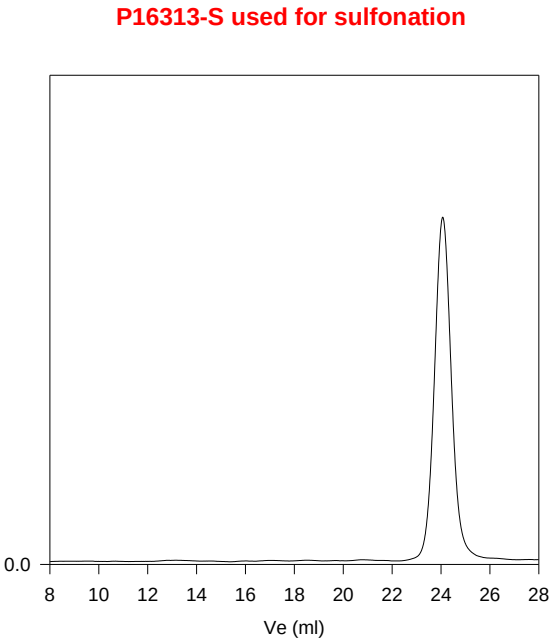
**Solubility:**

The polymer is soluble in methanol.

**$^1$HNMR spectrum of the Sample runs in DMSO:**




**SEC elugram of Polystyrne used for sulfonation process:**




Size exclusion chromatograph of polystyrene:

$M_n$=15,500, $M_w$=16,000, PI=1.03