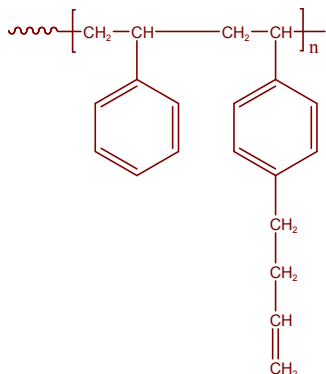


**Sample Name:** Random copolymer of styrene with 4-Butene styrene

**Sample #:** P9953-Ssbutene

**Structure:**

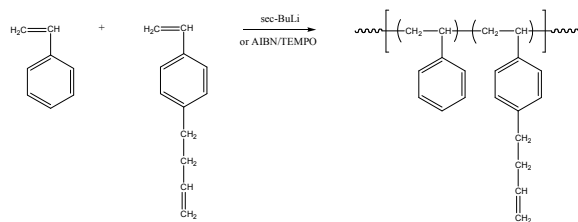


**Composition:**

Mn x 10 <sup>3</sup>	Double Bond mol%	Mw/Mn (Total)
6.0	4.0	1.16

**Synthesis Procedure:**

Polystyrene-4-butene random copolymer is synthesized by copolymerization of styrene and 4-butene styrene. The brief synthetic route is illustrated as following scheme.



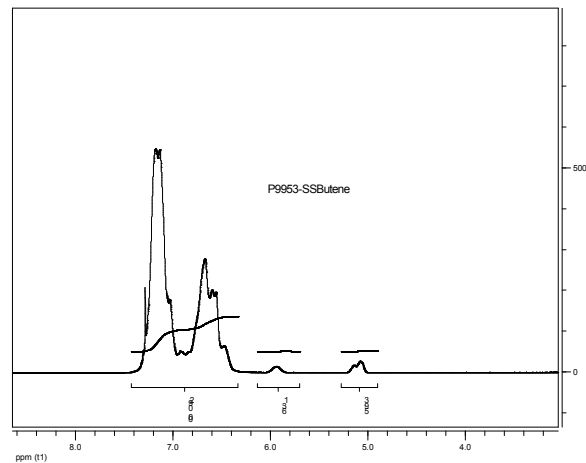
**Characterization:**

The molecular weight and polydispersity index (PDI) of polymers are obtained by size exclusion chromatography. The composition of grafting polymer is determined by NMR.

**Solubility:**

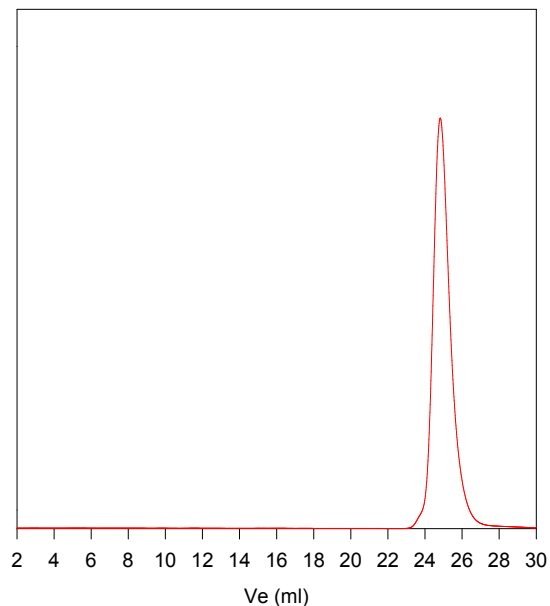
Random copolymer of styrene with 4 butene styrene is soluble in THF, DMF, chloroform, and Toluene. It precipitates from hexanes or methanol.

**NMR of Polymer:**



**SEC of Polymer:**

**P9953-SSbutene**



Size exclusion chromatography of copolymer:

$M_n=6000$ ,  $M_w=7000$ ,  $PI=1.16$