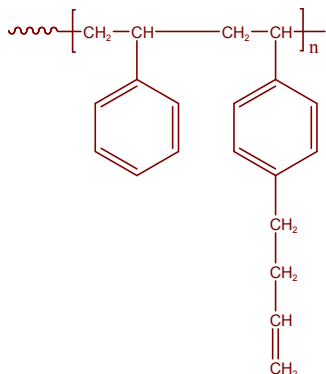


**Sample Name: Random copolymer of styrene with 4-Butene styrene**

**Sample #:** P9954-Ssbutene

**Structure:**

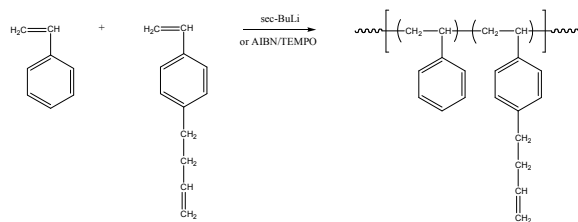


**Composition:**

Mn x 10 <sup>3</sup>	Double Bond mol%	Mw/Mn (Total)
6.0	6.0	1.10

**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.



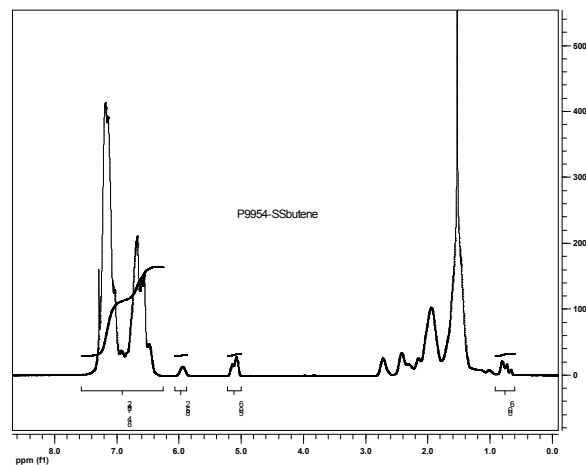
**Characterization:**

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:**

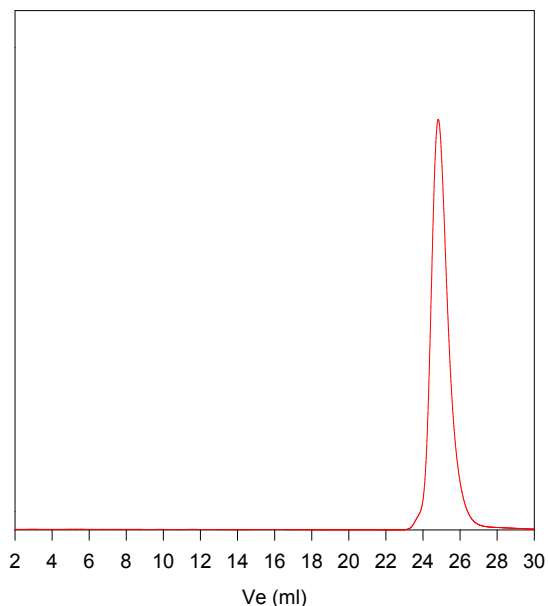
Random copolymer of styrene with 4 butene styrene is soluble in THF, DMF, chloroform, and Toluene. It precipitates from hexanes or methanol.

**NMR of Polymer:**



**SEC of Polymer:**

**P9954-SSbutene**



Size exclusion chromatography of copolymer:

M<sub>n</sub>=6000, M<sub>w</sub>=7000, PI=1.16