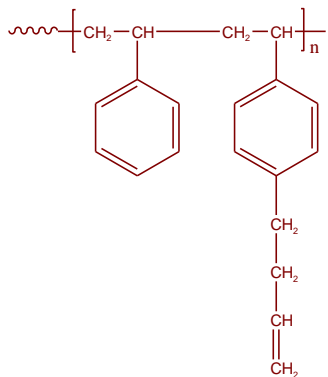


Sample Name: **Polystyrene Graft 1-Butene**

Sample #: **P6757-SSbutene**

Structure:

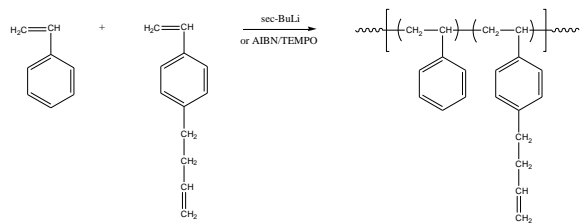


Composition:

Mn x 10 <sup>3</sup>	Double Bond mol%	Mw/Mn (Total)
4.0	2.2	1.15

Synthesis Procedure:

Polystyrene-b-1-butene is synthesized by copolymerization of styrene and 4-butene styrene. The brief synthetic route is illustrated as following scheme.



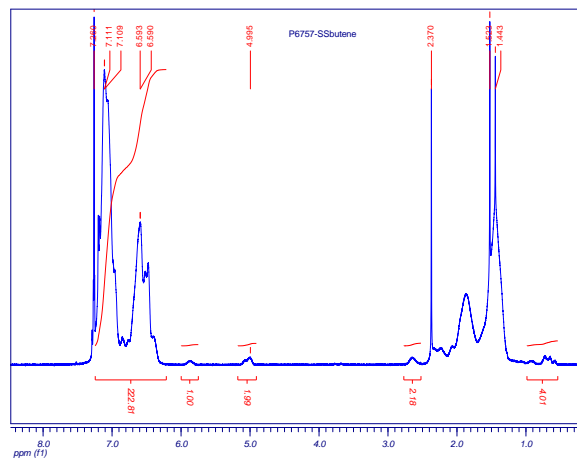
Characterization:

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

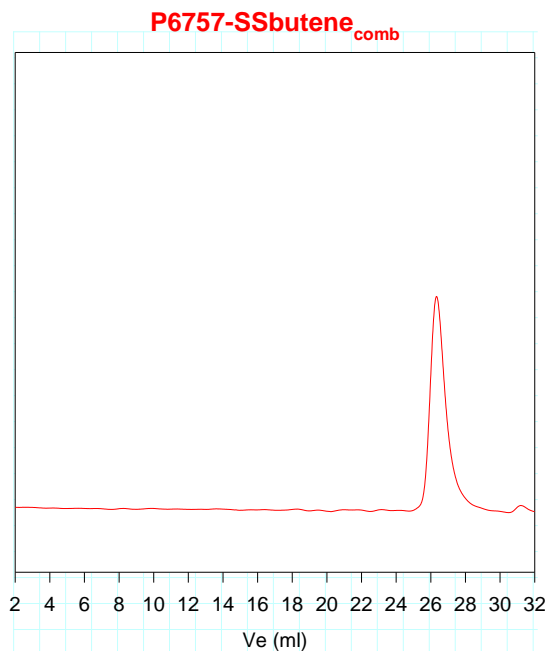
Solubility:

Polystyrene-g-butene is soluble in THF, DMF, chloroform, and Toluene. It precipitates from hexanes or methanol.

**NMR of Polymer:**



**SEC of Polymer:**



Size exclusion chromatography of copolymer:

$M_n=4000$ ,  $M_w=4600$ ,  $PI=1.15$