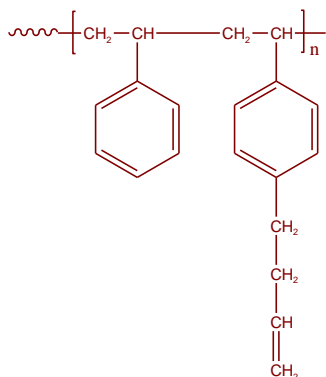


Sample Name: **Polystyrene Graft 1-Butene**

Sample #: **P5998-SSbutene**

Structure:

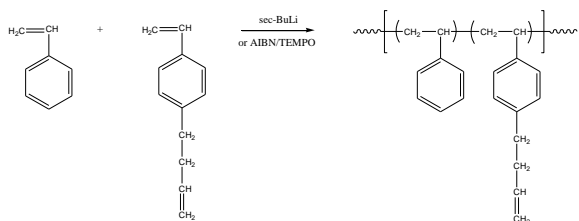


Composition:

Mn x 10 ³	Double Bond mol%	Mw/Mn (Total)
7.0	5.0%	1.08

Synthesis Procedure:

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



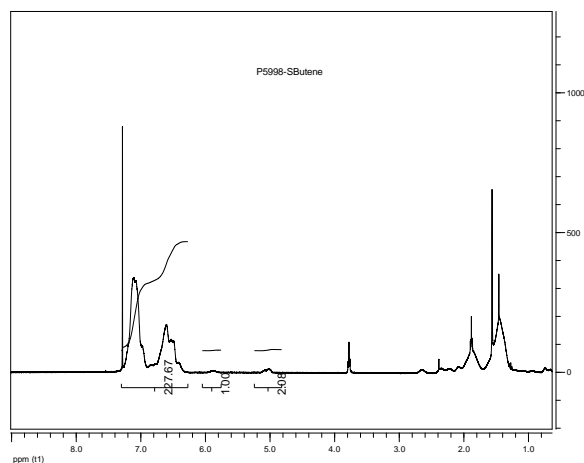
Characterization:

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:

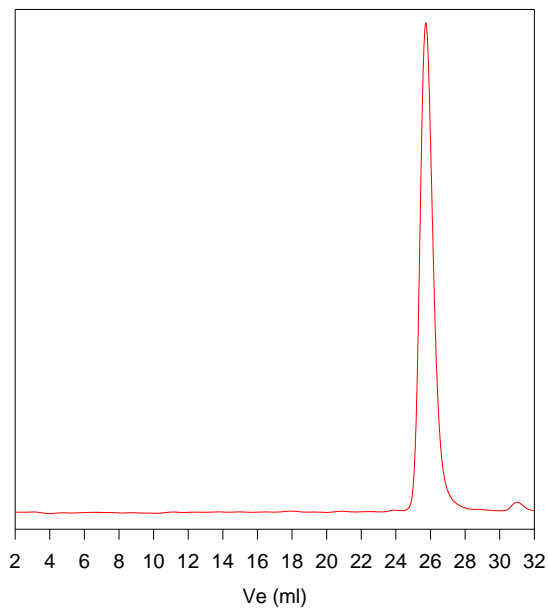
Polystyrene-g-butene is soluble in THF, DMF, chloroform, and Toluene. It precipitates from hexanes or methanol.

NMR of Polymer:



SEC of Polymer:

P5998-SSbutene_{comb}



Size exclusion chromatography of copolymer:

$M_n=7000$, $M_w=7600$, $PI=1.08$