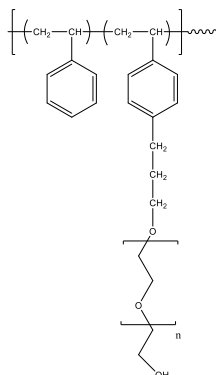


Sample Name: Poly(styrene)-graft-poly (ethylene oxide),
PEO is hydroxy-terminated

Sample #: P43262-SEOcomb

Structure:



Composition:

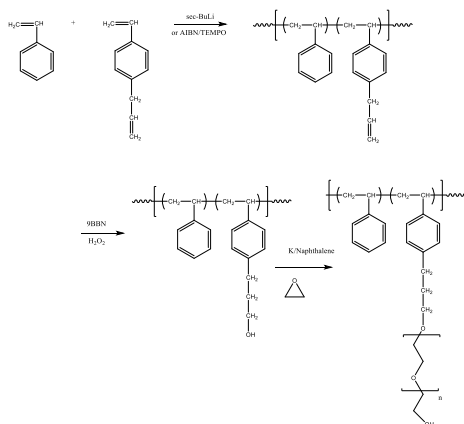
Mn x 10 ³ (Main Chain)	Mn x 10 ³ (Graft Chain)	Mn x 10 ³ (Total PEO Chain)	Mw/Mn (Total)
7.0	6.0	24.0	1.35

Mn (total): 31,000

Number of branches about: 4

Synthesis Procedure:

Polystyrene-g-poly(ethylene oxide) is synthesized by polymerization of ethylene oxide on the polystyrene bearing hydroxyl functions. The brief synthetic route is illustrated as following scheme.



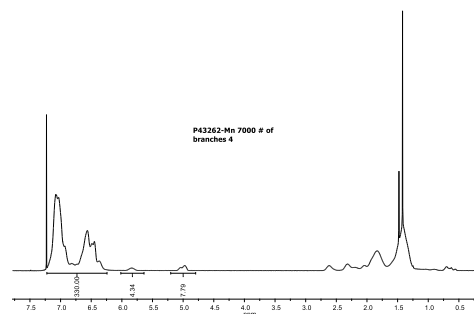
Characterization:

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

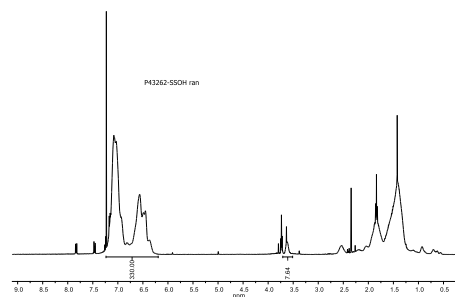
Solubility:

Polystyrene-g-poly(ethylene oxide) is soluble in THF, DMF, and chloroform.

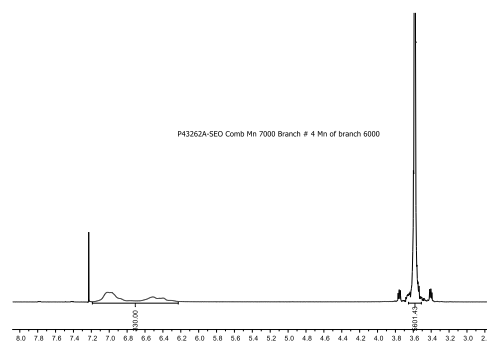
H NMR spectrum of SSallyl random Polymer:



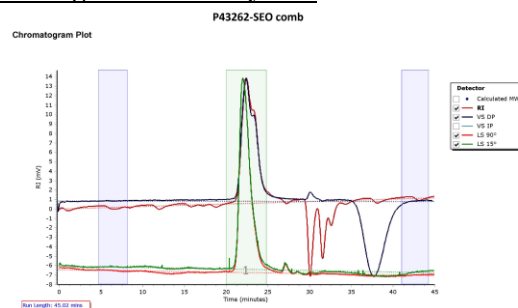
H NMR spectrum of SSpropanol random Polymer:



H NMR spectrum of SEO comb Polymer:



SEC elugram of the Polymer:



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	48020	31144	42440	55007	72414	49459	1.353