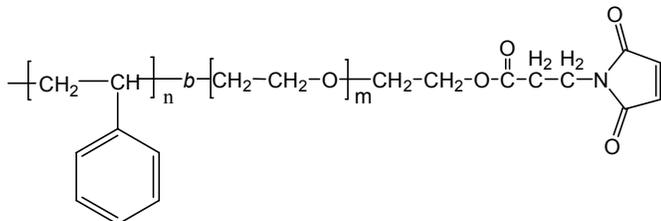


Sample Name:

Maleimido end functionalized Poly(styrene-b-ethylene oxide)

Sample #: P14577-SEOMaleimido

Structure:



Composition:

Mn x 10 ³ S-b-EO	9.5-b-18.0
PDI	1.09
Maleimido functionality by HNMR	> 98 %

Synthesis Procedure:

Maleimido end functionalized Poly(styrene-b-ethylene glycol) was synthesized by living anionic polymerization of styrene and ethylene oxide monomer, followed by the conversion of hydroxyl end group into 3-maleimidopropionate group by reacting diblock polymer with 3-maleimidopropionyl chloride.

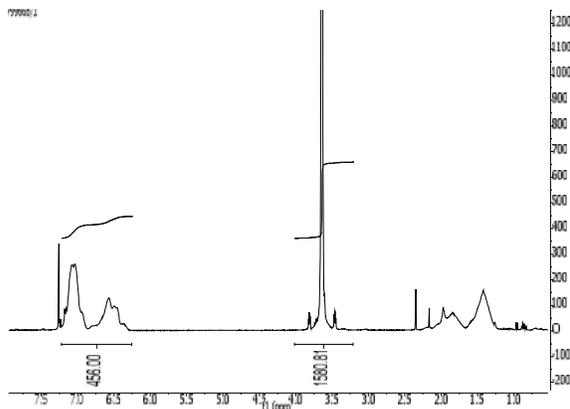
Solubility:

Functionalized poly(styrene-ethylene oxide) is soluble in CHCl₃, THF, and precipitated out from hexane or cold diethyl ether.

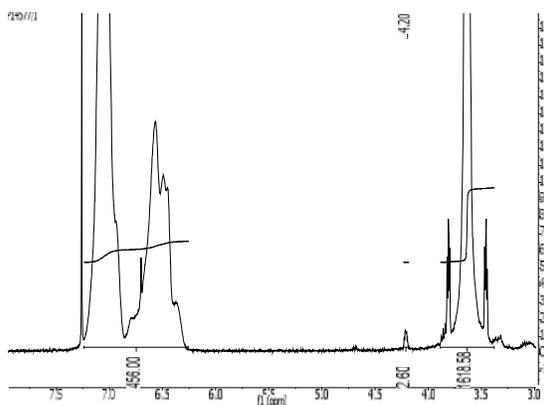
Characterization:

The diblock polymer was first analyzed by size exclusion and chromatography (SEC) and ¹H-NMR to obtain the composition molecular weight and polydispersity index (PDI). The functionality of the resulted polymer was confirmed by ¹H-NMR spectroscopy using CH₂ group adjacent to 3-maleimidopropionate group at 4.20 ppm.

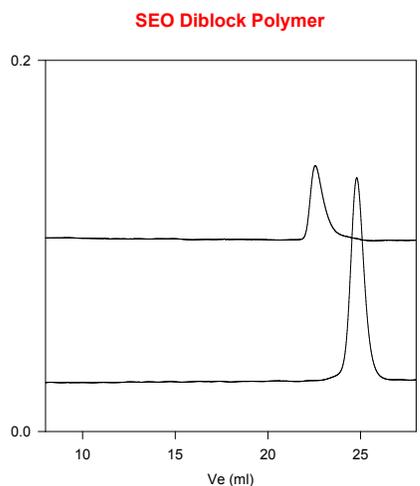
NMR of diblock SEO:



NMR of functionalized polymer:



SEC of the diblock polymer:



Size Exclusion Chromatography:
— Polystyrene, M_n=9,500, M_w=9,900, PI=1.05
— Block Copolymer Polystyrene-b-Poly(ethylene oxide)
Mw: PS(9,500)-b-PEO(18,000), PI=1.09