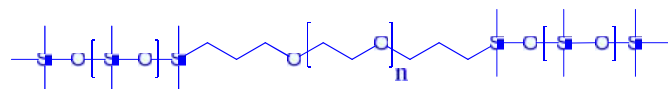


Sample Name: Poly(dimethyl siloxane-b-ethylene oxide-b-dimethyl siloxane) Trimethyl siloxy end group

Sample #: P9088-DMSEODMS

Prepared by route : 1

Structure:

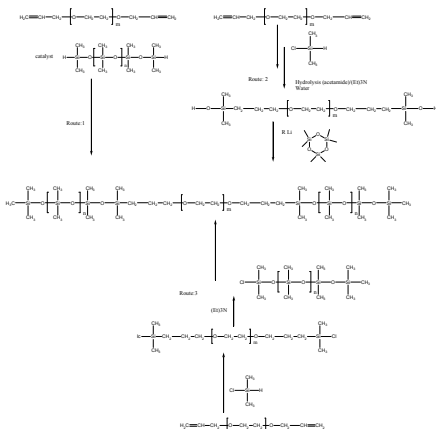


Composition:

| | |
|----------------------|-----|
| Mn x 10 ³ | PDI |
| PDMS-b-PEO-b-PDMS | |
| 0.8-b-0.42-b-0.8 | 1.3 |

Synthesis Procedure:

The polymer can be obtained by one of the following routes:



Characterization:

The polymer was analyzed by size exclusion chromatography (SEC) and NMR to obtain the molecular weight and polydispersity index (PDI). Copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the siloxane protons at about 0.08 ppm with the peak area of ethylene oxide protons at about 3.4 ppm.

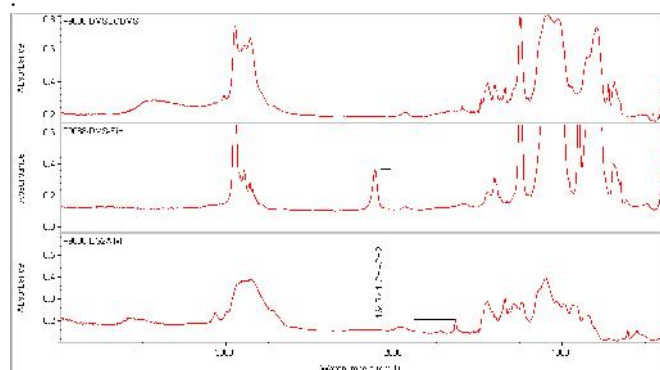
Solubility:

The polymer is soluble in THF, chloroform, not soluble in MeOH/water mixture;

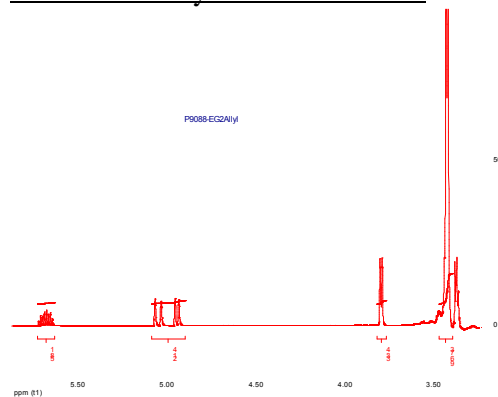
FTIR: SiH – Characteristics absorbance: 2120cm⁻¹

CH=CH₂ in PEG: absorbance: 1645cm⁻¹

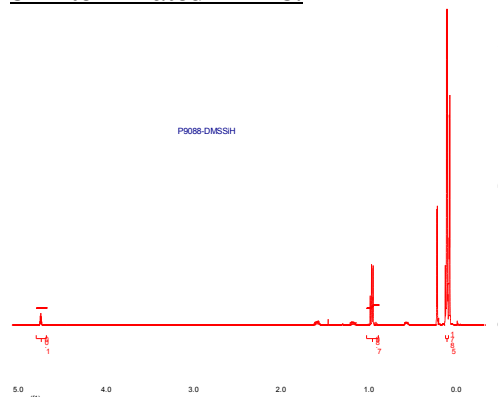
After the reaction these absorbance must disappear indicating the stoichiometry required for the reaction.



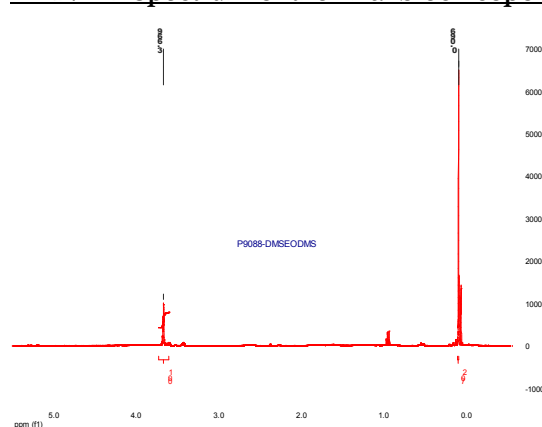
¹H-NMR of allyl terminated PEO



SiH terminated PDMS:

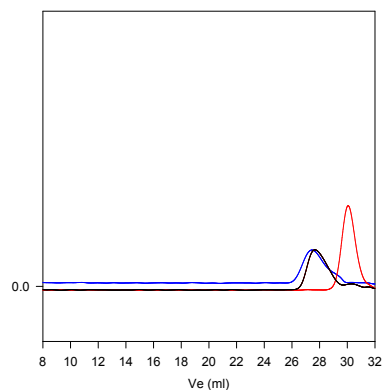


¹H-NMR Spectrum of the final block copolymer:



SEC of the polymer

P9088-DMSEODMS



Size Exclusion Chromatogram of Triblock copolymer

— Di-Allyl PEG: M_n=420, M_w=500, M_w/M_n=1.20

— PDMS SiH terminated Mn 800 Mw/Mn 1.25
Triblock (PDMS-PEO-PDMS): M_n= 800(DMS)-420(EO)-800(DMS), M_w/M_n=1.3