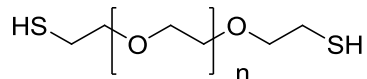


Sample Name:

α - ω -bis(Thiol)-Terminated Poly(Ethylene Glycol)

Sample # P40995-EG2SH

Structure:



Composition:

Mn x 10 ³ (g/mol)	PDI
1.5*	1.08

*Mn is based on starting material.

-SH functionality:	>84%
S-S	<4%
-O-CH ₂ CH ₂ -S-K	5%
Other: free -OH, mesylate, tributyl phosphine	<7%

Synthesis Procedure:

The polymer was prepared by anionic process and modifications of terminal -OH to -SH groups:

Reference:

S. K. Varshney, J.X. Zhang, Apply US patent 09/895,323, 2001. Heterofunctional Polyethylene glycol and Poly ethylene oxide, process for their Manufacture.

Characterization:

The product was characterized by size exclusion chromatography (SEC), and ¹H NMR.

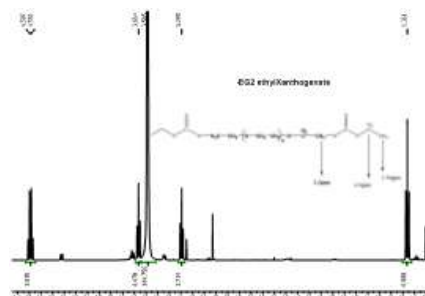
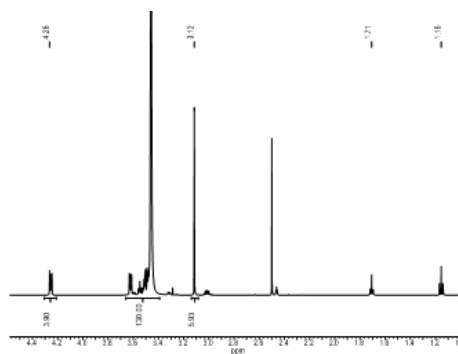
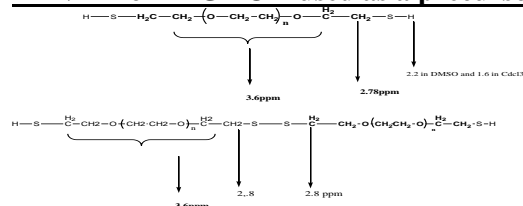
Functionality

It was determined by ¹H NMR or FT-IR spectroscopy or by titration.

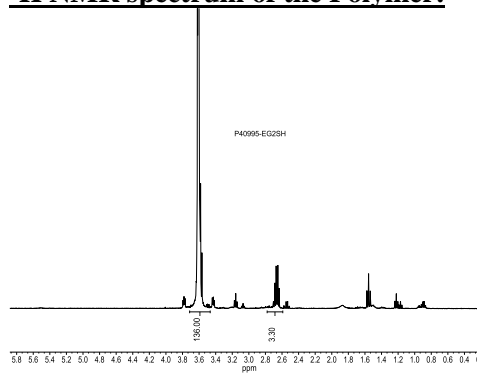
Solubility:

Polymer is soluble in water, methanol and ethanol, THF.

¹H NMR of PEG-2OH used as a precursor:

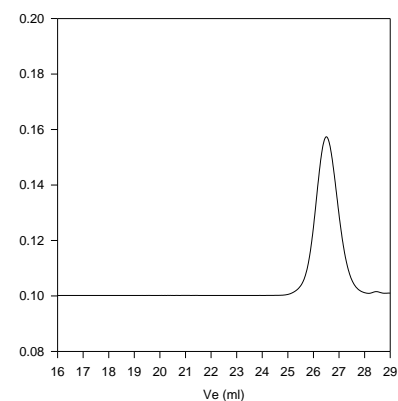


¹H NMR spectrum of the Polymer:



SEC profile of the PEG-2OH Sample:

P40995-EG2OH



Size exclusion chromatography of poly(ethylene glycol)
Mn=1,500, Mw=1,600, PI=1.08