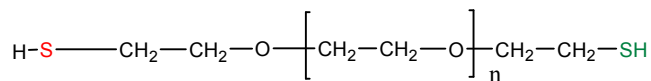


**Sample Name:**

Poly (ethylene glycol) dithiol or

 $\alpha$ -  $\omega$ -dithiol Terminated Poly (ethylene glycol)

Sample: P19440A-EG2SH

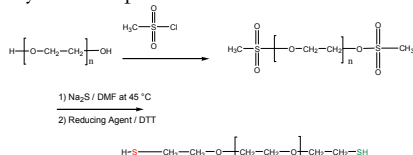
**Structure:****Composition:**

Mn x 10 <sup>3</sup>	PDI	SH functionality
3.4*	1.04	> 74%
S-S		<6%
S-Na		<2%
Other Free OH and mesylate, tributyl phosphine		<8%

\*Mn is based (based on starting material)

**Synthesis Procedure:**

By anionic process and modifications of terminal OH to SH:



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

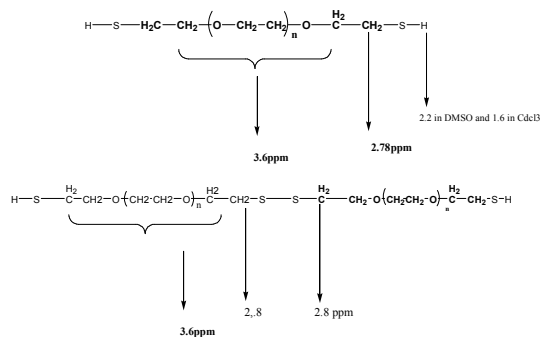
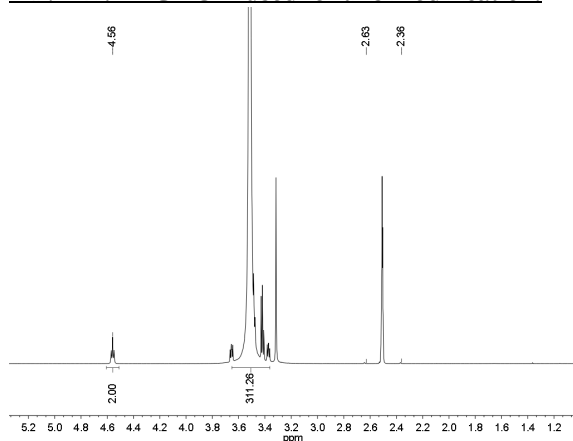
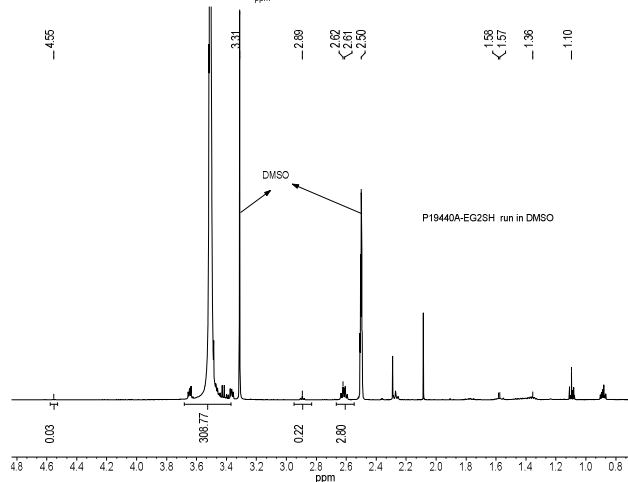
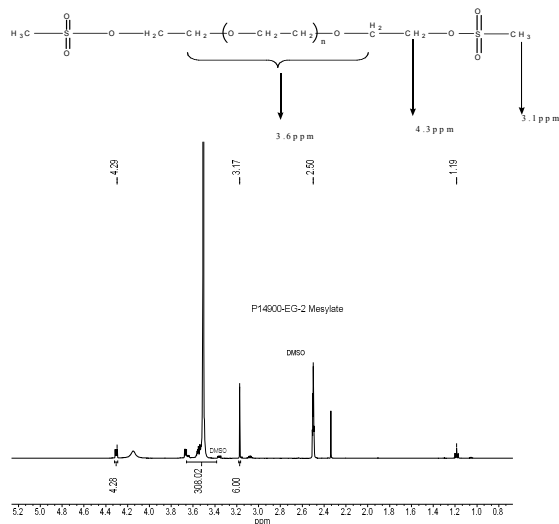
**Characterization:**

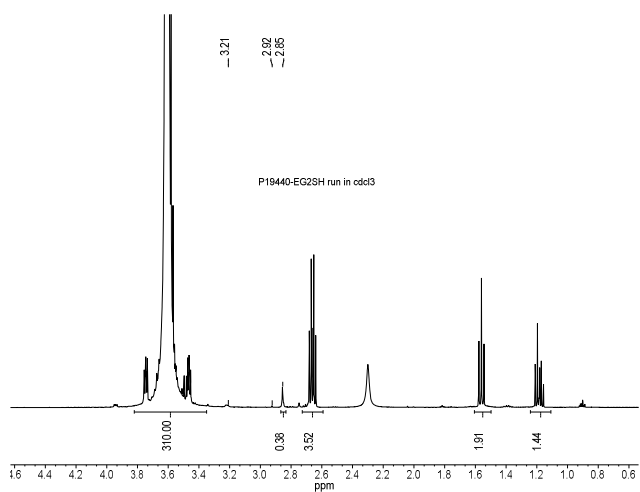
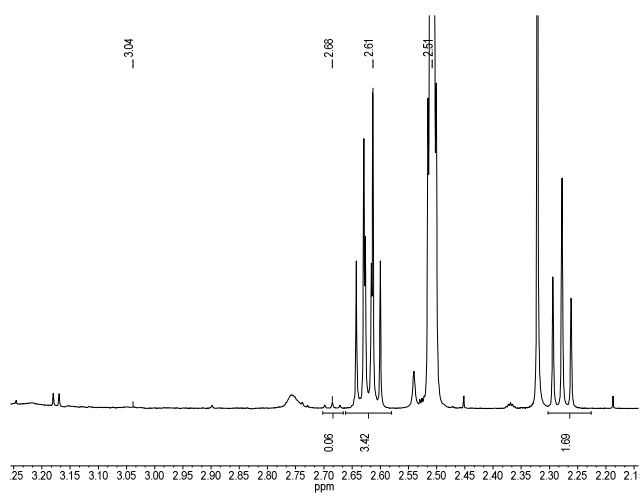
BY SEC and HNMR analysis.

**Functionality:** determined by H NMR analysis or FT-IR spectroscopy or by titration.

**Solubility:**

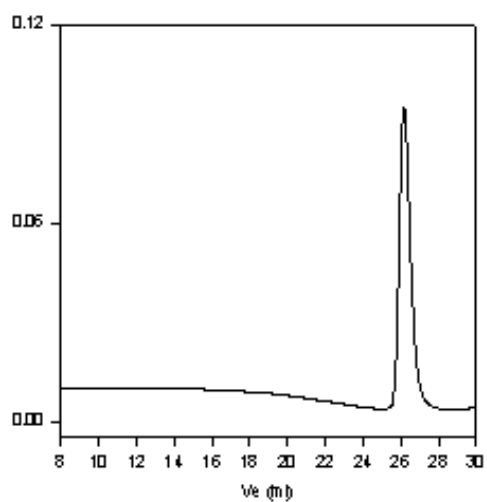
Polymer is soluble in water, methanol and ethanol, THF.

**HNMR : PEG-2OH used for this modification:****PEG-2 Mesylate****1. Absence of free OH (not detected)**



**SEC of Sample:**

**EG2OH**



Size Exclusion Chromatography of Poly(ethylene glycol):

$M_n = 3400$ ,  $M_w = 3500$ ,  $M_w/M_n = 1.04$