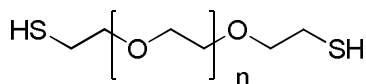


Sample Name:
 α,ω -di(Thiol)-Terminated Poly(Ethylene Glycol)

Sample # P20242-EG2SH

Structure:



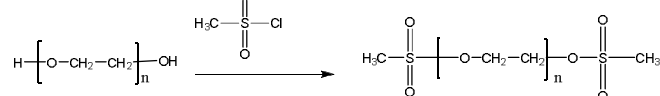
Composition:

| | |
|----------------------|-----------|
| $M_n \times 10^{-3}$ | M_w/M_n |
| 3.4* | 1.04 |

* starting material (dihydro-terminated PEG)

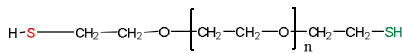
| | |
|--------------------|------|
| -SH functionality: | 80 % |
| Free -OH | > 2% |

Synthetic procedure:



1) NaHS / DMF at 45 °C

2) Reducing Agent / DTT



Characterization:

The molecular weight and polydispersity index were determined by ^1H NMR and SEC (size exclusion chromatography) using a Varian liquid chromatograph equipped with UV and refractive index detector.

Functionality:

Functionalization of the polymer was confirmed by ^1H NMR.

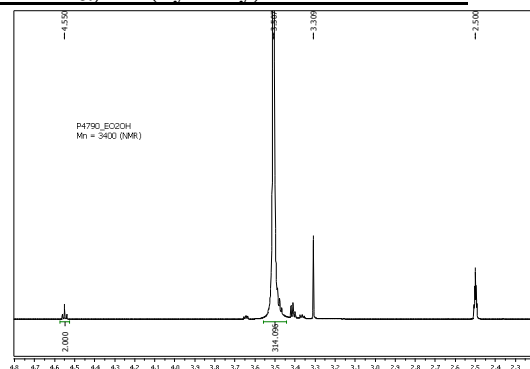
Solubility:

Polymer is soluble in water, acetone, THF, chloroform; and it precipitates from hexane / ether.

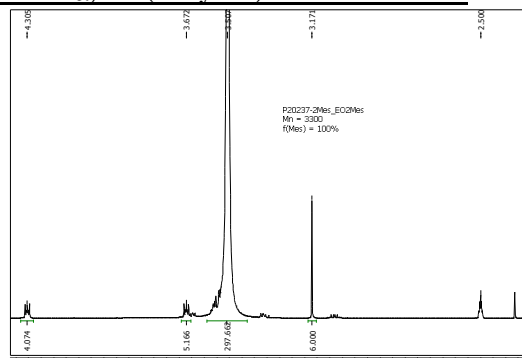
Reference:

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

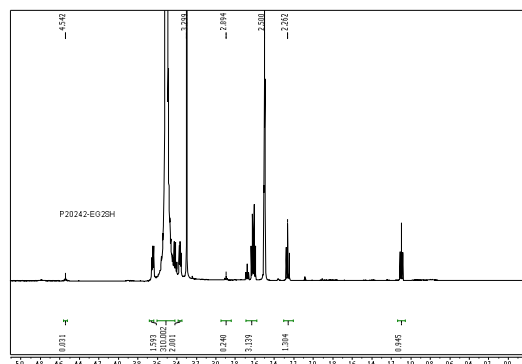
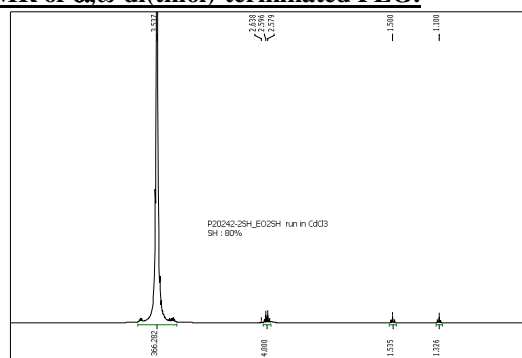
^1H NMR of α,ω -di(hydroxy)-terminated PEG:



^1H NMR of α,ω -di(mesylate)-terminated PEG:

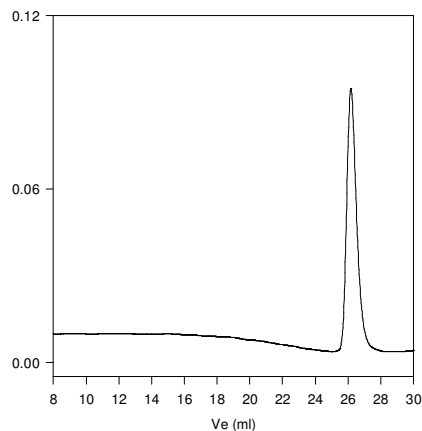


^1H NMR of α,ω -di(thiol)-terminated PEG:



SEC of α,ω -di(hydro)-terminated PEG precursor:

P4790-EG2OH



Size Exclusion Chromatography of Poly(ethylene glycol):

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