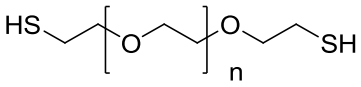
Sample Name:
Poly (ethylene glycol) dithiol or
α,ω-dithiol Terminated Poly(ethylene glycol)
Sample: P20223F-EG2SH

Structure:

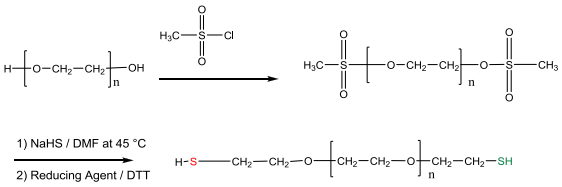


Composition:

Mn x 10^3	PDI	SH functionality
11.0(SEC)*	1.10	99%

* - starting material

Synthetic Procedure:

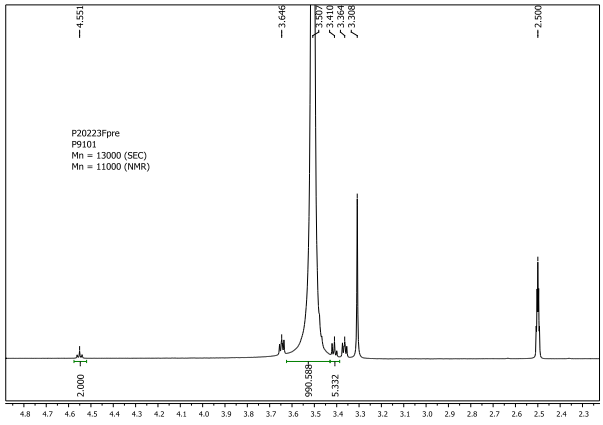


Characterization:
The molecular weight and polydispersity index were determined by 1H NMR and size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with UV and refractive index detector.

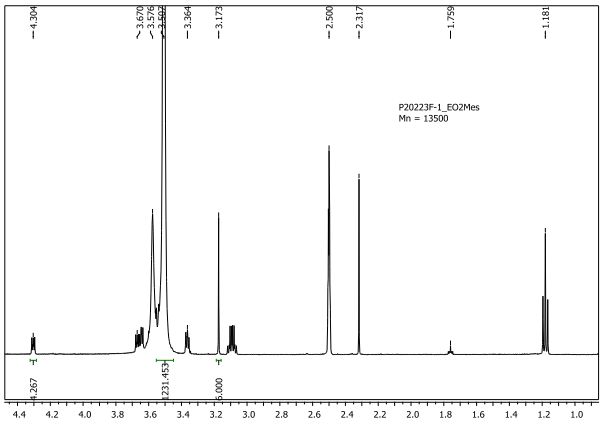
Functionality: Functionality of the polymer was determined by ^{1}H NMR.

Solubility:
Polymer is soluble in water, acetone, THF, $CHCl_3$.
It was precipitated from hexane / ether.

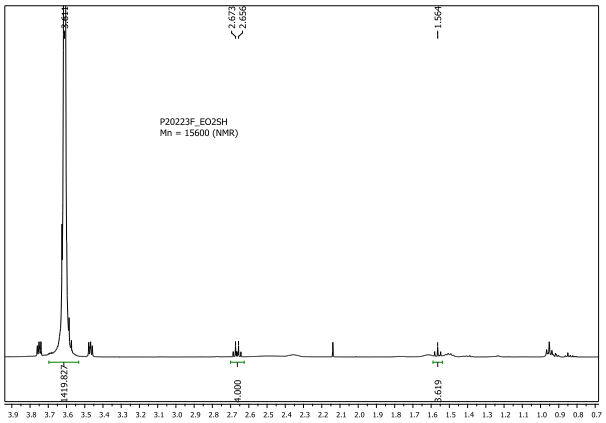
^{1}H NMR of initial poly(ethylene glycol):



^{1}H NMR of poly(ethylene glycol) dimesylate:

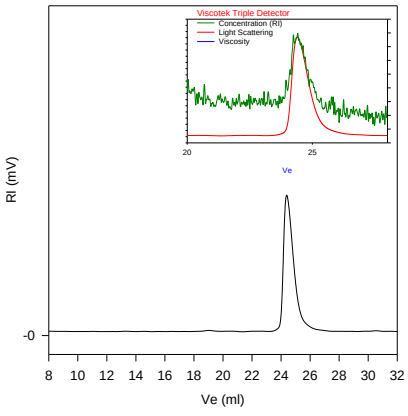


^{1}H NMR of poly(ethylene glycol) dithiol:



SEC of Sample:

P20223F-EG2OH



Size Exclusion Chromatography of poly(ethylene glycol):
Poly (ethylene Oxide);

M_n = 11,000, M_w = 12,200, M_w/M_n = 1.10
dn/dc in THF at 35 oC: 0.067ml/g
Solution Viscosity in THF at 35 oC: 0.306dl/g
Rgw: 5.49 nm

References:

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