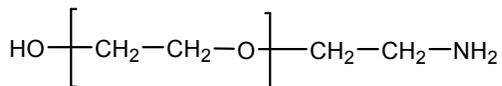


### Sample Name:

$\alpha$ -amino  $\omega$ -hydroxyl Terminated Poly(ethylene glycol)

Sample: P8696-EGNH2OH

### Structure:



### Composition:

Mn x 10 <sup>3</sup>	PDI
1.1	1.15

### Synthesis Procedure:

$\alpha$ -Amino  $\omega$ -hydroxyl terminated poly(ethylene glycol) was synthesized by proprietary method.<sup>1</sup>Please call us if you would like to know more.

### Characterization:

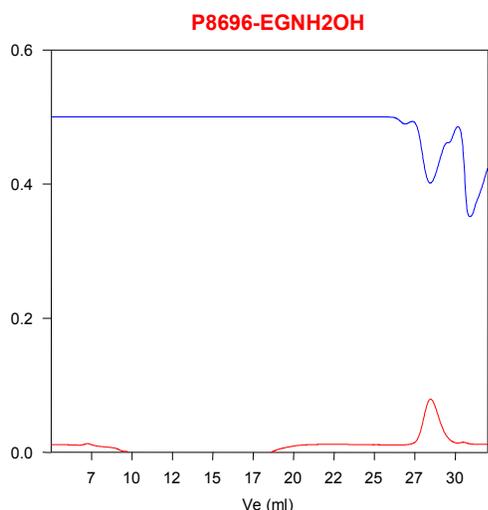
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

**Functionality:** Functionality of the polymer was determined by H NMR analysis or FT-IR spectroscopy or by titration.

### Solubility:

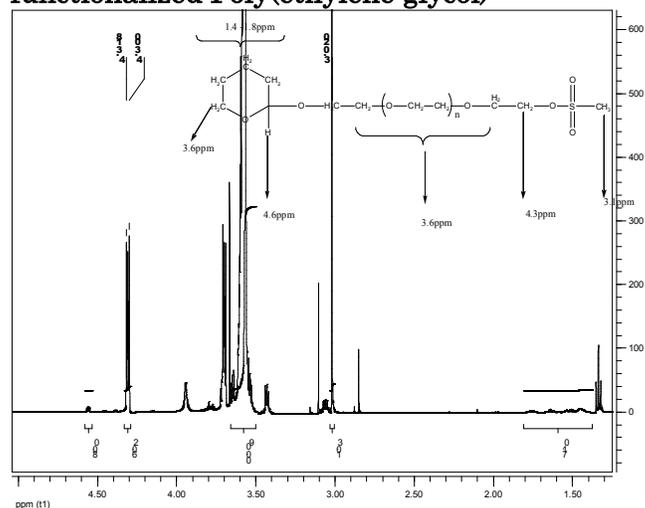
Polymer is soluble in water, methanol and ethanol, THF, CHCl<sub>3</sub>. It is precipitated out from cold ethanol, isopropanol, hexane and ether.

### SEC of the polymer:

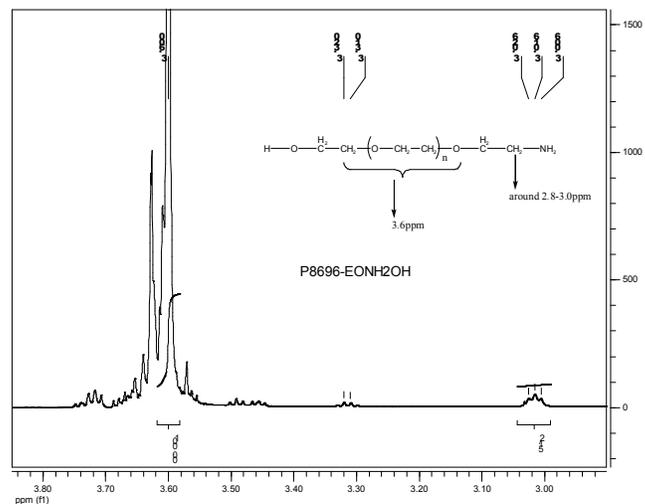


Size exclusion chromatography of amino-terminated Poly(ethylene glycol) capped with naphthyl isocyanate (amino-polymer cannot be eluted in these columns):  
— RI signal: Mn=1100, Mw=1250, Mw/Mn=1.15, NH<sub>2</sub> Functionality > 95%  
— UV signal running at 290 nm

### <sup>1</sup>H NMR $\alpha$ pyran $\omega$ mesylate end functionalized Poly(ethylene glycol)



### <sup>1</sup>H NMR Spectrum of the product:



### References:

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

## Thermal analysis of the sample# P8696-EGNH2OH

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $T_g$ ).

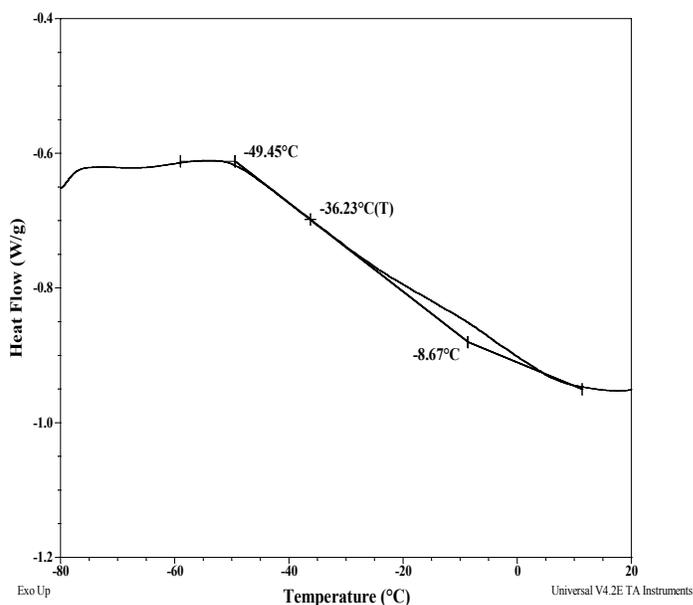
### Melting and crystallization curve for the sample

The melting temperature ( $T_m$ ) was taken as the maximum of the endothermic peak where as the crystallization temperature ( $T_c$ ) was considered as the minimum of the exothermic peak.

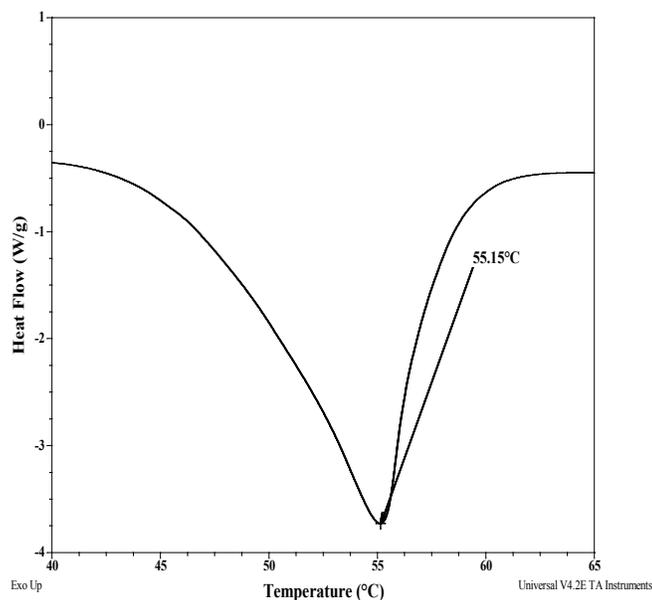
### Thermal analysis results at a glance

Sample	$T_m$ (°C)	$T_c$ (°C)	$T_g$ (°C)
EGTMS	55	27	-36

### DSC thermogram for the polymer:



### Melting curve for the sample:



### Crystallization curve for the sample:

