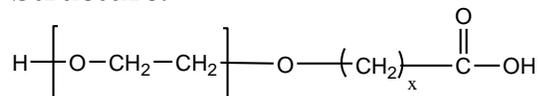


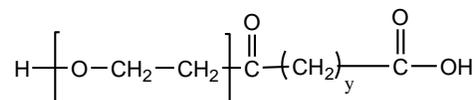
Sample Name:
 **α -Carboxy ω -Hydroxy Terminated
Poly(ethylene glycol)**

Sample #: P8036-EGCOOH (here x =3)

Structure:



or



x = 3, 4, 11 y = 2, 3

Composition:

Mn x 10 ³	PDI
13.0	1.10

Synthesis Procedure:

α -Carboxy ω -Hydroxy terminated poly(ethylene glycol) was synthesized by a simple procedure discovered in our lab. The details can be found in the US patent.¹

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:

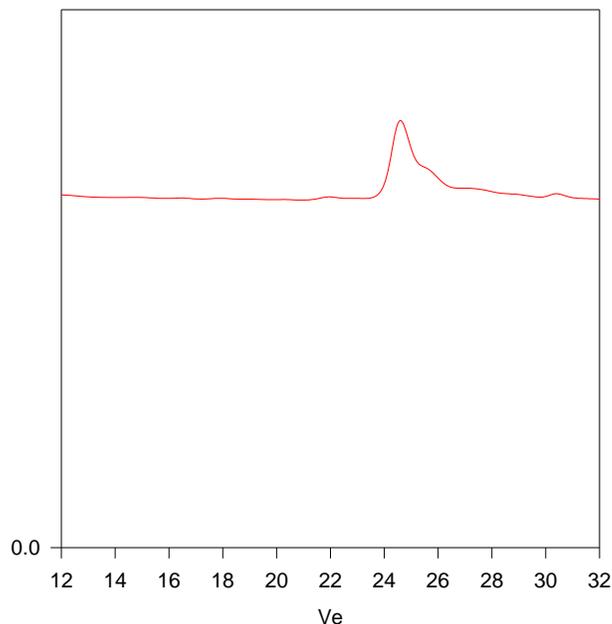
Functionality of the polymer was determined by acid base titration and from H NMR analysis.

Solubility:

Polymer is soluble in water, methanol and ethanol, THF, CHCl₃. It is precipitated out from cold ethanol, isopropanol, hexane and ether.

SEC of Sample:

P8036- EGCOOH



Size Exclusion Chromatography profile of the product:

M_n = 13000, M_w = 14300, PI = 1.10

Solution Viscosity in THF at 35 oC: 0.345dl/g

radius of Gyration in THF at 35 OC: 5.67nm

dn/dc in THF at 35 oC; 0.085ml/g

Reference:

S. K. Varshney, J.X. Zhang, US patent 7,009,033 B2, 2006 Assigned to Polymer source, Inc. Canada Heterofunctional Polyethylene glycol and Poly ethylene oxide, process for their Manufacture