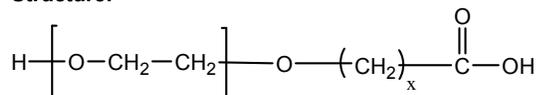


Sample Name:

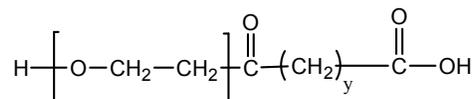
α -Carboxy ω -Hydroxy Terminated Poly(ethylene glycol)

Sample #: P2263-EGCOOH

Structure:



or



$$x = 3, 4, 11 \quad y = 2, 3$$

Composition:

$M_n \times 10^3$	PDI
4.0	1.17

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 published.¹

Characterization:

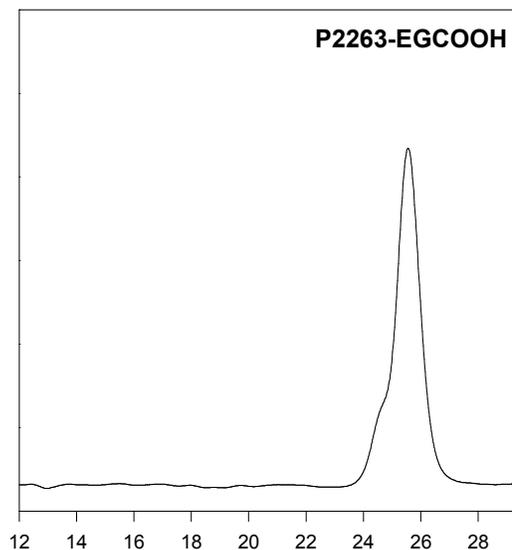
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

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, CHCl_3 . It is precipitated out from cold ethanol, isopropanol, hexane and ether.

SEC of Sample:



Size Exclusion Chromatography profile of the product:

— $M_n = 4000$, $M_w/M_n = 1.17$
 $M_n = 3800$ by acid base titration

Reference (s):

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