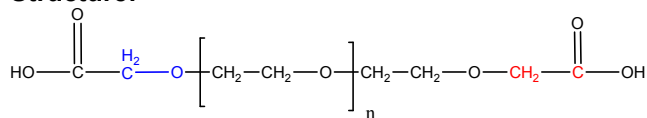


Sample Name:

α - ω - O-acetic acid terminated Poly(ethylene glycol)

Sample #: **P14177-EG2CH2COOH**

Structure:

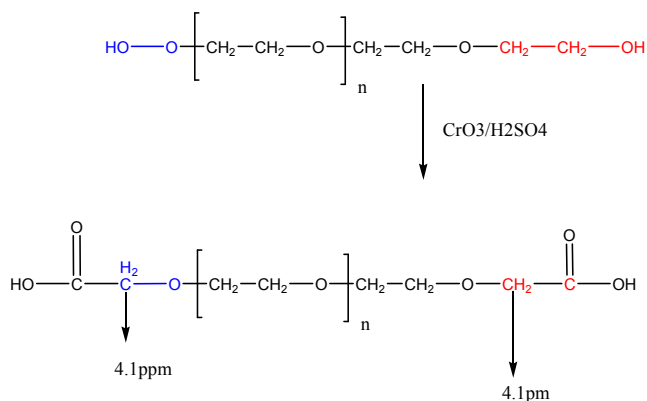


Composition:

$M_n \times 10^3$	PDI
0.4	1.20
COOH Functionality by HNMR	0.88

Synthesis Procedure:

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



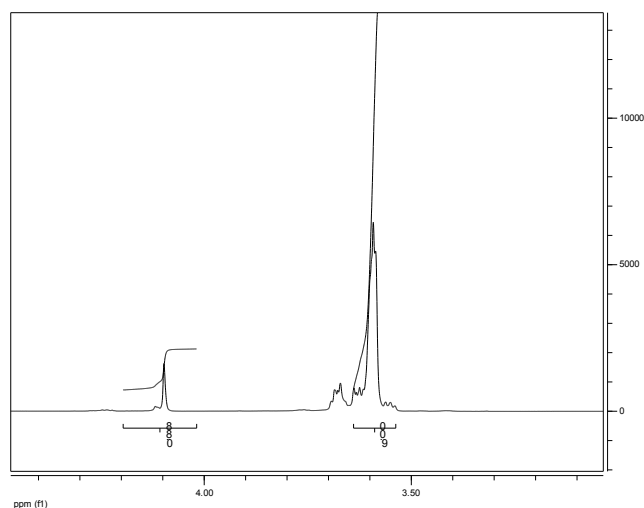
Characterization:

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.

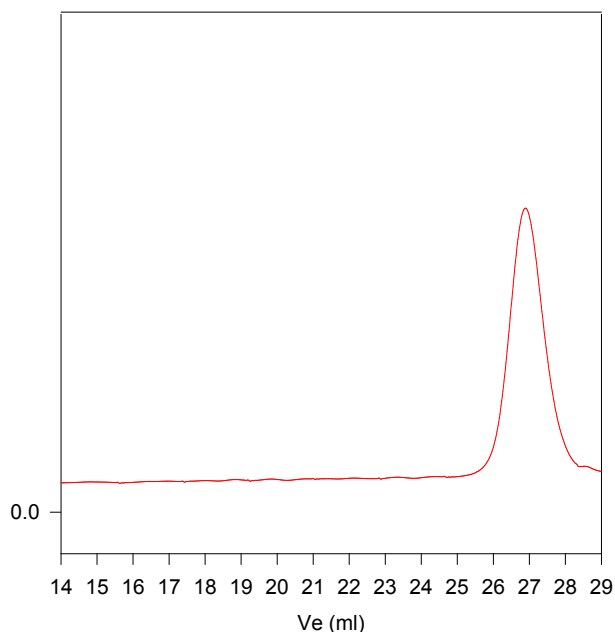
Solubility: Polymer is soluble in water, methanol and ethanol, THF, $CHCl_3$. It is precipitated out from cold ethanol, isopropanol, hexane and ether.

NMR of the product



SEC of the product: Before converting the terminal end group to COOH

P14177-EG2OH



Size exclusion chromatography of poly(ethylene glycol):
 $M_n=400$, $M_w=480$, $PI=1.20$

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 Polyethylene oxide, process for their Manufacture