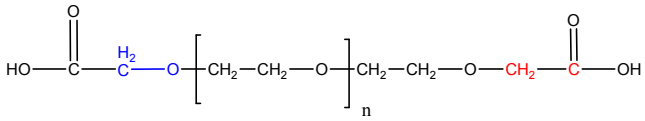
Sample Name:

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

Sample #: **P14180-EG2CH2COOH**

Structure:

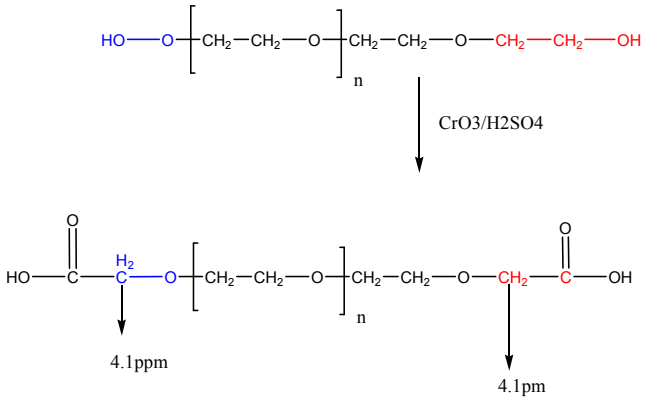


Composition:

Mn x 10^3	PDI
10.0	1.05
COOH Functionality by HNMR	0.97

Synthesis Procedure:

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



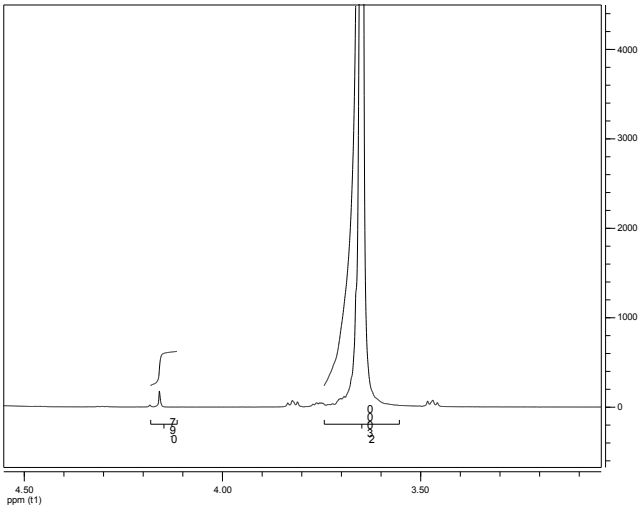
Characterization:

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.

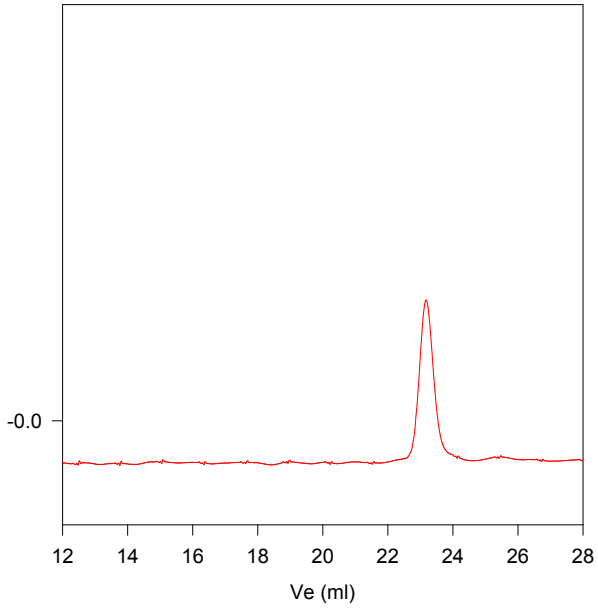
Solubility: Polymer is soluble in water, methanol and ethanol, THF, $CHCl_3$. It is precipitated out from cold ethanol, isopropanol, hexane and ether.

NMR of the product



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

P14180-EG2OH



Size exclusion chromatograph of poly(ethylene glycol):

M_n=10000, M_w=10500, PI=1.05

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