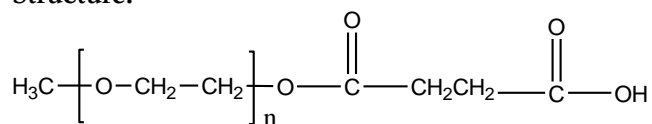


Sample Name:

ω -Carboxyl Terminated Poly(ethylene glycol) methyl ether (Succinic Acid Ester Terminal Group)

Sample #: P6120-EGOCH₃COOH

Structure:**Composition:**

Mn x 10 ³	PDI
16.5	1.03

Synthesis Procedure:

α -Carboxy ω -methoxy terminated poly(ethylene glycol) was synthesized by a simple procedure discovered in our lab. The details can also 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.

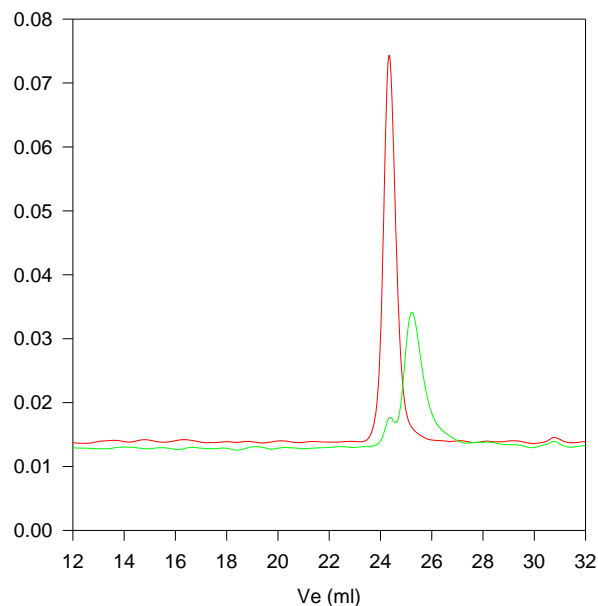
Functionality: Functionality of the polymer was determined by acid base titration and from H NMR analysis.

Solubility:

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

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

P6120-EGOCH₃COOH



Size exclusion chromatography of PEGOCH₃COOH:

- M_n=16500, M_w=17000, PI=1.03 before reacting with succinic anhydride
Solution viscosity: 0.328dl /g in THF at 30 oC
Radius of Gyration: 5.78nm
- After reacting with succinic anhydride

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