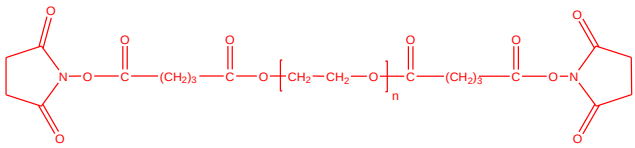
Sample Name:

α, ω-Disuccinimidyl Glutarate Terminated Poly(ethylene glycol)

Sample #: **P8901-EG2SG**

Structure:

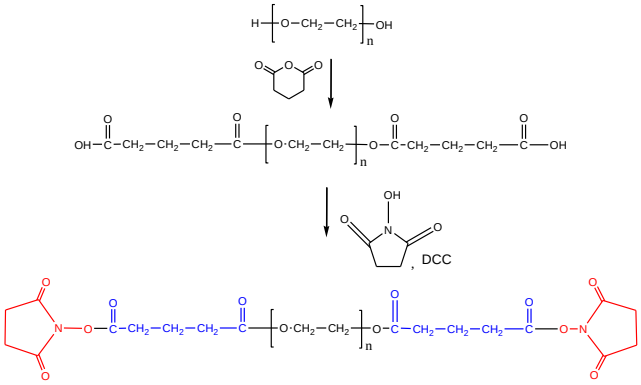


Composition:

Mn x10^{-3}	PDI	SG end functionality
10.0	1.10	> 90%

Synthesis Procedure:

α ω - N-Hydroxy disuccinimidyl glutarate terminated poly(ethylene glycol**)** was synthesized by anionic living polymerization of ethylene oxide using ethylene glycol/potassium salt as an initiator. The hydroxyl end groups were converted into carboxyl groups by reacting them with glutaric anhydride. The final polymer with succinimidyl glutarate end groups was prepared by reacting with N-hydroxysuccinimide in presence of DCC. The reaction is illustrated as Scheme 1.



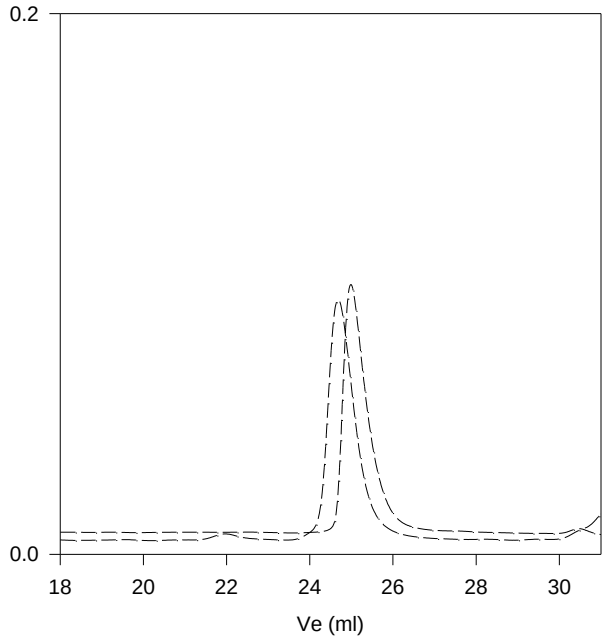
Characterization:
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Functionality: Functionality of the polymer was determined by H NMR analysis or FT-IR spectroscopy.

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

SEC of Sample:

P8901-EG2SG

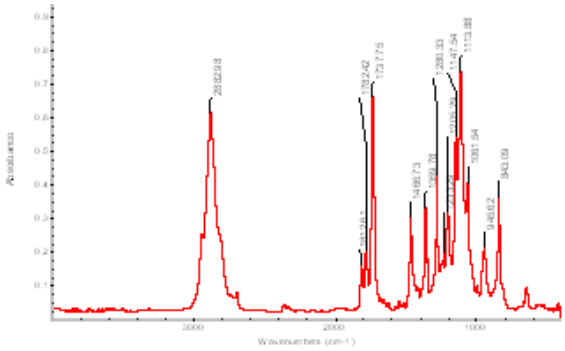


Size exclusion chromatography:

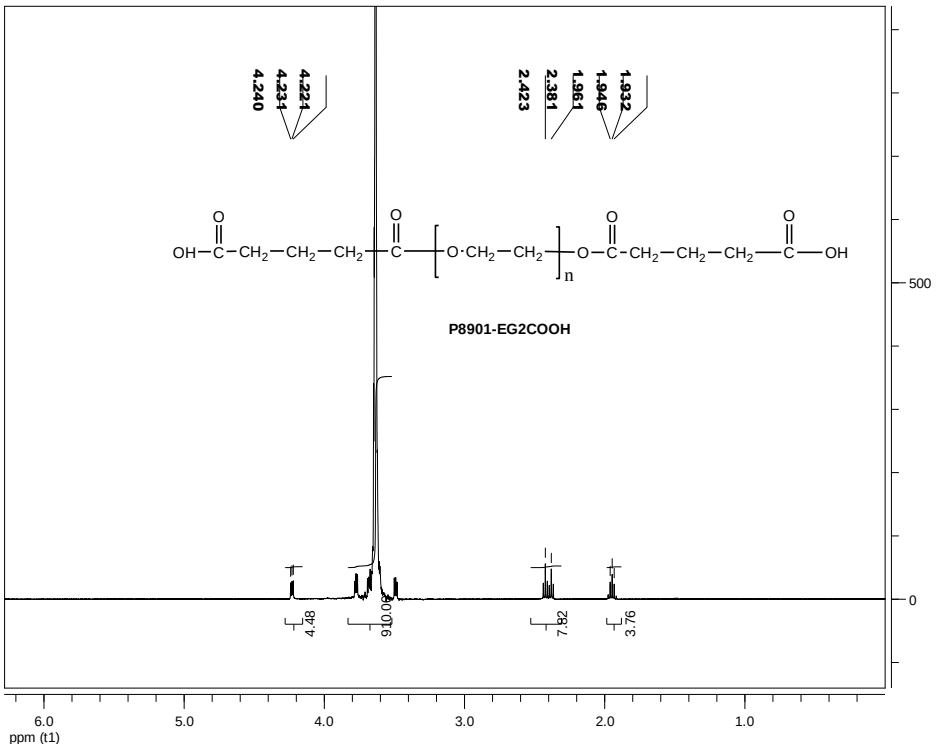
– – – Dihydroxyl terminated Poly(ethylene glycol), M_n=10000, M_w=11000, PI=1.10

– – – Disuccinimidyl Glutarate Terminated PEO Mw/Mn : 1.10 Functionality confirmed by ^{H} NMR

FT-IR of Sample:



NMR of Diacid:



NMR of P8901-EG2SG: