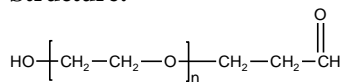


α -Formyl, ω -Hydroxy Terminated Poly(ethylene glycol)

Sample #: **P10141F-EGCHO**

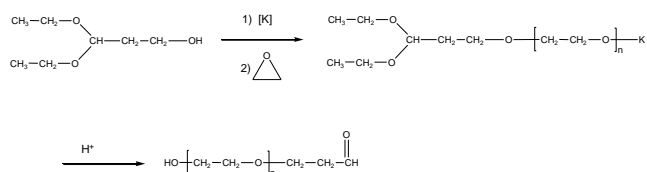
Structure:

**Composition:**

Mn x 10 ³	PDI
3.7	1.09
CHO end functionality	> 74%

Synthesis Procedure:

α -Formyl, ω -hydroxy terminated poly(ethylene glycol) was synthesized by anionic living polymerization of ethylene oxide using diethoxy propanol (acetal) as an initiator followed by deprotection of the end group (hydrolysis in presence of acetic acid). The scheme of the reaction is illustrated below:



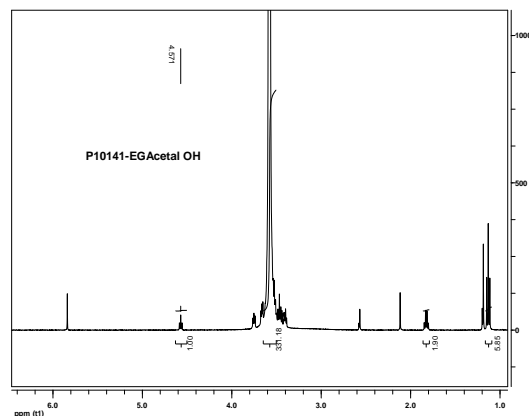
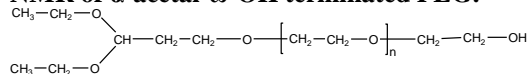
Characterization:

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. Polymer functionality was determined by proton NMR or FT-IR spectroscopy.

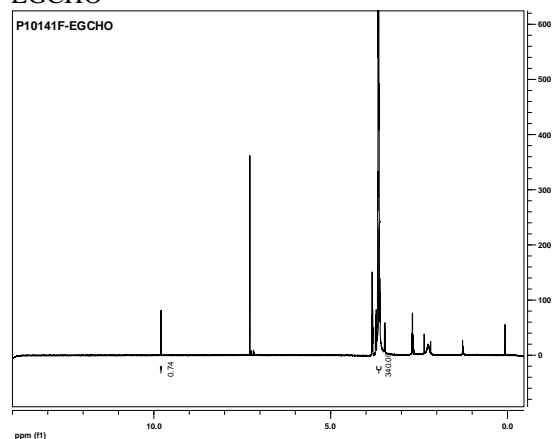
Solubility:

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

NMR of α -acetal- ω -OH terminated PEG:

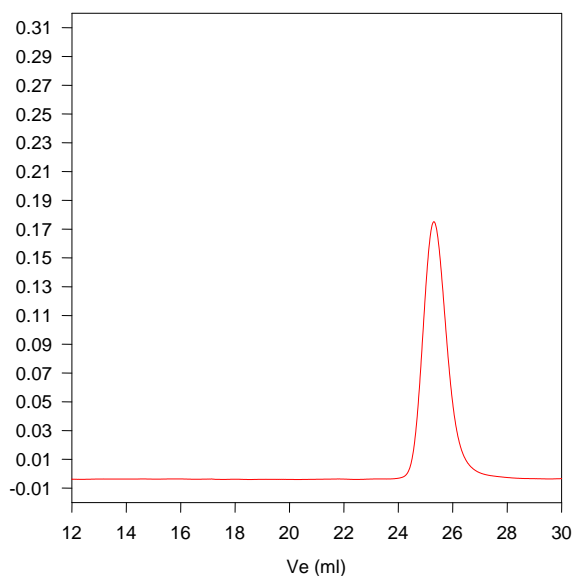


EGCHO



SEC of Sample:

P10141F-EGCHO

Size exclusion chromatography of α -formyl- ω -hydroxy poly(ethylene glycol):

- Poly(ethylene glycol) aldehyde:

$$M_n=3700, \quad M_w=4000, \quad M_w/M_n=1.09$$