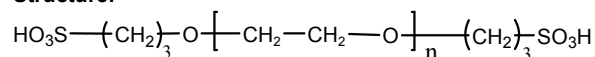
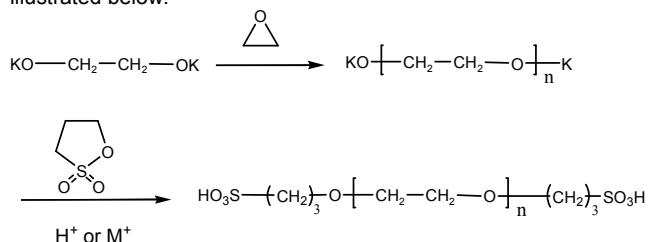


Sample Name: **α , ω -Disulfonic Acid Terminated Poly(ethylene glycol)****Sample #: P2778-EO2SO3H****Structure:****Composition:**

Mn x 10 ³	PDI
52.0	1.06

Synthesis Procedure:

α , ω -disulfonic acid terminated poly(ethylene glycol) was synthesized by living anionic polymerization of ethylene oxide and termination with propanesultone. Salts of the polymer are prepared by neutralization with acid solution. The scheme of the reaction is illustrated below:

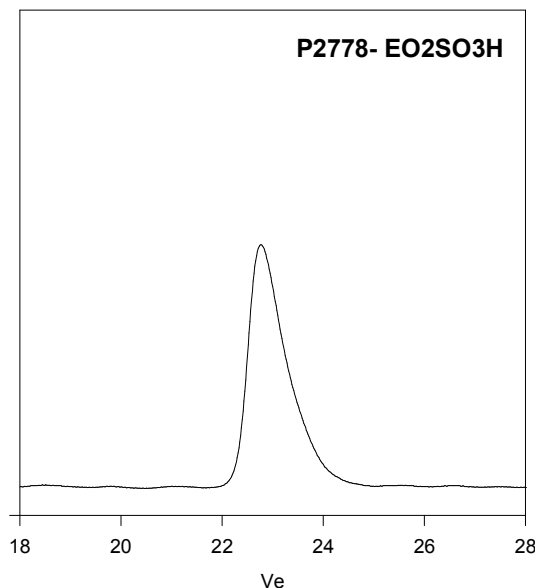
**Characterization:**

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.

Functionality: The sulfonic acid functionality of the polymer was determined by two-phase titration with Hyamine® 1622 (Fluka) in water-chloroform using the methylene blue (Fluka) as indicator (Ref: Quirk & Kim *Macromolecules*, 1991, **24**, 4515-4522). The functionality of the polymer was obtained from titration.

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 Sample:

Size Exclusion Chromatography profile of α , ω -disulfonic acid terminated poly(ethylene oxide):

$M_n=52000$, $M_w=55000$, $M_w/M_n=1.06$