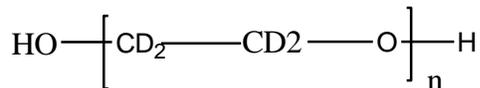


**Sample Name:** Deuterated Poly(ethylene glycol-d4),  
 $\alpha,\omega$ -bis(hydroxy)-terminated

**Sample #:** P4111-dPEO

**Structure:**



**Composition:**

$M_n \times 10^3$	PDI
25	1.08

**Synthesis Procedure:**

Deuterated poly(ethylene glycol) was obtained by living anionic polymerization using  $\alpha,\omega$ -dipotassium alkoxide of ethylene glycol. Polymerization of freshly distilled deuterated ethylene oxide was carried out at room temperature for 24h followed by termination with acidic methanol. The obtained polymer was passed through neutral  $\text{Al}_2\text{O}_3$  packed column and precipitated in ethyl ether at low temperature. Polymer was dried at room temperature for 24 h.

**Characterization:**

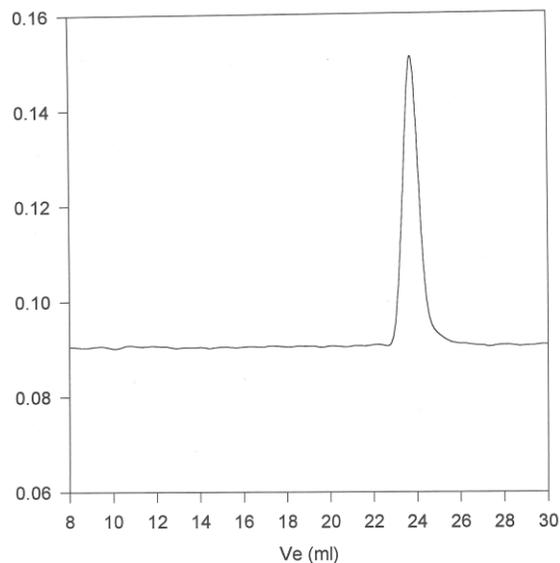
The molecular weight and polydispersity index (PDI) were obtained by size exclusion chromatography (SEC).

**Solubility:**

Poly(ethyl glycol) is soluble in toluene, THF, water and chloroform. The polymer is insoluble in hexane, ether, isopropanol, and cold ethanol.

**SEC chromatogram:**

P4111-dPEO (deuterated(d4)poly ethylene glycol)



Size Exclusion Chromatography of Deuterated Poly(ethylene oxide-d<sub>4</sub>)  
Poly ethylene glycol  
 $M_n=25000$ ,  $M_w=27000$ ,  $M_w/M_n=1.08$   
Radius of Gyration: 7.52nm Solution viscosity in THF at 30 °C: 0.47 dl/g  
dn/dc in THF at 30 °C: 0.067ml/g