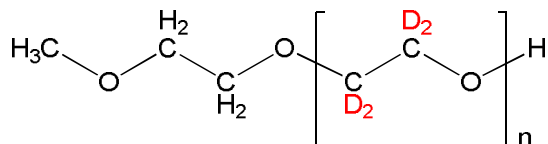


**Sample Name:**Deuterated Poly(*d*4-Ethylene Glycol) Methyl Ether**Sample #:** P11450-dPEO-OCH3**Structure:****Composition:**

$M_n \times 10^3$	PDI
5.0	1.08

**Synthesis Procedure:**

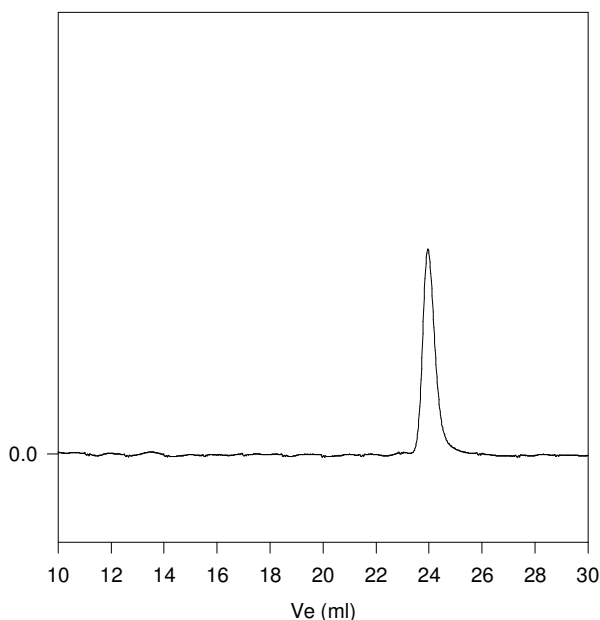
Deuterated poly(ethylene glycol) is obtained by living anionic polymerization of methoxy ethanol potassium alkoxide (the initiator portion is protonated) as initiator. Polymerization of freshly distilled deuterated ethylene oxide (*d*4) was carried out at room temperature for 24h followed by termination with acidic methanol. The obtained polymer was passed through neutral  $Al_2O_3$  packed column and precipitated in ethyl ether at low temperature. Polymer was dried at room temperature for 24h.

**Characterization:**

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

**Solubility:**

Deuterated poly(ethyl glycol) methyl ether is soluble in chloroform, toluene, THF, and water (subject to molecular weight). The polymer is insoluble in hexane, ether, iso-propanol, and cold ethanol.

**SEC of the polymer:****P11450-dPEO**

Size Exclusion Chromatography of  
Deuterated Poly(ethylene glycol-*d*4) methyl ether

$M_n$  = 5000,  $M_w$  = 5400, PI = 1.08