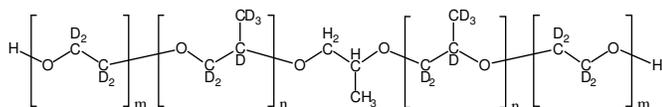


**Sample Name:** Poly(deuterated ethylene oxide *-b-* deuterated propylene oxide *-b-* deuterated ethylene oxide)

**Sample #** P18094-dPEOdPPOdPEO

**Structure:**

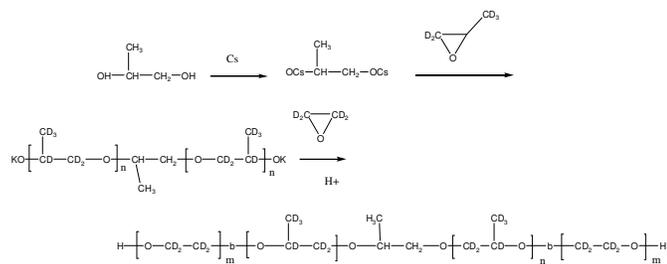


**Composition:**

$M_n \times 10^3$ (g/mol)	$M_w/M_n$
0.5- <i>b</i> -2.1- <i>b</i> -0.5	1.18
Dp:	dPEO(10)- <i>b</i> -dPPO(34)- <i>b</i> -dPEO(10)

**Synthesis procedure:**

Poly(deuterated ethylene oxide *-b-* deuterated propylene oxide *-b-* deuterated ethylene oxide) triblock copolymer was prepared by anionic polymerization using propylene oxide and ethylene oxide deuterated monomers. The scheme of the reaction is shown below:



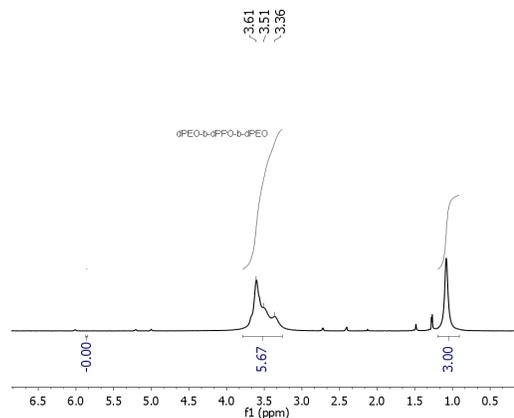
**Characterization:**

Molecular structure of the polymer was confirmed by  $^1\text{H}$  and  $^2\text{H}$  (D) NMR spectroscopy. The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with UV and refractive index detectors.

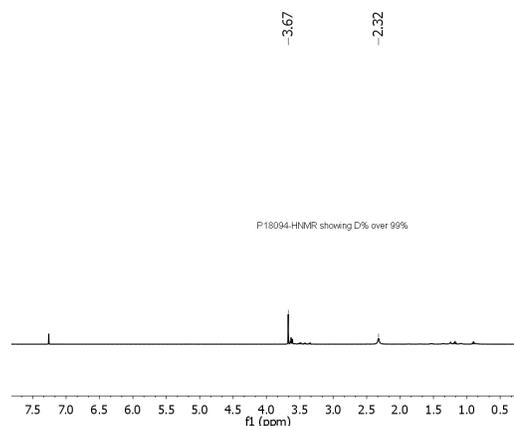
**Solubility:**

dPEO-dPPO-dPEO polymer is soluble in chloroform, THF, and toluene.

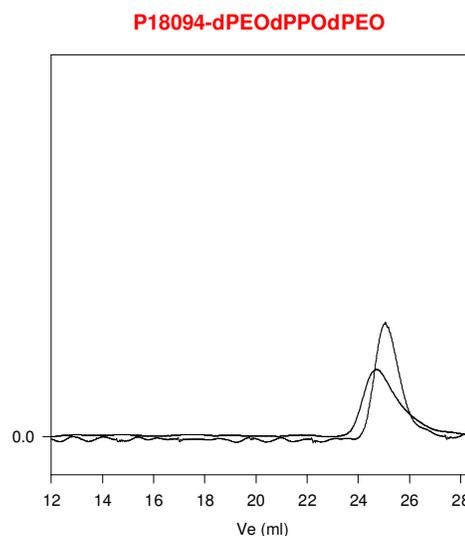
**D-NMR spectrum of dPEO-dPPO-dPEO in  $\text{CHCl}_3$ :**



**$^1\text{H}$ -NMR spectrum of dPEO-dPPO-dPEO in  $\text{CDCl}_3$ :**



**SEC elograms of PPO (middle block) and PEO-PPO-PEO triblock copolymer:**



Size exclusion chromatography of:  
(deuterated ethylene oxide<sub>d4</sub>-deuterated propylene oxide<sub>d6</sub>-deuterated ethylene oxide<sub>d4</sub>)triblock copolymer):

- dPPO center Block  $M_n=2100$ ,  $M_w=2400$ ,  $PI=1.18$
- - - Block Copolymer dEO(500)-*b*-dPPO(2,100)-*b*-dEO(500),  $PI=1.18$   
Dp: dEO(10)-*b*-dPPO(35)-*b*-dEO(10)

(v. I-01)