

**Sample Name: Deuterated Poly(ethylene glycol)
Dihydroxy Terminated**

Sample #: P19962-dPEO

Structure:



Composition:

Mn x 10 ³	PDI
0.44	1.18

Synthesis Procedure:

Deuterated Poly(ethylene glycol) is obtained by living anionic polymerization using α - ω -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 Al₂O₃ packed column and precipitated in ethyl ether at low temperature. Polymer was dried at room temperature for 24h.

Characterization:

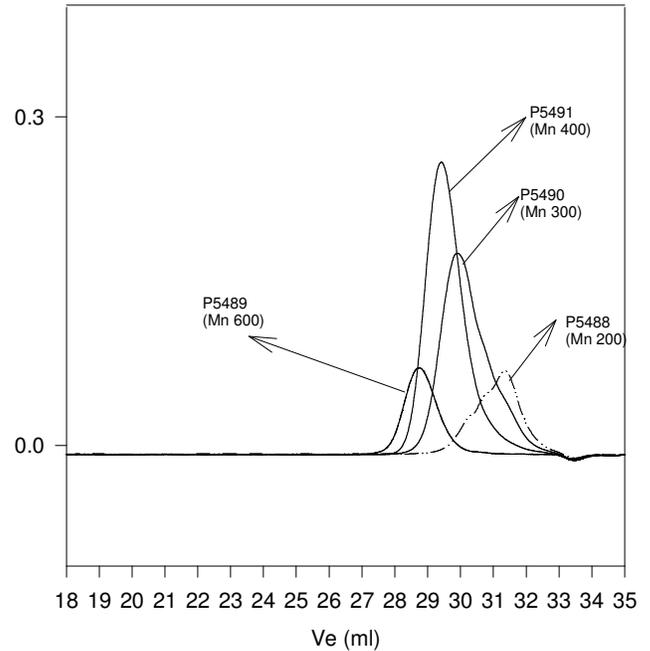
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography.

Solubility:

Poly(ethyl glycol) is soluble in toluene, THF, water and CHCl₃. The polymer is insoluble in hexane, ether, isopropanol and cold ethanol.

SEC elugram of the polymer :

SEC Profile for PEG Oligomers



Size exclusion chromatography of poly(ethylene glycol):

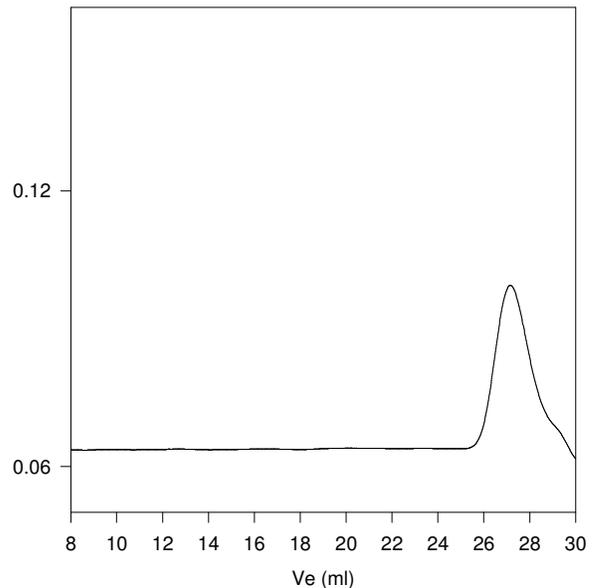
Lot# P 5488-EG2OH Mn=200, Mw=240, Mw/Mn = 1.20

Lot# P 5490-EG2OH Mn 300 Mw: 360 Mw/Mn = 1.20

Lot# P 5491-EG2OH Mn 400 Mw: 480 Mw/Mn = 1.2

Lot# P 5489-EG2OH Mn 600 Mw: 690 Mw/Mn 1.15

P19962-DEG-2OH



Size Exclusion Chromatography of Polyethylene glycol methyl ether

M_n=440, M_w=520, PI=1.18