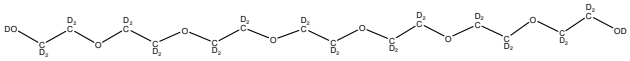
Sample Name:
Deuterated Poly(ethylene glycol) Dihydroxy Terminated

Sample #: **P19948C-dPEO2OD**

Structure:

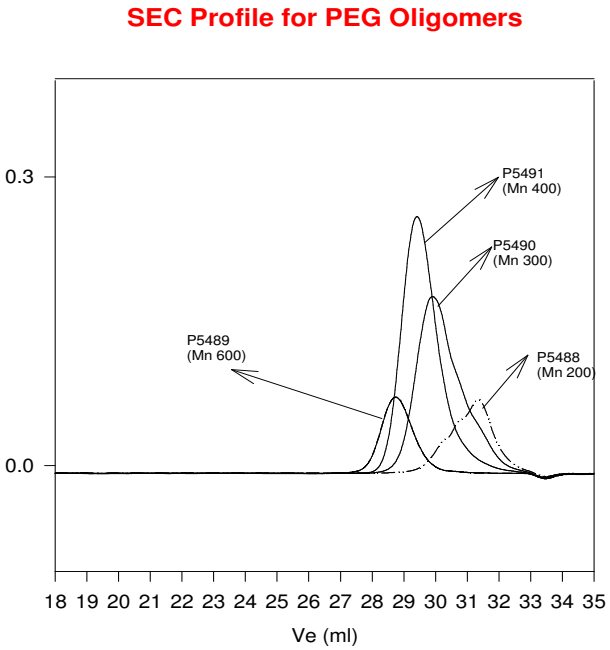


Composition:

Mn x 10^3	PDI
0.356	1.10

Characterization:
The polymer was characterized by Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector.
An aqueous GPC column from Supelco(G5000 PWXL) was also used with 0.5 M acetic acid and 0.8 M NaNO3 as the eluent. It was kept at a constant temperature of 50°C. The flow rate was 1.0 ml/min. The column was calibrated with monodisperse poly(ethylene oxide) standards. The molecular weights and the polydispersity index of polyethylene oxide were calculated by using GPC software.

SEC elugram of protonated oligomers:



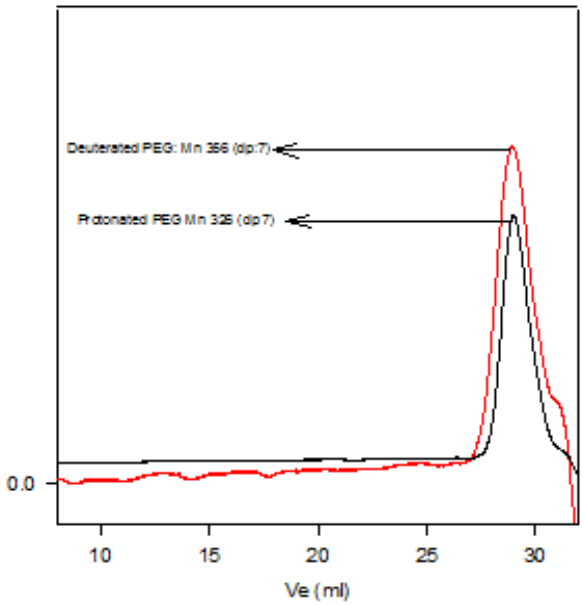
Size exclusion chromatography of poly(ethylene glycol):
Lot# P 5488-EG2OH Mn=200, Mw=240, Mw/Mn =1.20
Lot# P 5490-EG2OH Mn 300 Mw: 360 Mw/Mn = 1.20
Lot# P 5491-EG2OH Mn 400 Mw: 480 Mw/Mn = 1.2
Lot# P 5489-EG2OH Mn 600 Mw: 690 Mw/Mn 1.15

Purification of the obtained polymer:

Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

1. Dissolved the polymer in de-ionized distilled water to remove the any insoluble organic catalyst side product.
2. Polymer extracted from water with dichloromethane.
3. Polymer solution in dichloromethane was dried over anhydrous sodium sulfate.
4. Solution filtered and than passed through a column packed with basic Al_2O_3 .
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at 38 oC.

SEC elugram of the polymer



Size exclusion chromatography of deuterated POly ethylene glycol and comparision with Protonated analog of Mn 326
Mn=356, Mw/Mn =1.10