

Sample Name: Deuterated Poly(ethylene glycol) Dihydroxy Terminated

Sample #: P40477-dPEO

Structure:



Composition:

| | |
|-------------------|------|
| $M_n \times 10^3$ | PDI |
| 93.0 | 1.07 |

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 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) are obtained by size exclusion chromatography.

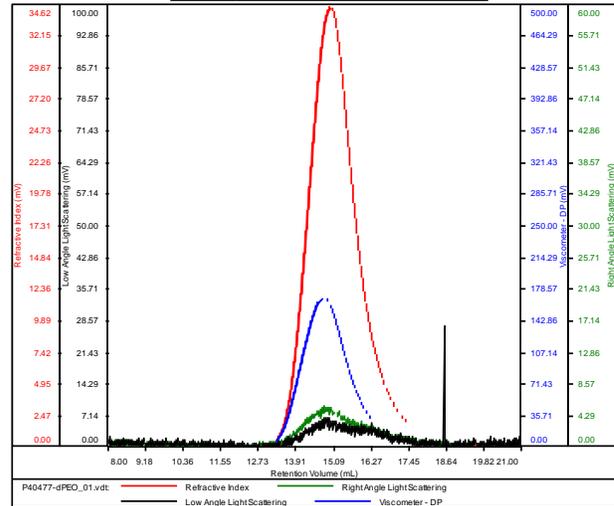
Solubility:

Poly(ethyl glycol) is soluble in toluene, THF, water and CHCl_3 . The polymer is insoluble in hexane, ether, isopropanol and cold ethanol.

SEC elugram of Sample:

P40477-dPEO

| | |
|-----------------|--------------------------|
| ID | P40477-dPEO |
| Conc | 8.3603 |
| Recovery | 836.0257 |
| dn/dc | 0.0440 |
| Method | PS80K-March2017-0002.vcm |



| Sample | M_n | M_w | M_p | M_w/M_n | IV |
|--------------------|--------|---------|--------|-----------|--------|
| P40477-dPEO_01.vdt | 93,301 | 100,285 | 92,245 | 1.075 | 0.3773 |