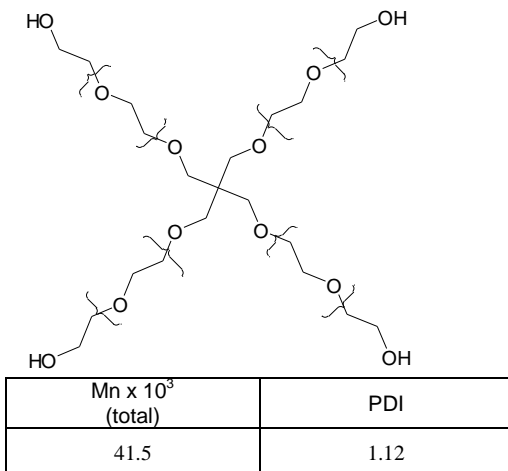


Sample Name:
**Four arm Poly ethylene oxide
Hydroxy terminated**

Sample #: **P18669-4EOOH**



Synthesis Procedure:

The polymer was prepared by anionic living polymerization of ethylene oxide using pentaerythritol potassium salt as the initiator.

Characterization.

By Size exclusion chromatography (SEC): The molecular weights were determined using VISCOTEK –TDA 305 triple detectors.

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 Al₂O₃ .
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at 38 oC.

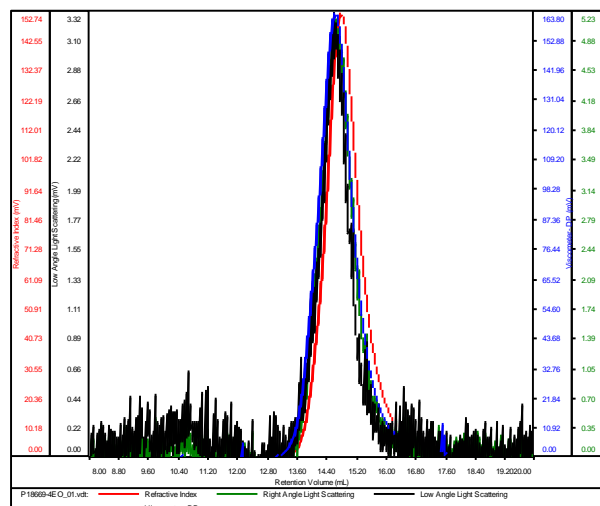
Solubility:

Polymer is soluble in toluene, THF, water and CHCl₃. The polymer is insoluble in hexane, ether, cold isopropanol and ethanol.

SEC of the product

SAMPLE ID: P18669-4EOOH lit dn/dc 0.044 ml/g

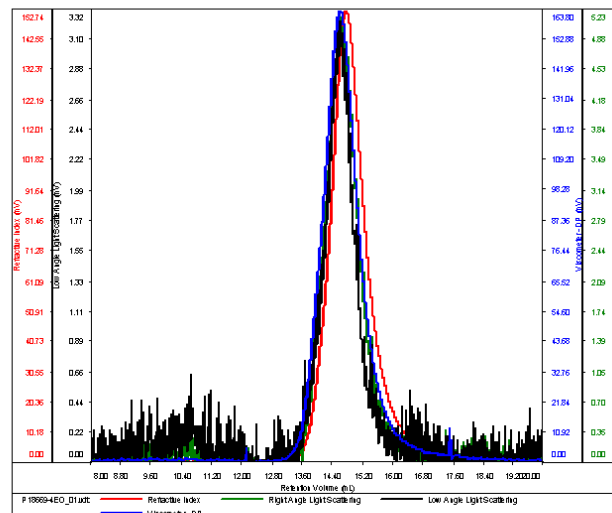
Conc (mg/mL)	5.8537
dn/dc (mL/g)	0.0440
Method	ps80k042014-0000.vcm
Solvent	DMF w 0.03M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18669-4EO_01.vdt	37,193	41,692	41,532	1.121	0.3626

SAMPLE ID: P18669-4EOOH calculated dn/dc 0.035 ml/g

Conc (mg/mL)	7.3589
dn/dc (mL/g)	0.0350
Method	ps80k042014-0000.vcm
Solvent	DMF w 0.03M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18669-4EO_01.vdt	46,756	52,413	52,212	1.121	0.2885

We have taken the average values of Mn
41,500