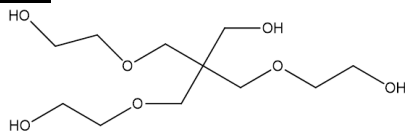


Sample Name:
Pentaerythritol ethoxylate (3/4 EO/OH)

Sample #: P44497-4E00H

Structure:



Chemical Formula: $C_{11}H_{24}O_7$
Molecular Weight: 268.3

Composition:

Mn x 10 ³ (total)	PDI
0.27	1.14

Synthesis Procedure:

The polymer was prepared From Pentaerythritol.

Characterization:

The product was characterized by Size exclusion chromatography (SEC): In THF and in Water, HNMR in $CdCl_3$, Acetone DMSO,

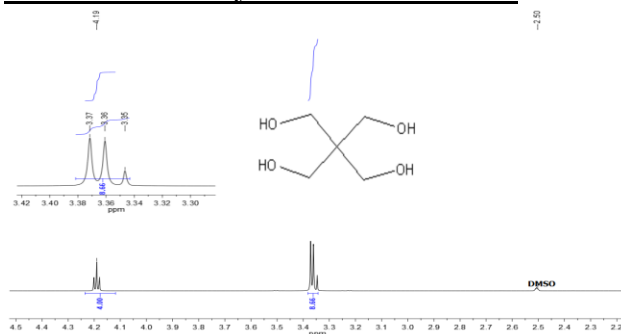
Purification of the obtained polymer:

Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product: Passed through Al_2O_3 dried.

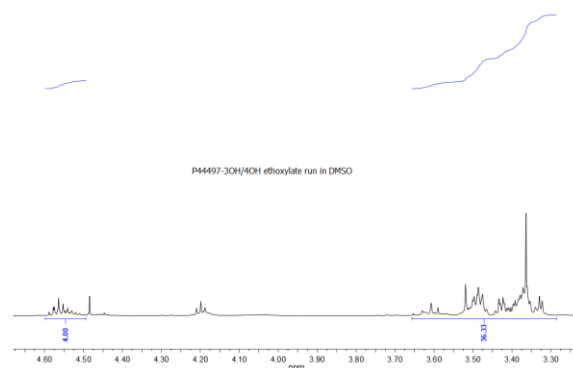
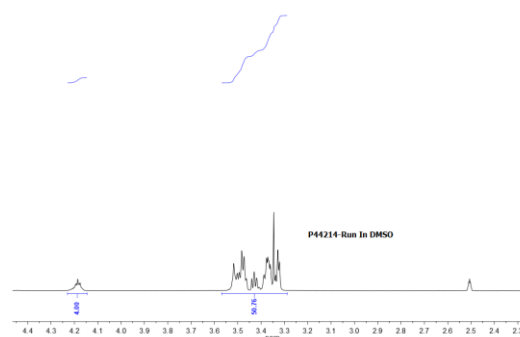
Solubility:

The product is soluble in toluene (Hot) THF, water and $CHCl_3$. OH determination by Titration in dried THF; 1g of the oligomer dissolved in THF dried (Na benzophenone-Naphthalene) and titrate solution at room temperature with 0.2M solution Na-Naphthalene till persistent green color. Volume of Naphthalene used 0.2M 79ml. OH% 15.8 mmole/g.

HNMR of Pentaerythritol run in DMSO:

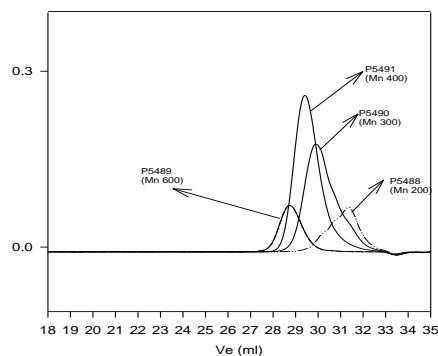


Reference sample run in DMSO



SEC of the product

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