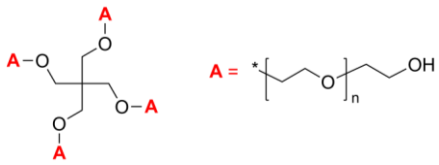
Sample Name: **Poly(ethylene oxide), hydroxy-terminated 4-arm star polymer / Core: pentaerythritol**

Sample #: **P44288-4EOOH**

Structure:



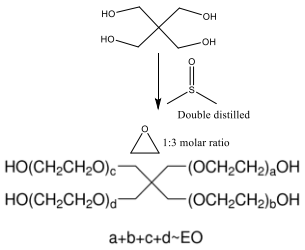
Composition:

Mn x 10^3 (total)	PDI
28.0	1.13

Synthesis Procedure:

The polymer was prepared From Pentaerythritol-DMSO

Catalyst And EO addition in Vapor phase.



Characterization:

The product was characterized by size exclusion chromatography (SEC) and ^{1}H NMR data analysis.

Purification of the obtained polymer:

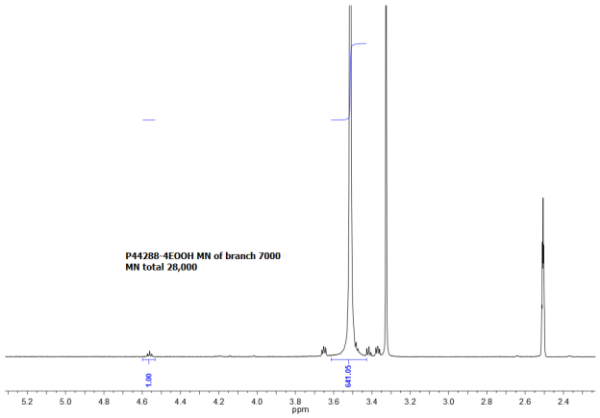
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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. The polymer solution in dichloromethane was dried over anhydrous sodium sulfate.
4. Solution filtered and then 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.

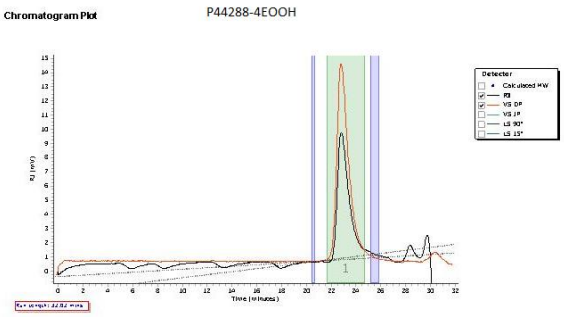
Solubility:

Polymer is soluble in toluene, THF, water and $CHCl_3$. The polymer is insoluble in hexane, ether, cold isopropanol, and ethanol.

HNMR of the polymer in DMSO:



SEC elugram of the product:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	37213	28647	32422	35567	38153	35364	1.132