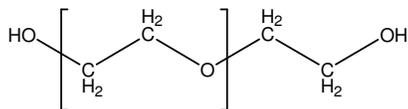


Sample Name:

## Poly(ethylene glycol) Octamers

Sample #: P40065A-EG 4 mers

Structure:



Composition:

Mn x 10 <sup>3</sup>	PDI
0.180	1.08

**Synthesis Procedure:** The polymer was synthesized by anionic process

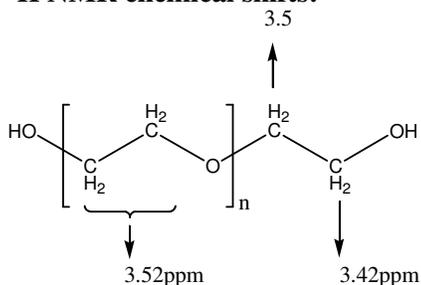
**Characterization:** The polymer was characterized by <sup>1</sup>H NMR and SEC.

**Purification of the obtained polymer:**

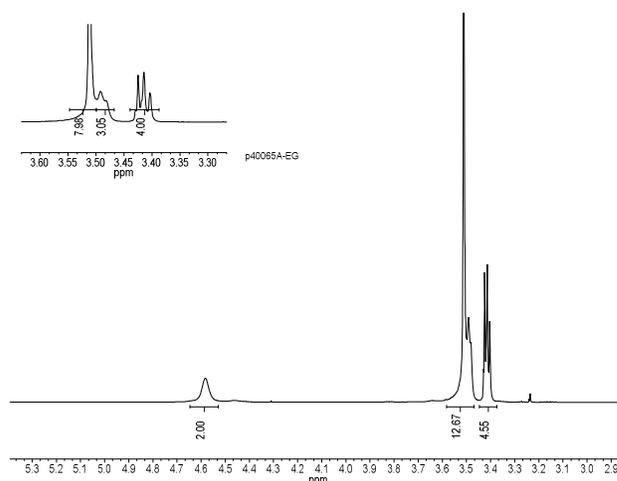
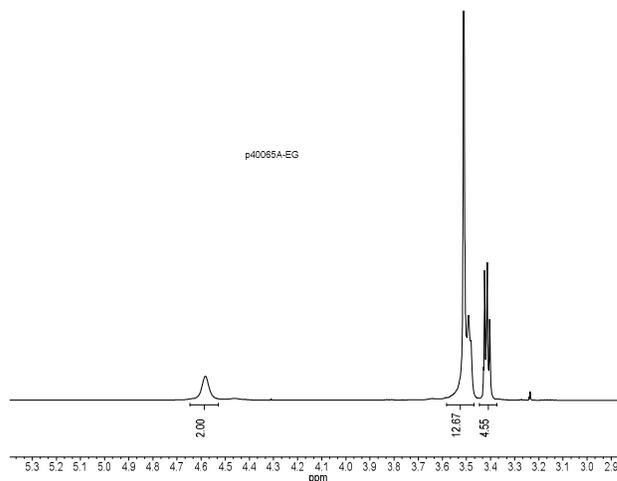
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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 then passed through a column packed with basic Al<sub>2</sub>O<sub>3</sub>.
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at 38 oC.

**<sup>1</sup>H NMR chemical shifts:**

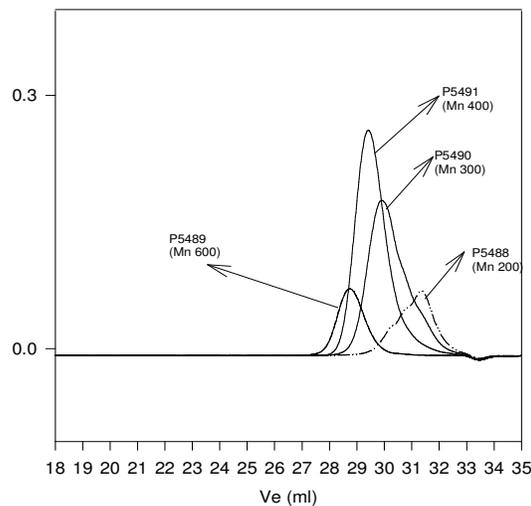


**<sup>1</sup>H NMR spectrum of the polymer:**



**SEC elugram of the polymer:**

**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