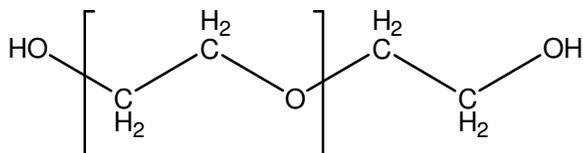


Sample Name:

## Poly(ethylene glycol) Oligomers

Sample #: **P19958-EG2OH**

### Structure:



### Composition:

Mn x 10 <sup>3</sup>	PDI
0.88	1.06

### Synthesis Procedure:

Poly (ethylene glycol) is obtained by living anionic polymerization and the reaction.

### Characterization:

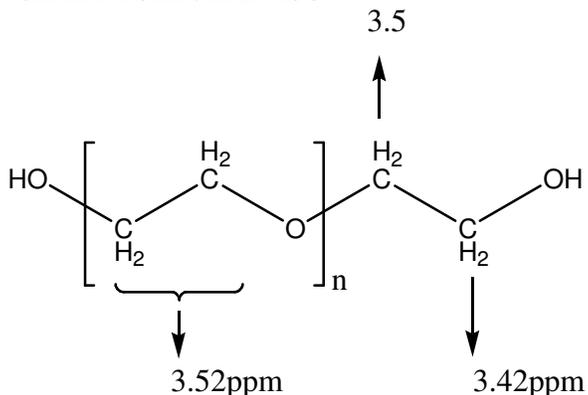
The polymer was characterized by SEC and <sup>1</sup>H NMR

### Purification of the obtained polymer:

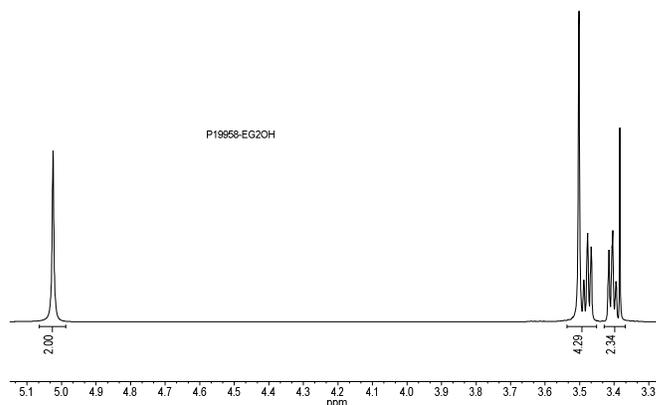
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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 Al<sub>2</sub>O<sub>3</sub>.
5. Solution concentrated on rota-evaporator
6. Dried under vacuum for 48h at 38 oC.

Chemical Shifts in DMSO

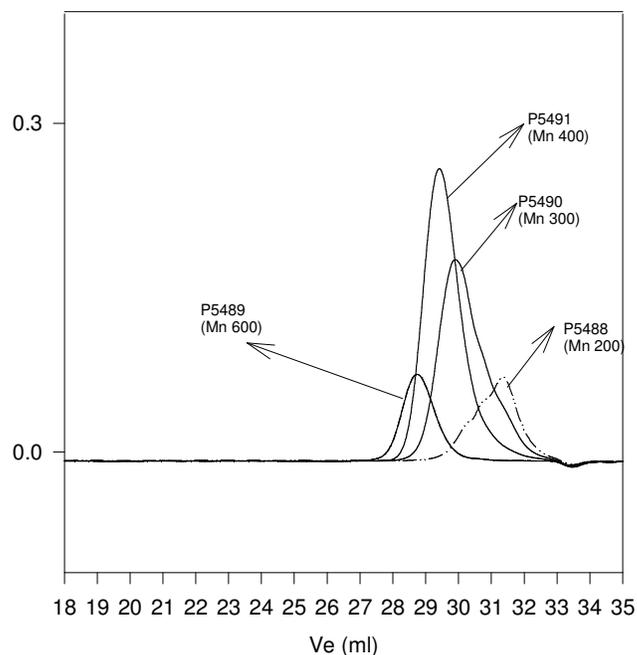


## <sup>1</sup>H NMR spectrum run in DMSO:



## 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