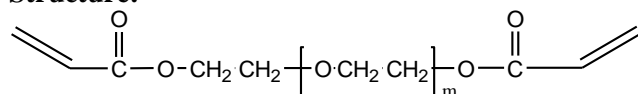


**Poly(ethylene glycol),  $\alpha,\omega$ -bis(acrylate)-terminated**

Sample #: **P44520-EG2Acrylate**

### Structure:



**Composition:**

Mn x 10 <sup>3</sup>	PDI
4.7	1.08
Functionality >99%	

### Synthesis Procedure:

Poly (ethylene glycol) is obtained by living anionic polymerization of ethylene oxide using dipotassium salt of ethylene glycol. The obtained polymer was reacted with acryloyl chloride in an appropriate solvent to yield  $\alpha$ - $\omega$  diacrylate terminated Poly (ethylene glycol).

### Characterization:

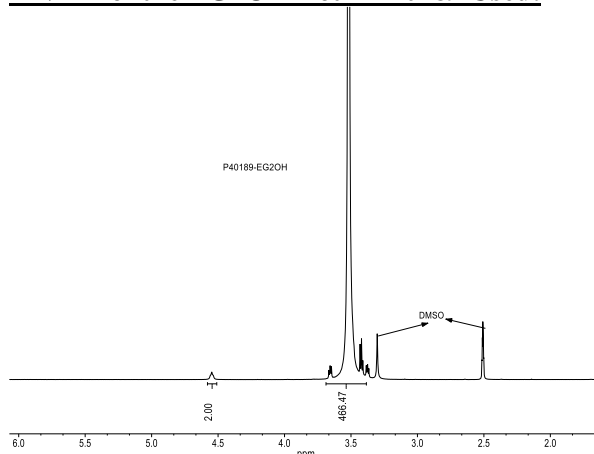
The product was characterized by size exclusion chromatography (SEC) and  $^1\text{H}$  NMR data analysis.

### Purification of the obtained polymer:

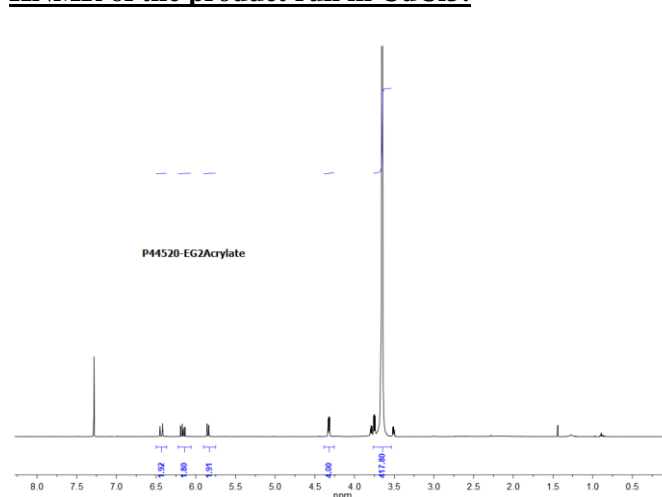
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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  $\text{Al}_2\text{O}_3$ .
5. Solution concentrated on rota-evaporator.
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at  $38^\circ\text{C}$ .

### HNMR of the EG2OH Lot # P40189 Used:

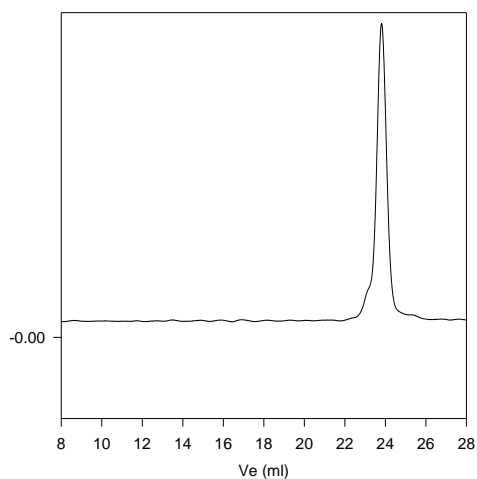


### HNMR of the product run in $\text{CdCl}_2$ :



**SEC of PEG-2 Acrylate sample run in THF:**

**P44520-mPEG**



Size Exclusion Chromatography of Polyethylene glycol

 $M_n=4,700$ ,  $M_w=5000$ ,  $PI=1.08$