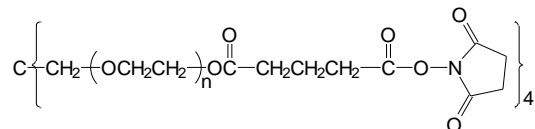


Sample Name:

Four-Arm Poly (ethylene oxide) Succinimidyl Glutarate Terminated, Pentaerythritol Core

Sample #: P16311-4EOSG

Structure:

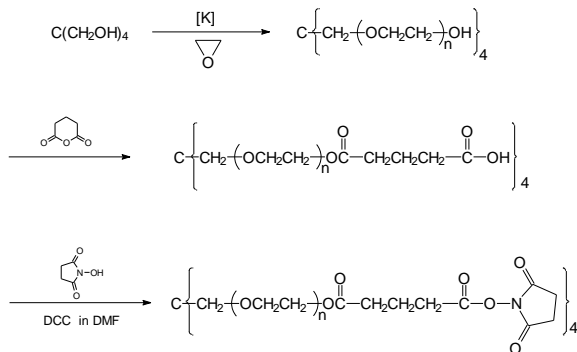


Composition:

Mn x 10 ³ (total)	PDI
10.0	1.08

Synthesis Procedure:

The scheme of the reaction is illustrated below:



Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹HNMR.

Purification:

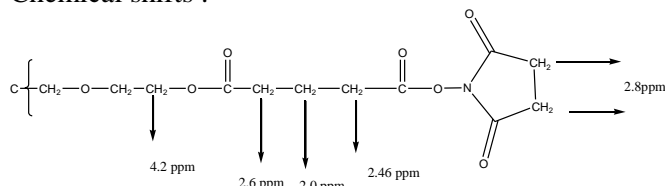
Purification of the obtained four arm polyethylene oxide was carried out rigorously as follows to ensure the removal of the catalyst side product:

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 Al₂O₃.
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at 38 oC.

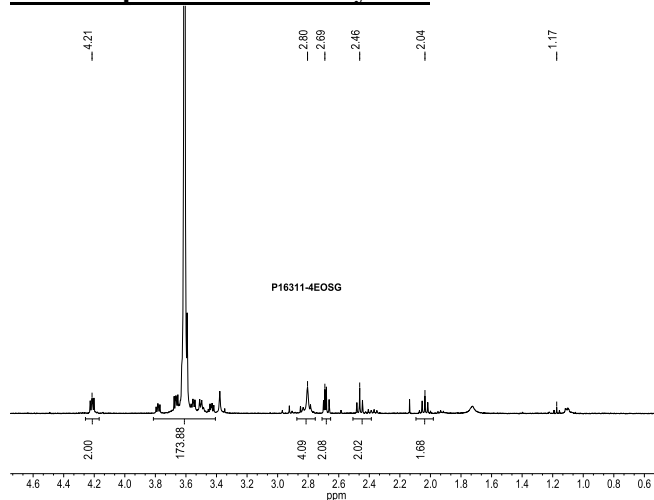
Solubility:

Polymer is soluble in toluene, THF, water and CHCl₃. The polymer is insoluble in hexane, ether, cold isopropanol and ethanol.

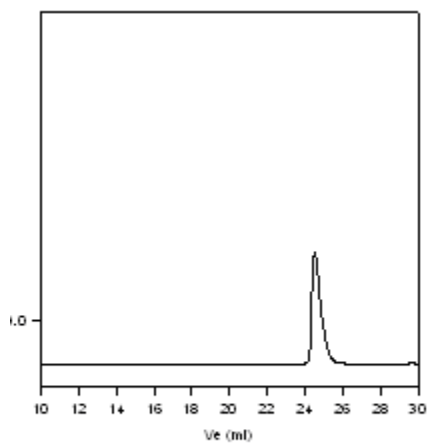
Chemical shifts :



HNMR spectrum of the Polymer:



SEC of the product:



Size Exclusion Chromatogram of Four-Arm Poly(ethylene glycol)
— M_w = 10000, M_n = 10800, M_w/M_n = 1.08