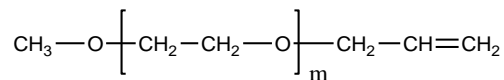


Sample Name:

Allyl Terminated Poly(ethylene glycol) methylether

Sample #: P18261-EGOCH3Allyl

Structure:

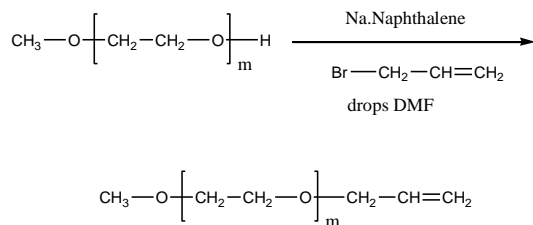


Composition:

Mn x 10 ³	PDI
1.6	1.10
Allyl Functionality > 90%	

Synthesis Procedure:

Allyl Terminated Poly(ethylene glycol) was prepared by reaction between methoxyl poly(ethylene glycol) and allyl bromide with the sodium naphthalene as catalyst. The scheme of the reaction is illustrated below:



Characterization:

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

Functionality: Functionality of the polymer was determined by H NMR analysis or FT-IR spectroscopy.

Solubility:

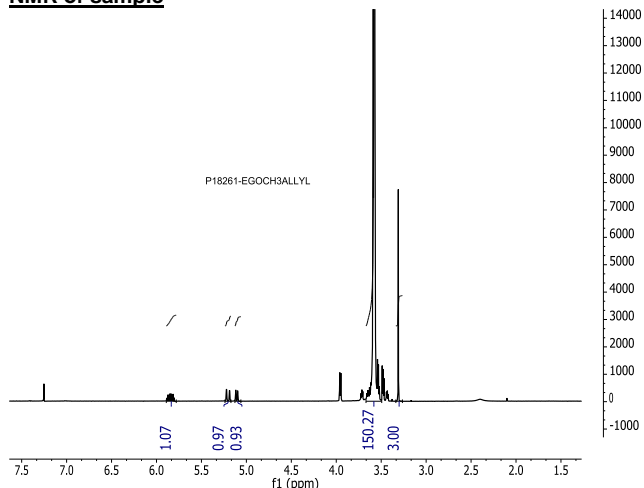
Polymer is soluble in water, methanol and ethanol, THF, CHCl₃. It is precipitated out from cold ethanol, isopropanol, hexane and ether.

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:

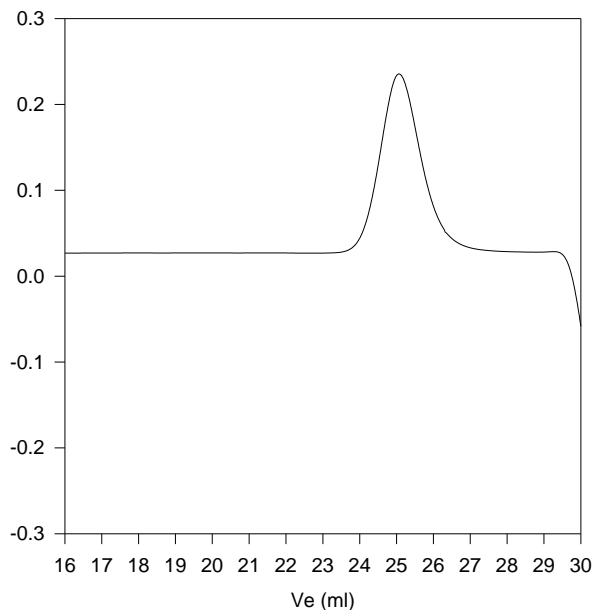
1. Dissolved the polymer in de-ionized distilled water to remove the any insoluble organic catalyst side product.
2. Polymer extracted from water with dichloromethane.
3. Polymer solution in dichloromethane was dried over anhydrous sodium sulfate.
4. Solution concentrated on rota-evaporator
5. Solution precipitated in cold hexane.
6. Dried under vacuum for 48h at room temperature.

NMR of sample



SEC of Sample:

P18261-EGOCH3Allyl



Size exclusion chromatography of Allyl terminated

poly(ethylene glycol) methyl ether :

Mn=1600, Mw=1,750, PI=1.10