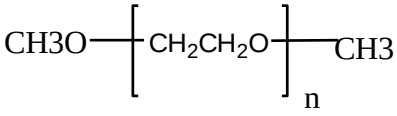
Sample Name:**Poly(ethylene glycol) dimethyl ether**

Sample #: **P40464-EG2OCH3**

Structure:



Composition:

Mn x 10^3	PDI
15.0	1.25

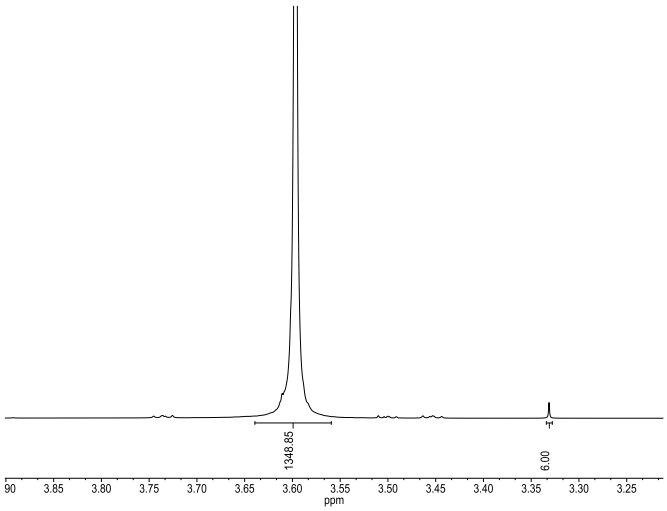
Synthesis Procedure:
Poly (ethylene glycol) dimethyl ether is obtained by living anionic polymerization process.

Characterization:
The product was characterized by size exclusion chromatography (SEC) and ^{1}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:

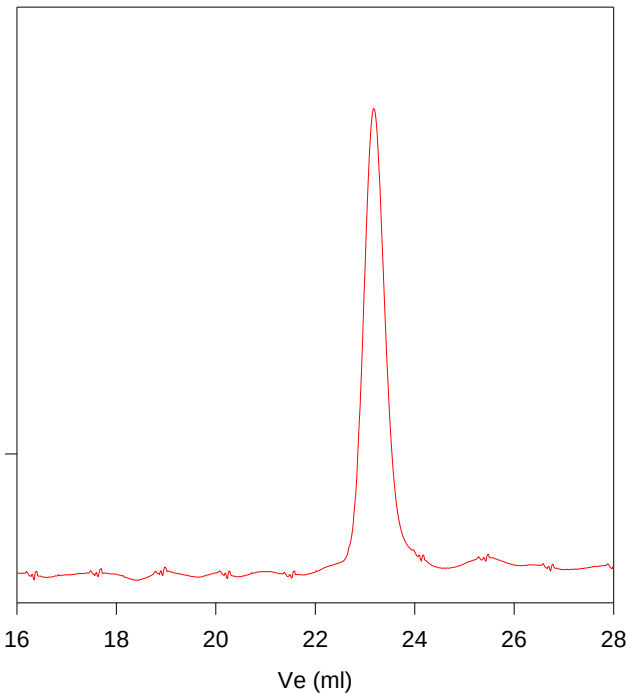
1. Dissolved the polymer in de-ionized distilled water to remove the any insoluble organic catalyst side product.
2. Polymer extracted from water with dichloromethane.
3. Polymer solution in dichloromethane was dried over anhydrous sodium sulfate.
4. Solution filtered and than passed through a column packed with basic Al_2O_3 .
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 48h at 38 ^oC.

^{1}HNMR spectrum of the polymer:



SEC profile of the Sample :

P40464-EG2OCH3



Size exclusion chromatograph of poly(ethylene glycol):

M_n=15,000, M_w=18,500, PDI=1.25