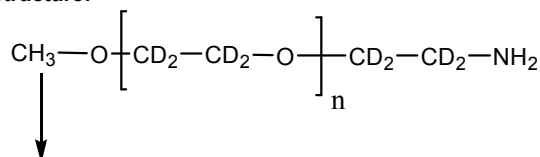


Sample Name:

α -methoxy ω -amino Terminated Deuterated (d4) Poly(ethylene glycol)

Sample #: P11449-dPEO-OCH₃NH₂

Structure:



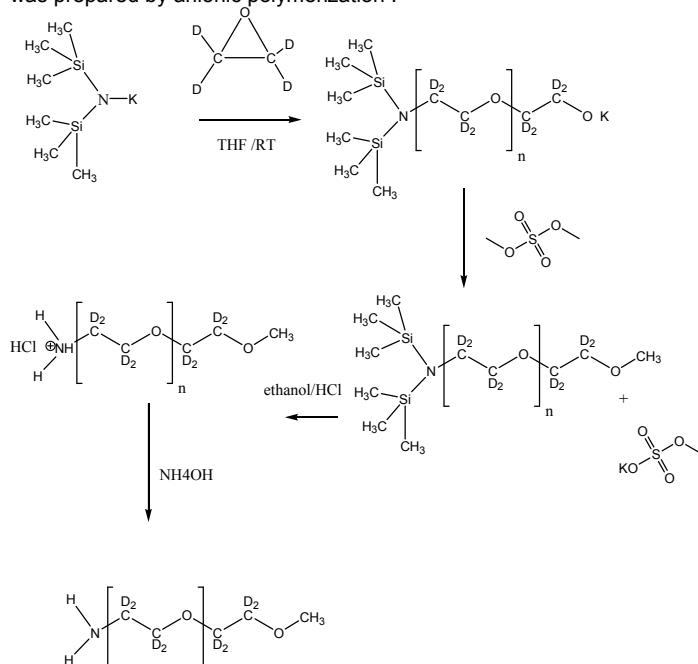
Protonated

Composition:

Mn x 10 ³	PDI	NH ₂ functionality
6.8	1.10	>99%

Synthesis Procedure:

Amino terminated deuterated Poly(ethylene glycol methyl ether) was prepared by anionic polymerization .



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. Polymer functionality was verified by oxidation of the thiol to disulfide.

Solubility:

Polymer is soluble in water, methanol and ethanol, THF, CHCl_3 . It is precipitated out from cold hexane and ether.

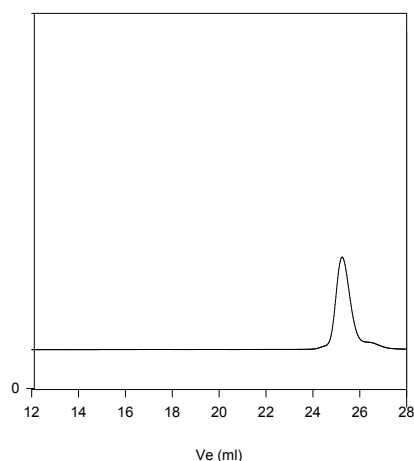
Purification of the obtained polymer:

Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the any side product: After neutralization with NH_4OH the crude polymer purified as follows:

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 Al_2O_3 .
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold diethyl ether.
7. Dried under vacuum for 12h at 30°C.

SEC of Sample:

P11449-dPEO-OCH₃NH₂



Size exclusion chromatograph of Amino terminated deuterated Poly(ethylene glycol)Methylether (NH₂ group was protected with naphthyl isocyanate) for the purpose of analysis in THF at 35 °C:

$M_n=6,800$, $M_w=7,500$, $PI=1.10$; NH₂ functionality over 99%

HNMR of the polymer:

