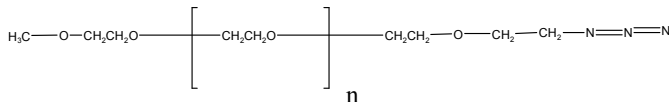


Sample Name:

α -methoxy ω -Azide end functionalized Poly(ethylene glycol)
Or azide terminated Poly ethylene glycol methyl ether

Sample #: **P5438- EGOCH3N3**

Structure:



Composition:

$\text{Mn} \times 10^3$	PDI
2.0	1.08

Synthesis Procedure:

Azide end functionalized Poly(ethylene glycol)methyl ether is prepared by living anionic polymerization of ethylene oxide, followed by modification of OH terminal to mesylate and than to azide group.

Characterization:

An aliquot of the poly(ethylene oxide) before addition of mesyl chloride was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The polymer obtained at each step and the final block copolymer composition was calculated from ^1H -NMR spectroscopy.

FTIR:

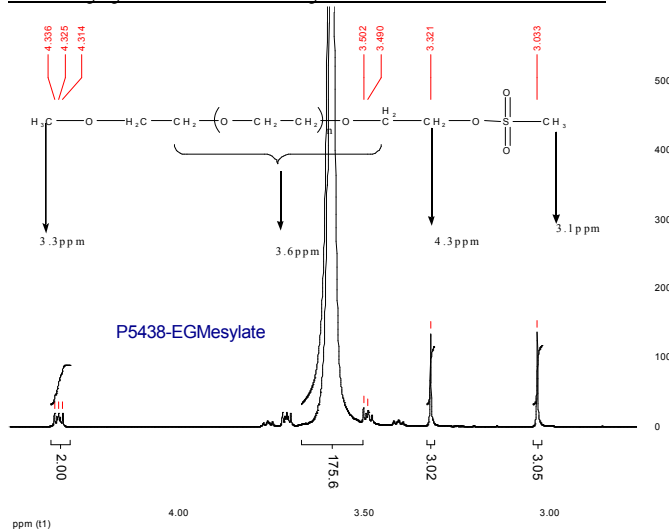
N3 characteristic appears at 2101 cm^{-1} .

Solubility:

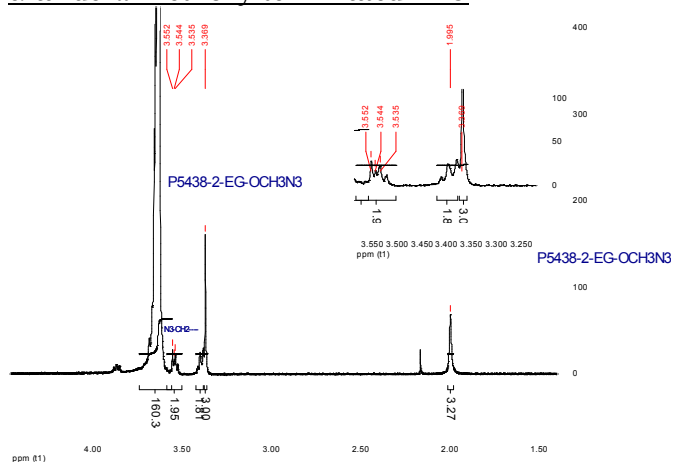
N3 end functionalized Poly(ethylene oxide) is soluble in CHCl_3 , THF and precipitated out from cold ethanol, diethyl ether.

^1H -NMR Spectrum of the polymer and the final block copolymer at different stages:

α -Mesylylate- ω -Methoxy end terminated PEG

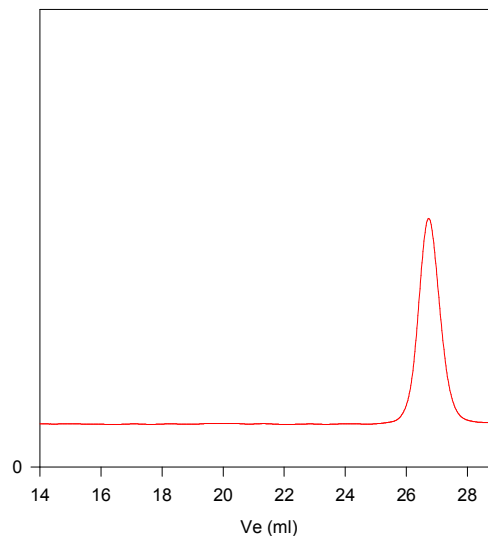


α -azide- ω -methoxy terminated PEG



SEC of the polymer before terminating with mesyl chloride (methane sulfonyl chloride):

P5438-EGOCH3



Size exclusion chromatograph of Poly(ethylene glycol)methyl ether:

$M_n=2000$, $M_w=2100$, $PI=1.08$