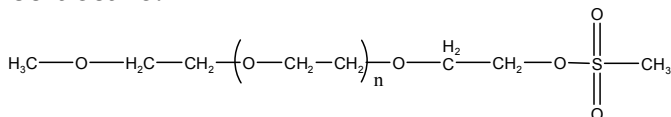


Sample Name:

α Methoxy ω - mesylate end functionalized Poly(ethylene glycol)

Sample #: P8669-EGOCH3mesylate

Structure:**Composition:**

$M_n \times 10^3$	PDI	Functionality (SO ₃ CH ₃)
1.1	1.09	> 99%

Synthesis Procedure:

Mesylate end functionalized Poly(ethylene glycol) methyl ether is prepared by living anionic polymerization of ethylene oxide followed by reaction of OH terminated polymethylene glycol methyl ether with methanesulfonyl chloride (mesyl chloride).

Characterization:

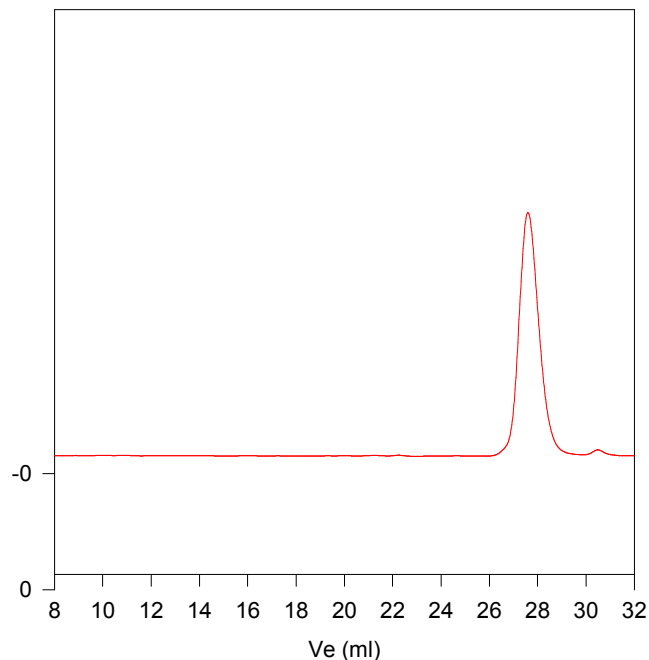
Polymer was analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The end functionality was calculated from ¹H-NMR spectroscopy.

Solubility:

Functionalized poly(ethylene oxide) is soluble in CHCl₃, THF, and precipitated out from cold diethyl ether.

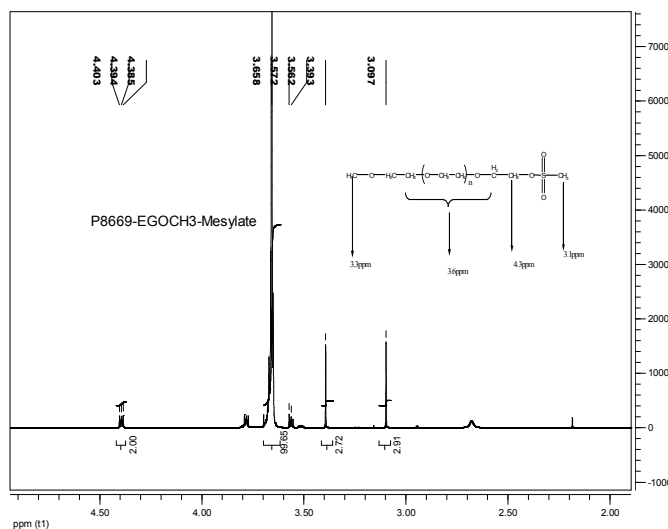
SEC of the polymer before terminating with mesyl chloride (methane sulfonyl chloride):

P8669-EGOCH3



Size exclusion chromatograph of Poly(ethylene glycol):

$M_n=1100$, $M_w=1200$ $M_w/M_n=1.09$

¹H-NMR Spectrum of the polymer:

Thermal analysis of the sample# P8669- EGOCH3mesylate

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

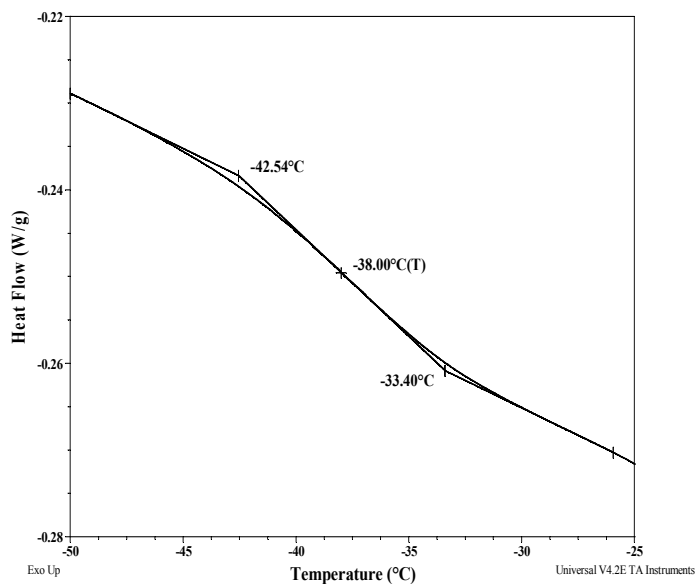
Melting and crystallization curve for the sample

The melting temperature (T_m) was taken as the maximum of the endothermic peak where as the crystallization temperature (T_c) was considered as the minimum of the exothermic peak.

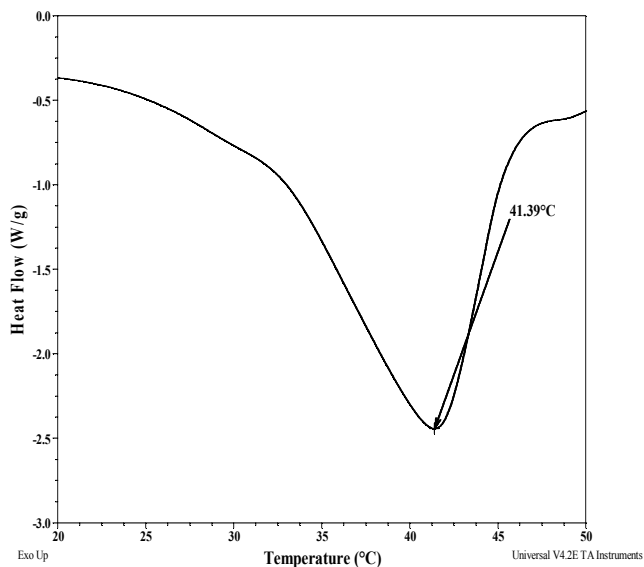
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
EGTMS	41	24	-38

DSC thermogram for the polymer:



Melting curve for the sample:



Crystallization curve for the sample:

