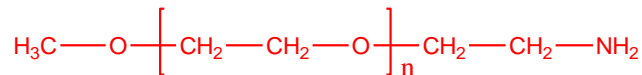


Sample Name:

ω Methoxy ω - amino end functionalized Poly
(ethylene glycol)

Sample #: P8686-EGOCH3NH2

Structure:



Composition:

$\text{Mn} \times 10^3$	PDI	Functionality NH2
5.0	1.06	> 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).

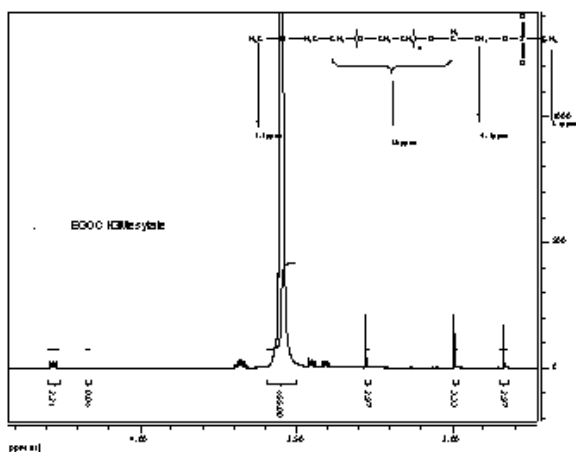
Characterization:

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.

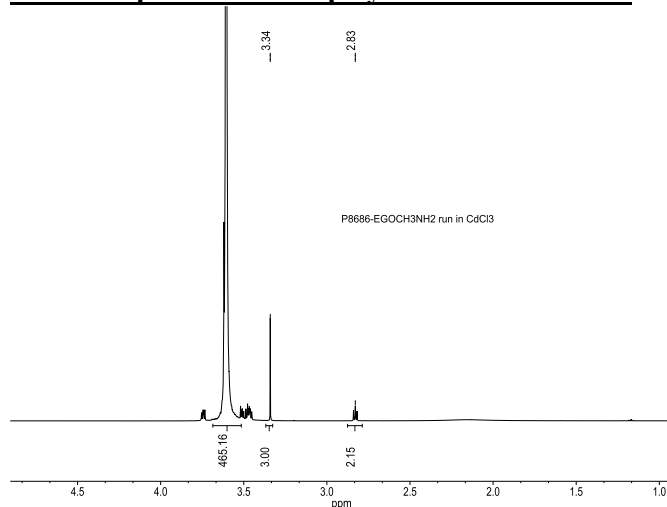
Solubility:

Functionalized Poly (ethylene oxide) is soluble in CHCl_3 , THF, and precipitated out from cold diethyl ether.

^1H NMR Spectrum of the polymer

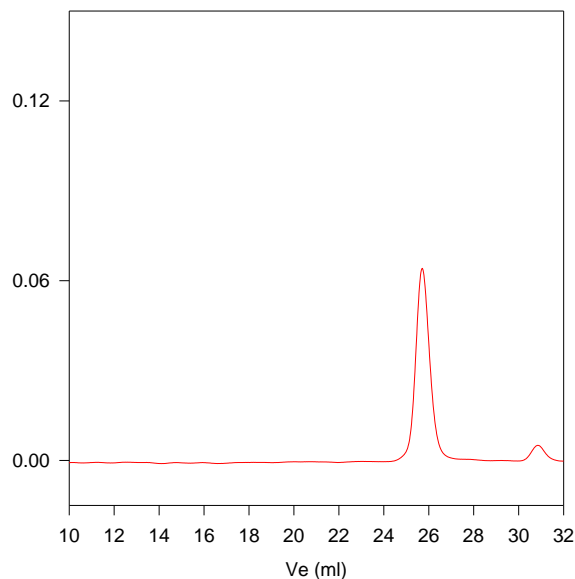


^1H NMR Spectrum of the polymer EGOCH3NH2:



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

P8686-EGOCH3NH2



Size Exclusion Chromatography of mPEG used to convert OH to NH2
 $M_n=5000$, $M_w=5300$, $PI=1.06$

Thermal analysis of the P8686-EGOCH3NH2

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 20°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).

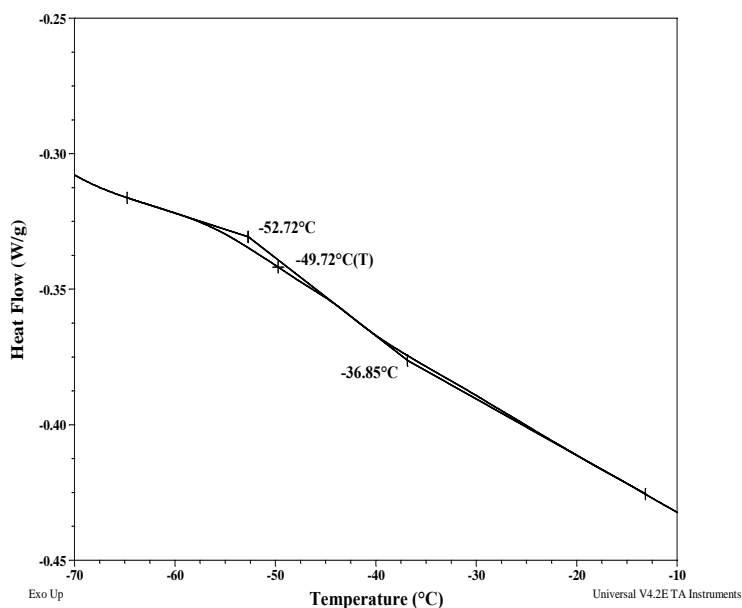
Melting and crystallization curve for the sample

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

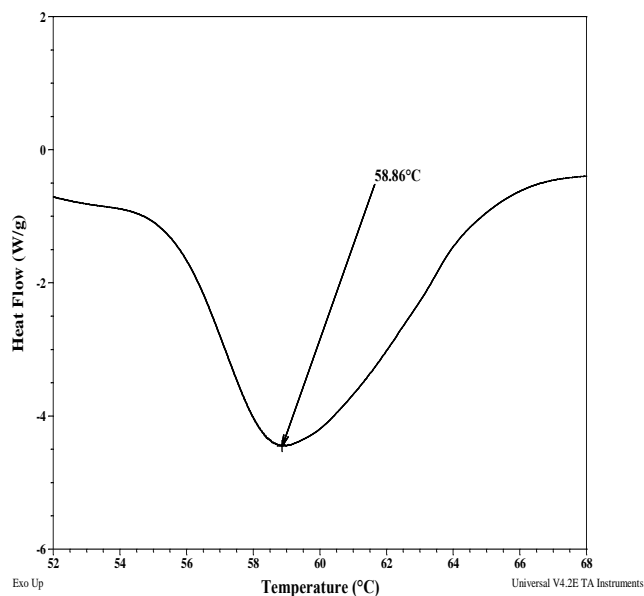
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
EO	59	40	-50

Thermogram for the PEO block



Melting curve for the polymer:



Crystallization curve for the polymer:

