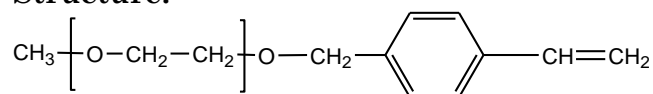


Sample Name: Styrene Terminated Poly(ethylene glycol)

Sample #: Styreomer-14K

Structure:

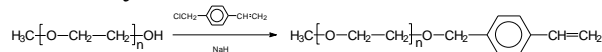


Composition:

$M_n \times 10^3$	PDI
14.1	1.04

Synthesis Procedure:

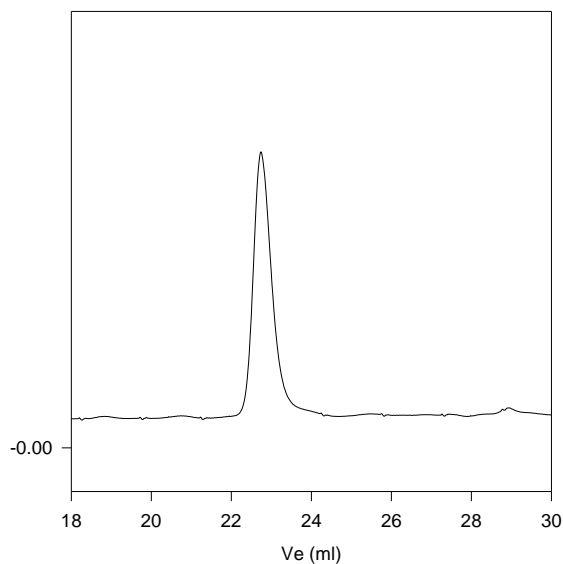
Polyethylene glycol monomethyl ether was prepared by anionic living polymerization of ethylene oxide using potassium salt of 2 methoxyl 1-propanol as initiator. Styrene terminated PEG was obtained via etherification with 4-chloromethyl styrene. The scheme of the reaction is illustrated below. The obtained polymer is called 'Styreomer'.



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 verified by ^1H -NMR spectroscopy or FT-IR.

Styreomer 14K lot # P811



Size Exclusion Chromatography of Poly(ethylene glycol) methyl ether
 $M_n=14100$, $M_w=14600$, $PI=1.04$ functionality 70%

Thermal analysis of the sample

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. 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).

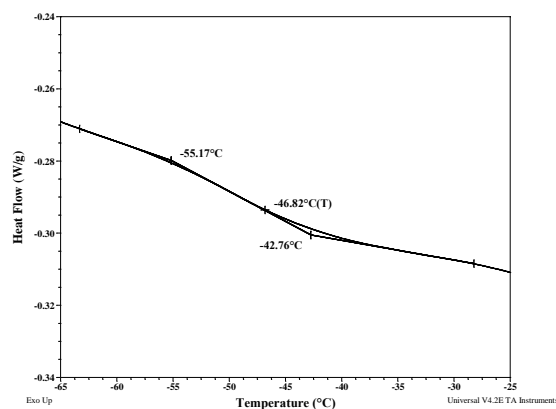
Melting and crystallization curve for the sample

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.

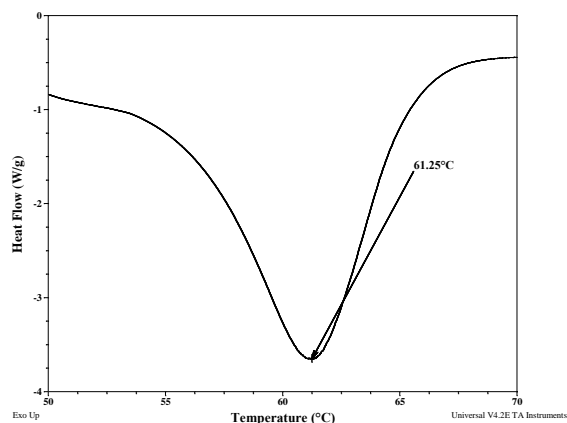
Thermal analysis results at a glance

T_m ($^\circ\text{C}$)	T_c ($^\circ\text{C}$)	T_g ($^\circ\text{C}$)
61	34	-47

Thermogram of EO



Melting curve for EO



Crystallization curve for the sample:

