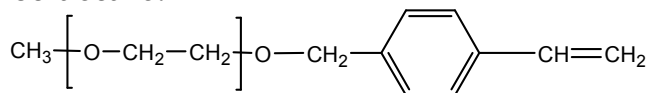


Sample Name: **Styrene Terminated**

Poly(ethylene glycol)

Sample #: **Styreomer-6K**

Structure:

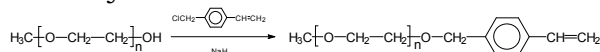


Composition:

Mn x 10 ³	PDI
6.3	1.03

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'.

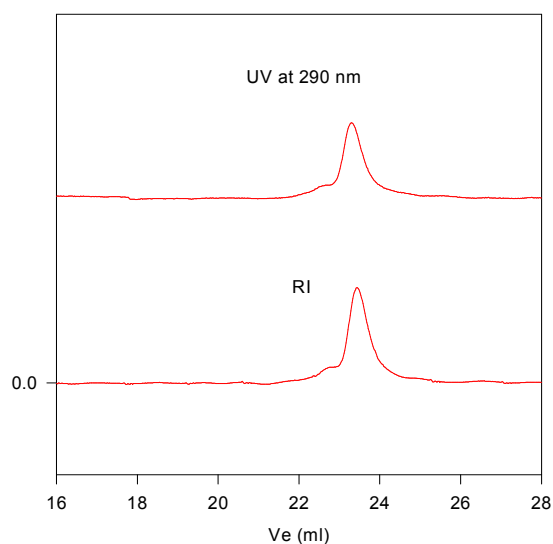


Characterization:

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.

SEC for the polymer:

(styreomer-6K) Lot P807



Size exclusion chromatography of poly(ethylene glycol) methyl ether styrene with ultraviolet (UV) and refractive index (RI) detectors

M_n=6300, M_w=6500, PI=1.03, Functionality=0.62

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).

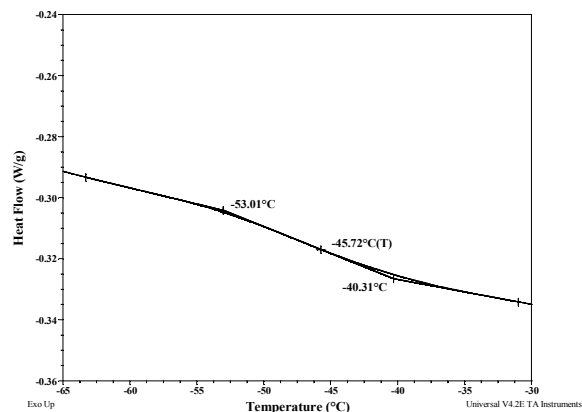
Melting and crystallization curve for the sample

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.

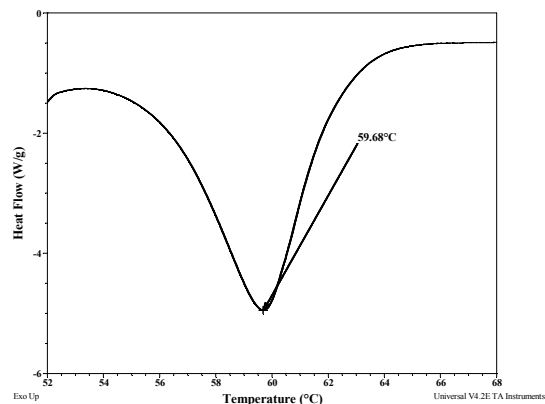
Thermal analysis results at a glance

T _m (°C)	T _c (°C)	T _g (°C)
60	40	-46

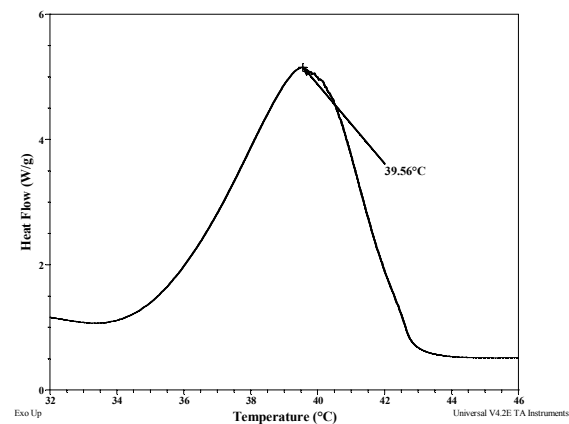
Thermogram of EO



Melting curve for EO



Crystallization curve for the sample:



Thermal analysis of the sample