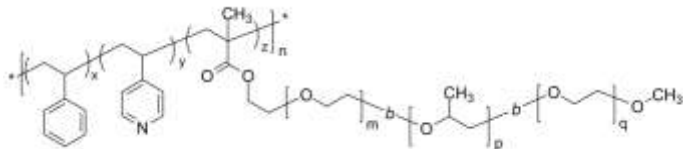


Sample Name: Random copolymer of Poly (styrene-co-4-vinyl pyridine-co-[poly (ethylene oxide-b-propylene oxide-b-ethylene oxide)] methacrylate)

Sample #: P14517-S4VPEOPOEOran

Structure:



Composition:

$M_n \times 10^3$	PDI
148.0	1.9

S: 4VP: ratio	15:85
4VP:EOPOEO ratio	31:69
S:4VP:EOPOEO ratio After normalization	10.0:50:40
Macromonomer Lot # P10873 EOPOEO-MA 0.30-b-1.7-b-0.60	Dp: 7-b-29-b-14

Characterization:

The polymer analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from $^1\text{H-NMR}$ spectroscopy.

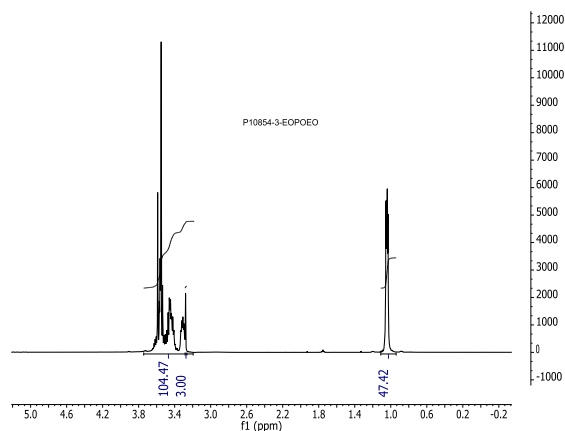
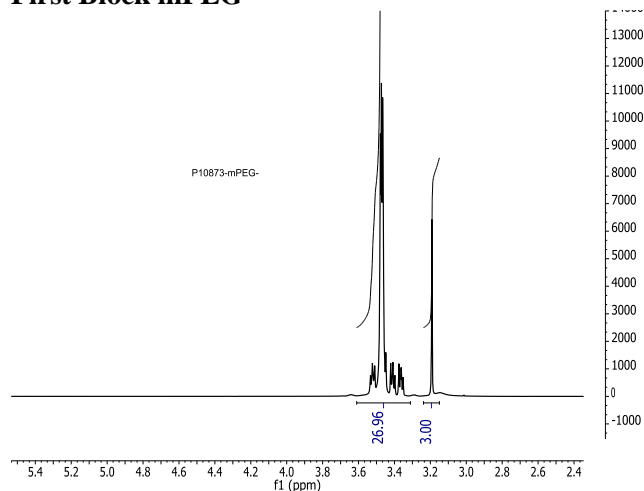
Solubility:

The polymer is soluble in acetone, DMF, methanol. It precipitates from, ether and hexane.

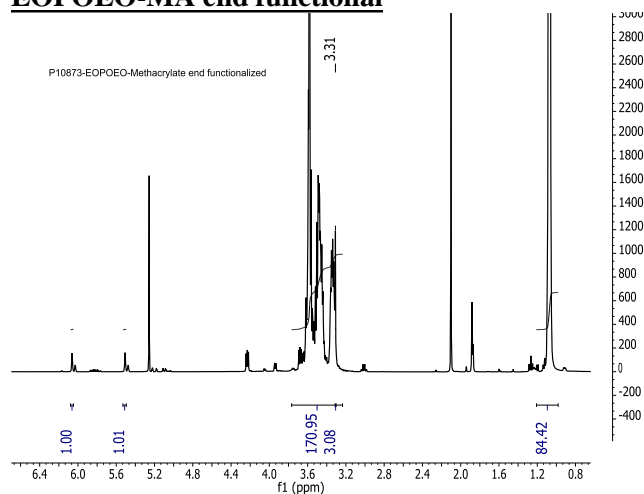
Thermal analysis

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $20^\circ\text{C}/\text{min}$. 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).

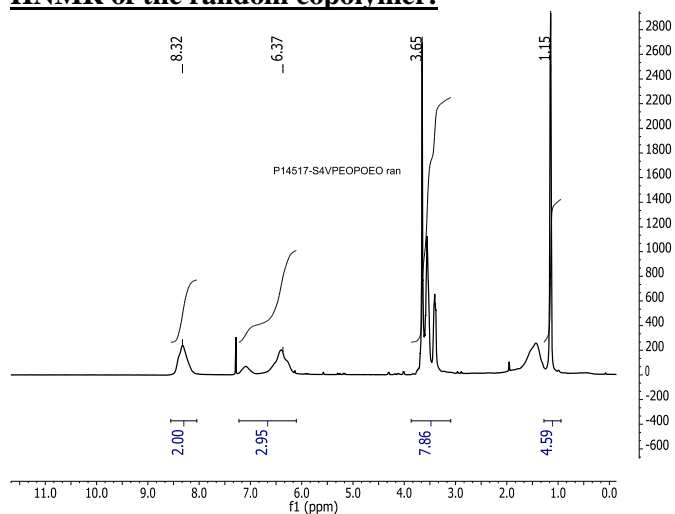
HNMR of EOPOEO Macromonomer: EOPOEO First Block mPEG



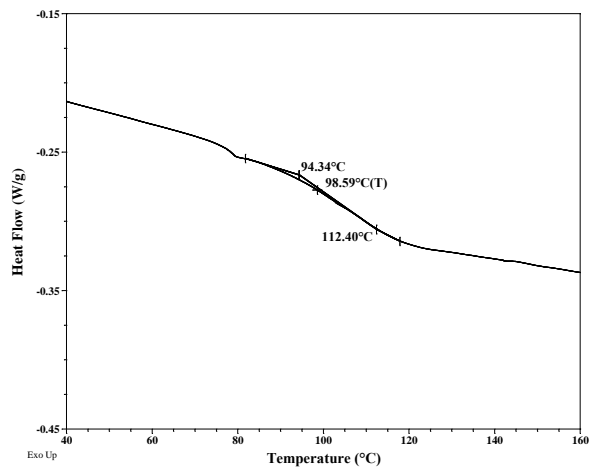
EOPOEO-MA end functional



HNMR of the random copolymer:

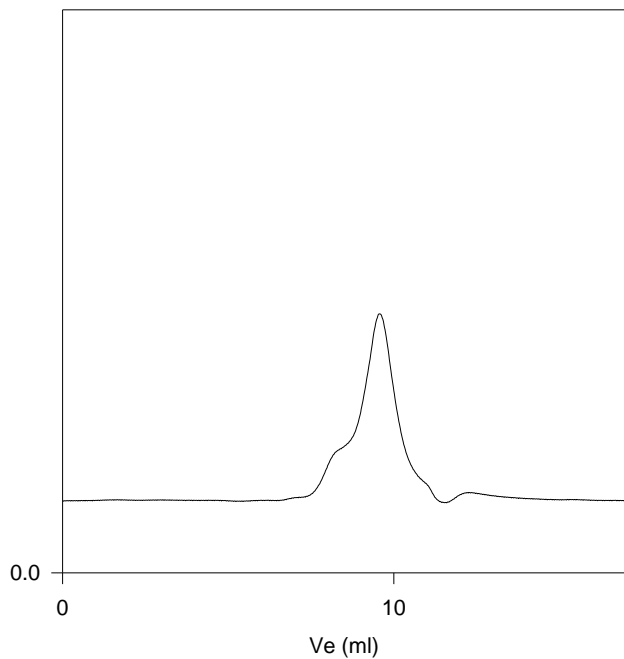


DSC thermogram for the polymer:



SEC of the copolymer:

P14517-S4VPEOPOEO ran
Run in DMF at 60 oC



$M_n=148,000$, $M_w=281,000$, $PI=1.9$