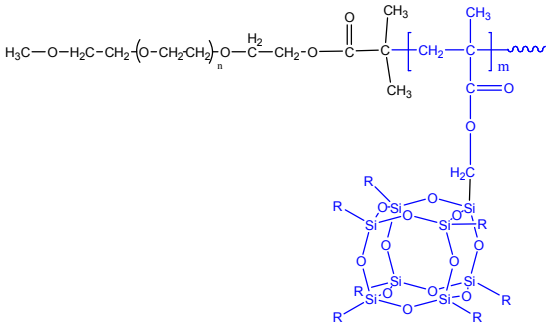
Sample Name:
Poly(ethylene oxide-b-POSSEthylmethacrylate)

POSSEtMA: 2-Propenoic acid, 2-methyl-,3(heptaethylpentacyclo 9.5.1.13,9.15,15.17,13]octasiloxanyl)methylester

Sample #: ***P14028-EOPOSSEtMA***

Structure:



Composition:

Mn x 10^3 PEO-b-POSSEtMA	PDI
2.0-b-15.0	1.15

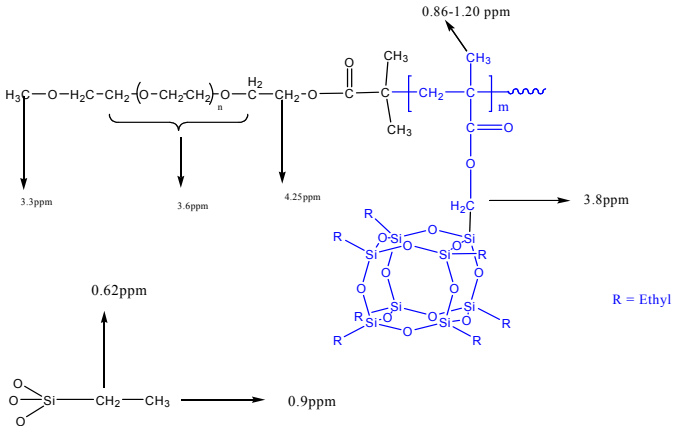
Synthesis Procedure:

Polymer is synthesized by controlled radical polymerization process.

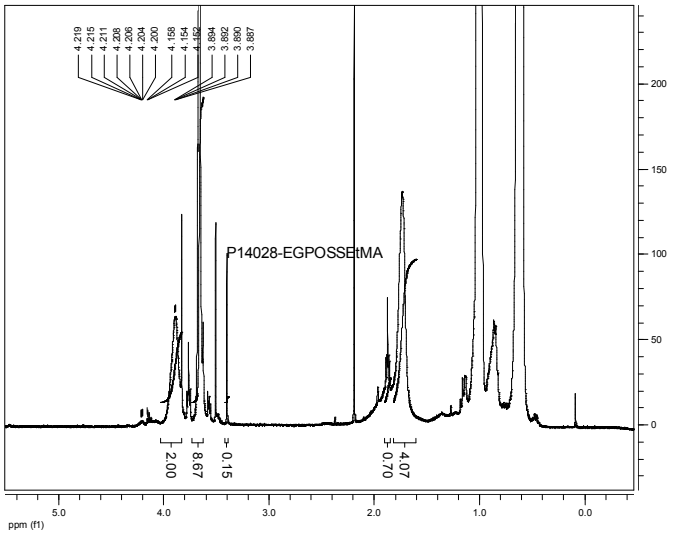
Purification of the polymer:
The un-reacted PEG can be removed by stirring the polymer in hot water/Methanol. The obtained polymer dissolved in $CHCl_3$/toluene and pass through the column packed with silica. The polymer was recovered by precipitation in cold ether/hexane mixture.

Solubility:
Polymer is soluble in $CHCl_3$, THF and toluene. The polymer precipitated out from hexane.

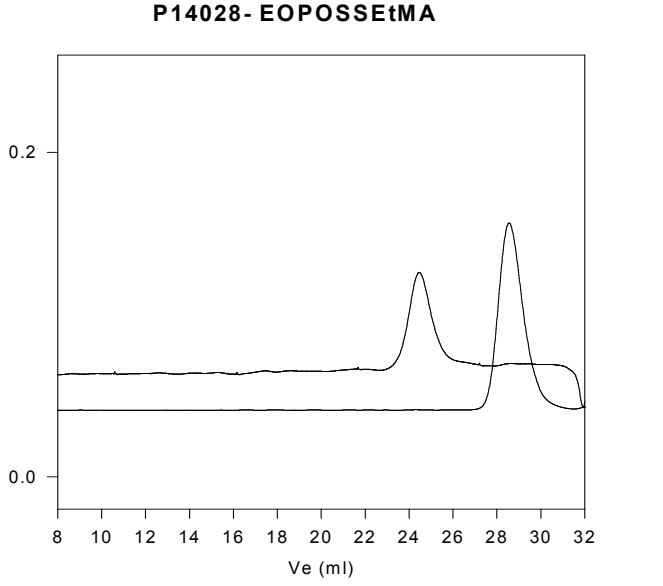
Chemical Shifts:



HNMR of the Product:



SEC of the block copolymer:



Size exclusion chromatography:

—— Poly(ethylene glycol) monomethoxyl ether, M_n=2000, M_w=2100, PI=1.05

—— Block Copolymer PEO(2000)-b-PSSEtMA(15,000), PI=1.13
Composition from ^{H} NMR

Thermal analysis of the *P14028-EOPOSSEtMA*

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).

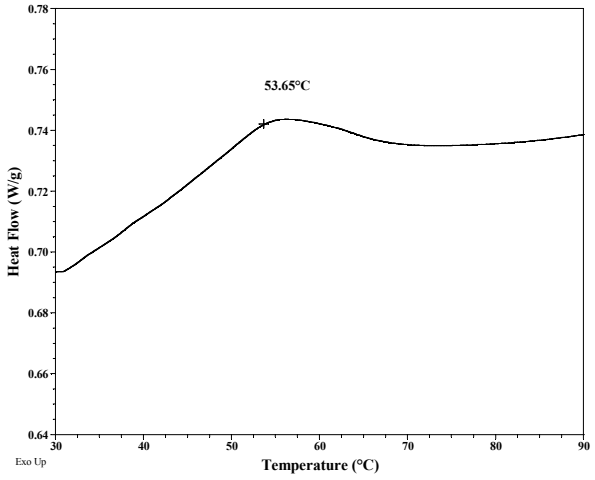
Melting and crystallization curve for the sample

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.

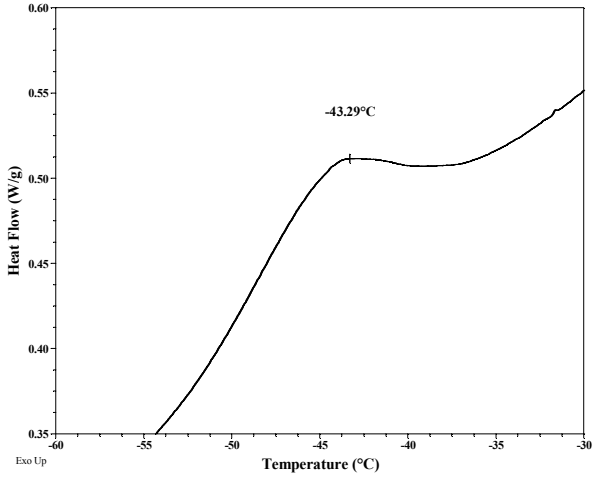
Thermal analysis results at a glance:

Sample	T_m (°C)	T_c (°C)	T_g (°C)
POSSMA block	103	54	-
PEO block	14	-43	

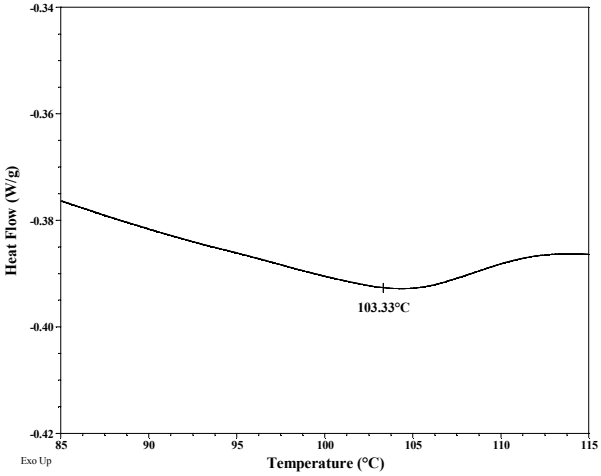
Crystallization curve for POSSisoBuMA block:



Crystallization curve for PEO block:



Melting curves for POSSBuMA:



Melting curve for PEO block: