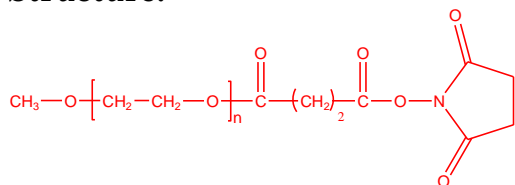


Sample Name:
Succinimidyl Succinate Terminated
Poly(ethylene glycol)

Sample #: **P6121-EGSS**

Structure:

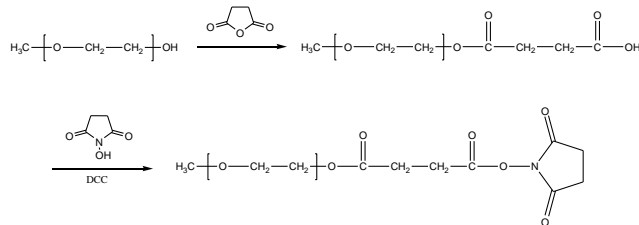


Composition:

$M_n \times 10^3$	PDI
20.5	1.08

Synthesis Procedure:

Succinimidyl succinate terminated poly(ethylene glycol) was synthesized by anionic living polymerization of ethylene oxide using ethylene glycol/potassium salt as an initiator. The hydroxyl endgroups were converted into carboxyl groups by reacting them with succinic anhydride. The final polymer with succinimidyl succinate as an end group was prepared by reacting with N-hydroxysuccinimide in presence of DCC. The reaction is illustrated as Scheme 1.



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.

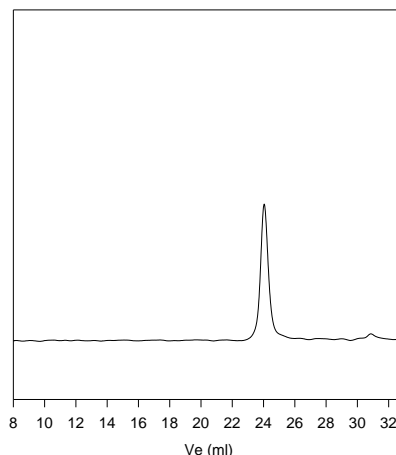
Functionality: Functionality of the polymer was determined by H NMR analysis or FT-IR spectroscopy.

Solubility:

Polymer is soluble in water, methanol and ethanol, THF, CHCl_3 . It is precipitated out from cold ethanol, isopropanol, hexane and ether.

SEC of Sample:

P6121-EG-OCH3SS



Size Exclusion Chromatography of
 Methoxy polyethylene glycol-N-hydroxy succinimide succinate)

sample # P6121-PEG-OCH3SS M_n : 20500 M_w : 22300 M_w/M_n 1.08
 Intrinsic Viscosity: 0.378 dl/g in THF at 30 oC.
 Radius of Gyration: 6.70nm

Thermal analysis of the sample# P6121-EGSS

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).

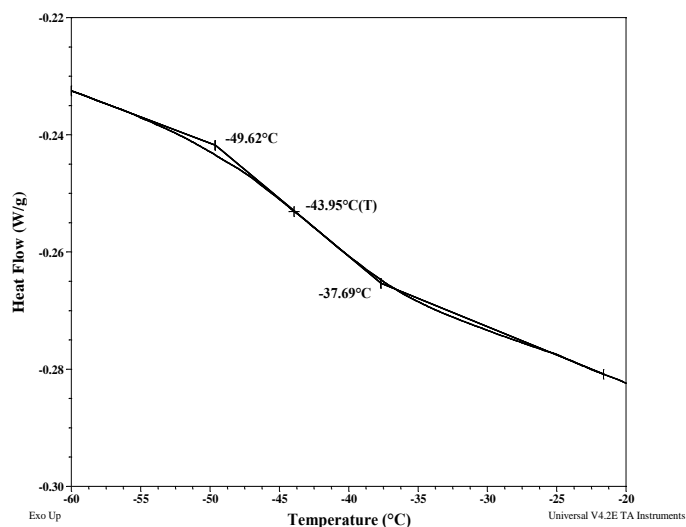
Melting and crystallization curve for the sample

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.

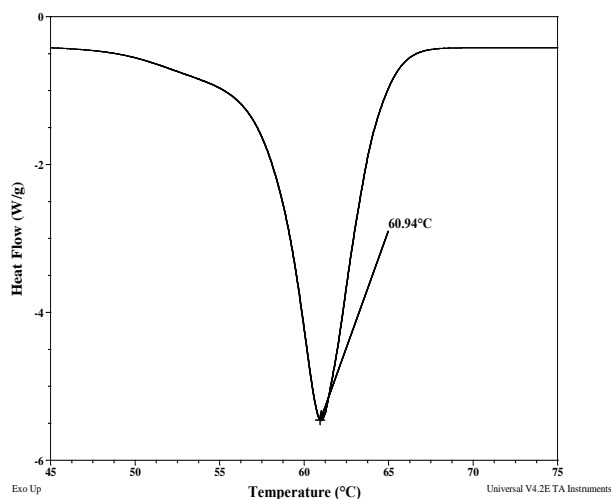
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
EGTMS	61	41	-44

DSC thermogram for the polymer:



Melting curve for the sample:



Crystallization curve for the sample:

