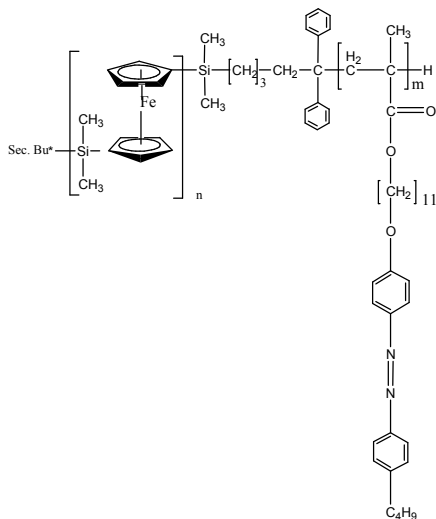


Sample Name:

Poly(ferrocenyldimethylsilane-b-11-(4-4-butylphenylazo)phenoxy)-undecyl methacrylate)

Sample #: P9432-FESAzoMA**Structure:****Composition:**

Mn × 10 ³ FES-b-AZOMA	Mw/Mn (PDI)
6.0-b-2.5	1.5
T _g for FES block:	T _g for AZOMA block:

Synthesis Procedure:

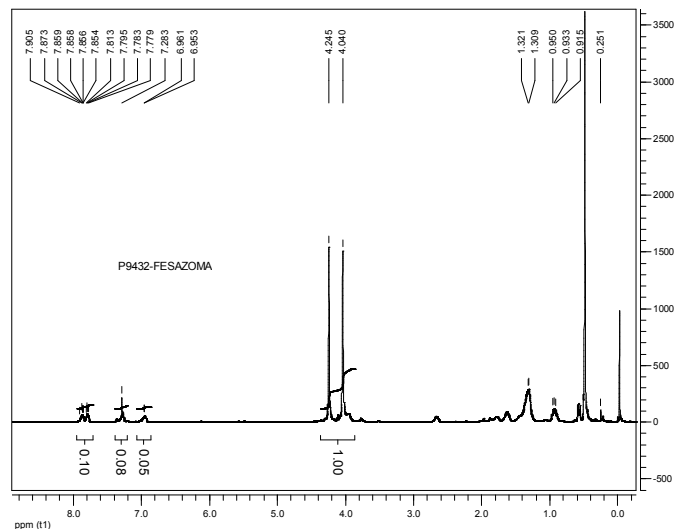
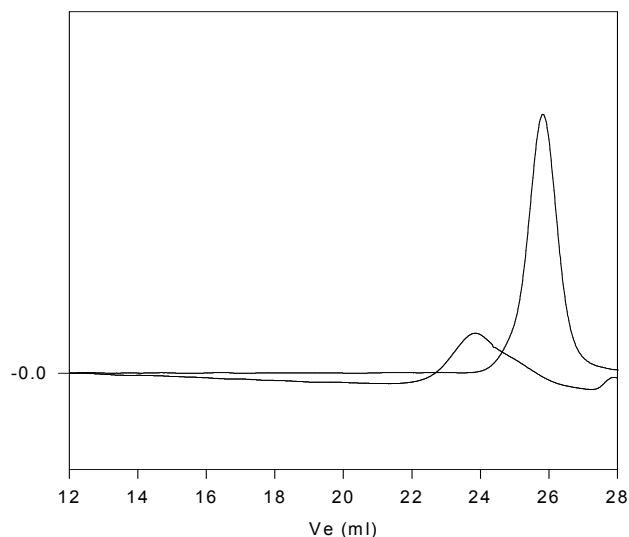
Poly(ferrocenyldimethylsilane-b-11-(4-4-butylphenylazo)phenoxy)-undecyl methacrylate) is prepared by anionic living polymerization by successive addition of ferrocenyldimethylsilane monomer (FES) followed by the addition of -11-(4-4-butylphenylazo)phenoxy)-undecyl methacrylate (AzoMA).

Characterization:

Polymer is analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the phenyl protons at 6.3-7.2 ppm with the peak area of Si(CH₃) at 0.2ppm or Ferrocene protons at 4.0 and 4.2ppm.

Solubility:

Polymer is soluble in THF, CHCl₃, toluene and precipitate out from ether and hexanes.

¹H NMR spectrum of the sample**SEC profile of the block copolymer****P9432-FESAzoMA**

SEC profile of the Block copolymer:

— Poly FES, M_n=6000, M_w=7,200, PI=1.2

— Diblock Copolymer FES(6,000)-b-PAzoMA(2,500), PI=1.5

Thermal analysis of the P9432 FESAzOMA

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).

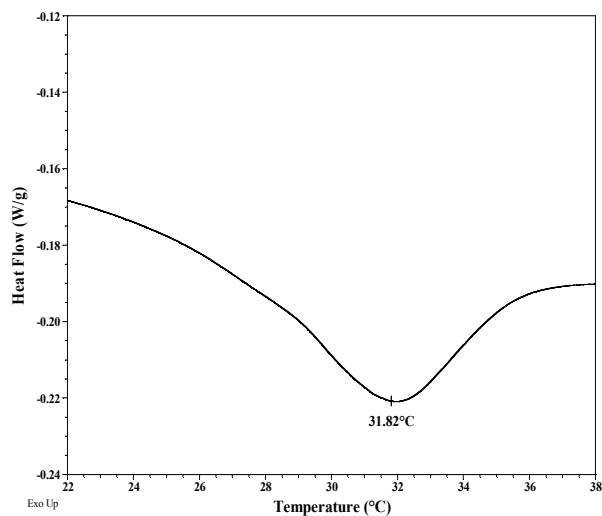
Melting and crystallization curve for the sample

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.

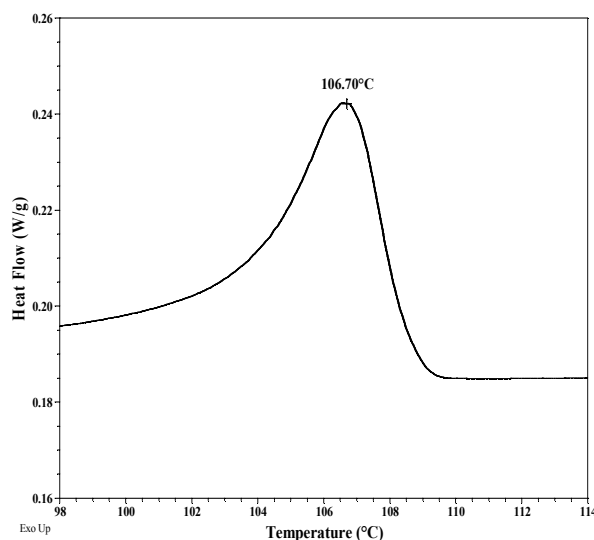
Typical thermal analysis results at a glance:

Sample	T_m (°C)	T_c (°C)	T_g (°C)
SFE	32	-	-
AzoMA	115	107	-

Melting curve for SFE block



Crystallization curve for AzoMA block:



Melting curve for AzOMA block:

