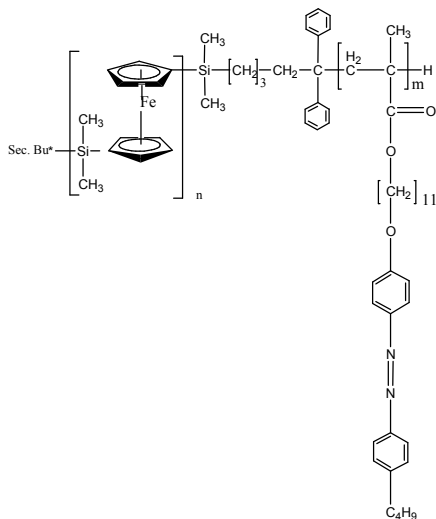


Sample Name:

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

Sample #: P9425B-FESAzoMA**Structure:****Composition:**

$M_n \times 10^3$ FES-b-AZoMA	M_w/M_n (PDI)
7.0-b-90.0	1.5

Synthesis Procedure:

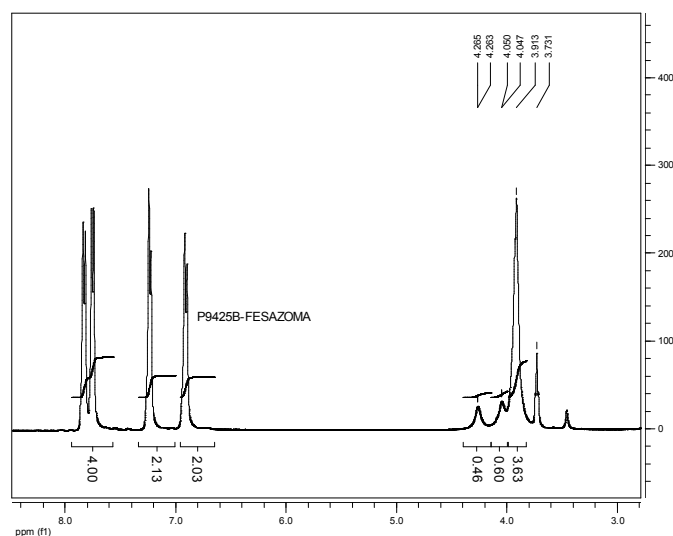
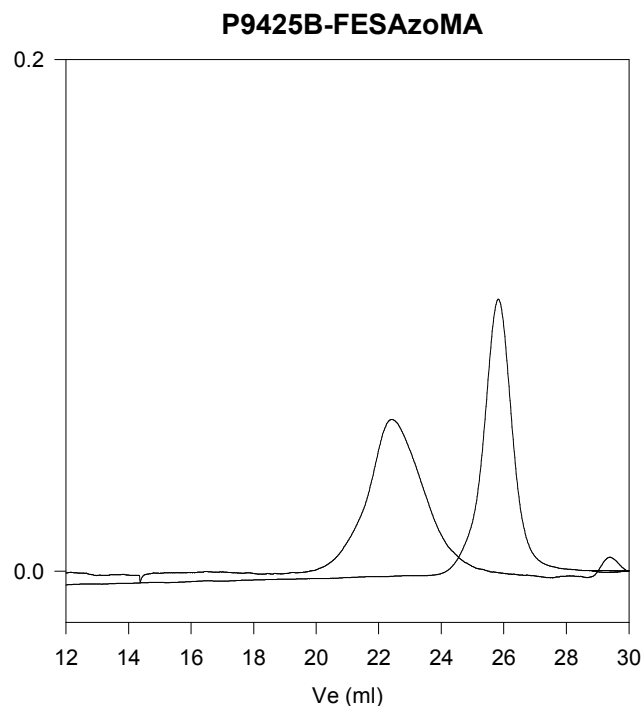
This particular lot is synthesized by Controlled radical process using OH terminated FES prepolymer.

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 $\text{Si}(\text{CH}_3)$ at 0.2ppm or Ferrocene protons at 4.0 and 4.2ppm.

Solubility:

Polymer is soluble in THF, CHCl_3 , toluene and precipitate out from ether and hexanes.

 ^1H NMR spectrum of the sample**SEC profile of the block copolymer**

SEC profile of the Block copolymer:

—— Poly FES, $M_n=7000$, $M_w=7700$, $PI=1.10$

—— Diblock Copolymer FES(7,000)-b-PAzoMA(90,000), $PI=1.5$

Thermal analysis of the sample# P9425B-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).

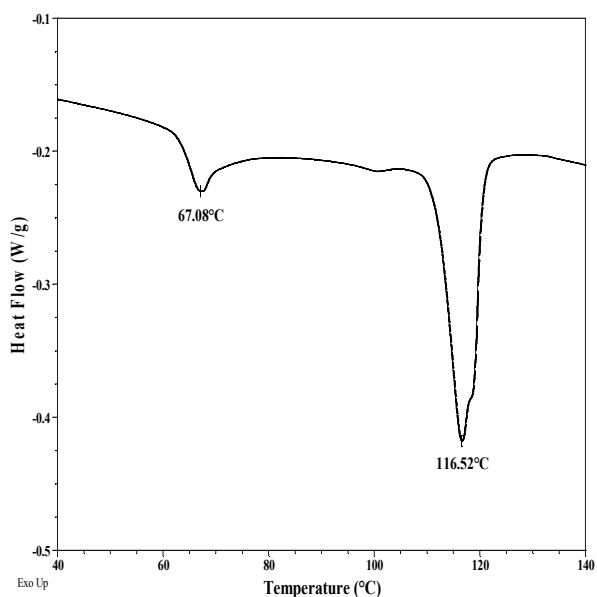
Melting and crystallization curve for the sample

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.

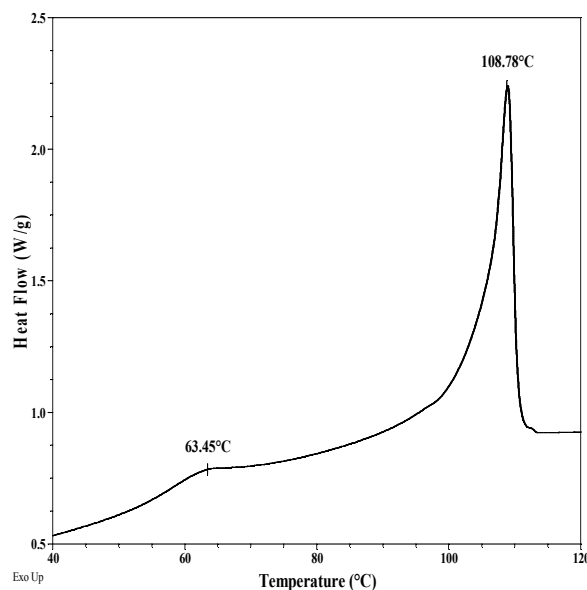
Thermal analysis results at a glance

Sample	T_m (°C)	T_c (°C)	T_g (°C)
FES (4.5k homo)	26.3		
AzoMA (6.5k homo)	53/93	48/92	-
AzoMA in FESAzoMA	67/117	63/109	-

Melting curves for AzoMA block in FESAzoMA



Crystallization curve for AzoMA block in the diblock



Melting curve for FES homo polymer

