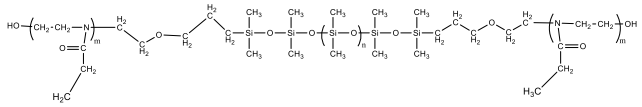
Sample Name:
Poly(2-ethyloxazoline-b-dimethylsiloxane-b-2-ethyloxazoline) Triblock Copolymer

Sample #: **P42758A-EtOXZDMSEtOXZ**

Structure:



Composition:

Mn x 10^3	PDI
0.4-b-1.7-b-0.4 Dp of each units: (4-b-22-b-4)	1.2

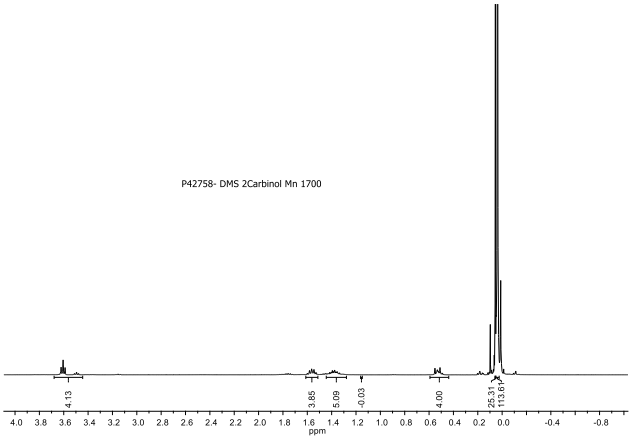
Synthesis Procedure:

The α–ω dihydroxy terminated Poly(2-ethylloxazoline-b-dimethylsiloxane-b-2-ethyloxazoline) triblock copolymer was prepared by combination of anionic living polymerization of hexamethylcyclotrisiloxane (D3) and cationic polymerization of 2-ethyl oxazoline, using difunctional initiator. Polymer was treated with equivalent amount of end functional moieties with NaOH/Methanol. Polymer was recovered in cold acetone, wash couple of times with cold acetone to remove the unreacted any trace amount of monomer.

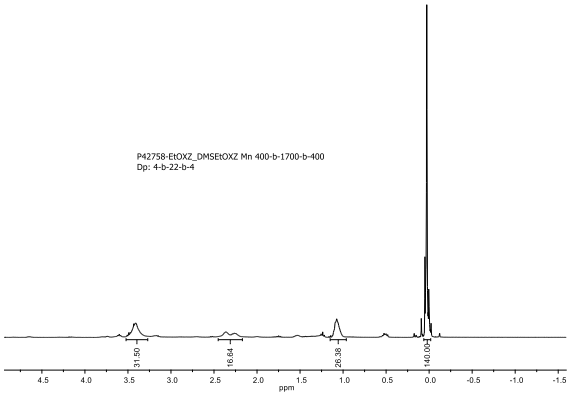
Characterization:

Centeral Block: Size exclusion chromatography (SEC): Varian liquid chromatograph equipped with UV and refractive detector. SEC columns from Supelco were used with THF. The chemical composition was extracted from proton NMR, which was recorded from Varian 500MHz instrument using $CDCl_3$ as solvent.

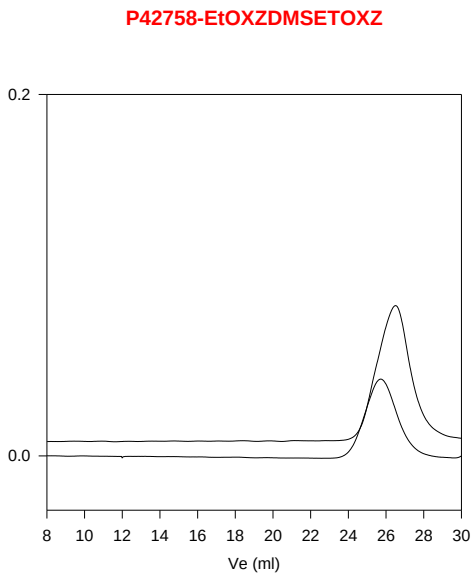
^{1}H-NMR spectrum of the PDMS dicarbinol (Propyl ethoxy linker):



^{1}H-NMR spectrum of Block copolymer:



SEC elugram of the sample:



Size exclusion chromatography of the polymer

—— Polydimethyl siloxane disilanol M_n=1700, M_w=2500, Mw/Mn=1.23

—— Poly(ethyloxazoline-b-dimethyl siloxane-b-ethyl oxazoline) end Functionalized with Acrylate unit
Mn: PEtOXZ(400)-b-PDMS(1700)-b-PEtOXZ(400) Mw/Mn=1.2