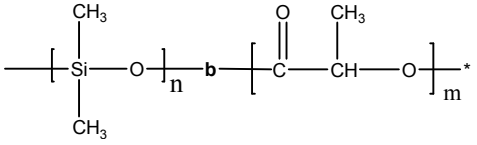
Sample Name: **Poly(dimethyl siloxane-b-lactide) D or L or DL form**

Sample #: P10903D-DMSLA (DL form)

Structure:

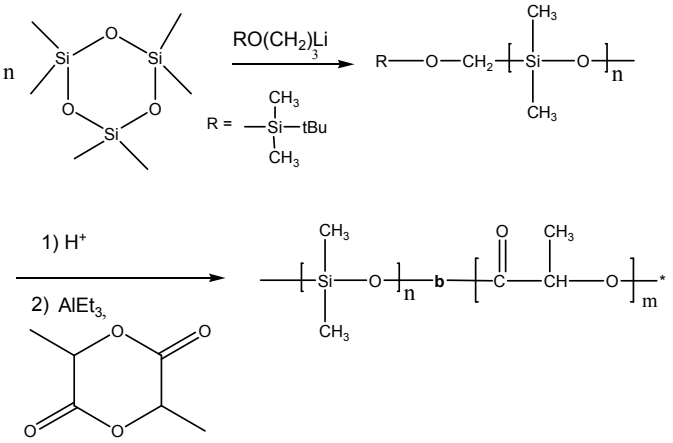


Composition:

Mn x 10^3 DMS-b-LA	Mw/Mn (PDI)
10.0-b-21.0	1.6

Synthesis Procedure:

Poly(dimethyl siloxane-b-lactide) is prepared by living anionic polymerization of hexamethyl cyclotrisiloxane followed by coordination polymerization of lactide monomer. The reaction scheme is shown below:



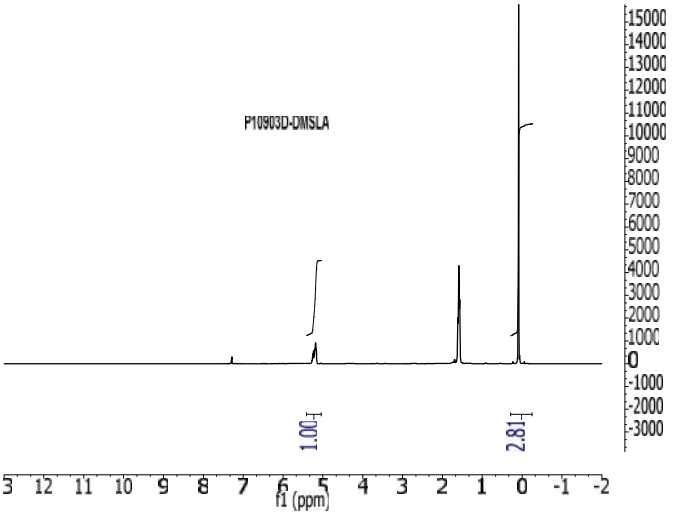
Characterization:

An aliquot of the anionic poly(dimethyl siloxane) block was terminated before addition of lactide monomer and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy by comparing the peak area of the dimethyl siloxane protons near 0 ppm with the lactide 5.1 protons at about 1.6 ppm. Block copolymer PDI is determined by SEC.

Solubility:

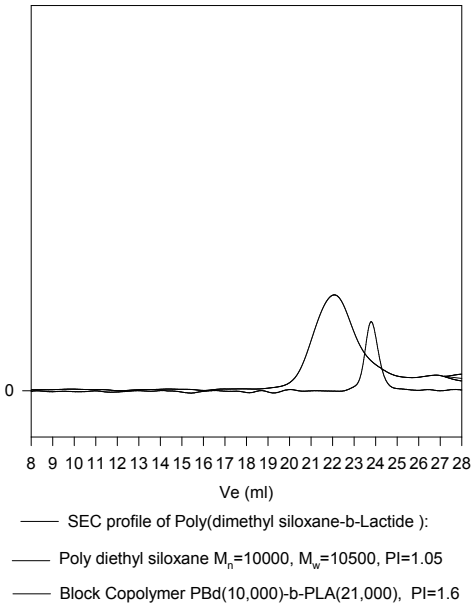
Poly(dimethylsiloxane-b-lactdie) is soluble in toluene, CHCl3.

^{1}H NMR spectrum of the sample:



SEC profile of the block copolymer

P10903D-DMSLA (DL form)



Reference for further details:

J.X. Zhang, S.K. Varshney, "Simple Approach for the Scale-up Production of Block Copolymer of Polydimethylsiloxane with (Meth)acrylic Ester Monomers" Designed Monomers and Polymers, 2002, 1, 79.