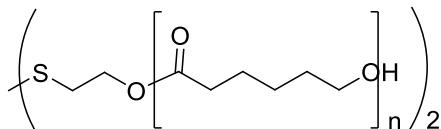


Sample Name: Poly( $\epsilon$ -caprolactone),  $\alpha,\omega$ -bis(hydroxy)-terminated; with disulfide group in center of polymer chain

Sample #: P44073B-CL-disulf

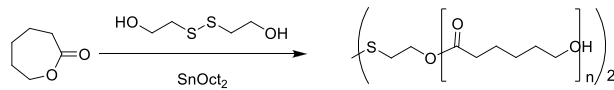
Structure:



Composition:

$M_n \times 10^3$ HO-PCL-SS-PCL-OH	PDI
5.4	1.39
SS functionality $\geq 98\%$	

**Synthetic Procedure:**  $(-S-PCL)_2$  is prepared by ring-opening polymerization of  $\epsilon$ -caprolactone using disulfide-based initiator. The scheme of the reaction is illustrated below:



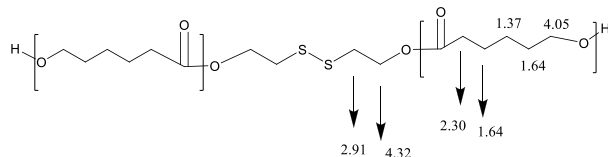
**Characterization:**

PCL bearing the disulfide linkage was analyzed by size exclusion chromatography with light-scattering detector (SEC-LS) to obtain the  $M_n$  and polydispersity (PDI).

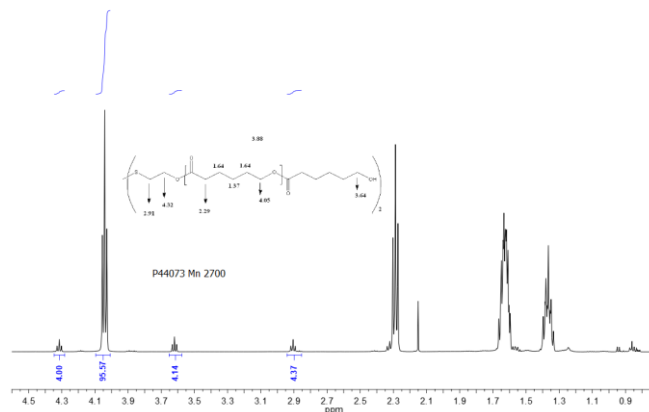
**Solubility:**

Poly( $\epsilon$ -caprolactone) is soluble in  $CHCl_3$ , Acetone, THF, insoluble in methanol, ethanol. Precipitated from Acetone or  $CHCl_3$  into hexane/EtOH or ether/EtOH.

**Chemical shifts assignments**



**$^1H$ -NMR of the PCL bearing disulfide linkage:**



**SEC of PCL-SS-PCL:**

