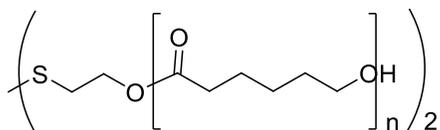


**Sample Name:** Poly( $\epsilon$ -caprolactone),  $\alpha,\omega$ -bis(hydroxy)-terminated; with disulfide group in center of polymer chain

**Sample #:** P44073B-CL-disulf

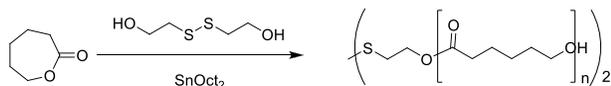
**Structure:**



**Composition:**

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

**Synthetic Procedure:** (-S-PCL)<sub>2</sub> is prepared by ring-opening polymerization of  $\epsilon$ -caprolactone using disulfide-based initiator. The scheme of the reaction is illustrated below:



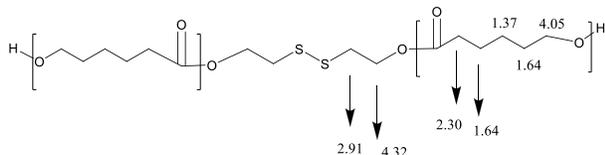
**Characterization:**

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).

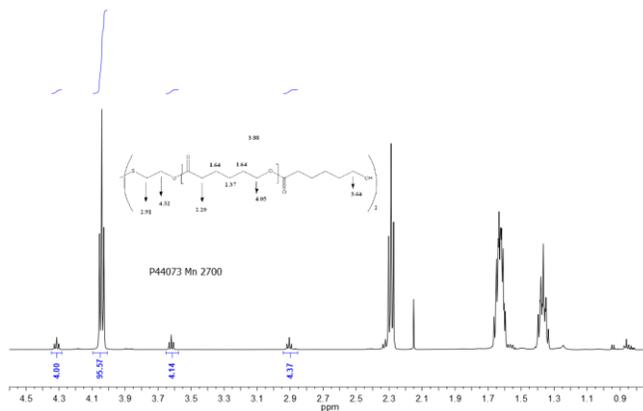
**Solubility:**

Poly( $\epsilon$ -caprolactone) is soluble in  $\text{CHCl}_3$ , Acetone, THF, insoluble in methanol, ethanol. Precipitated from Acetone or  $\text{CHCl}_3$  into hexane/EtOH or ether/EtOH.

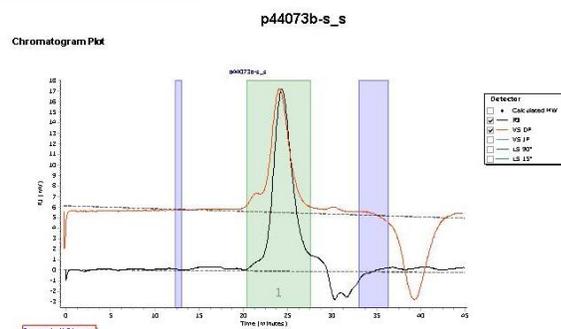
**Chemical shifts assignments**



**<sup>1</sup>H-NMR of the PCL bearing disulfide linkage:**



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



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz-1 (g/mol)	Mu (g/mol)	PDI
Peak 1	3580	2774	3663	5566	8400	4721	1.392