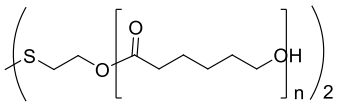
Sample Name: **Poly(ε-caprolactone), α,ω-bis(hydroxy)-terminated; with disulfide group in center of polymer chain**

Sample #: **P44073C-CL-disulf**

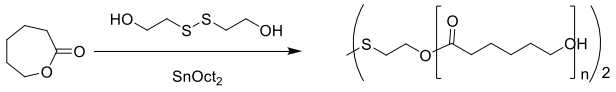
Structure:



Composition:

$M_n \times 10^3$ HO–PCL–SS–PCL–OH	PDI
5.0	1.37
SS functionality ≥ 98%	

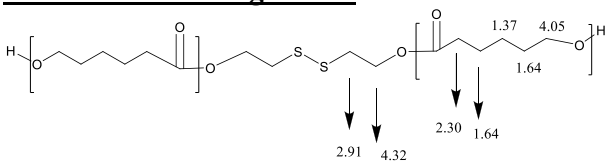
Synthetic Procedure: $(\text{-S–PCL})_2$ is prepared by ring–opening polymerization of ε–caprolactone using disulfide–based initiator. The scheme of the reaction is illustrated below:



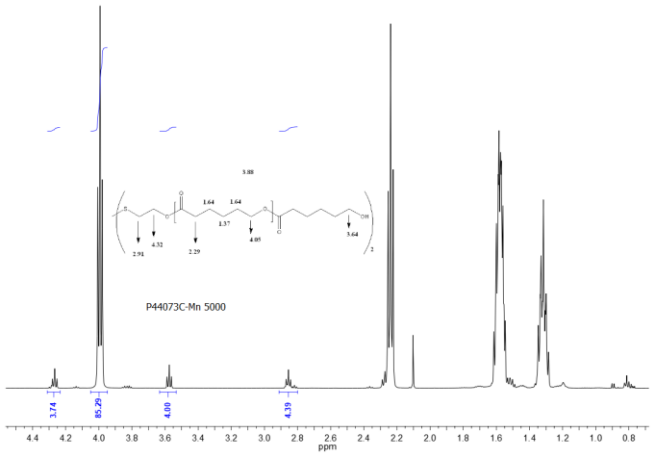
Characterization:
PCL bearing the disulfide linkage was analyzed by size exclusion chromatography with light–scattering detector (SEC–LS) to obtain the M_n and polydispersity (PDI).

Solubility:
Poly(ε–caprolactone) is soluble in $CHCl_3$, Acetone, THF, insoluble in methanol, ethanol. Precipitated from Acetone or $CHCl_3$ into hexane/EtOH or ether/EtOH.

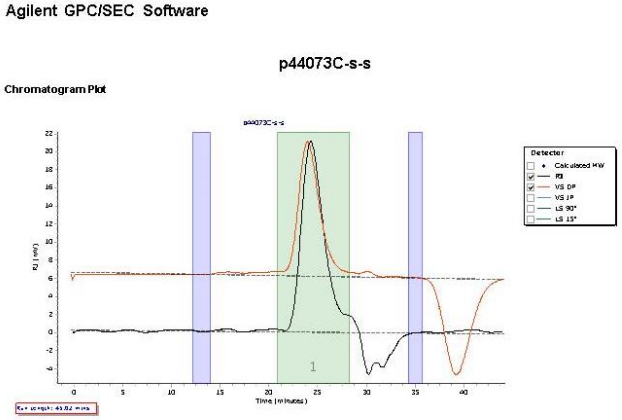
Chemical shifts assignments



^{1}H–NMR of the PCL bearing disulfide linkage:



SEC profile of PCL–SS–PCL:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	3973	2771	3817	4905	6163	4733	1.378