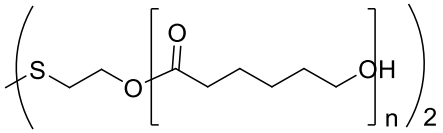
Sample Name: **Poly(ε-caprolactone), α,ω-bis(hydroxy)-terminated; with disulfide group in center of polymer chain**

Sample #: **P44073-CL-disulf**

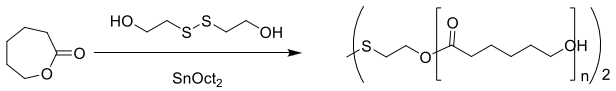
Structure:



Composition:

$M_n \times 10^3$ HO–PCL–SS–PCL–OH	PDI
5.4	1.09
SS functionality ≥95%	

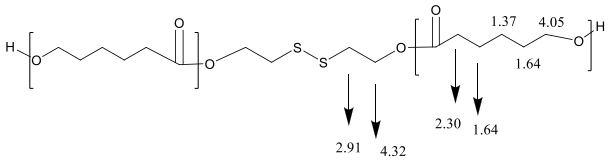
Synthetic Procedure: (-S–PCL)$_2$ is prepared by ring–opening polymerization of ε–caprolactone using disulfide–based initiator. The scheme of the reaction is illustrated below:



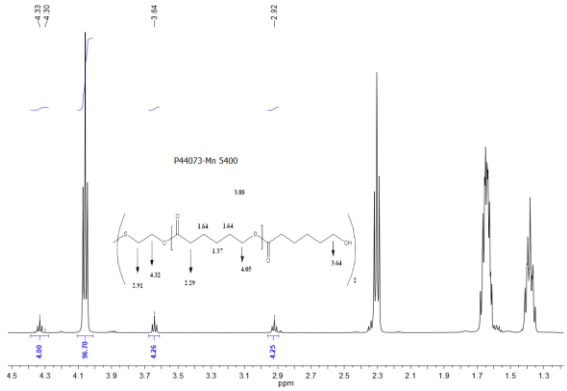
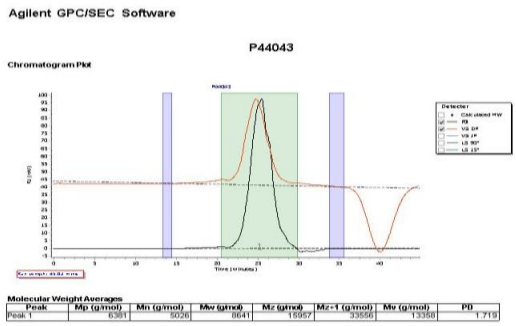
Characterization:
PCL bearing the disulfide linkage was analyzed by size exclusion chromatography with light–scattering detector (SEC–LS) to obtain the M_n and polydispersity (PDI).

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 of PCL–SS–PCL: