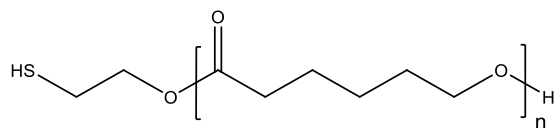


Sample Name: α -Thiol- ω -Hydroxy-terminated

Poly(ϵ -caprolactone)

Sample #: P44052-CLOHSH

Structure:

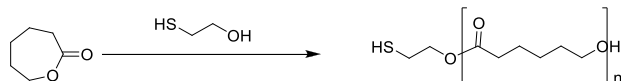


Composition:

$M_n \times 10^3$ HS-PCL	PDI
3.5	1.5
SH functionality $\geq 60\%$ (NMR)	
Contains DTT as stabilizer	

Synthetic Procedure:

HS-PCL is prepared by ring-opening polymerization of ϵ -caprolactone using mercaptoethanol as an initiator. The scheme of the reaction is illustrated below:



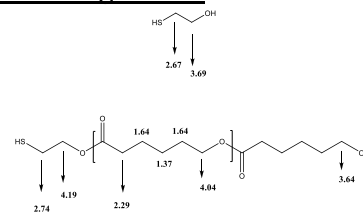
Solubility:

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.

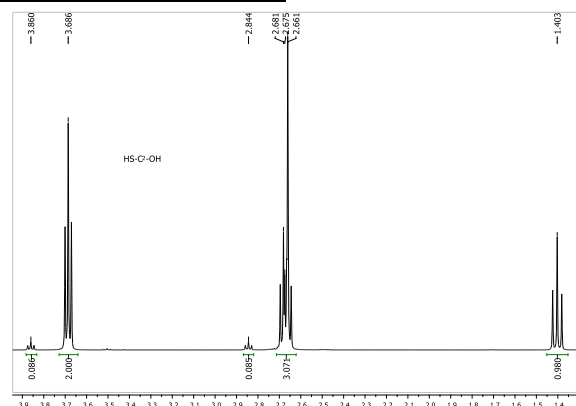
Characterization:

PCL bearing free thiol end was analyzed by size exclusion chromatography (SEC) using light-scattering detector to obtain the polydispersity index (PDI) and M_n . Percentage of thiol functionality was determined from the integrals ratio of the peaks at 3.64 and 2.74 ppm. Amount of PCL with disulfide linkage is $<10\%$. Peak at 3.53 ppm is assigned to terminal CH_2Cl group.

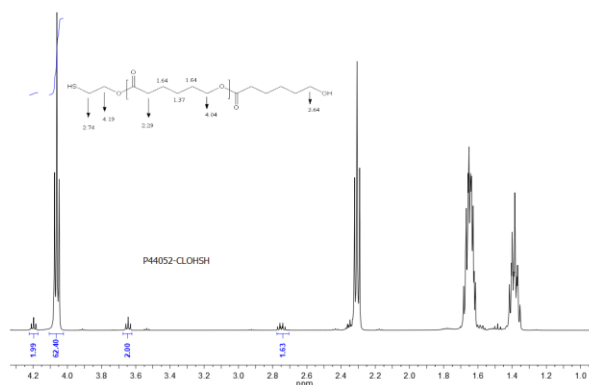
Chemical shifts assignments



^1H -NMR of the Initiator:



PCL with free Thiol End group



SEC of the polymer:

