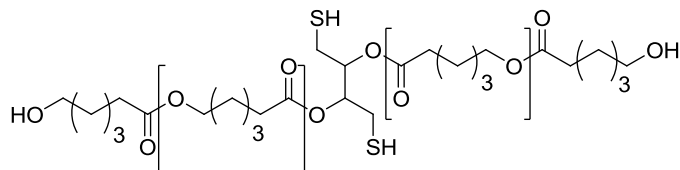


Sample Name: Dithiol functionalized Poly(ϵ -caprolactone), thiols located in the middle of the backbone

Sample #: P20103-CL2SH

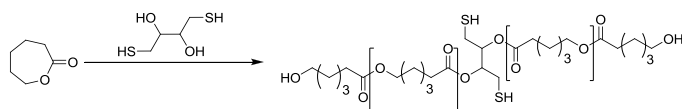


Composition:

$M_n \times 10^3$ PCL-2SH	PDI
3.6 (NMR)	1.2
SH functionality $\geq 98\%$ (NMR)	

Synthetic Procedure:

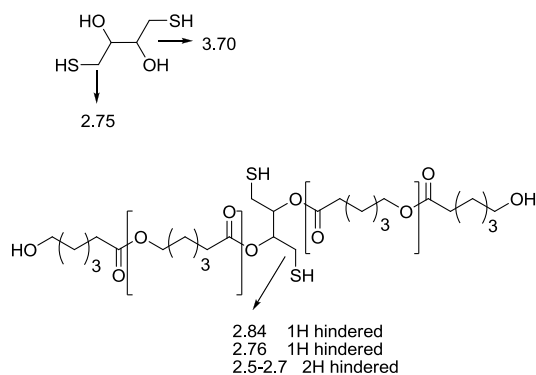
PCL-2SH is prepared by ring-opening polymerization of ϵ -caprolactone using dithiothreitol (DTT) as an initiator. The scheme of the reaction is illustrated below:



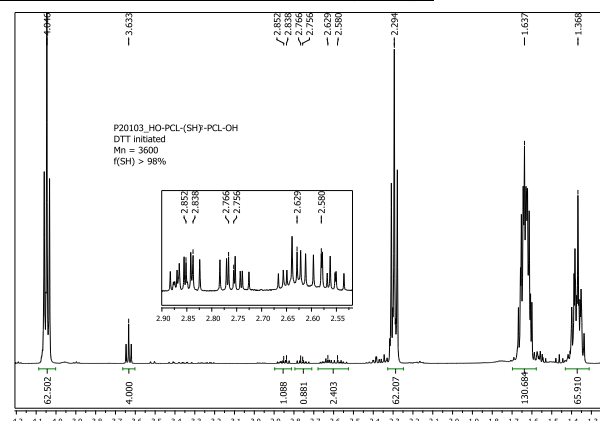
Characterization:

PCL bearing free thiols was analyzed by size exclusion chromatography (SEC) to obtain the polydispersity (PDI). M_n was estimated by NMR. Percentage of thiol functionality was determined from the integrals ratio of the peaks at 3.64 and 2.84 ppm.

Chemical shift assignments

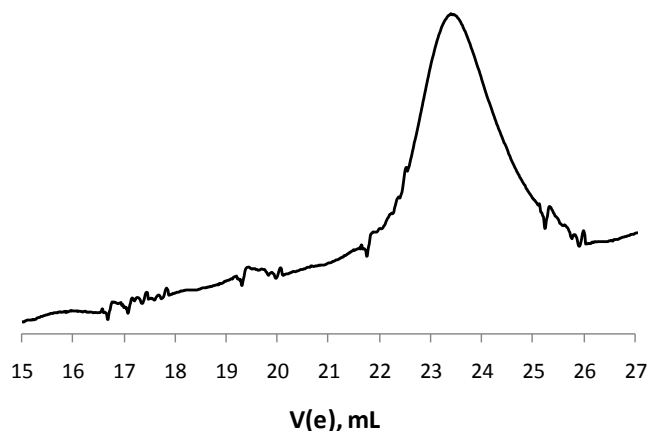


NMR of PCL with free Thiol groups



SEC of the polymer:

P20103-CL2SH



N.B.: Certain broadening of the elugram might be due to the strong interaction of SH-groups with the column packing material

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.