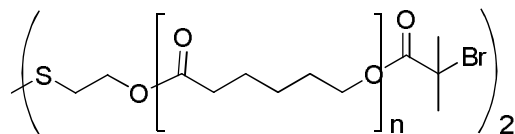


Sample Name:

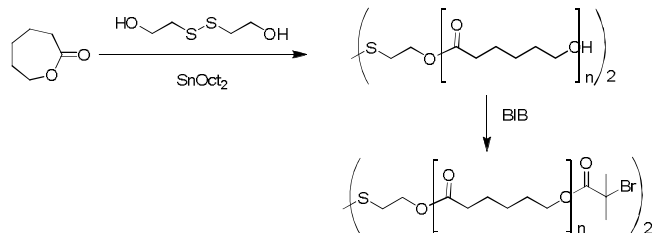
α,ω -bis(Bromo)-terminated Poly(ϵ -caprolactone),
bearing dithiodiethanol core

Sample ID: P20007B-CL2Brdisulf

Structure:**Composition:**

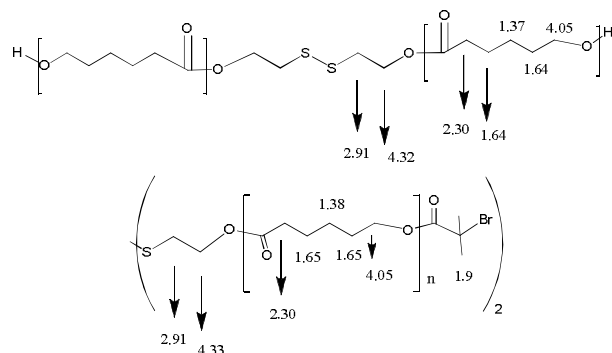
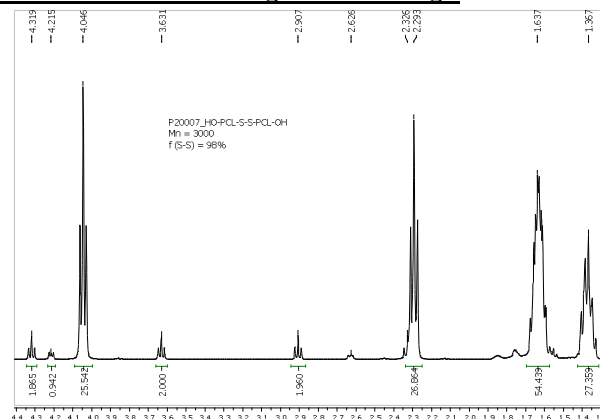
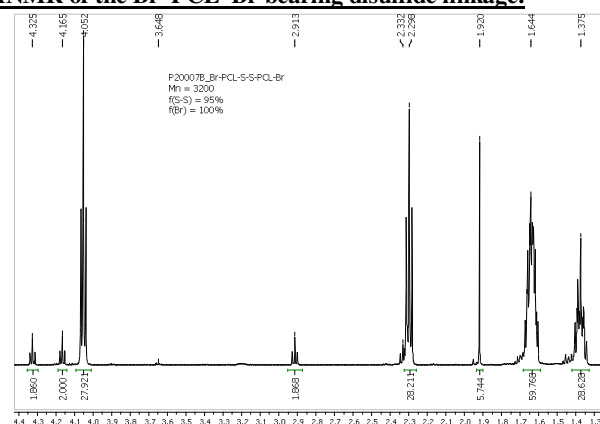
$M_n \times 10^3$ Br-PCL-SS-PCL-Br	PDI	SS / Br functionality
3.2 (by NMR)	1.22	$\geq 95\%$

Synthetic Procedure: (-S-PCL-Br)₂ is prepared by ring-opening polymerization of ϵ -caprolactone using disulfide-based initiator, followed by reaction with 2-bromoisobutryl bromide (BIB). The scheme of the reaction is illustrated below:



Characterization: PCLs bearing the above functionality were analyzed by ¹H NMR and size exclusion chromatography (SEC) to obtain the M_n and polydispersity, respectively. Completeness of BIB functionalization was judged from disappearance of the peak at 3.64 ppm.

Solubility: Poly(ϵ -caprolactone) is soluble in CHCl₃, Acetone, THF, insoluble in methanol, ethanol. Precipitated from Acetone or CHCl₃ into hexane/EtOH or ether/EtOH.

Chemical shifts assignments**¹H-NMR of the PCL bearing disulfide linkage:****¹HNMR of the Br-PCL-Br bearing disulfide linkage:****SEC of BrPCL-SS-PCLBr:**