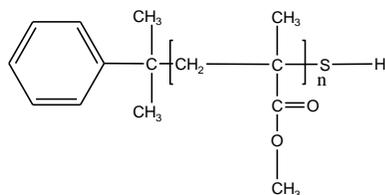


Sample Name:

Thiol Terminated Poly(methyl methacrylate)

Sample #: P5741-MMASH

Structure:

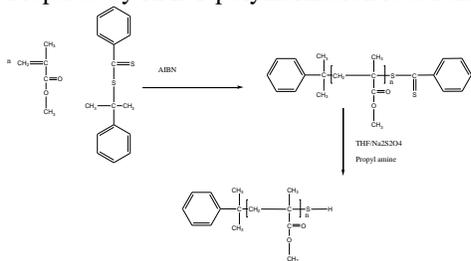


Composition:

Mn x 10 ³	PDI
3.0	1.3
Syndio:hetero:iso ratio	63:35:2

Synthesis Procedure:

Prepared by RAFT polymerization reaction:



Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Reduction of the Dithioester Termini by Aminolysis.

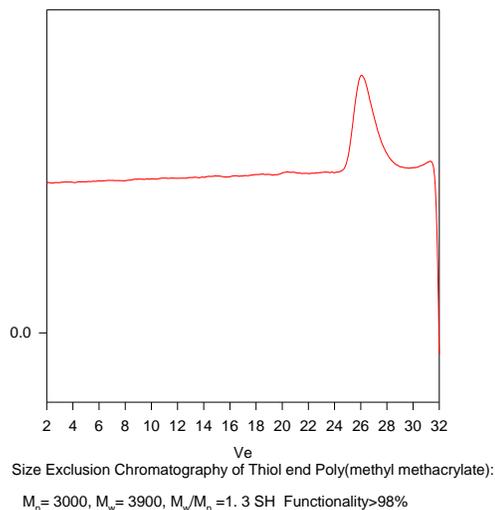
The ω -dithioester end-capped polymers were dissolved in THF containing a few drops of aqueous sodium bisulfite ($\text{Na}_2\text{S}_2\text{O}_4$). The reaction mixture was purged of argon by bubbling with Ar for 15 min or by three successive freeze-pump-thaw cycles. Propylamine (degassed) was then added in excess via syringe, and the reaction was stirred overnight under Ar. Upon the addition of the propylamine, an immediate color change from pink to yellow was observed which is indicative of the loss of the dithioester end groups. The reaction mixture was then added dropwise to 10-fold excess of methanol, and the polymer was collected by filtration. This process was repeated 3–5 times to obtain the pure ω -thiol monochelics PMMA.

Solubility:

SH terminated PMMA is soluble in DMF, THF, toluene, and CHCl_3 . It precipitates from methanol, hexane and water.

SEC of Sample:

P5741-MMASH



NMR spectrum of Polymer:

