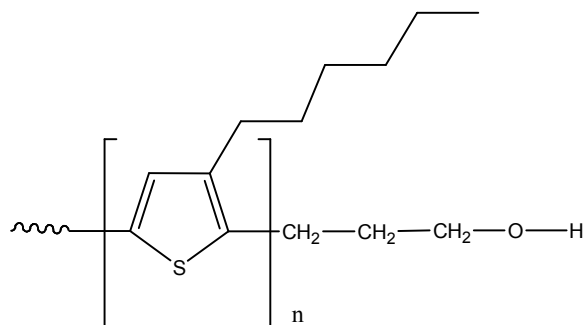


Sample Name:
Hydroxy end functionalized Poly(3-hexyl thiophene)

Sample #: P13178-3HTOH

Structure:



Composition:

Mn x 10 ³	PDI	Regioregularity of P3HT
18.0	1.28	~90% (H-T)

Synthesis Procedure:

Purification of polymer:

The crude polymer was recovered from reprecipitation into methanol. The inorganic salts were removed by using a Soxhlet extractor with Methanol.

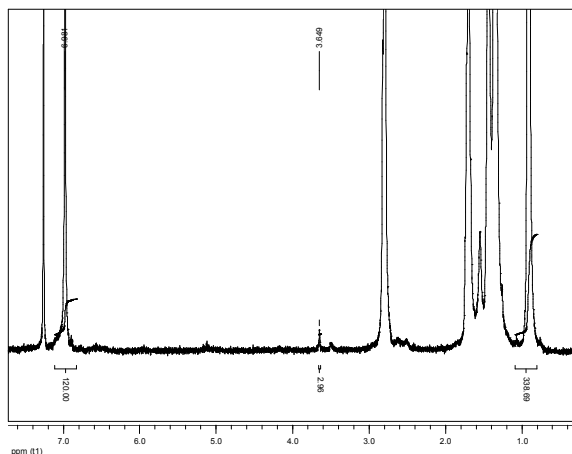
Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF or Chloroform. 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. The molecular weight is calculated based on polystyrene standards. The NMR spectrum was recorded in deuterated chloroform to determine the functionality and the composition of copolymer.

Solubility:

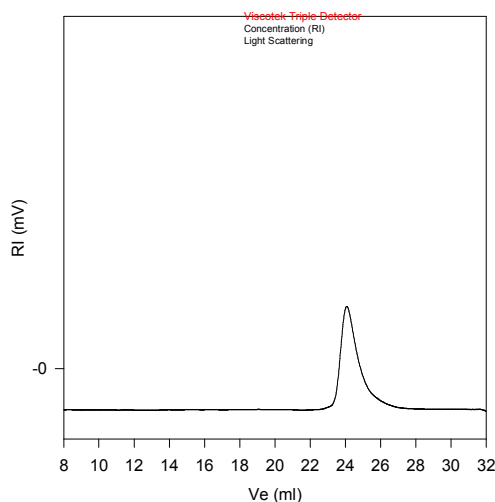
OH end terminated Poly(3-hexyl thiophene) is soluble in THF, Toluene and CHCl₃. It precipitates from methanol and acetone.

H NMR of OH terminated poly(3-hexylthiophene):



SEC profile of polymers:

P13178-3HTOH



Size Exclusion Chromatography of the polymer:

— Poly Hexyl Thiophene Hydroxyl terminated: Mn 18000 M_w/M_n = 1.28

— dn/dc in THF 0.181 ml/g