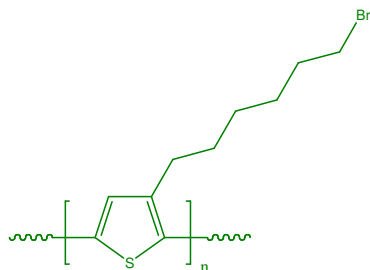


Sample Name: Poly(3-(6-bromohexyl) thiophene)

Sample #: P19731-3(6BrH)Th

Structure:



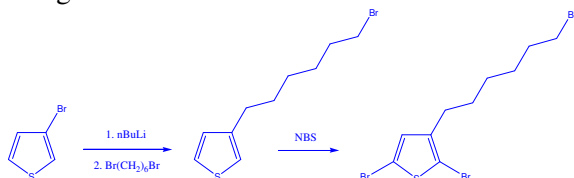
Composition:

Mn x 10 ³	PDI	Regioregularity
15.5	1.55	~90% (H-T)

Synthesis Procedure:

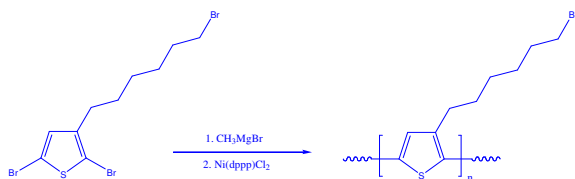
Monomer synthesis:

2,5-Dibromo-3-(6-bromohexyl) thiophene was prepared according to literature, the brief synthetic procedure as following:



Polymerization:

The obtained monomer was polymerized by the means of Grignard metathesis (GRIM).



Purification of polymer:

The crude polymer was recovered from reprecipitation into methanol. The inorganic salts were removed by using a Soxhlet extractor with Methanol. The pure polymer was dissolved in chloroform by the same extractor.

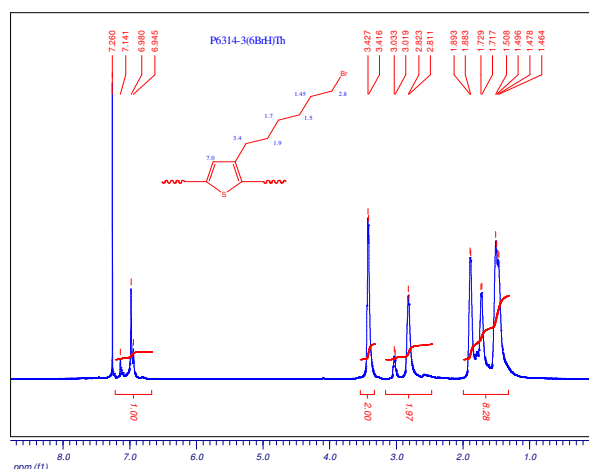
Characterization:

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.

Solubility:

Poly(3-(6-bromohexyl) thiophene) is soluble in THF, Toluene and CHCl₃. It precipitates from methanol.

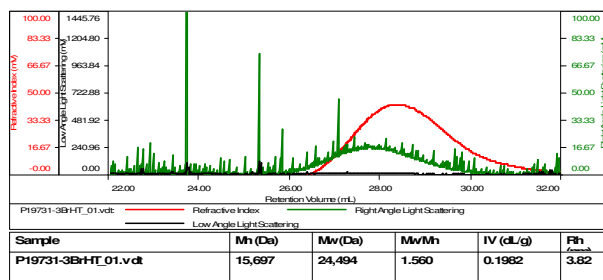
¹H NMR spectrum of polymer:



SEC elugram of Homopolymer:

Sample ID-P19731-3BrHt

Concentration (mg/mL)	0.5000
Sample dn/dc (mL/g)	0.1850
Method File	P530K-Jan-2016-0000.vcm
Column Set	3x PL 1113-6000
Solvent	THF



Reference:

Lei Zhai, et al. *Macromolecules*, 2003, **36**, 61-64