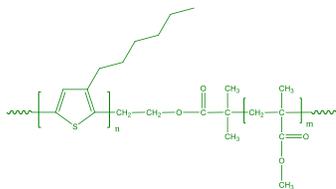


**Sample Name:** Poly(3-hexylthiophene-2,5-diyl)-b-poly(methyl methacrylate), diblock copolymer

**Sample #:** P43293A-3HTMMA

**Structure:**



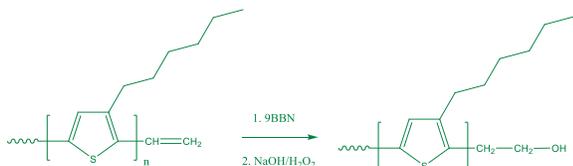
**Composition:**

Mn x 10 <sup>3</sup> (3HT-b-MMA)	PDI	Regioregularity of P3HT
10.0-b-8.0	1.3	~90% (H-T)

**Synthesis Procedure:**

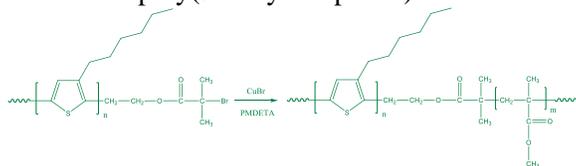
**Hydroxy terminated poly(3-hexylthiophene):**

Hydroxy terminated poly(3-hexylthiophene) was prepared according to literature, The following reaction scheme shows how the product was prepared:



**Block copolymer:**

MMA was polymerized by ATRP with bromide terminated poly(3-hexylthiophene) as initiator.



**Purification of polymer:**

The crude polymer was recovered from reprecipitation into methanol. The inorganic salts were removed by using a Soxhlet extraction with Methanol and homopoly hecyl thiophene was removed by extraction with hot cyclohexane. The pure polymer was dissolved in chloroform and precipitated in cold acetone.

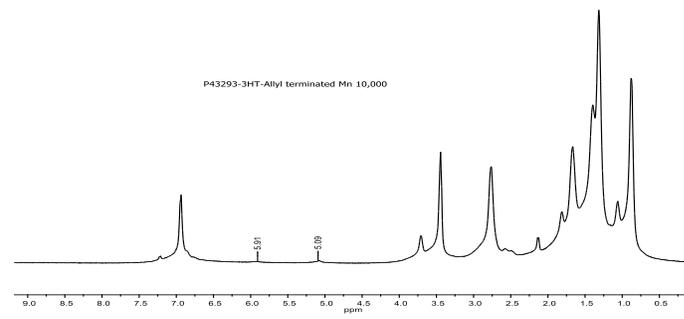
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR data analysis.

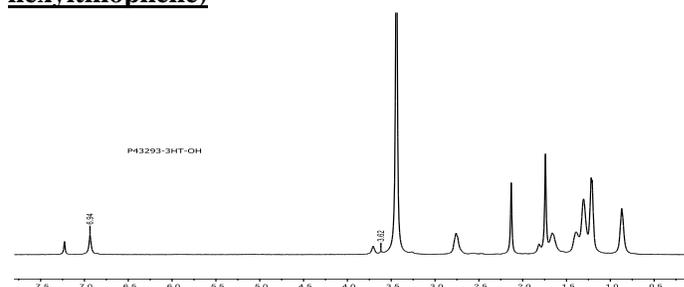
**Solubility:**

Poly(3-hexyl thiophene-b-MMA) is soluble in THF, Toluene and CHCl<sub>3</sub>. It precipitates from methanol and hexane.

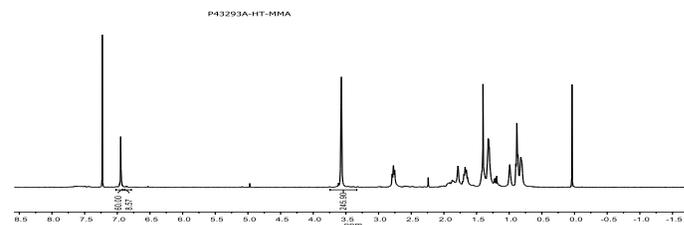
**H NMR of Allyl terminated poly(3-hexylthiophene):**



**H NMR spectrum of OH terminated poly(3-hexylthiophene)**



**H NMR spectrum of 3HT-b-MMA Sample:**



**SEC elugram of the Sample:**

