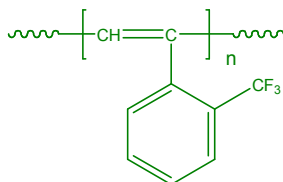


**Sample Name: Poly(o-(trifluoromethylphenyl) acetylene)**

**Sample #: P4759-oTFMPA**

**Structure:**

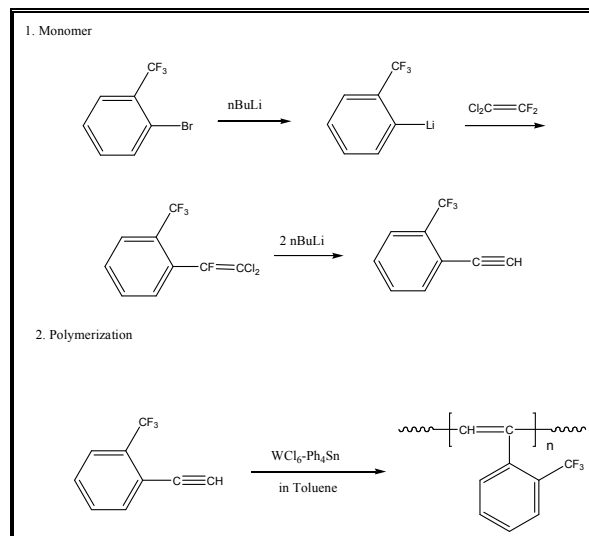


**Composition:**

Mn x 10 <sup>3</sup>	PDI
162.4	3.06

**Synthesis Procedure:**

Poly(o-trifluoromethylphenyl acetylene) is obtained by polymerization of o-trifluoromethylphenyl acetylene under the catalysis of  $WCl_6$  with tetraphenyltin as the cocatalyst in Toluene at 0°C. The scheme of the reaction is illustrated below. The resulting polymer was precipitated in methanol.



**Purification of the polymer:**

The crude polymer was redissolved in toluene. The resulting clear red color solution was precipitated in cold methanol and dried under vacuum at room temperature.

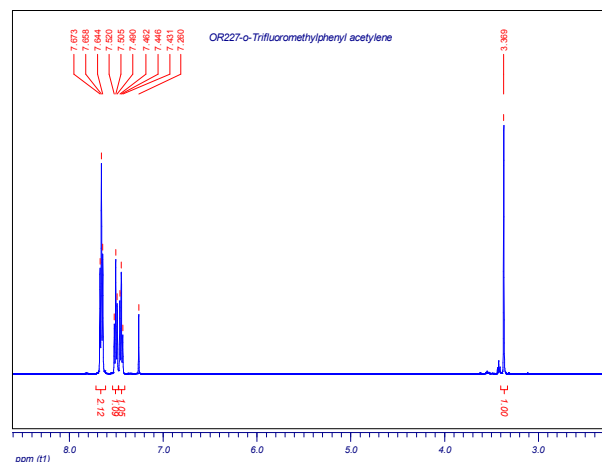
**Characterization:**

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.

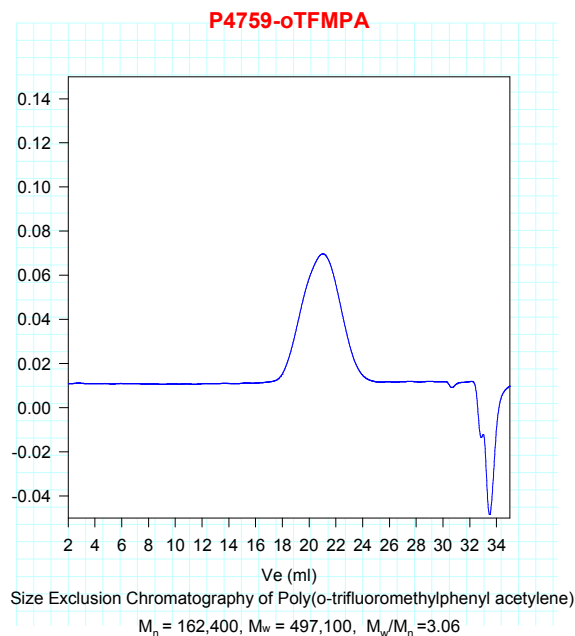
**Solubility:**

oTFMPA is soluble in THF, Toluene and  $CHCl_3$ . It precipitates from methanol.

**H NMR of Monomer:**



**SEC of Homopolymer:**



**Reference:**

1. Toshio Masuda, et al., Macromolecules, 1988, 21(2), 281-286.
2. Kunio Okuhara, J. Organic Chemistry, 1976, 41(9), 1487-1494.