

Exploration of Alkyne-Based Multilayered 3D Polymers and Oligomers: Subtle Aggregation-Induced Emission, Chromium(VI) Ion Detection, and Chiral Properties Characterization

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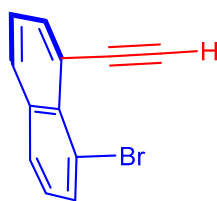
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General Information

All processes were magnetically stirred in oven-dried glassware with anhydrous solvents under Ar. Syringes, stainless steel or polyethylene cannulas, rubber septa, or a weak Ar counter-flow adding solvents, liquids, and solutions. Ice/water (0 °C) or dry ice/acetone (-78 °C) cooling baths were created in Dewar vessels. High-temperature processes used heated oil baths. Rotavapors at 40-65 °C eliminated solvents. All yields are separate chromatographic and NMR yields.

Without additional purification, all commercially accessible compounds were utilized as received. Without further purification, solvents such CH₃OH, toluene, EA, ether, DCM, dioxane, and acetone were employed. An innovative technology solvent system delivers THF and DCM.

On 400 MHz and 500 MHz instruments with TMS as an internal standard, the ¹H and ¹³C NMR spectra were captured. The residual solvent signal (= 7.26 for CDCl₃) was utilized to reference the ¹H NMR spectra. The signal of the solvents was employed in the ¹³C NMR spectra (= 7.16 for CDCl₃ and). Chemical shifts (δ) about TMS were reported in ppm. Chemical shift, multiplicity (singlet, doublet, triplet, multiplet), coupling constant (J, Hz), and integration are used to describe the data. The TOSOH EcoSEC HLC-8420 GPC, which has a dual-flow refractive index detector, was used to collect GPC data. Along with the RI detector, a UV detector is also provided for UV-visible polymers. The range of the installed columns is 500-107 Da. Samples were conducted at a flow rate of 0.7 mL/min for 25 minutes. Our investigations used polystyrene (PS) standards for calibration.



1A

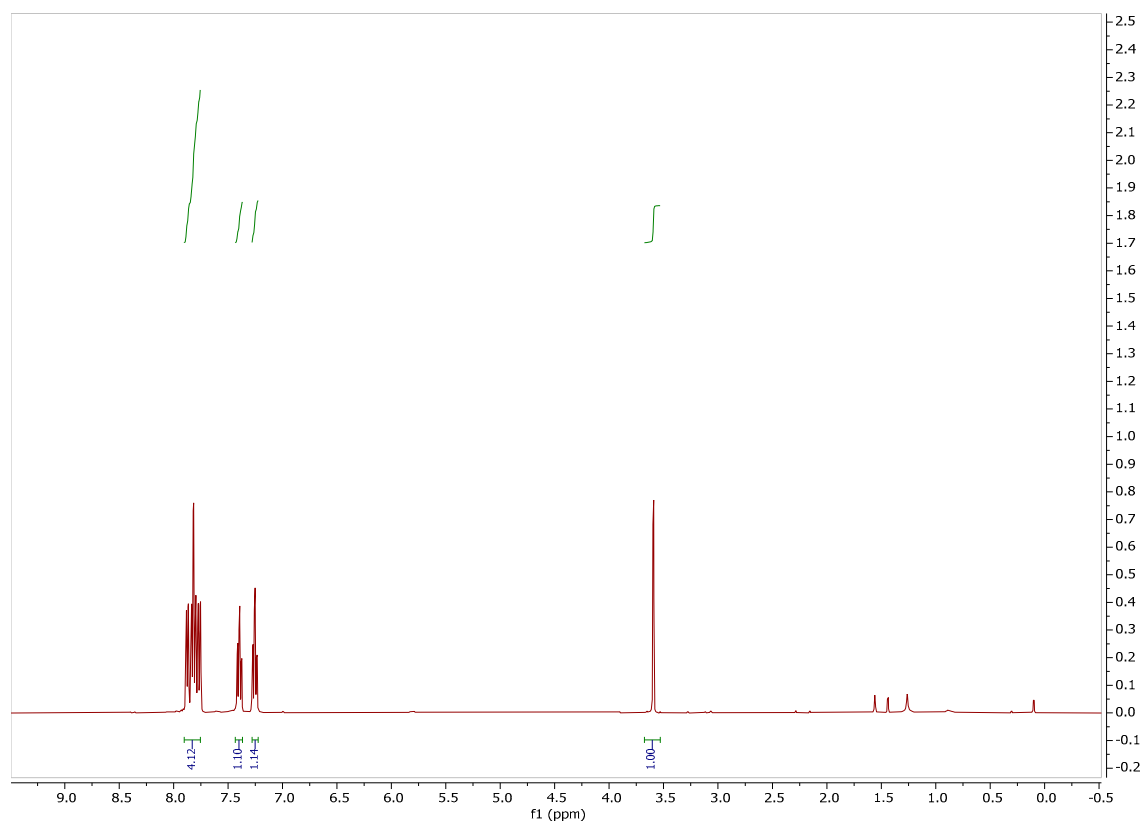
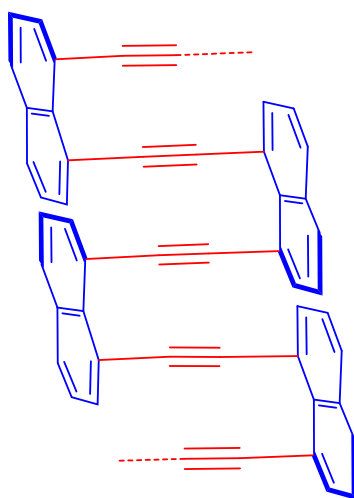


Figure S1. ^1H NMR spectrum of **1A**



2A

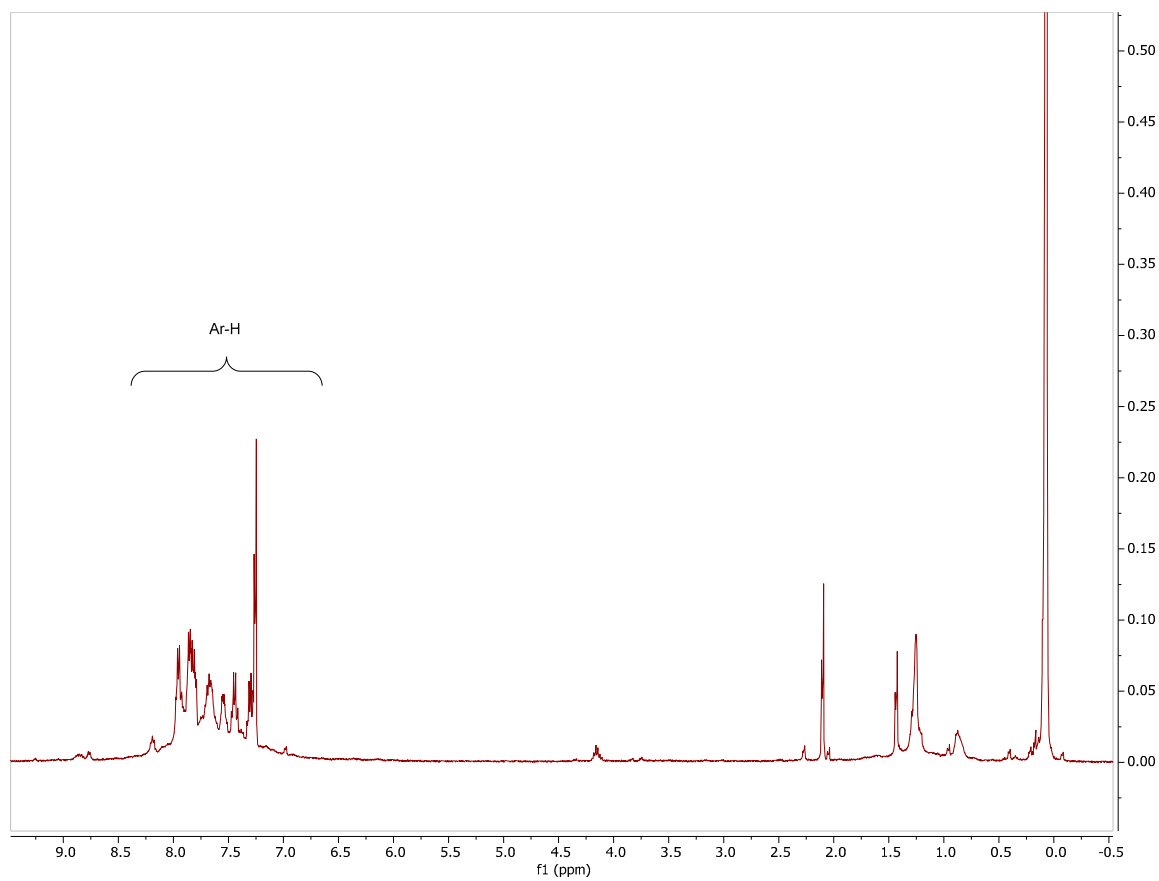


Figure S2. ¹H NMR spectrum of **2A**

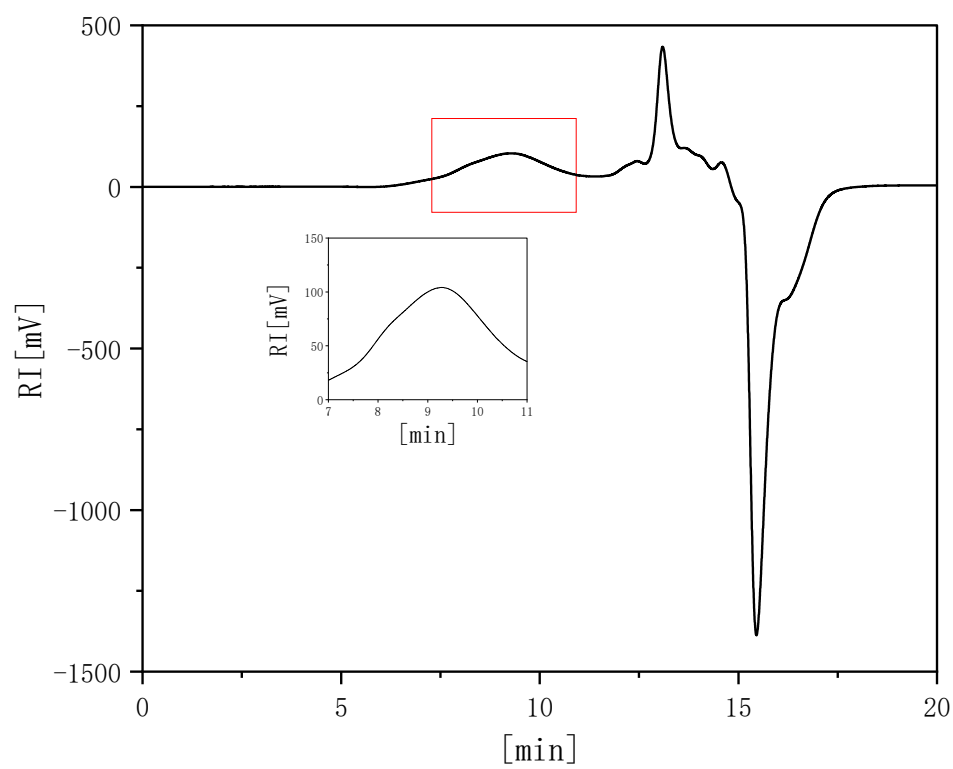
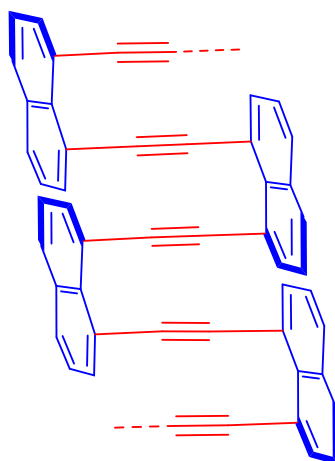


Figure S3.GPC data of **2A**



3A

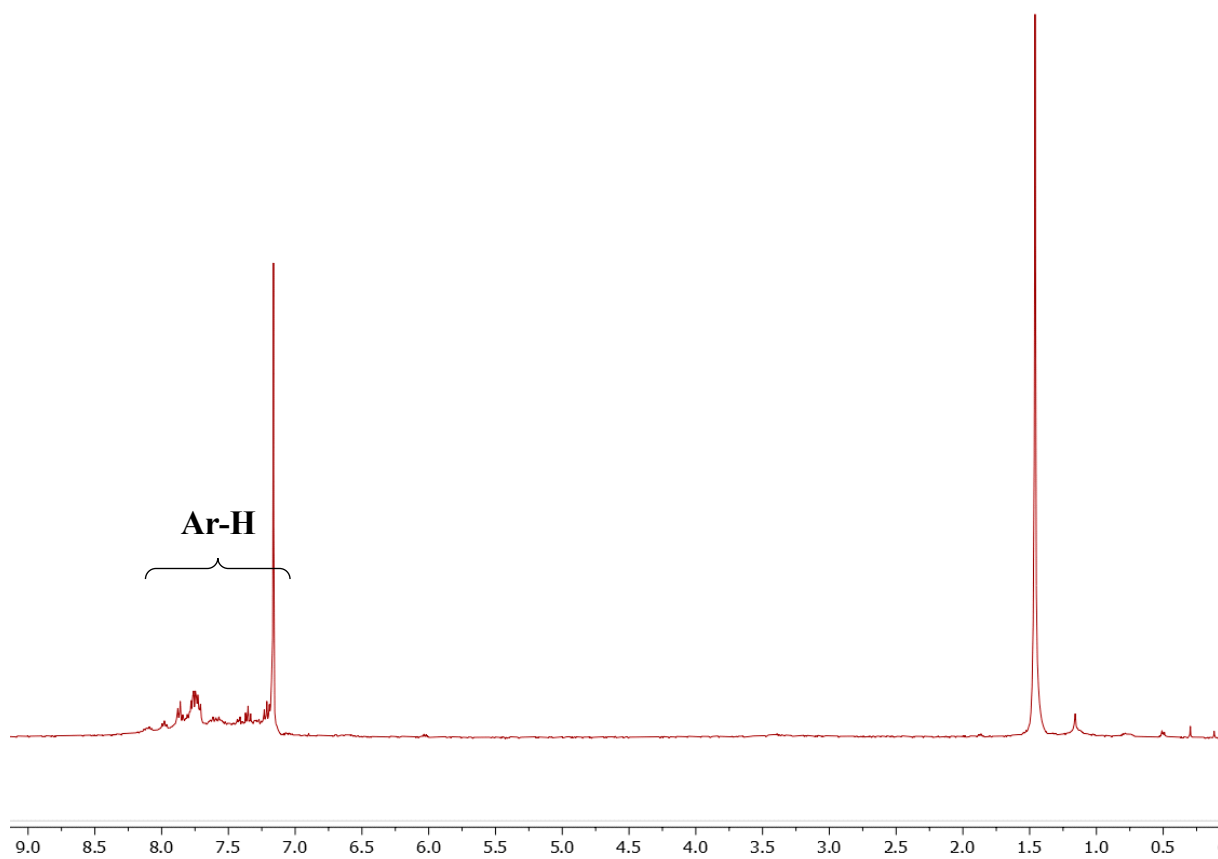


Figure S4. ^1H NMR spectrum of **3A**

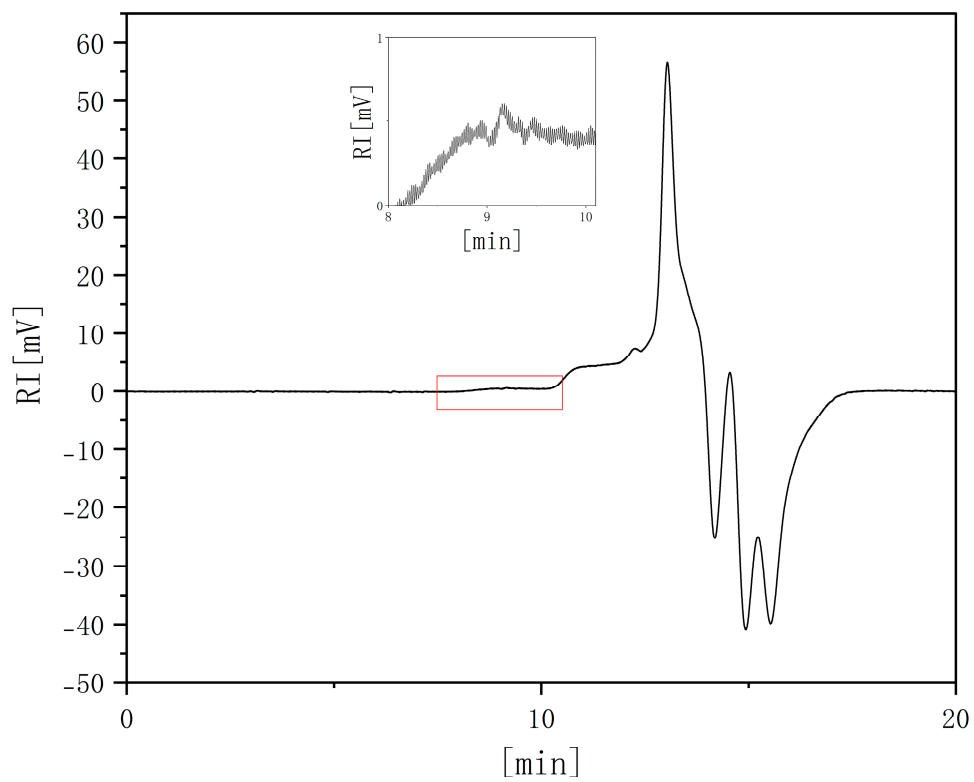


Figure S5. GPC spectrum of 3A

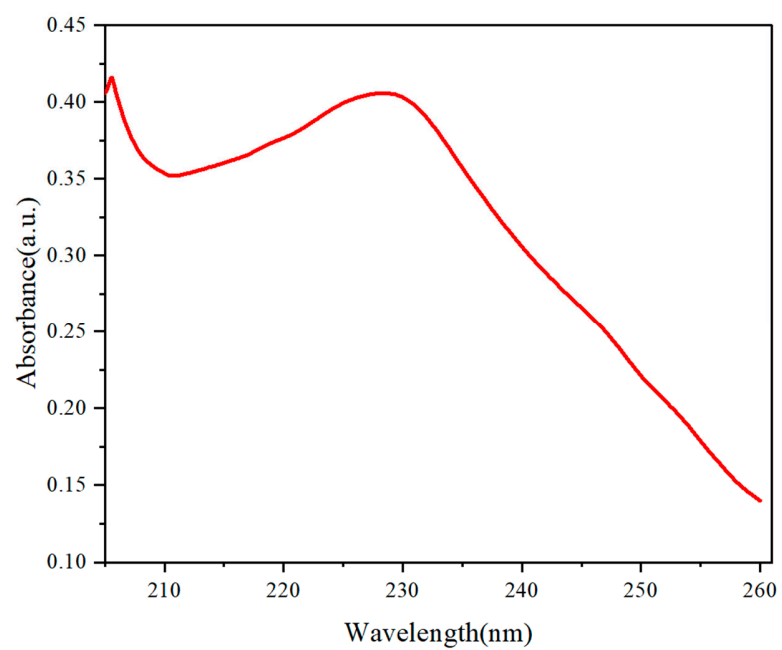


Figure S6. UV range of CD Spectra