General procedure for the synthesis of S-1, S-2. (Scheme S-1).

**Synthesis of alkynylalcohol S-1**: Phenylacetylene was dropped to a solution of Grignard reagent of bromoethane. The mixture solution was stirred for 15 minutes at 50 °C. Cyclohexanone (4 m mol, 392 mg) in 3 mL THF was added dropwise to the reaction mixture at r.t. and stirring for 2 h. The reaction mixture was diluted with aqueous saturated ammonium chloride and then extracted with EtOAc. The combined extract were washed with brine. The solvent was evaporated and residue upon workup was chromatographed on silica gel with petroleum ether-EtOAc (20:1v/v) as eluent to give alkynylalcohol S-1 as a colorless solid 712 mg (90%).

**Synthesis of 1-(2-cyclohexenylethynyl)benzene S-2**: CH$_3$SO$_2$Cl (1.55 mmol, 177 mg) and Et$_3$N (1.55 mmol, 157 mg) was added at 0°C to a solution of S-1 (1.55 mmol, 461 mg), this mixture was refluxed for 3 hours and then splashed to a aqueous saturation ammonium chloride solution, then extracted four times with EtOAc, the solvent was evaporated and the column chromatography(silica gel, petroleum ether) give enyne S-2 (327 mg,75%) as a light yellow oil.


2b

Chemical structure diagram