

## Fabrication of Two Dimensional Organic Structure of Diacetylene

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Nanostructures have unique optical and electronic properties, which could lead to application in nanoscale device as an electrochemical sensor, light emitting diodes, field effect transistors and so on. Particularly, Two -dimensional (2D) structure materials are basic geometry for control of interfacial properties and device applications.

The common method to fabricate these structures rely on using liquid/solid, liquid/air interfaces, chemical (physical) vapor deposition and exfoliation from layered crystals. However, the direct access to tailored, dispersible materials with controlled surface chemistry is limited by the typical methods and there are a few researches of such structures prepared by aqueous self -assembly.

In this study, we present methods which benefit is easy and quick way to form a 2D structure of diacetylene in solution self -assembly. The material used to our research is conjugated polymer that has electrical and optical properties. The investigation in combination with UV -visible and PL analysis allowed us to obtain detailed molecular properties for sensing application.