

Topic for a Bachelor Thesis

„Linking Phase Transitions of Organic Materials to their respective electronic Organic-Thin-Film transistor response “

In recent years, new optoelectronic devices based on organic thin films have entered the market. Organic light emitting diodes (OLED), organic thin film transistors (OTFT) and organic solar cells (OSC) are the most prominent applications known for unique properties including flexibility and transparency. However, there are still challenges to improve the performance and efficiency of organic electronics. Therefore, it is important to get a fundamental understanding of the physical processes regarding the boundary between the anorganic contact and the organic functional layer.

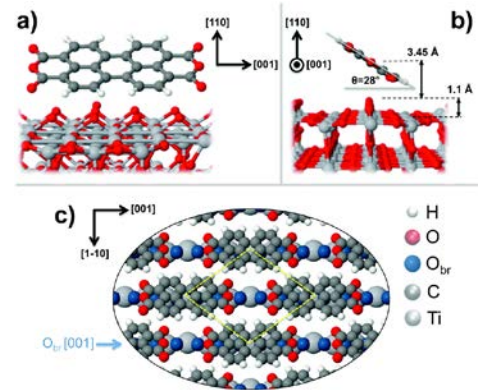


Fig 1: Growth modes of an organic molecule

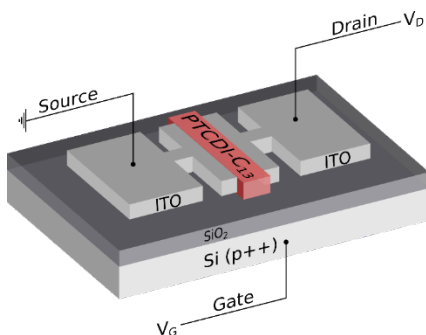


Fig 2: Sketch of an organic thin film transistor as will be used in the scope of the thesis.

(red in Figure 2).

Afterwards the electrical properties of the transistor are measured and will be compared to the phase transitions observed by the DSC.

What you should contribute:

- Interest and enthusiasm for scientific research
- Interest in learning the necessary tools to process thin films in vacuum systems
- Ability to work in a team
- Experimental skills
- Basic knowledge in data analysis

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