***“Your Molecule”*: A Molecule Story**

Please note that depending on molecule, not all questions might be relevant. Those questions are meant to help you with combine relevant information for the essay and its role in organic electronics. 10 pages maximum, reference not included. Essay novelty will be checked with Turnitin.

**Abstract (3)**

Brief summary of the content of the essay. An outline might be included here.

**“*Your Molecule*“ and its structure (5)**

What is the structure of the molecule?

Which properties does the structure confer to the molecule?

What it the HOMO, LUMO?

What are the main properties and role of this molecule? (OSC, host, guest, injection/blocking layer, light emitting or conductive polymers, etc.)

**“Your Molecule” properties (15)**

* **Electrical properties**

Does the molecule have specific electrical properties? (mobility, doping level, etc.)

Which is its use? (*p*- or *n*-transport, ambipolar material, host, guest, injection/blocking layer)

Is any study of mobility available? (function of temperature, thickness, growth parameters, etc.)

* **Optical properties**

Does the molecule have specific optical properties? (UV absorption, TADF, luminescence in various forms such as crystals, thin-film or solution)

* **Morphology**

How does this molecule packs? Is there a typical morphology for this molecule? (if yes, please share some images – STM/AFM/SEM or anything you can find)?

Does the molecule have *different packing scheme* leading to different properties? is there a common morphology?

**Device using “Your Molecule” (15)**

* **Device**

Given molecule´s properties, what is the most common device platform in which it is used?

Which is the role of the molecule in this molecule?

Is it possible to tune molecule properties to improve device properties (*i.e.* thickness, dye concentration, electrodes materials, doping? etc….)?

Most common device configuration for this molecule?

Please provide example for the use of this molecule from recent literature?

* **Applications**

Any of the above use of the molecule in a device leading to some applications? (sensors, light emission or sensing)

**REFERENCES (2)**

(1)

(2)

(3)

Note: ***Always cite your sources*** when you are sharing information (scientific papers and books are preferred, Wikipedia is not a *peer-reviewed* source).