Laboratoire PPSM – UMR CNRS 8531

Photochimie et Photophysique Supramoléculaires et Macromoléculaires

Séminaire PPSM

Lundi 24 Juillet 2017 - 11h00

Auditorium D. Chemla - Bâtiment IDA

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«Phthalocyanine Functionalization and Application in Optoelectronic Device : transistor and solar cells»

Small molecules and oligomers with delocalized π-electron conjugated systems have been the subject of intense attention because of their promising photophysical and transport properties. As one class of these materials, phthalocyanines (Pcs) are receiving a surge of interest in the field of organic semiconductors because of their high chemical/thermal stability, unique electronic structures, and strong intermolecular interactions in the condensed phase. Many Pc-based electronic devices, such as organic light-emitting diodes, organic field-effect transistors (OFETs) (Figure 1), and organic photovoltaics (Figure 2) have been studied and found to exhibit promising device performance. During the past several decades, numerous studies have been conducted to develop new soluble Pcs. In particular, Pcs functionalized with alkyl substituents on the peripheral benzene rings are of immense interest and can be used in various optoelectronics devices as light absorption, hole injection,[1] hole transporting.[2]

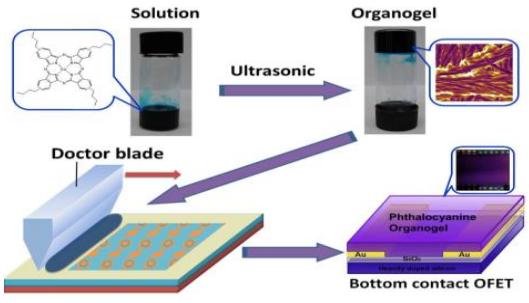

Fig. 1 Phthalocyanine application in printing transistor

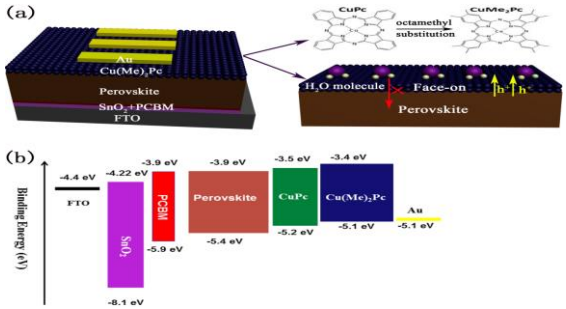

Fig. 2 Phthalocyanine application in perovskite solar cell

Keywords: Phthalocyanine, transistor, perovskite solar cell

Reference:

[1] Xu, J.; Wang L.; Shan Q.; Lin W.; Chen Q.; Roy V A L.; Xu Z X. *ACS Appl. Mater. Interfaces* **2016, 8:** 18991
[2] Yang G.; Xu, J.; Wang L.; Shan Q.; Xu Z X.; Fang J. *Nano Energy* **2017, 31:** 322

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