

Development of Light-Harvesters for Photonic Devices: From Structure to Function

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Small organic molecules with suitable photophysical and electronic properties have attracted great attention towards Hi-tech applications based on photonic devices, such as dye sensitized solar cells, organic solar cells, emissive displays such as organic light emitting devices; electronic materials, such as organic semiconductors and security printing. Organic solar cells or organic photovoltaics are emerging as one of the promising technologies for renewable energy sources because of their potential low-cost fabrication, color-tunable feature, and mechanical flexibility. Many research activities have endeavoured to develop new organic materials and device configurations for improving the efficiency and practical durability of the devices. Our research groups are actively demonstrating development of new and stable organic molecules for various applications. In this event, I will be presenting our recent development on hole-transport materials for perovskite solar cells. The talk will start with a brief introduction of solar cells followed by industrial application and commercialization of dye molecules Figure 1.

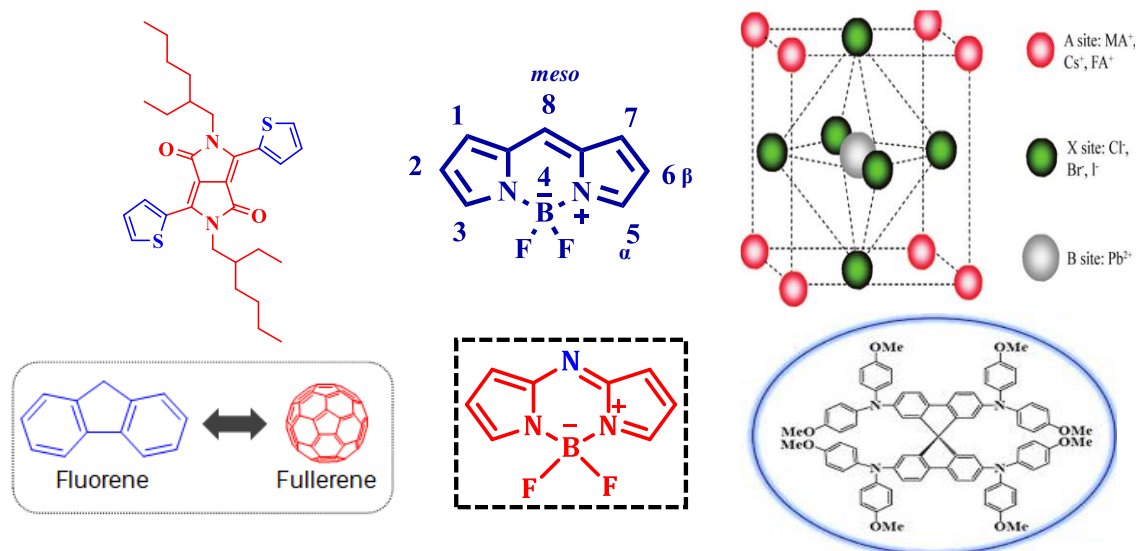


Fig. 1. Molecular Representation of Functional π -Conjugated Small Molecules