

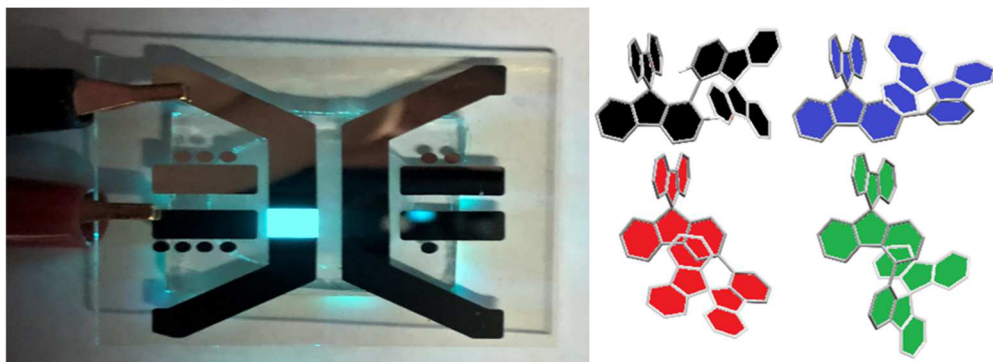
# Regioisomerism in Organic Electronics: Designing Host Materials for High Performance Blue Phosphorescent OLEDs

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Organic electronics have imposed a strong demand on  $\pi$ -conjugated molecules and the synthesis of new materials with specific properties is strongly developed worldwide. Regioisomerism is an important concept in organic chemistry which can have remarkable consequences on the properties of molecules. Indeed, a simple structural modification can drastically influence the electronic and physical properties of an organic semi-conductor (OSC), which in turn strongly modifies the performance and stability of the corresponding electronic device. Although very appealing, this concept remains nevertheless rarely used in optoelectronics. Herein, we will investigate the impact of regioisomerism to finely tune the singlet and triplet energies of different classes of materials, from dihydroindenofluorene to fluorene isomers, leading to highly efficient optoelectronic devices. Different molecular designs of high triplet energy host materials incorporating various electron withdrawing and/or electron donating fragments for high performance green and blue Phosphorescent OLEDs will be presented.<sup>[1-11]</sup>



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