

Phthalocyanines as components of photovoltaic and artificial photosynthetic systems

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Porphyrinoids are employed as components of photovoltaic and artificial photosynthetic devices. However, synthetic porphyrin analogues such as phthalocyanines [1-3] have the advantage, as photon harvesters, of exhibiting very high extinction coefficients in a wavelength range that extends to around 700 nm, where the maximum of the solar photon flux occurs. Consequently, Pcs have emerged as excellent light harvesting antennas for incorporation into donor-acceptor systems, mainly in connection with carbon nanostructures as acceptor moieties. Phthalocyanines (Pcs) constitute also promising dyes as DSC photosensitizers. [4]

On the other hand, Subphthalocyanines (SubPcs) [5,6] are the lowest homologues of phthalocyanines. Their pi-electron aromatic core along with their non-planar cone-shaped structure make them attractive compounds with singular chemical and physical properties. Subphthalocyanines are currently emerging as excellent chromophoric systems for studying electron and excitation transfer processes with applications in photovoltaic devices.

During this talk an overview of the results obtained by our group in Madrid will be given.

References

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