

Supramolecular structures of amphiphilic dyes for photochemical and photophysical applications

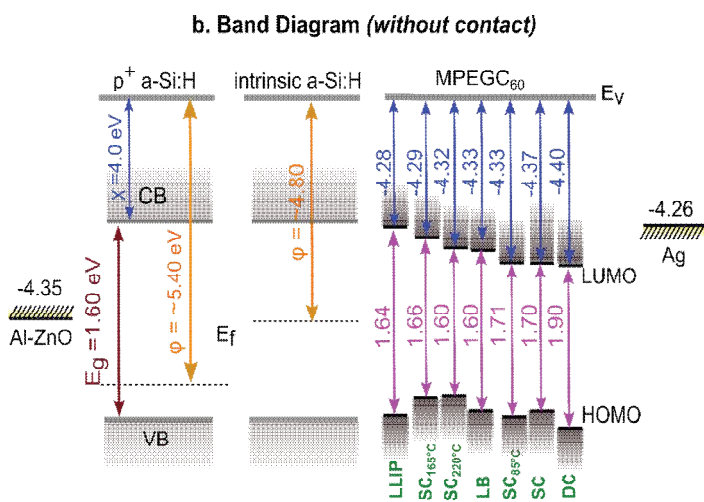
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Beyond molecular properties the supramolecular structures essentially determine photonic¹ and electric² material properties. One of the approaches to control the supramolecular structure is by means of interface assembly of dyes that have been made amphiphilic. This assembly is utilized in the Langmuir-Blodgett (LB) technique^{3, 4} as well as in the Liquid-Liquid Interface Precipitate (LLIP)² technique. In our work we utilize both methods for the fabrication of model layers with tunable supramolecular structure for optoelectronic devices and self-healing membranes. This supramolecular structural tuning enables variation of the LUMO energy of fullerene films by 120 meV, that translate to 70 mV variation in open circuit voltage of corresponding pi-Si-hybrid solar cells.²



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