

Chem-Bio Interface Augmentation:  
Organic Semiconductor Assembly with DNAs

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Organic small molecules and macromolecules having  $\pi$ -moieties have been extensively investigated since they express attractive optical and electrical functions that offer rosy pictures in applications of modern electronics and energy-related devices. Nature, in the meantime, works with abundant biomolecules such as DNAs, RNAs, proteins, etc. making themselves distinct from other materials in a sense that they can recognize through specific bindings to target species. Therefore, as we attempt successful conjugation of such biomolecules with functional  $\pi$ -molecules and/or macromolecules, new fields of applications face us especially in technology convergent realms related to medicine and biology. There have been various research outcomes by eminent scientists and engineers contributing to this goal. In the present talk, we will introduce our efforts to advancing technologies to augment interfaces of chemical candidates with nucleic acids. Subjects we cover can involve conjugated chemicals-based sensing materials [1] and bio-functionalized OLED particles [2].