

Hybrid nanoparticles of conjugated polymer and metals in aqueous medium

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Aqueous dispersions of conjugated polymer nanoparticles (CPNs) have been typically prepared by assembling with amphiphiles such as surfactants and phospholipids via emulsion and nano-precipitation processes in which a control over molecular ordering in assembly structures is difficult. This presentation describes the preparation of hybrid nanoparticles based on CPNs and metals such as silver and gold by forming films of the conjugated polymers and amphiphiles, followed by dispersing the films into aqueous dispersions of nanomaterials. Recent progresses in studies to form the hybrids nanoparticles and their applications are discussed in the aspect of the structure-property relationship.