

Internal Webinar

Supramolecular self-assembly forenzyme sensing, protein oligomerization, and light harvesting

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Supramolecular hierarchical self-assembled materials e.g. gels, vesicles, and spheres are formed by various directional non-covalent interactions and are finding widespread applications in various fields of sensing, optoelectronics, stimuli-responsive materials, artificial light harvesting *etc.* Recently there is growing interest in developing cellular mimics following the supramolecular assembly of multiple components in a vesicle system. In mytalk, I will discuss the application of luminescent Lanthanide based supramolecular hydrogel and paper devices for sensing biologically important enzymes both in purified form and real samples. The reactive oxygen species (ROS) generated by enzyme reaction was demonstrated to induce protein oligomerization. Besides, the multicomponent self-assembled hydrogel was employed for cascade energy transfer from 2,3-dihydroxy naphthalene to Terbium to red-emitting dye in a completely non-covalently self-assembled system. The cascade charge transfer and energy transfer system was also developed following the supramolecular approach.

References:

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