Guide for Abstracts

Programmed Hemoprotein Assemblies: Functional Biomaterials and Bioelectronic Interface

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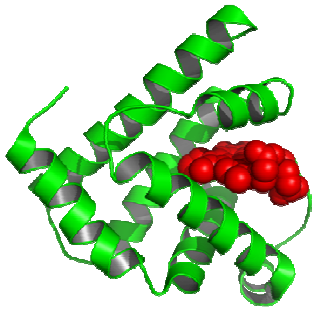
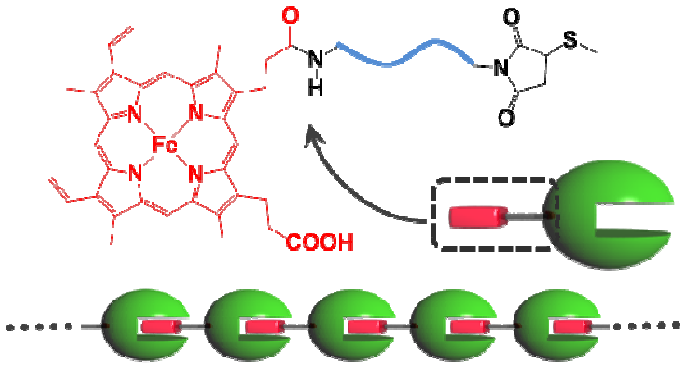
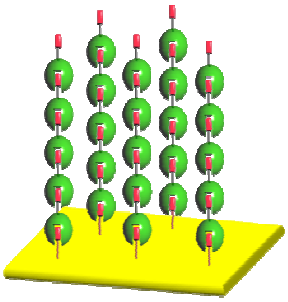
Supramolecular architectures of biomolecules have been attracted much attention, because they hold great potential as a key component of materials for biomedical and bioelectronic applications. The construction of biomacromolecular assemblies with well-defined nanostructures has thus been a focal point of recent researches. We have been focused on a system containing hemoproteins, which function as an electron transfer mediator, catalyst, sensor, and gas storage. Previously, artificial hemoprotein assemblies via noncovalent heme−heme pocket interaction were constructed in our group.[1] We then strive to expand this strategy to develop novel conjugates of the hemoprotein assemblies to combine with other biomolecules, nanoparticles, polymers.[2] The supramolecular self-assembling systems of hemoproteins also allowed us to immobilize these assemblies on an electrode surface.[3] We will present our recent work on the programmed hemoprotein assemblies as functional biomaterials and bioelectronics interfaces.



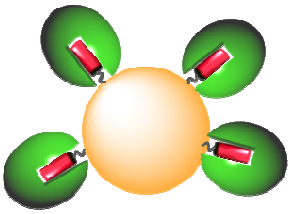
Hemoprotein



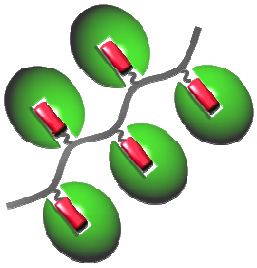
Hemoprotein assembly



Electrodes



Metal nanoparticles



Synthetic polymers

References and Footnotes

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