Molecular Biodiode Consisting of GFP/Cytochrome c Hetero-layer

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Transfer of an electron from one site to another in a molecular or between molecules and/or electrodes is one of the most fundamental and ubiquitous processes in chemistry, biology and physics. A biological electron transfer system, photoelectric conversion occurs and then long-range electron transfer takes place very efficiently in one direction through the biomolecules. In this study green fluorescent protein (GFP) and cytochrome b562 were used in fabricating molecular array as an electron sensitizer and electron acceptor and protein. The hetro-layer were analyzed using scanning probe microscope (SPM), Surface Plasmon Resornance(SPR) and hybrid STM/STS measurement. The results suggest that the proposed biomolecular array can be used as a basic unit of the elecronic device.