

Biomolecules as new avenues for the design of optical biosensors

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Since several years, researcher have acknowledged the importance of integrating biological molecules into the design of artificial devices. Biosensors are a combination of signal transducers and biomolecules, and they have a fundamental role in medical diagnosis, food safety and environmental control. The compactness, portability, high specificity, and sensitivity are the motives that the design of biosensors is considered to have a high potential in all analytical practices. Consequently, modern biotechnological strategies are exploiting the use of proteins, enzymes and antibody as components of sensors for analyses of high social interest. In particular, the idea is to take advantage of the extremely wide range of selective affinities sculpted into the various biomolecules by natural biological evolution. The number of potential molecules specifically recognized by different biomolecules is enormous and it sorts from small molecules to macromolecules (including protein themselves). The advantages of using proteins as components of biosensors is discussed.

References

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