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""4.1 MOLECULAR CHARACTERISTICS OF GAP JUNCTIONS""; ""4.2 DISTRIBUTION OF GJS IN THE BRAIN""
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""6 PLANT PHOTOSYSTEM II AS AN EXAMPLE OF A NATURAL PHOTOVOLTAIC DEVICE""""6.1 INTRODUCTORY REMARKS ON PHOTOSYNTHESIS""; ""6.2 PHOTOSYNTHETIC EXCITATION ENERGY TRANSFER""; ""6.3 PHOTOSYNTHETIC ELECTRON AND PROTON TRANSPORT""; ""6.4 PERSPECTIVES OF BIOMIMETIC APPLICATIONS""; ""ACKNOWLEDGMENTS""; ""REFERENCES""; ""7 ELECTROCHEMICAL ACTIVATION OF CYTOCHROME P450""; ""7.1 INTRODUCTION""; ""7.2 HOMOGENEOUS SYSTEMS: SMALL-MOLECULE ELECTROCHEMICAL MEDIATORS""; ""7.3 HETEROGENEOUS SYSTEMS: SURFACE-CONFINED P450 FILMS""; ""7.4 THOUGHTS ABOUT THE FUTURE OF P450 ELECTROCHEMISTRY""; ""ACKNOWLEDGMENTS""
""REFERENCES""""8 MOLECULAR PROPERTIES AND REACTION MECHANISM OF MULTICOPPER OXIDASES RELATED TO THEIR USE IN BIOFUEL CELLS""; ""8.1 INTRODUCTION""; ""8.2 MCOs IN SOLUTION: STRUCTURE AND MECHANISM""; ""8.3 MCOs IN ELECTROCHEMISTRY""; ""8.4 FUNCTIONALITY OF IMMOBILIZED AND SOLUBILIZED MCOs""; ""8.5 CONCLUDING COMMENTS""; ""ACKNOWLEDGMENTS""; ""REFERENCES""; ""9 ELECTROCHEMICAL MONITORING OF THE WELL-BEING OF CELLS""; ""9.1 ELECTROCHEMICAL MONITORING""; ""9.2 CELL DEATH: ELECTROCHEMICAL CYTOTOXICITY MEASUREMENTS""; ""9.3 CURVATURE/SIZE EFFECT ON DENATURATION OF PROTEINS""
""9.4 COVALENT ANCHORING: CHEMISTRY ON GOLD""

Sommario/riassunto

The first book to provdie a comprehensive look at bioenergetics, the energy flow in living systems, by studying ion exchange and electron transfer processes in biological membranes and artificial bio-films, and how these processes contribute to developing modern biosensor and ion-sensor technology, as well as biofuel cells. The book: Discusses the ion fluxes and electron transfer processes in biological membranes and artificial bio-films Provides an in-depth description of the processes at the interface between the membrane/film and substrate electrode Is the first of its kind to provide a comprehensive look at how these processes are understood in biology of living cells Addresses how these processes contribute to developing modern biosensor and ion-sensor technology, as well as biofuel cells.