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Sommario/riassunto

The dynamic field of flavin and flavoprotein biochemistry has seen rapid advancement in recent years. This comprehensive two volume set provides an overview of all aspects of contemporary research in this important class of enzymes. Topics treated include flavoproteins involved in energy generation, signal transduction and electron transfer (including respiration); oxygen activation by flavoproteins; the biology and biochemistry of complex flavoproteins; flavin and flavoprotein photochemistry/photophysics as well as biotechnological applications of flavoproteins. Recent developments in this field include new structures (including those of large membrane-integral electron transfer complexes containing FMN or FAD), elucidation of the role of flavoproteins in cell signalling pathways (including both phototaxis and the circadian cycle) and important new insights into the reaction mechanisms of flavin-containing enzymes. This volume focussing on oxidases, dehydrogenases and related systems is an essential reference for all researchers in biochemistry, chemistry, photochemistry and photophysics working on flavoenzymes.