



sensors



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Magnetic Materials Based Biosensors

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Selective and quantitative detection of different kinds of biocomponents plays an important role in biomedical applications, clinical diagnostics, environmental monitoring, toxicology, regenerative medicine and drug delivery. Therefore, multidisciplinary area of magnetic biosensing have been extensively developed in recent years, aiming to create compact analytical devices for non-expensive and low time consuming analysis provided at the point of care by non-skilled personnel. Biological samples exhibit very low magnetic background, and thus highly sensitive measurements of magnetic labels or magnetic nanoparticles enriched units can be performed without further processing. A magnetic biosensor is a compact analytical device in which magnetic transducer converts a magnetic field variation into a change of frequency, current, voltage, etc. Different types of magnetic effects are capable of creating magnetic biosensors with extra high sensitivity. This book describes interesting examples of magnetic materials based biosensors, including the synthesis of model materials for biosensor development, new engineering solutions and theoretical contributions on the magnetic biosensor sensitivity. Book contains 13 research works representing international multidisciplinary teams from Austria, China, Germany, Greece, Iran, Russia, Serbia, Spain, Taiwan and United States of America. It can be useful for PHD students and researches working in the field of magnetic nanomaterials and biomedical applications.]



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