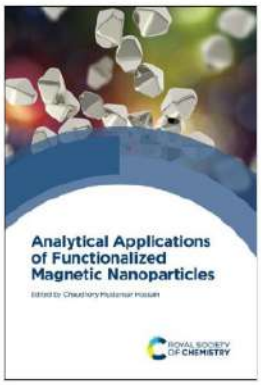

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BOOK CHAPTER

Chapter 23: Future of Functionalized Magnetic Nanoparticles in Analytical Chemistry

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The development of any society is in direct proportion to the advancements employed towards the growth of various sectors. The interpretation of the magnetic properties of nanoscale particles is a primary field of interest. The multidisciplinary spectrum of applications for magnetic nanoparticles (MNPs) has increased their employment in the various fields of geology, physics, medicine, biology *etc.* The development of nanotechnology in conjunction with molecular biology has directed the evolution of nanoparticles (NPs) with functional characteristics which are more effective than traditional diagnostic and treatment methods. The multidisciplinary applications of NPs have witnessed an emphasized growth in the biomedical field with an increased use of magnetic nanoparticles (MNPs) owing to their magnetic properties. The effective nanostructure construction with modified features of NPs including customized drug release pattern with reduced degrading side effects is a consequence of integrated development. The novel properties of MNPs have led to increased impetus towards their synthesis at the nanometer scale with modified physical and chemical properties. The various types of NPs include metallic and bimetallic with superparamagnetic iron