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Namanomaterials: A complex link between complex materials

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Editorial Note

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EDITORIAL NOTE

Nanochemistry is a new sub-discipline of the chemical and materials sciences that focuses on the development of innovative nanoscale material fabrication processes. These materials have been studied for a variety of applications, including electronics and nanodevices and systems, composite materials, biotechnology and medicine, and even textiles. Unless a coordinating surfactant is employed to coat the surface of inorganic nanomaterials (metallic, metal oxides, or metal chalcogenides, among others), the surface is exceedingly reactive and unstable. It is quite simple to see how the surfactant functions as a coordination ligand and how it may play a vital role not only in structure stabilisation but also in structure management. We offer direct synthesis as a unique and effective synthetic technique for the manufacture of various important and fascinating inorganic nanomaterials, and we discuss various bridging concepts between coordination molecules and nanochemistry. Nanoscience is a multifaceted field that includes topics like nanotechnology and nanochemistry. Nanotechnologies are used to create nanoparticles with unique properties and to produce materials and devices based on them. This is one of the twenty-first century's hot topics in natural science. The transition from microscale to nanoscale is connected with nanochemistry. The discovery of size effects, which may be thought of as a new degree of freedom providing new properties to chemical compounds and resulting in previously undiscovered chemical reactions, occurs as a result of studying nanosized particles. The early efforts were focused on the study of atoms, clusters, nanoparticles of various metals, semiconductors, fullerenes, and carbon nanotubes, as well as the physicochemical features of the corresponding materials. The first investigations in the subject of nanochemistry were based on this. For the most thorough examination of nanochemists' contributions. The properties of complex organic compounds, which can include atoms of oxygen, sulphur, and halogens in addition to carbon and hydrogen, as well as the mechanisms of processes involving these compounds, affect advances in biochemistry and nanomedicine. The methods for manufacturing nanoparticles containing complex organic compounds, as well as their physical properties, are investigated in depth. This is partly due to the fact that intermolecular interactions are less than interatomic interactions, and the size dependency of organic nanoparticle physicochemical features is less pronounced than inorganic nanoparticles. Nanoparticles are objects that exist in between compact organic compounds and single molecules. The fact that organic nanoparticle research has just just begun, in contrast to metal nanoparticle research, can be explained by the following two key causes. For starters, organic materials have lower melting temperatures and less thermal stability.