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INTELLIGENT MULTIFUNCTIONAL ALLOY NANOPARTICLES, SYNTHESIZE, CHARACTERIZATION AND APPLICATIONS

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The nanotechnology has concentrated to study by scientists and researchers around the world to synthesize novelty multifunctional alloy nanoparticles which will be used in wide range of applications from industry to medicine. In the recent years, one of the most common nanomaterials in the world is an alloy nanoparticle. In addition, a Multifunctional alloy nanoparticle has been growing by scientists around the world. The various metallic, ceramic and polymeric compounds like Iron Oxides, Zinc Oxides, Iron-Cobalt, Nickel-Cobalt, Iron-Nickel, Titanium Dioxide, Ag doped gold, Copper alloys, PEG, PPA, PMMA, Chitosan, Hydroxyapatite and sort of that, will be produced by chemists, Physicists or materialist in the advanced laboratory. There are various method to synthesize alloy nanoparticles like precipitation, chemical and physical vapour deposition, thermal and plasma spray, laser deposition, mechanical alloying and so on. Because of an impressive and unique chemical, physical and an antimicrobial property of nanoparticles along with their biocompatibility; makes these materials find specific applications in various industries. Thus, alloy nanoparticles have lots of applications in manufacturing, agriculture, environment, energy, electronics, and medicine. These use as an industrial coatings, lubricant oils, catalysts, gas sensors, magnetic separators, antioxidant, break down oil, breakdown volatile organic air pollutants, fuel cell electrodes, storage materials, lithium ion batteries, semiconductor (photovoltaic cells), solar steam device, storing and packaging of agricultural produces, nutrients absorber, food flavouring, perfumes, scratch resistance eyeglasses, fluorescent biological labels, contrast imaging, bone growth, drug and gene delivery, immunoassay, bio detection of pathogens, separation and purification of biological molecules and cells, cancer diagnosis and treatment, tumours destruction via heat therapy (hyperthermia), tissue engineering and etc. So, propose of this paper is detecting the intelligent multifunctional alloy nanoparticles and evaluating wonderful characteristics which is be synthesized by various methods.