Special Issue

Advances in Zintl Phases

Message from the Guest Editors

Zintl phases have received rapidly-increasing attention over the past decade due to their potentially-useful electronic, thermal, as well as magnetic properties. Zintl phases are considered a subset of the intermetallics, with properties ranging from insulating to metallic, but the main premise is the simple idea of ionic and covalent bonding within an intermetallic composition. In the most restrictive definition, Zintl phases are semiconducting intermetallics, where the electropositive cation provides the necessary electrons to the more electronegative metalloids in order to obtain a closed shell electronic configuration. This Special Issue aims to provide a forum for contributions focused on all aspects of Zintl phases, both traditional Zintl phases and those that can be included with an expanded definition (containing transition metals, rare earths, etc.), including new experimental and theoretical research that advances the understanding of the synthesis, structure, properties, as well as applications of materials that can be described as Zintl phases or variants thereof.

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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