

Bonding and properties of superatoms. Analogs to atoms and molecules and related concepts from superatomic clusters

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Expanding the versatility of well-defined clusters is a fundamental issue in the design of functional nanostructures. In this sense, the concept of super atoms allows us to gain a deeper understanding and rationalization of the different properties of metallic clusters by invoking more familiar aspects. Recently, the super atoms appear to be intimately connected to other relevant tools of great chemical significance which enhance a rational design of superatomic clusters mimicking more complex structures and networks. Here, we expect to account for the research efforts from Latin American groups in the field, highlighting their valuable contribution to superatomic and related clusters. © 2018 Wiley Periodicals, Inc.

clusters

gold

heavy-elements

superatoms

Chemical bonds

Chemical elements

Gold

clusters

Complex structure

Functional nanostructures

Heavy elements

Metallic clusters

Rational design

Research efforts

Superatoms

Atoms