

# Bridging Aromatic/Antiaromatic Units: Recent Advances in Aromaticity and Antiaromaticity in Main-group and Transition-Metal Clusters from Bonding and Magnetic Analyses

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## Abstract

Synthetic exploration and theoretical characterization of metal clusters are actively developing branches of modern inorganic chemistry. Advances in these areas constantly expand the rich structural diversity of viable species, allowing a detailed study of the fundamental characteristics of bench-stable compounds. In this minireview, we summarize recent achievements in synthesis and computational analyses of main-group and heterometallic clusters containing multiple aromatic/antiaromatic units. These systems range from bare clusters to ligand-decorated aggregates, providing a fundamental understanding of the aromaticity and antiaromaticity concepts in species exhibiting unprecedented shapes and composition. The review gives a comprehensive summary of bonding and magnetic response properties of such systems deciphered from the Adaptive Natural Density Partitioning (AdNDP) approach and induced magnetic field analyses. © 2021 Wiley-VCH GmbH

## Author keywords

Antiaromaticity; Aromaticity; Clusters; Main-group; Transition-metal