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Guest Editorial

This special issue is dedicated to "Weak Covalent Interactions in Heteroatom Chemistry," an area that is inherently diverse and somewhat difficult to define. The collection of articles published in this issue nicely illustrates the diversity of this research field.

Unusual bonding situations is the central theme of three theoretical papers. One of these papers, which focuses on the topological analysis of the Electron Localization Function in open shell systems, helps to shed new light on two-center three-electron bonding in heteroatom chemistry. A second theoretical paper explores the potential surface of P_6 with a focus on the involvement of a one-electron-bonded isomer. A third paper, which is dedicated to anionic ring-opening polymerization of small phosphorus heterocycles, explores the likely intermediacy of weakly bonded anionic adducts in the ring-opening reaction.

Three additional papers, including one published earlier [*Heteroatom Chemistry* #1000, 2006, 17(5), 449–459], are dedicated to the structure and spectroscopic properties of halogen-bonded systems. These experimental contributions help to stress the importance of these weak interactions in supramolecular chemistry. Two other papers center on the formation of weak donor–acceptor interactions. One of these two papers is a comprehensive review dealing with the dynamic behavior of compounds featuring three-center four-electron bonds. The last paper is concerned with weakly bound π-complexes involving carbazole as a donor and a fluorinated organomercurial as an acceptor.

It has been an enriching experience to act as a guest editor for this special issue, which I hope you will enjoy reading. Finally I want to thank those who contributed to this special issue. I also want to thank François Mathey for involving me in this initiative.

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