



Quo Vadis Chemie

Lodging Heteroatoms into Molecular Graphenoids: from Synthesis to Functions



which will be delivered by

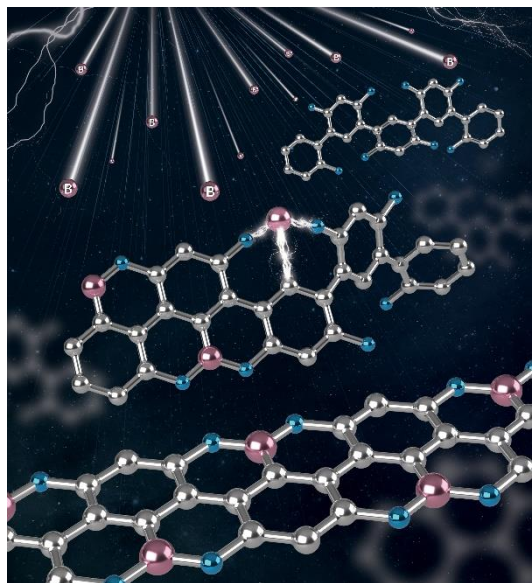
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on 24.04. at 14:50

the Lecture Hall CH2, the School of Chemistry Building, FoS CU, Hlavova 8, Praha 2

Abstract: With their tunable HOMO-LUMO gaps, molecular graphenoids are among the most promising chromophores for conceiving organic-based photocatalysts, luminophores, biomarkers, and optical & electronic devices. .



Among the different functionalization approaches, the controlled and precise replacement of carbon atoms by isostructural elements is emerging as a versatile strategy to gain control on the optoelectronic and self-assembly properties of these polycyclic aromatic hydrocarbons. In this respect, structures in which selected carbon atoms are replaced by boron, nitrogen, and chalcogen atoms are under vigorous investigations. Here, we describe our efforts toward the rational synthesis of heteroatom-doped p-conjugates, with a special emphasis on the boron- and nitrogen- and chalcogen-containing frameworks. Specific examples will be also discussed with the attempt to answer to the question of whether and how we can predictably tailor the optoelectronic and self-assembly properties in solution and in the bulk, and to which extent they can be used as tailored photocatalysts and as functional systems in flexible electronics.