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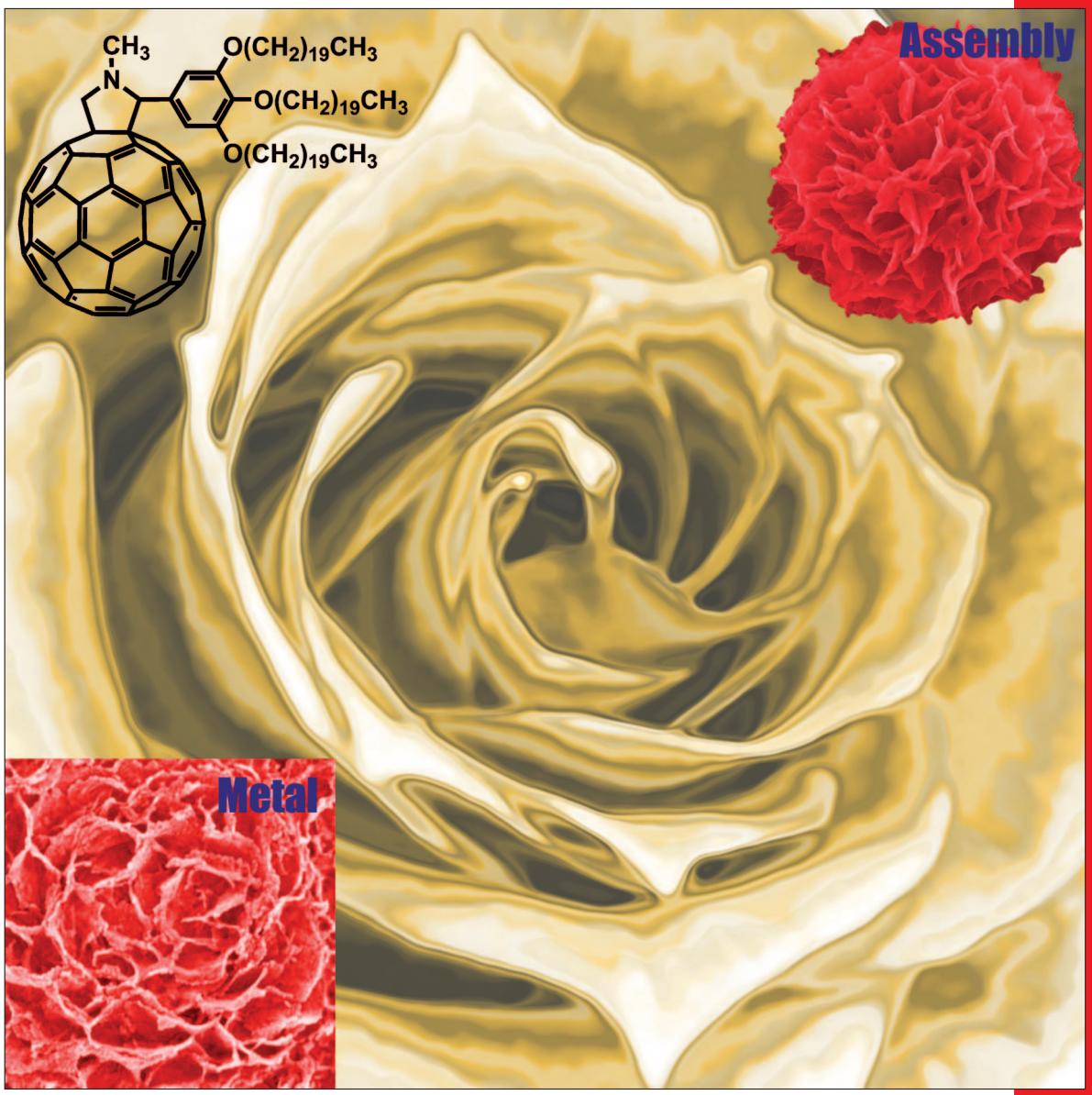

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Concept

Stoichiometric Valence and Structural Valence—Two Different Sides of the Same Coin: "Bonding Power"

F. Liebau et al.

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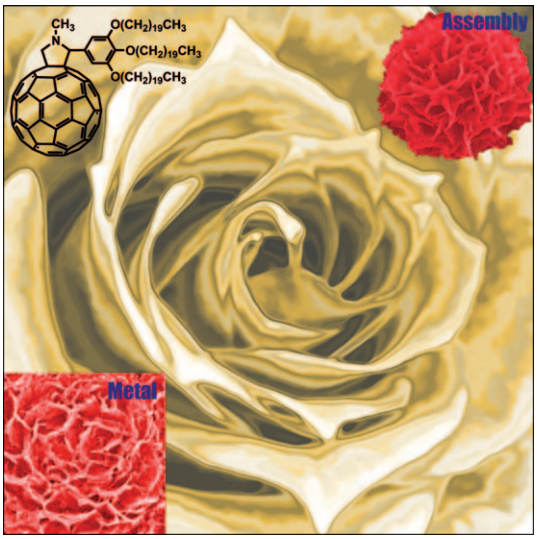
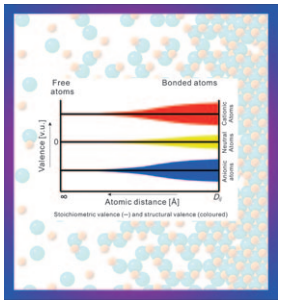
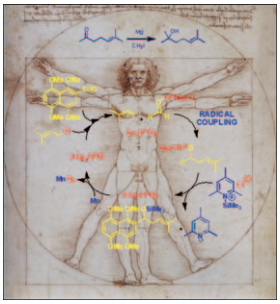
Rose-like metallic surfaces…

… have been fabricated in a highly reproducible and sustainable way by using a supramolecular template based on self-assembled objects prepared from a fullerene derivative bearing three aliphatic chains. The resulting surfaces can serve as excellent active substrates for surface-enhanced Raman spectroscopy; the surface wettability can also be controlled between superhydrophobic and superhydrophilic. This strategy demonstrates potential utilization for supramolecular architectures in surface and material sciences. For more details, see the Communication by T. Nakanishi et al. on page 2763 ff.

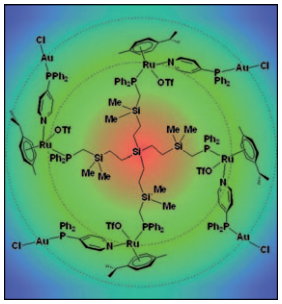




Bonding Power of Atoms
In their Concept article on page 2728 ff., F. Liebau et al. discuss the importance of stoichiometric valence ($^{stoich}V$) and structural valence ($^{struct}V$), which are two distinct aspects of the phenomenon of the bonding power of atoms. Usually, the difference between $^{stoich}V$ and $^{struct}V$ is less than 5%, but in some cases differences of up to 30% have been reported.



Barbier-Type Allylations
The catalytic cycle depicted here pioneers a new concept in chemistry, a Barbier-type reaction through free-radical chemistry that facilitates chemical transformations that could be difficult to achieve otherwise. This and other reactions promoted by single-electron-transfer metals are contributing to the "radical renaissance" in organic synthesis at the beginning of the 21st century. For more information, see the Full Paper by J. E. Oltra, J. M. Cuerva et al. on page 2774 ff.



Carbosilane Dendrimers
In their Full Paper on page 2932 ff., M. Seco, I. Angurell, and O. Rossell, report on the synthesis of heterometallodendrimers containing two, three, or four metal layers of ruthenium, gold, or palladium by using di- and tritopic ligands as linkers between the metal layers.