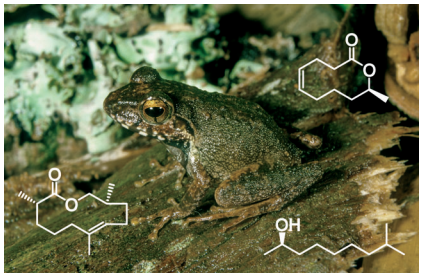
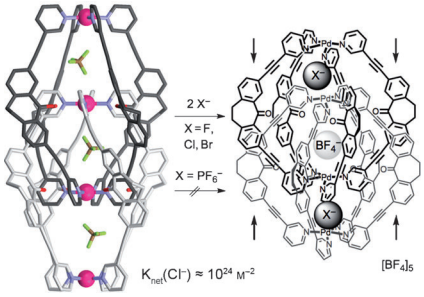
Pheromones



Amphibians like water, but do they also notice volatile compounds in the air? Yes, they do. Macrolides, such as phoracantholide J (see picture; upper right structure) or the newly discovered natural product gephyromantolide A (left structure), are used for communication by mantelline frogs from Madagascar.

Anion Binding



Packed in like sardines: Three BF_4^- ions are packed into the three cavities of an interpenetrated dimer of a coordination cage (see scheme). While the inner BF_4^- ion is tightly bound inside the central position, the loosely bound outer anions can be replaced with halide anions by an allosteric binding mechanism and a concerted structural change. In particular, Cl^- is bound with great affinity.

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50 Years Ago . . .

Angewandte Chemie International Edition was first published in 1962, the mother journal first in 1888. In this monthly flashback, we feature some of the articles that appeared 50 years ago. This look back can open our eyes, stimulate discussion, or even raise a smile.

Fluorinated compounds have unique properties that are much exploited, and organofluorine compounds have several applications including heat-transfer agents, liquid crystals, dyes, surfactants, plastics, elastomers, and membranes. They are particularly important in the pharmaceutical and agrochemical industries. Fifty years ago however, fluoroalkyl compounds were relatively unknown, and a Review by H. J. Emeléus discussed the preparation and properties of trifluoroiodomethane, and the synthesis of fluoroalkyl derivatives of sulfur, nitrogen, and metallic elements. The Review closes with the prophetic lines "The subject has moved far and fast in the last twenty years and it is quite certain that we are not yet near the end of this fascinating journey."

What do hawthorn berries and the fruit of *Gleditschia triacanthos*, or the honey locust—a tree with long thorns—have in common? They both contain proanthocyanidins, which form anthocyanidins upon treatment with acid. In a Communication, K. Freudenberg and K. Weinges reported how the compound extracted from *Gleditschia triacanthos* fruit decomposed to form (+)-catechin and cyanidin. The proanthocyanidins were shown by hydrolysis and acetylation to contain a ketal linkage—something that could be very quickly proved today by using common spectroscopic techniques!

Substance P is a neuropeptide comprising eleven amino acids. Since its first report in 1931, it has been extensively studied and has been since shown to be a neurotransmitter for pain receptors. H. Zuber and R. Jacques reported how substance P could be isolated from bovine brain by chromatography on Sephadex. 132 kg of bovine brain was required to isolate approximately 4 g of substance P.

Read more in Issue 3/1962