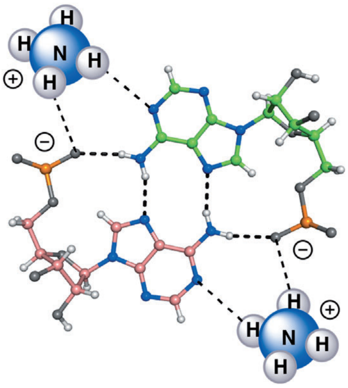
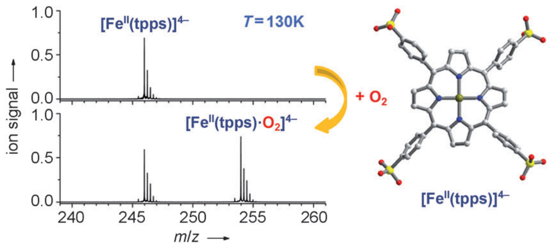
Poly(A) Duplex

The other double helix: The molecular structure of double-stranded poly(rA) was predicted in 1961, but it has only now been confirmed. The crystal structure of the parallel double helix of $(rA)_{11}$ obtained at physiological pH was solved using ab initio direct methods and refined to 1.0 Å resolution. The crystals have bound ammonium ions that are complexed by the RNA phosphates and adenine N1 atoms (see section of the structure).



Model Heme Complexes



The binding energies of O_2 and CO to iron(II) and manganese(II) porphyrin anions has been determined in the gas phase. Low-pressure ion–molecule equilibria have been measured in a cryogenically cooled trap of an FT-ICR mass spectrometer, and binding energies of (40.8 ± 1.3) kJ mol^{-1} and (66.3 ± 2.6) kJ mol^{-1} have been obtained for oxygen and carbon monoxide, respectively, with a heme-analogue Fe^{II} porphyrin complex.

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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.

The Huisgen 1,3-dipolar cycloaddition reaction is one of the most explored organic reactions, and fifty years ago its wide range and versatility had already been realized. In a Review, Rolf Huisgen outlined recent developments in the area; more than 1000 cycloaddition products had already been prepared and analyzed in Huisgen's laboratory alone. This reaction has now become one of the most utilized transformations in the field of "click" chemistry (for more background information see: H. C. Kolb, M. G. Finn, K. B. Sharpless, *Angew. Chem. Int. Ed.* **2001**, *40*, 2004–2021).

Oskar Glemser published two contributions: The first was a short Review on the tungsten- or molybdenum-catalyzed preparation of carbon tetrachloride from phosgene at atmospheric pressure and between 300–450°C. In a Communication that featured the then PhD student Herbert Roesky as co-author, the synthesis of manganese tetrafluoride by direct fluorination of manganese powder is described. Roesky is now one of the top two authors who have published the most manuscripts in *Angewandte Chemie* since 1946 (for the full list see: F. Diederich, *Angew. Chem. Int. Ed.* **2013**, *52*, 2714), and he has recently been featured in an Author Profile (*Angew. Chem. Int. Ed.* **2013**, DOI: 10.1002/anie.201302592).

Ivar Ugi, who carried out his PhD with Huisgen, reported on a development of the four-component condensation that is now known as the Ugi reaction. Condensation of a chiral primary amine with an aldehyde, a carboxylic acid, and an isonitrile gave an L-amino acid when the reaction was subject to kinetically controlled asymmetric 1,3-induction, and a D-amino acid in the thermodynamically controlled case.

Read more in Issue 10/1963.