Giant Fullerenes

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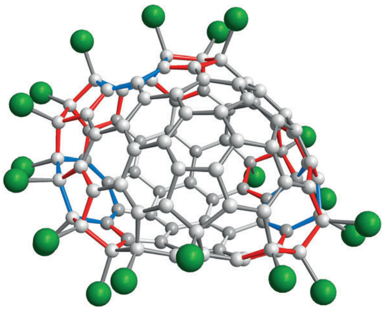
Chlorination of IPR C_{100} Fullerene Affords Unconventional $C_{96}Cl_{20}$ with a Nonclassical Cage Containing Three Heptagons

Three heptagons in the fullerene cage were found for the first time in $C_{96}Cl_{20}$ with a nonclassical cage, which was obtained by chlorination of isolated-pentagon-rule C_{100} fullerene. Most of 15 cage pentagons are fused resulting fused pentagon pairs and triples (see structure: gray C, green Cl; pentagons red, heptagons blue).



Vibrational Spectroscopy

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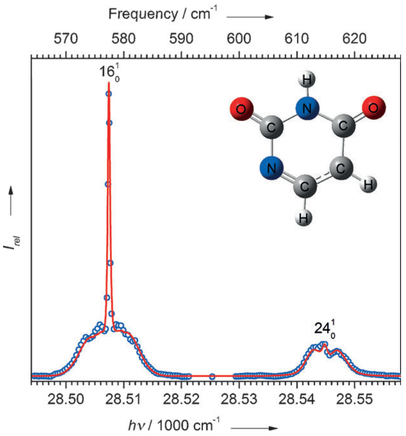
Vibrational Spectroscopy of the Dehydrogenated Uracil Radical by Autodetachment of Dipole-Bound Excited States of Cold Anions

The vibrational spectrum of the dehydrogenated uracil radical has been measured by autodetachment from dipole-bound states of cold deprotonated uracil anions. The spectrum shows observed rotational profiles (blue circles) for mode ν_{16} at 577 cm^{-1} (*c*-type) and mode ν_{24} at 615 cm^{-1} (*b*-type), in comparison with the simulated rotational profiles (red line).



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Flashback: 50 Years Ago . . .

Vitamin B_{12} had at that time been only partially chemically synthesized (the total synthesis was first published in 1973), and a Review by K. Bernhauer et al. summarized the latest developments in the field, including partial syntheses, coenzyme forms, and enzymatic functions. A Review by Albert Eschenmoser on the origin of the molecular structure of vitamin B_{12} was published in our *Angewandte*'s Centenary Issue (*Angew. Chem. Int. Ed. Engl.* **1988**, *27*, 5–39).

Emanuel Vogel published a Communication on the properties of the cyclodecapentaene system. The system contains 10 π electrons and can thus be expected to have an aromatic character. The proton NMR spectrum of 1,6-methanocyclodecapentane showed it to have a strong ring current, however, it shows olefinic reactivity and cannot be classified as a classical aromatic compound.

Georg Wittig reported a new synthesis of tetraarylphosphonium salts. Reactions of triarylphosphines and *o*-fluorophenyllithium with either fluorene or methyl iodide at −40 °C resulted in the corresponding tetraarylphosphonium salt or its *o*-methyl derivative.

Max Schmidt reported the synthesis of 1,1,1,3,3,3-hexamethyldigermazane ($(CH_3)_3Ge{-}NH{-}Ge(CH_3)_3$). The reaction of trimethylgermanium chloride with ammonia produced the target compound as a colorless liquid. Reaction of dimethylgermanium dichloride under the same conditions resulted in the formation of $[(CH_3)_2GeCl]_3N$.

Read more in Issue 3/1964.