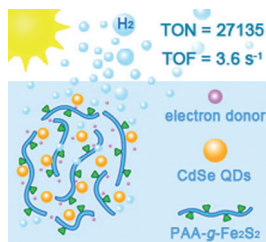


H₂ Production

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Exceptional Poly(acrylic acid)-Based
Artificial [FeFe]-Hydrogenases for
Photocatalytic H₂ Production in Water



Light, polymer, action: A set of water-soluble poly(acrylic acid) catalysts PAA-g-Fe₂S₂ containing [Fe₂S₂], an [FeFe]-hydrogenase active-site mimic, is synthesized. This system, combined with CdSe quantum dots and ascorbic acid, has an exceptional turnover number and initial turnover frequency (27135 and 3.6 s⁻¹) for the photocatalytic production of H₂ in water, which is the highest efficiency to date for [FeFe]-hydrogenase mimics.

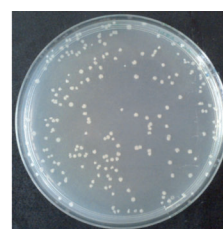
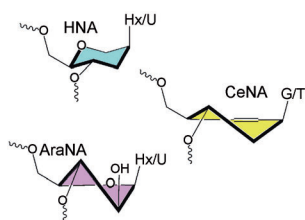


Nucleic Acid Analogues

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Binary Genetic Cassettes for Selecting
XNA-Templated DNA Synthesis In Vivo



Hereditary information, coded in two bases, can be conveyed to DNA in vivo in the form of cyclohexenyl nucleic acid (CeNA), arabinofuranosyl nucleic acid

(AraNA), and hexitol nucleic acid (HNA) messages. It was thus demonstrated that a binary genetic cassette can be used for the title process.

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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.

“*Mental Biochemistry and Control of the Mind*” was the concluding section of a Review by J. W. Daly and B. Witkop on centrally active endogenous amines. This Review outlined the biosynthesis, storage, release, and metabolism of compounds such as dopamine and serotonin, as well as their use in treatment of conditions such as schizophrenia.

Horst Prinzbach (1931–2012) reported on the cycloisomerization of 1,3-cyclo-

hexadienes. This diazomethane-sensitized intramolecular reaction results in the formation of bicyclo[2.2.0]hex-2-ene species, as well as hexatrienes and bicyclo[3.1.0]hex-2-ene derivatives. Prinzbach was regarded as one of the top German organic chemists in the second half of the 20th century, and the synthesis of the smallest unsaturated dodecahedrane C₂₀ was among his achievements (see *Angew. Chem. Int. Ed.* **2012**, *51*, 11936 for his Obituary).

The analysis of peptide sequences by mass spectrometry had already been established 50 years ago. F. Weygand et al. reported how the high vapor pressure of *N*-trifluoroacetyl peptide esters made them suitable for mass spectrometric analysis, and how mixtures of peptides could be separated by using gas chromatography and identified from the mass spectra of the characteristic fragment ions.

[Read more in Issue 8/1963.](#)