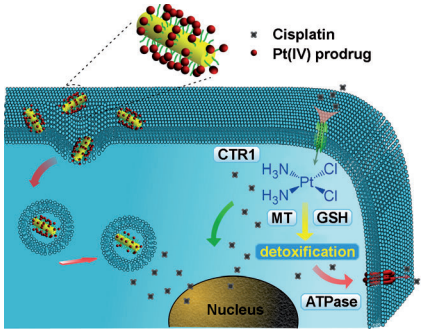
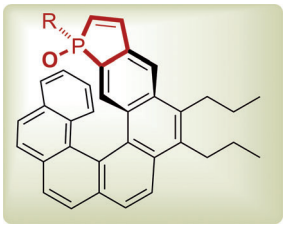
Platinum Drugs



Resistance is futile: A platinum(IV) prodrug conjugated to a gold-nanorod-based delivery agent avoids the type of drug resistance that is associated with cisplatin (see picture). This conjugate is taken up into cells through endocytosis, thus avoiding the resistance-associated uptake mediated by the copper transport protein Ctr1. The platinum(IV) prodrug is more inert than cisplatin to glutathione and metallothionein, which cause deactivation.

Phosphorus Heterocycles



Building helicenes: A photochemical cyclization approach affords helicenes in which the fused ring sequence ends with a phosphole unit (see scheme). The stereogenic phosphorus centers of the substrates control the screw sense of helical chirality. The terminal phosphole units undergo photochemical [2+2] annulations to give dimeric helical structures.

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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.

Issue 7 in 1962 literally contained some explosive chemistry in the form of not one but two reports of unexpected explosions. H. Wilms and A. Dorlars described how they heated mesitylene with concentrated nitric acid in an autoclave. Several minutes after reaching 115°C and 10 atm gauge pressure, an explosion occurred that tore the autoclave apart lengthwise and ripped the steel doors from a safety cover. In a separate Communication, P. G. Ferrini and A. Marxer reported how tropylium perchlorate exploded when being manipulated with a glass rod. The explosion shattered the bench top, which broke the solvent bottles that were stored beneath it. The spilt solvent then caught fire. 50 years ago, reports such as this were a good way of making researchers more aware of the risks involved in these reactions, and thus helped to reduce the number of laboratory accidents.

The ethylene ketal of cyclopentadienone was the subject of two back-to-back Communications that described different routes to this product. The approach reported by E. Vogel and E.-G. Wyes involved capturing the desired product as its maleic anhydride adduct, while C. H. DePuy, B. W. Ponder, and J. D. Fitzpatrick described how the dimer of the target compound was produced by elimination of a substituted cyclopentanone ketal.

In a Review, U. Hofmann discussed the chemical basis of ancient Greek vase painting. A range of studies showed that illitic clay was used as a black paint and a kaolinitic clay was used as a red paint, and electron microscopy was used to examine the vase surfaces and elucidate the processes that occurred during the firing stage.

Read more in Issue 7/1962