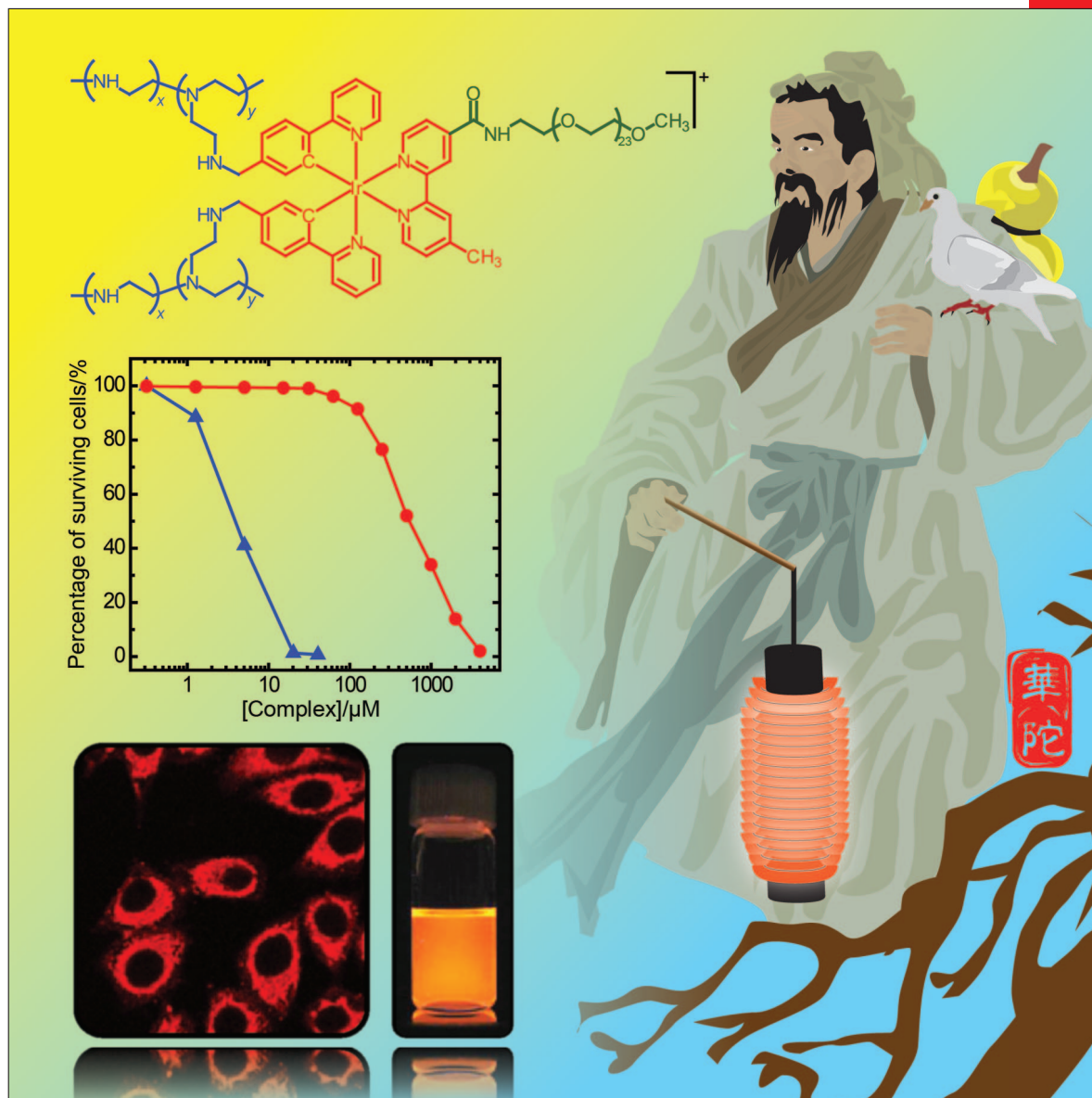


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Minireview

Recent Mechanistic and Synthetic Developments
in the Chemistry of Transition-Metal Vinylidene Complexes
J. M. Lynam

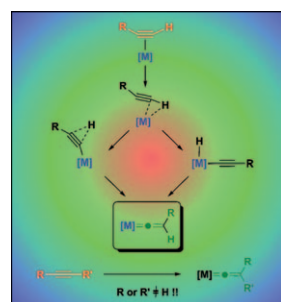
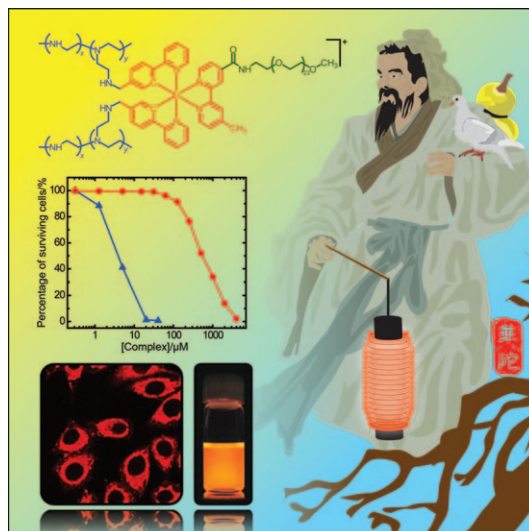
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... reduce the toxicity of biomolecules and drug molecules without sacrificing their specific biological or therapeutic properties. In their Full Paper on page 8329 ff., K. K.-W. Lo and co-workers report new luminescent iridium-PEG complexes with high biocompatibility. Hua Tuo (depicted here) was a distinguished Chinese physician during the Eastern Han Dynasty and Three Kingdoms Period. The lantern and pigeon symbolize the luminescence and gene-delivery properties, respectively, of a poly(ethyleneimine)-iridium-PEG conjugate. Ching-Sing Chan is acknowledged for the cover picture design.

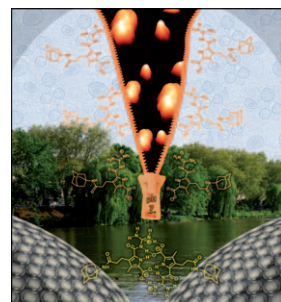
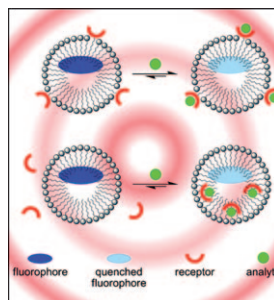


Transition-Metal Vinylidene Complexes

The conversion of terminal alkynes into their corresponding vinylidene tautomers is a key step for a number of synthetically important metal-mediated transformations. A number of recent mechanistic studies have shed considerable light on this process and even demonstrated how it may be applied to internal alkynes. For more details, see the Mini-review by J. M. Lynam on page 8238 ff.

Chemosensors

In their Communication on page 8291 ff., K. Severin and T. Riis-Johannessen describe the development of a chemosensing ensemble for the fluorimetric detection of chloride. The system exploits concomitant binding and phase-partitioning events, which confine a receptor-based quencher and a fluorophore to within the small volume of a self-assembled micelle. In principle, the approach can be generalized to any system wherein the association between an analyte and receptor gives rise to a complex with markedly different solvation characteristics.



Molecular Recognition

The frontispiece displays the zipper-like interaction of zwitterionic guest molecules at the surface of cyclodextrin vesicles, which results in pH-sensitive adhesion of the vesicles in water. The multivalent noncovalent interaction of these vesicles is a useful model for the recognition and adhesion of biological membranes. The lake is the Aasee in Münster. For more details, see the Full Paper on page 8300 ff. by B. J. Ravoo, C. Schmuck et al.



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