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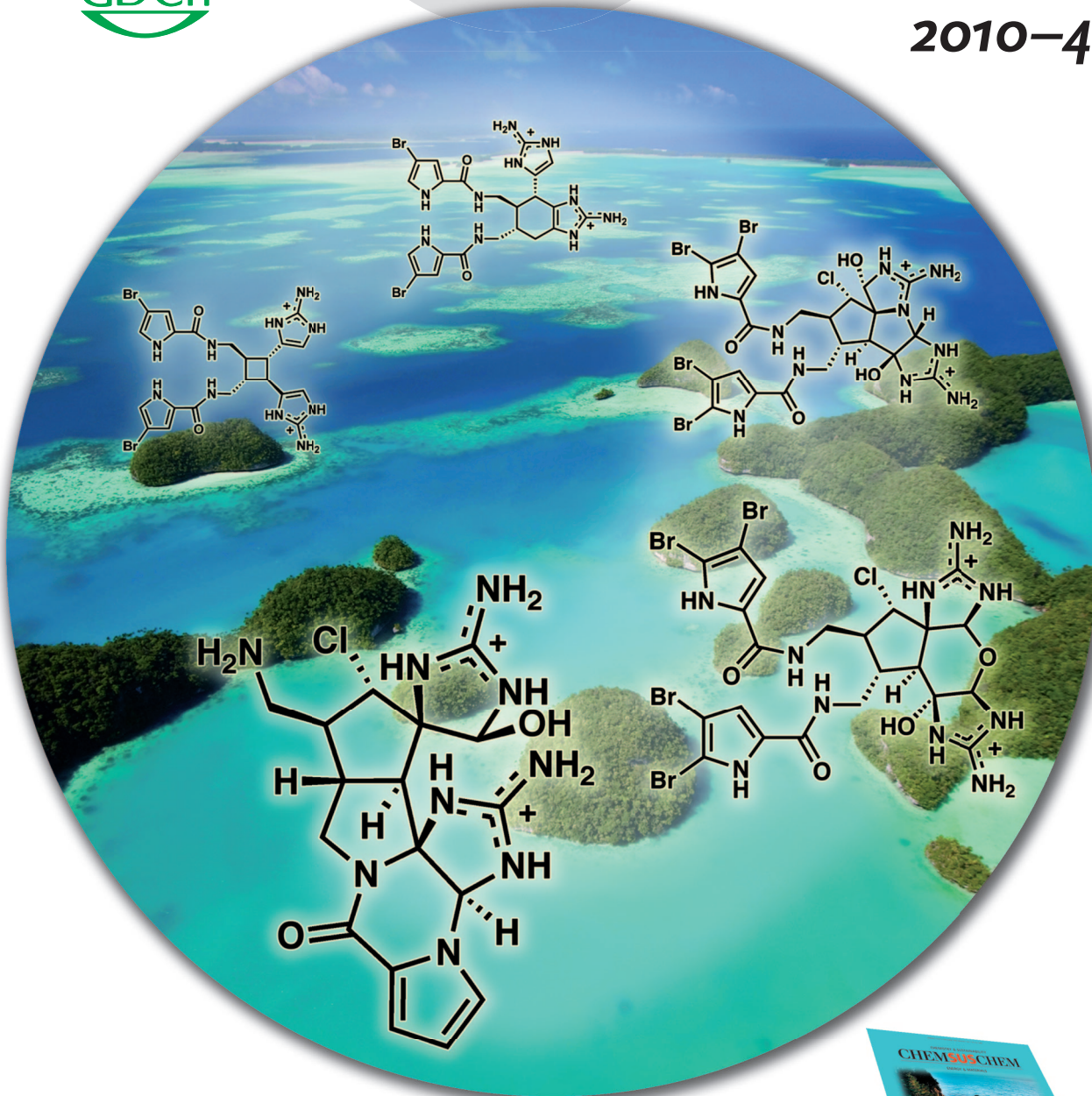
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Clinical Chemistry

J. Durner

N₂O Activation

W. B. Tolman

Highlights: Combined Gold and Organocatalysis • Cooperative Catalysis

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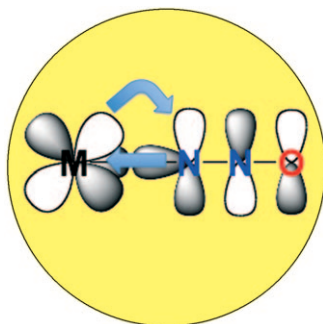
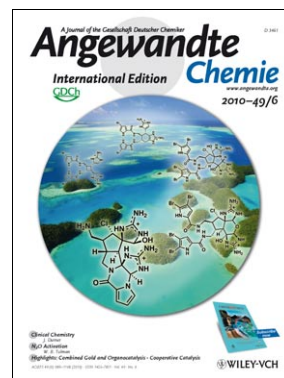


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Cover Picture

Ian B. Seiple, Shun Su, Ian S. Young, Chad A. Lewis, Junichiro Yamaguchi, and Phil S. Baran*

The exotic natural product palau'amine contains a number of rare structural features, just like the extraordinary biodiversity found in the island nation of Palau. As such, palau'amine has been the most actively pursued alkaloid among synthetic chemists in the 21st century, and its first total synthesis is now described by P. S. Baran and co-workers in their Communication on page 1095 ff. The successful route features transformations on unprotected intermediates, cascade reactions, and a remarkable finale involving a transannular cyclization to forge the critical bond. Cover designed by Paul Krawczuk; photograph courtesy of iStockphoto.com/clumpner.

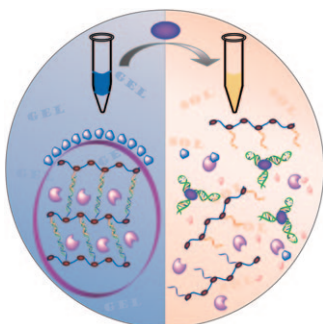


***N₂O* Activation**

In his Minireview on page 1018 ff., W. B. Tolman explores how N₂O binds to transition metals. Such understanding is important to develop better catalysts for N₂O degradation to counteract its negative effects on the ozone layer and the global climate.

Clinical Chemistry

The task of clinical chemistry is to apply chemical, molecular, and cellular strategies for a better understanding and testing of human health and disease. In the Review on pp. 1026 ff., J Durner explores the history as well as current methods in measurement and analysis.



Sensors

An enzyme-caged hydrogel that relies on DNA base-pair recognition and aptamer–target interactions for the simple and rapid detection of cocaine with the naked eye is reported by C. Y. Yang, W. Tan and co-workers in their Communication on page 1052 ff.