

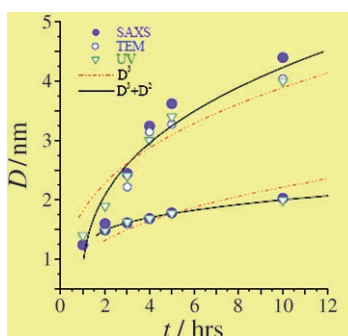
Nanocrystals

N. Varghese, K. Biswas, C. N. R. Rao*

Investigations of the Growth Kinetics of Capped CdSe and CdS Nanocrystals by a Combined Use of Small Angle X-ray Scattering and Other Techniques

Chem. Asian J.

DOI: 10.1002/asia.200800119



A lot happens on the surface! The growth kinetics of capped CdSe and CdS nanocrystals deviates from the diffusion-limited Ostwald ripening. It follows the $D^3 + D^2$ -type behavior, suggesting that the growth mechanism of the capped nanocrystals involves the combination of diffusion and surface-reaction processes.

G-Quadruplexes

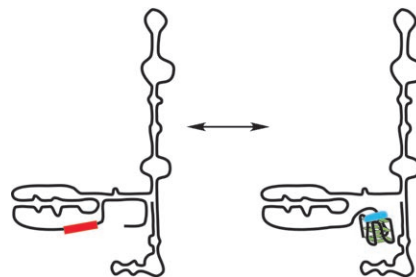
J. Gros, A. Guédin, J.-L. Mergny, L. Lacroix*

G-Quadruplex Formation Interferes with P1 Helix Formation in the RNA Component of Telomerase hTERC

ChemBioChem

DOI: 10.1002/cbic.200800300

G4-RNA: We report here the formation of a RNA–guanine quadruplex structure in the 5' part of hTERC, and we demonstrate on a model system that the interaction of this 5' part with a guanine quadruplex ligand prevents P1 helix formation.



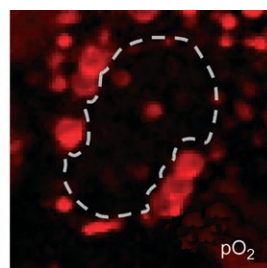
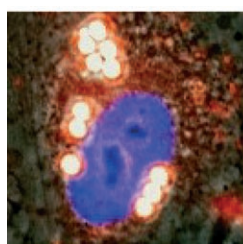
Oxygen Microscopy

O. S. Finikova, A. Y. Lebedev, A. Aprelev, T. Troxler, F. Gao, C. Garnacho, S. Muro, R. M. Hochstrasser, S. A. Vinogradov*

Oxygen Microscopy by Two-Photon-Excited Phosphorescence

ChemPhysChem

DOI: 10.1002/cphc.200800296



Oxygen distributions are imaged by two-photon laser scanning microscopy (2P LSM) using a newly developed two-photon-enhanced phosphorescent nanoprobe (see figure). 2P LSM allows

visualization of oxygen gradients in 3D with near diffraction-limited resolution, and lifetime-based measurements eliminate dependence on the local probe concentration.

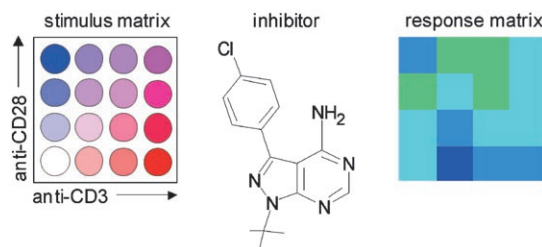
Drug Development

K. Köhler, A. Ganser, T. André, G. Roth, L. Grosse-Hovest, G. Jung, R. Brock*

Stimulus Dependence of the Action of Small-Molecule Inhibitors in the CD3/CD28 Signalling Network

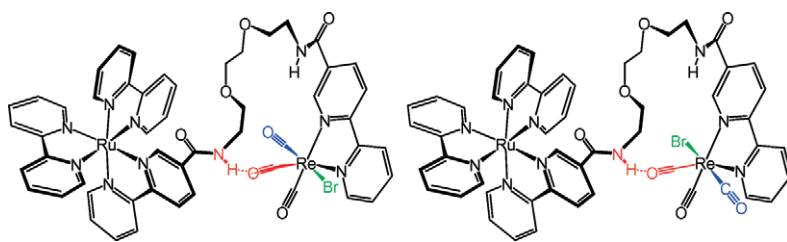
ChemMedChem

DOI: 10.1002/cmdc.200800134



2+2 ≠ 4. Inside the body, cells are simultaneously exposed to a multitude of various stimuli. To address the relevance of cellular signalling networks for drug design, cells were exposed to a matrix of

combinations of two stimuli, and the cellular responses were recorded in the absence and presence of pharmacological inhibitors.



A new stepwise route to heteronuclear tricarbonylrhenium(I)–tris(bipyridine)ruthenium(II) complexes has been explored with the product exhibiting an

unusual configurational arrangement attributed to a hydrogen-bonding interaction between an Re–CO group and an amide proton.

Coordination Chemistry

D. Pelleteret, N. C. Fletcher*

A Modular Approach to Luminescent Dinuclear Ruthenium(II) and Rhenium(I) Complexes

Eur. J. Inorg. Chem.

DOI: [10.1002/ejic.200800251](https://doi.org/10.1002/ejic.200800251)



Porphyrins containing alkenyl- and alkynyl-substituents at the *meso* position can be used as precursors for the intermolecular Pauson–Khand reaction. A variety of cyclopentenyl-substituted por-

phyrins can be synthesised in moderate to good yields. Porphyrin dimers can be obtained with well-defined stereochemistry via a two-step double Pauson–Khand reaction in nearly quantitative yield.

Porphyrin Chemistry

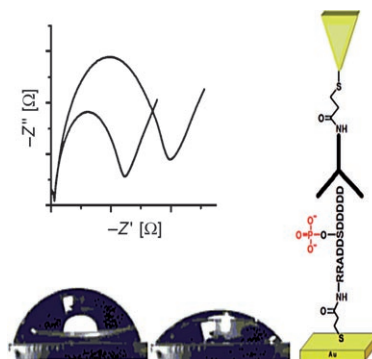
S. Horn, M. O. Senge*

The Intermolecular Pauson–Khand Reaction of *meso*-Substituted Porphyrins

Eur. J. Org. Chem.

DOI: [10.1002/ejoc.200800488](https://doi.org/10.1002/ejoc.200800488)

Versatile sensors: Different methods, such as impedance spectroscopy, molecular-force interactions, or contact-angle measurements proved to be effective tools to probe CK2 protein kinase (see graphic). This enzyme is active in intracellular signal transduction, cell division, and cell proliferation.



Biosensors

O. I. Wilner, C. Guidotti, A. Wieckowska, R. Gill, I. Willner*

Probing Kinase Activities by Electrochemistry, Contact-Angle Measurements, and Molecular-Force Interactions

Chem. Eur. J.

DOI: [10.1002/chem.200800765](https://doi.org/10.1002/chem.200800765)

Lignin Oxidation

T. Voith, P. Rudolf von Rohr*

Oxidation of Lignin Using Aqueous Polyoxometalates in the Presence of Alcohols

ChemSusChem

DOI: [10.1002/cssc.200800050](https://doi.org/10.1002/cssc.200800050)