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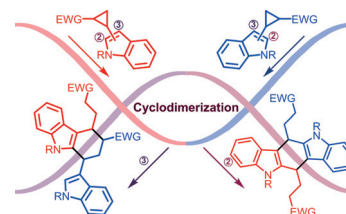


Dimerization

O. A. Ivanova, E. M. Budynina,* V. N. Khrustalev, D. A. Skvortsov, I. V. Trushkov, M. Ya. Melnikov

A Straightforward Approach to Tetrahydroindolo[3,2-*b*]carbazoles and 1-Indolyltetrahydrocarbazoles through [3 + 3] Cyclodimerization of Indole-Derived Cyclopropanes

Gemination for creation: A new method for bisindole assembly was proposed through [3+3] cyclodimerization of indole-derived cyclopropanes. Variations in the cyclopropane position at the indole core fine-tune the process towards the selective formation of indolyltetrahydrocarbazoles or indolo[3,2-*b*]carbazoles.



Chem. Eur. J.
DOI: 10.1002/chem.201502287

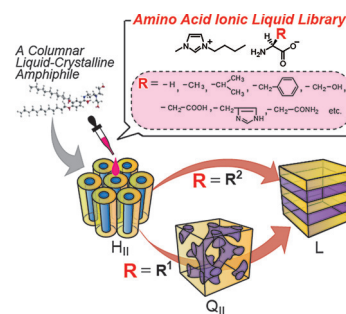


Ionic Liquids

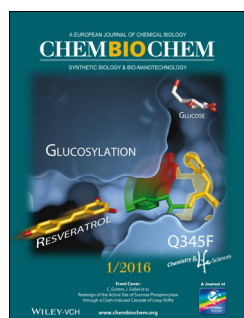
K. Fujimura, T. Ichikawa,* M. Yoshio, T. Kato, H. Ohno*

A Comprehensive Study on Lyotropic Liquid–Crystalline Behavior of an Amphiphile in 20 Kinds of Amino Acid Ionic Liquids

Self-organization control by solvent design: Lyotropic liquid–crystalline behavior of an amphiphilic molecules in 20 kinds of amino acid ionic liquids has been examined. Comparing the liquid-crystalline phase diagrams, we have obtained valuable insights for the design principle of ionic liquids for self-organization media of amphiphiles.



Chem. Asian J.
DOI: 10.1002/asia.201501055

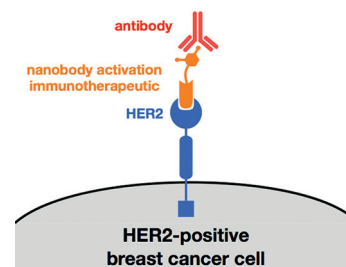


Immunotherapy

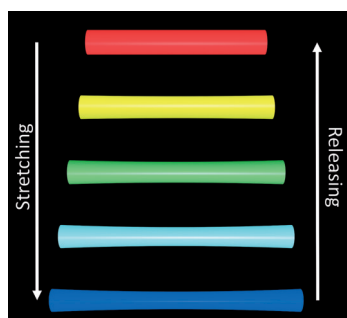
M. A. Gray, R. N. Tao, S. M. DePorter, D. A. Spiegel, B. R. McNaughton*

A Nanobody Activation Immunotherapeutic that Selectively Destroys HER2-Positive Breast Cancer Cells

Killer nanobody: We report a rationally designed nanobody activation immunotherapeutic that selectively redirects anti-dinitrophenyl antibodies to the surface of HER2-positive breast cancer cells, resulting in their targeted destruction by antibody-dependent cellular cytotoxicity.



ChemBioChem
DOI: 10.1002/cbic.201500591



ChemPhysChem

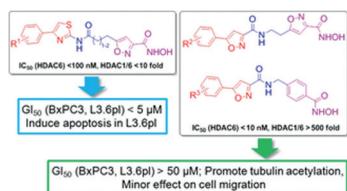
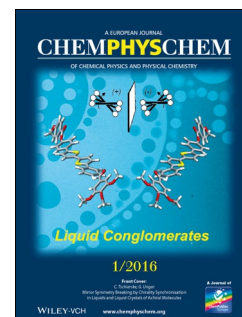
DOI: 10.1002/cphc.201500736

Structural Color

H. Li, X. Sun,* H. Peng*

Mechanochromic Fibers with Structural Color

Pretty stressful: Mechanochromic photonic crystal fibers are highlighted to represent a new direction in sensing and displaying.

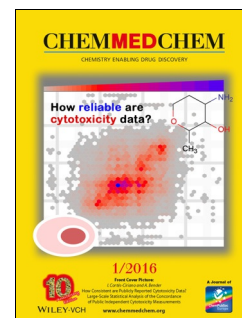


Anticancer Agents

I. N. Gaisina, W. Tueckmantel, A. Ugolkov, S. Shen, J. Hoffen, O. Dubrovskiy, A. Mazar, R. A. Schoon, D. Billadeau, A. P. Kozikowski*

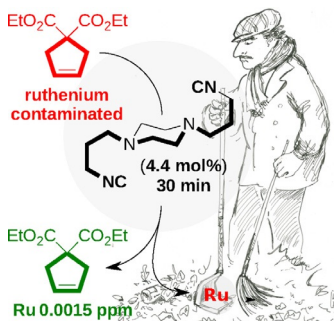
Identification of HDAC6-Selective Inhibitors of Low Cancer Cell Cytotoxicity

High or low selectivity: A new class of HDAC inhibitors bearing an isoxazole ring show high potency and selectivity for HDAC6 over HDAC1–3 and HDAC10, while unexpectedly showing little potency in blocking cell growth. These results suggest that HDAC6 inhibition alone is insufficient for disruption of cell growth, and that some degree of class 1 HDAC inhibition is required. The highly selective HDAC6 inhibitors reported herein that are weakly cytotoxic may find use in cancer immune system reactivation.



ChemMedChem

DOI: 10.1002/cmdc.201500456

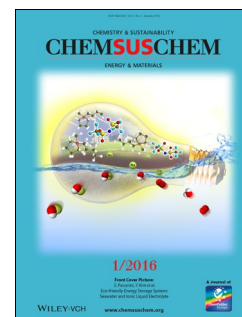


Metathesis

G. Szczepaniak,* K. Urbaniak, C. Wierzbicka, K. Kosiński, K. Skowerski, K. Grela*

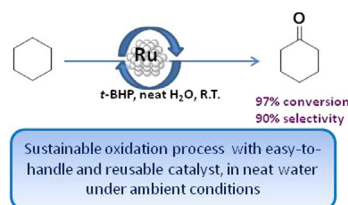
High-Performance Isocyanide Scavengers for Use in Low-Waste Purification of Olefin Metathesis Products

Metal removal: A new superior divalent isocyanide scavenger is investigated. It can be used to obtain products of olefin metathesis with ruthenium contents not exceeding the regulatory limit without the use of time-consuming purification techniques, even for challenging polar substrates. Furthermore, it acts as an excellent deactivating agent, quickly interrupting the progress of olefin metathesis.



ChemSusChem

DOI: 10.1002/cssc.201500784

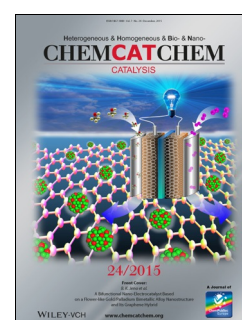


Selective Oxidation

A. Denicourt-Nowicki,* A. Lebedeva, C. Bellini, A. Roucoux*

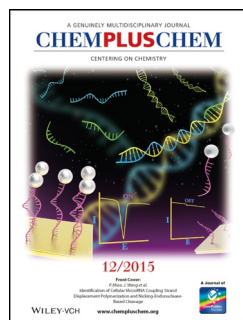
Highly Selective Cycloalkane Oxidation in Water with Ruthenium Nanoparticles

Active, selective, and retrievable! A sustainable oxidation process of cycloalkanes to the ketones with an easy-to-handle and reusable catalyst, in neat water, and under ambient conditions is described. The active catalyst is a ruthenium(0) nanospecies. *t*-BHP = *tert*-butylhydroperoxide.



ChemCatChem

DOI: 10.1002/cctc.201500805

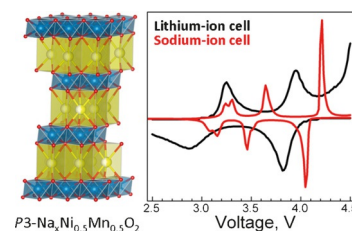


Electrochemistry

M. Kalapsazova, G. F. Ortiz, J. L. Tirado, O. Dolotko, E. Zhecheva, D. Nihtianova, L. Mihaylov, R. Stoyanova*

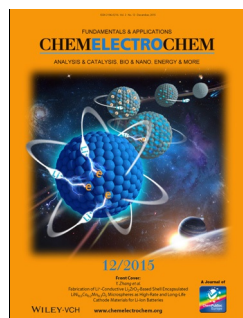
P3-Type Layered Sodium-Deficient Nickel–Manganese Oxides: A Flexible Structural Matrix for Reversible Sodium and Lithium Intercalation

Squeeze in! Sodium-deficient nickel–manganese oxides exhibit a layered structure, which is flexible enough to acquire different layer stacking. Specific features of the P3-type structure for reversible and fast sodium and lithium intercalation are demonstrated; this property contributes to the design of low-cost electrodes for both sodium- and lithium-ion batteries (see figure).



ChemPlusChem

DOI: 10.1002/cplu.201500215

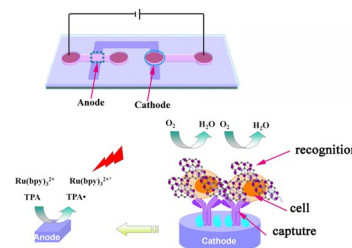


Bipolar Electrodes

M.-S. Wu, Z. Liu, J.-J. Xu,* H.-Y. Chen

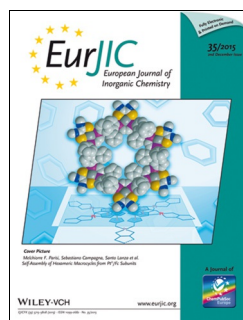
Highly Specific Electrochemiluminescence Detection of Cancer Cells with a Closed Bipolar Electrode

Catch me if you can: A closed bipolar electrode–electrochemiluminescence strategy was developed for the specific capture and detection of cancer cells by combining dual-marker recognition with signal amplification of graphene oxide–Au conjugates.



ChemElectroChem

DOI: 10.1002/celc.201500361

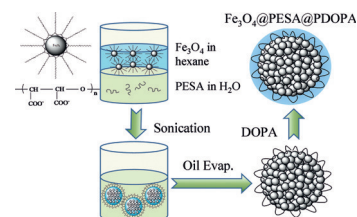


Magnetite Nanocrystal Clusters

S. Song, W. Zhu, C. Long, Y. Zhang, S. Chen, L. Dong*

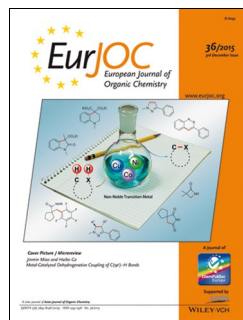
Polydopamine-Functionalized Superparamagnetic Magnetite Nanocrystal Clusters – Rapid Magnetic Response and Efficient Antitumor Drug Carriers

Magnetite nanocrystal clusters (MNCs) are fabricated by a self-assembly strategy, the surface of the MNCs is functionalized with polydopamine (PDOPA), and the antitumor drug epirubicin is attached onto the surface. The achieved MNC@PDOPA exhibits superparamagnetic characteristics, improved magnetization behavior under external magnetic field, well-controlled loading, and pH-responsive properties.



Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.201500912

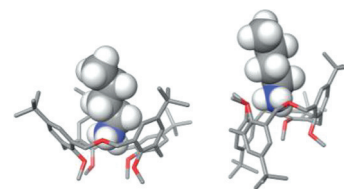


Induced-Fit Recognition

C. Talotta, C. Gaeta,* M. De Rosa, J. R. Ascenso, P. M. Marcos,* P. Neri*

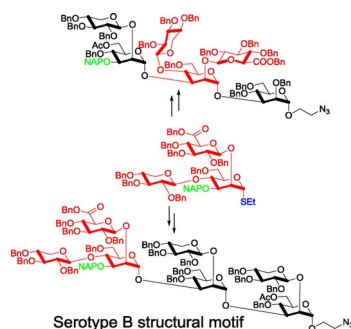
Alkylammonium Guest Induced-Fit Recognition by a Flexible Dihomooxalix[4]arene Derivative

Conformationally mobile tetramethoxy-dihomooxalix[4]arene **1c** is able to interact with linear and branched alkylammonium guests through an induced-fit process that is mainly driven by H-bonds and cation– π interactions. Adaptive transition from a 1,4-alternate to cone conformation is seen upon complexation.



Eur. J. Org. Chem.

DOI: 10.1002/ejoc.201501319



ChemistryOpen

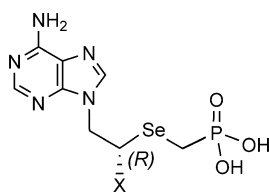
DOI: 10.1002/open.201500143

Oligosaccharide Synthesis

L. Guazzelli, R. Ulc, S. Oscarson*

Synthesis of a Glucuronic Acid-Containing Thioglycoside Trisaccharide Building Block and Its Use in the Assembly of *Cryptococcus Neoformans* Capsular Polysaccharide Fragments

Capsular Crypto Carbs: *Cryptococcus neoformans* is a fungal pathogen which causes severe infections in immunocompromised individuals. A glucuronic-acid-containing trisaccharide thioglycoside building block was prepared and used in the synthesis of a monoacetyl hexasaccharide and monoacetyl serotype B heptasaccharide structural motifs typical in capsular structures of *C. neoformans*. This is useful in later development of vaccines against the pathogen.



Seleno-adeфовir (**3**, X = H)
Seleno-tenoфовir (**4**, X = Me)

Asian J. Org. Chem.

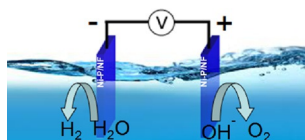
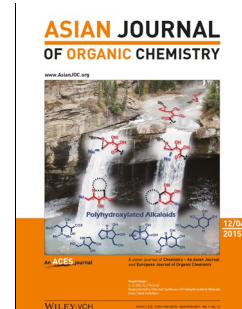
DOI: 10.1002/ajoc.201500421

Selenonucleoside Phosphonates

P. K. Sahu, G. Kim, A. Nayak, J. Y. Ahn, M. W. Ha, C. Park, J. Yu, H.-g. Park, L. S. Jeong*

Synthesis of Acyclic Selenonucleoside Phosphonates as Potential Antiviral Agents

Se what you can do: Acyclic selenonucleoside phosphonates, seleno-adeфовir (**3**) and seleno-tenoфовir (**4**), which are bioisosterically related to antiviral drugs adeфовir and tenoфовir, were designed and synthesized from a diethyl(iodomethyl)phosphonate by using diselenide chemistry as a key step.



ChemNanoMat

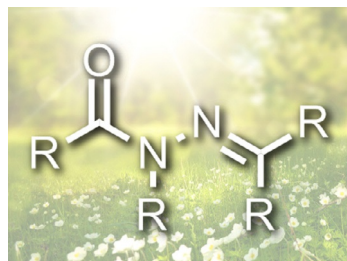
DOI: 10.1002/cnma.201500163

Electrochemistry

C. Tang, A. M. Asiri, Y. Luo,* X. Sun*

Electrodeposited Ni-P Alloy Nanoparticle Films for Efficiently Catalyzing Hydrogen- and Oxygen-Evolution Reactions

Ni-P alloy nanoparticle films electrodeposited on Ni foam (Ni-P/NF) act as efficient bifunctional water-splitting electrocatalysts with strong durability in alkaline media. The two-electrode water electrolyzer requires a voltage of 1.67 V to reach 10 mA cm⁻².



ChemViews magazine

DOI: 10.1002/chemv.201500101

Photoswitches

D. Bradley

Acylhydrazones Turn On the Light

A modular approach to molecular photoswitches has been devised by chemists in Germany using a library of some 40 stable acylhydrazones. These stable photoswitches are widely tunable and enable light control over molecular systems and their properties. They could have a range of applications in biology, supramolecular chemistry, and materials science.

