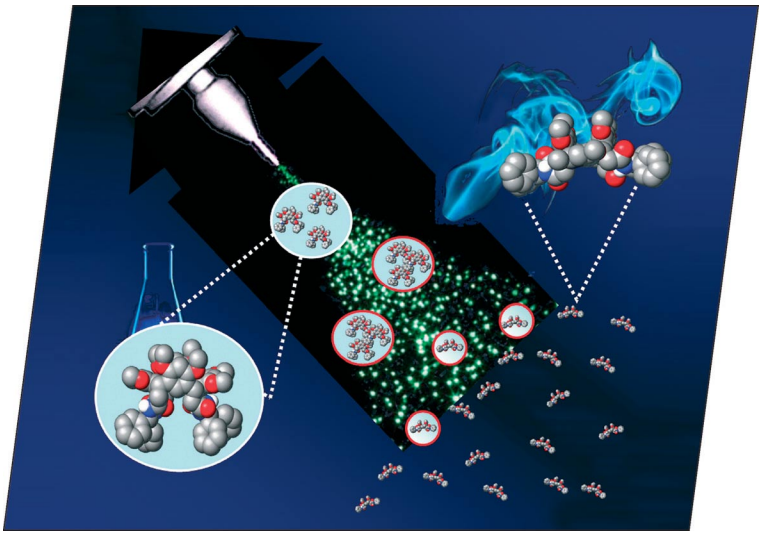
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows two low-energy geometries of a new bis(diamido)-bridged basket resorcin[4]-arene, which features two (1*R*,2*R*)-(+)-1,2-diphenylethylenediamine bridges in its structure. The first "drops" schematically show the geometry assumed by the molecule in chloroform solution, tentatively designated as the "folded wings" structure (bottom left); the top right structure represents the geometry adopted when the solvent is removed and is named the "open wings" structure. Stochastic dynamics simulations run at 300 K, which demonstrate the irreversible conversion of the latter structure into the former one, support the "folded wings" geometry as the most likely 3D structure of the basket resorcin[4]arene in chloroform. It can be shown by FT-ICR mass spectrometry that such a receptor can selectively accommodate the enantiomers of amino acid derivatives and amphetamine in its chiral cavity. Details are discussed in the article by B. Botta, M. Speranza et al. on p. 5995 ff. The authors thank Dr. Giovanna Cancelliere and Dr. Deborah Subissati for their contribution in designing the cover page.



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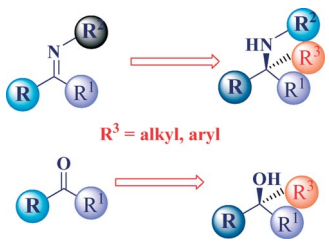
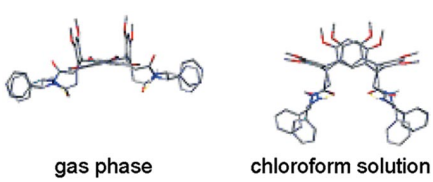
MICROREVIEW

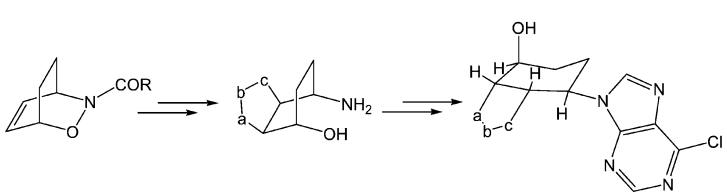


Enantioselective catalytic formation of tertiary stereogenic centers has nowadays reached an impressive level of maturity, which is reflected in the large variety of available methods that afford high yields and high stereoselectivities. In this review we discuss recent highlights of a new direction in catalysis research: the formation of quaternary stereogenic centers by enantioselective catalytic methodologies.

FULL PAPERS



Bis(diamido)-bridged basket resorcin[4]arenes (M) in both the gas phase and chloroform solution were investigated by ^{1}H and ^{13}C NMR spectroscopy and molecular modeling calculations. Their aptitude to selectively accommodate the enantiomers of Trp, Tyr methyl ester, and amphetamine (A) in their chiral cavities was evaluated.

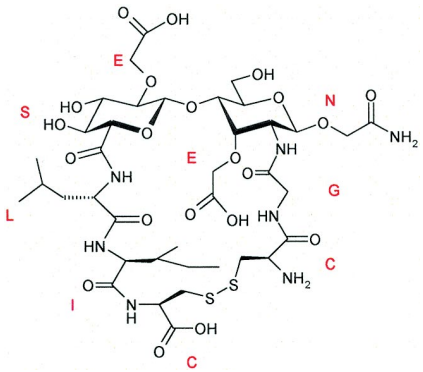


3-Benzoyl-2-oxa-3-azabicyclo[2.2.2]oct-5-ene undergoes cycloaddition with benzonitrile oxide to afford a mixture of *syn* and *anti* regioisomeric cycloadducts. The *anti* cycloadducts were easily elaborated to stereodefined isoxazoline-based carbocyclic aminols that serve as synthons for the linear construction of purine nucleosides.

Peptide Mimetics

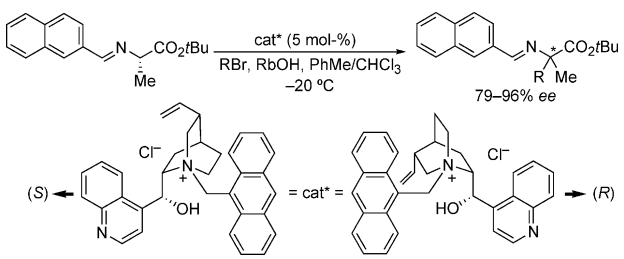
Keywords: Carbohydrates / Amino acids / Mimetics / Peptides, cyclic / Angiogenesis, inhibition

Carbohydrate scaffolds are used to generate mimetics of VEGF-D cyclic loop 2 mimetic CNEESLIC that is a good inhibitor of VEGF-D binding to its receptor VEGFR-2. The structure design is based on molecular modeling studies.



Asymmetric Catalysis

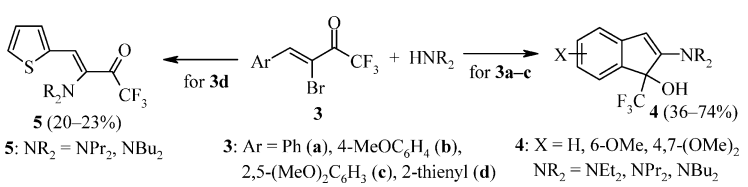
Keywords: Enantioselective synthesis / Phase-transfer catalysis / Amino acids / Ammonium salts / Organocatalysis



An efficient experimental procedure involving the use of simple cinchonidine and cinchonine-derived ammonium salts as highly enantioselective phase-transfer organocatalysts for the asymmetric α-alkylation of aldimine alanine esters was described.

Domino Reactions

Keywords: Enones / Nucleophilic substitution / Domino reactions

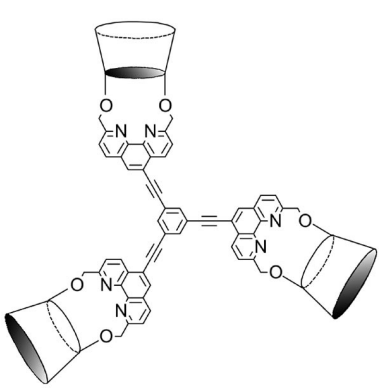


2-Bromo-3-arylpropenyl trifluoromethyl ketones **3a–c** underwent domino reactions triggered by secondary amines to give unexpectedly 2-amino-1-trifluoromethylindenols **4** in good yields, whereas treatment of 2-bromo-3-thienyl derivatives **3d** with the same nucleophiles afforded the captodative trifluoroacetyl(amino)alkenes.

Concave Reagent Trimer

Keywords: Calixarenes / Dendrimers / Heterocycles / Macrocycles / 1,10-Phenanthrolines / Supramolecular chemistry

1,10-Phenanthroline-bridged calix[6]arenes have been coupled to form a trimeric concave reagent.



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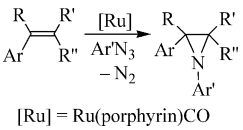
Aziridination of Olefins

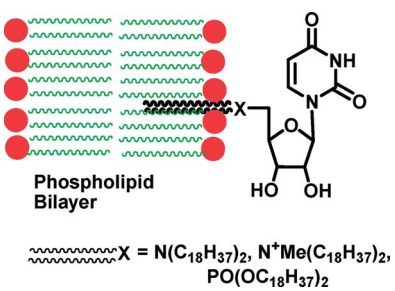
Keywords: Azides / Aziridines / Ruthenium / Porphyrins / Catalysis



The use of aryl azides as atom-efficient nitrene transfer reagents in the (porphyrin)ruthenium-catalyzed aziridination of olefins has been investigated. Very small amounts of catalyst can be used.

Membrane Anchoring of Nucleosides

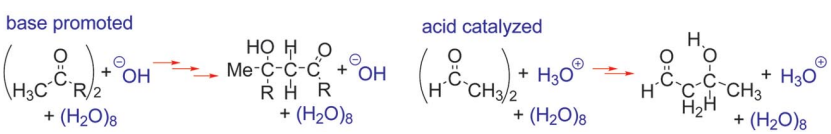
Keywords: Nucleosides / Amphiphiles / Lipophilicity / Membrane anchoring / Synthesis



Amphiphilic nucleosides with one or two long alkyl chains attached to the 5′-position by an amino or a phosphate group were synthesized. As shown by solid-state NMR spectroscopic methods, these compounds anchor in phospholipid bilayers through the alkyl chains without disturbing the organization and dynamics of the membrane.

Aldol Reactions

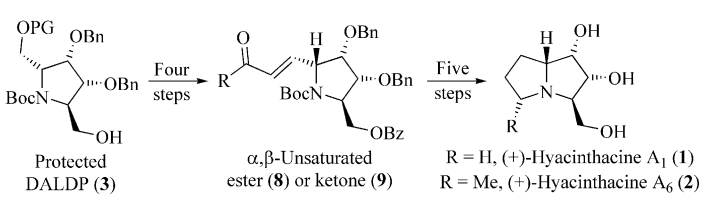
Keywords: Aldol reactions / Reaction mechanisms / Density functional calculations / Hydrogen bonds / Aldehydes



Base- and acid-promoted aldol reactions were investigated by density functional theory calculations. The OH^--containing reactions have three elementary processes. Whereas the rate-determining step of the reaction of acetaldehyde is C–H bond scission, that of acetone is C–C bond formation. The H_3O^+-containing reactions have two elementary processes.

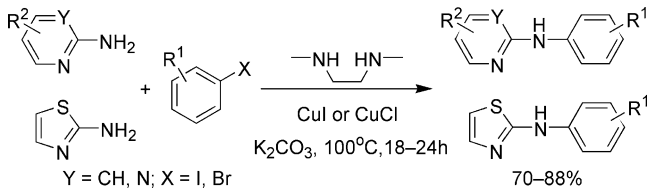
Natural Products

Keywords: Alkaloids / Azasugars / Hyacinthacines / Enantioselectivity / Synthetic methods / Enzyme inhibitors



The scarcity of bioactive natural products for pharmaceutical and medical studies as well as drug development is a problem that can be overcome, in principle, by total synthesis. The naturally occurring glycosidase inhibitors (+)-hyacinthacine A_1 (**1**) and (+)-hyacinthacine A_6 (**2**) have now been synthesized from a readily accessible homochiral and triorthogonally protected polyhydroxylated pyrrolidine (DALDP, **3**) in a highly stereoselective fashion.

Heteroarylamines



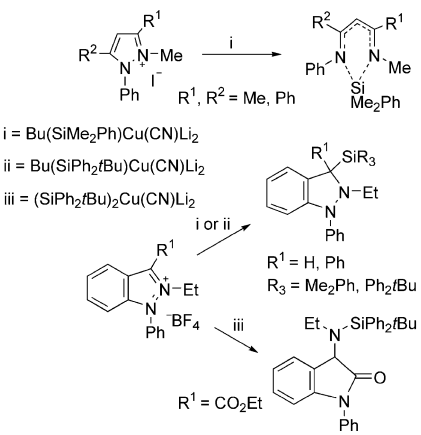
Keywords: Amines / Aryl halides / Arylation / Copper

Simple and inexpensive copper-mediated *N*-arylation of heteroarylamines was achieved by using DMEDA as a ligand and K_2CO_3 as a base in dioxane heated at 100 °C. The influence of the copper species, ligand, base and solvent was investigated in detail. *N*-Arylated derivatives of several heteroarylamines were synthesized in good yields under optimized reaction conditions.

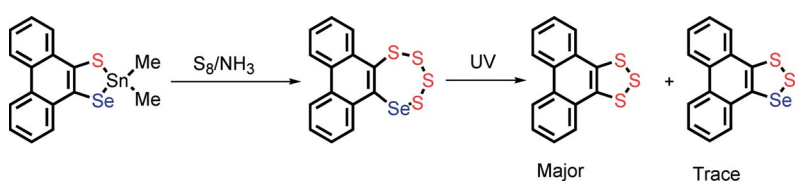
Silylcuprate Chemistry

Keywords: Silicon / Heterocycles / Enaminoimines / Silylindazolines

N-Silyl-β-enaminoimines and silylated indazolines and *N*-silyloxindoles were synthesised by treatment of pyrazolium and indazolium salts with silylcuprates. This is a reaction without precedent in carbon chemistry.



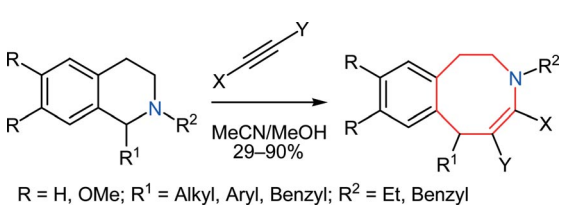
Selenium Polychalcogenides



Keywords: Benzopentathiepin / Chalcogens / Polyaromatics / Selenium / Sulfur heterocycles

Five-, six-, and seven-membered cyclic polychalcogenides fused to an aromatic system were synthesized. The chalogenide ring contains selenium, and the lability of the ring systems and the extrusion of selenium were also examined.

Azocines



Keywords: Azocine / Tetrahydroisoquinolines / Activated alkynes / Tandem transformation / Ring expansion

Tetrahydroisoquinolines underwent tandem piperidine ring enlargement in the presence of activated alkynes in acetonitrile and methanol, producing tetrahydrobenzo[*d*]azocines in high yields.

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CORRECTION

The editorial staff and the publishers thank all readers, authors, referees, and advertisers for their interest and support over the past year and wish them all a happy new year.

If not otherwise indicated in the article, papers in issue 35 were published online on November 26, 2007