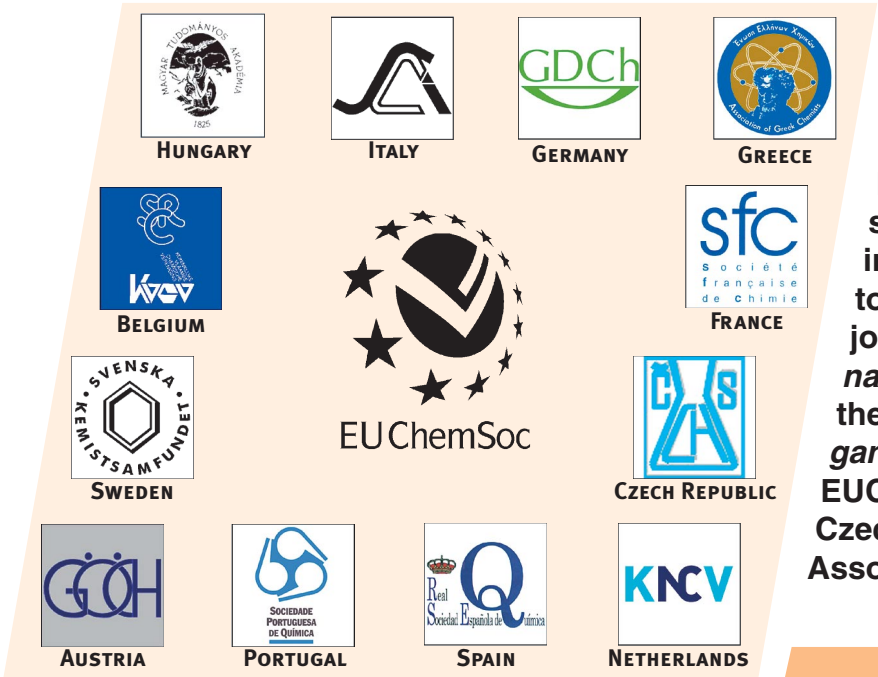
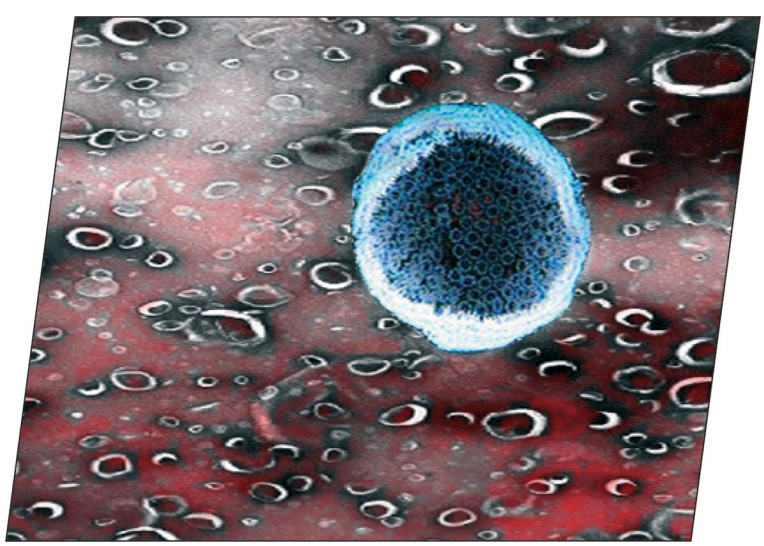


The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows a simulated micelle formed by amphiphilic cyclodextrin molecules above a landscape of real cyclodextrin vesicles. Synthesis of amphiphilic cyclodextrins, and the ranges of supramolecular assemblies formed by them, are presented in the Microreview by F. Sallas and R. Darcy on p. 957ff.



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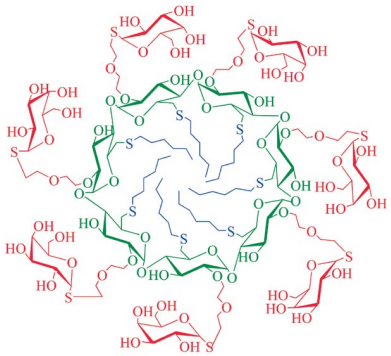
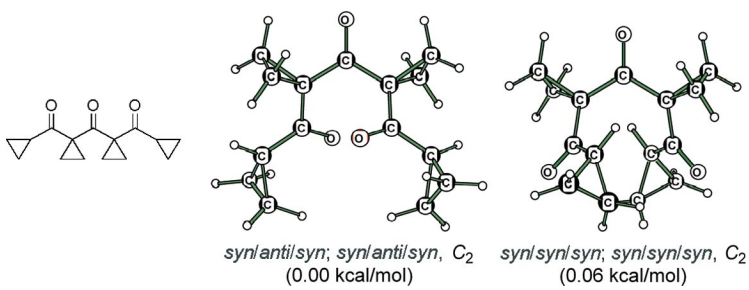
MICROREVIEW



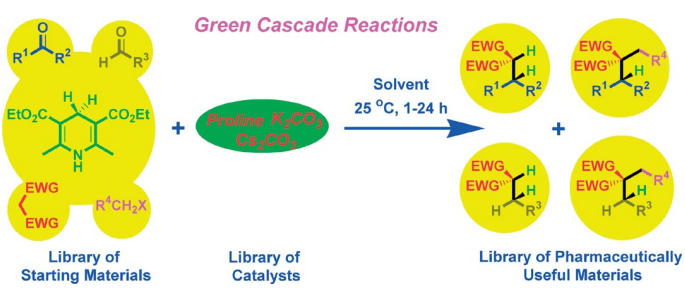
This microreview covers recent advances in the synthesis of cyclodextrin amphiphiles as well as their supramolecular chemistry. The synthetic aspects of their preparation along with their self-assembly, inclusion and recognition properties are described and discussed.

SHORT COMMUNICATION



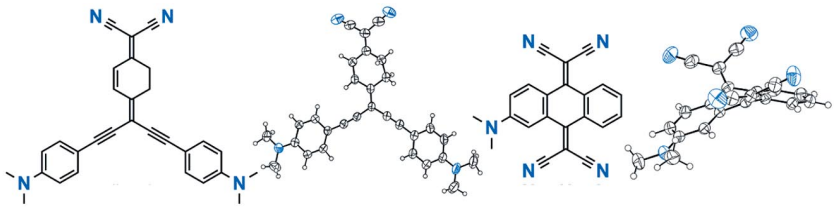
The first open-chain cyclopropyl-1,3,5-triketones and -1,3,5,7-tetraketones were prepared by sequential cyclopropanations and Claisen condensations. The configuration and conformation of the products were studied by experimental methods and by DFT calculations.

FULL PAPERS



Structurally diverse compounds were assembled from simple substrates by diversity-oriented green synthesis involving cascade olefination/hydrogenation, olefination/hydrogenation/alkylation, hydrogenation/olefination/hydrogenation, olefination/hydrogenation/hydrolysis and olefination/hydrogenation/alkylation/Huisgen cycloaddition reaction sequences in one-pot fashion with stereospecific organo-/metal carbonate catalysis and organo-/Cu^{I} catalysis (see Scheme). Many of these structurally diverse compounds are pharmaceutically useful drugs, drug intermediates and ingredients.

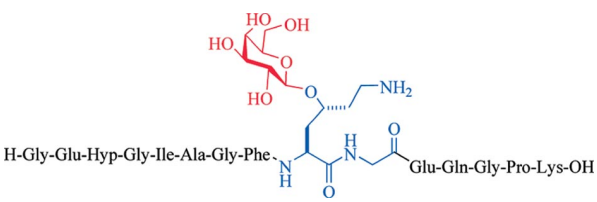
Push-Pull Chromophores



A series of intramolecular charge-transfer chromophores, featuring dialkylamino donors and dicyanovinyl acceptors, were prepared and their properties determined by X-ray crystallography, UV/Vis spectroscopy and electrochemical methods. D–A conjugation through an alkene linker was found to be more efficient than through an alkyne linker as evidenced by the optical and electrochemical gaps.

Keywords: Donor–acceptor chromophores / 11,11,12,12-Tetracyano-9,10-anthraquinodimethane (TCAQ) / Charge transfer / Electrochemistry / Pi conjugation / Quinodimethanes

Glycopeptide Synthesis

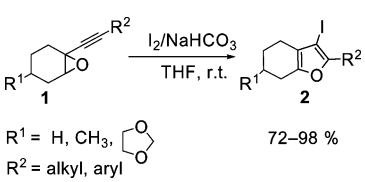


The preparation of a *N*-Fmoc-protected galactosylated (2*S*,4*R*)-4-hydroxylysine derivative and its incorporation into the sequence of an immunodominant glycopeptide from type II collagen is described. The synthesis of the 4-hydroxylysine aglycon started from (2*S*,4*S*)-4-hydroxy-6-oxo-1,2-piperidinedicarboxylate and involved the formation of a γ-lactone and its *N*-acylation with glycyl esters.

Keywords: Glycopeptides / Amino acids / Hydroxylysine / Solid-phase synthesis / Lactones / Rheumatoid arthritis

Halofurans

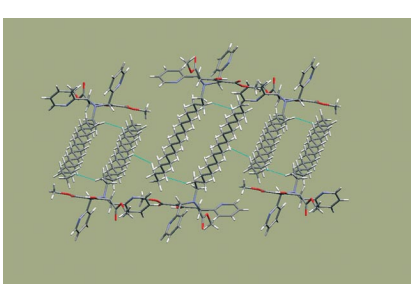
A new approach to the formation of polysubstituted 3-iodofurans by electrophilic cyclization of various propargylic oxirane compounds has been developed. Subsequent palladium-catalyzed coupling increased the molecular complexity of the products.



Keywords: Electrophilic cyclization / Oxiranes / Furans / Iodine / Alkynes

Piperidones and Bispidones

A series of piperidones incorporating alkyl chains of varying length have been synthesised. These piperidones feature aggregation of the hydrophobic regions in their extended structures, and have been used as precursors for the synthesis of a series of bicyclic bispidones. The structural features of both the piperidone and bispidone systems have been explored.



Keywords: Bispidone / Piperidone / Tautomerism / Structure elucidation / Conformation analysis

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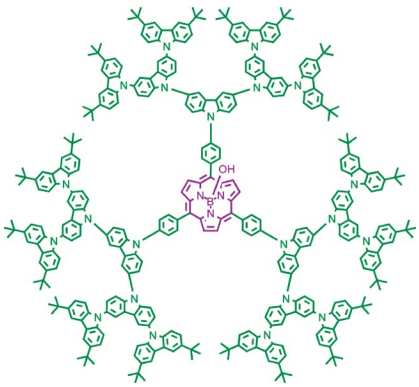
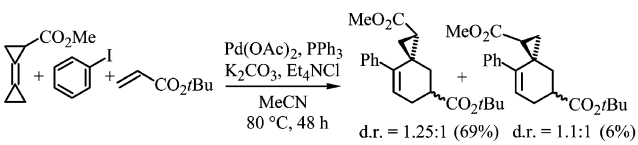
Dendritic Subporphyrins

Novel dendritic carbazole-functionalized subporphyrins have been synthesized from pyridine−tri(pyrrol-1-yl)borane and the corresponding aldehydes. In these molecules, efficient photoinduced intramolecular energy transfer occurs from the carbazole dendron to the subporphyrin core. The carbazole dendron can significantly influence the absorption and emission spectra of the subporphyrin core, which are blueshifted with increasing dendron generation.



Keywords: Subporphyrins / Carbazole / Dendrimers / Energy transfer / Light-harvesting antennas / Porphyrinoids

Cascade Reactions

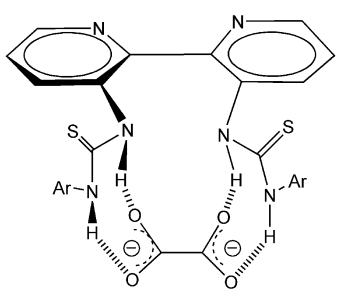


Three-component Domino Heck−Diels−Alder reactions involving certain monosubstituted bicyclopropylidenes, iodobenzene and alkyl acrylates proceed with a moderate to good degree of regioselectivity to yield 1-substituted spiro[2.5]octene-5-carboxylate derivatives via the correspondingly substituted allylidenecyclopropanes.

Keywords: Bicyclopropylidene / Deboropalladation / Domino reactions / Heck coupling / Multicomponent reaction

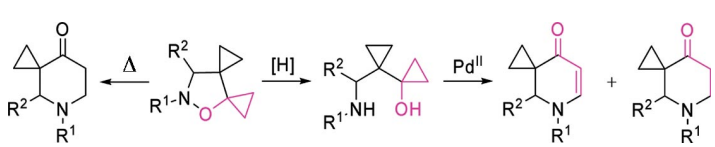
Carboxylate Receptors

Two 3,3′-dithiourea-2,2′-bipyridines were synthesized, and their ability to act as sensors for carboxylates was evaluated by UV/Vis and fluorescence studies. Their conformational changes upon protonation and Ni^{2+} complexation were also studied.



Keywords: Biaryls / Molecular recognition / Fluorescent probes / Receptors / Hydrogen transfer

Pd^{II}-Catalyzed Cascade Rearrangements



Pd^{II}-catalyzed cascade rearrangement of β-aminocyclopropanols obtained by nitrone 1,3-dipolar cycloaddition to 1,1′-bicyclopropylidene affords a dihydropyridone with an acyclic nitrone and 1:1 mixtures of dihydro- and tetrahydropyridones with cyclic nitrones. The tetrahydropyridones can also be prepared by thermal rearrangement of isoxazolidines.

Keywords: Cycloaddition / Cascade reactions / Heterocycles / Palladium / Catalysis / Rearrangement

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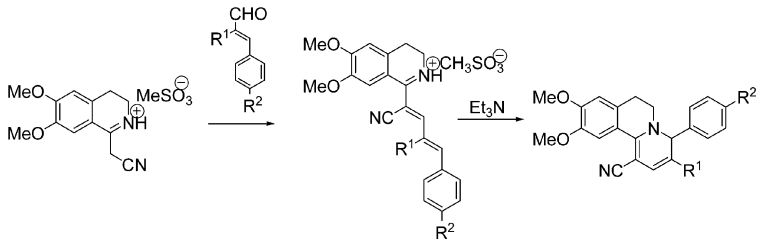
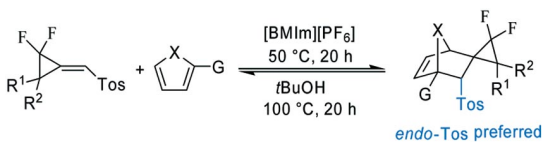
6π-Aza Electrocyclization



1-Cyanomethylene-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinolinium mesylate readily reacted with α,β-unsaturated aldehydes to result in 1-azatrienes that could be cyclized to give 6,7-dihydro-4*H*-benzo[*a*]quinolizines. The reaction mechanisms were investigated by computational methods.

Methylenecyclopropanes



The Diels–Alder reactions of difluoro(methylene)cyclopropanes with cyclic dienes are described. These cycloaddition reactions exhibited complete regioselectivity and high *endo* stereoselectivity. The obtained cycloadducts underwent a retro-Diels–Alder reaction to give the original dienophiles and dienes when heated.

If not otherwise indicated in the article, papers in issue 5 were published online on January 28, 2008

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