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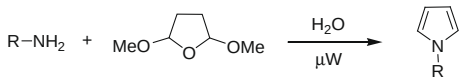
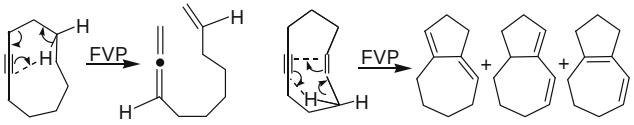
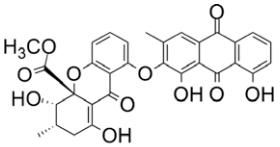
Contents

COMMUNICATIONS



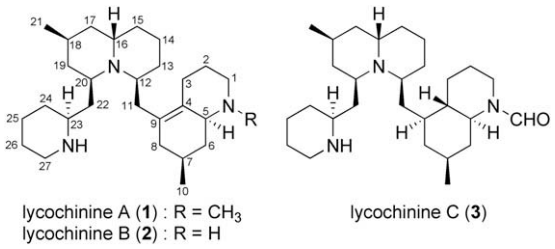
A simplified approach to the uncatalyzed Paal-Knorr condensation using microwave irradiation in water is described.



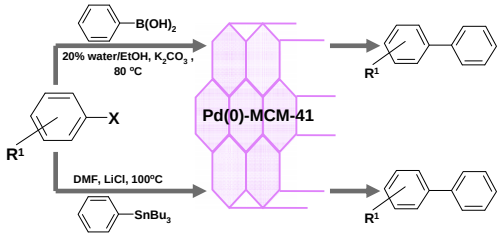


Chrysoxanthone

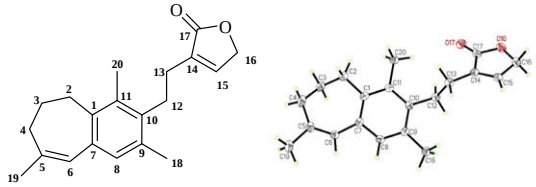
Chrysoxanthone, an unusual heterodimer linked through a diaryl ether bridge, was isolated from the ascomycete IBWF11-95A.



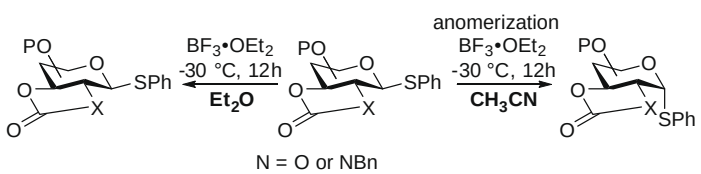
Three novel $C_{27}N_3$-type *Lycopodium* alkaloids, lycochinines A–C (**1**–**3**) consisting of an octahydroquinoline or a decahydroquinoline, a quinolizidine, and a piperidine, were isolated from the club moss *Lycopodium chinense*. The relative stereochemistry of **1**–**3** was determined by combination of NOESY correlations and chemical transformations.



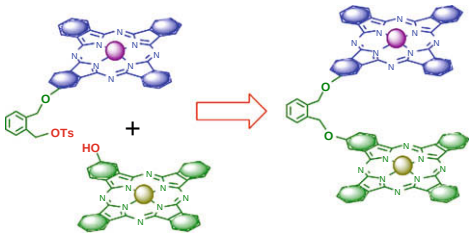
Palladium(0) has been immobilized into the mesoporous silica to develop a catalyst for Suzuki and Stille coupling reactions. This recyclable heterogeneous catalyst shows excellent catalytic efficacy with high turnover frequency.



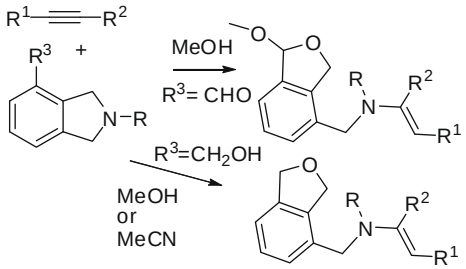
Andrographolactone (**1**), possessing an unprecedented diterpene skeleton, was isolated from the EtOAc extract of the aerial parts of *Andrographis paniculata*. Its structure was established by NMR, IR, UV, and HRESIMS data and subsequently confirmed by X-ray diffraction analysis. A possible biogenetic pathway of **1** was also proposed. Bioassay showed that **1** exhibited cytotoxic activity.

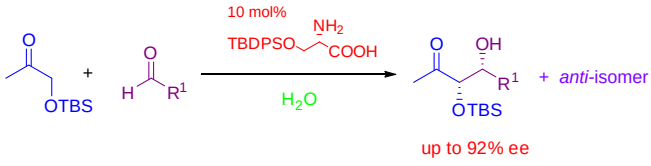


A pronounced solvent effect was observed in the anomerization reaction of pyranosides with 2,3-*trans* carbamate and carbonate.

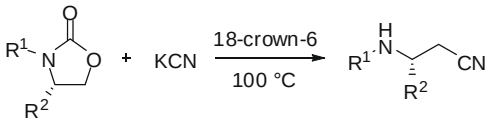


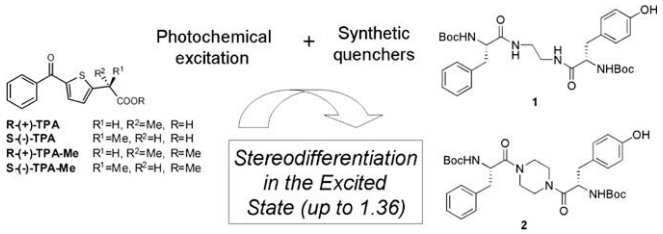
A direct synthetic method to produce heteronuclear and heteroligand *clamshell*-type binuclear phthalocyanines is developed with the target compounds demonstrating the possibility to form sandwich-type heterocomplexes for the first time.



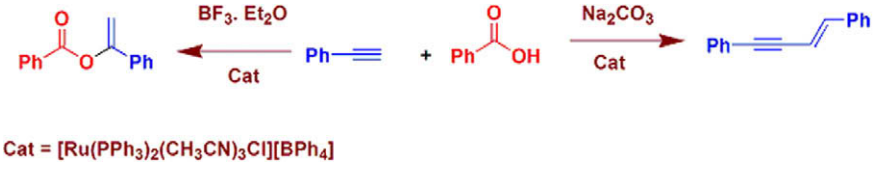


A practical and convenient organocatalytic strategy is developed to provide a direct route to *syn*-selective aldol products in the presence of water. The siloxy serine organocatalyst mediates the direct aldol reaction of TBSO-protected hydroxyacetone with a variety of aldehydes to provide the aldol products in good yields and enantioselectivities up to 92%.

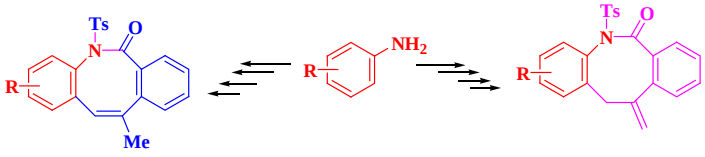


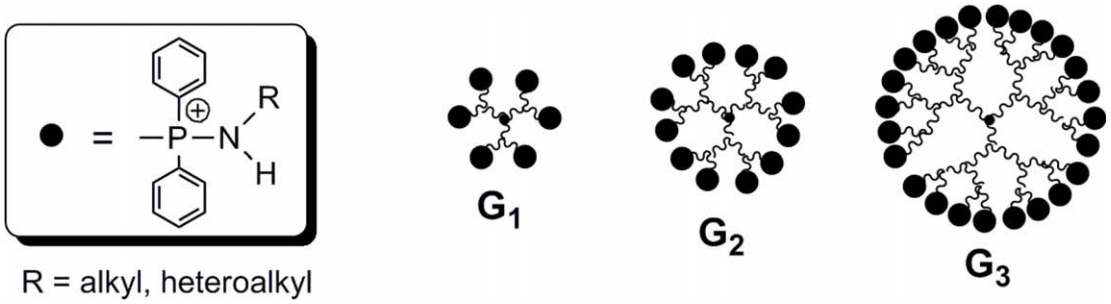


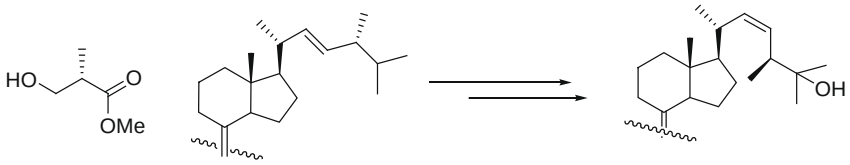
A series of new synthetic pseudopeptidic quenchers of the triplet excited state of tiaprofenic acid derivatives are described. Intermolecular quenching constants have been determined by means of laser flash photolysis and significant stereodifferentiation has been found in some cases.

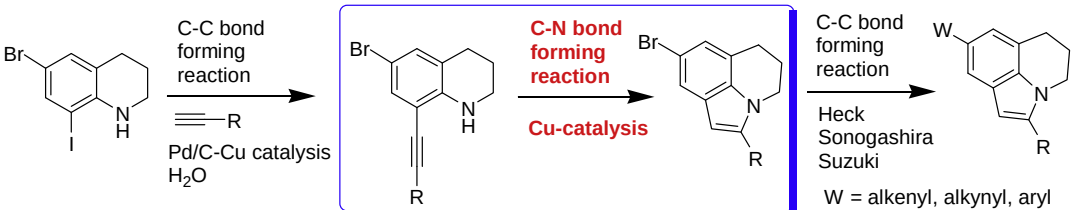


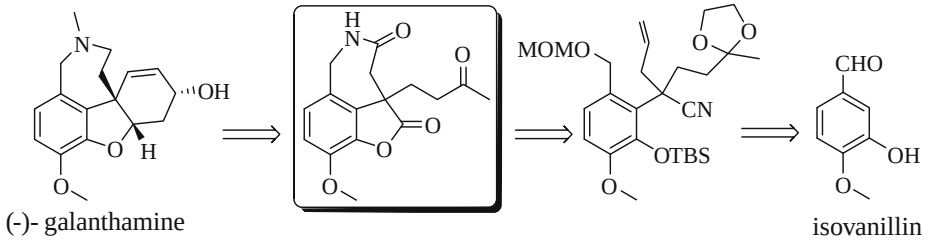
A cationic ruthenium(II) complex, $[Ru(PPh_3)_2(CH_3CN)_3Cl][BPh_4]$ (**1**), has been found to be an effective catalyst for stereoselective dimerization of alkynes in the presence of a base, and for regiospecific addition of carboxylic acids to alkynes in the presence of the Lewis acid, $BF_3{\cdot}Et_2O$.

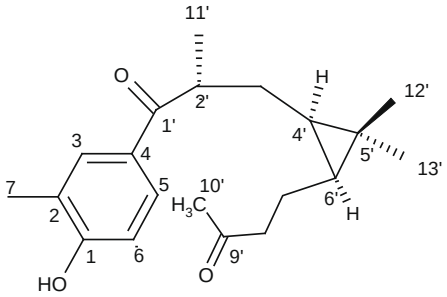


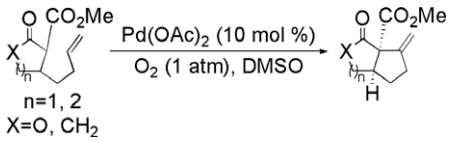


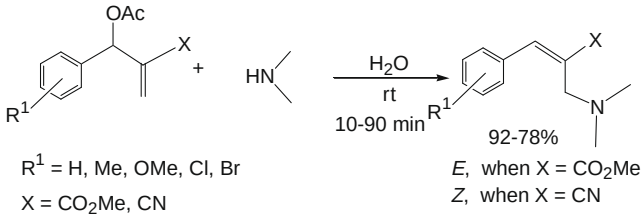


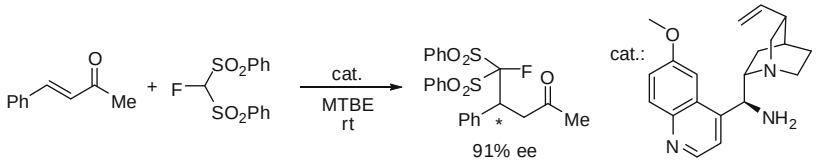


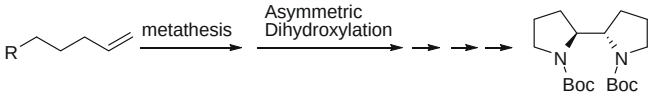




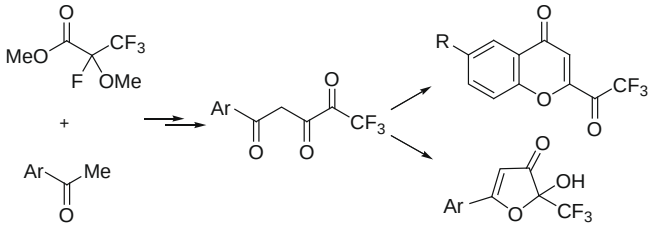


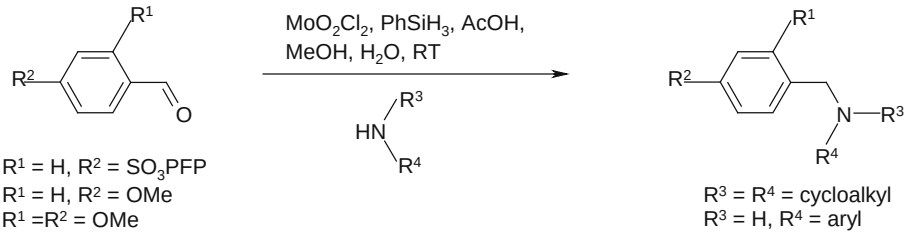




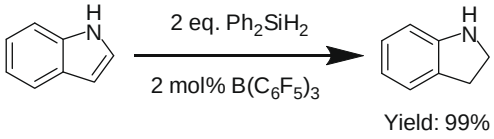


A new strategy for the stereoselective synthesis of the 2,2′-bipyrrolidine scaffold is presented using a metathesis reaction followed by asymmetric dihydroxylation for the introduction of the stereogenic elements. This straightforward high-yielding process is suitable for application to the synthesis of additional heterocycles.

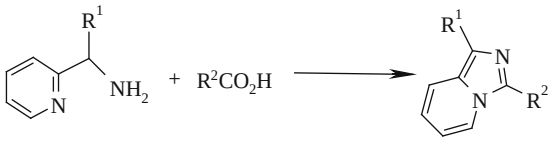




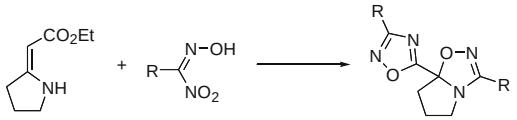
A powerful direct reductive amination (DRA) method is developed, using catalytic MoO_2Cl_2 and with $PhSiH_3$ as the reducing agent.

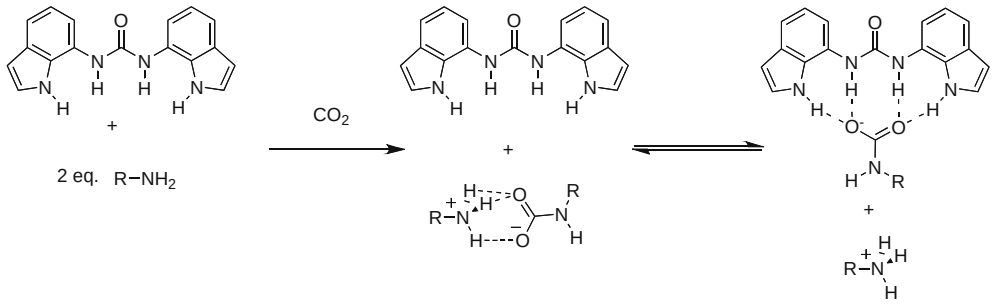


An efficient metal-free reduction of various C=X (X = O, N, C) bonds to their corresponding amines or hydrocarbons using the $Ph_2SiH_2/B(C_6F_5)_3$ catalytic system is demonstrated. This protocol reduces enamines, enol esters, carbonyls, amides, and isocyanates.

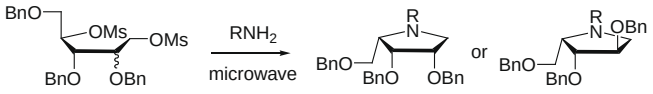


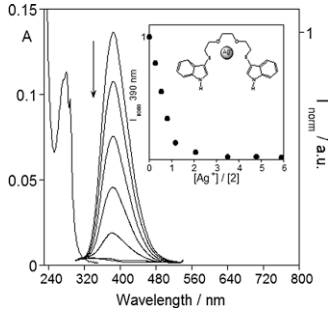
A one-pot synthesis of imidazo[1,5-*a*]pyridines starting from a carboxylic acid and 2-methylaminopyridines is achieved using propane phosphoric acid anhydride in ethyl or *n*-butyl acetate at reflux.

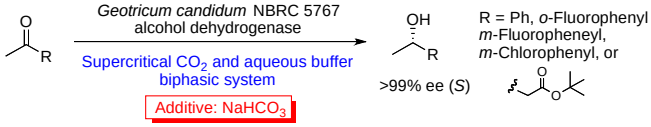


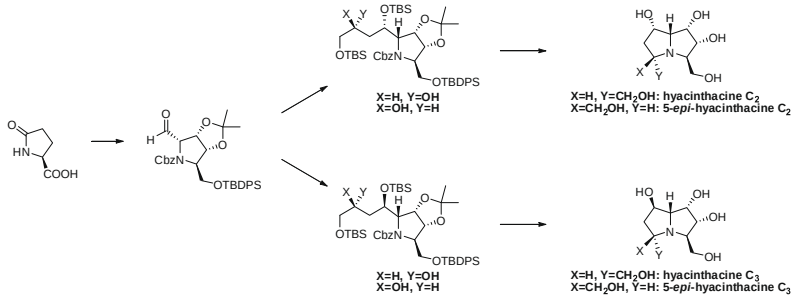


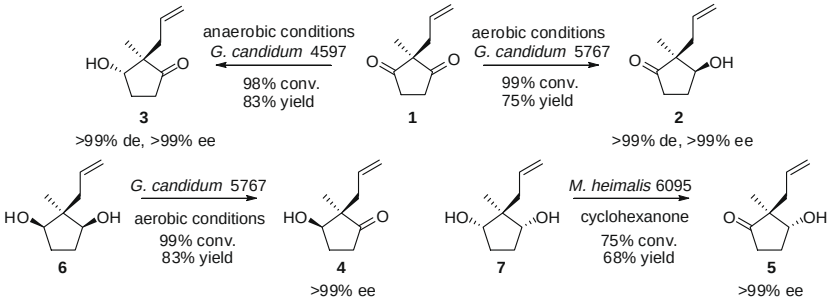
A series of urea-based anion receptors are shown to bind to alkylcarbamate anions formed by the reaction of primary amines with carbon dioxide in DMSO-d_6.











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Supplementary data available via ScienceDirect

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