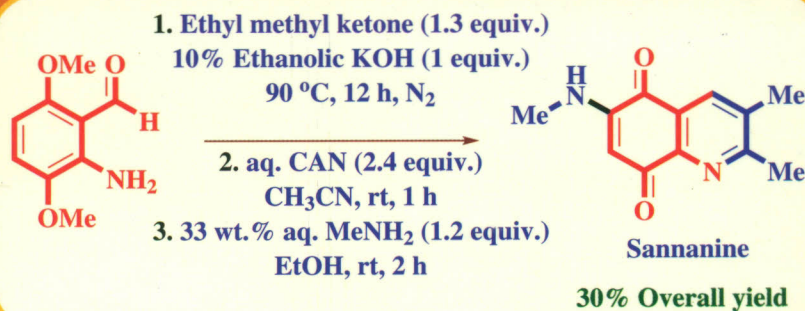
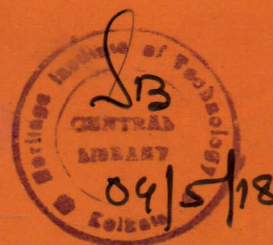


Journal of CHEMICAL SCIENCES

74



Synthesis of Sannanine, an anti-cancer agent

Indian Academy
of Sciences



Springer

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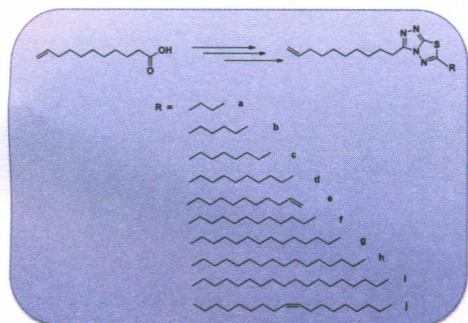
Compound		
IC ₅₀ (μg/mL)	0.05	< 0.01
MIC 90 (μg/mL)	17.48	9.34

Synthesis and biological evaluation of some bicyclic [2-(2,4-dimethylphenylthio)phenyl] aniline and its amide derivatives as potential antitubercular agents

Yogesh Patil, Ramesh Shingare, Shakti Chakraborty, Rachana Borkute, Dhiman Sarkar and Balaji Madje.22

A series of bicyclic [2-(2,4-dimethylphenylthio)phenyl] aniline analogues were synthesized. All the newly synthesized 15 compounds were inspected for their *in vitro* antitubercular activity against *Mycobacterium tuberculosis* (MTB) H₃₇Ra in both active and dormant state using an established XTT Reduction Menadione assay (XRMA).

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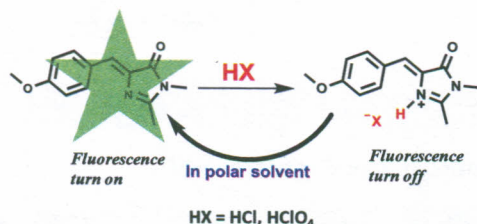


Synthesis and biological evaluation of 3,6-dialkylsubstituted-[1,2,4] triazolo[3,4-b][1,3,4]thiadiazoles

Vijayendar Venepally, K Sirisha, C Ganesh Kumar, E Vamshi Krishna, Sunil Misra and Ram Chandra Reddy Jala.23

A series of 3, 6-dialkyl triazolothiadiazole analogues were prepared using undecenoic acid, which is the renewable product of castor oil and evaluated them for their antimicrobial and cytotoxic activities. A few compounds showed good antimicrobial and cytotoxic activities.

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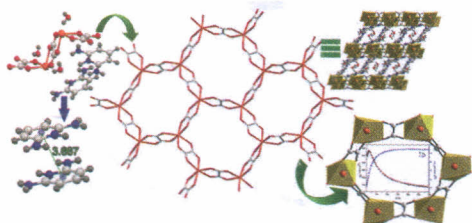
Protonation of the imino nitrogen deactivates the excited state of imidazolin-5-one in the solid state

Ashish Singh, Khalid Badi-Uz-Zama and Gurunath Ramanathan.24

The imino nitrogen of *p*-methoxybenzylideneimidazolinone (*p* MBDI) was protonated and crystallized in monoclinic crystal system with *P*2₁/*n* space group. Interestingly, the protonation at imino nitrogen of imidazolinone ring results in the loss of the fluorescence property of *gfp* chromophore analogue (*p*-methoxybenzylideneimidazolinone).



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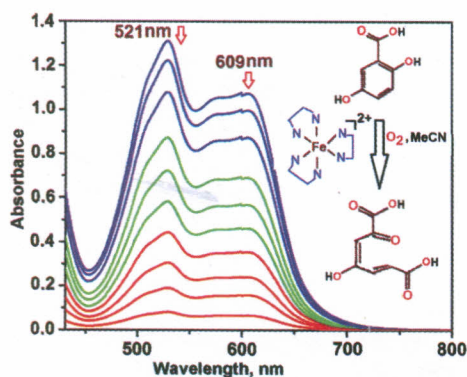


A novel Mn(II) oxalato-bridged 2D coordination polymer: synthesis, crystal structure, spectroscopic, thermal and magnetic properties

Hiba Sehim and Mohamed Faouzi Zid25

A new 2D polymeric oxalate-based Mn(II) salt has been synthesized by slow evaporation at room temperature and its structure has been determined by single-crystal X-ray diffraction. The crystal structure is built from anionic, two-dimensional, honeycomb networks formed by the oxalate-bridged Mn(II) ions, interleaved by 2,6-diaminopyridinium cations that are entrapped between the layers.

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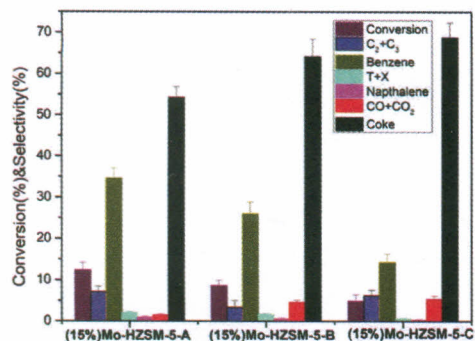


Gentisate-1,2-dioxygenase activity by an iron(II)-phenanthroline complex

Abhranil De, Dhananjay Dey, Ajit Das, Niranjana Kole and Bhaskar Biswas26

A mononuclear iron(II) phenanthroline complex exhibits significant catalytic activity towards oxidative cleavage of 2,5-dihydroxy benzoic acid at a rate, $k_{\text{obs}}(\text{min}^{-1}) = 6.58 \times 10^{-3}$ which predominantly produced 2-oxo-4-hydroxy-hepta-3,5-dienedioic acid upon addition of 2,5-dihydroxybenzoic acid in the presence of molecular oxygen.

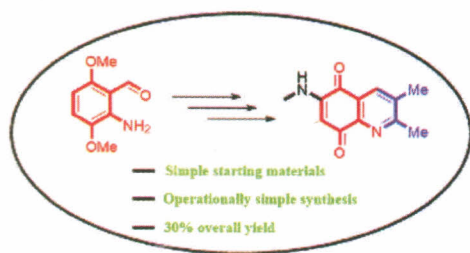
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Non-oxidative methane dehydroaromatization reaction over highly active α -MoC_{1-x} ZSM-5 derived from pretreatment

Pradeep Kumar Budde, Arvind Kumar Singh and Sreedevi Upadhyayula27

The catalytically active α -MoC_{1-x} phase over 15% Mo-HZSM-5-A is more immune to coking than β -Mo₂C phase over 15% Mo-HZSM-5-B and 15% Mo-HZSM-5-C. The active phases, α -MoC_{1-x} and MoO_xC_y, associated with Brønsted acid sites in 15% Mo-HZSM-5-A is responsible for high activity in methane conversion (~13%), excellent aromatic selectivity (38%), and high stability of the catalyst.

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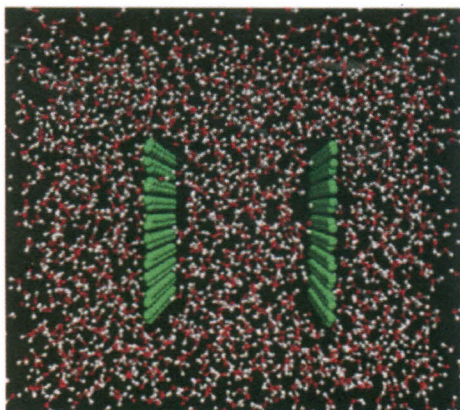


Total synthesis of sannanine and analogues thereof

Badher Naveen and Rajagopal Nagarajan28

The first total synthesis of Sannanine has been accomplished with an overall 30% yield in a concise manner. The key strategies involve Friedländer quinoline synthesis, demethylation, *in situ* oxidation and amination processes.

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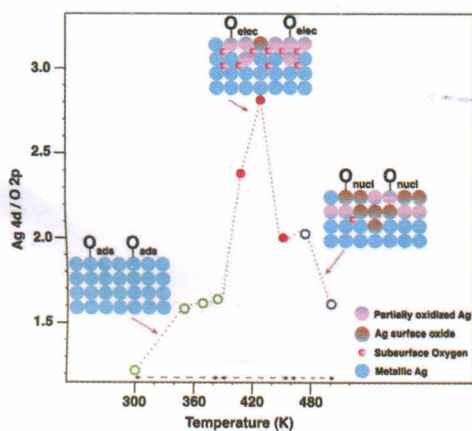
Hydrophobic walls
immersed in water

Temperature effects on the hydrophobic force between two graphene-like surfaces in liquid water

Tuhin Samanta and Biman Bagchi.29

The correlation length of effective hydrophobic force increases on lowering the temperature of the system. Critical de-wetting distance (d_c), where drying transition phenomenon occurs, shifts to lower value of inter-wall separation (d) upon cooling.

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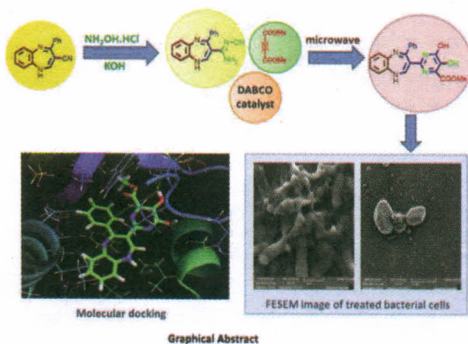


Subtle interaction between Ag and O₂: a near ambient pressure UV photoelectron spectroscopy (NAP-UPS) investigations

Manoj Kumar Ghosalya, Kasala Prabhakar Reddy, Ruchi Jain, Kanak Roy and Chinnakonda S Gopinath30

Mildly oxidized Ag-surface is identified to exhibit different electronic structure between 390 and 450 K and at 0.1 mbar O₂. Intensity ratio of Ag 4d/O 2p ≈ 3 indicating metallic-Ag character under the above conditions underscores the unique and subtle Ag-O₂ interaction. Space charge layer created offers the electrophilic oxygen, to interact with electron-rich molecules.

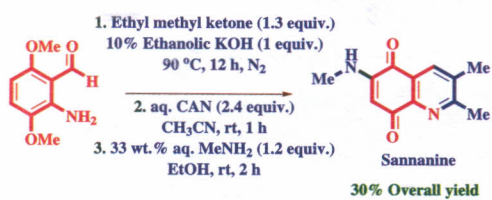
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Synthesis and molecular docking of pyrimidine incorporated novel analogue of 1,5-benzodiazepine as antibacterial agent

Apoorva Misra, Swapnil Sharma, Divya Sharma, Sunil Dubey, Achal Mishra, Dharma Kishore and Jaya Dwivedi31

Novel pyrimidine-incorporated 1,5-benzodiazepine analogues through its nitrile-derived amidoxime using one-pot domino approach have been synthesized. Structures of all the compounds were established through IR, ¹H NMR, ¹³C NMR and mass spectral data. Further, antibacterial activity test was performed using broth micro-dilution assay and the probable mode of action of compound (6) was examined *via* field emission scanning electron microscopy (FE-SEM) and molecular docking studies.



Cover Picture: Total synthesis of sannanine and analogues thereof
For details, see the paper by Badher Naveen and Rajagopal Nagarajan.
(Article ID: 28)