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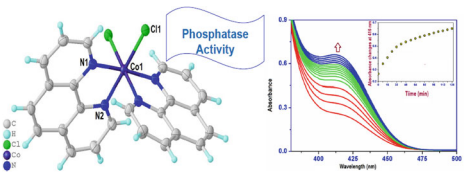

The cobalt(II) complex of phenanthroline exhibits good catalytic activity towards 4-nitrophenylphosphate (PNPP) as a standard substrate in aqueous DMF medium with k_{cat} value of $3.78 \times 10^2 h^{-1}$

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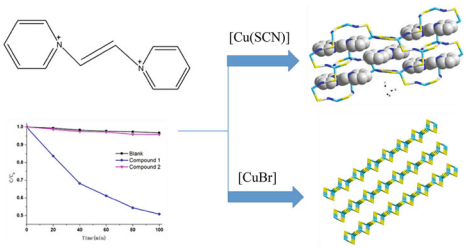

Two novel complexes $\{(pepy)[Cu_2(SCN)_4]\}_n$ and $\{(pepy)[Cu_2(Br_4)]\}_n$ [Pepy=1-2-(Pyridinium-1-yl)-1-ethenyl) pyridinium] based on vinylpyridinium cation and cuprous salts have been synthesized. They exhibited diverse structures and good photocatalytic properties.

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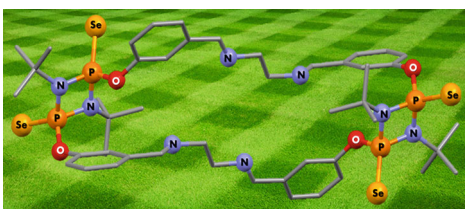

The synthesis of chalcogenides and gold complex of a Schiff base appended cyclodiphosphazane containing macrocycle $[\{P(\mu\text{-}^tBuN)\}_2(O-m-C_6H_4CHNCH_2)_2]_2$ is described.

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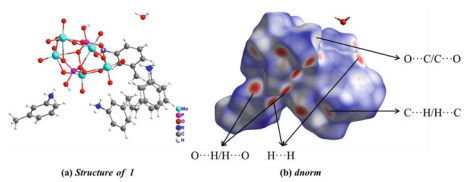

The title compound $(C_7H_{10}N)_4[H_2P_2Mo_5O_{23}]\cdot H_2O$ was synthesized and characterized by IR and UV spectroscopy, and its structure was solved by single crystal X-ray diffraction. The presence of the Mo, P, O, C and N atoms was confirmed by EDS analysis. The Hirshfeld surface analysis was performed to elucidate non-bonding interactions and theoretical properties were calculated.

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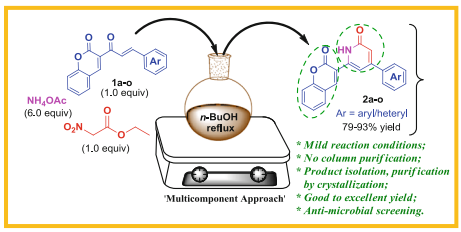

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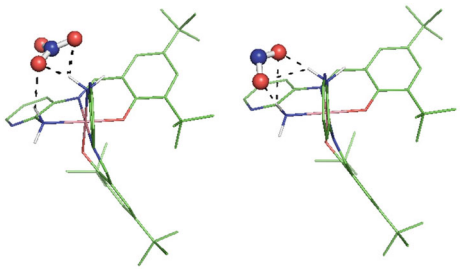

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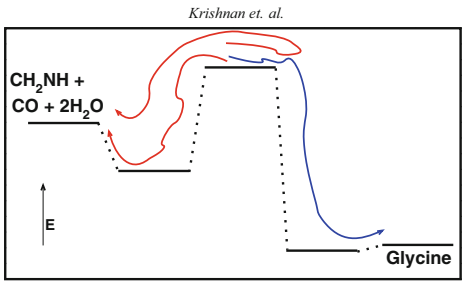

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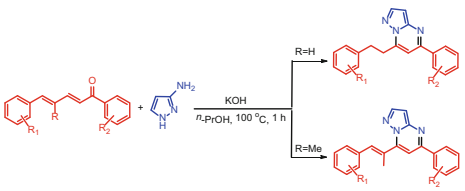

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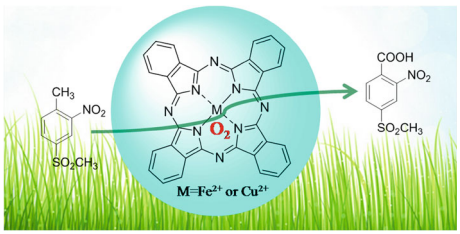

A novel method to produce 2-nitro-4-methylsulfonylbenzoic acid (NMSBA) from the oxidation of 2-nitro-4-methylsulfonyltoluene (NMST) by oxygen catalyzed by iron(II) phthalocyanine (FePc) and copper(II) phthalocyanine (CuPc) has been developed. The reaction parameters and mechanism were studied. The catalytic system will be readily applicable to large-scale production of NMSBA.

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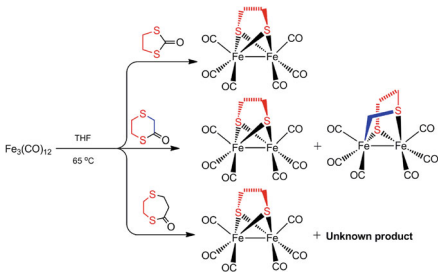
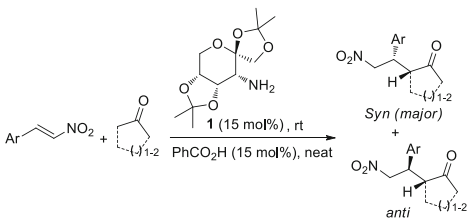


Reaction of cyclic thioester ligands with triiron dodecacarbonyl leads to scission of C-S (C) bond which is initiated by the coordination of the S atom to the Fe atom. The larger the ring size of the ligand, the more diverse are the bond cleavages.

Rapid Communication



Monofunctional primary amine is used for the first time as catalyst for stereoselective Michael addition reaction of different ketones to nitro olefins to synthesize γ-nitro carbonyl compounds.

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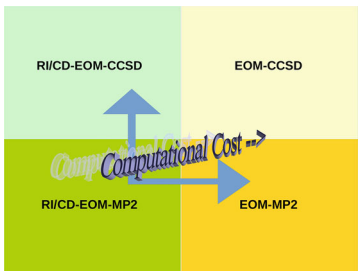

We present RI/CD implementation on EOM-MP2 method for computing IP, EA, EE and SF target electronic states of molecules. The RI/CD implementation results in speed-up in computational time and reduction in storage requirements without much compromise on accuracy, thereby widening the applicability of the method to molecules of bigger computional size.

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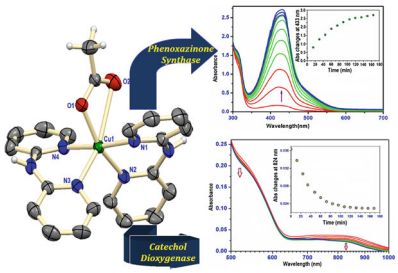

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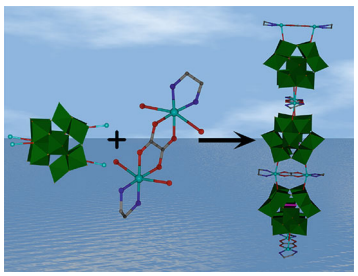

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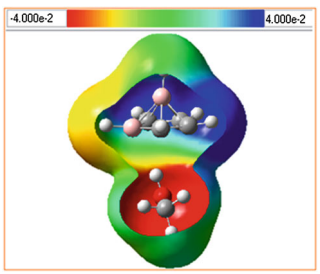

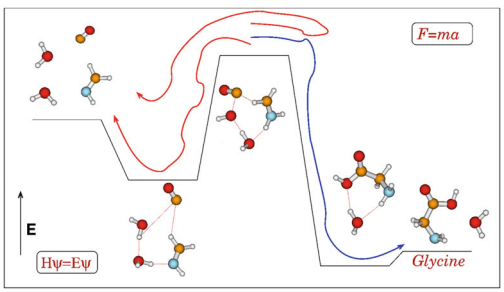

Cover picture: Dynamics of Interstellar Glycine Formation.
For details, see the paper by Yogeshwaran Krishnan *et al.* (pp. 1571–1577)

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