

# European Journal of Chemistry

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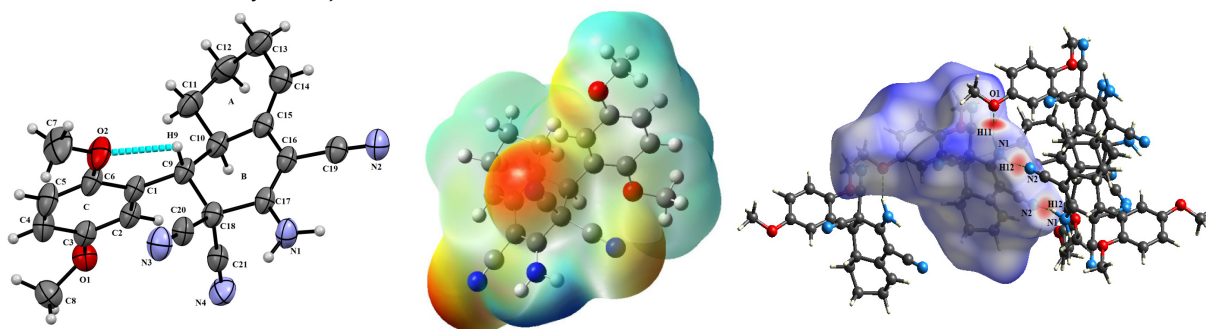
## Graphical Contents

Volume 13, Issue 2, 30 June 2022

European Journal of Chemistry 13 (2) (2022) 135-144

### Synthesis, X-ray crystal structure, DFT, Hirshfeld surfaces, energy frameworks, and molecular docking analysis of a bicyclic ortho-aminocarbonitrile derivative

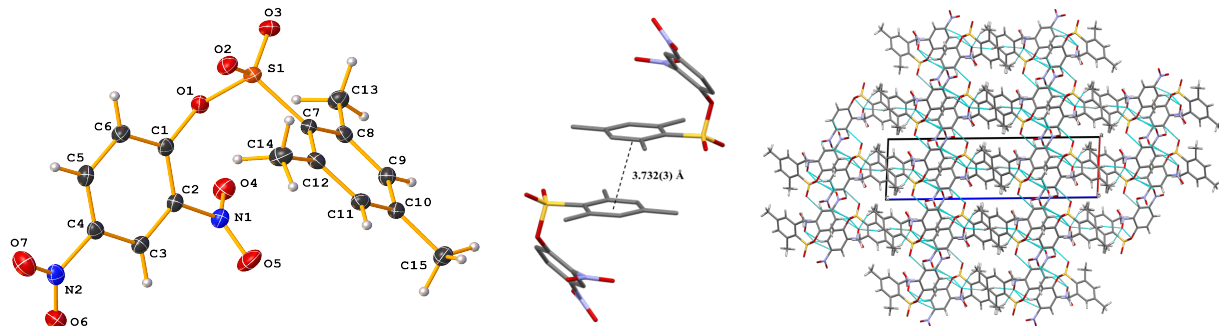
Ruchika Sharma, Sandeep Ashok Sankpal, Pradeep Jangonda Patil, Saminathan Murugavel, Sonachalam Sundramoorthy and Rajni Kant



European Journal of Chemistry 13 (2) (2022) 145-150

### Crystal structure of 2,4-dinitrophenyl 2,4,6-trimethylbenzenesulfonate

Brock Anton Stenfors and Felix Nyuangem Ngassa

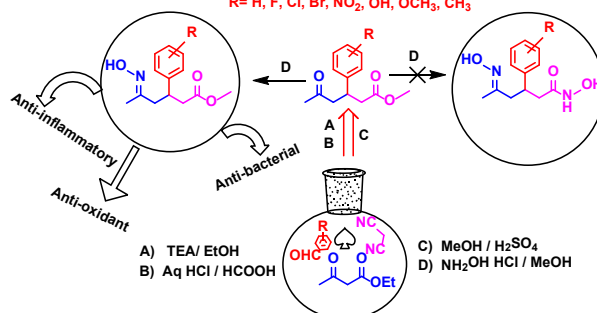


European Journal of Chemistry 13 (2) (2022) 151-161

### Synthesis, molecular docking, and biological evaluation of methyl-5-(hydroxyimino)-3-(aryl-substituted)hexanoate derivatives

Parashuram Gudimani, Samundeeswari Lokesh Shastri, Varsha Pawar, Nagashree Uday Hebbar, Lokesh Anand Shastri, Shrinivas Joshi, Shyam Kumar Vootla, Sheela Khanapure and Vinay Sunagar

R = H, F, Cl, Br, NO<sub>2</sub>, OH, OCH<sub>3</sub>, CH<sub>3</sub>



European Journal of Chemistry

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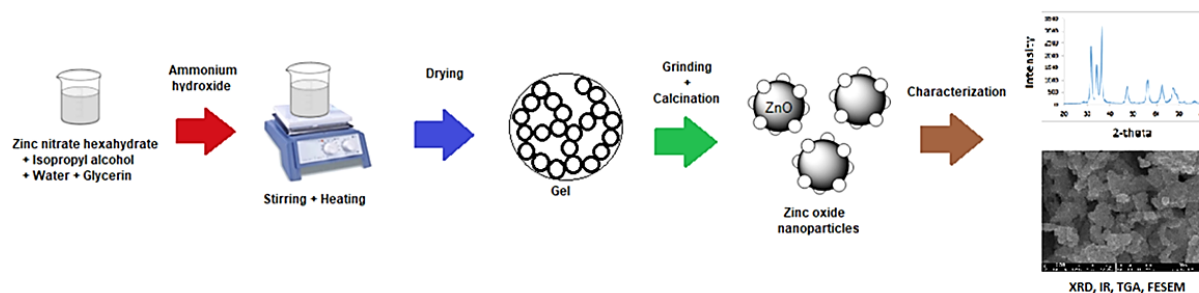
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<https://dx.doi.org/10.5155/eurjchem.13.2.iii-vi.2291>

*European Journal of Chemistry 13 (2) (2022) 162-167*

### Effect of calcination temperature on the structure and morphology of zinc oxide nanoparticles synthesized by base-catalyzed aqueous sol-gel process

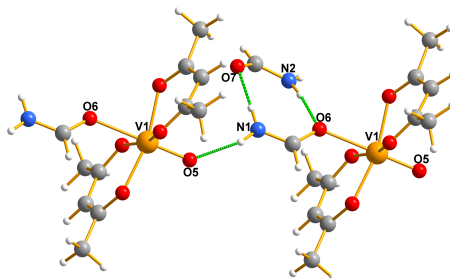
Samreen Zahra, Saboora Qaisar, Asma Sheikh, Hamim Bukhari and Chaudhry Athar Amin



*European Journal of Chemistry 13 (2) (2022) 168-171*

### Vanadyl(acetylacetonate)<sub>2</sub> mediated hydrolytic splitting of 1,3,5-triazine in a solution of toluene at 130 °C: The crystal structure of its axial formamide adduct

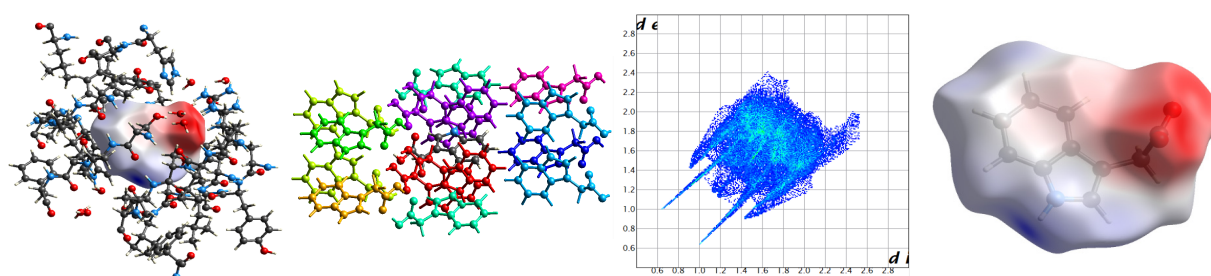
Evrin Arslan, Ivan Bernal and Roger Lalancette



*European Journal of Chemistry 13 (2) (2022) 172-179*

### Describing auxin solid-state intermolecular interactions using contact descriptors, shape properties, molecular fingerprint, and interaction energy: Comparison of pure auxin crystal and auxin-TIR1 co-crystal

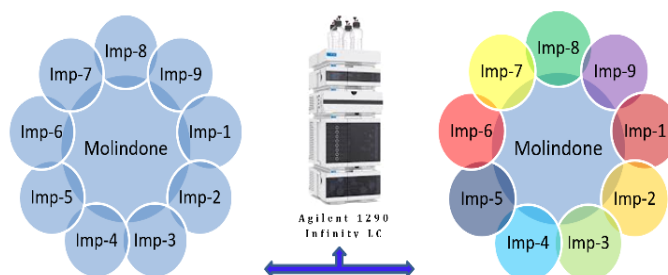
Kodjo Djidjolè Etsè, Koffi Sénam Etsè and Marie-Luce Akossiwoa Quashie



*European Journal of Chemistry 13 (2) (2022) 180-185*

### Ultra-performance liquid chromatography determination of related compounds of molindone in drug substances

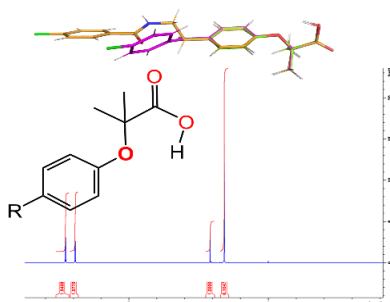
Balaji Nagarajan, Gunasekar Manoharan, Ganapathy Narayanan Shanmugam, Nataraj Palaniyappan and Abhinav Yarragunta



European Journal of Chemistry 13 (2) (2022) 186-195

**Molecular dynamics of fibrin acids**

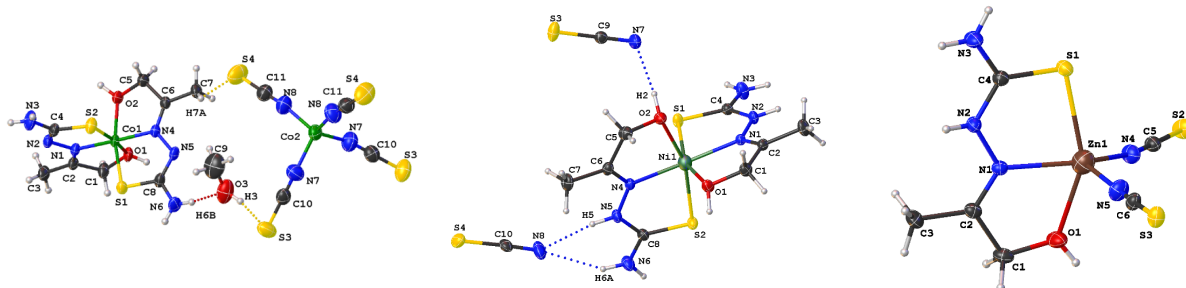
Chad Miller, Steven Schildcrout, Howard Mettee, and Ganesaratnam Balendiran



European Journal of Chemistry 13 (2) (2022) 196-205

**Crystal structures of bis[1-(1-hydroxypropan-2-ylidene)thiosemicarbazide- $\kappa^3S,N,O$ ]cobalt(III)-tetra(thiocyanato- $\kappa N$ )cobalt(II) methanol solvate, bis[1-(1-hydroxypropan-2-ylidene)thiosemicarbazide- $\kappa^3S,N,O$ ]nickel(II) bis(thiocyanate) and (1-(1-hydroxypropan-2-ylidene)thiosemicarbazide- $\kappa^3S,N,O$ )bis(thiocyanato- $\kappa N$ )zinc(II)**

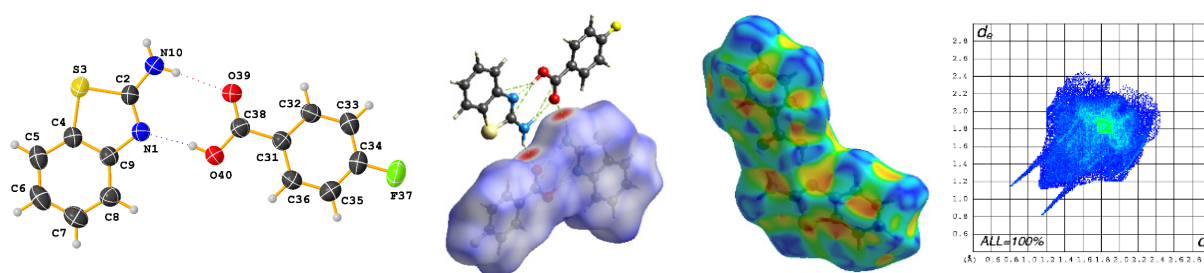
Cheikh Ndoye, Gregory Excoffier, Gorgui Awa Seck, Ousmane Diouf, Ibrahima Elhadji Thiam, Mamadou Sidibé and Mohamed Gaye



European Journal of Chemistry 13 (2) (2022) 206-213

**Synthesis, characterization and Hirshfeld surface analysis of 2-aminobenzothiazol with 4-fluorobenzoic acid co-crystal**

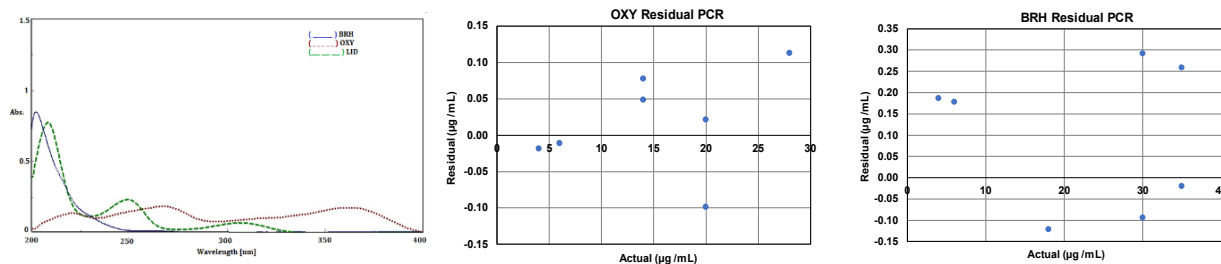
Bubun Banerjee, Varun Sharma, Aditi Sharma, Gurpreet Kaur and Vivek Kumar Gupta



European Journal of Chemistry 13 (2) (2022) 214-223

**Critical assessment of smart calculation-based spectroscopy versus chemometric-assisted methods: Application to combined antibiotic formulations**

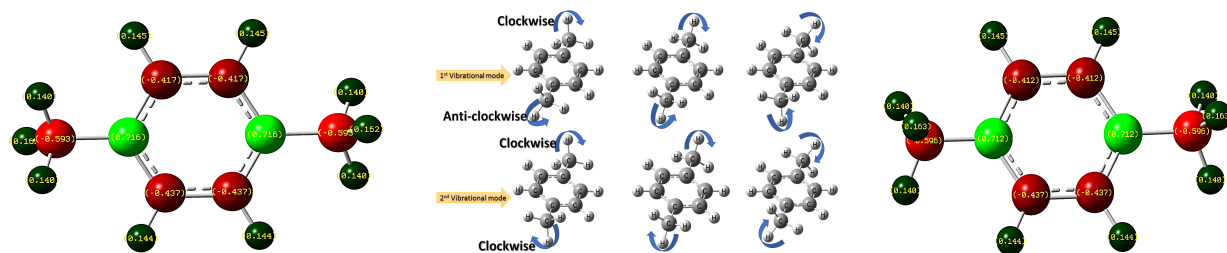
Hind Ali Abdullatif, Adel Magdy Michael, Yossra Ahmed Trabik and Miriam Farid Ayad



European Journal of Chemistry 13 (2) (2022) 224-229

### A theoretical density functional theory calculation-based analysis of conformers of *p*-xylene

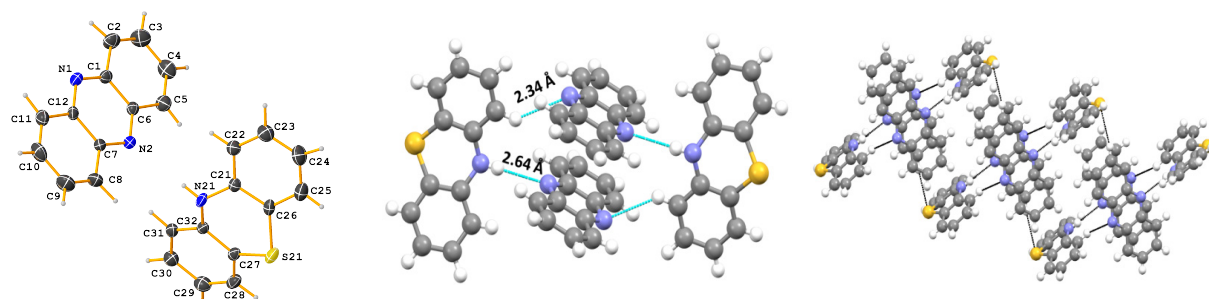
Mohammad Suhail



European Journal of Chemistry 13 (2) (2022) 230-233

### Phenazine and 10*H*-phenothiazine cocrystal stabilized by N-H...N and C-H...S hydrogen bonds

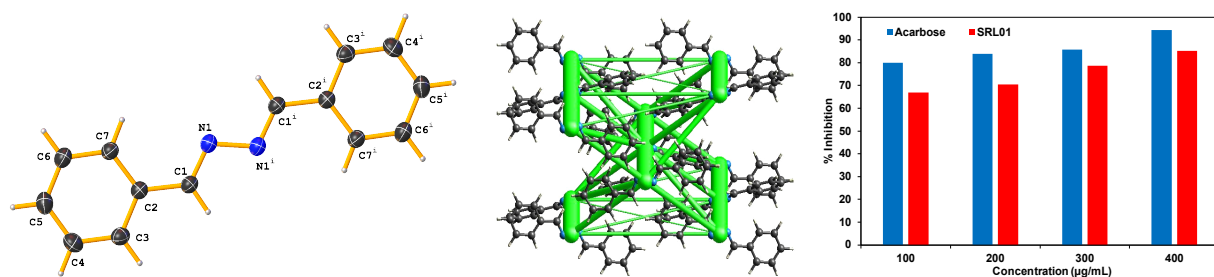
Tahir Mehmood, Bhumiben Chandubhai Patel and Jayarama Prakasha Reddy



European Journal of Chemistry 13 (2) (2022) 234-240

### Synthesis, crystal structure, and antidiabetic property of hydrazine functionalized Schiff base: 1,2-Di(benzylidene)hydrazine

Nilankar Diyali, Meena Chettri, Abhranil De and Bhaskar Biswas



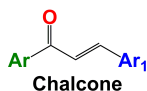
European Journal of Chemistry 13 (2) (2022) 241-252

### Synthesis, reactions, and applications of chalcones: A review

Nesrin Mahmoud Morsy and Ashraf Sayed Hassan

#### Synthetic methodologies

- Claisen-Schmidt condensation
- Synthesis of mono-chalcone
- Synthesis of bis-chalcone
- Using hydrochloric acid
- Using phosphoric acid
- Using phosphoric carbanion
- Using microwave conditions
- Using solvent-free conditions
- Using the biocatalysts



#### Reactions

- Reaction with phenylhydrazine
- Reactions with hydrazine hydrate
- Bis-chalcones with hydrazine hydrate
- Chalcones with hydrazine hydrate using ultrasound-irradiation conditions
- Chalcones with hydrazine hydrate using microwave irradiation
- Reaction of chalcones with hydroxylamine
- Synthesis of methoxynaphthalene isoxazole derivatives
- Synthesis of benzoxazolone derivatives
- Reactions of chalcones with urea and thiourea
- Synthesis of pyrimidine and thienopyrimidine derivatives
- Reactions with thiourea using microwave irradiation
- Reaction with 2-cyanoacetamide or 2-cyanothioacetamide
- Reaction with 1-methyl-6-oxo-4-aryl-pyrimidine-5-carbonitrile
- Reaction with 1,2-diaminobenzene
- Reaction with 2-aminothiophenol
- Reactions with thiosemicarbazide and isonicotinic acid

#### Biological activities

- Chalcones as antimicrobial agents
- Chalcones as anticancer
- Chalcones as antiviral
- Chalcones as antioxidants
- Chalcones as antimalarial
- Chalcones as antitubercular
- Chalcones as anti-diabetic