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Papers

193 Synthesis of pyranoquinolines via imino Diels-Alder reaction: Comparison of antibacterial efficacy of chirally separated individual diastereomers

An attempt to separate the four diastereomers formed during pyranoquinoline synthesis via imino Diels-Alder reaction mediated by chiral catalyst has been carried out. The comparison of the antibacterial efficacy of the respective individual diastereomers is also revealed.

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The compounds 2-[(2E)-(2-chlorobenzylidene) hydrazine] carbonyl] benzenesulfonamide 5a and 2-[([(2E)-2-[4-(dimethylamino) benzylidene] hydrazine] carbonyl] benzenesulfonamide 5b have been synthesized by microwave heating and characterized by NMR, FT-IR and single crystal X-ray crystallography techniques. They have been obtained in higher yields in lesser reaction times through microwave irradiation. The delocalizations as well as the presence of the intra-molecular hydrogen bonding in 5a and 5b lead to the planarity of the benzene rings. There are \(\pi-\pi\) stacking interactions among the adjacent aromatic systems in both the compounds.

G Thiyagarajan, Ashutosh Pandey*, Peter Mayer & A Thamaraichelvan

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Synthesis and biological evaluation of some new 2,5-disubstituted 1,3,4-oxadiazoles from 3-(arylsulfonyl) propanehydrazides

![Chemical structure](image)

L Vinay Kumar, P Jagan Naik, M Naveen, T Chandrasekhar, A Babul Reddy, N Penchalaiah & G Narayana Swamy*

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Synthesis of some biologically important per-O-benzoyl maltosyl isothiocarbamides and isodithiobiurets as antibacterial and antifungal agents

Several S-hepta-O-benzoyl maltosyl-1-arylisothiocarb-amides 2a-f have been synthesized by interaction of hepta-O-benzyol maltosyl bromide 1 with aryl thiocarb-amides. S-Hepta-O-benzyol maltosyl-1-aryl-5-phenyl-2,4 isodithiobiurets 3a-f have been synthesized by the interaction of S-hepta-O-benzyol maltosyl-1-arylisothiocarbamides 2a-f with phenyl isothiocyanate. In-vitro antimicrobial activity of all the synthesized thiomalto-sides has been evaluated against several human pathogens.

![Chemical structure](image)

Usha W Karhe & Shirish P Deshmukh*

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1,3-Dipolar cycloaddition of dihydropyran derived nitrones synthesized from 2,3-dihydro-4H-pyran and various hydroxyl-amines, with electron deficient alkynes have been found to have significant rate acceleration and improved yields of isoxazolines in 1-butyl-3-methylimidazolium based ionic liquids while with enals exclusively endo isoxazolidines are obtained with high selectivity. Synthetic potentiality of the novel isoxazolines and nitrones have been also tested successfully in peptide and aldehyde synthesis. All the novel isoxazoline and isoxazolidine derivatives have been screened for antimicrobial activities and found to be active.

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\begin{align*}
\text{RNHOH} & \xrightarrow{[\text{bmim}]\text{BF}_4} \text{endo} \\
\text{OH} & \xrightarrow{[\text{bmim}]\text{BF}_4} \text{H}_3\text{C} \text{CHO} \\
\text{R}^3\text{CHO} + \text{RNH}_2 & \xrightarrow{\text{Hydrolysis}} \text{R}^4\text{CHO} + \text{R}^2\text{CHO} \\
\end{align*}
\]

\[
\begin{align*}
\text{R} = & \text{CH}_3/\text{C}_2\text{H}_5/\text{C}_6\text{H}_5\text{CH}_2 \\
\text{R}^1 = & \text{Ph}; \text{R}^2 = \text{COOCH}_3 \\
\text{R}^3 = & \text{R}^2 = \text{COOCH}_3 \\
\text{R}^4 = & \text{R}^2 = \text{COOH} \\
\text{R}^5 = & -(\text{CH}_2)_3\text{OH} \\
\text{R}^4 = & \text{Et}; \text{Ph} \text{ etc} \\
\text{X} = & \text{Cl}/\text{Br}/\text{I}
\end{align*}
\]

Bhaskar Chakraborty*, Amalesh Samanta, Chiran Devi Sharma & Nasima Khatun
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Synthesis, antibacterial and antifungal activities of some new azo anils containing pyrazole moiety

A series of new azo anils containing pyrazole moiety has been synthesized using conventional and microwave irradiation methods and are screened for microbial activity against some bacteria and fungi.

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Synthesis of some new tetrazolo[1,5-a]quinazolinof2,3-c]imidazo[4,5-b]quinazoline derivatives as antimicrobial agents

Treatment of 6,7-dimethoxy-2-chloroquinazolin-4-amine 1 and 7,8-dimethoxy tetrazolo[1,15-a]-quinazolin-5-ylamine 4 with 2,3-dichloroquinoxaline 2a-e in glacial acetic acid /DMF afford corresponding substituted 6,7-dimethoxy-2-chloroquinazolin[3,4-c]-imidazo[4,5-b]-quinazolines 3a-e and 7,8-dimethoxy tetrazolo[1,5-a] quinazolin[2,3-c]-imidazo[4,5-b]quinoxalines 5a-e. The synthesized compounds have been evaluated for their antibacterial and antifungal activity.

Srinivas B, Prasanna B* & Ravinder M
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Isolation, identification and study of some properties of a bioactive biopolymer which crystallizes at low temperature from *Ficus pomifera* Wall.

Antimicrobial Activity

Probable contribution to chilling injury in plants

Sujata D Wangkheirakpam, Wangkheirakpam Radhapiyari Devi, Chingakham B Singh, Dini Ahanthem & Warjeet S Laitonjam*

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