Synthesis, characterization and antimicrobial activity of some new Baylis-Hillman derived benzothiazolo pyrimidinone derivatives

A series of Baylis-Hillman derived 22 new benzothiazolo pyrimidinone derivatives have been synthesized from Baylis-Hillman acetates and 2-amino benzothiazole under neat conditions with high yields. All the newly synthesized compounds have been characterized by their spectral data and evaluated for their antibacterial and antifungal activity.

EWG = COOEt, COOMe
R₁ = p-CH₃, m-CH₃, m-Cl, p-Cl, o, m-Cl, o, p-Br,
p,F, m-F, p-Br, m-Br, p-ET, m-ISO, o-Cl, o-F,
p-NO₂, m-CF₃, m-NO₂, o,o-Cl, m, p-Cl, o-Br, Naphthyl

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A facile method for the synthesis of various 3-substituted indoles via Michael addition reaction using NbCl₅

A mild and efficient method for the synthesis of various 3-substituted indoles is described via a Michael addition reaction using NbCl₅ as a Lewis acid catalyst. Simple reaction conditions, short reaction times, less amount of catalyst loading, high yields and substrate diversity are the advantages of this methodology.

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Comprehensive investigations on an amphiphilic molecule containing Schiff base group

For the title compound, single crystal structure, experimental and theoretical UV-Vis spectra along with its self-assembly process in saturated ethanol solution being in situ monitored with optical microscopy are reported.

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Studies on the synthesis of 3-methyl-6-(substituted-urea/-thiourea)-2(3H)-benzothiazolone derivatives and antimicrobial activities

Some 3-methyl-6-(substituted-urea)-2(3H)-benzothiazolone derivatives 5a-h and 3-methyl-6-(substituted-thiourea)-2(3H)-benzothiazolone derivatives 6a-h have been synthesised from 1. Antimicrobial and antitubercular activities of the compounds are examined.

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Exploring antimicrobial and antimycobacterial potential of novel quinazoline based thiazolidin-4-ones

Thiazolidin-4-one and N-phenyl acetamide based quinazoline derivatives have been synthesized using an efficient palladium-catalyzed C–C Suzuki coupling. The synthesized analogs have been screened for in vitro bioactivities. Some analogs have shown remarkable antimicrobial (MICs: 3.12–25 µg/mL) and antimycobacterial activity (MICs: 6.25–25 µg/mL).

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Synthesis of several novel N-aryl-3-dialkylamino-4-substituted maleimides have been described via conjugate elimination-addition-elimination followed by electrophilic substitution pathway.

\[
\begin{align*}
\text{R} & = \begin{array}{c}
\text{N} \\
\text{N} \\
\text{N}
\end{array}
\quad \text{E} = \text{Br, CHO, SO}_2\text{Cl, CH}_2\text{Ph, COAr}
\end{align*}
\]

\[X = \text{H/Cl/Me}\]

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A new flavone 1 together with four known compounds viz. cirsimaritin, genkwanin, 3α- and 3β-friedelinols have been isolated from the leaves of Vitex peduncularis Wall. (Verbenaceae). Structures of the isolates have been elucidated on the basis of spectral (including 2D-NMR) studies.

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Double Michael adducts: Source for spiro heterocycles

The gem cyano ester functionality in double Michael adduct, 4-carboethoxy-2-carbomethoxy-4-cyano-3,5-diaryltetrahydro[2H]thiopyran-1,1-dioxide 1 has been exploited to develop three different types of spiro heterocycles viz., spiro pyrimidine, pyrazole and isoxazole derivatives in the presence of appropriate nucleophiles.

Yb(OTf)₃-catalyzed Mannich reaction of imidazo[1,2-a]pyridine and pyrazolo[1,5-a]pyrimidines

An efficient one-pot condensation reaction of imidazo[1,2-a]pyridine/pyrazolo[1,5-a]pyrimidines, aldehydes and acetamide has been investigated using Yb(OTf)₃ as catalyst in 1,4-dioxane. The reaction furnishes good to excellent yield of 1-amidomethylimidazo[1,2-a]pyridines and 1-amidomethyl-pyrazolo[1,5-a]pyrimidines along with small quantities of bis(imidazo[1,2-a]pyridyl)methanes and bis(pyrazolo[1,5-a]pyrimidinyl)methanes. The product distribution is found to be dependent on the nature of imidazo[1,2-a]pyridine/ pyrazolo[1,5-a]pyrimidines and aldehydes.