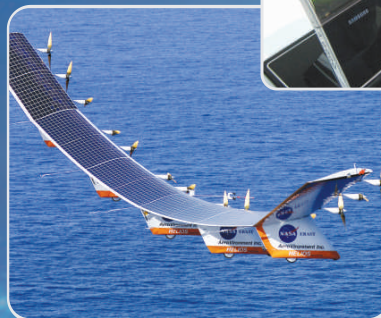


PROCEEDINGS



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rural areas hospitals. In addition, we could also have solar panels, which would satisfy our power needs, when there is no vehicular movement. The exaggeration of this work is the new series of rack and pinion gear mechanism used to generate electrical power of 36 watt /day.

KEYWORDS: Kinetic energy, Speed breaker, Electro-mechanical unit, Electric dynamo, Non-Conventional Energy.

APPSCI 08

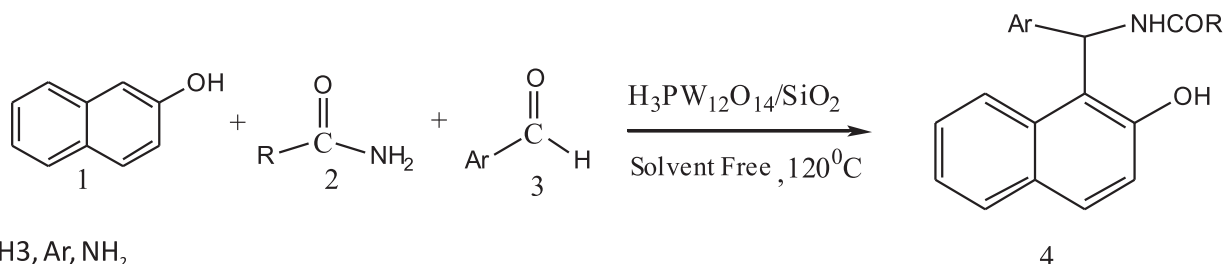
H3PW12O14/SiO2: AS AN EFFICIENT AND REUSABLE CATALYST FOR ONE-POT SYNTHESIS OF 1-AMIDOALKYL-2-NAPHTHOLS UNDER SOLVENT-FREE CONDITIONS

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ABSTRACT: H3PW12O14/SiO2 efficiently catalyzed one-pot multicomponent condensation of β -naphthol with aromatic aldehydes and amide or urea derivatives under solvent-free conditions to afford the corresponding amidoalkyl naphthols in excellent yields, very short reaction times, simple work-up, higher availability economical attraction, inexpensive catalyst, lack of toxicity and more environmentally friendly catalyst.



KEYWORDS: Amidoalkyl naphthol, β -naphthol, H3PW12O14/SiO2, Three-component reaction, Solvent-free.

APPSCI09

CHALLENGES IN DEVELOPMENT OF NEW ANTI-TUBERCULOSIS AGENTS

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ABSTRACT: Tuberculosis (TB) is a deadly contagious disease that is caused by a bacterium called Mycobacterium tuberculosis. Each year the disease kills almost 2 million populations. The disease spreads due to unhygienic conditions moreover the bacterium has developed resistance to the existing drugs (MDR-TB and XDR- TB). The World Health Organization (WHO) has predicted that by Year 2020 there will be one billion new active cases if effective anti-TB drugs are not developed. The basic goals of anti- tuberculosis therapy includes,

rapid killing of actively multiplying bacilli, prevention of drug resistance and sterilization of infected host tissues to prevent clinical relapse. In this review, we discuss some challenges in the development of anti-tuberculosis drugs along with their mode of action and limitations. These observations will be beneficial and offer guidance for the development of new drugs for better anti-tubercular activity.

KEYWORDS: Tuberculosis, Drug resistance, MDR, XDR.

APPSCI10

ANTIMICROBIAL SCREENING OF MORINDA PUBESCENCE LEAVES

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ABSTRACT: Morinda pubescence commonly known as Indian mulberry or Noni or Bartondi belongs to family Rubiaceae. It is a medicinally important plant. Fruits are used for spongy gums, throat complaints, dysentery, leucorrhoea and sapaemia, while leaves being used in different indigenous systems of medicine such as Ayurveda, Siddha, Unani, Tibbi and Amchi. Extract of leaves, stems and fruits are used in the treatment of gastropathy, dyspepsia, diarrhea, stomach ulcer, wounds, gout, inflammation, hernia, sarcocele and fever. Medicinal plants represent a rich source of antimicrobial agents. Disc method is used to study antimicrobial activity. The work is composed of activity against gram positive and gram negative bacteria. The antibacterial activity was assayed in-vitro by disc diffusion method. Streptomycin was used as the standard. The highest antimicrobial activity is shown by ethanol extract against *Bacillus cereus*, *Staphylococcus aureus* and *Saccharomyces cerevisiae*. This is the first report showing inhibition of *Bacillus cereus* by the ethanolic extract.

KEYWORDS: Morinda pubescence, Antibacterial activity, Ethanolic extract, Streptomycin.

APPSCI 11

MODELING AND ANALYSIS OF PMBLDC MOTOR DRIVE WITH THE HELP OF CONTROLARS

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ABSTRACT: This paper presents the model construction of a Brushless Direct Current motor (BLDCM) so that one can evaluate the performance of the same motor by PI & PID controller. As the name implies, BLDC motors do not use brushes for commutation instead, they are electronically commutated. Permanent magnet brushless DC motors (PMBLDC) find wide applications in industries due to their high power density and ease of control. It has many advantages over brushed DC motors and induction motors. Because of this it used in many industries (1). To achieve desired level of performance the motor requires suitable speed controllers. In case of permanent magnet motors, usually speed control is achieved by using proportional-integral-derivative (PID) controller. Although conventional PID controllers are widely used in the industry due to their simple control structure and ease of implementation, Moreover PID controllers require precise linear mathematical models. The performance of BLDC motor is analyzed by development of simple mathematical model with trapezoidal waveforms of back emf, the motor is modeled by using MATLAB/SIMULINK. The speed, phase current, back