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REVIEW ARTICLE

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Shashikant R Pattan, Nachiket S Dighe, Deepak S Musmade, Manisha S Kedar, Smita K Parjane, Priyanka P Gadhave and Manjusha S Sanap.....49

ABSTRACT

The present review article on tools for synthesis of natural products is to significantly facilitate organic synthesis of natural products which are of significant biological importance by the implementation of new concepts for catalysis. We focus on the recent development in natural product synthesis with the help of newer methods of organic synthesis

Keywords: Natural products, Methods of synthesis, combinatorial chemistry.

- **Herbs for Depression: A Review**
Kishu Tripathi.....55

ABSTRACT

Herbs like St. John's Wort, Kava Kava, Rhodiola, Siberian ginseng, Ginkgo, Liquorice, Chamomile, Borage, Black cohosh, Flaxseed, Hop, Lavender, Scutellaria atteriflora, Passion Flower, Rosemary, Lemon balm etc are used to treat depression.

Keywords: Depression, St. John's Wort, Kava Kava, Rhodiola, Siberian ginseng

- **Recent Synthesis of Marine Natural Products with Anticancer Activity: An Overview**
Nachiket S Dighe, Shashikant R Pattan, Deepak S Musmade, Abhijeet N Merekar, Manisha S Kedar, Deepak K Thakur and Pratik V Patel.....63

ABSTRACT

Many natural products from marine sources are endowed with promising anti cancer activity, thus representing invaluable leads in the plans for drug discovery. In this context, organic synthesis plays a decisive role in confirming (or revising) the chemical structures of the natural compounds allowing also access to suitable amounts of the target (and its analogs) for structure activity relationship (SAR) investigations. In this overview, we focus on the total and partial synthesis of anti cancer marine metabolites and their related compounds discussing the retro synthetic analysis of the strategies adopted.

Keywords: Marine, Anti Cancer Activity, Synthesis of Dictyostatin.

RESEARCH ARTICLE

- **Utilization of Little Millet Flour for Preparation of Dairy Product**
Sandey KK, Asgar S, Manorama and Choudhary PL.....71

ABSTRACT

A study was conducted to use little millet flour in the production of cereal based dairy products, with the objectives of developing suitable technology for the manufacture of millet based dairy product. The product were prepared by incorporating 10, 20 & 30% levels of little millet flour and sugar each in milk and cooked till semisolid consistency product obtained. The product made by admixing little millet flour & sugar of 10% & 30% respectively had better nutritional value and sensory acceptability than the other formulations. Shelf life studies also revealed that the product had better keeping quality up to one week under refrigeration conditions.

Keywords: Milk, dairy product and little millet

- **Computer Aided Design of Multi-Component Distillation Column**
RW Gaikwad and AR Warade.....74

ABSTRACT

The present communications deals with computer aided design of multicomponent distillation column. The software includes the computer program written in C/C++ language. The software will serves as a preliminary design for multicomponent distillation column. The computer techniques used is favorable than analytical technique because there are no chances of personal error and it is significantly quicker than the analytical method.

Keywords: CAD, C/C++ language, Multicomponent distillation column.

- **Impact of I.C.D.S. On Morbidity Due To Nutritional Deficiency Diseases amongst Tribe and Non Tribe Children**
Bansal AK and Chandorkar RK.....82

ABSTRACT

On analysis of the collected data, it has been revealed that there was improvement in the morbidity pattern of various nutritional deficiency diseases in both Tribal and Non Tribal preschoolers. This is because the inputs provided by I.C.D.S. inform of Anganwadi workers (AWW) at the grass root level even in tough terrain, but still a lot have to be done. Due linkage with the community through A.W.Ws. is to be strengthened. Health and Nutrition surveillance of eligible vulnerable groups in the offing in these tinge health and nutrition satellite (Anganwadis) at the grass root level in the rural and tribal areas. Apart from this a “National Tribal Health Mission” must be constituted by looking into the different situation of Tribal Community.

Keywords: National Tribal Health Mission, Satellite, Inter generational cycle, Vulnerable Tribal group.

- **Simulation of Benfield Process for Co₂ Removal**
R W Gaikwad.....85

ABSTRACT

Interest in recovery of carbon dioxide (CO₂) from flue gases is being propelled by multiple factors: the merchant CO₂ market, renewed interest in enhanced oil recovery (EOR), and the desire to reduce greenhouse gas emissions. Benfield process uses hot potassium carbonate solution to absorb CO₂ from the flue gas. It is carried out in a packed absorption column, the absorbed CO₂ in potassium carbonate solution is then removed by distillation and the recovered potassium carbonate solution is recycled. The Benfield process for CO₂ removal has been modeled and simulated using CHEMCAD software package (version 5.1.0 release 2000). The simulation result shows that the CO₂ in the feed stream was almost entirely absorbed in the absorption column with the help of potassium carbonate. The amount of CO₂ was reduced from 117.59 kmol/h (feed stream) to 0.07 kmol/h (purified gas stream).The evolutions of the process parameters were studied during the process. The

mathematical model and the simulation results, using CHEMCAD, proved to be a reliable tool for analyzing the process of removing CO₂ from the feed gas.

Keywords: CO₂ removal, Benfield process, potassium carbonate solution, CHEMCAD.

- **Case Studies on Air Quality Indexing Systems for Nashik City**
AR Warade and RW Gaikwad.....88
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ABSTRACT

The Air Quality Index (AQI) is used to report ambient air quality status on day to day basis. The number indices have been developed using different criteria pollutants but no. index is available which takes into consideration all the pollutants. Further these, indices are not comparable in absolute terms in developing countries like India such an index mainly used for academic purpose. AQI depends upon a number of parameters which needs to be clearly defined critically evaluated. Other wise this may be misleading. Ambient air quality monitoring has been conducted at four sampling location around Nashik city, Ambad Industry, Sinner Industry & Satpur industry. The data obtained at one of the sampling location have been compared with standard data. The observation indicates that there is a marked safety in the computation methodology. The observation also indicates that the fugative emission have significant impact on the ambient air quality.

Keywords: Air Quality Index, Nasik City, Ambad City, Sinner Industrial Area, Satpur Industrial Area, CPCB.

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