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3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Consolidated number of Books/edited volumes/conference proceedings from 2016-21

Sl.No.	Year	Total number of Books/edited volumes/conference
1	2016-17	07
2	2017-18	12
3	2018-19	29
4	2019-20	19
5	2020-21	24

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3.3.3

LIST OF BOOKS AND CHAPTERS IN EDITED VOLUMES/BOOKS PUBLISHED AND PAPERS PUBLISHED IN NATIONAL/ INTERNATIONAL CONFERENCE PROCEEDINGS PER TEACHER DURING 2016-17

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List of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings during 2016-17				
Sl. No.	**Name of the teacher**	**Title of the Book/chapter/papers in proceedings of the conference**	**Name of the conference/Publishers**	**ISBN/ISSN number of the proceeding**
1	Dr.Thomas Kuruvilla	Kathaparayum Kalam	D C Books	ISBN- 978-91-66560-78-0
2	Dr.Thomas Kuruvilla	Auto Biography of Dr. Philipose Mar Chrisostom	D C Books	ISBN-978-93-86560-82-7
3	Dr. Biju Thomas	Comparison of Intelligence and skill test performance in relation to badminton playing ability	Sports science support in pursuit of excellence in badminton" organised by PKM College of Education, Madampam	ISBN- 978-81-922109-6-4
4	Dr. Jalaja J Malayan	Structural feature formylketene Dithioace	Lap Lambert Academic Publishing	ISBN-978-3-659-94464-2
5	Dr. Jalaja J Malayan	Effect of Ultra Sound on the Catalytic Activity of MgO/ZnO towards esterification and decomposition of dyes	International Conference on Materials for the New Millenium	978-93-80095-738
6	Dr.Leena Rajith	Electrochemical distinction of Trimethoprim and Ambroxol on metalloporphyrin modified glassy carbon electrode	International Conference on Materials for the New Millenium	978-93-80095-738
7	Athira KR	Malayala Padanathinte Reethisasthram	Saradhi Publishers and Distributors	ISBN-9788193461235

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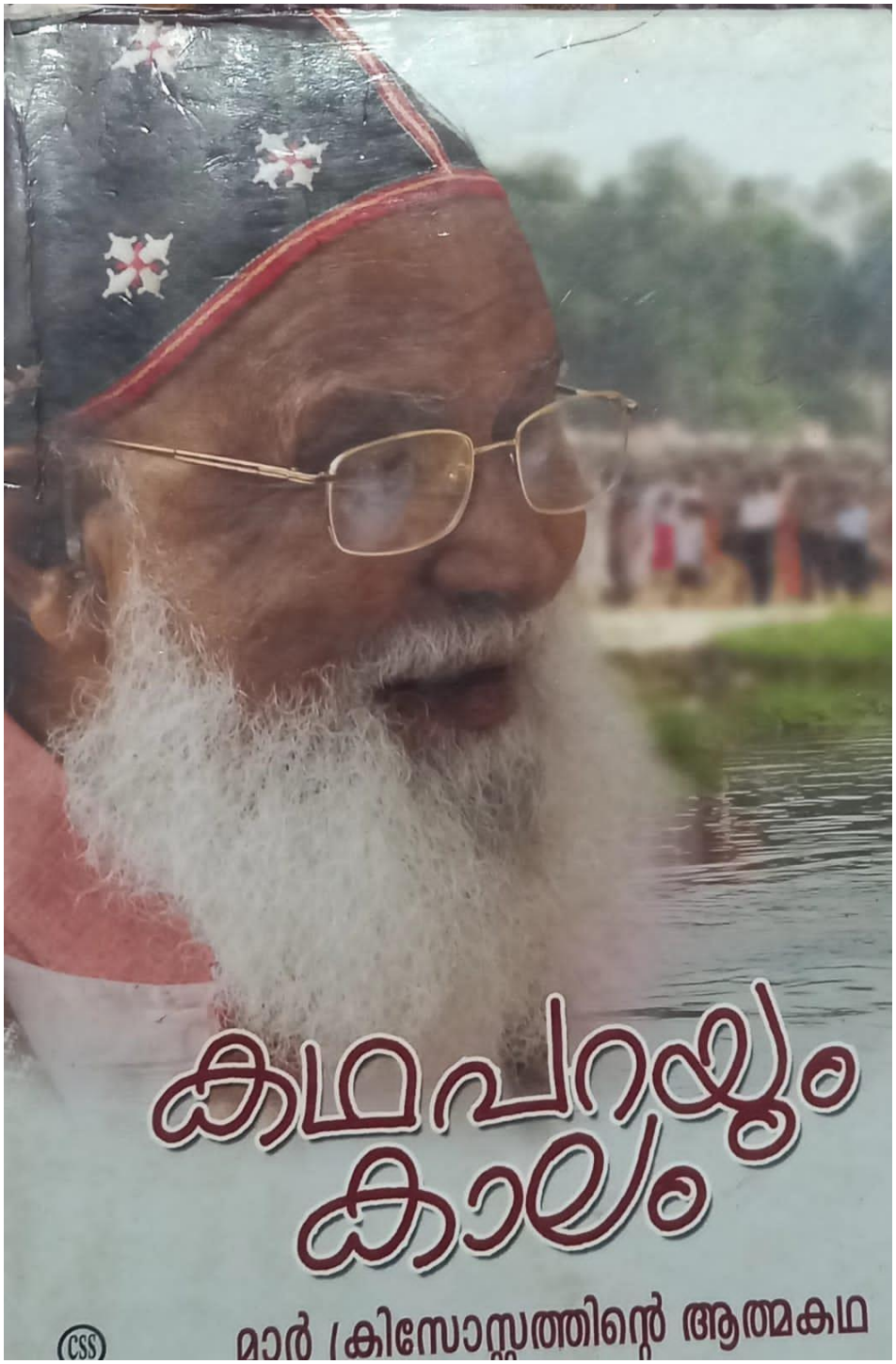
Supporting documents of the books/chapters in edited volumes/ papers in conference proceedings during 2016-17



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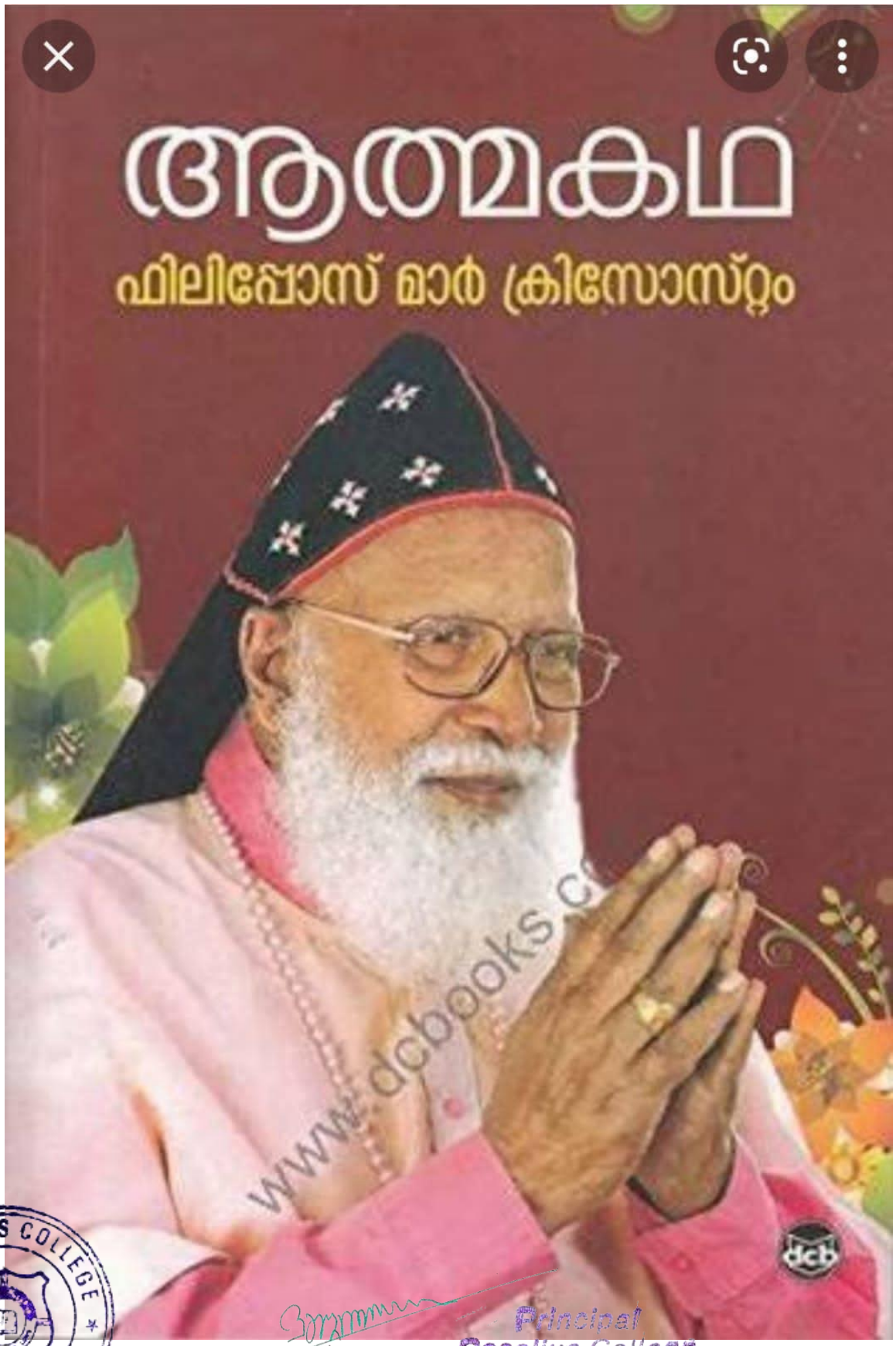

2017

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COMPARISON OF INTELLIGENCE AND SKILL TEST PERFORMANCE IN RELATION TO BADMINTON PLAYING ABILITY

Dr Anil Ramachandran

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&

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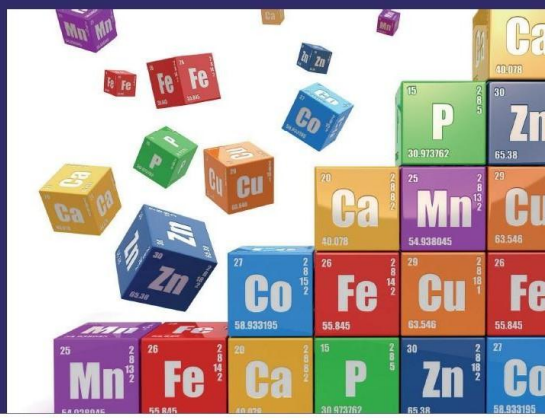
Introduction

Badminton is considered the fastest racket sport in the world, and hence, it demands from the player's quickness in planning and performing movements and temporal and spatial accuracy in the racket position for interception of the shuttlecock. Successful badminton players require having necessary physical attributes and also analytical skills. Fitness, skills and techniques and intelligence in appropriate analysis and decision making can be vital to success during the game.

Various studies (Perkins and Salomon, 1989; Willis et al., 2006; and Dahlin et al., 2008) have summarized the cognitive components approach to investigate the relationship between sports expertise and general cognitive skills. After subdividing cognitive skills into attentional cuing, processing speed and varied attention paradigms, studies have shown compelling evidence that cognitive skills can be transferred from the sports-specific to the general context. Sport type was found to be

In this work, a formylketene dithioacetal derivative was synthesized by using a reported method and its crystal structure study was carried out by means of Single Crystal XRD in order to determine the molecular conformation and to understand the influence of aroyl groups on the stereo chemistry by using Brucker Kappa Apex II Diffractometer and with WinGX software. We are reporting the FT-IR, FT-Raman and FT-NMR spectral characterizations of 2-(4-methoxybenzoyl)-3,3-bis(methylsulfanyl)prop-2-enal, a push-pull butadiene derivative with potential applications. Number of similar aroyl formylketene dithioacetals from acetophenone derivatives are semisolids. Therefore we assume that the methoxy substitution on the benzene ring do influence the crystalline nature of the compound. The structural and spectroscopic data of the molecule in the ground state were calculated by using ab initio (HF/6-31G) and DFT (B3LYP/6-31G(d)) methods. The optimized geometrical and spectroscopic parameters were comparable with experimental as well as literature values.



Annie
Jalaja

Structural feature
Formylketene Dithioace

With special reference to 2-(4-methoxybenzo
bis(methylsulfanyl)prop

Monu Joy is working as a Scientific Assistant (DST-PURSE) at School of Pure & Applied Physics, MG University, Kerala, India. His core research interest is to practicing X-ray Crystallography on small molecules along with theoretical structural treatments.

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ECM101

Effect of Ultra Sound on the Catalytic Activity of MgO/ZnO Towards Esterification and Decomposition of Dyes

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ABSTRACT

Ultrasound refers to inaudible sound waves with frequencies in the range of 16 KHz to 500MHz. It has been used for diverse purposes like water treatment, sludge treatment, soil and sediment remediation, air purification and environmental analysis. So far, four theories have been proposed to explain the sonochemical events; hot spot theory, electrical theory, plasma discharge theory and supercritical theory [1]. It has also been reported that irradiation of aqueous solutions in the range 20-1000 kHz induces acoustic cavitation which can be defined as the cyclic formation, growth and subsequent collapse of micro bubbles or cavities occurring in extremely small intervals of time and release large quantities of energy over a small location [2].The catalytic activity of different composition of MgO/ZnO was tested towards esterification reaction and degradation of dyes in the presence and absence of ultrasound. It was observed that the percentage conversion was higher under irradiation for esterification reaction. In the case of dyes, there was no degradation in the absence of ultrasound. Under sonication, greater activity was observed for the decomposition of malachite green compared to methylene blue. Under sonication, acoustic cavitation provides a unique interaction of energy and matter and ultrasound irradiation of oxide systems and dyes in aqueous solution causes high energy chemical reaction to occur.

KEYWORDS: *ultrasound, acoustic cavitation, esterification, degradation, malachite green, methylene blue*

INTRODUCTION

Mixed oxide catalysis, in most cases have activity and selectivity superior to those of pure oxides. A systematic study of the nature of the intercalation between the component oxides, mode of preparation and pre treatment , surface area, composition etc of simple binary oxide systems in relation to their catalytic activity could give a clearer picture of the origin of modified activity in them. The adsorption of molecules on to a surface is a necessary prerequisite to any surface mediated chemical process. The elementary steps involved in a heterogeneously catalyzed reaction are in principle well known [3]. In heterogonous catalysis ultrasonic dispersion increases the surface area available to the reactants.

Malachite green has now become a controversial compound due to the risks it poses to the consumers of the treated fish, including the effects on the immune system and reproductive system [4].Though the use of this dye has been banned in several countries and is now approved by US Food and Drug Administration, it is still being used n many part of the world due to the low cost, ready availability and efficacy [5]. Generally the adsorption of organic pollutants follow a Langmuir-Hinshelwood mechanism confirming the heterogenous catalytic character of the system with the reaction rate varying proportionally with the coverage [6,7].The present paper compare the catalytic and sonocatalytic activity of different composition of MgO/ZnO towards esterification reaction and degradation of malachite green and methylene blue dyes.

EXPERIMENTAL

Mixed oxides of different composition where prepared by co-precipitation method from their nitrate solutions. The oxides were characterized using FTIR, XRD and BET method. The esterification reaction was carried out in a 50 ml round bottomed flask equipped with a reflux condenser in which the catalyst (0.5g), acetic acid (2m mol) and n-butanol (32m mol) and n-decane was used as the internal standard. The reaction temperature was maintained at 98°C and stirred using magnetic stirrer for 5 hours. The product was analyzed by means of GCMS and TLC.

ECM108

Electrochemical Distinction of Trimethoprim and Ambroxol on Metalloporphyrin Modified Glassy Carbon Electrode

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ABSTRACT

The electrochemical behaviour of Ambroxol (AMX) and Trimethoprim (TMP) at a [5,10,15,20-tetrakis(4-methoxyphenyl)porphyrinato]manganese(III)chloride modified glassy carbon electrode (TMOPPMn(III)Cl/GCE) have been investigated using Differential Pulse Voltammetry (DPV). Trimethoprim (TMP), chemically 5-(3,4,5-trimethoxybenzyl)pyrimidine-2,4-diamine, belongs to the class of chemotherapeutic agents known as dihydrofolate reductase inhibitors. It is used in prophylaxis treatment and urinary tract infections. Ambroxol (AMX), is a mucolytic agent used in the treatment of respiratory disorders associated with viscid or excessive mucus. The present work reports voltammetric determination of TMP and AMX simultaneously. All the DPV experiments of AMX and TMP were performed at pulse width 50 ms, pulse period 200 ms and pulse amplitude 50 mV. Two distinct peaks corresponding to the oxidation of TMP and AMX wereobtained The oxidation of AMX occurred at 884 mV whereas that of TMP at 1088 mV. A lower detection limit of 3.0×10−9 M for TMP and 4.6×10-10 M for AMX were obtained.

KEYWORDS: *trimethoprim, ambroxol, metalloporphyhrin, voltammetry*

INTRODUCTION

Trimethoprim (TMP), chemically 5-(3,4,5-trimethoxybenzyl)pyrimidine-2,4-diamine, belongs to the class of chemotherapeutic agentsknown as dihydrofolate reductase inhibitors. TMP is a synthetic antibiotic that interferes with the production of tetrahydrofolic acid (a necessary chemical for bacteria and human cells to produce proteins), by inhibiting the enzyme responsible for making tetrahydrofolic acid from dihydrofolic acid.It is used in prophylaxis treatment and urinary tract infections.

Ambroxol (AMX),, is a mucolytic agent used in the treatment of respiratory disorders associated with viscid or excessive mucus. It is the active ingredient of Mucosolvan, Mucobrox, Lasolvan, Mucoangin, Surbronc and Lysopain. The substance is a mucoactive drug with several properties including secretolytic and secretomotoric actions that restore the physiological clearance mechanisms of the respiratory tract, which play an important role in the body's natural defence mechanisms.

Several analytical methods are reported for the determination of TMP and AMX separately [1-6]. But no work dealing with the simultaneous detection of TMP and AMX has been reported. The present work reports voltammetric determination of TMP and AMX simultaneously.

EXPERIMENTAL

Fabrication of TMOPPMn(III)Cl modified GCE (TMOPPMn(III) Cl/GCE)

2 mg of TMOPPMn(III)Cl was dissolved in a mixture of 300 µl nafion and 200 µl ethanol. The solution was then agitated ultrasonically for about half an hour to get a stable and homogeneous solution. TMOPPMn(III)Cl/GCE was prepared by dropping 2µl of TMOPPMn(III)Cl solution onto the clean GCE surface and evaporating the solvent at room temperature.

Preparation of analyte sample

Stock solution of AMX (1×10^{-2} M) was prepared in methanol. Standard solutions of AMX (1×10^{-3} M – 1×10^{-8} M) were prepared by serial dilution of the stock solution using acetate buffer.Stock solution of TMP (1×10^{-2} M) was prepared in methanol. Standard solutions of TMP (1×10^{-3} M – 1×10^{-8} M) were prepared by serial dilution of the stock solution using acetate buffer.

ആതിര കെ.ആർ.

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