

Evaluative Report of the Department (2016 - 2021)						
Sadakathullah Appa College (Autonomous)			Department of Chemistry			
District : Tirunelveli			State : Tamil Nadu			
Total Number of Departments in the institution :			19			
Sl. No.	Name of the Department	Chemistry				
1	Year of Establishment	1979 (UG), 2017 (PG) 2017(Ph.D), Msc. (MMDD) (2011), Certificate Course(2011)				
2	Is the Department part of a School/ Faculty of the Institution	Yes / Faculty of Sciences				
3	Names of programmes offered	B.Sc. Chemistry, M.Sc., Chemistry, M.Sc. Molecular Modelling and Drug Design [UGC Innovative Programme]*, Certificate Course in Water and Soil Analysis, Ph.D.				
4	Number of teaching posts Sanctioned/ Filled	Sanctioned		Filled		
	2016-17	6		6		
	2017-18	7		7		
	2018-19	9		9		
	2019-20	9		8		
	2020 - 21	9		8		
5	Number of Research Projects:	No.	Total Grants Received			
	2016-17	-	-			
	2017-18	-	-			
	2018-19	1	7,500			
	2019-20	7	77,500			
	2020-21					
	TOTAL	8	85,000			

6	Inter –institutional collaborative projects and Associated grants received	National collaborati on Number	Grant Received	International collaboration Number		Grant Received
	2016-17	Nil	Nil	Nil	Nil	Nil
	2017-18	Nil	Nil	Nil	Nil	Nil
	2018-19	Nil	Nil	Nil	Nil	Nil
	2019-20	Nil	Nil	Nil	Nil	Nil
	2020-21	Nil	Nil	Nil	Nil	Nil
	TOTAL	Nil	Nil	Nil		Nil
7	Departmental projects funded by DST-FIST,DBT, ICSSR, etc., : Total grants received	DST-FIST	DBT	ICSSR	Seed Money, TNSCST, Project if others	
	2016-17	Nil	Nil	Nil	Nil	
	2017-18	Nil	Nil	Nil	Nil	
	2018-19	Nil	Nil	Nil	1	
	2019-20	Nil	Nil	Nil	7	
	2020-21	Nil	Nil	Nil	Nil	
	TOTAL	Total Grants: 92500/-				
8	Special research laboratories sponsored by/created by industry or corporate bodies:					
	2016-17	Nil				
	2017-18	Nil				
	2018-19	Nil				
	2019-20	Nil				
	2020-21	Nil				
9	Publications:	Number of Papers published	Number of Books with ISBN	Number of Citation Index – range / average	Number of Impact Factor – range / average	Number of h-index
	2016-17	10	1	28		
	2017 -18	3	Nil	51		
	2018-19	7	Nil	68		
	2019-20	5	Nil	74		
	2020-21	2	Nil	123		
	2021-22	8	Nil	114		
	TOTAL	35	1	126	13.29	44
10	Details of patents and income generated	Patent details			Income Generated	
	2016-17	Nil			Nil	
	2017-18	Nil			Nil	
	2018-19	Nil			Nil	
	2019-20	Nil			Nil	
	2020-21	Nil			Nil	

11	Areas of consultancy and income generated	Detail		Income Generated		
	2016-17	Nil		Nil		
	2017-18	Nil		Nil		
	2018-19	Nil		Nil		
	2019-20	1		Rs. 1500		
	2020-21	Nil		Nil		
12	Awards/Recognitions received at the National and International level by :	Faculty	Doctoral/Post doctoral fellows		Students	
	2016-17	1	Nil		Nil	
	2017-18	5	Nil		Nil	
	2018-19	11	Nil		1	
	2019-20	7	Nil		6	
	2020-21	1			3	
	TOTAL	25			10	
13	How many students have cleared Civil Servicesand Defense Services examinations, NET, SET (SLET), GATE and other competitive examinations					
		Civil Services	NET	SET (SLET)	GATE	Other Competitive Exams
	2016-17	Nil	Nil	Nil	Nil	Nil
	2017-18	Nil	Nil	Nil	Nil	Nil
	2018-19	Nil	Nil	Nil	Nil	Nil
	2019-20	Nil	Nil	Nil	Nil	2
	2020-21	Nil	Nil	Nil	Nil	Nil
	TOTAL					2
14	List of doctoral, post-doctoral students and research associates	From the host institution/university		From other institutions/universities		
	2016-17	2		Nil		
	2017-18	3		2		
	2018-19	4		Nil		
	2019-20	Nil		Nil		
	2020-21	Nil		Nil		
15	Number of Research Scholars/ Post Graduate students getting financial assistance from the University/State/ Central	University	State		Central	
	2015-16	Nil	Nil		Nil	
	2016-17	Nil	Nil		Nil	
	2017-18	Nil	Nil		Nil	
	2018-19	Nil	1		Nil	
	2019-20	Nil	1		Nil	
	2020-21	Nil	Nil		Nil	

Note: *Compile data for the last five years*

Faculty List – Chemistry (UG)

Name of the Faculty	Qualification	Date of Appointment	Area of Specialization
<u>Dr. A. Syed Mohamed</u>	M. Sc., CSIR-NET, M. Sc., (Env. Sci), Ph. D., M. Tech. (Chem. Engg.)	03.09.2001	Quantum Chemistry, Molecular Modeling and Crystal Growth
<u>Dr. M. Sheik Muhideen Badhusha</u>	M. Sc., M. Phil., Ph. D., P.G. D. I.T	20.12.2001	Nano Chemistry
<u>Dr. P. Jeslin Kanaga Inba</u>	M. Sc., M. Phil., Ph. D.	21.02.2014	Inorganic Chemistry
<u>Dr. I. Antony Danish</u>	M. Sc., Ph. D.	04.07.2011	Synthetic Organic Chemistry
<u>Dr. M. Thameem Ansari</u>	M. Sc., Ph. D.	21.02.2014	Nano Chemistry
<u>Dr. S M Y. Mohamed Mukthar Ali</u>	M.Sc., GATE, CSIR-NET, Ph.D., PDF	02.01.2020	Nano Materials
<u>Dr. M. Kamalutheen (retired)</u>	M.Sc., M.Phil., Ph.D.	10.08.1985	Phytochemistry and Electrochemistry

Faculty List – Chemistry (PG)

Name of the Faculty	Qualification	Date of Appointment	Area of Specialization
Dr. M. A. Sabitha	M.Sc., M.Phil., B.Ed., Ph.D., GATE	16.06.2017	Environmental Chemistry
Mr. N. Mohamed Faizee	M.Sc., SET., GATE	18.06.2018	Material Chemistry
Dr. R. Imran Khan	M.Sc., Ph.D.,	18.06.2018	Organic Chemistry
Dr. S. Brilliant Revin	M.Sc., Ph.D., Post-Doc (South Korea)	20.01.2020	Nano Chemistry
Dr. P. Anvar Kasim	M.Sc., M.Phil., Ph.D.,	01.10.2021	Electro Chemistry



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RAHMATH NAGAR,
TIRUNELVELI - 627 011

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Re. No.7-C/2006

Dt. 18/08/2006

Proceedings of the Secretary, Sadakathullah Appa College,
Rahmath Nagar, Tirunelveli-627 011.

Present : Hajee T.E.S. Fathu Rabbani

Appointment Order

Thiru. A. Syed Mohamed, M.Sc. is temporarily appointed as Lecturer in Chemistry with effect from the F.N. of 18/08/2006 in the Scale of pay of Rs.8000-275-13500 with other usual allowances at Govt. rates.

This appointment order is subject to the approval of the Registrar, Manonmaniam Sundaranar University, Tirunelveli-627 012 and the Joint Director of Collegiate Education, Tirunelveli Region, Tirunelveli-627 003.

SECRETARY.

To

Thiru. A. Syed Mohamed, M.Sc.,
888-H1, 30th Street,
Rahmath Nagar,
Tirunelveli-627 011.

Copy to B & K-1 Sections,
Copy to Committee Office
Copy to H.O.D. of *Chemistry*
4 Spare copies.

k.b./shunmugam/94



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Rc. No.28-C/2005

Date: 18/08/2006.

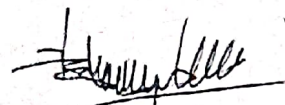
Proceedings of the Secretary, Sadakathullah Appa College,
Rahmath Nagar, Tirunelveli-627 011.

Present: Hajl. T.E.S. Fathu Rabbani

Appointment Order

Thiru. M. Sheik Muhideen Badhusha, M.Sc., M.Phil., is appointed as substitute Lecturer in Chemistry from the forenoon of 18-08-2006 in the place of Thiru. M. Kamalutheen, M.Sc., M.Phil., Lecturer in Chemistry (SG) who is persuing Ph.D. Course at Manonmaniam Sundaranar University, Tirunelveli-12 under Faculty Development Programme in the X Plan Period sponsored by the University Grants Commission, South Eastern Regional Office, Hyderabad in the letter No.F.X TF TNMS 073 FIP X Plan dated February 2005 in the basic pay of Rs.8,000/- in the scale of pay of Rs.8000-275-13500 until further order.

This appointment is subject to the approval of the Registrar, Manonmaniam Sundaranar University, Tirunelveli-627 012. ✓


SECRETARY.

To

Thiru. M. Sheik Muhideen Badhusha, M.Sc., M.Phil.,
27/67, A, Bell Colony,
Palayamkottai,
Tirunelveli-627 002.

Copy to H.O.D. of Chemistry
Copy to K-1 Section
Copy to Committee Office
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k.b./Shunmugam/114



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Rc.No.7-C/2007

22.08.2007

Proceedings of the Secretary, Sadakathullah Appa College,

Rahmath Nagar, Tirunelveli - 627 011.

Present: Hajee T.E.S. Fathu Rabbani

Appointment Order

Thiru. M. Sheikh Muhideen Badhusha, , M.Sc., M.Phil., is temporarily appointed as Lecturer in Chemistry with effect from the F.N. of 22/08/2007 in the Scale of pay of Rs. 8000 - 275 - 13500 with other usual allowances at Govt. rates.

This appointment order is subject to the approval of the Registrar, Manonmaniam Sundaranar University, Tirunelveli- 627 012 and the Joint Director of Collegiate Education, Tirunelveli Region, Tirunelveli - 627 003.

SECRETARY

To

Thiru. M. Sheikh Muhideen Badhusha, , M.Sc., M.Phil.,
27/67-A, Bell Colony
Palayamkottai,
Tirunelveli - 627 002.

Copy to B and K1 Sections in the Office

" Committee Office

" H.O.D. of Chemistry

4 Spare Copies.

Recd/Order/Appoint



Sadakathullah Appa College

An Autonomous Institution Re-Accredited with 'A' Grade by NAAC

* ISO 9001 : 2008 Certified

Rc. No. 60-4-C/2013

Date: 21.02.2014.

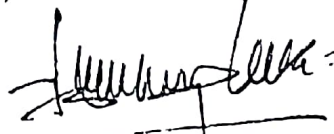
Proceedings of the Secretary, Sadakathullah Appa College,
Rahmath Nagar, Tirunelveli-627 011.

PRESENT: Hajee. T.E.S. Fathu Rabbani.

APPOINTMENT ORDER

Dr. P. Jeslin Kanaga Inba, M.Sc., M.Phil., Ph.D., is temporarily appointed as Assistant Professor of Chemistry with effect from the fore'noon of 21.02.2014 in the Scale of Pay Rs.15600-39100 and Academic Grade pay of Rs.6000 and other usual allowances at Government rates.

This appointment is subject to the approval of the Registrar, Manonmaniam Sundaranar University, Tirunelveli-12 and the Joint Director of Collegiate Education, Tirunelveli Region, Tirunelveli-627 007.



SECRETARY.

To
Dr. P. Jeslin Kanaga Inba,
31, Kanagaraj Street,
Nazareth-628 617.

Copy to B & K-1 Sections,
Copy to Committee Office,
Copy to H.O.D. of Chemistry,
2 Spare Copies.

Appointment/1



Sadakathullah Appa College

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Rc. No. 101SF/2011

14.06.2012

Proceedings of the Secretary, Sadakathullah Appa College
(Autonomous)

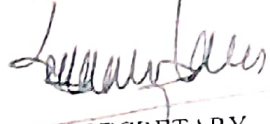

Rahmath Nagar, Tirunelveli – 627 011
* * * * *

Present : Hajee T.E.S. Fathu Rabbani
* * * * *

APPOINTMENT LETTER

Ref : NO F-14-10/2010 (Inno./ASIST) dated : 16 November 2010

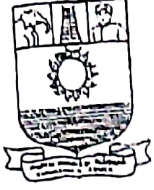
Dr. I. Antony Danish, M.Sc., Ph.D., is appointed as Assistant Professor in Molecular Modeling and Drug Design in the Scale of Pay 15600 – 39100 + AGP 6000 and usual allowances as per government norms. The appointment is effected from the forenoon of 04.07.2011 onwards.


SECRETARY


To

Dr. I. Antony Danish M.Sc., Ph.D.,
S/O. J. Isravel
10/5J Ganapathy Nagar, Ramayanpatti
Sankaran kovil Road, Tirunelveli

Copy to the HOD of MMDD
Copy to The Director, Self Finance Courses
Copy Submitted to the Secretary
3 spare copies



மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்
MANONMANIAM SUNDARANAR UNIVERSITY
(ACCREDITED WITH B++ GRADE BY NAAC)

(Please quote this reference number)

Date : 13.09.2012

No. MSU/ /CD/SA College/QA/AP/2012

From Dr. P. GOVINDARAJU
REGISTRAR I/c

To The Secretary,
Sadakathullah Appa College (autonomous)
Tirunelveli.

Sir,

Sub: Appointment of Assistant Professors in Molecular Modelling and Drug Design
(under UGC Innovative Programme) – Qualification Approval – send – reg.

- Ref: 1. Letter No. 7C- M M D D/2011, dated 30.09.2011 received from the Secretary,
Sadathullah Appa College, Tirunelveli
2. This office letter No. MSU/CD/QA/SAC/Asst. Prof/2011, dated 26.12.2011
3. Legal Opinion offered by the Legal Counsel of the University
4. Lr.No.8-CM M D D/SAC/Asst. Prof/2011, dated 28.05.2012 received from the
Secretary, Sadathullah Appa College (Autonomous), Tirunelveli.
5. Minutes of the meeting of the Syndicate sub-committee on qualification
approval dated 05.09.2012

With reference to the above, I am, by direction to inform that the qualification for the
appointment of the following Assistant Professors appointed under UGC Innovative Programme (XI
Plan) is approved as detailed below:

Sl. No.	Name of the Incumbent with department	Nature of Vacancy	Qualification with % of Marks and year of passing with University
1.	Dr. J. Winfred Jebaraj Assistant Prof. in Molecular Modelling and Drug Design Date of joining 04.07.2011 F.N.	UGC Assistance - Under Innovative Programme during UGC XI Plan	M.Sc Inorganic Chemistry I Class, May 1997, Annamalai University M.Phil Chemistry I Class Feb.1999 Annamalai University (Regular) Ph.D. June 2003 Annamalai University.
2.	Dr. I. Antony Danish Assistant Prof. in Molecular Modelling and Drug Design Date of Joining 04.07.2011	UGC Assistance - Under Innovative Programme During UGC XI Plan	M.Sc Chemistry I Class, April 1999, Bharathiar University Ph.D. Chemistry July 2004 Bharathiar University

[Handwritten signature]



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* ISO 9001 : 2008 Certified

Rc. No. 60-5-C/2013

Date: 21.02.2014.

Proceedings of the Secretary, Sadakathullah Appa College,
Rahmath Nagar, Tirunelveli-627 011.

PRESENT: Hajee. T.E.S. Fathu Rabbani.

APPOINTMENT ORDER

Dr. M. Thameem Ansari, M.Sc., Ph.D., is temporarily appointed as Assistant Professor of Chemistry with effect from the fore'noon of 21.02.2014 in the Scale of Pay Rs.15600-39100 and Academic Grade pay of Rs.6000 and other usual allowances at Government rates.

This appointment is subject to the approval of the Registrar, Manonmaniam Sundaranar University, Tirunelveli-12 and the Joint Director of Collegiate Education, Tirunelveli Region, Tirunelveli-627 007.

SECRETARY.

22

To
Dr. M. Thameem Ansari,
2-A/1, Thenammai Oorani South,
Devakottai-630 302.

Copy to B & K-1 Sections,
Copy to Committee Office,
Copy to H.O.D. of Chemistry,
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Appointment/1



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Proceedings of the Secretary, Sadakathullah Appa College, (Autonomous)
Rahmath Nagar, Tirunelveli - 627 011.

PRESENT : Alhaj.T.E.S.Fathu Rabbani

Re.No. : 16300 / UA / 2020

Date: 10.01.2020

Sub: Unaided Courses - Sadakathullah Appa College - Appointment
for the post of Assistant Professor in the Department of
Chemistry - order issued.

Read : Interview on 17.12.2019 and connected records.

ORDER:

Dr. S.M.Y. MOHAMED MUKTHAR ALI, M.Sc., Ph.D. NET, PDF is temporarily appointed as an Assistant Professor in the Department of Chemistry at a consolidated salary of Rs. 27,000/- (Rupees Twenty Seven thousand only) per month with effect from 02.01.2020.

This appointment will be governed by the rules and regulations of the Sadakathullah Appa College. If he wishes to leave the College, he will have to give three months' notice or three months' salary (last drawn pay) in lieu thereof. Notice, if any, should be given before March 31st of the particular year.


SECRETARY

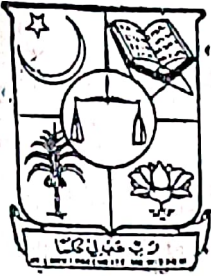
To

Dr.S.M.Y.Mohamed Mukthar Ali, M.Sc., Ph.D. NET, PDF
17/8, Second Floor Muthumari Street,
Near Mahaveer Transport, Mannady,
Chennai - 600 001.

10.01.2020

Copy to the H.O.D. of Chemistry
Copy to the Director of Unaided Courses
Copy to the Committee Office

2.4.1



P. B. No. 2

Phone No. 5224

SADAKATHULLAH APPA COLLEGE

RAHMATH NAGAR,
PALAYAMKOTTAI, TIRUNELVELI-11.

Re.No.88-C/85.

Date 9.8.1985.

Proceedings of the Secretary, Sadakathullah Appa College, Rahmath Nagar,
Palayamkottai, Tirunelveli-627 011.

Present: Hajee T.E.S.Fathu Rabbani.

Sub: Establishment - Sadakathullah Appa College, Palayamkottai,
Tirunelveli-11 - Thiru M.Kamalutheen,M.Sc. - Appointed as
Asst.Prof. of Chemistry - ordered - regarding.

Ref: Application of Thiru M.Kamalutheen,M.Sc., dt. 9.8.1985.

--oo00oo--

Thiru M.Kamalutheen,M.Sc. is temporarily appointed as
Asst.Prof. of Chemistry with effect from 10.8.1985 on the basic pay
of Rs.700/- p.m. with other usual allowances at Govt. rate.

The above appointment is subject to the grant of permission
by the Director of Collegiate Education, Madras-600 006 and the approval
by the Registrar, Madurai Kamaraj University, Madurai-625 021.


Secretary. 1/8

To
✓ Thiru M.Kamalutheen,M.Sc.,
9, Mada Middle Street,
Tirunelveli-627 006.
Copy to A & B Sections.
Copy to Committee Office.
Two spare copies.



Sadakathullah Appa College

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Proceedings of the Secretary, Sadakathullah Appa College (Autonomous),
Rahmath Nagar, Tirunelveli - 627011.

PRESENT : Alhaj. T.E.S. FATHU RABBANI

Rc.No. 13884/UA/2017

Date: 21.06.2017


Sub: Unaided Courses -Sadakathullah Appa College-
Appointment for the post of Assistant Professor
in the Department of Chemistry - orders issued.

Read: Interview on 06.06.2017 and connected records:

ORDERS :

Dr. M.A. SABITHA, M.Sc., M.Phil., Ph.D. is temporarily appointed as an Assistant Professor in the Department of Chemistry at a consolidated salary of Rs. 13,000/- (Rupees Thirteen Thousand only) per month with effect from 16.06.2017.

This appointment will be governed by the rules and regulations of the Sadakathullah Appa College. If she wishes to leave the College, she will have to give three months' notice or three months' salary in lieu thereof. Notice, if any, should be given before March 31st of the particular year.


30/6/17


SECRETARY

To
Dr. M.A. Sabitha, M.Sc., M.Phil. Ph.D. ^{wh} 21.6.17
49, Srinagar 3rd Street,
Balakrishnapuram,
Dindigul - 624005.

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Copy to the Committee Office

Rahmath Nagar, Tirunelveli 627 011. Ph : 0462-2540763, Fax : 0462-2540033
E-mail : principal@sadakath.ac.in, Website : www.sadakath.ac.in



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Proceedings of the Secretary, Sadakathullah Appa College (Autonomous),
Rahmath Nagar, Tirunelveli - 627011.

PRESENT : Alhaj. T.E.S. FATHU RABBANI

Re.No.14760/UA/2018

Date: .06.2018

Sub: Unaided Courses -Sadakathullah Appa College-
Appointment for the post of Assistant Professor in the
Department of Chemistry (unaided) - orders issued.

Read: Connected records.

ORDER :

Thiru. N. MOHAMED FAIZEE, M.Sc., SET., GATE., is temporarily appointed as an Assistant Professor in the Department of Chemistry (Unaided) at a consolidated salary of Rs.16,000/- (Rupees Sixteen Thousand only) per month with effect from 18.06.2018.

This appointment will be governed by the rules and regulations of the Sadakathullah Appa College. If he wishes to leave the College, he will have to give three months' notice or three months' salary (last drawn pay) in lieu thereof. Notice, If any, should be given before March 31st of the particular year.

To
Thiru. N. MOHAMED FAIZEE, M.Sc., SET., GATE.,
162/420, Syed Kurukal Pallivasal Street,
TENKASI,
Tirunelveli - 627 781

SECRETARY

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14760/UA/2018

Rahmath Nagar, Tirunelveli - 627 011. Ph: 0462 2547773, Fax: 0462 2547013



Sadakathullah Appa College

"Sadakathullah Appa College (Autonomous) - Rahmath Nagar, Tirunelveli - 627011"

Proceedings of the Secretary, Sadakathullah Appa College (Autonomous),
Rahmath Nagar, Tirunelveli - 627011.

PRESENT : Alhaj. T.E.S. FATHU RABBANI

Re.No.14761/UA/2018

Date: .06.2018

Sub: Unaided Courses -Sadakathullah Appa College-
Appointment for the post of Assistant Professor in the
Department of Chemistry (unaided) - orders issued.

Read: Connected records.

ORDER :

Thiru.. IMRAN KHAN, M.Sc.,(Ph.D. Thesis submitted) is temporarily
appointed as an Assistant Professor in the Department of Chemistry (Unaided) at
a consolidated salary of Rs.11,000/- (Rupees Eleven Thousand only) per month
with effect from 18.06.2018.

This appointment will be governed by the rules and regulations of the
Sadakathullah Appa College. If he wishes to leave the College, he will have to
give three months' notice or three months' salary (last drawn pay) in lieu thereof.

Notice, If any, should be given before March 31st of the particular year.

To
Thiru. IMRAN KHAN, M.Sc., Ph.D.,
17-A, Mylakader Street,
Melapalayam,
Tirunelveli - 627 005.

SECRETARY

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Copy to the Director of Unaided Courses
Copy to the Committee Office

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Rahmath Nagar, Tirunelveli 627 011. Ph : 0462-2540763, Fax : 0462-2540033

E-mail : principal@sadakath.ac.in, Website : www.sadakath.ac.in



Sadakathullah Appa College

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Proceedings of the Secretary, Sadakathullah Appa College, (Autonomous)
Rahmath Nagar, Tirunelveli - 627 011.

PRESENT : Alhaj. F.E.S. Fathu Rabbani

Re.No. : 16301 / UA / 2020

Date: 22.01.2020

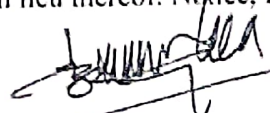
Sub: Unaided Courses - Sadakathullah Appa College - Appointment
for the post of Assistant Professor in the Department of
Chemistry - order issued.

Read : Interview on 17.12.2019 and connected records.

ORDER:

Dr. S.BRILLIANS REVIN, M.Sc., Ph.D., PDF is temporarily appointed as an Assistant Professor in the Department of Chemistry at a consolidated salary of Rs. 25,000/- (Rupees Twenty Five thousand only) per month with effect from 20.01.2020.

This appointment will be governed by the rules and regulations of the Sadakathullah Appa College. If he wishes to leave the College, he will have to give three months' notice or three months' salary (last drawn pay) in lieu thereof. Notice, if any, should be given before March 31st of the particular year.


SECRETARY

To
Dr. S.Brillians Revin, M.Sc. Ph.D., PDF.
1/151B, Joseph Street,
Megnanapuram,
Thoothukudi District - 628210

wh
22.01.2020

Copy to the H.O.D. of Chemistry
Copy to the Director of Unaided Courses
Copy to the Committee Office



Sadakathullah Appa College

*An Autonomous Institution Re-Accredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0 * ISO 9001: 2015 Certified *

Date: 01.10.2021

Rc.No: 8-3/UA/T/App/2021

Proceedings of the Secretary, Sadakathullah Appa College (Autonomous),
Rahmath Nagar, Tirunelveli – 627 011.

PRESENT: Alhaj. T.E.S. FATHU RABBANI


Sub: Unaided Courses – Sadakathullah Appa College – Appointment for the
post of Assistant Professor in the Department of Chemistry – Orders
Issued.

Read: Interview on 21.09.2021 and Connected records.

APPOINTMENT ORDER

Dr.P.ANVAR KASIM, M.Sc., M.Phil., Ph.D, is temporarily appointed as an Assistant Professor in the Department of Chemistry (Unaided) in the College at a Consolidated salary of Rs. 25,000 /- (Twenty Five Thousand only) per month with effect from 01.10.2021.

This appointment will be governed by the rules and regulations of the Sadakathullah Appa College. If he wishes to leave the college, he have to give three months' notice or three months' salary (last drawn pay) in lieu thereof. Notice, if any, should be given before March 31st of the particular year.



SECRETARY 3

To
Dr.P.ANVAR KASIM, M.Sc., M.Phil., Ph.D
Door No. 31-1, Near Govt Primary School,
Thittuvillai. Nagercoil – 629852
Kanyakumari District.

Copy to the Head of the Department of Chemistry
Copy to the Committee Office
Copy to the College Office

S. NO. 5 27

S. NO. 12

2018-19 ①

229

2018-19 (Student Project) ①

தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

(Established by Government of Tamilnadu)

Directorate of Technical Education Campus, Chennai – 600 025.

Ph : 044-22301428, Telefax : 044 22301552 www.tanscst.nic.in



Dr. R. SRINIVASAN, M.Sc., Ph.D., F.I.C.S., M.A.C.S (USA),
Member Secretary

Lr. No. TNSCST/SPS/AR/2018-2019

18.02.2019

To
The Principal
Sadakathullah Appa College
Tirunelveli-627011

Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2018-2019 – approval
intimation–grant release- reg.

With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. Kindly read and ensure adherence to the terms and conditions such as submission of UC and seminar paper in time.

Kindly find enclosed here with the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest.

Kindly send the utilisation certificate (format enclosed) and seminar paper (ref.T&C-no.5&6) on completion of the project.

Thanking you,

Yours faithfully,


18/2/19
Member Secretary.

Encl: a) Terms & Conditions (T&C)
b) Format of Utilisation Certificate (UC)
c) Cheque for Rs 7500/- No: 795142 dt:18.02.2019.

Copy to: Individual Guides



Sadakathullah Appa College

'An Autonomous Institution Re-Accredited by NAAC at 'A' Grade with a CGPA of 3.49 out of 4.0. 'ISO 9001:2015 Certified'

Date : 04.10.2019

F.NO.SAC/Research Project/Seed Money/2019-20/01

Dr. P. Jeslin Kanaga Inba,
Department of Chemistry (Aided),
Sadakathullah Appa College, (Autonomous)
Rahmath Nagar,
Tirunelveli - 627 011.

Proposal Number : SAC-A/CHE/01

Sir / Madam,

With reference to the Minor Research Project proposal titled "Synthesis, Antibacterial and Corrosion Inhibition activity of Schiff Base Transition Metal Complex" submitted by you, the College Management has provisionally considered your proposal for a financial assistance of Rs.10,000/-

Budget.

S. No	Item	Approximate cost in Rs
1	Chemicals	5,000
2	Glass wares	1,000
3	Metal pieces	500
4	Solvents	1,000
5	Characterization	1,000
6	Contingency	1,500
	Total	10,000

A. S. S. S.

Principal



Sadakathullah Appa College

*An Autonomous Institution Re-Accredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0 * ISO 9001:2015 Certified *

Date : 04.10.2019

F NO SAC/Research Project/Seed Money/2019-20/02

Dr. I. Antony Danish,
Department of Chemistry (Aided),
Sadakathullah Appa College, (Autonomous)
Rahmath Nagar,
Tirunelveli - 627 011.

Proposal Number : SAC-A/CHE/02

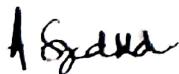
Sir / Madam,

With reference to the Minor Research Project proposal titled "Synthesis of 2-Aminopyrano [2,3-b]pyridines via Multi-Component Reaction and their Anti-microbial Studies" submitted by you, the College Management has provisionally considered your proposal for a financial assistance of Rs.10,000/-

Budget:

	Budget (Actual) Rs.
Chemicals	5,000/-
Characterization	3,000/-
Travel Allowance	2,000/-
Grand total of whole project	10,000/-


Principal





Sadakathullah Appa College

*An Autonomous Institution Re-Accredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0 * ISO 9001: 2015 Certified *

Date : 04.10.2019

F.NO:SAC/Research Project/Seed Money/2019-20/03

Dr. M. Thameem Ansari,
Department of Chemistry (Aided),
Sadakathullah Appa College, (Autonomous)
Rahmath Nagar,
Tirunelveli - 627 011.

Proposal Number : SAC-A/CHE/03

Sir / Madam,

With reference to the Minor Research Project proposal titled "A Study of Magnetoceramic Nanocomposite Material for Biomedical Applications" submitted by you, the College Management has provisionally considered your proposal for a financial assistance of Rs.5,000/-

Budget:

S. No.	Item	Amount in Rs.
1.	Chemicals and Glassware	3,500
2.	Contingency	500
3.	Outsourcing/Analysis of samples	1,000
	Total	5,000


Principal



Sadakathullah Appa College

*As Autonomous Institution It is Accredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0 *1809051-2018 Certified*

E.NO:SAC/Research Project/Seed Money/2019-20/17

Date : 04.10.2019

Dr. M. A. Sabitha,
Department of Chemistry (PG) (Unaided),
Sadakathullah Appa College, (Autonomous)
Rahmath Nagar,
Tirunelveli - 627 011.

Proposal Number : SAC-UA/CHE/01

Sir / Madam,

With reference to the Minor Research Project proposal titled "Phytoremediation of waste water generated from our college using *Ocimum sanctum*, *Cymbopogon citratus* and *Aloe barbadensis*, reusing for domestic purposes." submitted by you, the College Management has provisionally considered your proposal for a financial assistance of Rs. 10,000/-

Budget:

S. No.	Head	Amount in Rs.
1	Setting up model pit equipped with gravel, pebbles and leaves	3,000
2	Filtration membrane organisation	3,000
4	Physico-chemical analysis of water	1,500
5	Contingencies	2,500
Total -		10,000

VP

[Signature]
Principal

[Signature]



Sadakathullah Appa College

*An Autonomous Institution Re-Accredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0 * (ISO 9001: 2015 Certified)

Date : 04.10.2019

F.NO:SAC/Research Project/Seed Money/2019-20/18

Dr. R. Imran Khan,
Department of Chemistry (PG) (Unaided),
Sadakathullah Appa College, (Autonomous)
Rahmath Nagar,
Tirunelveli - 627 011.

Proposal Number : SAC-UA/CHE/02


Sir / Madam,

With reference to the Minor Research Project proposal titled "Biomimetic Catalysis by Cu(II) Complex of Ethylene-di-amine Modified β -Cyclodextrin in Synthesis of Benzoxazole Derivatives via Phenol and Benzylamine Coupling" submitted by you, the College Management has provisionally considered your proposal for a financial assistance of Rs.10,000/-

Budget:

Item	Budget (Actual)
Chemicals	5,000/-
Characterization	3,000/-
Travel Allowance	2,000/-
Grand total of whole project	10,000/-


Principal


A. S. S. S. S.

S.No. 527

2019-20 (6)

S.No. 12

2019-20

Student Project (1)



TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

(Established by Government of Tamil Nadu)

Directorate of Technical Education Campus, Chennai - 600 025

Ph: 044-22301428, Telefax: 044-22301552 www.tnscst.org

Dr R SRINIVASAN, MSc, PhD, FICS, MACS (UKA)
Member Secretary

LT No TNSCST/SPS/AR/2019-2020

18.03.2020

To
The Principal
Sadakathullah Appa College
Tirumelveli - 627 011

Sir/Madam,

Sub: TNSCST - Student Project Scheme - 2019-2020 - approval
intimation-grant release- reg.


With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. You are requested to adhere to terms and conditions such as submission of UC and Seminar Paper in Time.

Herewith enclosed the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest

Kindly send the utilisation certificate (format enclosed) and seminar paper (ref.T&C-no.5&6) on completion of the project.

Thanking you,

Yours faithfully,


Member Secretary.

- Encl: a) Terms & Conditions (T&C)
b) Format of Utilisation Certificate (UC)
c) Cheque for Rs.22500/- No: 853070 dt.18.03.2020

Copy to: Individual Guides



Indian Academy of Sciences, Bengaluru
Indian National Science Academy, New Delhi
The National Academy of Sciences India, Prayagraj

SCIENCE ACADEMIES' SUMMER RESEARCH FELLOWSHIP PROGRAMME

P.O. No. 8006, C.V. Raman Avenue, Sadashivanagar Post, Bengaluru 560 080
Telephone: (080) 2266 1267, 2266 1202, 2266 1221, Fax: (080) 2361 6054
Email: sumfel@ias.ac.in Website: www.ias.ac.in

Date: 3 March 2020

Ms M Velsiba
C/o. Dr M. Thameem Ansari
Assistant Professor, Department of Chemistry
Sadakathullah Appa College, Rahmath Nagar
Tirunelveli - 627011 (Tamil Nadu)

Dear Ms Velsiba,

This has reference to your application CHES1510 for an IASc-INSa-NASc Summer Research Fellowship in 2020. We are happy to offer you a Fellowship to work for two months during this summer subject to verification of your marks as stated by you in the application with the marks sheets. You will be working with Dr Minmoy De, Indian Institute of Science, Bengaluru (e-mail: md@iisc.ac.in).

We have tried as far as practicable to assign you to a guide who works in your area of interest. Where that has not been possible, you will work with the assigned guide in a related area that will be determined by the guide, and trust that the experience will be fruitful to you. We will not be able to make any change in this regard.

This Fellowship is subject to the following norms:

- The duration of the Fellowship is eight weeks (56 days - including Sundays and General Holidays*), and is not to be reduced. If you do not complete this requirement, you will not be paid the fellowship amount and the certificate that is usually issued on completion.
- You will be provided a second class [sleeper class] train fare from Tirunelveli to IISc, Bengaluru and back.
- If you are NOT an INSPIRE KVPY Fellowship holder, you will be paid a Fellowship of Rs. 12,500* per month towards your boarding, lodging, local transport expenses*. Those who are in receipt of INSPIRE KVPY Fellowship will be covered by a separate arrangement, the details of which will be sent later.
- The Academy will arrange accommodation at its Fellows Residency in Bengaluru for about 250 summer fellows on first come first serve basis. The charges for the accommodation would be Rs. 3,000 - per month; food and transport on actual basis.

Please also go through carefully & comply with all the Instructions given in the attached sheet.

You are advised to get in touch with Dr De immediately to work out the exact period of your visit. In the meantime please communicate with Mr C. S. Ravi Kumar, Coordinator, Science Education Programme, your acceptance of this Fellowship. We would need a joining report from you upon your arrival, and a brief report of your work at the end of four weeks so that your Fellowship for the first month can be paid. After the receipt of the final report, we shall release the remaining amount due to you along with your travel fare.

We urge you to convey your acceptance of this fellowship within 7 days by both online (the userid and password given at the bottom of the email) as well as by returning the Form of Acceptance posted to you. Even if you are not able to accept the fellowship, this should be communicated to the Academy immediately (both by email: sumfel@ias.ac.in with a cc to your guide; and in the Form of Acceptance) so that the fellowship can be offered to another candidate in the waiting list.

With best wishes,

Yours sincerely,

Professor M R N Murthy
Chairman, Joint Science Education Panel, IASc

* It is recommended that each Summer Research Fellow be covered by a personal health/accident insurance policy during the period of summer training. The Academies will not provide any insurance cover. Therefore, the responsibility for purchase of insurance rests with you.



2D- and 3D-QSAR Study of Acyl Homoserine Lactone Derivatives as Potent Inhibitors of Quorum Sensor, SdiA in *Salmonella typhimurium*

Gnanendra Shannmugam^{1,a}, Syed Mohamed², Jeyakumar Natarajan^{3*}

¹Bioinformatics Division, Center for Research and Development
Mahendra Educational Institutions, Mallasamudram
Tiruchengode, Tamil Nadu, India
E-mail: gnanu_science@gmail.com

²Department of Molecular Modeling
Sadakathullah Appa College
Tirunelveli, Tamil Nadu, India
E-mail: asm2032@gmail.com

³Department of Bioinformatics
Bharathiar University
Coimbatore, Tamil Nadu, India
E-mail: n.jeyakumar@yahoo.co.in

*Corresponding author

Received: February 12, 2016

Accepted: November 10, 2016

Published: December 31, 2016

Abstract: A series of Acyl homoserine lactone derivatives against quorum sensing (QS) enhanced transcriptional regulator SdiA of *S. typhimurium* were used to establish the physicochemical and structural requirements for the inhibition of QS using 2D- and 3D-QSAR methods. The QSAR model was developed by employing 35 compounds as a training set and the predictive ability was assessed by a test set of 12 compounds. The best 2D-QSAR model for the prediction of SdiA, quorum sensor inhibitory activity has been developed using Multiple Linear Regression (MLR) method (giving $r^2 = 0.8012$ and $q^2 = 0.657$), Principal Component Regression (PCR) method (giving $r^2 = 0.8104$ and $q^2 = 0.625$), and Partial Least Squares Regression (PLS) method (giving $r^2 = 0.8023$ and $q^2 = 0.648$). The best model for 3D-QSAR has been obtained using Comparative Molecular Field Analysis (CoMFA) method, giving $r^2 = 0.896$ and $q^2 = 0.772$. The 2D-QSAR results revealed that the most important descriptors for predicting the anti-quorum sensing activity were alignment-independent descriptors and the topology index descriptors. The 3D-QSAR results of CoMFA contour maps impart some important structural features-like electronegative substituent (Br, Cl, F) on lactone ring favors the strong inhibitory activity. These results will be further useful for development of new quorum sensing inhibitors with structural diversity.

Keywords: *Salmonella typhimurium*, 2D-QSAR, 3D-QSAR, CoMFA, QS inhibitors.

Introduction

Salmonella typhimurium is an enteric bacterium causing gastroenteritis, a life threatening disease in human beings. In recent years problems related to *Salmonella* have increased both in terms of prevalence and severe cases of human salmonellosis and millions of human cases are reported worldwide every year resulting in thousands of mortality [26]. Worldwide, nearly 21.6 million cases of typhoid fever resulting in 200,000 deaths are estimated every year [3]. In Asia, the rate of incidence of typhoid fever is estimated to be 900 per 100,000 people per annum [17]. In contrast, human gastroenteritis is increasing because of food contamination.



Research Article

ISSN : 0975-7384
CODEN(USA) : JCPRC5

Sequence analysis, Homology Modeling, Docking and Pharmacophore Studies of Phosphocholine Cytidylyltransferase in *Plasmodium Falciparum*

Pavanehand Akkiraju¹, V. Vijaya Lakshmi², P. Praveen Reddy³, Shailima R. D. Vardhini⁴,
Syed Mohamed Abubacker⁵ and Sreenivas Enaganti^{4*}

¹Head & Assistant Professor, Department of Biotechnology, PVP College of Arts, Science & Commerce,
Pravaranagar, Maharashtra, India

²Associate Professor, Department of Chemistry, Government Degree College for Women, Begumpet, Hyderabad,
India

³Research Scholar, Department of Microbiology, Acharya Nagarjuna University, Guntur, India

⁴Dept of Chemistry, Sadakathullah Appa College, Rahmath Nagar, Tirunelveli, India

⁵Averin Biotech Pvt Ltd, 208, 2nd floor, Windsor Plaza, Nallakunta, Hyderabad, India

ABSTRACT

By virtue of the most fatal pandemic disease, Malaria, about a million individuals reach lethality globally every year and with ever consummating drug-resistant malarial parasite species, there occurred a coercive demand for the identification of incipient drug targets. Here we have evaluated a new drug target in phospholipid metabolic pathway such as Phosphocholine cytidylyltransferase (PfCCT) which is involved in the synthesis of Phosphatidylcholine, a class of phospholipids that significantly sways the developmental aspects of malarial parasite along with its replication and longevity within human red blood cells. The Objective of Present study is to identify potential lead molecule against PfCCT through docking with homology model of our target protein and common pharmacophore approach of our target inhibitor molecules. In this study, we computationally modeled the structure of PfCCT using Molsoft and validated by PROCHECK, ProSA and RMSD. With the finally refined target structure we performed docking using GOLD 3.1 and pharmacophore studies using Discovery Studio with 12 natural compounds. The predicted homology model of PfCCT is reliable. On the basis of the docking scores and pharmacophoric features, we have identified the compounds Amodiaquine and Quinidine showing better binding affinity towards PfCCT respectively with good fit values. In conclusion, the two compounds Amodiaquine and Quinidine shows potential inhibition against PfCCT respectively as targeted for malaria and also having better pharmacophoric features that could aid in the design of new lead molecules.

Keywords: Docking, Malaria, pharmacophore, Phosphatidylcholine, Phosphocholine cytidylyltransferase, Phospholipids.

INTRODUCTION

An inductive agent of the world's uttermost significant parasitic malady, Malaria, is an intraerythrocytic protozoan parasite belonging to the genus *Plasmodium* among which *Plasmodium falciparum* is found felonious for severe human malarial cases with death rates beyond 1 million every year [1,2]. Advancements in strategies to encounter this disease has been made obligatory, in view of predicaments in the treatment and prophylaxis of malaria with an ever emerging drug resistant strains of *P. falciparum*, which paved the path for an incipient approach that suggests to target critical metabolic pathways known to be regulated parasite infection and transmission. Excellent targets have been provided by the recent studies on *P. falciparum* for lipid-based antimalarial therapy development involving the metabolic pathways which lead to the major *P. falciparum* phospholipids synthesis that requires enzymes, which are afflictive for a Brisky parasitic multiplication within human erythrocytes [3,4,5]. During the

Biosynthesis of Silver Nanoparticles Using *Saccharomyces Cerevisiae* with Different pH and Study of Antimicrobial Activity against Bacterial Pathogens

M. SHUK MUHIDEEN BADIHUSHA^{1*} and M.M. ABDUL KADER MOHIDEEN²,

¹Department of Chemistry, Sadakathullah Appa College, Tirunelveli, Tamil Nadu, India

²Department of Microbiology, Sadakathullah Appa College, Tirunelveli, Tamil Nadu, India
drsadkunnano@gmail.com

Received 24 May 2016 / Revised 30 June 2016 / Accepted 15 July 2016

Abstract: Extracellular biosynthesis of silver nanoparticles (Ag-NPs) using the *Saccharomyces cerevisiae* (Yeast) was carried out. The pH of the medium play a vital role in the synthesis of control shaped and sized nanoparticles. Morphological observation and characterization of biosynthesized silver nanoparticles were performed by UV-Visible spectroscopy, Scanning electron microscopy and Fourier transform infrared spectroscopy. The biosynthesized silver nanoparticles showed a maximum absorption in the visible region *Saccharomyces cerevisiae* strains showed a maximum absorption at 420-460 nm respectively and the size was ranged from 60-110 nm and 10-40 nm respectively. The antibacterial activities of silver nanoparticles (Ag-NPs) were studied with *Staphylococcus aureus* (Gram-positive) and *Escherichia coli* (Gram-negative). The silver nanoparticles were synthesized at pH 6 that showed maximum antibacterial activity. This method is a promising eco-friendly alternative to chemical method.

Keywords: *Saccharomyces cerevisiae*, Biosynthesis, Extracellular synthesis, Nanoparticles, Antimicrobial activity

Introduction

One of the most important criteria of nanotechnology is that of the development of clean, nontoxic and environmentally acceptable "green chemistry" procedures, involving organisms ranging from bacteria to fungi and even plants^{1,2}. The interactions between microorganisms and metals have been well documented and the ability of microorganisms to extract and accumulate metals is already employed in biotechnological processes such as bioleaching and bioremediation.

It is known that a large number of organisms, both unicellular or multi cellular, are able to produce inorganic nanomaterials, either intracellularly or extracellularly. It seems that especially the yeast and fungi are very good candidates for the synthesis of silver nanoparticles because these types of biomasses are easily handled³.

A Study of Physico-Chemical Analysis of Ground Water in and around SIPCOT, Tuticorin, Tamil Nadu, India

P THILLAI ARASU¹, A MURUGAN² AND M S M BADUSHIA³

¹Department of Chemistry, Wollega University, Nekemte, ETHIOPIA

²Department of Chemistry, North Eastern Regional Institute of Science and Technology, Nirjuli, Papum Pare (Dist.), Imphal 791 109, Arunachal Pradesh, INDIA

³Department of Chemistry, Sakthikathalak Appa college, Tirumelveli 627 011, Tamil Nadu, INDIA

Email: depthillalarasu@gmail.com, nspmurugan@gmail.com

Abstract: Physico-Chemical study was carried out in and around State Industries Promotion Corporation of Tamil Nadu Ltd (SIPCOT) area, Tuticorin, Tamilnadu, with an attempt to determine the characteristics of ground water status and public health in this region, which includes a network of some major industries. Twelve ground water sample were collected from different bore wells and open wells in the study area and were analyzed for pH, total dissolved solid (TDS), total hardness (TH), Nitrogen dioxide (NO₂), Sulphate (SO₄²⁻), Chloride (Cl⁻), Fluoride (F⁻), and Iron (Fe). The analysis show that all the twelve samples collected from the places located in and around the industrial belt of SIPCOT has been grossly polluted. The present study clearly highlight that the Physico-chemical parameters like pH, TDS, TH, NO₂, SO₄²⁻, Cl⁻, F⁻, and Fe of majority of the samples are exceeds BIS permissible limits due to industrial activities. There is also a possible for more metals to seep into the soil to reach the ground water and due to higher withdrawal of groundwater leading to intrusion of seawater in and around SIPCOT area Tuticorin. Hence, It is indention to prevent ground water contamination at the earliest in this area and save the human health.

Keywords: SIPCOT-Tuticorin, Ground Water, Water quality parameter

1. Introduction

Water is the most essential and the prime commodity in our life. Water covers about 75% of earth's surface, of the total volume of water available, 97% is in vast oceans which is of no use to our daily needs, 2% is in the forms of icebergs and less than 1% is available as fresh water (Ponnusamy et al., 2014 & 2013). Water is subjected to pollution easily due to the excessive use of fertilizers, pesticides, discharge effluents from industries and runoff water from agricultural fields. Ground water is an important source of fresh water supply globally. It is readily available than surface water.

It is a major source of drinking water for urban and rural areas. The rapid growth of urban areas has adversely affected the ground water quality due to over exploitation of resources and improper waste disposal practices (Harilal et al., 2004).

Due to the constant addition of industrial, agricultural and domestic water the ground water resource are degrading and are contaminated greatly in many parts of India. At present, effluents are being discharged into sewer but surrounding land receives them due to over flow of sewer system (Sastri et al., 2003).

Polluted water can act as a key vehicle in the direct transmission of various diseases (Jain et al., 2003). The present study is an attempt to examine the ground water quality in the SIPCOT, Tuticorin that includes a

network of some major industries (Thillai Arasu et al., 2007).

2. Material and Method

The study was carried out in the SIPCOT industrial complex, Tuticorin. The Latitude and Longitude of SIPCOT Tuticorin is 8.8075 ° N and 78.0829 ° E respectively. It is 8 km away from Tuticorin town. This industrial complex mainly hosts the chemical industries and marine food processing industries. Twelve ground water samples are collected from bore wells and open wells near the study area within a distance of 1 to 2 km (Table-1).

The bore wells were among the range of 40 to 60 ft. The water samples collected during February 2008.

Table 1: Sample number and Sample Sites

Sl.No.	Sample No.	Site / Location of the Sampling
1	S1	Kilburn Chemicals
2	S2	Sterlite Industries
3	S3	KTV Oil company
4	S4	Amulya Sea foods
5	S5	Tuticorin Alkali Chemical(TAC)
6	S6	Heavy Water Plant (HWP)
7	S7	SPIC Industries
8	S8	Thermal Power Station
9	S9	Old Bus Stand
10	S10	Rahmathullapuram Mosque
11	S11	Kamaraj College



ISSN 0975-413X
CODEN (USA): PCIIHX

Der Pharma Chemica, 2016, 8(20):78-84
(<http://derpharmachemica.com/archive.html>)

Microwave assisted synthesis of ZnO and Co doped ZnO nanoparticles and their antibacterial activity

M. Sheik Muhideen Badhusha*

Department of Chemistry, Sadakathullahappa College, Tirunelveli, Tamilnadu, India

ABSTRACT

The aim of this study was to obtain and characterize ZnO and Co doped ZnO nanoparticles by Microwave assisted method. ZnO plays an important role in many semiconductors technological aspects. In this work, the Co doped ZnO nanoparticles prepared by varying the concentration of Co $(CH_3COO)_2 \cdot 4H_2O$. The synthesized nanomaterials were characterized by XRD, FT-IR and SEM with EDX. The XRD patterns showed that ZnO nanoparticles have hexagonal wurtzite structure. The FT-IR study confirms the presence of functional group in ZnO. SEM photographs show that the synthesized pure ZnO and Co doped ZnO were in the shape of nanoneedles and nanospheres. The average size of nanoneedles and nano-spheres were found to be 25-35 nm and 20-30 nm.

Keywords: ZnO, Co-ZnO, Microwave, Antibacterial activity.

INTRODUCTION

Metallic oxide nanoparticles, specifically nano-scale ZnO, have gained considerable importance in recent years due to their wide range of applications in various fields of science notably biotechnology and pharmacology [1]. ZnO nanoparticles have been regarded as biocidal agents/disinfectants because of their safety, lower toxicity and biocompatibility towards humans [2].

Number of synthesis methods are available for the preparation of pure and doped ZnO nanomaterials, like hydrothermal, hydrolysis, sol-gel, vapor condensation, spray pyrolysis and organic precursor flame decomposition [3]. In conventional synthesis, energy is transferred to the material through convection, conduction and radiation, which results in temperature gradient between surface and bulk. The microwave heating causes the uniform distribution of temperature between the surface and the bulk material and thereby leading to the fast formation of nanoparticles. The microwave dielectric heating has resulted in acceleration of the chemical transformations in a microwave field, which cannot be achieved easily by the conventional method [4-5].

Due to the outbreak of the infectious diseases caused by different pathogenic bacteria, the scientists are searching for new antibacterial agents. In the present scenario, nanoscale materials have emerged up as novel antimicrobial agents owing to their high surface area to volume ratio and the unique chemical and physical properties [6]. Nowadays, ZnO is more focussed by researchers due to its stability and antibacterial activity during rough and tough processing and safe materials for human and ecosystem [7]. Antimicrobial activity of ZnO has enhanced due to the presence of water molecules on its surface, these aqueous suspensions of ZnO and water generate free radicals of hydroxyl and oxygen species which is responsible for remarkable oxidative stress in treated bacterial cells. Recently, many complexes and nanomaterials of Co(II) showing antimicrobial [8]. But, there are significant results over antibacterial

When the so-called thinkers of the Western World, including Dante, initiated a false image of Islam, those who came after them began to see Islam in the same perspective. None dare think differently. Exceptions are Washington Irving, and of course, a number of Black writers. This being the evident truth one should not be shocked or even surprised by Massinger's biased account in the play. The factors that influence Massinger to show Muslims in the worst possible light are cultural and political prejudice and his blind resistance towards other Faiths.

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Biosynthesis of ZnO Nanoparticles using *Ficus Carica* leaf extract and their biological evolution of antibacterial activity

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Abstract: In this study, zinc oxide nanoparticles were biologically synthesized using the leaf extract of *Ficus Carica* (ZnO (AZ)). The synthesized ZnO (AZ) NPs was characterized by UV-Vis spectrophotometer, FT-IR, SEM and XRD analysis. Mainly, the present results depicted that the synthesized nanoproducts are moderately stable, hexagonal phase, roughly cluster like morphology with maximum particles in the size range within 50 - 130 nm in diameter. The antibacterial activity was tested by the well diffusion method in the solid agar medium. The antibacterial activity was tested for gram-positive bacterium like *S. aureus*, *K. Phenomonina* and *Salmonella typhi*. The results reveal that green synthesized ZnO nanoparticles showed the highest antibacterial activity when compared to that of bare ZnO nanoparticles. Further, the present investigation suggests that ZnO NPs has the potential applications for various medical and industrial fields.

Keywords: Green synthesis, Zinc oxide, Antibacterial activity, *Ficus Carica*

1. Introduction

In recent years, the use of inorganic antimicrobial agents has been an attracting interest for the control of microbes. The key advantages of inorganic antimicrobial agents are improved safety and stability when compared with organic antimicrobial agents [1]. At present, most antibacterial inorganic materials are metallic nanoparticles [2] and metal oxide nanoparticles like zinc oxide [3].

Green synthetic strategic-approach is one of the eco-friendly methods for preparing nanoparticles. Synthesis of nanomaterials using biosynthesis over chemical synthesis could avoid many problems because the synthesis method does not use any toxic reagent in the preparation method. Three types of materials are commonly used in the biosynthesis process, including enzymes [4], microorganisms [5] and plant extracts [6]. Among them, synthesis of nanomaterials using plant extracts is the simplest approach

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Green synthesis of ZnO Nanoparticles using *Phyllanthus emblica* Stem extract and their Antibacterial activity

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ABSTRACT

In this paper, a green synthesis of ZnO nanoparticles using *Phyllanthus emblica* stem extract as a reducing/capping agent. The prepared ZnO nanoparticles were characterized using fourier transform infrared spectroscopy (FTIR), UV-visible diffuse reflectance spectroscopy (UV-vis-DRS), X-Ray diffraction (XRD) and Scanning Electron Microscopy (SEM). The synthesized ZnO nanoparticles are wurtzite hexagonal structure with an average average crystallite size of ZnO prepared using *Phyllanthus emblica* stem extract was smaller (25.96 nm) when compared to the same ZnO prepared using a chemical method (36.73 nm). FT-IR spectra revealed the functional groups and the presence of protein as the stabilizing agent for surrounding the ZnO nanoparticles. The antibacterial activity of the ZnO was tested against gram negative bacteria *Salmonella typhi* and *Klebsiella pneumoniae* by disc diffusion method. ZnO nanoparticles were subjected to antimicrobial studies and significant results were obtained.

Keywords: Metal Oxide, Nanomaterial, XRD, Antibacterial activity

INTRODUCTION

ZnO is abundant in nature and environmentally friendly. These characteristics make this material attractive for many applications [1, 2]. The bacteriostatic and fungistatic behaviour of ZnO is well studied and utilized in personal care products. Zinc oxide is a material with many important and diverse applications. Approximately, 45% of the world year production of ZnO is used in the rubber industry to control the vulcanization process and as additive [3]. In the methanol synthetic process ZnO is part of the Cu, ZnO, Al₂O₃ catalyst [4]. In the pharmaceutical industry ZnO is applied in ointments because of its antiseptic properties [4]. The optical properties make ZnO also suitable for many applications, like as a pigment in paints, as a UV filter in products for sun protection and for the production of LEDs and TFTs [5]. In this wide range of applications ZnO is used often in the form of particles and the size of the particles plays an important role.

A number of synthetic routes have been employed to synthesize ZnO nanoparticles such as sol-gel processing, homogeneous precipitation [6], mechanical milling [7], organometallic synthesis [8], microwave method [9], spray pyrolysis [10], thermal evaporation [11] and mechano-chemical synthesis [12]. These methods used in organic solvents and toxic reducing agent majority of which are highly reactive and are unsafe to the environment, to avoid such implications and for sustainable synthesis of ZnO nanoparticles by biological approaches. Biosynthesis of nanoparticles is a bottom up approach where in the main reaction occurring is reduction/oxidation. Among the various biosynthetic approaches, the use of plant extracts has advantages such as easy availability, safe to metabolites. The plant extract has been used as a reducing and capping agent for the synthesis of nanoparticles which could be advantageous over chemical methods. Microbial contamination is a serious issue in healthcare. Hence, the developments of antimicrobial agents have attracted increasing attention in recent times [13]. The developments of nanoparticles with antimicrobial properties are of considerable interest now. ZnO is an antimicrobial agent and the particles are effective to inhibit both gram positive and gram negative bacteria [14, 15].



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RESEARCH ARTICLE

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STUDY OF QUALITY OF GROUND WATER FOUND IN KALLUR VILLAGE, TIRUNELVELI, TAMIL NADU, INDIA.

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Ground water, physico-chemical parameters, Biological parameters, Kallur

Abstract

The study was conducted to evaluate the ground water quality of Kallur, Tirunelveli district, India. Groundwater samples were collected from five locations S1, S2, S3, S4, S5 and these samples were analyzed for more than 15 water quality parameters. High coefficient of variance indicates variability of physico-chemical parameters in ground water. From correlation analysis it was observed that very strong correlations exist between total hardness of samples S2, S3, S4, S5 and TDS of S1 exceeds the permissible limit. Potassium concentration (26 mg/l), chloride concentration (610 mg/l), and ammonia concentration (0.8 mg/l) are very higher than standard values. Biological parameters such as COD and BOD also analysed.

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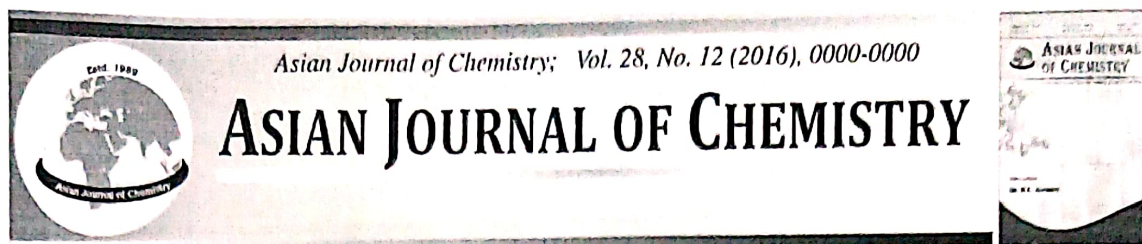
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Introduction:-

Water is the vital for the survival of any type of life. On a normal, a person expends around two liters of water each day¹. Groundwater resource is under threat from pollution either from human life style manifested by the low level of hygiene practiced in the developing nations². With increasing industrialization, urbanization and growth of population, India's environment has become fragile and has been causing concern³. Pollution of water is due to use of fertilizers in agriculture and man-made activities^{4,5}. Once the ground water contaminated, its quality cannot be restored by stopping the pollutants from the source, therefore it becomes very important to regularly monitor the quality of groundwater.

Many studies have been carried out and reported in literature. Trace metal concentration and physico-chemical analysis of ground water of Tadpatri, India, by S. Ramanjulu et al. The physico-chemical characteristics and concentration of twelve trace metals in the ground water of Tadpatri (India) were reported⁶. Ground water quality assessment in Dharmapuri district has been done by K.P. Elango et.al., Cations and anions concentration of most of the locations are within the permissible limit, indicating that the water is suitable for drinking and irrigation purposes⁷. Study of ground water quality has helped in evolving a management plan for ground water development.

In the present study groundwater samples were analysed the physico-chemical parameters such as pH, turbidity, electrical conductivity, total dissolved solids (TDS), total alkalinity, acidity, total hardness, calcium, magnesium, sodium, potassium, iron, manganese, ammonia, nitrite, nitrate, chloride, fluoride, sulphate, phosphate, dissolved oxygen (DO), biochemical oxygen demand (BOD) and chemical oxygen demand (COD) respectively.



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A Size Controlled Synthesis of Magnetite Nanoparticles in a Pure Inorganic Medium

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An extensive research has been carried out on the synthesis of magnetite nanoparticles (MNP) by coprecipitation technique. The most of coprecipitation technique shows the improper size and size distribution of the magnetite nanoparticles. In few reports organic stabilizers were employed to control the synthesis of magnetite nanoparticle. In this work, the pure inorganic precursors were employed for the synthesis of magnetite nanoparticles. The reports showed that pure form of magnetite nanoparticles with good size distribution. Hence this is the facile approach for the synthesis of magnetite nanoparticles; they can be employed for the various biomedicine applications.

Keywords: Magnetite nanoparticles, VUSPIO, Superparamagnetic, Nanomaterials.

INTRODUCTION

A number of synthetic methods have already been reported in literatures for the preparation of magnetite nanoparticles. Among them the co-precipitation technique is possibly the simplest and most competent chemical pathway to obtain magnetite nanoparticles. The main advantage of the co-precipitation process is that it can be easily scaled up for bulk preparation. However, the control of particle size distribution is limited, because only the kinetic factors control the growth of the crystal. Size controlled magnetite nanoparticles of range 10-40 nm were prepared through co-precipitation method [1-3]. The magnetite nanorods with anisotropic property have been synthesized by reverse co precipitation technique with the support of magnetic field. The magnetic fluid has been synthesized from magnetite nanoparticles and hydrophilic surfactant Tween 80 through co-precipitation for the applications in MRI and magnetic fluid hyperthermia. In the co-precipitation process, two stages are involved (i) a short burst of nucleation occurs when the concentration of the species reaches critical super saturation and (ii) slow growth of the nuclei by diffusion of the solute to the surface of the crystal. To produce monodisperse iron oxide nanoparticles, these two stages should be separate, i.e., nucleation should be avoided during the period of growth [4-7].

The magnetite nano crystals of size 2-4 nm can be synthesized by a chemical co-precipitation method in which the particle size was controlled by the reaction temperature [8-14]. The mechanism of the first stage of formation of magnetite nanoparticle synthesized by chemical precipitation

technique the rate of nanoparticle formation is high in its initial period of time and then found decreasing due to the decrease in the number of combining molecules in the solution. Thus the rate of nanoparticle growth depends on its size because the mean size of nanoparticles depends on the physical properties of the medium (viscosity, temperature, etc.) [15-18]. Magnetite particles with an average size of 39 nm and good monodispersity have been synthesized by coprecipitation at 70 °C from ferrous Fe^{2+} and ferric Fe^{3+} ions by a tetra methyl ammonium hydroxide solution, followed by hydrothermal treatment at 250 °C. Further this report explains the conversion of magnetite to other iron oxide phases at elevated temperature [19,20]. Hence the above reports show that the synthesis of magnetite nanoparticles by coprecipitation technique can be achieved only by adding organic stabilizer or tedious reaction setup. In this work the pure magnetite nanoparticles were prepared by using inorganic precursors with facile chemicals.

EXPERIMENTAL

The magnetite nanoparticle is prepared by using analytical grade of iron(II) perchlorate ($\text{Fe}(\text{ClO}_4)_2$, Alfa Aesar) and iron(III) perchlorate ($\text{Fe}(\text{ClO}_4)_3$, Sigma Aldrich) as iron precursor solution in the 1:2 M ratio, respectively. Sodium hydroxide (1 M, Fisher India) is used to maintain the pH of the solution to be 9. Water utilized in the experiments was Milli-Q (Millipore) deionized water. Septum sealed twin neck 100 mL round bottom flask is employed as a reaction container and it was maintained in an inert atmosphere by an argon balloon to prevent the oxidation of magnetite to maghemite



ORIGINAL ARTICLE

Electrochemical synthesis and characterization of cubic magnetite nanoparticle in aqueous ferrous perchlorate medium



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Abstract Electrochemical synthesis of cubic magnetite nanoparticle (MNP) in ferrous perchlorate aqueous medium and its spectral investigations have been carried out. The structural property of MNP is evidenced by X-ray diffraction pattern shows the characteristic peaks. Further the vibrational frequencies of MNP are evaluated using FT-IR and Raman spectroscopic techniques. UV-visible spectroscopic studies show the possibility of surface plasmon resonance effect. The cubic structure of MNP has been confirmed by transmission electron microscope (TEM) technique and it is also evidenced by scanning electron microscope (SEM). The as-synthesized MNP shows superparamagnetic property which is confirmed by the vibrating sample magnetometer, hence it could be useful for synthesis of very ultra superparamagnetic iron oxide solution (VUSPIO) for cancer treatment.

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1. Introduction

The synthesis of magnetite nanoparticle has been a field under intense investigation due to the novel properties and potentiality on the practical applications in the development of magnetic resonance imaging contrast agents, immunoassays and targeted drug delivery vehicles (Hao et al., 2010; Gupta and Gupta, 2005; Majewski and Thierry, 2007). The magnetic properties of magnetite nanoparticle have been exploited in a broad range of applications including magnetic seals and inks, magnetic recording media, catalysts, therapeutic agents for cancer treatment, high performance seals in space applications, eye surgery to repair damaged retina (Teja and Koh, 2009;

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Identification of Potent Angiotensin Converting Enzyme 2 Inhibitors through Virtual Screening and Structure-Based Pharmacophore Design

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ABSTRACT: Angiotensin Converting Enzyme (ACE), a metallo-peptidase is the best known important drug target in the treatment of hypertension and responds to broad range ACE inhibitors such as Captopril. Whilst, many phytochemical compounds including alkaloids and flavonoids were also reported with anti-hypertensive activity. On the other hand, ACE2 is considered as an interesting new cardio-renal disease target as it is close and unique ACE homologue. In this scenario, the anti-hypertensive activities of 17 phytochemical compounds were analyzed through docking studies with ACE2. Also, the other ACE inhibitors with reported IC₅₀ values were considered for docking interactions and used as training set. Further, the best docked phytochemical compound Rosmarinic acid and the training set compounds with ACE inhibitor activity were used to design the pharmacophore and validated. The generated 3D pharmacophore is subjected to screen the compounds with the significant chemical features against May bridged database consisting of more than one lakh compounds and subsequently, the hit compounds were screened using various filters such as estimated activity, Lipinski's rule of five, and ADMET properties and resulted eight compounds. The anti-hypertensive activities of these 5 compounds with good fit values were selected for further docking studies with ACE2. The five compounds PD 00533, CD 01374, CD 04888, CD 01278 and BTB 04932 exhibited the best docking scores and also favors the necessary hydrogen bond interactions with in the activity site of ACE and thus identified as novel leads with anti-hypertensive activity.

KEYWORDS: Pharmacophore, Angiotensin Converting Enzyme, ACE inhibitors, ADMET, docking studies.

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1. INTRODUCTION

Hypertension and congestive heart failures are becoming epidemic throughout the world [1]. In recent years, the drastic increase in the number in the adult population of the world with hypertension was recorded and more than 20 million people were affected with heart failure. Angiotensin-converting enzyme 2 (ACE2) is a newly discovered membrane-bound aminopeptidase [2]. This enzyme has been proven to be critical in impacting cardiovascular and immune systems by 2 distinct physiologically important mechanisms. ACE2 catalyzes the production of vasodilatory peptides, including angiotensin 1 to 7 and thus is responsible in counterbalancing the potent vasoconstrictor effects of angiotensin II. This counterbalancing property of ACE2 is proposed to be important for the development of novel pharmacotherapy against hypertension and related cardiovascular diseases [3-4]. In the process of hypertension, ACE plays an important role in regulating blood pressure, and ACE inhibitors are considered to be one of the therapeutic methods for treating anti-hypertension. Angiotensin-converting enzyme is secreted in the lungs and kidneys by cells in the endothelium of blood vessels, and it is the part of the renin-angiotensin system (RAS). It indirectly increases

blood pressure by causing blood vessels to constrict by converting angiotensin-I to angiotensin-II [5-6]. Thus, the ACE considered as an ideal target for controlling blood pressures and heart failures and synthetic compounds are being used as ACE inhibitors to treat heart problems. These inhibitors inhibit the conversion (angiotensin-I to angiotensin-II), dilate the blood vessels and control the blood pressures. Several ACE inhibitors, including captopril, lisinopril, fosinopril and enalapril, are synthetic molecules which are clinically used as anti-hypertension agents [7].

In 1990 Paul Ehrlich [8] introduced pharmacophore as 'a molecular framework that carries (phores) the essential features responsible for a drug's (pharmac) biological activity'. The design of pharmacophore are necessary to reveal specific functional group that are optimal for the interactions which can trigger the potential targets either by inhibiting or enhancing the biological function of those receptors [9]. The generation of pharmacophore plays a crucial role in the drug discovery pipeline in term of time and cost. The crucial step in the design of pharmacophore involves the alignment of multiple ligands (training set) which can determine the essential chemical features that are essential for their bioactivity. The alignment of these multiple ligand can be achieved by superposing a set of active molecules [10]. In general, the pharmacophore

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Zozimus Divya Lobo et al.,

Molecular Insights of Hyaluronic Acid as Potential Source of Polymer-Drug Conjugate in the Target-Mediated Treatment of Cancer

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The naturally occurring polysaccharide hyaluronic acid (HA) is a major component of the extracellular matrix and is found over expressed in many cancer cells. Hyaluronic acid is reported to be a potential carrier for drug delivery with the dual advantage of accumulation at the tumor site and receptor-mediated uptake. The use of drugs conjugated with macromolecules was shown to improve the drug pharmacokinetic profile. The various biological potentials such as biodegradability, biocompatibility, non-toxicity, hydrophilicity and non-immunogenicity, together with the availability of various chemical groups that allow the conjugation of drugs, put forward HA as a potential choice for the development of drug conjugates. In this context, the present study is focused to provide, through docking studies, insights on the activity of cancer drugs such as methotrexate, 3',5'-dichloromethotrexate and ornithine-methotrexate and their activity against the receptor caspase-1, which is a well-established drug target in the treatment of cancer. The docking study envisages that the usage of methotrexate properly conjugated to the natural polysaccharide HA might serve as a potential drug to effectively treat some cancer diseases.

Keywords: Hyaluronic acid, Methotrexate, Cancer, Docking studies, Drug-conjugate

INTRODUCTION

The naturally occurring polysaccharide hyaluronic acid (HA) is a major component of the extracellular matrix and, additionally, it is found in the synovial fluid of joints and scaffolding that comprises cartilages. Peculiarly, one of its cellular receptors (CD44) is found over expressed in many cancer cells [1,2]. Structurally, HA consists of β -(1 \rightarrow 4)-linked D-glucopyranuronic acid and β -(1 \rightarrow 3)-linked 2-acetamido-2-deoxy-D-glucopyranose. Its basic disaccharide repeating unit presents a carboxyl group at C-5' and two free hydroxyl groups at the C-2' and C-3' positions in the β -D-GlcP and two hydroxyl groups at C-4 and C-6 position in the β -D-GlcPNAc moiety; chemical and enzyme-catalyzed reactions at some of these positions have led to a wide range of derivatives [3-5].

The well documented physico-chemical and biochemical characteristics such as network-forming and viscoelastic and polyelectrolytic behaviour of HA signifies its importance in contributing the biochemical properties of living tissues and also put forward this polymer as a potential nano carriers for the development of new anticancer drug-conjugates [6]. HA appears to be important in cell-cell interactions and takes part in regulating cell behavior during various morphogenic processes in the body [7]. The role of this natural polysaccharides in diseases such as various forms of cancers, arthritis and osteoporosis has led to the development of both biomaterials for surgical implants and drug conjugates for targeted delivery [8-10]. The use of drugs conjugated with macromolecules improves their pharmacokinetic

profile. The various biological potentials such as biodegradability, biocompatibility, non-toxicity, hydrophilicity and non-immunogenicity together with the presence of chemical groups favoring the conjugations with drugs put forward HA as a potential choice for carrier macromolecules to be employed for the development of drug conjugates.

In cancer disease, some cells display uncontrolled growth, invasion and sometimes metastasis. These malignant properties differentiate cancer from benign tumors, which are self-limited, do not invade or metastasize [11]. The development of cancer is generally considered a multistep process driven by carcinogen-induced genetic and epigenetic damage in susceptible cells, which as a result, gain selective growth damage. Subsequently, cells may undergo clonal expansion as the result of activation of proto-oncogenes and/or inactivation of tumor suppressor genes [12].

Nowadays, various types of cancers are reported spreading according to various mechanisms. The most frequently diagnosed cancers are bone, brain, breast, colon and skin cancers. There are many known causes of cancer like exposure to chemicals, drinking excess alcohol, excessive exposure to sunlight, and genetic differences, to name a few [13]. The caspase are a family of cysteine proteases that are one of the main executors of the apoptotic process and exist within the cell as inactive pro-forms or zymogens. These zymogens can be cleaved to form active enzymes following the induction of apoptosis [14]. The origin of cancer involves deregulated cellular proliferation and the suppression of

Theoretical Study on Indacaterol by DFT Study

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Abstract: Quantum chemical calculations were carried out to study the molecular structure for indacaterol. To investigate the optimized molecular structure, bond length, bond angle and tetrahedral angles, Mullikan atomic charges, HOMO, LUMO energy levels, energy gap, dipole moment, total energy and some other physical parameters, DFT calculations were carried out using 6-31G basis set with B3LYP.

Keywords: Dipole moment, HOMO-LUMO energy gap, Indacaterol, Mullikan charges.

I. Introduction

Indacaterol is a drug used for the treatment of chronic obstructive pulmonary disease (COPD). Its chemical name is 5-[(1R)-2-[(5,6-diethyl-2,3-dihydro-1H-inden-2-yl)amino]-1-hydroxyethyl]-8-hydroxy-2(1H)-quinolinone maleate. It is an ultra long acting beta adrenoceptor agonist. According to WHO, there are more than two hundred million people have moderate to severe COPD worldwide. It is in essential need of the theoretical properties. B3LYP/DFT/631-G basis set is used to calculate some physical properties of the target molecule with the help of Gaussian 09 software.

II. Computational details

The combination of quantum chemical calculation is very effective to understand the structure and behavior of the compound. The various analysis of the present study of the compound under investigation are carried out by DFT with three parameter hybrid [1,2] functional (B3) [3] for the exchange part and Lee Yang-Parr [4] (LYP) correlation functional using 6-31G basis set. The Gaussian 09 package is used for this calculation [5].

III. Result and Discussion

3.1 Optimized molecular structure

The list of atoms for the target molecule is shown in Table 1. The optimized molecular structure is shown in Fig 1. The optimized bond length, bond angle and tetrahedral angles for Indacaterol molecule at both levels of theory are listed in Tables 2,3 and 4 respectively.

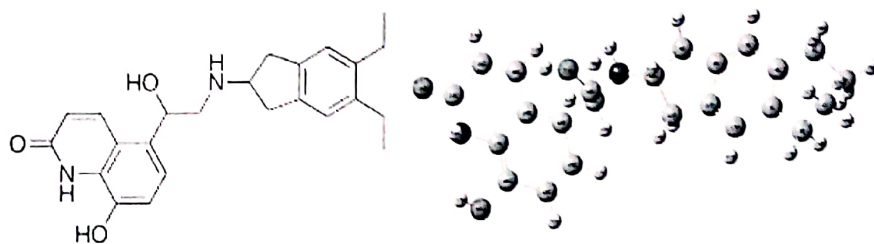
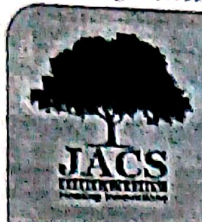


Fig 1: The 2D and 3D optimized molecular structure of Indacaterol

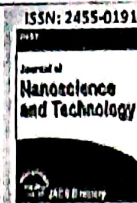
Table 1: The atom list of Indacaterol

1	2	3	4	5	6	7	8
C	C	C	C	C	C	C	C
9	10	11	12	13	14	15	16
C	C	C	C	C	N	C	C
17	18	19	20	21	22	23	24
O	C	C	C	C	C	O	N
25	26	27	28	29	30	31	32
C	C	O	C	C	H	H	H



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Influence of pH and Temperature on The Structure and Size of Tin Oxide Nanoparticles

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ABSTRACT

A systematic study on the preparation of tin oxide nanoparticles using the precipitation method has been conducted. The preparation of nanomaterials was by varying reaction parameters such as pH and temperature. The tin oxide nanoparticles were characterized by using AFM, SEM, XRD and UV-Vis. Particle size was obtained using XRD studies the value is 28.8 nm, 35.2 nm, 30.8 nm and 33.8 nm. It was found that the alteration of pH and temperature changes the particle size.

1. Introduction

Nanoparticles have attracted great interest due to their intriguing properties, which are different from those of their corresponding bulk state. Enormous efforts are being taken towards the development of nanometer sized materials in studies related to one hand to their fundamental mechanism such as the size effect and the quantum effect and on the other hand towards application of these materials. The morphology of obtained materials is highly dependent on the chosen method, enabling to obtain nanoparticles, nanowires, nanorods, and other morphologies [1]. Tin oxide (SnO₂) is an n-type semiconductor with excellent optical and electrical properties, partly due to its wide band gap (E_g=3.6 eV). In sensor research, many semiconducting metal oxides are used of which tin oxide is the most widely studied and employed owing to its physicochemical properties [2].

Nano-sized tin oxide is regarded as a highly preferred multitasking metal oxide such as gas sensors and lithium rechargeable batteries. The transparent conducting oxide (TCOs) materials has been widely used for various optoelectronic devices, flat panel displays, liquid crystal displays, organic light emitting diodes, solar cells and etc. It has specific properties and advantages of high sensitivity, including conductivity, transparency in the visible region in addition to mechanical and chemical stabilities. However, thermal treatments lead to an increase of the average grain size, spreading of the grain size distribution, and changes in the phase composition with increasing annealing temperature [3]. Among various classes of Nanoparticles (Metals, Semiconductors and Insulators), semiconductor particles have attracted more interests because of their size-dependent optical & electrical properties [4]. This study attempts to provide some findings to this research area [5]. Chemical sensors have played very important roles in the detection of pollutant, toxic, and industrially important gas species such as NO_x, NH₃, CO_x, H₂ and ethanol. The study of dielectric properties and a.c. electrical conductivity throws light on the behaviour of charge carriers under an a.c. field, their mobility and the mechanism of conduction. Tin oxide nanoparticles are suitable for gas sensing applications due to high surface to volume ratio, compared to bulk tin oxide [6]. The associated challenge with chemical precipitation

methods is; when the product is calcined at high temperatures the crystallite size increases and the surface area decreases due to the particle growth [7]. Tin oxide has been used as solid state sensor mainly due to its sensitivity towards different gaseous species, photovoltaic energy conversion to make indium tin dioxide (ITO) transparent thin film coatings, etc., [8]. Tin oxide is an important oxide semiconducting material, which has been widely used in many applications such as catalysts agent, hazardous gas sensors, heat reflecting mirrors, varistors, transport conducting electrodes for solar cells and optoelectronic devices. Recent studies have shown that many fundamental physical or chemical properties of semiconductor materials strongly depend on the size and morphology of the materials [9]. Many processes have been developed to synthesis tin oxide nanostructures, e.g., spray pyrolysis, hydrothermal methods, chemical vapour deposition, thermal evaporation of oxide powders and sol-gel method. Annealing the SnO₂ nanoparticles prepared adding hydrochloric acid improved the crystallite size [10]. In the present work the fabrication and characterization of crystalline tin oxide nanoparticles powders by chemical precipitation method.

2. Experimental Methods

2.1 Chemical Precipitation Method

About 6 g (0.1 M) of stannous chloride dehydrate (SnCl₂·2H₂O) was dissolved in 300 mL of distilled water. After complete of dissolution, the ammonia solution was added to the above solution by drop wise under stirring. The pH is measured and it was adjusted to 11. The particles were then allowed to settle down at the bottom of the flask. The resulting gels were filtered and dried at 80 °C for 24 hours. The obtained product was heated to the temperature of 500 °C and 600 °C for 2 hours. The same procedure was repeated by changing the pH=9 also. The final obtained product was white tin oxide nano powder.

3. Results and Discussion

3.1 AFM Analysis

The atomic force microscope (AFM) was ideally suited for characterization of nanoparticles. It offers the capability of 3D visualization and both qualitative and quantitative information on many

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Structural and Vibrational Analysis of DL-Norleucine Tartarate (DLNT) by DFT Methods

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Abstract

The Fourier Transform Infrared (FT-IR) of DL-Norleucine Tartarate (DLNT) has been recorded and analyzed. The structure of the compound was optimized by Density Functional Theory (DFT) B3LYP method with 6-31G* basis set using Gaussian 09 program package. A detailed interpretation of the infrared spectrum of DLNT was reported. The results were compared with the experimental values. The dipole moment and the first order hyperpolarizability values have been computed using DFT quantum mechanical calculations. The HOMO and LUMO energies were also calculated.

KEY WORDS: DL-Norleucine, hyperpolarizability, Density Functional Theory (DFT), FT-IR.

Introduction

Theory has been a vital element in the design of organic molecules for non linear optical applications for more than a decade. For ex., Marder et al.,^[1] showed that bond length alternation is a useful structural guide for predicting the relative values of hyperpolarizabilities of a homologous series of molecules. Molecules with large optical non-linearities have become the focal point of current research in view of their potential applications in various photonic technologies, including all-optical switching and data processing.^[2-7]

A variety of inorganic, organic and organometallic molecular systems have been studied for NLO activity^[8]. Organic molecules that reveal extended pi conjugation, in particular, show improved second order NLO properties. Recent results^[9] also recommend that molecular based macroscopic pi-electron systems possess many attractive NLO characteristics.

Prasad and Williams^[10] explained that the certain classes of organic materials exhibit extremely larger NLO and electro optic effect. The design of most efficient organic materials for the non-linear effect is based on the molecular units containing highly delocalized pi-electron moieties and extra electron donor (D) & electron acceptor (A) group. The progress of pi-electron cloud from donor to acceptor makes the molecule to be extremely polarized. DL-Norleucine is both glucogenic and ketogenic amino acid. This is one of the amino acids having branched hydro carbon side chains. It is non polar and aliphatic in nature. On the basis of infra red spectroscopic study, the crystal of DL-Norleucine was assumed to belong a rather unusual type in which molecules two type of conformation^[11,12].

In this present Communication, the synthesis, single crystal growth of DL-Norleucine Tartarate (DLNT) from its aqueous solution by slow evaporation method has been reported. The title molecule is exposed to, DFT analysis, first order hyperpolarizability studies, vibrational studies and HOMO-LUMO analysis.

Synthesis and characterization of L-Isoleucine Maleate and L-Isoleucine Oxalate crystals

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Abstract: A novel organic single crystal of L-Isoleucine Maleate(LIM) and L-Isoleucine Oxalate(LIO) were grown by slow evaporation solution growth method using water as the solvent at room temperature. X-ray Powder diffraction studies have been carried out in order to calculate the lattice parameter values. The FT-IR spectrum of the materials were recorded on BRUKER IFS 66V FT-IR SPECTROMETER using KBr pellet technique. FT-IR studies revealed the functional groups present in the compounds.

Keywords: L-Isoleucine Maleate (LIM), L-Isoleucine Oxalate (LIO), XRD, FT-IR

1.1 Introduction

Crystal growth plays an important role in modern technology. A crystal is nothing but a solid in which the constituents atoms molecule or ions are packed in a regular ordered, repeating pattern extending in all three spatial dimensions in the present study. Amino acids are crystalline solids. They are generally soluble in water and insoluble in non-polar organic solvents. The predictable formation of networks or assemblies through intermolecular interactions such as hydrogen bonding or co-ordination bonds in the entire crystal lattice of crystalline materials having desired chemical and physical properties is the main objective of crystal engineering. It is a multi-disciplinary area and it has implications for materials chemistry, supramolecular chemistry, molecular recognition and biology [1-4]. Among the organic molecules, α -amino acids exhibit specific features of interest such as molecular chirality, absence of strongly conjugated π -bonds, wide transparency window in the entire UV, Visible and NIR regions of the electromagnetic spectrum and zwitter ionic nature as a consequence of internal acid-base reactions[5]. The α -amino acids are the building blocks of poly peptides and proteins and are linked to one another by means of peptide bonds. L-Isoleucine is both glucogenic and ketogenic amino acid. This is one of the amino acids having branched hydro carbon side chains. It is non polar and aliphatic in nature. On the basis of infra red spectroscopic study, the crystal of L-Isoleucine was assumed to belong to a rather unusual type in which the molecules have two types of conformation[6,7]. In the present paper, the synthesis and single crystal growth of L-Isoleucine organic acids followed by characterization by Powder X-ray diffraction (XRD) and FT-IR have been described.

Experimental Details

L-Isoleucine Maleate(LIM) was synthesized by the reaction between a weak organic maleic acid and the strongly basic amino acid L-Isoleucine (Hi-media) taken in equimolar proportions.

L-Isoleucine Oxalate(LIO) was synthesized by taking L-Isoleucine (Hi-media) and Oxalic acid in equimolar ratio.

The calculated amounts of reactants in each of the reactions were thoroughly dissolved in double distilled water and stirred well for about 6h using a magnetic stirrer to ensure homogenous temperature and concentration over the entire volume of the solutions. The solution was filtered using a Whatmann filter paper of pore size eleven μ m, transformed to crystal growth vessels and crystallizations were allowed to take place by slow evaporation under room temperature. Transparent colorless LIM and LIO were harvested in a period of 45 days and 60 days respectively by slow evaporation and are shown in Fig.1(a and b).

Structure-Based Pharmacophore Design and Natural Bond orbital analysis of Angiotensin Converting Enzyme Inhibitors

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ABSTRACT: Hypertension and congestive heart failures are becoming epidemic throughout the world. Angiotensin Converting Enzyme (ACE), a metallo-peptidase is the best known important drug target in the treatment of hypertension and responds to broad range ACE inhibitors such as Captopril. Though there are many synthetic drugs that are being used as ACE inhibitors, the usage of natural compounds has its significance with less adverse effects. In this regard, many phytochemical compounds including alkaloids and flavonoids has been reported with anti-hypertensive activity. In this connections, the present study is focused on determining the anti-hypertensive activity of certain phytochemical compounds and synthetic drugs through docking studies and to explore their pharmacophoric features. The docking study implies that rosmarinic acid was relatively better than that of Standard drugs Lisinopril and Captopril. The pharmacophore modelling, validation and screening studies on rosmarinic acid along with Lisinopril and Captopril resulted in two compounds from Maybridge compound database (CD 01234 and CD 01278). Also the Density function theory (DFT) studies on these compounds explained the charge transfer (HOMO-LUMO energy gap of 2.90 eV) interactions that are taking place within the molecule through strong N-H...N and N-H...O hydrogen bonding is essential for the bioactivity of these compounds. Thus the finding of this study clearly emphasized that the rosmarinic acid could significantly possess better ACE inhibition activity and could be an alternative therapeutic agent to replace the drugs with severe side effects.

Keywords: Angiotensin Converting Enzyme; ACE inhibitors; Pharmacophore; Lisinopril; Captopril; rosmarinic acid;

1. INTRODUCTION

In recent years, cardiovascular diseases have become a serious problem worldwide. The World Health Organization has reported an increase in the number of patients suffering from this disease. Currently, existing treatments for high blood pressure are not very effective and are generally uncomfortable for patients. This relies in that the patient need to have a very strict control in the dosage and in the moment of the administration of the drug [1]. And also some patients have an unfavorable response after the administration, leading them to a fast blood

pressure reduce. One of the most widely used compounds for the treatment of hypertension is captopril. Like many others on the market, this drug was designed with computational tools. Over the last few decades, computational studies, together with rational drug design, have become a critical part in the development of new drugs. Currently, cardiovascular diseases are a serious health problem worldwide. One example of cardiovascular disease is arterial hypertension, which is defined as increased systolic pressure, diastolic pressure, or both [2].

Hypertension is a silent, asymptomatic disease, and as a result, not many people know that they suffer from it. Hypertension is an important risk factor contributing to other cardiovascular diseases such as blood vessel disorders, coronary heart disease, aortic aneurysm, stroke, etc [3]. Cardiac arrhythmia is another cardiovascular problem. An arrhythmia is any disorder of the heart rate that may cause stroke. Heart rhythm disorders may be caused by genetic factors or occur when the heart muscle (myocardium) is damaged, sometimes by hypertension [4]. Raised blood pressure, especially systolic pressure (hypertension), confers a significant cardiovascular risk and

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Competing Interests

The authors have declared that no competing interests exist.

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Formulation Of Innovative Water Quality Index For Assessing Sugar Mill Effluent.

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ABSTRACT

The objective of water quality index calculation is to change complex water quality data into information that is understandable and useable by the public. In other word, water quality index is a tool used to summarize large amounts of complex, highly technical water quality data into a simple, easy-to-understand message. There are various water quality index calculation method developed in the world. The new index was applied to the sugar mill effluent and the results gave a quantitative picture for the water quality situation. Heber water quality index method has been successfully applied to measure water quality of effluent from sugar mill. The parameters analyzed were Temperature, pH, Total Solids, Turbidity, Dissolved Oxygen, Biochemical Oxygen Demand and Total Phosphate. The total HWQI values are in the range of 0.45-11.97. These values suggest that almost all the water samples collected during different months are bad in quality and must be treated before discharge.

Keywords: Heber water quality index-1, total solids, turbidity, dissolved oxygen, biochemical oxygen demand, total phosphate.

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Design and one-pot synthesis of a novel pyrene based fluorescent sensor for selective "turn on", naked eye detection of Ni²⁺ ions, and live cell imaging

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Highlights

- A novel pyrene based fluorescent probe, 4-phenyl-2-(pyren-1-yl)-1,8-naphthyridine (Pyr-1), was designed and synthesized using Qun-β-CD catalyst.
- Dependence of photoluminescence of Pyr-1 on solvent polarity strongly validates photoinduced electron transfer, which also finds support from DFT studies.
- The red shifted "turn-on" fluorescence enhanced by the addition of Ni²⁺ ion is explained *via* a Photoinduced Electron Transfer (PET).
- Detection limit as low as 2.56×10⁻⁷ M.
- The confocal laser scanning micrographs of HeLa cells confirmed the cell permeability of Pyr-1 and its ability to selectively detect Ni²⁺ ions in

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Water-Soluble Palladium Complex of *N*-(pyridin-2-yl)propane-1,3-diamine modified β -Cyclodextrin: An efficient Catalyst for Transfer Hydrogenation of Carbonyl Compounds

Raihana Imran Khan and Kasi Pitchumani*

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VIRTUAL SCREENING OF HETEROCYCLIC COMPOUNDS AGAINST ANGIOTENSIN-CONVERTING ENZYME FOR POTENTIAL ANTIHYPERTENSIVE INHIBITORS

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Received: 30 August 2010, Revised and Accepted: 30 October 2010

ABSTRACT

Objective: The objective of this study was to investigate the antihypertensive activity of heterocyclic compounds against angiotensin-converting enzyme (ACE) through molecular docking studies.

Methods: The X-ray crystal three-dimensional (3D) structure of human ACE complexed with lisinopril (PDB ID: 1086) was retrieved from protein databank. The two-dimensional structures of 10 selected heterocyclic compounds were drawn in ACD-Chemsketch and converted into 3D structures. The 3D structures of compounds were virtually screened in the binding pockets of ACE using FlexX docking program. Further, the chemical entities revealing the molecular electronic structures of the best docked compound (Compound-4) were explored through density functional theory studies.

Results: The Compound-4 showed the highest docking score of -26.6290 kJ/mol with ACE. The Hbond and non-bonded interactions are favored by phenylalanine, leucine, and arginine. The energy gap of 1.60 eV between highest occupied molecular orbital and lowest unoccupied molecular orbitals explained the presence of strong electron-acceptor group. Furthermore, the molecular electrostatic potential studies clearly envisaged the requirement of electropositive and electronegative groups are crucial for the ACE inhibitor activities.

Conclusion: The identification of good ACE inhibitors requires the understanding of the current ACE inhibitors. Thus, the docking interactions of Compound-4 and its molecular electronic structure significantly imply its potential as antihypertensive agent. However, further clinical studies are required to ascertain its potential toxic effects.

Keywords: Angiotensin-converting enzyme, Angiotensin-converting enzyme inhibitors, Docking, Density functional theory studies, Highest occupied molecular orbital, Lowest unoccupied molecular orbitals, Molecular electrostatic potentials.

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INTRODUCTION

In recent years, cardiovascular diseases have become a serious problem worldwide. The World Health Organization has reported an increase in the number of patients suffering from this disease. Hypertension is an important risk factor, contributing to other cardiovascular diseases such as blood vessel disorders, coronary heart disease, aortic aneurysm, and stroke [1]. Cardiac arrhythmia is another cardiovascular problem. An arrhythmia is any disorder of the heart rate that may cause stroke. Heart rhythm's disorders may be caused by genetic factors or occur when the heart muscle (myocardium) is damaged, sometimes by hypertension [2].

At present, existing treatments for high blood pressure (BP) are not very effective and are generally uncomfortable for patients. This relies in that the patient needs to have a very strict control in the dosage and in the moment of the administration of the drug [3]. Moreover, also, some patients have an unfavorable response after the administration, leading them to a fast BP reduced. One of the most widely used compounds for the treatment of hypertension is Captopril. Like many others on the market, this drug was designed with computational tools. Over the past few decades, computational studies, together with rational drug design, have become a critical part in the development of new drugs.

Raised BP, especially systolic pressure (hypertension), confers a significant cardiovascular risk and public health concern and should be actively treated. One of the major systems involved in the elevation of the pressure is the renin-angiotensin system (RAS), and subsequently, its inhibition will have beneficial effects to lower BP and improve cardiovascular health [4]. The RAS is regulated by a series

of highly specific enzymatic reactions. The first enzymatic reaction in the pathway starts with renal production of renin that cleaves angiotensinogen to generate angiotensin I. Angiotensin I is then cleaved by angiotensin-converting enzyme (ACE) to generate the active peptide vasoconstrictive hormone angiotensin II.

Many ACE inhibitors are known to be useful in the treatment of hypertension. The search for ACE inhibitors that lacked the sulfhydryl group also leads to the investigation of phosphorus-containing compounds. The phosphinic acid is capable of binding to ACE in a manner similar to enalapril. The interaction of the zinc atom with the phosphinic acid is similar that is seen with sulfhydryl groups. The purpose of the study is to determine the ability of some derivatives as ACE inhibitors through docking studies and the derivative with the highest potency and understanding its chemical entities through density functional theory (DFT) studies might pave path to design of novel ACE inhibitors with potential inhibition activity.

METHODS

Ligand selection

A total of 10 antihypertension inhibitor molecules reported in the studies of Yu *et al.*, 2015, were selected in this study to explore their chemical entities required for the ACE inhibitory activity. The two-dimensional (2D) structures of compounds drawn in ACD-Chemsketch (Version 12) [5] were obtained as simplified molecular-input line-entry system (SMILES). Further, the three-dimensional (3D) structures were generated and converted into standard data file format at "online SMILES convertor and Structure file generator" server [6].

Identification Of Potential Drug Targets From Intrinsically Disordered Proteins (Idps)

MeeraBanu A, Bhakina J, Ayed Mohamed A, Bushra U B

Abstract: Intrinsically Disordered Proteins (IDPs) are lack in their stable tertiary and/or secondary structures under physiological conditions. IDPs can adopt a fixed three dimensional structure after binding to other macromolecules. Parkinson's Disease (PD) is a degenerative, neurological disease that causes a person to lose control over some body functions. Symptoms start gradually with a barely noticeable tremor in just one hand. Tremors are common, but the disorder also commonly causes stiffness or slowing of movement. Many amino acids which are responsible for the disorders they are aspartic acid, methionine, lysine, arginine, serine, glutamine, proline, glutamic acid. *Withaniasomnifera* (Ws) is an Indian Ayurvedic traditional medicinal herb root extract is rich in steroidal lactones including withanone, withaferin, withanolides, withasomnidanone, and withanolide. These compounds have been reported to inhibit metastasis and quinone reductase activity and preferentially affect the cholinergic signal transduction cascade of the cortical and basal forebrain, and thus may be beneficial for the treatment of PD. The outcome of this research project can lead a reflective standard shift in the treatment of Parkinson's Disease (PD). The outcome of this project can also significantly support our understanding and analysis of biological networks of Human diseases.

Keywords: Intrinsically Disordered Proteins (IDPs), signaling interactions, Parkinson's Disease (PD), *Withaniasomnifera*, quinone reductase, α -synuclein, GFLT

1. INTRODUCTION

Intrinsically Disordered Proteins (IDPs) are lack in their stable tertiary and/or secondary structures under physiological conditions¹. IDP can adopt a fixed three-dimensional structure after binding to other macromolecules. They have important functions both in vitro and in vivo². They are highly abundant in nature and their functional range complements the signaling and control. Intrinsic disorder opens a unique binding capability when they are binding to the partners and to gain different bound structures. They can also form highly stable complexes in "signaling interactions". Aspartic acid, methionine, lysine, arginine, serine, glutamine, proline, glutamic acid are said to be the disorder promoting residues of the protein molecule³. According to the physico-chemical point of view, the majority of order-promoting residues are non-polar and commonly found within the hydrophobic cores of ordered proteins, whereas the majority of disorder-promoting residues are polar, often charged, and commonly found on the surfaces of ordered proteins⁴. Finally interesting interconnections among intrinsic disorder, cell signaling and many human diseases suggest that protein conformational diseases are not only formed by the protein mis-foldings but also from misidentification, mis-signaling and unnatural and nonnative folding of the protein. Thus, the project aims to investigate such proteins sequences from human proteome containing disordered regions, and implicated in diseases with a specific objective of classifying these disordered proteins as potential drug targets. Conventional tasks such as identification of active

sites and inventing new protocols for docking at the active site and estimating the accuracy of docking in such disordered regions.

IPDs AND PARKINSON'S DISEASE

Parkinson's Disease (PD) is a degenerative, neurological disease that causes a person to lose control over some body functions. Symptoms start gradually, with a barely noticeable tremor in just one hand. Tremors are common, but the disorder also commonly causes stiffness or slowing of movement. *Withaniasomnifera* (Ws) is an Indian Ayurvedic traditional medicinal herb grown in India, Africa, and the Mediterranean region. The root extract is rich in steroidal lactones including withanone, withaferin, withanolides, withasomnidanone, and withanolide. The above compounds are skilled of inhibiting metastasis and quinone reductase activity and preferentially affect the cholinergic signal transduction cascade of the cortical and basal forebrain, and thus may be beneficial for the treatment of PD.



Fig:1. *Withaniasomnifera* (Ws)

MATERIALS AND METHODS

Protein Preparation:

The protein GFLT was loaded from RCSB protein data bank (www.rcsb.org/pdb/) on the PyRx then the force field Uff and is applied to the structure then minimization was carried out the algorithms is Conjugate Gradient and Smart Minimizer along with the maximum steps were 200 to minimize the molecule to results satisfied.

Ligand Preparation

The ligands were sketched using ACD/ ChemSketch (12.0) software and saved in (.mol) file format. The saved ligand

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Developmental Studies on Novel Biodegradable Polyester Films from Maravetti Oil

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Abstract

Novel biodegradable polyester film was synthesised from naturally available Maravetti oil, formic acid and 30% hydrogen peroxide by stepwise polymerisation technique. The polymer was prepared by resin react with styrene. The UV, FTIR and NMR spectral studies carried out to identify the nature of the polymer formed. SEM analysis confirmed that the polymer was biodegradable in nature. The biodegradability of the polyester film was studied by soil burial test. The thermal degradation at different time intervals were analysed by TG-DTA analysis. The cross-linking ability of the polymers was checked by DSC analysis. Mechanical properties like tensile strength and impact strength were characterized. The resulted polymers have satisfied mechanical performance and fast curing speed.

Keywords: Cross-linking; Degradation; Polymer Soil Burial; Styrene.

1. INTRODUCTION

In our world over 6.3 billion plastics are generated, only 9% is recycled, 12% incinerated, 79% accumulated in natural environment. In the production of plastics, monomers used which are derived from fossil hydrocarbons. Most of the plastics are slow to degrade (Roland Geyer *et al* 2017). Because of increasing prize of petroleum and environmental awareness, researchers are interested in the synthesising of polymers from renewable resources of plants. Plant oils are considered building blocks of polymers due to their low cost, availability and eco-friendly (Barnes *et al* 2009). Active functional groups such as double bonds, ester groups and hydroxyl groups, on the triglyceride chain make the polymer to be chemically modified and to synthesis polymers with desirable properties (Wang *et al* 2008). *Hydnocarpus Wightiana* seed oil or *chaulmoogra* oil also known as Maravetti oil. It has been used in medicine as antibiotics for the treatment of several skin diseases and leprosy as a mixture suspended in gum or as an emulsion (Nortan, 1994). The oil is unusual in not being made up of straight chain fatty acids but acids with a cyclic group at the end of the chain.

2. EXPERIMENTAL METHODS

2.1 Materials

Maravetti oil (MVO) was purchased from local market. Formic acid (97%) (Rankem). Hydrogen

peroxide (30%) (Rankem) were used in the first step functionalization. Maleic acid (Rankem) and Morpholine (Rankem). Benzoyl peroxide (Rankem) was used as a radical initiator and N, N-Dimethyl aniline (Rankem) was used as accelerator in the curing process. Styrene (Rankem) was used as a vinyl co monomer.

2.2 Synthesis of Maravetti Oil Polyol

100 g of maravetti oil was taken in a three necked flask fitted with condenser and thermometer. 100 ml of 97% formic acid and 55 ml of 30% hydrogen peroxide was added and the reaction mixture was vigorously stirred over 16h. Ice water bath was used externally to keep the temperature below 10°C. The resulting emulsion was poured into a separating funnel and extracted with ether. The ether layer was dried over anhydrous sodium sulphate and the resulting product was polyol resin from Maravetti oil.

2.3 Synthesis of Polyesters

The polyol resin was heated in a three necked flask and maleic anhydride was added in 1:2 ratio at 70 °C. Morpholine was used as a catalyst. After 2 hours a golden yellow viscous liquid formed it indicates the formation of oligomerised maravetti oil fumarate resin.

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A Comparative Analysis of Ascorbic Acid Content in Selected Citrus Fruits and Manufactured Tablets Collected from Periyakulam District, Tamil Nadu

Dr. Sabitha, M.A.¹

Abstract

Human body creates antioxidants to neutralize the free radicals which were produced in the body to destroy bacteria and viruses. Due to the increase in environmental toxins, the body is incapable of producing ample antioxidants. Citrus fruits loaded with high antioxidants supply the necessary antioxidants to get rid of these free radicals. The present study was undertaken to analyze the ascorbic acid content of the following fruits: cherry (*Muntingia calabura*), goose berry (*Phyllanthus emblica*), grapes (*Vitis vinifera*) and orange (*Citrus sinensis*). Vitamin C tablets were also analyzed for antioxidant content. Numbers of moles of antioxidant present in various fruits were analyzed using redox titration with Iodine and Indophenol method. The number of moles of antioxidant per 100 gm using redox titration was 0.0167, 0.056, 0.1725, 0.0645 and 70.5 for cherry, grapes, gooseberry, orange and vitamin C tablet, respectively and using Indophenol method were 0.3182, 0.0775, 0.0850, 0.0875 and 30.0000, respectively. The results of the analysis carried out on the fruits indicate that all the fruits contain ascorbic acid and in turn antioxidising activities at varied levels. As Vitamin C is rich in antioxidants, it is recommended to take cherry, grapes, gooseberry or orange in small quantity per day to fulfill the antioxidant requirement. Since overdose of ascorbic acid leads to nausea and diarrhea, it is recommended to adhere to natural fruits. Hence, it is preferable to take 3-70 gm of cherry or 15-20 gm of grapes or 7-14 gm of gooseberry or 13-20 gm of orange per day. This will enable the human free from diseases and to lead a healthy life.

Keywords: Free radicals, Cherry (*Muntingia calabura*), Goose berry (*Phyllanthus emblica*), Grapes (*Vitis vinifera*), Orange (*Citrus sinensis*).

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FABRICATION AND CHARACTERIZATION OF 4-AMINO-6-HYDROXY-2-MERCAPTOPYRIMIDINE STABILIZED GOLD NANOPARTICLES FOR ELECTROCATALYTIC APPLICATION OF EPINEPHRINE AND URIC ACID

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The synthesized 4-amino-6-hydroxy-2-mercapto pyrimidine stabilized gold nanoparticles (AHMP-AuNPs) are tested in different pH conditions (pH3- pH9) to find best optimization point of stabilization. The presence of lone pairs of electrons in the amine groups of the monomer (AHMP) generate the electrostatic repulsion between the adjacent AuNPs surfaces which stabilized from aggregation of AHMP-AuNPs. At neutral pH (pH 7), there is no influence of H⁺ and OH⁻ ions and hence AHMP-AuNPs are well stabilized by their capping agent. Further, the morphology of AHMP-AuNPs is investigated by High resolution transmission electron microscopy (HR-TEM) and X-ray diffraction (XRD). The Bragg reflections of 2θ are 38.1, 44.2, 64.6 and 77.4 indicating the AHMP-AuNPs exist in the lattice space of 111, 200, 220 and 311. Further, AHMP-AuNPs are fabricated on Indium Tin oxide (ITO) electrode using (3-mercaptopropyl)trimethoxysilane (MPTS) linker and the surface was probed by AFM images and it shows 400 nm thickness of layer. The prepared AHMP-AuNPs/MPTS/ITO electrode is used for the electrocatalytic application of epinephrine (EP) and uric acid (UA). Cyclic voltammograms shows the oxidation redox peak for EP with a potential difference of 80 mV and give the oxidation peak for UA at 0.51 V. The simultaneous determination of EP and UA is also successfully achieved by using the modified electrode. The oxidation peak obtained for EP at 0.15 V and UA at 0.34 V at modified electrode by DPV method.

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Keywords: 4-amino-6-hydroxy-2-mercapto pyrimidine stabilized gold nanoparticles, XPS, TEM, AFM, Epinephrine, Uric acid

1. Introduction

Recently, nanoparticles are one of the fashionable and versatile material to modify the substrates due to its electron receiving capacity. It is well-known that the AuNPs can be act as an 'electron antenna' which form conducting channels that facilitate the electron transfer. Hence, the conductivity of the overall modified system will be increase. Especially gold nanoparticles (AuNPs) have promised efficiency enhancement in all the application point of view compared to other nanoparticles [1]. AuNPs are used for biomedical application [2], drug delivery application [3], theranostic agent [4], catalytic application [5], colorimetric detection [6], 3-d printing application [7]. Recently, 4-amino-6-hydroxy-2-mercapto pyrimidine stabilized gold nanoparticles (AHMP-AuNPs) was utilized for the electrochemical detection of tannic acid [8] and vitamin B1 detection by spectrofluorimetry [9]. Epinephrine (EP) is excitomotor of α and β receptor and it is used for the treatment of Coronary Artery disease, hypertension and Asthma [10-12]. Hence, the

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Multi Scale Plant Based Polymer Matrix: Synthesis, Biodegradation And Thermal Studies

T. Sahaya Maria Jeyaseeli, I. Antony Danish, J. Shakina

Abstract In this study, cross linked polymers were synthesized from plant oils (Maravetti and Neem oil) Plant oil triglycerides were reacted with maleic anhydride and were treated with a monomer. The resulting polymer products were studied by FTIR. The cross-linking ability of the polymers were checked by DSC analysis TGA analysis was conducted to identify the thermal degradation patterns. NMR studies carried out to identify the nature of polymer SEM analysis confirmed that the polymer was biodegradable. The synthesized polymers were characterized by solubility studies, soil burial test and microbial studies. The synthesized polymers may serve as a replacement in many applications.

Keywords: cross-linking, degradation, microbial, neem oil, polymer, solubility, soil burial

1. INTRODUCTION

Due to the environmental issues, vegetable oils are used as raw materials for their inherent biodegradability, low cost, societal favorably advantages and availability [1]. Bio-based polymers show better properties than petroleum products [2]. Because of lack of food value, Non-edible vegetable oil is used as alternative source of resin synthesis [3]. The widespread use of synthetic polymers in technology and in everyday life is an accepted feature of modern civilization. Plant oils are mainly constituted by triglycerides. The modification of triglycerides can be performed using the reactivity of the functional groups in their structure. *Hydnocarpus Wightiana* seed oil or *chaulmoogra* oil also known as Maravetti oil. Chemical constituents of Maravetti oil are *Chaulmoogric acid*, *hydnocarpic acid*, *apigenin*, *hydnocarpin*, fixed oils, tannins. The Maravetti oil has been shown to be highly active against fungal plant pathogens including *Aspergillus Niger* and *Rhizopus Nigricans* and also having anti bacterial activity against *Actinomycetes Israelii* and *Aeromonas Hydrophilla* [4]. The three most fatty acids of this type are 11 - cyclopent - 2 - enyl-undecanoic (*hydnocarpic*), 13 - cyclopent - 2 - enyl-tridecanoic (*chaulmoogric*) and 13 - cyclopent - 2 - enyltridec - 6 - enoic (*garlic*) acids and lower cyclic homologues, *myristic acid*, *palmitic acid*, *stearic acid*, *palmitoleic acid*, *oleic acid*, *linoleic acid* and *linolenic acid* [5]. *Azadirachta indica* oil known as neem oil is composed mainly of triglycerides and contains many triterpenoid compounds, which are responsible for the bitter taste. It has the iodine value 65-95. It is hydrophobic in nature; in order to emulsify it in water for application purposes, it must be formulated with appropriate surfactants. It has been used as an antiseptic, antifungal, antipyretic and antihistamine [6]. It is rich in medicinal properties which are what makes it a great ingredient in cosmetics and other beauty products: soaps, hair oil, hand wash soap etc. It can treat a bunch of skin diseases and is known to be an excellent mosquito repellent. It can be used to protect other plants.

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TABLE 1
FATTY ACID COMPOSITION OF OILS

Acid	Maravetti oil	Neem oil
Hydnocarpic acid	22.9	-
Chaulmoogric acid	35.0	-
Glolic acid	12.8	-
Lower cyclic homologs	4.6	-
Myristic acid(C14:0)	0.8	-
Palmitic acid(C16:0)	5.6	16-33
Stearic acid(C18:0)	4.7	9-24
Palmitoleic acid(C16:1)	0.5	-
Oleic acid(C18:1)	3.6	25-54
Linoleic acid(C18:2)	1.8	6-16

TABLE 2
PHYSICAL PROPERTIES OF OILS

Property	Maravetti oil	Neem oil
Refractive index, at 40°C	1.472	1.432
Iodine value	98-103	65 to 95
Saponification value	198-204	160 to 205
Acid value	25.0%	24.2%
Melting point	20-25°C	25°C
Specific gravity(at 25°C)	0.950-0.960	0.852-0.95

2. EXPERIMENTAL

Maravetti oil (MVO) and Neem oil (NMO) were purchased from local market, Formic acid (97%) (Rankem), Hydrogen peroxide (30%) (Rankem) were used in the first step functionalisation. Maleic acid (Rankem) and Morpholine (Rankem) Benzoyl peroxide (Rankem) was used as a radical initiator and N, N-Dimethyl aniline (Rankem) was used as accelerator in the curing process. Styrene (Rankem) was used as a vinyl comonomer.

2.1 Synthesis of Maravetti / Neem oil polyol

100 g of Maravetti / Neem oil was taken in a three necked flask fitted with condenser and thermometer. 100 ml of 97% formic acid and 55ml of 30% hydrogen peroxide was added and the reaction mixture was vigorously stirred over 16h. Ice water bath was used externally to keep the temperature below 40°C. The resulting emulsion was poured into a separating funnel and extracted with ether. The ether layer was dried over anhydrous sodium sulphate and the resulting product was polyol resin from Maravetti / Neem oil.

2.2 Synthesis of polyesters

The polyol resin was heated in a three necked flask and maleic anhydride was added in 1:2 ratio at 70°C. Morpholine was used as a catalyst. After 2 hours a golden yellow viscous

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SYNTHESIS, CHARACTERIZATION AND THERMAL BEHAVIOR OF THERMOSETTING POLYESTERS FROM BIO-DEGRADABLE PLANT OIL

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Abstract

Thermal Analysis (TA) is an essential analytical technique in the polymer research. In polymer science Thermal Characterization of Polymers is an extreme analysis and brief assessment of the application of thermal analysis this technique is used for evaluation of comparative thermal stability of different polymers. The following materials were synthesized from Odal, Chennakai, Neem and Thennamarakudi oils. They were synthesized and characterized by UV-Visible and IR Spectra. NMR spectral studies carried out to identify the nature of the polymer formed. SEM analysis confirmed that the polymer was biodegradable in nature. The thermal degradation at different time intervals was analyzed by TG-DTA analysis. TGA analysis was conducted to identify the thermal degradation patterns and to determine product performance. The cross-linking ability of the resins was checked by DSC analysis.

Keywords: Polymer, Cross- linking, Biodegradability, Thermal analysis, Degradation.

Introduction

Researchers are attracted towards polymeric materials due to economic and environmental concerns. The utilization of renewable resources for the production of polymeric materials can reduce the plastic pollution.¹ Vegetable oils are considered as good starting materials for polymer production. Due to ready availability, their low cost and versatile applications, vegetable oils are encouraging renewable resources for polymers. The plant oils are composed of triglycerides which can be modified using the reactivity of the functional groups in their structure.² Synthesis of resins from plant oil involves chemical modifications of unsaturated oils to undergo crosslinking. This cross linking was responsible for good

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Sabitha M. A.

Green synthesis and characterization of reduced graphene oxide using polysaccharides extracted from *Solanum tuberosum* peels

Authors Dr. M. A. Sabitha & Dr. A. Syed Mohamed

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2021 (2)

Antimicrobial activity of combined extracts of *Carica papaya* peels and *Glycyrrhiza glabra* roots

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²Associate Professor & Research Head, Department of Chemistry, Sadakathullah Appa College (Autonomous), Tirunelveli, Tamil Nadu, India.

Abstract: The use of plants for medication in India is common among tribal and ethnic groups. The phytochemical constituents present in the plants ensure antibacterial, antifungal and anti-cancer properties. The present study is initiated to study the antimicrobial property of *Carica papaya* peels and *Glycyrrhiza glabra* roots. The extracts of these components are prepared in different ratios and analyzed for antimicrobial and phytochemical constituents. The results showed that the presence of phenol, saponins, flavonoids, steroids, terpenes and reducing sugar in the extract. The extract in the ratio of 2:1 exhibited effective antibacterial activity against *Klebsiella pneumoniae* whereas the ratio of 1:1 had effectiveness against *Pseudomonas aeruginosa* and *Staphylococcus aureus*. The antifungal studies provided the data that 1:1 extract is effective against *Rhizopus microspores* while 2:1 ratio proved to be effective against *Aspergillus flavus* and *Candida albicans*.

Keywords: *Carica papaya*, *Glycyrrhiza glabra* roots, phenol, *Klebsiella pneumoniae*, *Staphylococcus aureus*, *Rhizopus microspores*.

1. Introduction

Treatment with medicinal plants is the prime medication in many countries. Most of the world's population depends on crude plants for medicinal use. The tree barks, leaves, stem, flowers and roots are utilized for medication (Barrett and Kieffer 2001). The active phytochemical constituents are made use as starting materials for the preparation of drugs. The side effects produced in consuming the synthetic drugs provided importance to the ancient medicinal plant constituents. Numerous plants which are used in folk medication are approved as medicines by extracting the bioactive component of the mixture. An example is morphine extracted from opium.

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Green synthesis and characterization of Fe doped ZnO nanoparticles and their interaction with bovine serum albumin

M. Sheik Muhideen Badhusha ^a ✉, C. Joel ^b, R. Imran Khan ^a, N. Vijayakumar ^c

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Highlights

- We have synthesized Fe doped ZnO nanoparticles using *Thespesia populanea* flower extract.
- The XRD pattern indicates the formation of ZnO nanoparticles in wurtzite structure.
- The morphology and optical properties of ZnO and Fe doped ZnO nanoparticles have been studied.
- The binding affinities of the nanoparticles were studied with plasma protein BSA.

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RECENT ADVANCES IN MECHANICAL BEHAVIOR OF FIBRE REINFORCED SMART BIODEGRADABLE POLYMERS.

- **Source:** Journal of Advanced Scientific Research . 2021 Special Issue, Vol. 12, p299-305. 7p.
- **Author(s):** Maria Jeyaseeli, T.Sahaya; Danish, I. Antony; Shakina, J.; Tharmaraj, P.
- **Abstract:** Fibre-reinforced polymer composites have been developed from the reaction of fumarate resin with natural material Perch fibre. The composite material is fabricated by hand layup technique. The fabricated composite material was tested for its mechanical properties such as Tensile Strength, Flexural Strength and Impact Strength. The composite specimens for the above-mentioned test were prepared as per the ASTM standards. The fibre reinforcement influenced the improvement of mechanical properties of polymers and surface morphology of the polymer was analysed by Scanning Electron Microscope. Moisture absorption and vibration damping with polymers and its effect on mechanical properties can also be studied. Tensile strength, flexural strength and impact strength were observed and compared to each other. Tensile test showed maximum ultimate tensile strength for untreated 80 mm length fibre compared to others. Flexural test showed maximum ultimate flexural strength for untreated 80 mm length fibre compared to others. Impact test showed higher impact energy for treated 40 mm length fibre compared to others.
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Research article

Spectral, NBO, NLO, NCI, aromaticity and charge transfer analyses of anthracene-9,10-dicarboxaldehyde by DFT

J. Jebasingh Kores ^{a, 1}, I. Antony Danish ^{b, 1}, T. Sasitha ^{c, 1}, J. Gershom Stuart ^{c, 1}, E. Jimla Pushpam ^{c, 1}, J. Winfred Jebaraj ^{c, 1} ✉

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Abstract

Anthracene-9,10-dicarboxaldehyde (ADCA) is a polynuclear aromatic compound that has a planar structure with double bonds which are in conjugation. The molecule is subjected to theoretical investigation with DFT/B3LYP/6-311++G(d,p) basis set to find out the electronic structural properties and stability. Theoretical and experimental vibrational analyses are carried out. NBO studies predict that the molecule has high stability. NCI interaction studies reveal that Van der Waals force and steric effect are seen in the molecule. A shaded surface map with a projection of LOL analysis pointed out that electron depletion area is seen in this molecule. The tunnelling current is more in the boundary rings than the central ring. It is docked with the protein 4COF

2021 (6)

Antimicrobial activity of combined extracts of *Carica papaya* peels and *Glycyrrhiza glabra* roots

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²Associate Professor & Research Head, Department of Chemistry, Sadakathullah Appa College (Autonomous), Tirunelveli, Tamil Nadu, India.

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Sabitha M. A.

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






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Green synthesis and characterization of Fe doped ZnO nanoparticles and their interaction with bovine serum albumin

M. Sheik Muhideen Badhusha ^a , C. Joel ^b, R. Imran Khan ^a, N. Vijayakumar ^cShow more  Outline |  Share  Cite<https://doi.org/10.1016/j.jics.2021.100197>

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Highlights

- We have synthesized Fe doped ZnO nanoparticles using *Thespesia polypulanea* flower extract.
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TITLE	CITED BY	YEAR
Two-photon lysotrackers for in vivo imaging JH Son, CS Lim, JH Han, IA Danish, HM Kim, BR Cho The Journal of Organic Chemistry 76 (19), 8113-8116	44	2011
Two-Photon Probes for Zn ²⁺ Ions with Various Dissociation Constants. Detection of Zn ²⁺ Ions in Live Cells and Tissues by Two-Photon Microscopy IA Danish, CS Lim, YS Tian, JH Han, MY Kang, BR Cho Chemistry-An Asian Journal 6 (5), 1234-1240	25	2011
Syntheses and characterisation of N, N'-biscarbazolyl azine and N, N'-carbazolyl hydrazine derivatives and their antimicrobial studies I ANTONY DANISH, K JAYARAMPILLAI, R PRASAD Acta Pharmaceutica 54 (2), 133-142	23	2004
In Vivo Imaging of Near-Membrane Calcium Ions with Two- Photon Probes CS Lim, MY Kang, JH Han, IA Danish, BR Cho Chemistry-An Asian Journal 6 (8), 2028-2033	16	2011
A one-pot synthesis of 1, 2, 4, 5-tetraazaspiro [5.5]-6, 7, 8, 9- tetrahydrocarbazol-3-thiones and their antibacterial activities AI Danish, KJR Prasad Indian J. Heterocycl. Chem 14 (5), 19-22	15	2006
An elegant synthesis of quino[2,3-a]carbazoles and their antibacterial studies IA Danish, KJ Prasad NISCAIR-CSIR, India	12	2004
DFT, NBO, HOMO-LUMO, NCI, stability, Fukui function and hole-Electron analyses of tolcapone AD Isravel, JK Jeyaraj, S Thangasamy, WJ John Computational and Theoretical Chemistry 1202, 113296	8	2021



Dr. M. Thameem Ansari

Assistant Professor of Chemistry,
Sadakathullah Appa College
(Autonomous)

Materials Chemistry
Nanoscience
Biomaterials

	All	Since 2017
Citations	78	52
h-index	2	2
i10-index	2	2

0 articles 1 article

not available available

Based on funding
mandates

TITLE	CITED BY	YEAR
Synthesis and spectroscopic characterization of magnetic hydroxyapatite nanocomposite using ultrasonic irradiation D Gopi, MT Ansari, E Shinyjoy, L Kavitha Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 87, 245-250	60	2012
Electrochemical synthesis and characterization of cubic magnetite nanoparticle in aqueous ferrous perchlorate medium D Gopi, MT Ansari, L Kavitha Arabian Journal of Chemistry 9, S829-S834	18	2016
A Size Controlled Synthesis of Magnetite Nanoparticles in Pure Inorganic Medium. MT Ansari Asian Journal of Chemistry 29 (2)		2017
Optical Waveguiding Organic Nanorods Coated with Reversibly Switchable Fe (II) Spin Transition Nanoparticles S Basak, AK Botcha, MT Ansari, R Chandrasekar Indian Journal of Materials Science 2013		2013



Sabitha M. A.

Assistant Professor & PG Head
Environmental Chemistry

	All	Since 2017
Citations	92	50
h-index	6	4
i10-index	3	1

TITLE	CITED BY	YEAR
Calculating Integrated Pollution Indices for Heavy Metals in Ecological Geochemistry Assessment Near Sugar Mill S Thambavani, MA Sabitha Journal of Research in Biology 2 (5), 489-498	22	2012
Variation in air pollution tolerance index and anticipated performance index of plants near a sugar factory: implications for landscape-plant species selection for industrial areas SD Thambavani, MA Sabitha Journal of research in Biology 1 (7), 494-502	21	2011
Multivariate statistical analysis between COD and BOD of sugar mill effluent DS Thambavani, MA Sabitha Scholarly Journal of Mathematics and Computer Science 1 (1), 6-12	12	2012
Water quality and environmental assessment of sugar mill effluent S ThambavaniD, MA Sabitha, MA Sabitha Journal of Research in Biology 2 (2), 125-135	8	2012
Tolerance of plants to air pollution near leather tanneries. DS Thambavani, G Rajeswari, MA Sabitha Journal of Ecotoxicology & Environmental Monitoring 19 (6), 609-612	8	2009
Variation in air pollution tolerance index and anticipated performance near a sugar factory: implication for landscape-plant selection for industrial areas TD Sarala, MA Sabitha Journal Resource Biology 7, 494-502	7	2011
The spectral determination of chlorophylls a, b and total carotenoids using various solvents for tree species growing near sugar mill D Sabitha, M. A., Sarala Thambavani Asian Journal of Experimental Chemistry 7 (1), 5-9	4	2012



Dr. R Imran Khan,
M.Sc., Ph.D.,

Assistant Professor Sadakathullah
Appa College
Modified Cyclodextrin in Organic...
o Transannulation of N-heterocy...

	All	Since 2017
Citations	136	127
h-index	5	5
i10-index	5	5

0 articles 1 article

not available available

Based on funding
mandates

TITLE	CITED BY	YEAR
Pyridinium Modified β -Cyclodextrin: An Ionic Supramolecular Ligand for Palladium acetate in C-C Coupling Reactions in Water RIKK Pitchumani Green Chemistry	44	2016
Design and one-pot synthesis of a novel pyrene based fluorescent sensor for selective "turn on", naked eye detection of Ni^{2+} ions, and live cell imaging RI Khan, A Ramu, K Pitchumani Sensors and Actuators B: Chemical 266, 429-437	32	2018
β -Cyclodextrin included coumarin derivatives as selective fluorescent sensors for Cu^{2+} ions in HeLa cells RI Khan, K Pitchumani RSC Advances 6 (24), 20269-20275	25	2016
Isolation of biochanin A, an isoflavone, and its selective sensing of copper (II) ion SDS Parveen, BS Kumar, SR Kumar, RI Khan, K Pitchumani Sensors and Actuators B: Chemical 221, 75-80	22	2015
Water-Soluble Palladium Complex of <i>N'</i> -(pyridin-2-yl)propane-1,3-diamine modified β -Cyclodextrin: An efficient Catalyst for Transfer Hydrogenation of Carbonyl ... RI Khan, K Pitchumani ACS Sustainable Chemistry & Engineering 6 (12), 16130-16138	11	2018
Green synthesis and characterization of Fe doped ZnO nanoparticles and their interaction with bovine serum albumin MSM Badhusha, C Joel, RI Khan, N Vijayakumar Journal of the Indian Chemical Society 98 (11), 100197	2	2021



Dr. S. Brilliant Revlin

Assistant Professor, Sadakathullah
appa College (Tirunelveli), POST-
DOC (SOUTH KOREA; 2012-
2014)

Physicalchemistry
Graphene
Biosensors
Nanomaterials
Conducting polymers and fuels

	All	Since 2017
Citations	412	206
h-index	13	10
i10-index	13	11

1 article 4 articles

not available available

Based on funding
mandates

TITLE	CITED BY	YEAR
Electropolymerization of 3-amino-5-mercapto-1, 2, 4-triazole on glassy carbon electrode and its electrocatalytic activity towards uric acid SB Revlin, SA John Electrochimica acta 56 (24), 8934-8940	66	2011
Simultaneous determination of vitamins B2, B9 and C using a heterocyclic conducting polymer modified electrode SB Revlin, SA John Electrochimica acta 75, 35-41	68	2012
Highly sensitive determination of uric acid in the presence of major interferents using a conducting polymer film modified electrode SB Revlin, SA John Bioelectrochemistry 88, 22-29	39	2012
Electrochemical sensor for neurotransmitters at physiological pH using a heterocyclic conducting polymer modified electrode SB Revlin, SA John Analyst 137 (1), 209-215	39	2012
Selective determination of l-tyrosine in the presence of ascorbic and uric acids at physiological pH using the electropolymerized film of 3-amino-5-mercapto-1, 2, 4-triazole SB Revlin, SA John Sensors and Actuators B: Chemical 161 (1), 1059-1066	36	2012



SADAKATHULLAH APPA COLLEGE

(AUTONOMOUS)

Rahmath Nagar, Tirunelveli - 627 011.

CONSULTANCY SERVICES


No. 9

Date 15.12.20

To The Principal,

Sadakathullah Appa College

(2019-2020)

Particulars	Rate	Qty	Amount
Water And Soil Analysis			1500
(One Thousand Five Hundred, only)			
	TOTAL		1500
 IN-CHARGE			

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2016-17

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Phone: 0462 - 2532823
6530332**

To

**Dr. A. Syed Mohamed,
Asst. Prof. of Chemistry,
Sadakathullah Appa College,
Tirunelveli - 11.**

Dear Sir / Madam,

We are thankful to you for consenting to be an observer for NEET 2017 to be held on Sunday 07.05.17 in Tirunelveli.

You are requested to attend a briefing meeting held by CBSE officials on 6th May 2017 at 10.30 am at Pushpalata Vidya Mandir for the smooth and fair conduct of NEET (UG) 2017 Examination.

With Regards,

Yours sincerely,

Pushpaveni Ayyappan
**Mrs. Pushpaveni Ayyappan,
Principal of Pushpalata Vidya Mandir
City Co-Ordinator**

**CITY CO-ORDINATOR
TIRUNELVELI**



5TH INTERNATIONAL BAU DRUG DESIGN CONGRESS

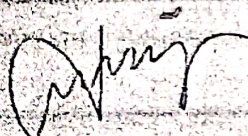
NOVEL METHODS AND EMERGING TARGETS IN
DRUG DISCOVERY & PATENTED DRUG DEVELOPMENT

OCTOBER 19 - 21, 2017 ISTANBUL, TURKEY

21.10.2017

ATTENDANCE CERTIFICATE

*This is to certify that Dr. Syed Mohamed Abubacker Asst. Prof. of Chemistry,
Sadakathullah Appa College, Tirunelveli India has attended and presented paper
in 5th International Bahçeşehir University (BAU) Drug Design Congress
organized by Bahçeşehir University from 19.10.2017 to 21.10.2017 at İstanbul,
Turkey.*



Assoc. Prof. Dr. Serdar DURDAGI
Chairman of the Congress



GOVERNMENT OF TAMIL NADU

HIGHER SECONDARY FIRST YEAR

CHEMISTRY

VOLUME - I

Chemistry – Class XI

List of Authors and Reviewers

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GOVERNMENT OF TAMIL NADU

HIGHER SECONDARY FIRST YEAR

CHEMISTRY

VOLUME - II

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Mentor

Dr. L. MuruganProfessor & Head
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School of Chemical Sciences
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Department of Chemistry
Anna University, Chennai**Dr. V. Subramaniam**Professor (Retd.)
Department of Chemistry
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Department of Chemistry &
Nanotechnology Research Center
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Chennai**Dr. Mangala Sunder Krishnan**Professor
Department of Chemistry
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Chennai**Prof. B. Viswanathan**Professor (Retd.)
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Chennai**Prof. V.R. Vinayagharavan**

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Vel Tech Private Engineering
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Presidency Higher Secondary School, Chennai**A. Helen Jayanthi**Post Graduate Assistant
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NAT College Higher Secondary School
Neyveli, Cuddalore District**L. Balithasar**Post Graduate Assistant
Government Higher Secondary School
Thiruvananthapuram, Kerala District**K. Durai Chandran**Post Graduate Assistant
Chidambaram Higher Secondary School
Chidambaram**S. Sasikumar**Post Graduate Assistant
Government Central Vocational Higher
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ICT Co-ordinators

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Chemistry Division
School of Advanced Sciences, VIT - Chennai**D. Vasuraj**ST Assistant
Government College

S.NO.118,

2017-18 -

(4)

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Current World Environment


**ENVIRO RESEARCH
PUBLISHERS**

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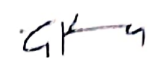
This certificate is awarded to

Dr. Sabitha M.A.

**in recognition of his/her excellent contribution to
Current World Environment Journal
as Reviewer for the year 2018**


Dr. Umesh Chandra Kulshrestha
Editor in Chief

Date: 08 Jan, 2018


Dr. Gopal Krishan
Co Editor in Chief

S.No: 12; 2017-18 - 5



Sadakathullah Appa College

(Autonomous)

Reaccredited by NAAC at an 'A' Grade & ISO 9001:2015 Certified Institution.
Rahmath Nagar, Tirunelveli, Tamil Nadu, India.



NPTEL

CERTIFICATE

OF APPRECIATION



Dr. M.A. SABITHA

of

SADAKATHULLAH APPA COLLEGE

TIRUNELVELI

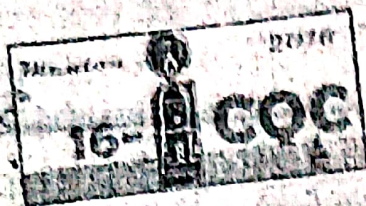
for his / her instrumental role as MENTOR for the SWAYAM - NPTEL.

Dr. S. Shajun Nisha
SPOC, NPTEL



Dr. M. Mohamed Sathik
Principal

18-19/1



Dr. Odile Eisenstein
Member of the IAQMS
Member of the French Academy of
Science
Chair of 16-ICQC
icqc16@sciencesconf.org
<https://icqc16.sciencesconf.org/>

16th International Congress of Quantum Chemistry - June 18-23, 2018

Tuesday 23 April 2018

Dr. A. Syed Mohamed
Department of Chemistry and Molecular Modeling & Drug Design
Sadakathullah Appa College, Tirunelveli-11 Tamilnadu, India
Asm2032@gmail.com

Dear Dr. A. Syed Mohamed,

As the Chair of the 16th International Congress of Quantum Chemistry (16-ICQC), I am very pleased that you have registered as a delegate to the 16-ICQC which will be held in Menton (France) from 18 to 23 June 2018. I am also very pleased to confirm that your poster entitled

DFT STUDIES ON THE MECHANISM OF CHEMILUMINESCENT DECOMPOSITION IN
XANTHYLIDENEADAMANTANE-1,2 Dioxetane (XAD)

I remind you that you must be present in person to present the poster. If you cannot attend, the poster will have to be withdrawn.

You have informed me that you will arrive in Paris on June 8 and leave on June 27 2018. I am therefore inviting you to apply for a visa to be in France between 08/06/2018 and 27/06/2018. Please use my professional address for your application

Professeur Odile Eisenstein
Institut Charles Gerhardt, cc 1501, Université de Montpellier, 34095 Montpellier, France
Lab phone +33 4 67 14 33 06, Cell: +33 6 89 33 72 53
<https://www.icqm.fr/Odile-Eisenstein>

I look forward to seeing you in Menton in June 2018.

Best regards,



Dr. Odile Eisenstein
Member of the IAQMS
icqc16@scienceconf.org
<https://icqc16.scienceconf.org/>

16th International Congress of Quantum Chemistry – June 18-23, 2018

Menton, Saturday 23 June 2018

Certificate of poster presentation

Syed MOHAMED

Sadakathullah Appa Coll, Palayamkottal, India

We hereby certify that Syed MOHAMED has presented a poster entitled:
*DFT Studies on the Mechanism of Chemiluminescent Decomposition in Xanthylidenadamantane-
1, 2-Dioxetane (XAD),*
at the 16th International Congress of Quantum Chemistry (16-ICQC)

Poster certificate number P-ICQC-304

Letter of Appreciation

To whomsoever it may be concern,

This is to certify that **Dr. Abubaker Syed Mohamed**, Assistant Professor of Chemistry, Sadakathullah Appa College, Tirunelveli, India has worked as a visiting research fellow in Microbial Genomics Laboratory, Department of Biotechnology, College of Life and Applied Sciences, Yeungnam University from 10.11.2018 to 03.12.2018. During his visit, he carried out research work on antifungal activities and *in-silico* analysis of chalcone derivatives as potential fungal inhibitors.

I wish him all the best for his future endeavors.

Best Regards,

Junhyun Jeon , PhD

Junhyun Jeon

Assistant Professor,

Department of Biotechnology, College of Life and Applied Sciences,

Yeungnam University, Gyeongsan, Gyeongbuk, 38541, Korea

e-mail) jjicon@yu.ac.kr

Phone) +82 53 810 3030

Cell) +82 10 4655 2461



Year 2018 – Dr. ASM

9.



UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110002

FD Diary No. 6470
Dated: 30.11.2018

14 JAN 2019

Dated: January, 2019

F. No.6-34/2018TG

The Under Secretary (FD-III)
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi-110 002

Subject Release of Grants owed to Principal Sadakathullah Appa College, Rahmath Nagar, Palayamkottai, District Tirunelveli-627 011 Tamil Nadu for the year 2018-2019 under Travel Grant Scheme (Plan)

Sir/Madam,

I am directed to convey the sanction of the University Grants Commission for payment of grant of Rs 1,73,631/- (Rupees One lakh seventy three thousand six hundred thirty one only) as Travel grant reimbursement to The Principal, Sadakathullah Appa College, Rahmath Nagar, Palayamkottai, District Tirunelveli-627 011 Tamil Nadu in respect of Dr. A. Syed Mohamed, Assistant Professor, Department of Chemistry to visit France from 18th-23rd June, 2018 for the 2018-2019 (Plan) expenditure incurred during 2018-2019.

Name of the Item	Head of Account	Grant now being sanctioned	Grant already sanctioned	Total grant
Reimbursement of travel grant	3(A) 19 (VI) 31	1,73,631/-		1,73,631/-

- The sanctioned amount is payable to 3(A) 19 (VI) 31 and is valid for payment during the financial year 2018-2019 only.
- The amount of the Grant shall be drawn by the Under Secretary (Drawing and Disbursing Officer, UGC) on the Grants owed bill and shall be disbursed to and credited to The Principal, Sadakathullah Appa College, Rahmath Nagar, Palayamkottai, District Tirunelveli-627 011 Tamil Nadu through Electronic mode as per the following details:
 - Details (Name & Address) of Account Holder: The Principal, Sadakathullah Appa College, Rahmath Nagar, Palayamkottai, District Tirunelveli-627 011 Tamil Nadu
 - Account No: 2998101002653
 - Name & address of Bank branch: Canara Bank, Rahmath Nagar Branch, Tirunelveli-627 011 Tamil Nadu
 - MICR Code: 627015016
 - IFSC Code: CNRB0002996
 - Type of Account: Saving Bank
- The Grant is Subject to the adjustment on the basis of Utilization Certificate in the prescribed Performa submitted by the University/Institution.
- The University / Institution shall maintain proper accounts of the expenditure out of the Grants which shall be utilized only on the approved items of expenditure.
- The University / Institution may follow the General Financial Rules, 2005 and take urgent necessary action to amend their manuals of financial procedures to bring them in conformity with GFRs, 2005 and those don't have their own approved manuals on financial procedures may adopt the provisions of GFRs, 2005 and instructions/guideline there under from time to time.
- The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to UGC as early as possible after the close of current financial year.
- The assets acquired wholly for substantially out of University Grants Commission's Grant shall not be disposed or encumbered or utilized for the purposes other than those for which the grants



GOVERNMENT OF TAMIL NADU

HIGHER SECONDARY SECOND YEAR

CHEMISTRY

VOLUME - I

Chemistry Volume-I - Class XII

Chairperson

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Professor & Head,
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Chennai - 600 025.

Deputy Chairperson

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HIGHER SECONDARY SECOND YEAR

CHEMISTRY

Post Graduate Assistant
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14



उन्नत भारत अभियान
राष्ट्रीय समन्वय संस्थान
भारतीय प्रौद्योगिकी संस्थान दिल्ली
हौज खास, नई दिल्ली-110016



UNNAT BHARAT ABHIYAN
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Hauz Khas, New Delhi - 110016
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Prof. Virendra K. Vijay
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Professor CRDT, IITD

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Fax : +91-11-2659 1121
Email : unnatbharatabhiyanitd@gmail.com
vkvijay@rdat.iitd.ac.in

Dear Sir/Madam,

Congratulations to all the Participating Institutions (PIs) selected under Unnat Bharat Abhiyan, a flagship program of Ministry of Human Resource Development (MHRD) Government of India through a challenge mode application. The Mission of Unnat Bharat Abhiyan is to enable participating higher educational institutions to work with the people of rural India in identifying development challenges and evolving appropriate solutions for accelerating sustainable growth. It also aims to create a virtuous cycle between society and an inclusive academic system by providing knowledge and practices for emerging professions and to upgrade the capabilities of both the public and the private sectors in responding to the development needs of rural India.

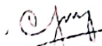
As per the programme, educational institutions is primarily to develop linkage with selective rural clusters (preferably of five villages), to get involved in the planning process and to promote the requisite S&T interventions to improvise and expedite the developmental efforts in those clusters. The approach is a departure from the grant oriented method and would see the participation and commitment of faculty and students in this endeavour.

We shall be processing release of Rs. 10000/- per village under the UBA program. The funds are mainly meant for assistance for awareness, Gram Panchayat Development Plan (GPDP) study, need assessment, and contingency expenditure. There are provision of Rs 1.0 lakh for technological intervention/ solution and Rs 0.50/- lakh for customization of a technological solution under the program. Which you can avail of afterwards by submitting proposals with ratification of the Gramsabha. A two-way channel between PIs and National Coordinating Institute (NCI) as well as Subject Expert Groups (SEGs) for project proposal submission and evaluation has been developed and functional on UBA portal. You can use your login credential for uploading proposals on UBA website 'FINANCIAL AIDS'. The login credentials are same as your registration login credentials.

You are also requested to keep IIT Delhi, the National Coordinating Institute updated about your activities so that the same can be uploaded on the website of UBA.

Regards and best wishes for your institution for contributing to India's development.

With regards

Your Sincerely, 
Prof. Virendra K Vijay
National Coordinator,
Unnat Bharat Abhiyan

First List of Pis selected under UBA program 2018-2019 MHRD

AISHE Cd	Institution Name	Village Name	Coordinator Name	Email Id	State	District	Type of Institution
C-41191	Sadakathullah Appa College, Rahmath Nagar, Palayamkottai, 627 011 (Id: C-41191)	Krishnapuram, Pettai, Abishekapatti, Ariyakulam, Kanapuram	Dr. M. Sheikh Muhideen Badhusha	drbadhunano@gmail.com	TAMIL NADU	Tirunelveli	Non-Technical

18

INDIAN CHEMICAL SOCIETY



92, ACHARYA PRAFULLA CHANDRA ROAD
KOLKATA-700 009

This is to certify that Dr. M. Thameen Ansari, MSc, PhD, Department of Chemistry, Saadara Thullab Appa College (Autonomous), Nandanam, Chennai, Tamilnadu has been duly elected a Fellow of the Indian Chemical Society in the year 2018.

His Fellowship Number is F/8031 (Life Member).

Dated 17th March, 2018

Chittaranjan Sinha
Honorary Secretary

S.No: 12,

2018-19 - (8)




Sadakathullah Appa College

(An Autonomous Institution • Reaccredited by NAAC at an 'A' Grade and ISO 9001: 2015 Certified)
Rahmath Nagar, Tirunelveli 627011.

CERTIFICATE OF APPRECIATION

This is to certify that Mr./Ms./Dr. M. A. SABITHA, Asst. Prof., Dept. of Chemistry
(Pgt)
won the prize for BEST ATTENDANCE

This Certificate was distributed at the **48th STUDENTS' COUNCIL VALEDICTORY FUNCTION**
held on 28.03.2019.


Dr. M. Mohamed Sathik
Principal

Institute of Scholars

An ISO 9001:2015 certified Institute by International Accurate Certification, Accredited by UASL

Bringing ideas into reality.....

InSc
Unit of SDPL



www.insc.in

Certificate of

Research Excellence Award 2019

awarded to

Dr. R Imran Khan

M.Sc., Ph.D

Assistant Professor
PG and Research
Department of Chemistry
Sadakathullah Appa College,
Tirunelveli Tamil nadu

for the work with following details:

Publication Type: Journal

Paper Title : A pyridinium modified β -cyclodextrin: an ionic supramolecular ligand for palladium acetate in coupling reactions in water

Journal Name : Green Chemistry

Volume : 20

Issue No. : 18

Month of publication : July

Year : 2016

Page no. : 5518-5528

ISSN : 5518-5528

Nanjesh Bennur
Director, InSc

InSc Awards 2018

Membership

Connecting Scholars Since 2014

Institute of Scholars

An ISO 9001:2015 certified Institute by International Accurate Certification, Accredited by UASL.

Bringing idens into reality.....



Certificate

This is to certify that

Dr. R Imran Khan

*is recognized as Reviewer for the following
Journal of Institute of Scholars (InSc)*

**InSc - International Journal of Basic and Applied
Sciences**



Nanjesh Benhur
Nanjesh Benhur
Director, InSc

Institute of Scholars

An ISO 9001:2015 certified Institute by International Accurate Certification, Accredited by UANL.

Bringing Ideas Into reality.....

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Unit of SDPL



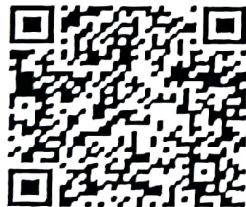
www.insc.in

Certificate

This is to certify that

R Imran Khan

*is recognized as Professional Member of
Institute of Scholars (InSc) and this
membership is valid for lifetime.*



Nanjesh Bennur

Nanjesh Bennur
Director, InSc

InSc Professional Membership

Institute of Scholars

An ISO 9001:2015 certified Institute by International Accurate Certification, Accredited by UASL

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www.insc.in

Certificate

This is to certify that

Dr. M. Sheik Muhideen Badhusha

*is recognized as Reviewer for the following
Journal of Institute of Scholars (InSc)*

**InSc - International Journal of Basic and Applied
Sciences.**



Nanjesh Bennur

Nanjesh Bennur
Director, InSc

Connecting Scholars Since 2014

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Unit of SDPLwww.insc.in

Certificate

Best Teacher Award 2019

awarded to

Dr. M. Sheik Muhideen Badhusha

M.Sc., M.Phil., PGDIT., Ph.D.,

Assistant Professor

Department of Chemistry

Sadakathullah Appa College (Autonomous),

Tirunelveli, Tamil Nadu.

in recognition of valuable contribution to the
academic community and the students.

Nanjesh Bennur
Director, InSc

InSc Awards 2019




Sadakathullah Appa College

(An Autonomous Institution, Reaccredited by NAAC at an 'A' Grade and ISO 9001:2015 Certified)
Rahmath Nagar, Thrunelveli 627011.

CERTIFICATE OF APPRECIATION

This is to certify that Mr./Ms./Dr. M. A. SABITHA, Asst. Prof., Dept. of Chemistry
(Pgt.)
won the prize for BEST ATTENDANCE

This Certificate was distributed at the **48th STUDENTS' COUNCIL VALEDICTORY FUNCTION**
held on 28.03.2019.


Dr. M. Mohamed Sathik
Principal

Serial no: 12, 2019-20 - (4)

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://nptel.ac.in/noc/>

Roll No: NPTEL20HS43S82420516

To
M A SABITHA
PLOT NO. 33, 28TH STREET, 60 FEET ROAD,
OPPOSITE TO TESK MAHAL, PALAYAMKOTTAI
TIRUNELVELI
TAMILNADU - 627011
PH. NO :8489135094



Score	Type of Certificate
≥ 90	Elite+Gold
75-89	Elite+Silver
≥ 60	Elite
40-59	Successfully Completed
< 40	No Certificate

No. of credits recommended by NPTEL:2

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

M A SABITHA

for successfully completing the course



Developing Soft Skills and Personality

with a consolidated score of **76** %

Online Assignments	19.54/25	Proctored Exam	56.51/75
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Prof. Rajesh M. Hegde

Chairman, Centre for Continuing Education
IIT Kanpur

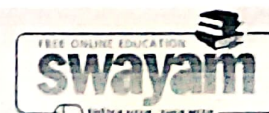
Total number of candidates certified in this course: 8393

Sep-Nov 2020
(8 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

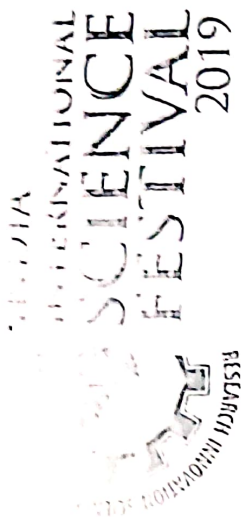


Indian Institute of Technology Kanpur



Roll No: NPTEL20HS43S82420516

To validate and check scores: <https://nptel.ac.in/noc/>



Scanned with CamScanner

CERTIFICATE OF PARTICIPATION

THIS IS TO CERTIFY THAT

PROF./DR./MRS./MR./MS./ Imran Khan

HAS ACTIVELY PARTICIPATED IN THE YOUNG SCIENTISTS' CONFERENCE
AS A PART OF "INDIA INTERNATIONAL SCIENCE FESTIVAL - 2019" HELD AT
BISWA BANGLA CONVENTION CENTRE, KOLKATA DURING NOVEMBER 5-8, 2019.

SHE/HE HAS ALSO PRESENTED A PAPER ON THE THEME

Frontier areas of Research

TITLED

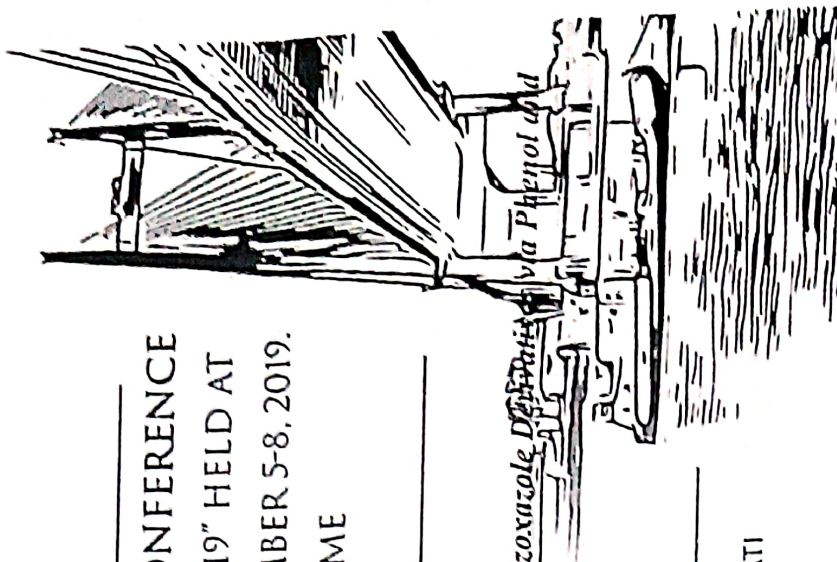
"Biomimetic Catalysis by Cu(I) Complex of Ethylenediamine Modified β -Cyclodextrin in Synthesis of Benzoxazole Derivatives via Phenol-aldol Benzylamine Coupling"

Prof. Ashutosh Sharma

PROF. ASHUTOSH SHARMA
SECRETARY, DST

Dr. Vijay Bhatkar

DR. VIJAY BHATKAR
PRESIDENT, VIJNANA BHARATI



Serial No: 12,

2019-20 - (5)



RAMAIAH
College of Arts, Science
& Commerce



CERTIFICATE of Participation

This is to certify that

Dr/Prof/Mr/Mrs/Ms IMRAN KHAN . R

has participated as delegate and presented an Oral Paper/Poster/Keynote Address/Invited Lecture/Chaired a Scientific Session/Volunteered in the 1st International Conference on Life, Chemical, and Health Sciences (ICLCHS) from 24th – 26th October, 2019, Organized by Department of Life Sciences Ramaiah College of Arts, Science & Commerce in collaboration with Karnataka Science and Technology Academy (KSTA), Department of IT, BT, and Science & Technology, Government of Karnataka (GoK).

B. Nagagireesh

Dr Nagagireesh Bojanala
Dean of Sciences & Head of Research
College of Arts, Science & Commerce

Anil

Dr Nagaratna A
Principal,
College of Arts, Science & Commerce

A. M. Ramesh

Dr A M Ramesh
Chief Executive Officer
KSTA

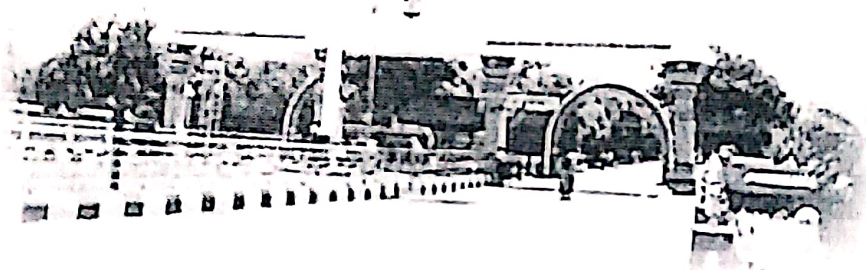
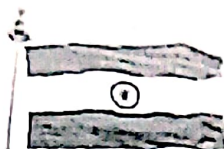
Dr H. Honne Gowda

Dr H. Honne Gowda
Special Secretary, Technical
Department of IT, BT, and Science & Technology
Govt of Karnataka

S.No: 12, 2019-20 - 6

Serial No: 12, 2019-20 - (7)

**SECOND INTERNATIONAL CONFERENCE ON
ADVANCED MATERIALS CHEMISTRY AT
THE INTERFACES OF ENERGY, ENVIRONMENT AND MEDICINE
(AMCI - 2020)**



CONVENER
Dr. C. KANNAN



Department of Chemistry
Manonmaniam Sundaranar University
Reaccredited with A Grade 3rd Cycle 3.13 out of 4 (CGPA)
Tirunelveli - 627 012, Tamilnadu, INDIA.



Biomimetic Catalysis by Cu(I) Complex of Ethylene-dl-amine Modified β -Cyclodextrin in Synthesis of Benzoxazole Derivatives via Phenol and Benzylamine Coupling

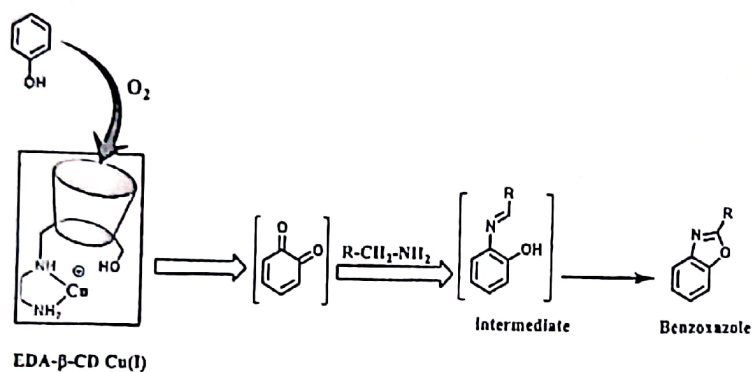
M. Lavinesh* and R. Imran Khan**

*Department of Chemistry, Sadakathullah Appa College, Tirunelveli -11

**Department of Chemistry, Sadakathullah Appa College, Tirunelveli -11

Abstract

Ethylenediamine modified β -Cyclodextrin is also prepared and its Cu(I) Complex is used for the synthesis of benzoxazole derivatives via phenol and benzylamine coupling reactions, involving the intermediary of ortho-quinones. The preliminary findings of this study, reported in this work, is interesting as catalyzing the aerobic oxygenation/dearomatization of phenols has remained an unresolved challenge in biomimetic copper chemistry for more than 50 years. Numerous biochemical processes harness the energy of O_2 by converting phenols into ortho-quinones which are versatile synthetic intermediates, whose innate reactivity enables cycloaddition, condensation, addition, and redox reactions. However, the conversion of phenol into ortho-quinones currently requires stoichiometric amounts of an oxidant other than O_2 .





INDIAN NATIONAL SCIENCE ACADEMY

Bahadur Shah Zafar Marg, New Delhi - 110002

Madhvendra Narayan
Assistant Executive Director - II

INBA/SPN/SP-06/2021-22/
31st May, 2021

Dr. R. Imran Khan
Assistant Professor
Department of Chemistry
Sadakathullah Appa College,
Rahmath Nagar, Tirunelveli-627011

Sub: INSA Visiting Scientist Programme 2021 for FY 2021-22.

Dear Dr. Khan,

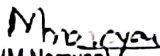
This is with reference to your application for INSA Visiting Scientist Programme 2021 for FY 2021-22. I am happy to inform you that you have been selected for the award of INSA Visiting Scientist FY 2021-22 under which you can visit the Institute (Name of Visiting Institute as mentioned in your application) for a period of 3 months on following terms conditions:

1. During the fellowship period you will be paid consolidated amount of Rs. 30,000/- (maximum) per month to cover your expenses related to boarding, lodging, travel etc.
2. Candidate selected as Visiting Fellow must avail this Fellowship on or before 31 January, 2022. No Claim bills for payment will be accepted by the Academy after March 31, 2022.
3. In case of any Change in Parent Institute, it should be informed to INSA before submission of Claim Bill.
4. Grant will be made to Parent Institute on completion of the visit upon submission of Claim Bill (in duplicate) duly forwarded by Parent Institute along with UC/SOE as per enclosed proforma.
5. A short report (2-3 typed pages) should be sent to the Academy immediately after completion of the visit along with a certificate from the Host Institute.

Kindly communicate your acceptance.

With best wishes,

Yours sincerely,


(M Narayan)

Encl. Claim Bill UC (available on website also)

Copy to:

1. Assistant Professor, Department of Chemistry, Sadakathullah Appa College, Rahmath Nagar, Tirunelveli-627011



**TAMILNADU STATE COUNCIL FOR
SCIENCE AND TECHNOLOGY**
GOVERNMENT OF TAMILNADU

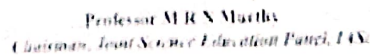


CERTIFICATE

This is to certify that Mr. M. Lavinesh, Sadakathullah Appa College, Tirunelveli - 627 011 has successfully completed the project titled "*Biomimetic catalysis by Cu(I) complex of ethylenediamine modified beta cyclodextrin in synthesis of benzoxazole derivatives via phenol and benzylamine coupling*" in the Sector PHYSICAL SCIENCES under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2019-2020.

Chennai-600025
18.12.2020

DR.R.SRINIVASAN
Member Secretary



Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
S.ASIBA BEGUM
for successfully completing the course
Developing Soft Skills and Personality

with a consolidated score of **81** %

Online Assignments	22.00/25	Proctored Exam	58.5/75
--------------------	----------	----------------	---------

Total number of candidates certified in this course: **15357**

Prof. Rajesh M. Hegde
Prof. Rajesh M. Hegde
Indian Institute of Technology Kanpur

Aug-Oct 2019
(8 week course)

Prof. Satiyaki Roy
Prof. Satiyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

swayam

NPTEL 19HS32S52250001

To validate and check scores: <https://nptel.ac.in/noc>

S. NO. 12 Student

2019. 2020

(4)

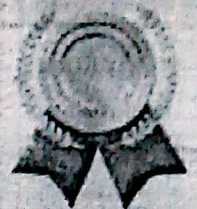
of credits recommended by the University deems it fit, based on the actual student effort.



Elite

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

SUDHA.P

for successfully completing the course

Developing Soft Skills and Personality

with a consolidated score of **75** %

Online Assignments	24.33/25	Proctored Exam	50.5/75
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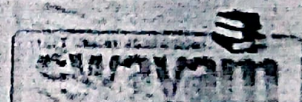
Total number of candidates certified in this course: 15357

Prof. Rajesh M. Hegde
Vice-Chancellor for Continuing Education
IIT Kanpur

Aug-Oct 2019
(8 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur



NX NPTEL 10/2019



MADURAI KAMARAJ UNIVERSITY

(University with potential for Excellence)
Madurai - 625 021

School of Chemistry & School of Biotechnology

International Conference on Nanomedicine (ICON - 2019)

Certificate

This is to certify that Prof./Dr./Mr./Ms./Mrs. **M.S. MOHAMED ABRAHIM**

SADAKATHULLAH APPA COLLEGE

AGGREGATION-INDUCED

has participated/presented a paper (Oral/Poster) entitled **BIOLOGICAL APPLICATIONS.**

in the two day INTERNATIONAL CONFERENCE ON NANOMEDICINE (ICON - 2019), held at Madurai Kamaraj University, Madurai, India on 25th & 26th February, 2019.

M.R.
Dr. M. Rajan
Convener

D.S.
Dr. H. Shakila
Co-Convener

Dr. V. Chinniah
Registrar



राष्ट्रीय कैडेट कोर NATIONAL CADET CORPS



प्रमाण पत्र CERTIFICATE

This is to certify that No. TN18SDA677522 Rank CDT

Name SOUNDAR RAJAN M Unit 5 (TN) BN NCC, TIRUNELVELI

NCC Directorate TN,P&AN

ने 01 जनवरी 2020 से 29 जनवरी 2020 तक, नई दिल्ली में, वार्षिक रा. कै. को. गणतन्त्र दिवस शिविर में, अपने रा. कै. को. निदेशालय का प्रतिनिधित्व किया।

Represented his/her NCC Directorate, at the Annual NCC Republic Day Camp, held at New Delhi, from 01 January 2020 to 29 January 2020.

File No. : 17090/Cert/DGNCC/RDC-2020

Cert No.: DGNCC/RDC2020/1577

दिनांक : जनवरी 2020

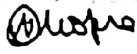
Dated : 29 January 2020

स्थान : नई दिल्ली

Place : New Delhi




उदय सिंह मनकोटिया
Uday Singh Mankotia
कर्नल/Colonel
सचिव आर डी सी
Secretary RDC


राजीव चोपड़ा
Rajeev Chopra
लेफ्टिनेंट जनरल
Lieutenant General
महानिदेशक राष्ट्रीय कैडेट कोर
Director General National Cadet Corps



NCC DIRECTORATE (TN, P & AN)

CERTIFICATE

No 7N1850A617522 Rank SUO
Name SOUNDAR RAJAN
Unit 5 (TN) BN NCC Group MADURAI
Of TN, P & AN Directorate

Participated and Excelled in
ONLINE EBSB CAMP conducted
From 29/06/20 to 04/07/20 at -

Place

Date



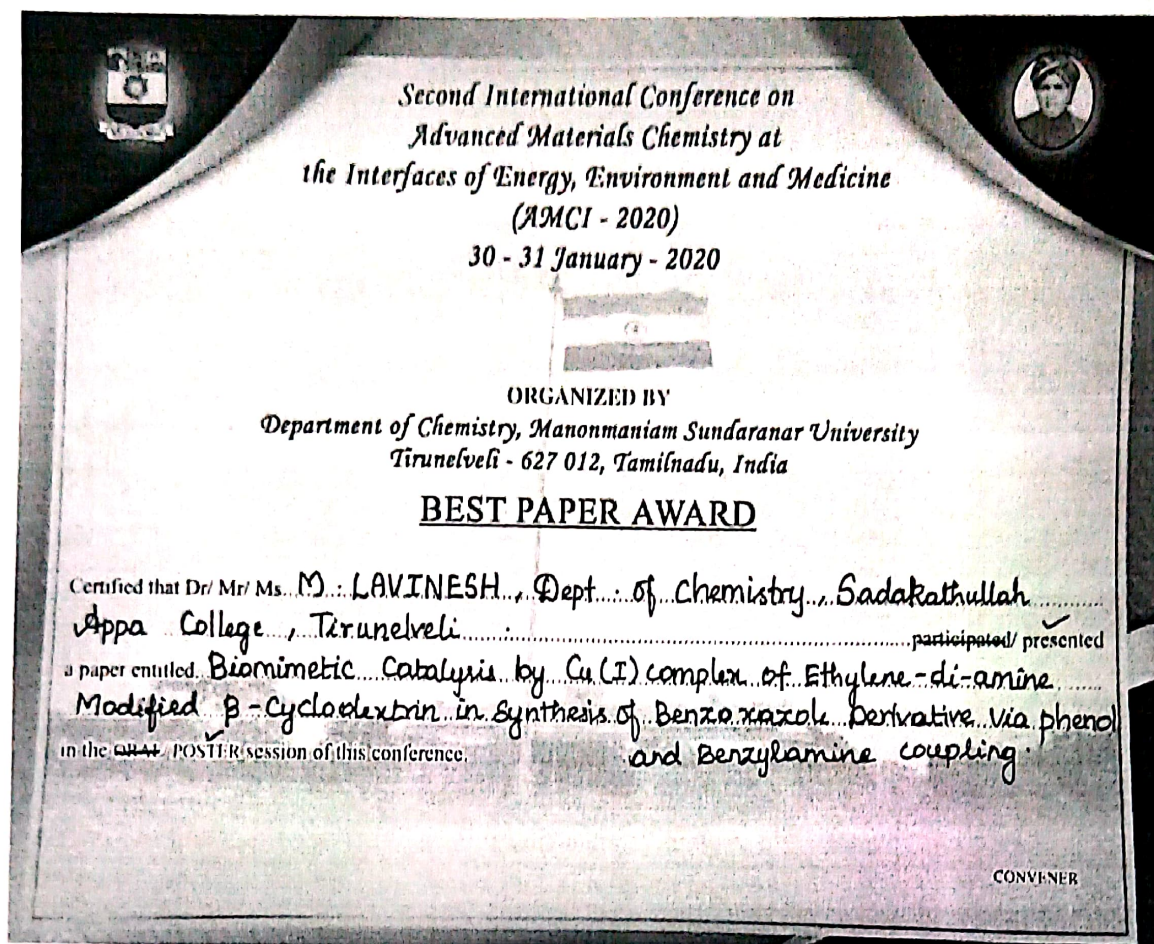
[Signature]

Dy Director General

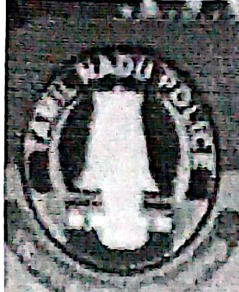
**NCC DIRECTORATE (TN, P & AN)****CERTIFICATE**No INSURANCE-7 Rank CUOName VEITHARAJAGURUUnit 5 (TN) GN NCC Group MADURAIOf TN, P & AN Directorate

Participated and Excelled in

Online Egg Race conductedFrom 29/08/20 to 09/09/20 at Place : ChennaiDate : Aug 2020K. V. S. R.
By Director General

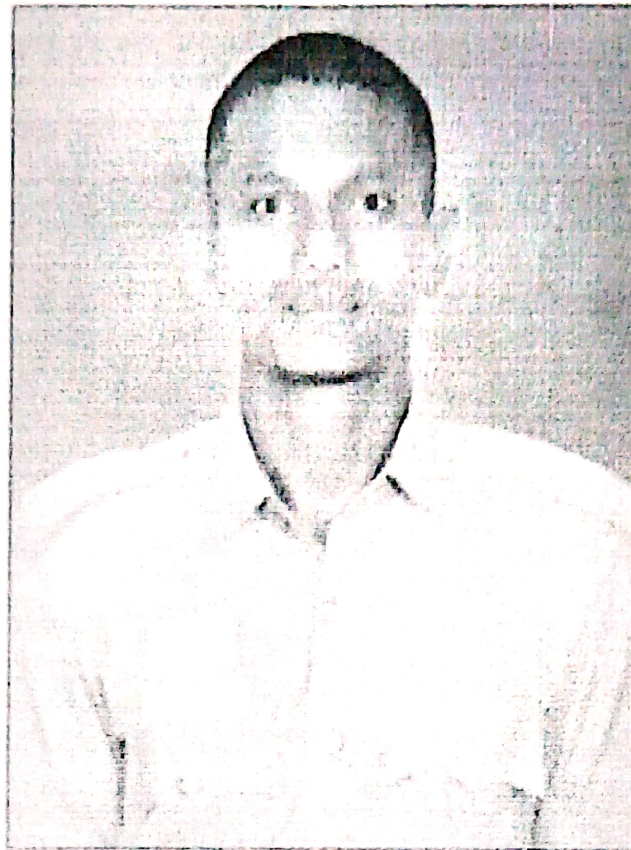


S No. 13 2019-20 (1)



TAMIL NADU POLICE

IDENTITY CARD




O⁺ve

NAME : CHIDAMBARAM . B

RANK : RPC 068

UNIT : TSP XII Bn MMR


PRINCIPAL OFFICER
TSP XII Bn, Madhavathur

"பதிவஞ்சல் / ஒப்புதல் அட்டையுடன்"அழைப்பாணை (Call Letter)

எண். 2380/6/பா.1/2020.

தாள். 10.07.2020.

பொருள்- சிறைகள் - மத்தியச் சிறை கட்டலார் - தமிழ்நாடு சிறை சார்நிலைப் பணிகள் - தமிழ்நாடு சீருடைப் பணியாளர் தேர்வாணையம் மூலம் இரண்டாம் நிலைக் காவலர் பதவிக்கு நபர்கள் தேர்வு செய்யப்பட்டது - இரண்டாம் நிலைக் காவலர் பதவிக்கு பணி நியமனம் செய்வது - அழைப்பாணை அனுப்புதல் - தொடர்பாக.

பார்வை- காவல்துறை இயக்குநர் / சிறைத்துறை காவலர் குறிப்பாணை எண் 32134/இடபின்பு/19, தாள்.03.07.2020.

தமிழ்நாடு சீருடைப் பணியாளர் தேர்வாணையக் குழுவால் 2019 ஆம் ஆண்டில் உரிய தேர்வுகள் நடத்தி நேரடி நியமனம் மூலம் இரண்டாம் நிலைக் காவலர் பணிக்கு தேர்வு செய்யப்பட்டு பார்வையில் காணும் காவல்துறை இயக்குநர் / சிறைத்துறை இயக்குநரின் குறிப்பாணையின்படி கட்டலார் மத்தியச் சிறைக்கு ஒதுக்கீடு செய்யப்பட்ட தங்களை, முற்றிலும் தற்காலிக அடிப்படையில் இரண்டாம் நிலைக் காவலராக பணி நியமனம் செய்து ஆணை பிறப்பித்திடும் பொருட்டு கல்வித் தகுதி அசல் சான்றிதழ்கள், சாதி அசல் சான்றிதழ் மற்றும் அரசு மருத்துவரிடமிருந்து பெறப்பட்ட மருத்துவ உடற் தகுதி சான்று (Not below the Rank of Assistant Surgeon) ஆகியவற்றுடன் கட்டலார் மத்தியச் சிறை கண்காணிப்பாளர் முன்பு 31.07.2020 அன்று காலை 09.00 மணிக்கு ஆஜராகுமாறு தெரிவிக்கப்படுகிறது.

2) மேலும் விளையாட்டுக்கான ஒதுக்கீடு (Sports Quota), முன்னாள் இராணுவத்தினருக்கான ஒதுக்கீடு (Ex-Service man Quota) போன்ற சிறப்பு ஒதுக்கீட்டின் கீழ் தேர்வு செய்யப்பட்டிருப்பின் அதற்கான அசல் சான்றிதழ்களையும் எடுத்து வருமாறு தெரிவிக்கப்படுகிறது.

3) மேலும் 31.07.2020 அன்று ஆஜராகும்போது கொரோனா வைரஸ் தொற்று தொடர்பான மருத்துவ பரிசோதனை மேற்கொண்டு, கொரோனா வைரஸ் தொற்று ஏதும் இல்லை (Corona Negative Certificate) என்பதற்கான சான்று பெற்று ஆஜராகிட வேண்டுமெனவும் தெரிவிக்கப்படுகிறது.

Dr. K.SENTHAMARAI KANNAN
DIRECTOR
Centre for Research

University Buildings,
Abishekapatti,
Tirunelveli – 627 012.

Ref.MSU/RES/Ph.D/VIVA/R-4/ 11512

17.04.2018

To

1. Dr.A.Syed Mohamed, Guide Convener of Viva-voce Board
Assistant Professor of Chemistry,
Sadakathullah Appa College,
Rahmath Nagar, Tirunelveli – 627 011.
2. Dr.K.Pandian, Examiner of Viva – Voce Board
Associate Professor, Dept. of Inorganic Chemistry,
University of Madras,
Guindy Campus, Chennai – 600 025.
3. Dr.C.Vedhi, Co-Guide Member of Viva-voce Board
Assistant Professor of Chemistry,
V.O.C. College, Thoothukudi – 628 008.

Sir/Madam,

Sub: Conduct of Ph.D. Public Viva-Voce Examination – Reg.

I am, by direction, to inform that you have been appointed as Convener/ Member for the Viva-Voce examination on the Ph.D. thesis entitled " **In – Silico Design and Development of Novel Potent ACE Inhibitors of Hypertension** " submitted by **Mr/Ms. C.Zozimus Divya Lobo** for the award of Doctor of Philosophy.

You are requested to conduct the viva-voce Examination at **V.O.C. College, Thoothukudi** on any one of the working day (**except Saturday, Sunday and Government Holidays**) mutually convenient to all the members inclusive of guide & Co – Guide (if applicable) and submit the following to the undersigned immediately after the viva is over.

1. Detailed report along with the questions posed to the scholar or the Viva – Voce duly Signed by all Board members with seal.
2. Attendance Sheet in the proforma enclosed.
3. Viva - Voce Fee of Rs.10,000/- Drawn in favour of the Registrar, Manonmaniam Sundaranar University payable at Tirunelveli issued by any Nationalised Bank (or) through Challan ,Indian Bank, M.S.University Branch (or) through Challan in State Bank of India, Power Jyothi Account to MSU A/c No. 32723606944.

Yours faithfully,


DIRECTOR

(P.T.O)

MANONMANIAM SUNDARANAR UNIVERSITY

DR. A. SURULIANDI
CO-ORDINATOR (RESEARCH)

ABISHEKAPATTI,
TIRUNELVELI 627 012

REF: MSU/RES/R1/REG NO. 11512

Date: 02.09.2014

To

The Principal
V.O.Chidambaram College,
Tuticorin

Sir / Madam,

Sub: Manonmaniam Sundaranar University - Registration for doing Ph.D Programme Date of commencement of Research work - Interim - 14/07/2014

Ref: Vice-Chancellor order's dated - 13.06.2014

I am, by direction, to inform that the application for doing Ph.D programme of **Ms. Zozimus Divya Lobo** has been provisionally accepted for Ph.D programme in the subject of **Chemistry - Part Time Internal** under your guidance of **Dr. A. Syed Mohamed**. His order **Registration Number is 11512**.

The candidate should do the research work in the concerned Department / Research Centre mentioned in the application under the Guide. After one year, the Guide shall conduct the candidate's (non M.Phil/equivalent degree holder) attainment of the Part - I examination and advanced paper in the related field of research. The candidates for (full time/Part time Internal/External) should pay Rs.800/- for the said examination.

The Candidate should pay research fee of **Rs. 3000/-** per annum till the submission of the thesis. Research fees for every year should be remitted during the month of registration. The fees should be paid through demand draft, **drawn in favour of the Registrar Manonmaniam Sundaranar University, payable at Tirunelveli**. Failure to remit the research fee within the prescribed time may lead to cancellation of the registration of the candidate. The service certificate and no objection certificate should be submitted by the candidate annually, without fail till the submission of the thesis.

The candidate should forward all correspondence to the Registrar, Manonmaniam Sundaranar University, Tirunelveli. The candidate is directed to follow all the rules and regulations governing the Ph.D programme in Manonmaniam Sundaranar University, sanctioned in the University website. The candidate will be governed by the rules (as revised & approved) by the Manonmaniam Sundaranar University, from time to time.

Date of Commencement: 14.07.2014

Subject: Chemistry - Part Time Internal.

Title: " Insilico Design & Development of Novel Potent ACE Inhibitors of Hypertension."

Yours faithfully,

Copy to:

1. Dr. A. Syed Mohamed,
Asst. Professor of Chemistry,
S.A. College,
Tirunelveli - 627 011.

- Guide

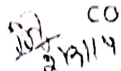
2. Ms.C.Zozimus Divya Lobo,
16, Nayan Pillai Lane,
Periakadai Street, Tuticorin - 628 001
(M) 7402193278.

Candidate

Note:

1. The candidate is hereby informed that he/she is eligible for the Part - I Examination.
2. The candidate should submit a copy of one publication published or paper accepted for publication in a research journal along with submission form while submitting the Ph.D thesis.

CO-ORDINATOR (RESEARCH)


Dr. C. Vedhi, Co-Guide
Asst. Professor in Chemistry
V.O.Chidambaram College,
Tuticorin - 628 008



CENTRE FOR RESEARCH
MANONMANIAM SUNDARANAR UNIVERSITY,
TIRUNELVELI - 627012, TAMILNADU, INDIA
www.msuniv.ac.in

PH.D. PUBLIC VIVA-VOCE NOTIFICATION

Name of the Scholar : Mrs. I. MERLIN
Registration Number : 8162
Category of registration : Part-time (Internal)
Discipline : Chemistry
Title of the Thesis : Synthesis, Characterization and Applications of Metals,
Metal Oxides, Metal Sulphides Nanoparticles
Date and Time of Viva-voce Examination : 29.10.2020 at 12.00 noon
Venue : Online mode

<https://zoom.us/j/8981957567?pwd=NGhFMFdJdFZrbUJSREVVRHNjbFVqdz09>

Meeting ID : 8981957567

Passcode : 9ZxncA

Name and address of the Supervisor (Convener) : Dr. A. Syed Mohamed, Head, Dept. of Chemistry,
Sadakathullah Appa College, Tirunelveli 627011

Name and address of the Examiner : Dr. S. Anandan
Professor and Head, Dept. of Chemistry
National Institute of Technology,
Tiruchirappalli - 620 015


Name and address of the Observer : Dr.K. Swarnalatha
Assistant Professor, Dept. of Chemistry
M.S. University, Tirunelveli 627 012

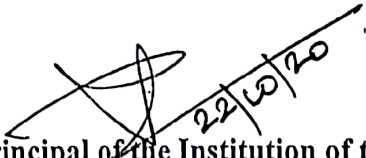
(if applicable)

All are cordially invited

Date : 22.10.2020

Place : Tirunelveli


Signature of the Supervisor
(Dr. A. Syed Mohamed)


Signature of the Principal of the Institution of the Supervisor
(Dr. M. Mohamed Sathik)

PRINCIPAL

SADAKATHULLAH APPA COLLEGE
(AUTONOMOUS)

Rahmath Nagar, Tirunelveli - 627 012.

Dr. A. SYED MOHAMED
M.Sc.(Chem.) M.Sc. (Env.Sci.) M.Tech. Ph.D.
Research Head, Department of Chemistry
SADAKATHULLAH APPA COLLEGE
Rahmath Nagar, Tirunelveli - 627 012

Copy to:

1. The Director (Research), Manonmaniam Sundaranar University, Tirunelveli.
2. Heads of the University Departments, Principal of College Concerned with a request to display in the notice board.

MANONMANIAM SUNDARANAR UNIVERSITY

DR. R. HARUTHARATHI
CO-ORDINATOR (RESEARCH)



ARISHEKARATTI,
TIRUNELVELI 627 012

Ref: No.MSU/RES/REGN/R1/2015 /M.Phil

21.12.2015

Subj: Provisional Registration to Ph.D Programme - Intimation - Reg.
Ref: His/Her application dated 31.07.2015.

With reference to the above, he/she is, by direction, informed that his/her application for Ph.D registration in the discipline of **Physics (Part Time Internal)** under the guidance of **Dr.S.Selvaraj** has been provisionally accepted. The candidate is hereby directed to pay a sum of **Rs.3,000/-** towards Research fee for the first year. The payment should be made through Demand Draft drawn in favour of **"The Registrar, Manonmaniam Sundaranar University"** payable at Tirunelveli issued by any Nationalized Bank (or) through Challan in Indian Bank, M.S. University Branch (or) through Challan in State Bank of India, Power Jyoti Account to MSU A/c No.32723606944 on or before **28.01.2016** and the same should be sent to the undersigned duly forwarded by his/her Supervisor. If the candidate fails to pay the above research fee within the stipulated period, the provisional registration given to the candidate will be automatically cancelled.

CO-ORDINATOR (RESEARCH)
21/12/15

To

Ms.A.Zeenath Bazeera,
Plot No.300, Darling Nagar,
Tirunelveli-627 011.
(M)9486558176

- Candidate

Copy To

Dr.S.Selvaraj,
Asso. Professor of Physics,
The M.D.T.Hindu College,
Tirunelveli-627 010.

- Guide - **Dr.A.Syed Mohamed-Co-Guide**
Asst. Professor of Chemistry
Sadakathullah Appa College,
Tirunelveli-627 011

Note:

1. All communications including payment of fees should be duly forwarded by the Guide & Co-Guide.
2. The date of commencement of Ph.D programme will be the date of payment of first year fees.
3. The candidate is directed to pay **Rs.3,000/-** per annum as Lab fee to **The Principal, The M.D.T.Hindu College, Tirunelveli**. Also the candidate has to produce the certificate or the above mentioned payment obtained from the Principal to the Research Section.

மனோன்மனியம் சுந்தரனார் பல்கலைக்கழகம்
MANONMANIAM SUNDARANAR UNIVERSITY
(ACCREDITED WITH B GRADE BY NAAC)

Dr K SENTHAMARAI KANNAN
DIRECTOR,
CENTRE FOR RESEARCH

University Buildings
Abishekapatti
Tirunelveli - 627 012.

Ref No MSU/RES/R9/Bi-Annual/2018

Date: 13.4.2018

To
E J Eyalakulmi [17 22117-2032023]
8-166, Madan St,
Madan Kallur
TVL - 627010
Sir/Madam,

Sub Doctoral Committee Members not selected/ Doctoral Committee minutes not submitted / Bi- annual report not submitted -To submit the same immediately Intimated -reg

Ref Research Guidelines w e 1 01 07 2016
.....

With reference to the Guidelines cited above, the candidates who have registered in Ph D programme from 01 07 2016 have to undergo the following steps immediately on receipt of Ph D programme commencement order.

- 1) Selection of Doctoral Committee Members
- 2) Submission of Minutes of I / II Doctoral Committee Meeting.
- 3) Submission of Bi-annual report
- 4) Course Work

It is also reiterated that the Scholars should undergo the course work based on the Recommendation of the Doctoral Committee and complete the same within two years from the date of registration for confirmation of provisional registration.

Hence you are asked to undergo the above process immediately to retain the registration of Ph D Programme

Yours faithfully,


DIRECTOR

Copy To

- 1) Dr. A. Syed Mohamed [Guide]
Asst. Prof of Chemistry
Sadakathullah Appa College
TVL - 627011
- 2) Dr. C.V. Mythili [Co-Guide]
Asso. Prof of Chemistry
Rani Anna Govt. College for Women,
TVL - 8

MANONMANIAM SUNDARANAR UNIVERSITY
TIRUNELVELI - 627 012, TAMIL NADU, INDIA
(REACCREDITED WITH B GRADE BY NAAC)

DR. K. SENTHAMARAI KANNAN
DIRECTOR (CENTRE FOR RESEARCH)

ABISHEKAPATTI,
TIRUNELVELI 627 012

No. MSU/Res/R1/Doctoral Committee/Jan, 2017

25.05.2017

- ✓ 1. Dr. A. Syed Mohamed (Guide) - Convener
Asst. Professor of Chemistry,
Sadakathullah Appa College,
Tirunelveli
2. Dr. C.V. Mythili - Co-Guide
Asso. Professor of Chemistry,
Rani Anna Govt. College for Women,
Tirunelveli
3. Dr. Muthu - Doctoral Committee Member
Asst. Professor of Chemistry,
M.S. University, Tirunelveli.
4. Dr. V. Rama - Doctoral Committee Member
Asso. Professor and Head,
Dept. of Chemistry,
Sarah Tucker College,
Tirunelveli.

Sir/Madam,

I am by direction, to inform, that you are nominated as convener (default) / Doctoral Committee member / Co-Guide (member) in respect of the scholar Ms. U.S. Bushra, Reg.No.12601.

You are requested to meet four times during the Ph.D programme of the scholar to decide the following:

1. To approve the research proposal and prescribe the course work within six months from the date of registration.
2. To assess and monitor the quantum of work done and confirm the provisional registration by the candidate after one year from the date of registration;
3. To approve the Pre-Ph.D presentation, approval and synopsis and panel of examiners for adjudication of the thesis;
4. To consolidate and approve the adjudication reports for conduct of Ph.D viva-voce examination.

- (i) The Head of the Department of the University / Head of the Department of the Research Centre (duly forwarded by the Principal of the Research Centre) shall forward the Doctoral committee minutes (In the format enclosed) to the 2 (Research), However, the meetings of Doctoral Committee should be informed to the Director (Research) with a copy to Head of the Department / Director of the Centre well in advance.

Yours faithfully

K. Senthamarai Kannan
DIRECTOR

29/5/17

Encl: Proforma

Copy to:

Ms. U.S. Bushra

2/164A, Parasurama Puram,

South Street,

Kadayanallur - 627 751.

(M) 9500558665.

- Candidate



DR. K. SENTHAMARAI KANNAN
DIRECTOR

REF : MSU/RES/R1/JUNE2017

Date : August 10, 2017

Ph.D., Programme Commencement Order

To
NABRIN FARSAHA N
2A, 1, 1 Saint lukes road,, North Highgrounds
MAHARAJA NAGAR P O
Tamil Nadu, Tirunelveli, Pincode - 627011
Mobile No. : 9942862847, Email ID : nnasinfarsana@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work -
Intimation - Reg

Ref: Counseling attended by the candidate,

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

- | | |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name of the Scholar | : NABRIN FARSAHA N |
| 2. Registration No. | : 17221192032006 |
| 3. Discipline | : Chemistry |
| 4. Gender | : Female |
| 5. Social Category (Community) | : BCM |
| 6. Nationality | : INDIAN |
| 7. PWD Status | : Not Applicable |
| 8. Admission Based On | : M.Phil |
| 9. Name of the Supervisor | : M SHEIKH MOHIDEEN BADHUSHA |
| 10. Name of the Co-Supervisor | : J Shakina |
| 11. Mode | : PART TIME INTERNAL |
| 12. Research Centre | : Sadakathullah Appa College, Tirunelveli. |
| 13. Date of Commencement | : 10.08.2017 |
| 14. Proposed Title | : FACIAL SYNTHESIS, INVESTIGATIONS ON THE STRUCTURAL, OPTICAL AND THERMAL PROPERTIES OF POLYMER MODIFIED METAL OXIDE NANO COMPOSITES AND THEIR APPLICATIONS |
| 15. Doctoral Committee Members Details | : 1. DR S STELLA
ASST PROF OF CHEMISTRY, S T C COLLEGE, TIRUNELVELI.
Mobile No. : 0, Email ID : stellasilvaraj@gmail.com
2. DR R R MUTHUCHUDRKODI
ASSO PROF OF CHEMISTRY, V O C COLLEGE, THOOTHUKUDI.
Mobile No. : 9952298064, Email ID :
muth.rajaram@gmail.com |

10/08/17
ASST

10/08/17
SUPDT

10/08/17
AR

10/08/17
DIRECTOR

MANONMANIAM SUNDARANAR UNIVERSITY

CENTRE FOR RESEARCH

ABISHEKAPATTI, TIRUNELVELI - 627 012, TAMILNADU, INDIA



DR. K. SENTHAMARAI KANNAN
DIRECTOR

REF : MSU/RES/R1/JUNE2017

Date : August 10, 2017

Ph.D., Programme Commencement Order

To

MUTHU KATHIJA M
28,, Uppu North Street,
Eruvadi
Tamil Nadu, Thirunelveli, Pincode - 627103
Mobile No. : 9551006619, Email ID : kathija1984@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work -
Intimation - Reg

Ref: Counseling attended by the candidate.

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

1. Name of the Scholar : MUTHU KATHIJA M
2. Registration No. : 17211242032011
3. Discipline : Chemistry
4. Gender : Female
5. Social Category (Community) : BCM
6. Nationality : INDIAN
7. PWD Status : Not Applicable
8. Admission Based On : PG
9. Name of the Supervisor : DR M SHEIK MUHAIDEEN BADHUSHA
10. Name of the Co-Supervisor : DR V RAMA
11. Mode : FULL TIME
12. Research Centre : Sarah Tucker College, Tirunelveli
13. Date of Commencement : 10.08.2017
14. Proposed Title : GREEN SYNTHESIS, CHARACTERIZATION OF METAL OXIDE NANO MATERIALS AND THEIR NANO COMPOSITES FOR ENVIRONMENTAL REMEDIATION
15. Doctoral Committee Members Details :
 1. DR I SHAKINA
DEPARTMENT OF CHEMISTRY, SARAH TUCKER COLLEGE,
TIRUNELVELI
Mobile No. : 9688022671, Email ID :
shakinajudson@gmail.com
 2. DR C VEDHI
DEPARTMENT OF CHEMISTRY, V O C COLLEGE, TUTICORIN
Mobile No. : 9092368104, Email ID : cvedhi23@gmail.com

10/08/17
ASST

10/08/17
SUPDT

10/08/17
AR

10/08/17
DIRECTOR



MANONMANIAM SUNDARANAR UNIVERSITY
CENTRE FOR RESEARCH
 ABISHEKAPATTI, TIRUNELVELI - 627 012, TAMILNADU, INDIA



DR. K. SENTHAMARAI KANNAN
DIRECTOR

REF : MSU/RES/R1/JUNE2017

Date : August 10, 2017

Ph.D., Programme Commencement Order

To

SELVAM A
 22 114, 1st street, Bell amorcess colony,, shanthinagar
 Palaymkottai
 Tamil Nadu, Thirunelveli, Pincode - 627002
 Mobile No. : 9442679410, Email ID : selvamsophia7@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work -
 Intimation - Reg

Ref: Counseling attended by the candidate.

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

- | | |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Name of the Scholar | : SELVAM A |
| 2. Registration No. | : 17212232032012 |
| 3. Discipline | : Chemistry |
| 4. Gender | : Female |
| 5. Social Category (Community) | : BC |
| 6. Nationality | : Indian |
| 7. PWD Status | : Not Applicable |
| 8. Admission Based On | : PG |
| 9. Name of the Supervisor | : Dr M Sheik Muhideen Badhusha |
| 10. Name of the Co-Supervisor | : Dr R R Muthuchudarkodi |
| 11. Mode | : FULL TIME |
| 12. Research Centre | : V.O.C. College, Thoothukudi. |
| 13. Date of Commencement | : 10.08.2017 |
| 14. Proposed Title | : FABRICATION, INVESTIGATION OF STRUCTURAL, OPTICAL AND THERMAL PROPERTIES OF BIMETALLIC NANOPARTICLE OF SENSOR APPLICATIONS |
| 15. Doctoral Committee Members Details | : 1. DR A MATHAVAN
asso prof of chemistry v o c college tutucorin
Mobile No. : 9442291333, Email ID :
abhimathavan@gmail.com
2. DR J SHAKINA
assi prof of chemistry sarahtucker college tirunelveli
Mobile No. : 9688022671, Email ID :
shakinajudson@gmail.com |

[Signature]
 10/08/17
 ASST

[Signature]
 10/8/17
 SUPDT

[Signature]
 10/8/17
 AR

[Signature]
 10/08/17
 DIRECTOR



MANONMANIAM SUNDARANAR UNIVERSITY

Reaccredited with 'A' Grade by NAAC (3rd Cycle)

CENTRE FOR RESEARCH

ABISHEKAPATTI, TIRUNELVELI - 627 012, TAMILNADU, INDIA

Phone : 0462 - 2333741, 9467907000, Intercom : 2563073, Mail : chmsu@msuniv.ac.in, web : msuniv.ac.in



DR. K. SENTHAMARAI KANNAN
DIRECTOR

REF : MSU/RES/Admn/Jan 2019

Date : December 24, 2018

Ph.D., Programme Commencement Order

To

MOHAMED FAIZEE N
36, GYANYAR APPA 2nd STREET, MELAPALAYAM
TIRUNELVELI
Tamil Nadu, Thirunelveli, Pincode - 627005
Mobile No. : 8344513566, Email ID : faizeechemist@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work -
Intimation - Reg

Ref: Counseling attended by the candidate for January 2019 session.

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

Name of the Scholar	MOHAMED FAIZEE N
Registration No.	19121192031021
Discipline	Chemistry
Gender / Community	Male / BCM
Nationality	INDIAN
PWD Status	Not Applicable
Admission Based On / Mode	PG / PART TIME INTERNAL
Research Centre	Sadakathullah Appa College, Tirunelveli.
Name of the Supervisor	Dr.M.Sheik muhideen badhusha, Department of Chemistry, Sadakathullah Appa College, Palayamkottai, Tirunelveli Mobile No. : 9788749729, Email ID : drbadhunano@gmail.com
Name of the Co-Supervisor	NIL
Doctoral Committee Members	1. DR ANTONY DANISH I, Sadakathullah appa college, Tirunelveli Mobile No. : 9790163932, Email ID : antonydanish@yahoo.com 2. DR WINFRED JEBARAJ J, St.Johns college, Palayamkottai Mobile No. : 9443969511, Email ID : drwinswins@gmail.com
Proposed Title	Effect of metal nanoparticles embedded in core-shell nanostructures and their applications
Date of Commencement	24.12.2018

ASSISTANT

SUPERINTENDENT

ASSISTANT REGISTRAR



மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்
MANONMANIAM SUNDARANAR UNIVERSITY

State University
Reaccredited with "A" Grade by NAAC (3rd Cycle)

Tirunelveli – 627 012, Tamilnadu, India
Phone: 0462 - 2563073

e_mail: cfrmsu@msuniv.ac.in Website: www.mauniv.ac.in

Date: 25/01/2019

Dr. K. Senthamarai Kannan
Director – Centre for Research

Change of Guide Order

Change of Guide from Dr. P. Sengu, Associate Professor of Chemistry, Sri K.G.S. Arts College, Srivaikuntam – 628 619 to Dr. I. Antony Danish, Assistant Professor of Chemistry, Sadakathullah Appa College (Autonomous), Tirunelveli – 627 011 has been granted to Mrs. T. Sahaya Maria Jeyaseeli, Reg. No.12579.

DIRECTOR

25/1/19
25/1/19

Copy to:

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| ✓ Dr. I. Antony Danish
Assistant Professor of Chemistry
Sadakathullah Appa College (Autonomous)
Rahmath Nagar, Tirunelveli – 627 011. | - Guide |
| 2. Dr. J. Shakina
Assistant Professor of Chemistry
Sarah Tucker College (Autonomous)
Tirunelveli – 627 007. | - Co-Guide |
| 3. Mrs. T. Sahaya Maria Jeyaseeli
W/o. Mr. J. Savari Rajan
216 H/7A, EB Colony East
Vallioor – 627 117
(M) 9443485573 | - Candidate |
| 4. Dr. P. Sengu
Associate Professor of Chemistry
Sri. KGS Arts College, Srivaikuntam – 628 619. | - For Information |

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CENTRE FOR RESEARCH

ABISHEKAPAITI, TIRUNELVELI - 627 012, TAMILNADU, INDIA

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DR. K. SENTHAMARAI KANNAN
DIRECTOR

REF : MSU/RES/Admn/Jan 2019

Date : December 22, 2018

Ph.D., Programme Commencement Order

To
A BANUMATHY
19 A 32, YADAVA WEST STREET
PALAYAMKOTTAI
Tamil Nadu, Tirunelveli, Pincode - 627002
Mobile No. : 8344026464, Email ID : pksbanu@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work -
Intimation - Reg

Ref: Counseling attended by the candidate for January 2019 session.

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

Name of the Scholar	A BANUMATHY
Registration No.	19121192032014
Discipline	Chemistry
Gender / Community	Female / BC
Nationality	INDIAN
PWD Status	Not Applicable
Admission Based On / Mode	PG / PART TIME INTERNAL
Research Centre	Sadakathullah Appa College, Tirunelveli.
Name of the Supervisor	Dr p sengu, Department of Chemistry, Sri K.G.S Arts College, Srivaikuntam Mobile No. : 9443670578, Email ID : paramasivansengu@gmail.com
Name of the Co-Supervisor	NIL
Doctoral Committee Members	1. DR B RAVINDRAN DURAINAYAGAM, Associate professor, department of chemistry, popes college, sawyerpuram Mobile No. : 9443290387, Email ID : bravidurai@gmail.com 2. DR M SHEIK MUHIDEEN BADHUSHA, assistant professor, department of chemistry, sadakathullah appa college physical chemistry Mobile No. : 9788749729, Email ID : drbadhunano@gmail.com
Proposed Title	KINETICS AND MECHANISM OF OXIDATION OF SOME ORGANIC SUBSTRATES WITH Cr VI OXIDISING AGENT
Date of Commencement	22.12.2018

ASSISTANT SUPERINTENDENT ASSISTANT REGISTRAR

DIRECTOR

Copy To : Supervisor, Co-Supervisor (if applicable) / Research Centre / Doctoral Committee Members



MANONMANIAM SUNDARANAR UNIVERSITY

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CENTRE FOR RESEARCH

ADISHIEKAPATTI, TIRUNELVELI - 627 012, TAMIL NADU, INDIA

Phone : 0462 - 2333741, 9447907000, Intercam : 2663379, Mail : cfmr@manu.ac.in, web : manu.ac.in



DR. K. SENTHAMARAI KANNAN
DIRECTOR

REF : MSU/RES/Admn/Jan 2019

Date : December 20, 2018

Ph.D., Programme Commencement Order

To

PETCHIAMMAL G
91-S, block 14, Mullai nagar
Mettukadal, Thuckalay
Tamil Nadu, Kanniyakumari, Pincode - 629176
Mobile No. : 9940752084, Email ID : gpetchiammal1980@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work - Intimation - Reg

Ref: Counseling attended by the candidate for January 2019 session.

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

Name of the Scholar	PETCHIAMMAL G
Registration No.	19111192032005
Discipline	Chemistry
Gender / Community	Female / BC
Nationality	INDIAN
PWD Status	Not Applicable
Admission Based On / Mode	M.Phil / FULL TIME
Research Centre	Sadakathullah Appa College, Tirunelveli.
Name of the Supervisor	Dr P Sengul, Department of Chemistry, Sri.K.G.S Arts college, Srivaikundam Mobile No. : 9443670578, Email ID : paramasivaseengul@gmail.com
Name of the Co-Supervisor	Dr I Antony Danish, Department of Chemistry, Sadakathullah Appa College, Palayankottai, Tirunelveli Mobile No. : 9790163932, Email ID : antonydanish@gmail.com
Doctoral Committee Members	1. DR B RAVINDRAN DURAI NAYAGAM, Associate Professor, Department of Chemistry, Popas College, Sawyor Puram Mobile No. : 9443290387, Email ID : fravidural@gmail.com
	2. DR M SHEIK MUHIDEEN BADHUSHA, Assistant Professor, Department of Chemistry, Sadakathullah Appa College, Tirunelveli Mobile No. : 9788749729, Email ID : drbadhunano@gmail.com
Proposed Title	STUDY OF MECHANISM OF Cr VI OXIDATION OF ORGANIC SUBSTRATES
Date of Commencement	20.12.2018

ASSISTANT

SUPERINTENDENT

ASSISTANT REGISTRAR

DIRECTOR

Copy To : Supervisor, Co-Supervisor (If applicable) / Research Centre / Doctoral Committee Members

MANONMANIAM SUNDARANAR UNIVERSITY

Reaccredited with 'A' Grade by NAAC (3rd Cycle)

CENTRE FOR RESEARCH

ADISHAKAPATTI, TIRUNELVELI - 627 012, TAMILNADU, INDIA

Phone: 0462-2333741, 9447907000, Intercom: 2563073, Mail: cfma@manu.ac.in, web: manu.ac.in



DR. A. SENTHAMARAI KANNAN
DIRECTOR

REF: MSU/RES/Admin/Jan 2019

Date: December 22, 2018

Ph.D., Programme Commencement Order

To
SANTHA PON ROJA S
4-142 main road, kartsalpatti, cheranmahadevi
Tamil Nadu, Tirunelveli, Pincode - 627414
Mobile No. : 6369005188, Email ID : santhaponroja95@gmail.com

Sir/Madam,

Sub: Registration for doing Ph.D., programme - Date of Commencement of Research work - Intimation - Reg
Ref: Counseling attended by the candidate for January 2019 session.

With reference to the above, you are provisionally registered for Ph.D., Programme as detailed below :

Name of the Scholar	SANTHA PON ROJA S
Registration No.	19111192032013
Discipline	Chemistry
Inter Disciplinary Detail	Nil
Gender / Community	Female / BC
Nationality	Indian
PWD Status	Not Applicable
Admission Based On / Mode	M.Phil / FULL TIME
Research Centre	Sadakathullah Appa College, Tirunelveli.
Name of the Supervisor	DR I ANTONY DANISH, Department of Chemistry, Sadakathullah Appa College, Palayamkottai, Tirunelveli Mobile No. : 9790163932, Email ID : antonydanish@gmail.com
Name of the Co-Supervisor	NIL
Doctoral Committee Members	1. DR S STELLA, ASSISTANT PROFESSOR, CHEMISTRY, SARAH TUCKER COLLEGE, TIRUNELVELI.. Mobile No. : 7598879390, Email ID : stella.selvaraj@gmail.com
	2. DR J WINFRED JEBARAJ, ASSISTANT PROFESSOR, CHEMISTRY, ST. JOHN'S COLLEGE, TIRUNELVELI.. Mobile No. : 9443969511, Email ID : drwinswins@gmail.com
Proposed Title	SYNTHESIS, CHARACTERISATION AND DFT ON O-AND N- SUBSTITUTED NEW HETEROCYCLIC COMPOUNDS
Date of Commencement	22.12.2018

ASSISTANT

SUPERINTENDENT

ASSISTANT REGISTRAR

DIRECTOR

Copy To : Supervisor, Co-Supervisor (if applicable) / Research Centre / Doctoral Committee Members