



# CENTRAL UNIVERSITY OF KERALA

केरल केन्द्रीय विश्वविद्यालय

## DEPARTMENT OF CHEMISTRY

Sl: No:	Name Of Student	Register Number	Year of Admission	Title Of Thesis	Guide	Type Of Work	Place Of Work
1.	ALEESHA NABHAI	PCH051901	2019	GREEN SYNTHESIS OF Au/PEG NANOCOMPOSITES FOR ESPR SENSING OF URIC ACID	Dr. Bini George	DISSERTATION	CUK
2.	ANJALI N	PCH051902	2019	BIODEGRADABLE CROSSLINKED HYBRID NANOCOMPOSITES OF CHITOSAN-GELATIN AND SILVER NANOPARTICLES FOR ACTIVE FOOD PACKAGING APPLICATIONS	Dr. Bini George	DISSERTATION	CUK
3.	ANNMARY ANTO	PCH051903	2019	Synthesis and characterization of Co(II) and Ni(II) complexes derived from 2-Benzoylpyridine-N4-methyl-3-thiosemicarbazone	Prof.Dr.M R Prathapachandra Kurup	DISSERTATION	CUK
4.	ARCHANA I G	PCH051904	2019	Mo doped perovskites of SrBO <sub>3</sub> type (B= Fe, Co, Ti, Mn) for catalysing lignin derived model compound oxidation and photocatalytic degradation of organic dyes.	Prof.Dr. A Sakthivel	DISSERTATION	CUK
5.	ASHNA GEORGE	PCH051905	2019	SYNTHESIS AND CHARACTERISATION OF [Cu <sub>3</sub> (BTC) <sub>2</sub> ] MOF FOR SUPERCAPACITOR APPLICATIONS	Dr.M.Bhagiyalakshmi	DISSERTATION	CUK
6.	ASWANI S	PCH051906	2019	Molybdenum Doping in Strontium Iron Perovskite	Prof.Dr. A Sakthivel	DISSERTATION	CUK



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## DEPARTMENT OF CHEMISTRY

				Oxide Using Molybdenum Hexacarbonyl as Novel Precursor: Synthesis, Characterization and Its Catalytic Applications			
7.	ASWATHI P S	PCH051907	2019	Ruthenium on $\alpha$ -nickel hydroxide-based support: Preparation, Characterization and its catalytic application on hydrotreating of anisole	Prof.Dr. A Sakthivel	DISSERTATION	CUK
8.	ATHUL K V	PCH051908	2019	Biometric Sequestration of CO <sub>2</sub> by Carbonic Anhydrase Immobilized on Cu-MOF 199	Dr. Bini George	DISSERTATION	CUK
9.	BHUVANESWARAN R	PCH051909	2019	GREEN SYNTHESIS OF Au/ PVP NANOCOMPOSITES FOR ESPR SENSING OF GLUCOSE	Dr. Bini George	DISSERTATION	CUK
10.	CHAITHRA RAJEEV	PCH051910	2019	SYNTHESIS OF COPPER METAL ORGANIC FRAMEWORK FOR DEGRADATION OF BISPHENOL A	Dr.M.Bhagiyalakshmi	DISSERTATION	CUK
11.	DARSANA E	PCH051911	2019	SYNTHESIS AND CHARACTERIZATION OF Co-MOF FOR SUPERCAPACITOR APPLICATION	Dr.M.Bhagiyalakshmi	DISSERTATION	CUK
12.	DEEPA R DAS	PCH051913	2019	SYNTHESIS AND CHARACTERIZATION OF Ni-MOF-199 FOR SUPERCAPACITOR APPLICATION	Dr.M.Bhagiyalakshmi	DISSERTATION	CUK



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13.	IREEN MARIA PHILIP	PCH051914	2019	SYNTHESIS, CHARACTERIZATION AND PHOTO-PHYSICAL STUDIES OF ANTHRAQUINONE BASED SENSITIZER FOR DYE-SENSITIZED SOLAR CELL APPLICATIONS	Dr.Ravikumar Kanaparathi	DISSERTATION	CUK
14.	JINO MATHEW	PCH051915	2019	Ruthenium containing layered ITQ-2 zeolite: Preparation and its catalytic application	Prof.Dr. A Sakthivel	DISSERTATION	CUK
15.	JITHUKRISHNAN R G	PCH051916	2019	FABRICATION OF CROSSLINKED CHITOSAN-PVA SILVER NANO-COMPOSITES FOR BIODEGRADABLE FOOD PACKAGING APPLICATIONS	Dr. Bini George	DISSERTATION	CUK
16.	JYOTI RAJ	PCH051917	2019	REACTIONS OF CRIEGEE INTERMEDIATE WITH GREENHOUSE GASES	Dr. Deepa Janardanan	DISSERTATION	CUK
17.	KANCHANA N KRISHNAN	PCH051918	2019	HETEROGENIZATION OF COBALT SCHIFFBASE COMPLEX: PREPARATION, CHARACTERIZATION AND ITS CATALYTIC APPLICATIONS ON BENZHYDROL OXIDATION	Prof.Dr. A Sakthivel	DISSERTATION	CUK
18.	KANNA DIVYA	PCH051919	2019	SYNTHESIS AND CHARACTERIZATION OF NEW ELECTRON DONOR-ACCEPTOR MOLECULES BASED ON	Dr.Ravikumar Kanaparathi	DISSERTATION	CUK



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				BENZOPYRAN ELECTRON ACCEPTOR, AND ANTHRACENE AND CARBAZOLE ELECTRON-DONORS			
19.	KIRANRAJ B	PCH051920	2019	GREEN SYNTHESIS OF AU / PEG NANOCOMPOSITES FOR ESPR SENSING OF ASCORBIC ACID	Dr. Bini George	DISSERTATION	CUK
20.	KUNTAL KOLEY	PCH051921	2019	Computational Study on Free Radical Scavenging Activity of Honokiol & Magnolol	Dr. Deepa Janardanan	DISSERTATION	CUK
21.	LAKSHMI KRISHNAA SURESH	PCH051922	2019	Synthesis and spectral characterization of 2-benzoyl thiosemicarbazone complexes	Prof. Dr. M R Prathapachandra Kurup	DISSERTATION	CUK
22.	LOHITHA H R	PCH051923	2019	Synthesis and photo-physical properties studies of DONOR- $\pi$ -ACCEPTOR based new fluorophore Dye	Dr. Ravikumar Kanaparthi	DISSERTATION	CUK
23.	MADIGA DASTAGIRI	PCH051924	2019	Reactions of Criegee Intermediate with Acids – A Theoretical Investigation	Dr. Deepa Janardanan	DISSERTATION	CUK
24.	MANJU VS	PCH051925	2019	SYNTHESIS OF COPPER AND MANGANESE COMPLEXES OF 2-BENZOYL PYRIDINE SEMICARBAZONE	Prof. Dr. M R Prathapachandra Kurup	DISSERTATION	CUK
25.	MEGHNA	PCH051926	2019	PHOTOCATALYTIC DYE DEGRADATION STUDY OF ALIZARIN RED USING MOF-199 CATALYST	Dr. M. Bhagiyalakshmi	DISSERTATION	CUK



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26.	NANDU P	PCH051927	2019	CHITOSAN, PVA, SILVER NANOCOMPOSITES FILMS FOR BIODEGRADABLE FOOD PACKING APPLICATIONS	Dr. Bini George	DISSERTATION	CUK
27.	NIMISHA S	PCH051928	2019	RUTHENIUM ON $\alpha$ -Ni(OH) <sub>2</sub> AS POTENTIAL CATALYST FOR OXIDATION OF CINNAMYL ALCOHOL	Prof.Dr. A Sakthivel	DISSERTATION	CUK
28.	RAVIKUMAR K	PCH051929	2019	Synthesis of organic electron donor acceptor based on carbazole and pyran and identifying its applicability in various fields	Dr.Ravikumar Kanaparathi	DISSERTATION	CUK
29.	RIMA RAPHY V	PCH051930	2019	SYNTHESIS AND CHARACTERIZATION OF COPPER(I) AND MANGANESE(II) COMPLEXES OF 2-BENZOYLPYRIDINE SEMICARBAZONE	Prof.Dr.M R Prathapachandra Kurup	DISSERTATION	CUK
30.	RISHIKA DILEEP	PCH051931	2019	SYNTHESIS AND CHARACTERIZATION OF NEW ELECTRON DONOR-ACCEPTOR MOLECULES BASED ON BENZOPYRAN ELECTRON-ACCEPTOR AND NAPHTHALENE AND TRIPHENYLAMINE ELECTRON-DONORS	Dr.Ravikumar Kanaparathi	DISSERTATION	CUK
31.	SARANYADAS M	PCH051932	2019	HYDRATION MECHANISM OF METHYL-ISOPROPENYL	Dr. Deepa Janardanan	DISSERTATION	CUK



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				KETONE IN THE ATMOSPHERE- A THEORETICAL INVESTIGATION			
32.	SMRITHI S BABU	PCH051933	2019	ANTIOXIDANT ACTIVITY OF CAFFEIC ACID: A THEORETICAL ELUCIDATION OF THE OXIDATIVE DEGRADATION MECHANISM	Dr. Deepa Janardanan	DISSERTATION	CUK
33.	SREEKANTH REDDY GANGAVARAPU	PCH051934	2019	SYNTHESIS OF NEW SENSITIZER BASED ON INDOLE DONOR & NAPHTHALDEHYDE AND PYRAN ACCEPTOR FOR DYE SENSITIZER SOLAR CELLS	Dr. Ravikumar Kanaparthi	DISSERTATION	CUK
34.	SREELEKHA U	PCH051935	2019	Synthesis and spectral characterization of Fe(III), Cu(II) and Ni(II) complexes derived from 2-Benzoylpyridine-N4- methyl-3-thiosemicarbazone	Prof. Dr. M R Prathapachandra Kurup	DISSERTATION	CUK
35.	SURABHIDEVI S	PCH051936	2019	Ruthenium containing MCM-22 zeolites: Preparation, Characterisation and its Catalytic Applications	Prof. Dr. A Sakthivel	DISSERTATION	CUK
36.	SURYA N	PCH051937	2019	THEORETICAL EXPLORATION ON THE ANTIOXIDANT ACTIVITY OF HYDROXYCINNAMIC ACIDS	Prof. Dr. M R Prathapachandra Kurup	DISSERTATION	CUK
37.	SWAPNA	PCH051938	2019	SYNTHESIS OF COPPER AND MANGANESE COMPLEXES OF 2- BENZOYL PYRIDINE SEMICARBAZONE	Prof. Dr. M R Prathapachandra Kurup	DISSERTATION	CUK



CENTRAL UNIVERSITY OF KERALA

केरल केन्द्रीय विश्वविद्यालय

**DEPARTMENT OF CHEMISTRY**

**GREEN SYNTHESIS OF Au/PEG NANOCOMPOSITES FOR ESPR SENSING  
OF URIC ACID**

**Submitted to**

**CENTRAL UNIVERSITY OF KERALA**

in partial fulfillment of the requirements for the degree of

**M.Sc. CHEMISTRY**

by

**ALEESHA NABHAI**

**PCH051901**



**Department of chemistry**

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## केरल केन्द्रीय विश्वविद्यालय

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### Certificate

This is to certify that the dissertation entitled "**GREEN SYNTHESIS OF Au/PEG NANOCOMPOSITS FOR ESPR SENSING OF URIC ACID**" is an authentic record of the work done by **Aleesha Nabhai**(Reg.No.PCHO51901) submitted to Central University of Kerala in partial fulfillment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr. Bini George**, Assistant Professor, Central University of Kerala.

Head, Department of Chemistry

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**BIODEGRADABLE CROSSLINKED HYBRID NANOCOMPOSITES OF  
CHITOSAN-GELATIN AND SILVER NANOPARTICLES FOR ACTIVE  
FOOD PACKAGING APPLICATIONS**

Submitted to

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**M.Sc. CHEMISTRY**

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May 2021



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*This is to certify that the dissertation entitled "Biodegradable crosslinked hybrid nanocomposites of Chitosan-Gelatin and silver nanoparticles for active food packaging applications" is an authentic record of the work done by Anjali N (Reg.No.PCHO51902) submitted to Central University of Kerala in partial fulfillment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of Dr. Bini George, Assistant Professor, Central University of Kerala.*

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कासरगोड, केरल-671316 / Kasaragod, Kerala-671316

**Synthesis and characterization of Co(II) and Ni(II)  
complexes derived from 2-Benzoylpyridine-N<sup>4</sup>-methyl-3-  
thiosemicarbazone**

**A DISSERTATION**

*Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfillment of the requirements for the degree of*

**M.Sc. CHEMISTRY**

by

**ANNMARY ANTO**

**PCH051903**



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**MAY 2021**



**Central University of Kerala**  
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केरल केन्द्रीय विश्वविद्यालय  
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**May 2021**

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കാസറഗോഡ്, കേരള-671316 / Kasaragod, Kerala-671 320

**Mo doped perovskites of SrBO<sub>3</sub> type (B= Fe, Co, Ti, Mn)  
for catalysing lignin derived model compound oxidation  
and photocatalytic degradation of organic dyes.**

*A dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

*M.Sc. (Chemistry)*

by

**ARCHANA IG**

**PCH051904**

*Under the supervision of*

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**DEPARTMENT OF CHEMISTRY**

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**May 2021**



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**SYNTHESIS AND CHARACTERISATION OF [Cu<sub>3</sub>(BTC)<sub>2</sub>] MOF FOR  
SUPERCAPACITOR APPLICATIONS**

*Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*in partial fulfillment of the requirements for the degree of*

**Master of Science**

*in*

**Chemistry**

*by*

**ASHNA GEORGE**

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DEPARTMENT OF CHEMISTRY

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Periye, Kasargod

**Certificate**

This is to certify that the dissertation entitled "**SYNTHESIS AND CHARACTERISATION OF  $[Cu_3(BTC)_2]$  MOF FOR SUPERCAPACITOR APPLICATIONS**" is an authentic record of the work done by **ASHNA GEORGE** submitted to Central University of Kerala in partial fulfillment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr.M. Bhagiyalakshmi**, Assistant Professor, Central University of Kerala.

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**Molybdenum Doping in Strontium Iron Perovskite Oxide Using  
Molybdenum Hexacarbonyl as Novel Precursor: Synthesis,  
Characterization and Its Catalytic Applications**

*A Dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

**M.Sc. CHEMISTRY**

*by*

**ASWANI S**

**PCH051906**

*Under the Guidance of*

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*This is to certify that the dissertation entitled “Molybdenum Doping in Strontium Iron Perovskite Oxide Using Molybdenum Hexacarbonyl as Novel Precursor: Synthesis, Characterization and Its Catalytic Applications” is an authentic record of the work done by ASWANI S (Reg. No. PCH051906) submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of Prof. (Dr.) A. Sakthivel, Head of the Department of Chemistry, Central University of Kerala.*

Head, Department of Chemistry

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**Ruthenium on  $\alpha$ -nickel hydroxide-based support: Preparation,  
Characterization and its catalytic application on hydrotreating of  
anisole**

*A Dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

**M.Sc. CHEMISTRY**

*by*

**ASWATHI PS  
PCH051907**

*Under the Guidance of*

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May 2021**



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# **Biometric Sequestration of CO<sub>2</sub> by Carbonic Anhydrase Immobilized on Cu-MOF 199**

Submitted to

**CENTRAL UNIVERSITY OF KERALA**

in partial fulfillment of the requirements for the degree of

**Master of Science**

in

**Chemistry**

by

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This is to certify that the dissertation entitled " **Biometric sequestration of CO<sub>2</sub> by carbonic anhydrase immobilized on Cu-MOF 199**" is an authentic record of the work done by **Athul K V** (reg.no.PCH051908) submitted to Central University of Kerala in partial fulfillment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr.M.Bhagiyalakshmi**, Assistant Professor, Central University of Kerala.

May 2021

Head, Department of Chemistry

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**GREEN SYNTHESIS OF Au/ PVP NANOCOMPOSITES FOR  
ESPR SENSING OF GLUCOSE**

Submitted to

**CENTRAL UNIVERSITY OF KERALA**

in partial fulfilment of the requirements for the degree of

**M.Sc. CHEMISTRY**

by

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**Department of chemistry**

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This is to certify that the dissertation entitled "**GREEN SYNTHESIS OF Au / PVP NANOCOMPOSITES FOR ESPR SENSING OF GLUCOSE**" is an authentic record of the work done by **BHUVANESWARAN R** (Reg. no: **PCH051909**) submitted to central University of Kerala in partial fulfillment of the requirements for the degree of master science in chemistry and is based on his studies carried out under the supervision of **Dr Bini George**, Assistant professor, Central University of Kerala.

  
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**SYNTHESIS OF COPPER METAL ORGANIC FRAMEWORK FOR  
DEGRADATION OF BISPHENOL A**

*Submitted to*

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*in partial fulfillment of the requirements for the degree of*

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**SYNTHESIS AND CHARACTERIZATION OF Co-MOF FOR SUPERCAPACITOR  
APPLICATION**

*Submitted to*

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**SYNTHESIS AND CHARACTERIZATION OF Ni-MOF-199 FOR  
SUPERCAPACITOR APPLICATION**

*Submitted to*

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*in partial fulfillment of the requirements for the degree of*

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May 2021

**SYNTHESIS, CHARACTERIZATION AND PHOTO-PHYSICAL STUDIES OF  
ANTHRAQUINONE BASED SENSITIZER FOR DYE-SENSITIZED SOLAR CELL  
APPLICATIONS**

*Submitted to*  
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**Master of Science**

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*This is to certify that the dissertation entitled 'SYNTHESIS, CHARACTERIZATION AND PHOTOPHYSICAL STUDIES OF ANTHRAQUINONE BASED SENSITIZER FOR DYE-SENSITIZED SOLAR CELL APPLICATIONS' is an authentic record of the work done by **IREEN MARIA PHILIP (PCH051914)** submitted to Central University of Kerala in partial fulfillment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr. Ravi Kumar Kanaparthi**, Assistant Professor, Central University of Kerala.*

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**Ruthenium containing layered ITQ-2 zeolite: Preparation and its  
catalytic application**

*A Dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfillment of the requirements for the degree of*

**M.Sc. CHEMISTRY**

*By*

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This is to certify that the dissertation entitled "**Ruthenium containing layered ITQ-2 zeolite: Preparation and its catalytic application**" is an authentic record of the work done by **JINO MATHEW** (Reg. No. PCHO51915) submitted to Central University of Kerala in partial fulfillment of the requirements for the Degree of Master of Science in Chemistry and is based on his studies carried out under the supervision of **Prof. (Dr.) A. Sakthivel**, Head of the Department of Chemistry, and Central University of Kerala.

  
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**FABRICATION OF CROSSLINKED CHITOSAN-PVA SILVER  
NANO-COMPOSITES FOR BIODEGRADABLE FOOD PACKAGING  
APPLICATIONS**

Submitted to

**CENTRAL UNIVERSITY OF KERALA**

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This is to certify that the dissertation entitled "**fabrication of crosslinked chitosan-pva silver nano-composites for biodegradable food packaging applications**" is an authentic record of the work done by **Jithukrishnan R G** (Reg.No. PCHO51916) submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on his studies carried out under the supervision of **Dr. Bini George**, Assistant Professor, Central University of Kerala.

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# REACTIONS OF CRIGEE INTERMEDIATE WITH GREENHOUSE GASES

Submitted to

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In partial fulfilment of the requirements for the degree of

Master of Science

In

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This is to certify that the dissertation entitled is “REACTIONS OF CRIEGEE INTERMEDIATE WITH GREENHOUSE GASES”, an authentic record of the work done by **JYOTI RAJ (PCH051917)** submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr. Deepa Janardanan**, Assistant Professor, Central University of Kerala.

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**HETEROGENIZATION OF COBALT SCHIFFBASE COMPLEX:  
PREPARATION, CHARACTERIZATION AND ITS CATALYTIC  
APPLICATIONS ON BENZHYDROL OXIDATION**

*A Dissertation Submitted to*

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*In partial fulfilment of the requirements for the degree of*

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*by*

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**SYNTHESIS AND CHARACTERIZATION OF NEW ELECTRON DONOR-  
ACCEPTOR MOLECULES BASED ON BENZOPYRAN ELECTRON ACCEPTOR, AND  
ANTHRACENE AND CARBAZOLE ELECTRON-DONORS**

*Submitted to*

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**GREEN SYNTHESIS OF AU / PEG NANOCOMPOSITES FOR ESPR  
SENSING OF ASCORBIC ACID**

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**Computational Study on Free Radical Scavenging Activity of**

**Honokiol & Magnolol**

*Submitted to*

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*in partial fulfilment of the requirements for the degree of*

**Master of Science**

In

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By

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# Synthesis and Spectral characterization of 2-benzoyl pyridine Thiosemicarbazone Complexes

A DISSERTATION

*Submitted to*

CENTRAL UNIVERSITY OF KERALA

*In partial fulfillment of the requirements for the degree of*

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***Synthesis and photo-physical properties studies of DONOR- $\pi$ -ACCEPTOR based new fluorophore Dye***

*Submitted to*  
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May 2021



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*Head of the Department*

**CERTIFICATE**

This is to certify that the dissertation entitled "**SYNTHESIS AND PHOTO-PHYSICAL PROPERTIES STUDIES OF ELECTRON DONOR- $\pi$ -ACCEPTOR BASED ON NEW FLUOROPHORE DYE**" is an authentic work done by **Mr. LOHITHA H R (Regd. PCH051923)** submitted to the Central University of Kerala, in the partial fulfilment of the requirements for the degree of Master in Chemistry and it is based on the studies carried out under the supervision of **Dr. Ravi Kumar Kanaparthi**, Assistant Professor, Central University of Kerala.

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Date : 12<sup>th</sup> May 2021

Place : Periyar

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कसरगोड, केरल-671316 / Kasargod, Kerala-671 320

**Reactions of MACR Criegee Intermediate with Hydrogen  
Donor species– A Theoretical  
Investigation**

Submitted to

**CENTRAL UNIVERSITY OF KERALA**

In partial fulfilment of the requirements for the degree of

Master of Science

By

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**CHITOSAN, PVA, SILVER NANOCOMPOSITES FILMS FOR  
BIODEGRADABLE FOOD PACKING APPLICATIONS**

Submitted to

**CENTRAL UNIVERSITY OF KERALA**

in partial fulfillment of the requirements for the degree of

**M.Sc CHEMISTRY**

by

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**“RUTHENIUM ON  $\alpha$ -Ni(OH)<sub>2</sub> AS POTENTIAL CATALYST FOR  
OXIDATION OF CINNAMYL ALCOHOL”**

*A Dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

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*by*

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*Synthesis of organic electron donor acceptor based on  
carbazole and pyran and identifying its applicability in  
various fields*

Submitted to

**CENTRAL UNIVERSITY OF KERALA**

in partial fulfillment of the requirements for the degree of

**Master of Science**

**in**

**Chemistry**

By

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**CENTRAL UNIVERSITY OF KERALA**

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*This is to certify that the dissertation entitled “ **Synthesis of organic electron donor acceptor based on carbazole and pyran and identifying its applicability in various fields**” is an authentic record of the work done by **RAVIKUMAR K (PCH051929)** submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr. Ravi Kumar Kanaparthi**, Assistant Professor, Central University of Kerala.*

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**SYNTHESIS AND CHARACTERIZATION OF COPPER(I)  
AND MANGANESE(II) COMPLEXES OF  
2-BENZOYLPYRIDINE SEMICARBAZONE**

*A Dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

**M.Sc. CHEMISTRY**

*by*

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**SYNTHESIS AND CHARACTERIZATION OF NEW ELECTRON DONOR-  
ACCEPTOR MOLECULES BASED ON BENZOPYRAN ELECTRON-ACCEPTOR  
AND NAPHTHALENE AND TRIPHENYLAMINE ELECTRON-DONORS**

*Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

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***HYDRATION MECHANISM OF METHYL-  
ISOPROPENYL KETONE IN THE ATMOSPHERE- A  
THEORETICAL INVESTIGATION***

*A dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

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This is to certify that the dissertation entitled "**Hydration Mechanism of Methyl Isopropenyl Ketone in the Atmosphere- A Theoretical Investigation**" is an authentic record of the work done by **SARANYADAS.M**, (Reg.No.PCH-05-19-32) submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Dr. Deepa Janardanan**, Assistant Professor, Central University of Kerala.

  
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# **ANTIOXIDANT ACTIVITY OF CAFFEIC ACID: A THEORETICAL ELUCIDATION OF THE OXIDATIVE DEGRADATION MECHANISM**

*A dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

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*This is to certify that the dissertation entitled “Antioxidant Activity of Caffeic Acid: A Theoretical Elucidation of the Oxidative Degradation Mechanism ” is an authentic record of the work done by SMRITHI S BABU, (Reg.No.PCH-05-19-33) submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of Dr. Deepa Janardanan, Assistant Professor, Central University of Kerala.*

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**SYNTHESIS OF NEW SENSITIZER BASED ON INDOLE DONOR & NAPHTHALDEHYDE  
AND PYRAN ACCEPTOR FOR DYE SENSITIZER SOLAR CELLS**

*Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*in partial fulfillment of the requirements for the degree of*

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*in*

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*by*

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**May 2021**



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**Synthesis and spectral characterization of Fe(III), Cu(II)  
and Ni(II) complexes derived from 2-Benzoylpyridine-  
N<sup>4</sup>-methyl-3-thiosemicarbazone**

**A DISSERTATION**

*Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

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Ruthenium containing MCM-22 zeolites: Preparation,  
Characterisation and its Catalytic Applications

*A Dissertation Submitted to*

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*In partial fulfilment of the requirements for the degree of*

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This is to certify that the dissertation entitled "**Ruthenium containing MCM-22 zeolites: Preparation, Characterisation and its Catalytic Applications**" is an authentic record of the work done by **SURABHIDEVI S.** (Reg. No. PCHO51936) submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of **Prof. (Dr.) A. Sakthivel**, Head of the Department of Chemistry, Central University of Kerala.

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# **THEORETICAL EXPLORATION ON THE ANTIOXIDANT ACTIVITY OF HYDROXYCINNAMIC ACIDS**

*A dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

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## Certificate

*This is to certify that the dissertation entitled “Theoretical Elucidation on the Antioxidant Activity of Hydroxycinnamic acids” is an authentic record of the work done by SURYA N, (Reg.No.PCH-05-19-37) submitted to Central University of Kerala in partial fulfilment of the requirements for the Degree of Master of Science in Chemistry and is based on her studies carried out under the supervision of Dr. Deepa Janardanan, Assistant Professor, Central University of Kerala.*



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May 2021.

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**SYNTHESIS AND CHARACTERIZATION OF COPPER(I)  
AND MANGANESE(II) COMPLEXES OF  
2-BENZOYLPYRIDINE SEMICARBAZONE**

*A Dissertation Submitted to*

**CENTRAL UNIVERSITY OF KERALA**

*In partial fulfilment of the requirements for the degree of*

**M.Sc. CHEMISTRY**

*by*

**SWAPNA**

**PCH051938**

*Under the Guidance of*

**Prof (Dr) M. PRATHAPACHANDRA KURUP**



**DC DEPARTMENT OF CHEMISTRY**

**School of Physical Sciences  
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**May 2021**



## Central University of Kerala

(Established by the Parliament of India under the Central Universities Act, 2009)

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