

**DEVELOPMENT OF PHOTOCATALYTICALLY ACTIVE RARE
EARTH DOPED COATING THROUGH HYDROTHERMAL METHOD**

PROJECT DISSERTATION

submitted to the

UNIVERSITY OF KERALA



In partial fulfilment for the award of the degree of

MASTER OF SCIENCE

IN

CHEMISTRY

Submitted By

ADITHYA J

CANDIDATE CODE : 63522142001

EXAM CODE : 63520403

COURSE CODE : CH 243



DEPARTMENT OF CHEMISTRY

TKM COLLEGE OF ARTS AND SCIENCE, KOLLAM

2022-2024

TIN (IV) OXIDE- GRAPHENE HYBRIDS FOR ENVIRONMENTAL APPLICATIONS

Dissertation submitted to the
UNIVERSITY OF KERALA
Thiruvananthapuram



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DEPARTMENT OF CHEMISTRY
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2022 – 2024

**SELECTIVE FLUORESCENCE TURN ON SENSING
OF MERCURY IONS USING 1-HYDROXY-3,6,7-
TRIMETHOXY-2,8-DIPRENYLXANTHONE**

Dissertation submitted to the
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IN

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DEPARTMENT OF CHEMISTRY
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AUGUST 2024

REDUCED GRAPHENE OXIDE-ZINC OXIDE HYBRIDS FOR PHOTOCATALYTIC APPLICATIONS

Dissertation submitted to the
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DEPARTMENT OF CHEMISTRY
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SYNTHESIS AND CHARACTERISATION OF REDUCED GRAPHENE OXIDE- TITANIUM DIOXIDE HYBRIDS FOR VARIOUS APPLICATIONS

Dissertation submitted to the
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In the partial fulfilment of the Award of Degree of
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**DEPARTMENT OF CHEMISTRY
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2022 – 2024

**CONSTRUCTION OF STEREOGENIC
TETRACOORDINATE BORON COMPOUNDS FROM
NATURALLY OCCURRING α - MANGOSTIN AND
 α -HYDROXY ACIDS**

Dissertation submitted to the
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DEPARTMENT OF CHEMISTRY

TKM ARTS & SCIENCE COLLEGE, KOLLAM

2022-2024

The dye extracts from the vegetable wastes being utilized for the preparation of DSSC

Dissertation submitted to University of Kerala in partial fulfillment

for the award of the degree of

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SEPTEMBER, 2024

SYNTHESIS OF CERIUM DIOXIDE NANOPARTICLES
(CeO₂ NPs) AND THEIR EFFECTS ON BIOPHYSICAL
PARAMETERS, ANTIOXIDANTS AND NUTRITIONAL
QUALITY OF COWPEA (*Vigna unguiculata*) LEAVES

Dissertation submitted to
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IN

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COURSE CODE:635



DEPARTMENT OF CHEMISTRY

TKM ARTS & SCIENCE COLLEGE, KOLLAM

2022-2024

**Synthesis, Characterization and Conductivity studies on dye
extracts from the natural source**

Dissertation submitted to University of Kerala in partial fulfillment
for the award of the degree of

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**PREPARATION OF DYE EXTRACTS FROM FLOWERS FOR THE
MAKING OF DSSC**

Dissertation submitted to University of Kerala in partial fulfillment
for the award of the degree of

MASTER OF SCIENCE IN CHEMISTRY

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COURSE CODE : CH243



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**Synthesis and Characterization of Acyl Carrier Protein (ACP)
Decamer Peptide Fragment on Neopentyl Glycol Dimethacrylate
Cross-Linked Polystyrene Polymer Support**

*Dissertation submitted to University of Kerala in partial fulfillment of the
requirement for award of the degree of*

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AUGUST 2024

SYNTHESIS OF UNIDENTICAL TETRACOORDINATED BORON COMPOUNDS FROM NATURALLY OCCURRING α -MANGOSTIN AND SALICYLIC ACID

DISSERTATION

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DEPARTMENT OF CHEMISTRY

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Synthesis, Characterization and Evaluation of a Novel Polystyrene Polymer Matrix for Solid Phase Organic Synthesis

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Degree of

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August , 2024

**SERENDIPITOUS FORMATION OF 3-ISOMANGOSTIN
FROM α -MANGOSTIN IN THE PRESENCE OF BORIC ACID
AND OXALIC ACID : MECHANISTIC INSIGHTS AND
SYNTHETIC OPTIMIZATION**

Dissertation submitted to the
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DEPARTMENT OF CHEMISTRY

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2022-2024

**A COMPREHENSIVE STUDY ON SYNTHESIS,
CHARACTERIZATION AND PHOTOPHYSICAL
PROPERTIES OF 3,6- DI-O-ACETYL- α -
MANGOSTIN**

Dissertation submitted to the
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