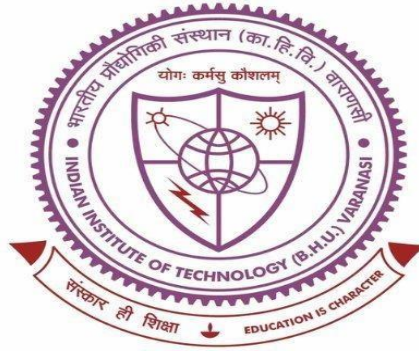


**STUDIES ON CHARACTERIZATION OF DARUHARIDRA
(BERBERIS ARISTATA) AND ITS THERAPEUTIC POTENTIAL**



**Thesis submitted in partial fulfilment for the
Award of Degree**

DOCTOR OF PHILOSOPHY

By

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March, 2024

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“The Heaviest Debt is that of gratitude, when it is not in our power to repay it”

Benjamin Franklin

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Aditi Bhatnagar

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Abbreviations

BSA	Bovine Serum Albumin
DEE	Daruharidra Ethanolic Extract
LCMS	Liquid Chromatography Mass Spectrometry
GCMS	Gas Chromatography Mass Spectrometry
NMR	Nuclear Magnetic Resonance
FTIR	Fourier Transform Infrared Spectroscopy
HRLCMS	High Resolution Liquid Chromatography Mass Spectrometry
DH- CdS NPs	Daruharidra-Cadmium Sulfide Nanoparticles
DM	Diabetes Mellitus
ROS	Reactive Oxygen Species
ESI	Electron Spray Ionization
FRAP	Ferric Reducing Ability Of Plasma
DPPH	2,2-Diphenyl-1-Picrylhydrazyl
SEM	Scanning Electron Microscopy
TEM	Transmission Electron Microscopy
CHNS	Carbon-Hydrogen-Nitrogen- Sulfur
SAXS	Small Angle X-Ray Scattering
HPLC	High Performance Liquid Chromatography
DNS	3,5-Dinitro-Salicylic Acid
PDB	Protein Data Bank
RCSB	Research Collaboratory For Structural Bioinformatics

pNPG	P- Nitrophenyl Alpha-D-Glucoside
MTT	3-[4,5-Dimethylthiazol-2-Yl]-2,5 Diphenyl Tetrazolium Bromide
NCCS	National Centre for Cell Science
FBS	Foetal Bovine Serum
DMEM	Dulbecco's Modified Eagle Medium
PI	Propidium Iodide
OD	Optical Density
CM	Centimetre
MM	Milimetre
NSAIDS	Non Steroidal Anti-Inflammatory Drugs
GI	Gastro-Intestinal
LPS	Lipo Polysaccharide
DNA	Dinitro-Salicylic Acid
SOD	Superoxide Dismutase
MDR	Multidrug Resistant
NO	Nitric Oxide
AMPK	Amp-Activated Protein Kinase
MAPK	Mitogen-Activated Protein Kinases
GSH	Glutathione
GLP	Glucagon-Like Peptide
HMG COA	B-Hydroxy B-Methylglutaryl-Coa
TPC	Total Phenolic Content
TFC	Total Flavonoid Content
TAC	Total Alkaloid Content

RHMD	Raw Materials Herbarium And Museum
EDTA	Ethylenediaminetetraacetic Acid
TCD	Thermal Conductivity Detector
mcg	Microgram
g	Gram
mg	Miligram
m/z	Mass To Charge Ration
MD	Molecular Dynamics
WHO	World Health Organization
mL	Millilitre
μ L	Microlitre
Km	Michelis Menton Constant
Vm	Maximum Reaction Velocity
mM	Mili Molar
FACS	Fluorescence Activated Cell Sorting
FDA	Food And Drug Association