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List of Abbreviations

T_1	Tap water (Control)
T_2	Untreated dye solution
T_3	Treated dye solution
bp	Base pair
S	Svedberg
rRNA	Ribosomal Ribonucleic acid
DNA	Deoxyribonucleic acid
PCR	Polymerase Chain Reaction
NCBI	National Center for Biotechnology Information
C. I. No	Colour index number
CAS. No	Chemical Abstracts Service Number
mg/L	Milligram per litre
A_i	Initial absorbance
A_t	Absorbance at incubation time
%	Percentage
q	Amount of dye biosorbed in mg/amount of the biosorbent in g
mg/g	Milligram per gram
C_o	Initial concentration of the dye
C_e	Equilibrium concentration of the dye
V	Volume of the dye solution
M	Mass of the biosorbent
L	Litre
cm	Centimeter
g	Gram
NaOH	Sodium hydroxide
HCl	Hydrochloric acid
HNO_3	Nitric acid
BBD	Box-Behnken Design

DOE	Design Of Experiment
RSM	Response Surface Methodology
Y	Predicted response
$ß_0$, $ß_i$, and $ß_{ij}$	Constant regression coefficients
X_i and X_j	Independent variables
3D	Three Dimensional
R^2	Correlation coefficient
ANOVA	Analysis of variance
N	Normality
ΔG^o	Gibbs free-energy
ΔH^o	Standard enthalpy
ΔS^o	Standard entropy
KBr	Potassium bromide
nm	Nano meter
kV	Kilovolt
λ	Lambda
Å	Armstrong
mA	Million amperes
CuKα	Copper K - alpha
θ	Theta
UV-Vis	UV-Visible
FT-IR	Fourier - Transform Infrared
SEM	Scanning Electron Microscopy
EDX	Energy-Dispersive X-ray
XRD	X-Ray Diffractometry
$HgCl_2$	Mercuric chloride
PI	Phytotoxicity index
R_{LT}	Root length in the untreated and treated dye solutions
R_{LC}	Root length in the control
mmhos/cm	Millimhos per centimeter

kg/ha	Kilogram per hectare
mg/kg	Milligram per kilogram
min	Minutes
ml	Millilitre
M	Molarity
h	Hour
rpm	Rotations per minute
µm	micrometre
°C	Degree celsius
EC	Electrical conductivity
mm	Millimeters
RBC	Red Blood Corpuscles
PCV	Packed Cell Volume
Hb	Haemoglobin
WBC	White Blood Corpuscles
MCV	Mean Corpuscular Volume
fl	Femtoliters
MCH	Mean Corpuscular Hemoglobin
pg	Picograms
MCHC	Mean Corpuscular Haemoglobin Concentration
g/dl	Grams Per Decilitre
mg/ml	Milligram per Milliliter
µg/ml	Microgram per Milliliter
AST	Aspartate Aminotransferase
ALT	Alanine Aminotransferase
IU/L	International Units Per Litre
2n	Diploid
MD	Mitotic depression
MI	Mitotic index
g/L	Gram per litre

GSM	Grams per Square meter
SP	Standard Precision mode
ITS	Internal Transcribed Spacer
P	Probability
CV	Coefficient of variation
q_e	Amount of biosorbed dye at equilibrium
q_{max}	Maximum biosorption capacity at equilibrium
C_e	dye concentration at equilibrium
K_L	Langmuir constant
R_L	Separation factor
K_F	Freundlich constant
k_1	Pseudo first order rate constant
n	Biosorption intensity
q_t	Amount of dye adsorbed at time
k_2	Pseudo second order kinetic constant
K	Kelvin
R	Universal gas constant
T	Temperature
K_D	Adsorbate distribution coefficient
vs	Versus
t	Time
$kJmol^{-1}$	Kilojoules per mole
-OH	Hydroxyl
-NH	Amine
-N=N-	Azo groups
C	Carbon
O	Oxygen
Mg^{2+}	Magnesium
Si	Silicon
Cl^-	Chloride
Ca^{2+}	Calcium

K^+	Potassium
SED	Standard Error of Difference
CD	Critical Difference
TCA	Tricarboxylic acid
NI	No inhibition zone
BIS	Bureau of Indian Standards
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
TS	Total Solids
BOD	Biological Oxygen Demand
COD	Chemical Oxygen Demand
2D	Two Dimensional
SER	Serine
ARG	Arginine
H	Hydrogen
VDW	Van Der Waals
E	Extra Precision Glide
T_1	Tap water (Control)
T_2	Untreated dye solution