DECLARATION

I, Heisanam Pushparani Devi, hereby declare that the thesis entitled "Antimutagenic and antigenotoxic activity of *Curcuma caesia* Roxb. against Cyclophosphamide" submitted to Assam University, Silchar for the degree of Doctor of Philosophy (Ph.D) has been done by me under the supervision of Professor Pranab Behari Mazumder, Department of Biotechnology, Assam University, Silchar and not submitted elsewhere for the award of any other degree.

Date: Heisanam Pushparani Devi

Place:

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Heisanam Pushparani Devi

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LIST OF ABBREBIATIONS

µg	Microgram
µl	Micolitre
µM	Micromole
nM	Nanomole
mM	Millimolar
mL	Mililitre
^{0}C	Degree Celsius
hr	Hour
g	Gram
kg	Kilogram
b.wt	Body weight
M	Molar
rpm	Revolution per minute
ABTS	2, 2'-Azinobis (3-Ethylbenzthiazoline-6-Sulfonate)
AECC	Aqueous Extract of *Curcuma caesia* Roxb.
AUS	Assam University Silchar
BHA	Butylated Hydroxyanisole
BHT	Butylated Hydorxytoluene
BSA	Bovine Serum Albumin
C.*caesia* Roxb.	*Curcuma caesia* Roxb.
CFU	Colony Forming Unit
Conc.HCl	Concentrated Hydrochloric acid
Conc.H_2SO_4	Concentrated Sulphuric acid
CP	Cyclophosphamide
CuII Sulphte Pentahydrate	Copper(II) Sulphate Pentahydrate

Dil.HCl	Dilute Hydrochloric acid
DMSO	Dimethyl Sulphoxide
DPPH	(2, 2-Diphenyl-1-picryl hydrazyl)
DTNB	5, 5'-Dithiobis-(2-Nitrobenzoic Acid)
EaECC	Ethyl Acetate Extract of *Curcuma caesia* Roxb.
EDTA	Ethylene Diamine Tetra Acetic acid
EECC	Ethanolic Extract of *Curcuma caesia* Roxb
FBS	Fetal Bovine Serum
FDA	Food and Drug Administration
$FeCl_3$	Ferric Chloride
GAE	Gallic Acid Equivalent
GR	Glutathione Reductase
GSSG	Oxidized Glutathione
GSH	Reduced Glutathione
IARC	International Agency for Research Centre
IMTECH	Institute of Microbial Technology
IEC	International Ethics Committee
KCl	Potassium Chloride
KOH	Potassium Hydroxide
$MgCl_2$	Magnesium Chloride
MDA	Malondialdehyde
MECC	Methanolic Extract of *Curcuma caesia* Roxb.
MTT bromide]	[3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyl tetrazolium
NADH	Nicotinamide Adenine Dinucleotide Hydrogen
NADPH	Nicotinamide Adenine Dinucleotide Phosphate Hydrogen
NADP	Nicotinamide Adenine Dinucleotide Phosphate

$NaHCO_3$	Sodium Bicarbonate
NaOH	Sodium Hydroxide
NaN_3	Sodium Azide
NBT	Nitroblue Tetrazolium
OECD	Organisation for Economic Co-operation and Development
PBS	Phosphate Buffer Saline
PMS	Phenazine Methosulphate
ROS	Reactive Oxygen Species
RNS	Reactive Nitrogen Species
SGOT	Serum Glutamic Oxaloacetic Transaminase
SGPT	Serum Glutamic Pyruvic Transaminase
TBA	Thiobarbituric Acid
TBARS	Thiobarbituric Acid Reactive Substance
TCA	Trichloroacetic Acid
US	United Staes
W HO	World Health Organisation