DECLARATION

I hereby declare that the thesis entitled "***In vitro* and *in silico* study on anti-inflammatory properties of 'Norabogori' (*Prunus persica*) from Assam and its application in food model"**, submitted to the School of Engineering, Tezpur University in partial fulfillment for the award of the degree of Doctor of Philosophy in Food Engineering and Technology, is a record of a bonafide research work accomplished by me under the supervision of Professor Sankar Chandra Deka and co-supervision of Dr. Anupam Nath Jha. Any texts, figures, theories, results or designs that are not of my own devising are appropriately referenced in order to give due credit to the original author(s). All the sources of assistance have been assigned due acknowledgement. I also declare that neither this work as a whole nor a part of it has been submitted to any other universities or institute for any degree, diploma, associateship, fellowship or any other similar title or recognition.

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All the help received by her from various sources has been duly acknowledged. No part of this thesis has been submitted elsewhere for the award of any other degree.

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All the help received by her from various sources has been duly acknowledged. No part of this thesis has been submitted elsewhere for the award of any other degree.

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List of abbreviation

3D	Three dimensional
a*	Redness
ABTS	2,2'-azino-bis 3-ethylbenzothiazoline-6-sulphonic acid
Al	Aluminum
ALP	Alkaline Phosphatase
ALPT	Alanine Aminotransferase
ANOVA	Analysis of variance
AOAC	Association of Official Analytical Chemists
AST	Aspartate Aminotransferase
ATCC	American type culture
Av	Average
b*	Yellowness
BDL	Below Detectable Limit
BHA	Butylated Hydroxyanisole
BLAST	Basic Local Alignment Search Tool
Ca+	Cationic calcium
CCD	Central composite design
cm	Centimeter
CV	Coefficient of variation
Df	Degrees of freedom
DMSO	Dimethyl sulfoxide
DPPH	2,2-diphenyl-1-picrylhydrazyl
EDTA	Ethylenediamine tetraacetic acid
EE	Encapsulation efficiency
FBS	Foetal Bovine Serum
FCR	Folin-ciocalteu Reagent
g	Gram
GA	Genetic algorithm
GAE	Gallic acid equivalent
GC-MS	Gas Chromatography-Mass Spectrometry
GI	Gastrointestinal
h	Hour
H	Hydrogen atom
H_2SO_4	Sulfuric acid
Hb	Haemoglobin
HCl	Hydrochloric acid
HPLC	High Performance Liquid Chromatography

IC50	Half maximal inhibitory
IR	Infrared
L*	Lightness
LPS	Lipopolysaccharide
M	Molarity
m/z	Mass by charge
MAE	Microwave assisted extraction
mg	Milligram
mm	Millimeter
MRS	De Man, Rogosa and Sharpe
MTCC	Microbial Type Culture Collection
MTT	3-(4, 5-dimethylthiazolyl-2)-2, 5-diphenyltetrazolium
MW-US	Microwave and Ultrasound
N	Normality
ND	Not detected
nm	Nanometer
NMR	Nuclear magnetic resonance
NO	Nitric Oxide
p	p-value
PCA	Product component analysis
PCR	Polymerase Chain Reaction
ppm	Parts per million
R_2	Correlation coefficient
RBC	Red Blood Cells
RMSD	Root Mean Square Deviation
RMSE	Root mean square liquid
ROS	Responsive Oxygen Species
RP	Reducing Power
RP-HPLC	Reverse Phase High Performance Liquid Chromatography
rpm	Rotations per minute
RSM	Response surface methodology
RT	Retention time
s	Second
SD	Standard deviation
SEM	Scanning electron microscopy
SGF	Simulated gastric fluid
SIF	Simulated intestinal fluid
t	Time
TFC	Total flavonoid content

TPC	Total phenolic content
UAE	Ultrasound assisted extraction
UHPLC	Ultra-High-Performance Liquid Chromatography
USA	United State of America
UV	Ultra-Violate
UV-VIS	Ultraviolet-visible
W	Watt
w/v	Weight by volume
w/w	Weight by weight
XRD	X-ray diffraction value
α	Alpha
µg	Microgram
µm	Micrometer