Ain Shams University
Faculty of Science
Biochemistry Department

Biochemical studies on palm date seeds (*Phoenix dactylifera L.*) in a diabetic rat model

A Thesis

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Declaration

I declare that this thesis has been composed and the work recorded here in has been done by myself.

It has not been submitted for any other degree at this or any other university.

Sara Baraka

DEDICATION

First and foremost, I have to thank my loving parents for their endless love, support and encouragement. I am honored to have you as my parents. I would like to dedicate my sisters and my brothers for their unconditional support to complete this work.

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Contents

LIST OF ABBREVIATIONS

AAS	Atomic Absorption Spectrophotometer
A_{blank}	Absorbance of blank
ADP	Adenosine diphosphate
AGEs	Advanced glycation end products
Al	Alcohol
AP	Aerial Parts
Aq	Aqueous
A_{sample}	Absorbance of sample
$A_{standard}$	Absorbance of standard
ATP	Adenosine triphosphate
B	Bark
b.w.	Body weight
C	Corm
Chlf	Chloroform
CoA-SH	Coenzyme A reduced form
CoA-S-S-G	Coenzyme A Glutathione Disulfide
CV	Central vein
DCM	Dichloromethane
DM	Diabetes mellitus
E	Ethanol
ELISA	Enzyme-linked immune-sorbent assay
Ethl.ac	Ethyl acetate
ev	Electron volt
FAME	Fatty acid methyl esters
Fl	Flower
Fr	Fruit
G	Grain
GC/MS	Gas Chromatography - Mass Spectrum
GLZ	Gliclazide
GSH	Reduced Glutathione
H	Hexane
H_2O_2	Hydrogen peroxide
HbA1c	Hemoglobin A1c
HC	Hepatocytes

HPLC	High performance liquid chromatography
HS	Hepatic sinusoids
L	Leaf
M	Methanol
MDA	Malondialdehyde
N	Nuts
NADPH	Nicotinamide Adenine Nucleotide Phosphate (reduced form)
NF-κB	Nuclear factor-kappa B
NO	Nitric oxide
NS	Non-significant
P	Peel
P. dactylifera	Phoenix dactylifera
PDHE	Hayany cultivar seed extract
PDSE	Sammany cultivar seed extract
PE	Petroleum Ether
R	Root
Rh	Rhizome
ROS	Reactive Oxygen Species
S	Seed
SD	Standard deviation
Se	Sepal
SE	Standard error
St	Stem
STZ	Streptozotocin
TAC	Total Antioxidant Capacity
TC	Total cholesterol
TDZs	Thiazolidinediones
TG	Triglycerides
TN	Total nitrogen
WP	Whole plant

LIST OF FIGURES