ChemoprotectiveEffects of Natural Product(s) in Prostate Hyperplasia

A Thesis Submitted in Partial Fulfillment for the Requirements of the Master degree in Pharmaceutical Sciences

(Pharmacology and Toxicology)

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بسم الله الرحمن الرحيم

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Pre-Requisite Post-Graduate Courses

Besides the work presented in this thesis, the candidate has attended the following courses:

- 1. Pharmacology
- 2. Clinical pharmacology and therapeutics
- 3. Toxicology
- 4. Selected topics
- 5. Computer sciences
- 6. General and physical chemistry
- 7. Biostatistics
- 8- Instrumental analysis

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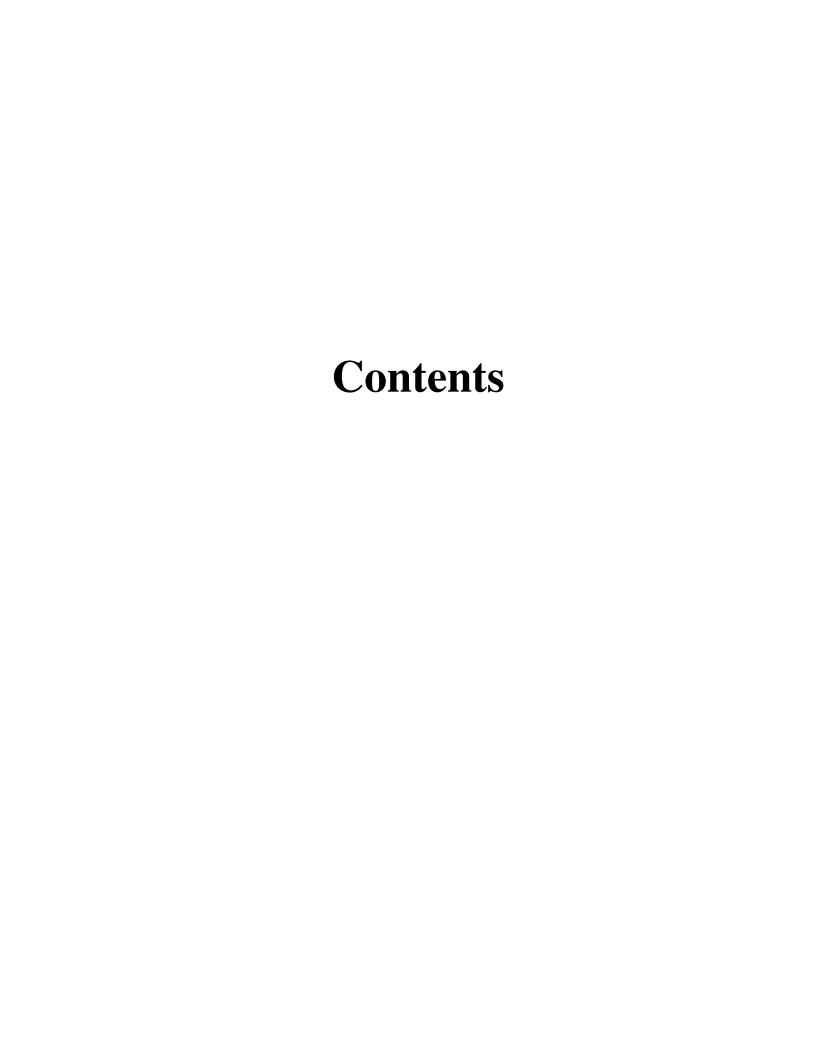
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LIST OF ABBREVIATIONS

AA Arachidonic Acid AAP 4-aminophenazone

AIDS Acquired immunodeficiency syndrome

AKT Protein kinase B

BPH Benign prostatic hyperplasia

BSA Bovine serum albumin

CAT Catalase

COX-II Cyclooxygnase 2 enzyme

DHT DihydrotesosteoneDNA Deoxyribonucleic acid

E1 Estrone
E2 Estradiol
E3 Estriol
EA Ellagic acid

ER+
 ERα
 Estrogen receptor positive
 ERβ
 Estrogen receptor alpha
 Estrogen receptor Beta
 Reduced glutathione
 GSSG
 Glutathione disulfide

HAEC Human aorta endothelial cells

HRP Horseradish peroxidase

IBD Inflammatory bowel diseases

IL-6 Interleukin 6 IL-8 Interleukin 8

iNOS Inducible NO synthase

IPSS The mean International Prostate Symptom score

LD₅₀ The lethal dose 50
 MDA Malondialdehyde
 MMP Matrix metalloprotein
 NBT Nitrobluetetrazolium
 NF-κB Nuclear factor κB

NO Nitric oxide

NSAIDs Non-steroidal anti-inflammatory drugs

PAP Prostatic acid phosphatase

PCa Prostate cancer
PE Pomegranate extract
PFE Pomegranate fruit extract

PGI₂ Prostacyclin

PGJ Purple grape juice
PJ Pomegranate juice

PMS Phenazinemethosulphate
PSA Prostate specific antigen
PSO Pomegranate seed oil
RNA Ribonucleic acid
S.C Subcutaneously

SODSuperoxide dismutaseTBAThiobarbituric acidTBSTris buffered salineTCATrichloroacetic acid

TNF-α Tumor necrosis factor alpha

TPA 12-O-tetradecanoylphorbol-13- acetate

TPT Total pomegranate tannin extract

TURP Transurethral resections of the prostate

WPFE Whole pomegranate fruit extract

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