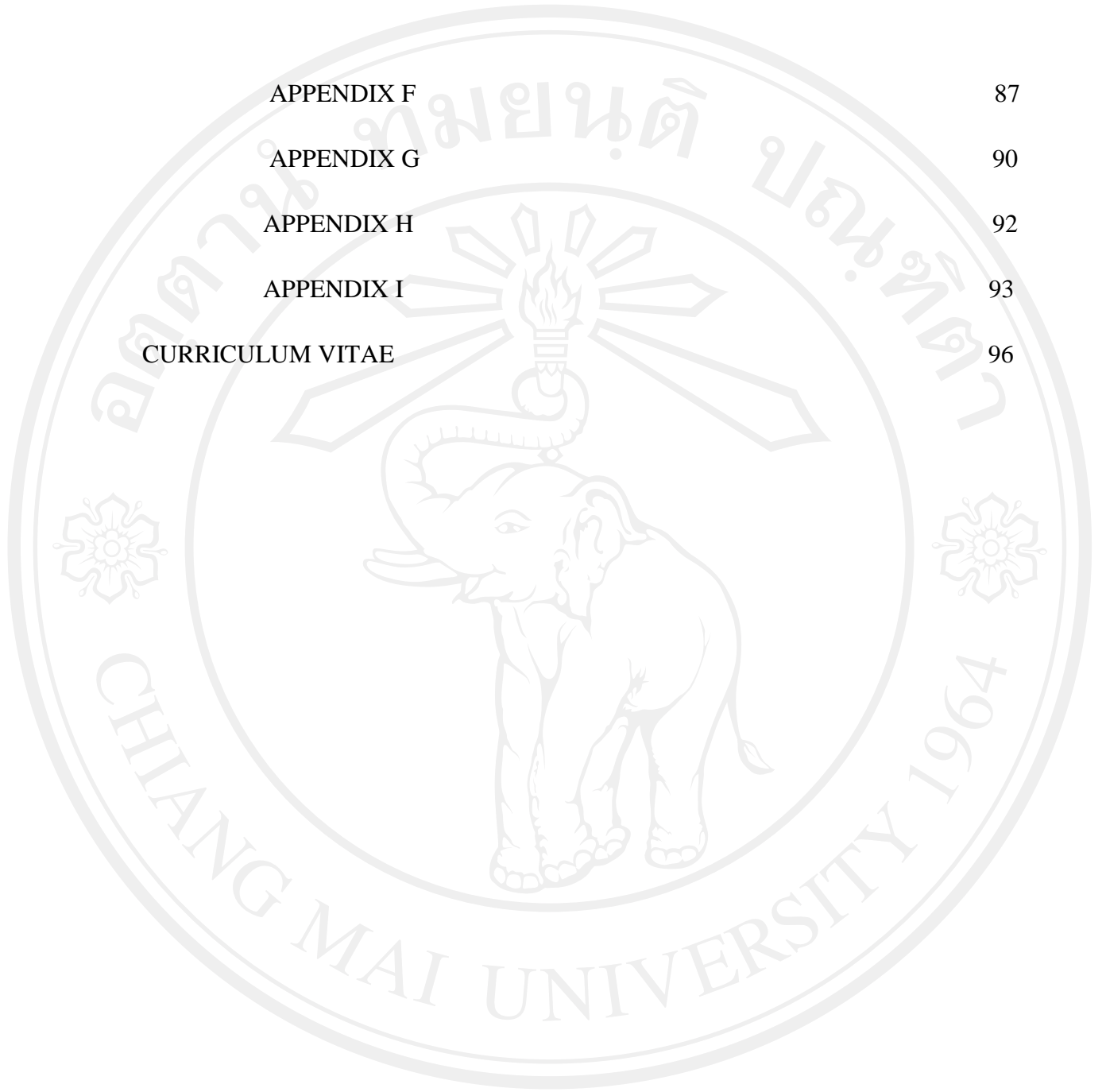


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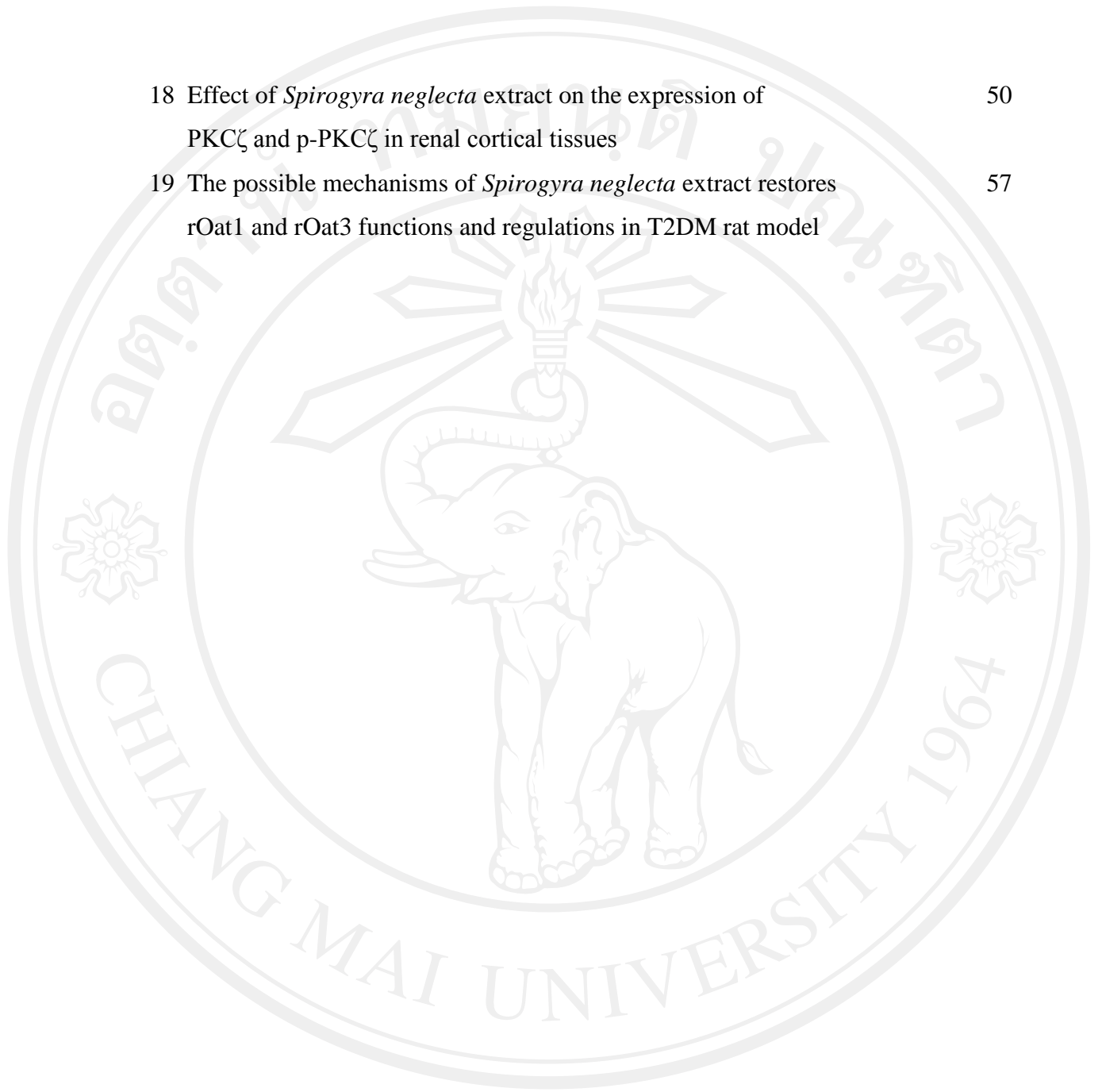
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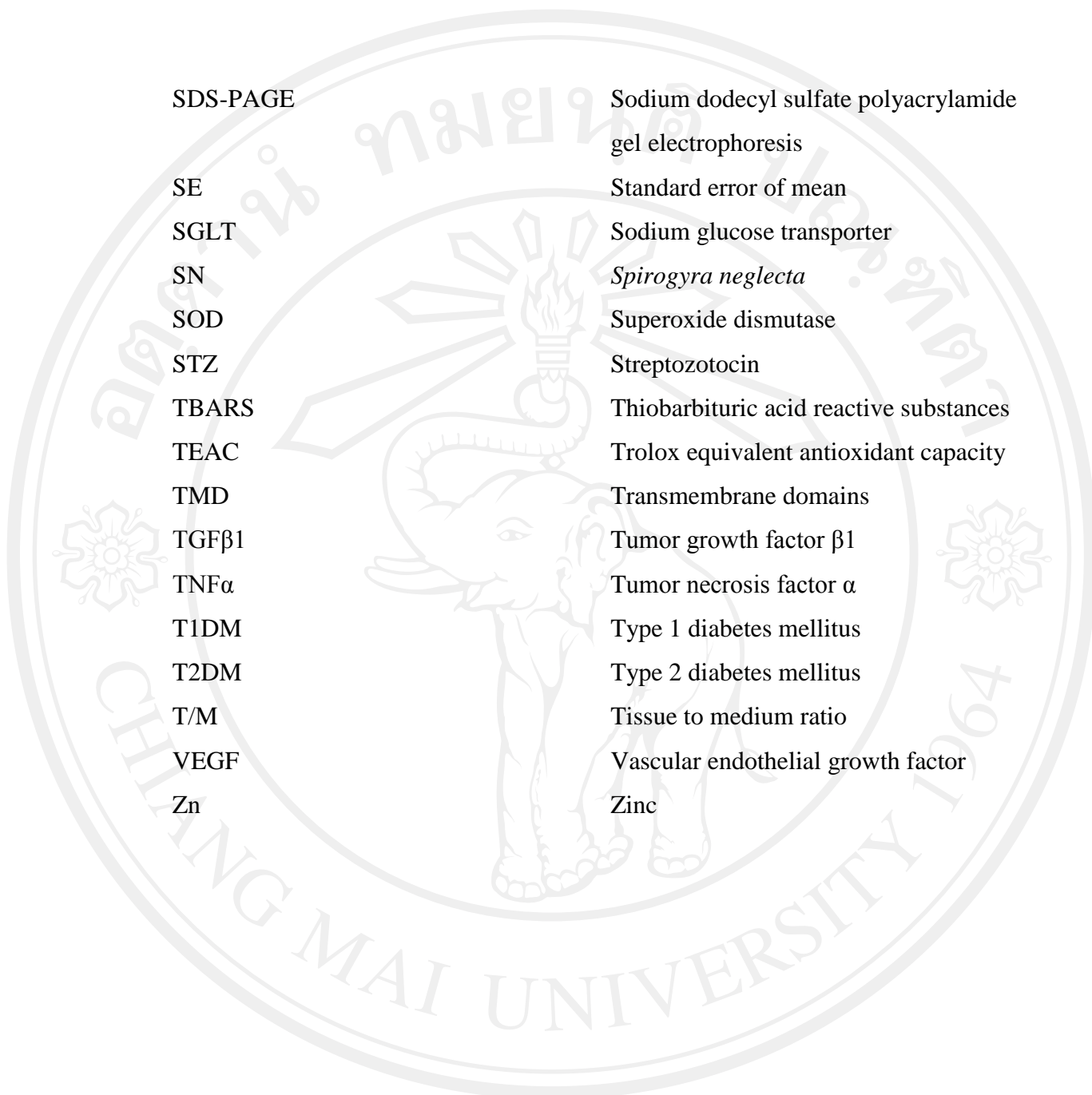
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ABBREVIATIONS AND SYMBOLS

%	Percentage
%E	Total energy in the diet
°C	Degree Celsius
α-KG	Alpha ketone glutarate
μM	Micromolar
μl	Microlitter
ANOVA	Analysis of variance
AGE	Advanced glycation end-products
BW	Body weight
cAMP	Cyclic adenosine monophosphate
Cd	Cadmium
cGMP	Cyclic guanosine monophosphate
COX1	Cyclooxygenase I
Cu	Copper
Cu-Zn SOD	Copper-Zinc superoxide dismutase
DAG	Diacylglycerol
DM	Diabetes mellitus
DMC	Diabetic control
DM+SN1000	Diabetic supplemented with SN at the dose of 1000 mg/kg BW
DM+vit C	Diabetic supplemented with vitamin C at the dose of 200 mg/kg BW
DNA	Deoxyribonucleic acid
DPM	Disintegrations per minute
EDTA	Ethylene dinitro tetra acetic acid
EGF	Epidermal growth factor
EPP	Ethyl phenylpropionate
ERK1/2	Extracellular signal regulated kinase

ES	Estrone sulfate
ESRD	End stage renal disease
ESRF	End stage renal failure
FBG	Fasting blood glucose
g	Gram
GAE	Gallic acid equivalent unit
GPx	Glutathione peroxidase
HCl	Hydrochloric
HDL	High density lipoprotein
HFD	High fat diet
HOMA-IR	Homeostasis model assessment of insulin resistance
IDV	Integrated density value
JNK/SAPK	NH ₂ -terminal Jun kinases/stress-activated protein kinases
kcal/g	Kilocalories per gram
kDa	Kilodalton
kg	Kilogram
LDL	Low density lipoprotein
Mn	Manganese
MAPK	Mitogen-activated protein kinase
MATE1	Multidrug and toxin extrusion 1
MDA	Malondialdehyde
MDA-TBARS	Thiobarbiturate-malondialdehyde
mRNA	Messenger ribonucleic acid
mg	Milligram
mg/dl	Milligram per deciliter
mg/kg BW	Milligram per kilogram body weight
ml	Milliliter
mmol/l	Millimol per liter
NaF	Sodium fluoride

NaOH	Sodium hydroxide
Na ⁺ -K ⁺ -ATPase	Sodium potassium ATPase
NC	Normal control
NC+SN1000	Normal with SN supplement at the dose of 1000 mg/kg BW
NF-κB	Nuclear factor kappa B
nmol/ml	Nanomol per milliliter
NOS	Nitric oxide synthase
NSAIDs	Non-steroidal anti-inflammatory drugs
NTU	Nephelometric turbidity units
Oat1	Organic anion transporter 1
Oat3	Organic anion transporter 3
OCT	Organic cation transporter
(O ₂ ^{•-})	Superoxide anion
(OH [•])	Hydroxyl radical
PAH	<i>Para</i> -amino hippurate
PCR	Polymerase chain reaction
PI3K	Phospho-inositide-3-kinase
PGE2	Prostaglandin E2
PKC-α	Protein kinase C-α
PKC-β	Protein kinase C-β
PKC-γ	Protein kinase C-γ
PKC-λ	Protein kinase C-λ
PKC-ζ	Protein kinase C-ζ
PLA2	Phospholipase A2
PMA	Phorbol ester
p38	P38 mitogen-activated protein kinases
PKA	Protein kinase A
ROS	Reactive oxygen species
RT-PCR	Reverse transcription polymerase chain reaction



SDS-PAGE	Sodium dodecyl sulfate polyacrylamide gel electrophoresis
SE	Standard error of mean
SGLT	Sodium glucose transporter
SN	<i>Spirogyra neglecta</i>
SOD	Superoxide dismutase
STZ	Streptozotocin
TBARS	Thiobarbituric acid reactive substances
TEAC	Trolox equivalent antioxidant capacity
TMD	Transmembrane domains
TGF β 1	Tumor growth factor β 1
TNF α	Tumor necrosis factor α
T1DM	Type 1 diabetes mellitus
T2DM	Type 2 diabetes mellitus
T/M	Tissue to medium ratio
VEGF	Vascular endothelial growth factor
Zn	Zinc

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