



Ain Shams University
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“Optimizing the nutraceutical formulations of chondroitin sulphate and glucosamine sulphate using certain pharmaceutical technologies”

A Thesis Submitted By

Ahmed Mohamed Mohamed Agiba

R&D Department, SIGMA Pharmaceutical Industries, Egypt

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Under The Supervision Of

Dr. Ahmed Shawky Geneidi

*Professor of Pharmaceutics and Industrial Pharmacy
Faculty of Pharmacy, Ain Shams University*

Dr. Maha Nasr Sayed

*Associate Professor of Pharmaceutics and Industrial Pharmacy
Faculty of Pharmacy, Ain Shams University*

Dr. Sameh Mohamed Abdelhamid

*Lecturer of Pharmaceutics and Industrial Pharmacy
Faculty of Pharmacy, Ain Shams University*

This thesis is dedicated to
The spirit of my lovely father
My lovely compassionate mother
My lovely brother and sister

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1L-1	Interleukin-1
APIs	Active pharmaceutical ingredients
COA	Certificate of analysis
COX-2	Cyclooxygenase-2
CPC	Cetylpyridinium chloride
CS	Chondroitin sulphate
DJD	Degenerative joint disease
DSC	Differential scanning calorimetry
ECGC	Epigallocatechin-3-Gallate
EE%	Entrapment efficiency percent
FAV	Fatty acid vesicles
FDA	US Food and Drug Administration
FDTs	Fast dissolving tablets
FTIR	Fourier transmission infrared
GAGs	Glucosaminoglycans
GIT	Gastrointestinal tract
GluS	Glucosamine sulphate
LOD	Limit of detection
LOQ	Limit of quantification
LUVs	Large unilamellar vesicles
MCP-1	Monocyte chemoattractant protein-1
MLVs	Multilamellar large vesicles
NO	Nitric oxide
NSAIDs	Non-steroidal anti-inflammatory drugs
OA	Osteoarthritis
ODTs	Oral disintegrating tablets
PDI	Polydispersity index
PGE₂	1L-1 β -induced prostaglandin E ₂

PS	Particle size
SEDDs	Self-emulsifying drug delivery systems
SEM	Scanning electron microscope
SSNEs	Solid self-nanoemulsifying systems
SUVs	Small unilamellar vesicles
TEM	Transmission electron microscope
TNFα	Tumor necrosis factor
WHO	World Health Organization
β-CD	Beta-cyclodextrin

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