Controlled Delivery of Ondansetron from Lipid Carriers

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Dedication

I dedicate this thesis to my soul mates, my beloved daughters, Marium & Salma.

بسم الله الرحمن الرحيم

"وأنزل الله عليك الكتاب والحكمة وعلمك مالم تكن تعلم وكان فضل الله عليك عظيما"

صدق الله العظيم
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List of Abbreviations

$5HT_3$	5-hydroxytryptamine
2FI	2 factor interaction
AFM	Atomic force microscopy
ANOVA	Analysis of variance
AUC	Area under the curve
AUMC	Area under the moment curve
CPP	Critical packing parameter
D	Dextran
DGMO	Diglycerolmonooleate
DLS	Dynamic light scattering
DPPC	Dipalmitoylphosphatidylcholine
DPPG	Dipalmitoylphosphatidylglycerol
DSC	Differential scanning calorimetry
EE%	Entrapment efficiency %
F	Freez-dried
GML	Glycerylmonolinoleate
GMO	Glycerylmonooleate
HLB	Hydrophilic-lipophilic balance
HR-TEM	High resolution transmission electron microscope
IM	Intramuscular
IPMs	Infinite periodic minimal surfaces
IS	Internal standard
IV	Intravenous
L	Leucine
LC-MS	Liquid chromatography-mass spectroscopy
LD	Leucine/Dextran mixture
LDC	Lipid drug conjugate
LLC	Lyotropic liquid crystals
MO	Monoolein
MRT	Mean residence time
NA	Not applicable
NLC	Nanostructred lipid carriers
nm	Nanometer
Ond	Ondansetron
P188	Poloxamer 188
P407	Poloxamer 407
PB	Phosphate buffer
PBS	Phosphate buffer saline
PCs	Phosphatidylcholines

PDI	Polydispersity index
PEG	Polyethylene glycol
PEO	Polyethylene oxide
PGs	Polyglycerols
PLA	Polylactic acid
PLGA	Polylactoglycolic acid
PONV	Post operative nausea and vomiting
PPO	Polypropylene oxide
PT	Phytantriol
RSM	Response surface methodology
RT	Reconstitution time
S	Spray-dried
SAXS	Small angle x-ray scattering
SD	Standard deviation
SE	Standard error
SEDDS	Self emulsifying drug delivery system
SEM	Scanning electron microscopy
SLN	Solid lipid nanoparticles
SMEDDS	Self microemulsifying drug delivery system
$T_{1/2}$	Half life
TEM	Transmission electron microscopy
TGA	Thermogravimetric analysis
VA	Visual assessment
XRPD	X-ray powder diffraction
Y%	Yield %
ZP	Zeta potential
µm	Micrometer

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