List of Tables

Table No.	Description	Page No.
2.1.	List of available antidiabetic drugs with their side effects	19
2.2.	Structures of phytoconstituents present in Ficus religiosa L.	24
2.3.	List of mitochondrial targeting moieties	32
2.4.	Summary of different mitochondria targeted drug delivery systems for the treatment of diabetes	35
2.5.	Lipids used in SLN preparation	37
2.6.	Examples of research works employing triphenylphosphonium for mitochondria targeting in the treatment of diabetes	39
4.1.	List of chemicals	53
4.2.	List of equipments	56
4.3.	List of softwares	58
5.1.	Different mobile phase compositions tried	69
5.2.	Chromatographic properties of lupeol	70
5.3.	Precision (% RSD) and accuracy for the determination of lupeol	72
5.4.	Robustness study of developed method	72
6.1.	Surfactants used and their properties	76
6.2.	Composition of SLN formulations	91
6.3.	Size and charge analysis of all SLN batches	92
6.4.	Entrapment efficiency of all formulations	93
6.5.	Composition of all SLNs batches	96
6.6.	Particle size, PDI and zeta potential of all formulations	97
6.7.	Entrapment efficiency of all formulations	100

6.8.	Stability studies of all formulations after 180 days of storage	103
6.9.	Particle size, PDI and zeta potential of all formulations during 180 days of storage	104
6.10.	Entrapment efficiency of all formulations during after 180 days of storage	106
6.11.	Experimental design generated by central composite design	109
6.12.	Statistical analysis of the experimental design	110
6.13.	Co-efficient values and p-values of responses from the experimental design	111
6.14.	Stability studies data	117
6.15.	In vitro characterization of nanoparticles	122
6.16.	Change in particle size, PDI, zeta potential and entrapment efficiency following the storage for 180 days at $30 \pm 2^{\circ}$ C temperature and $65 \pm 5\%$ relative humidity	124
6.17.	Pharmacokinetic parameters of lupeol in <i>Ficus religiosa</i> Linn. in rat plasma	146
7.1.	Particle size, PDI, zeta potential and entrapment efficiency values of LTNPs and LUNPs	151
7.2.	Pharmacokinetic parameters of lupeol in <i>Ficus religiosa</i> Linn. in rat plasma	165
8.1.	Particle size, PDI, zeta potential and entrapment efficiency of ETNPs, EUNPs, LTNPs and LUNPs.	169
8.2.	Pharmacokinetic profile of lupeol in different forms	185