



TABLE OF CONTENT

Chapter 1: Introduction to Self Microemulsifying Drug Delivery System

1.1: Self Micro-emulsifying Drug Delivery System	1
1.2: Drug Profiles	13

Chapter 2: Review of Literature

23

Chapter 3: Research Envisaged

46

Chapter 4: Preparation and evaluation of SMEDDS for Valsartan

4.1: Analytical Method Development and Validation	
4.1.1 Spectroscopy Methods	
4.1.1.1 UV Spectroscopy	
1. Experimental	48
2. Result and Discussion	54
3. Conclusion	57
4.1.1.2 Spectroflurometric methods	
1. Experimental	58
2. Result and Discussion	59
3. Conclusion	60
4.1.2 Chromatographic Method	
4.1.2.1 HPLC	
1. Experimental	61
2. Result and Discussion	66
3. Conclusion	71
4.2 Preparation of Self Microemulsifying System (SMEDDS)	
4.2.1 Experimental	75
4.2.2 Result and Discussion	77
4.3: Characterization and selection of SMEDDS	
4.3.1. Experimental	85
4.3.2. Result and Discussion	86
4.4: Stability study for Valsartan	
4.4.1 Experimental	92
4.4.2. Result and Discussion	93
4.5: In-Vitro Diffusion study	
4.5.1 Experimental	101
4.5.2. Result and Discussion	102
4.6: Bioavailability study	
4.6.1. Experimental	107
4.6.2. Result and Discussion	107

Chapter 5: Preparation and evaluation of SMEDDS for Olmesartan

5.1: Analytical Method Development and Validation	
5.1.1 Spectroscopy Methods	

5.1.1.1 UV Spectroscopy	
1. Experimental	113
2. Result and Discussion	116
3. Conclusion	119
5.1.1.2 Spectroflurometric methods	
1. Experimental	121
2. Result and Discussion	122
3. Conclusion	124
5.1.2 Chromatographic Method	
5.1.2.1 HPLC	
1. Experimental	124
2. Result and Discussion	128
3. Conclusion	133
5.2 Preparation of Self Microemulsifying System (SMEDDS)	
4.2.1 Experimental	137
4.2.2 Result and Discussion	138
5.3: Characterization and selection of SMEDDS	
4.3.1. Experimental	146
4.3.2. Result and Discussion	146
5.4: Stability study for Valsartan	
4.4.1 Experimental	152
4.4.2. Result and Discussion	153
5.5: In-Vitro Diffusion study	
4.5.1 Experimental	159
4.5.2. Result and Discussion	160
5.6: In-Vivo Bioavailability study	
4.6.1. Experimental	163
4.6.2. Result and Discussion	163
Chapter 6: Summary and Conclusion	168
Appendix	
I : Report of Animal Ethics Committee	
II : Abbreviations Used	
III : Profile of the Excipients Used	
IV : Some of the Commercial Formulations available based on SMEDDS	
V : List of Publications	