

TABLE OF CONTENTS

		Page No.
1	Introduction	
1	Introduction	1
1.2	Use of analytical technique in analysis of drugs	1
1.3	Liquid chromatography (LC) and High performance liquid chromatography	3
1.4	Advantages of RP – HPLC	3
1.5	Need for new method development in analysis of the selected drugs	4
1.6	Need for method validation	4
2	Literature Review	
2.1	Literature study of Rimantadine	6
2.2	Literature study of Cidofovir	6
2.3	Literature study of Pranlukast	6
2.4	Literature study for simultaneous estimation of Sofusbuvir and Velpatasvir tablets by RP – HPLC method	7
2.5	Literature study for simultaneous estimation of Montelukast, Acebrophylline and Deslorataine tablets by RP – HPLC method	8
2.6	Literature study for simultaneous estimation of Pantoprazole, Chlorzoxazone and Diclofenac capsules by RP – HPLC	9
3	Estimation and validation of Rimantadine tablets, Cidofovir injection and Pranlukast Capsule by RP-HPLC method in single dosage forms	
3.1	Estimation of RMT tablets by RP – HPLC method and its validation	10
3.1.1	Flumadine tablet	10
3.1.2	Molecular structure of RMT	10
3.1.3	Properties of RMT Hydrochloride	11
3.1.4	Pharmacodynamics	11

3.1.5	Pharmacokinetics	11
3.1.6	Instrumentation and chemicals	12
3.1.7	Method development	14
3.1.8	Preparation of solutions	19
3.1.9	Optimized chromatograms	20
3.1.10	Method validation	21
3.2	Estimation of Cidofovir injection by RP – HPLC method and its validation	49
3.2.1	Vistide Injection	49
3.2.2	Molecular structure of CDF	49
3.2.3	Properties of CDF	49
3.2.4	Pharmacodynamics of CDF	50
3.2.5	Pharmacokinetics of CDF	50
3.2.6	Instrumentation and chemicals	50
3.2.7	Method Development	51
3.2.8	Preparation of solutions	54
3.2.9	Optimized chromatograms	55
3.2.10	Method validation	57
3.3	Estimation of Pranulukast capsules by RP – HPLC method and its validation	83
3.3.1	Onon capsules	83
3.3.2	Molecular structure of PLK	83
3.3.3	Properties of PLK hydrate	84
3.3.4	Pharmacodynamics of PLK	84
3.3.5	Pharmacokinetics of PLK	84
3.3.6	Instrumentation and chemicals	84
3.3.7	Method Development	85
3.3.8	Preparation of Solutions	88
3.3.9	Optimized chromatograms	89
3.3.10	Method validation	90

4	Simultaneous Estimation and Validation of Sofosbuvir and Velpatasvir tablets by RP – HPLC method.	
4.1	Sofosvel tablet	111
4.2	Velpatasvir	112
4.3	Instrumentation	114
4.4	Method Development	114
4.4.1	Selection of Wavelength	114
4.4.2	Experimentation for the optimized chromatographic conditions	115
4.4.3	Preparation of buffer solution	118
4.4.4	Preparation of Mobile phase	119
4.4.5	Preparation of SOF and VEL combined standard API Solution	119
4.4.6	Preparation of SOF and VEL combined tablet sample solution	119
4.4.7	Preparation of placebo solution of Sofosvel tablet	119
4.4.8	Blank solution	119
4.4.9	Optimized chromatograms	120
4.4.10	Method validation	121
5	Simultaneous Estimation and validation of Montelukast, Acebrophylline and Desloratadine tablets by RP-HPLC method	
5.1	ACMON DM Tablet	142
5.2a	Molecular structure of Montelukast	142
5.3a	Molecular structure of Acebrophylline	144
5.4a	Molecular structure of Desloratadine	145
5.5	Method Development	146
5.5.1	List of Instruments	146
5.5.2	List of chemicals	146
5.5.3	Selection of wavelength	146
5.5.4	Experimentation for the Optimized chromatographic conditions	147

5.5.5	Preparation of Buffer solution	151
5.5.6	Preparation of the Mobile phase	151
5.5.7	Preparation of the Diluent	151
5.5.8	Preparation of the standard pure solution	151
5.5.9	Preparation of ACMON DM tablet solution	152
5.5.10	Preparation of the Placebo solution	152
5.5.11	Optimized chromatograms	152
5.6	Method validation	153
6	Simultaneous Estimation and Validation of Pantoprazole, Chlorzoxazone and Diclofenac in capsule by RP – HPLC method.	
6.1	ALLDEX DT PLUS CAPSULE	182
6.2	PAN	182
6.3	CHL	183
6.4	DIC	185
6.5	Method Development	187
6.5.1	List of Instrumentation	187
6.5.2	List of chemicals	187
6.5.3	Selection of wavelength	187
6.5.4	Experimentation for the optimized chromatographic conditions	188
6.5.5	Preparation of the buffer solution	192
6.5.6	Preparation of the Mobile phase	192
6.5.7	Preparation of the diluent	192
6.5.8	Preparation of standard pure solutions	192
6.5.9	Preparation of ALLDEX – DT PLUS capsule solution	192
6.5.10	Preparation of Placebo solution	192
6.5.11	Preparation of the Blank solution	192
6.5.12	Optimized chromatograms	193
6.6	Method validation	194
7	Summary, Conclusion and Recommendations	
7.1	Summary	222
7.2	Conclusion	228

7.3	Recommendations	228
7.4	Future scope	228
	References	229
	Index	236
	List of Publications	240