

LIST OF FIGURES

Figure no.	Description	Page No
1.1	Components of HPLC	8
2.1	Chemical structure of alogliptin	35
2.2	Chemical structure of pioglitazone	36
2.3	Typical HPLC chromatogram of alogliptin and pioglitazone	47
2.4	Chromatogram of alogliptin and pioglitazone standard solution	49
2.5	Chromatogram of alogliptin and pioglitazone tablet sample solution	49
2.6	Chromatogram of placebo blank solution	50
2.7	Chromatogram of mobile phase blank solution	50
2.8	Linearity curve for alogliptin	52
2.9	Linearity curve for pioglitazone	52
2.10	Chromatogram of alogliptin and pioglitazone at LOD level	53
2.11	Chromatogram of alogliptin and pioglitazone at LOQ level	53
2.12	Chromatogram of alogliptin and pioglitazone at 50 % level	55
2.13	Chromatogram of alogliptin and pioglitazone at 100 % level	55
2.14	Chromatogram of alogliptin and pioglitazone at 150 % level	56
2.15	Chromatogram of tablet sample treated with 0.1 N HCl	59
2.16	Chromatogram of tablet sample treated with 0.1 N NaOH	59
2.17	Chromatogram of tablet sample treated with 30 % hydrogen peroxide	60
2.18	Chromatogram of tablet sample exposed to 105 °C	60
2.19	Chromatogram of tablet sample exposed to sun light	61
3.1	Chemical structure of metformin	76
3.2	Chemical structure of benfotiamine	77
3.3	Chromatogram of metformin and benfotiamine under optimized HPLC conditions	86
3.4	Chromatogram of metformin and benfotiamine working standard solution	88
3.5	Chromatogram of metformin and benfotiamine tablet sample solution	88
3.6	Chromatogram of placebo blank	88

Figure no.	Description	Page No
3.7	Chromatogram of mobile phase blank	89
3.8	Metformin calibration curve	90
3.9	Benfotiamine calibration curve	91
3.10	Chromatogram of metformin and benfotiamine at LOD level	91
3.11	Chromatogram of metformin and benfotiamine at LOQ level	92
3.12	Chromatogram of metformin and benfotiamine at 50 % level	94
3.13	Chromatogram of metformin and benfotiamine at 100 % level	94
3.14	Chromatogram of metformin and benfotiamine at 150 % level	94
4.1	Chemical structure of dapagliflozin	110
4.2	Chemical structure of metformin	111
4.3	Chromatogram of dapagliflozin and metformin with optimized chromatographic conditions	121
4.4	Chromatogram of mobile phase blank	123
4.5	Chromatogram of placebo blank	124
4.6	Chromatogram of working standard solution	124
4.7	Chromatogram of tablet sample solution	124
4.8	Linearity curve of dapagliflozin	126
4.9	Linearity curve of metformin	126
4.10	Chromatogram of dapagliflozin and metformin at LOD level	127
4.11	Chromatogram of dapagliflozin and metformin at LOQ level	127
4.12	Chromatogram of selected drugs at 50 % accuracy level	130
4.13	Chromatogram of selected drugs at 100 % accuracy level	130
4.14	Chromatogram of selected drugs at 150 % accuracy level	130
4.15	Dapagliflozin and metformin in 0.1 N HCl after 30 min at room temperature	133
4.16	Dapagliflozin and metformin in 0.1 N NaOH after 30 min at room temperature	133
4.17	Dapagliflozin and metformin in 30 % H ₂ O ₂ after 30 min at room temperature	134
4.18	Dapagliflozin and metformin after exposure 105 °C for 30 min	134
4.19	Dapagliflozin and metformin after 24 hours of exposure to sunlight	135

Figure no.	Description	Page No
5.1	Chemical structure of hydrochlorothiazide	149
5.2	Chemical structure of quinapril	150
5.3	Chromatogram of well separated peaks of quinapril and hydrochlorothiazide with optimized chromatographic conditions	162
5.4	Linearity curve of quinapril	165
5.5	Linearity curve of hydrochlorothiazide	166
5.6	Chromatogram of quinapril and hydrochlorothiazide at LOD level	167
5.7	Chromatogram of quinapril and hydrochlorothiazide at LOQ level	167
5.8	Chromatogram of placebo blank	168
5.9	Chromatogram of mobile phase blank	168
5.10	Chromatogram of tablet sample (20 µg/mL quinapril and 12.5 µg/mL hydrochlorothiazide)	169
5.11	Chromatogram of working standard (20 µg/mL quinapril and 12.5 µg/mL hydrochlorothiazide)	169
5.12	Chromatogram of hydrochlorothiazide and quinapril under acidic degradation	171
5.13	Chromatogram of hydrochlorothiazide and quinapril under basic degradation	172
5.14	Chromatogram of hydrochlorothiazide and quinapril under oxidative degradation	172
5.15	Chromatogram of hydrochlorothiazide and quinapril under thermal degradation	173
5.16	Chromatogram of hydrochlorothiazide and quinapril under photo degradation	173
5.17	Chromatogram of quinapril and hydrochlorothiazide at 50 % accuracy level	177
5.18	Chromatogram of quinapril and hydrochlorothiazide at 100 % accuracy level	177
5.19	Chromatogram of quinapril and hydrochlorothiazide at 150 % accuracy level	178
6.1	Chemical structure of pravastatin	197
6.2	Chemical structure of aspirin	198
6.3	Chromatogram of aspirin and pravastatin with optimized HPLC parameters	206

Figure no.	Description	Page No
6.4	Linearity curve for aspirin	209
6.5	Linearity curve for pravastatin	209
6.6	Chromatogram of aspirin and pravastatin at LOD level	210
6.7	Chromatogram of aspirin and pravastatin at LOQ level	210
6.8	Chromatogram of mobile phase blank	211
6.9	Chromatogram of placebo blank	212
6.10	Chromatogram of standard solution	212
6.11	Chromatogram of tablet sample solution	213
6.12	Chromatogram of aspirin and pravastatin at 50 % accuracy level	215
6.13	Chromatogram of aspirin and pravastatin at 100 % accuracy level	216
6.14	Chromatogram of aspirin and pravastatin at 150 % accuracy level	216
6.15	Chromatogram of acid degraded sample	219
6.16	Chromatogram of base degraded sample	219
6.17	Chromatogram of hydrogen peroxide degraded sample	220
6.18	Chromatogram of dry heat degraded sample	220
6.19	Chromatogram of photolytic degraded sample	221