Supporting Information

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Validated chromatographic methods for concurrent determination of atorvastatin and perindopril

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Table of Content

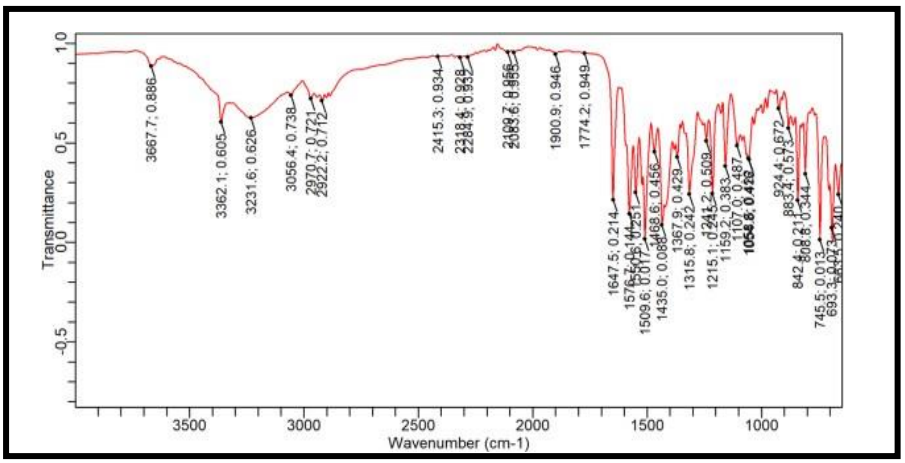

Figure S1: IR Spectra of atorvastatin

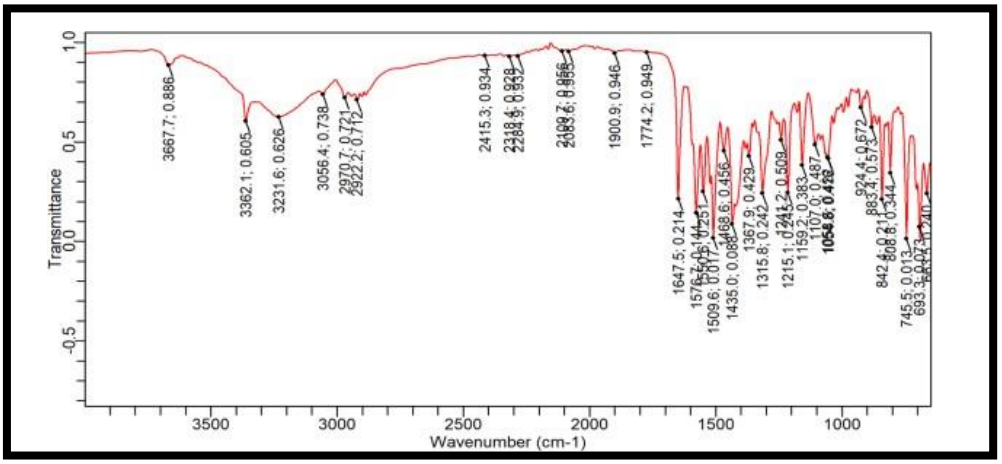

Figure S2: IR Spectra of perindopril

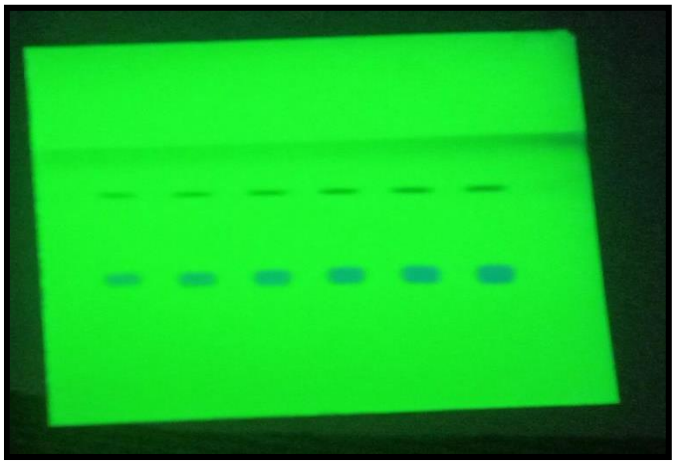

Figure S3: Photograph of calibration curve of ATO A1-A6 (800-4800ng/band), PER P1-P6 (200-1200 ng/band)

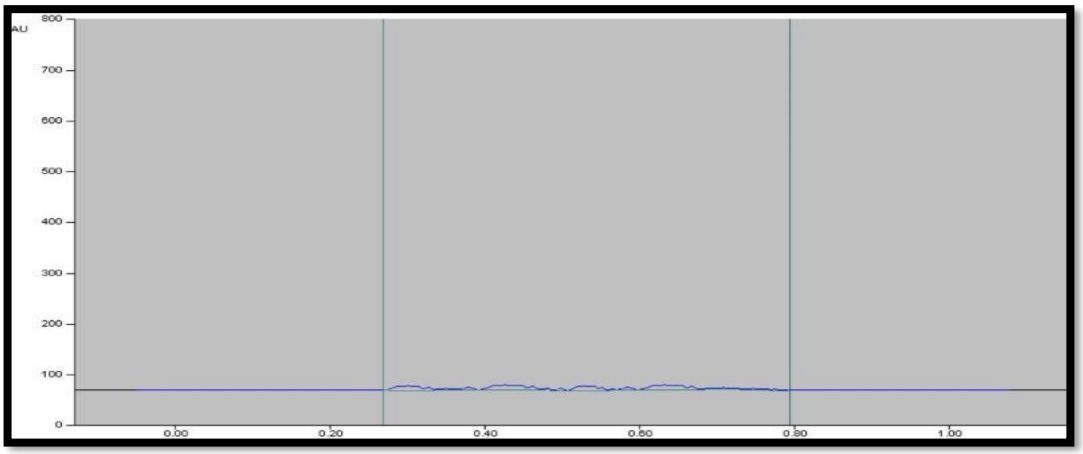

Figure S4: Blank chromatogram of mobile phase

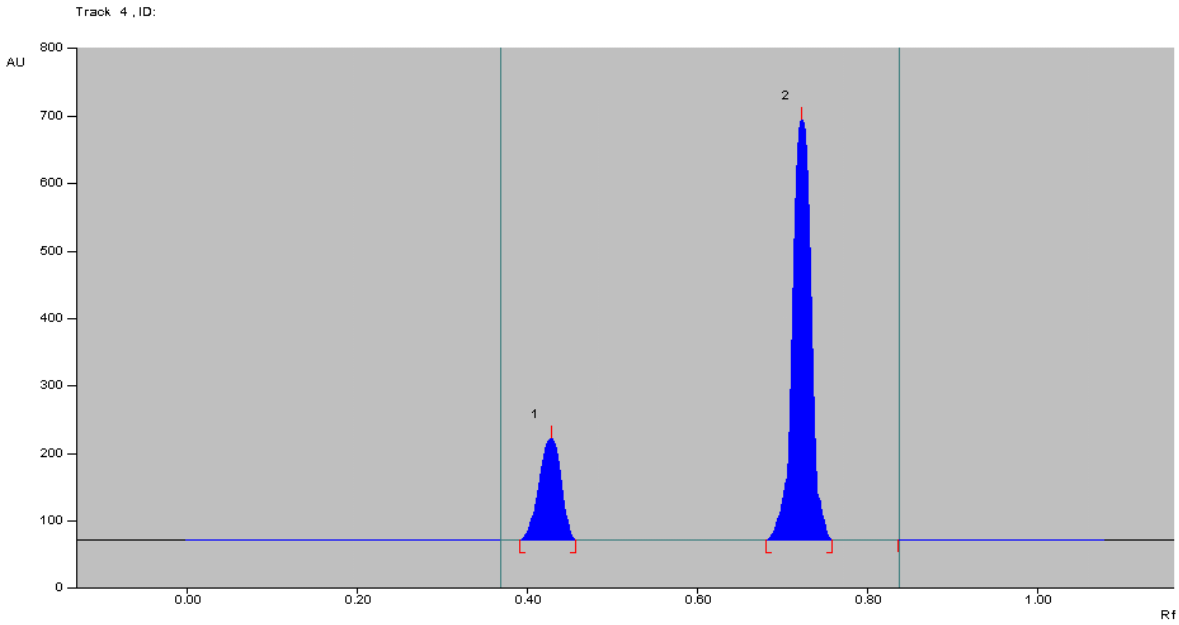

Figure S5: Densitogram of atorvastatin (2400ng/band), perindopril (600ng/band) using dichloromethane: methanol: ethyl acetate: glacial acetic acid (6:2:2:0.1, v/v/v/v) as a mobile phase

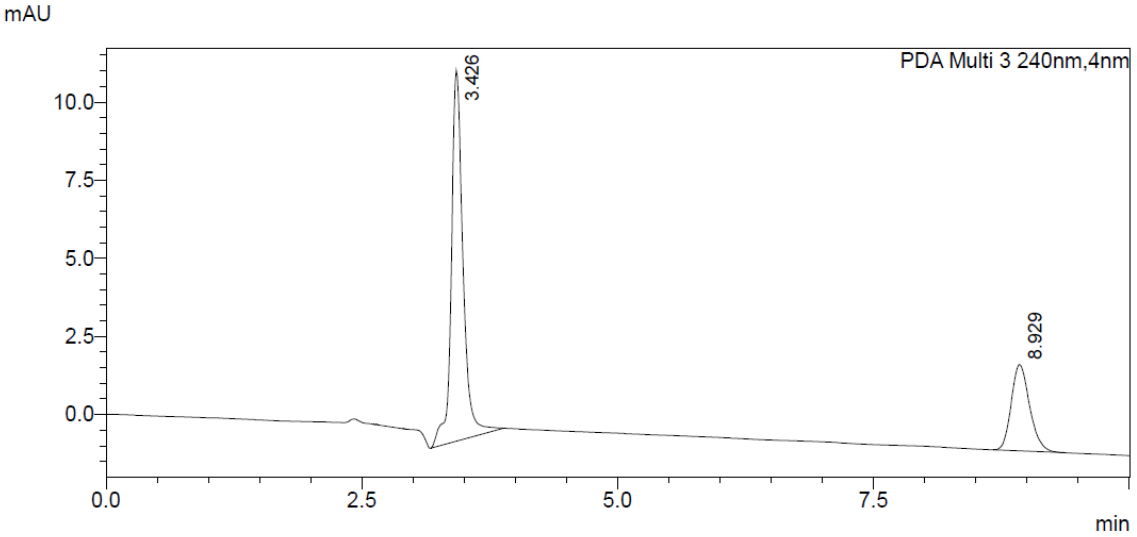

Figure S6: Chromatogram of ATO (40µg/mL) and PER (10µg/mL) in acetonitrile: methanol: buffer (40:10:50v/v/v) (ph 3) having RT of ATO at 4.39 min and PER at 7.82 min

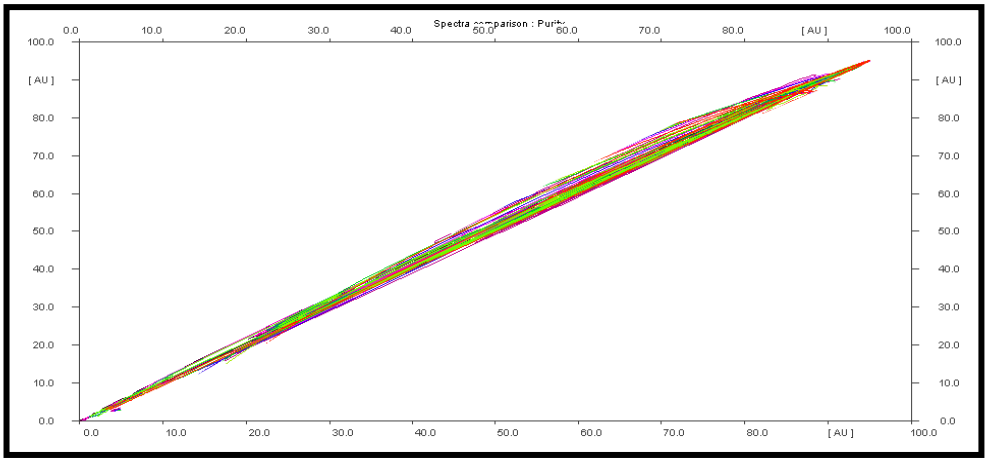

Figure S7: Peak purity spectra of calibration range

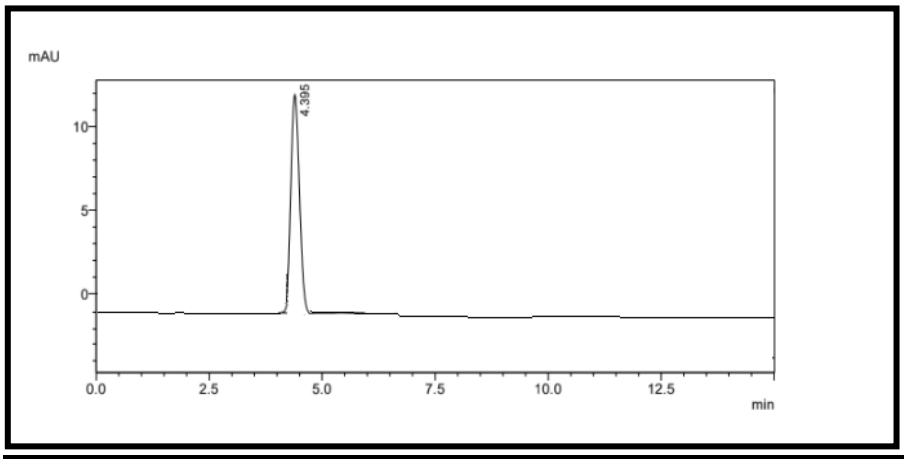

Figure S8: Chromatogram of ATO (10µg/ml) in Acetonitrile: Methanol: Buffer(40:10:50v/v/v) (pH 3)

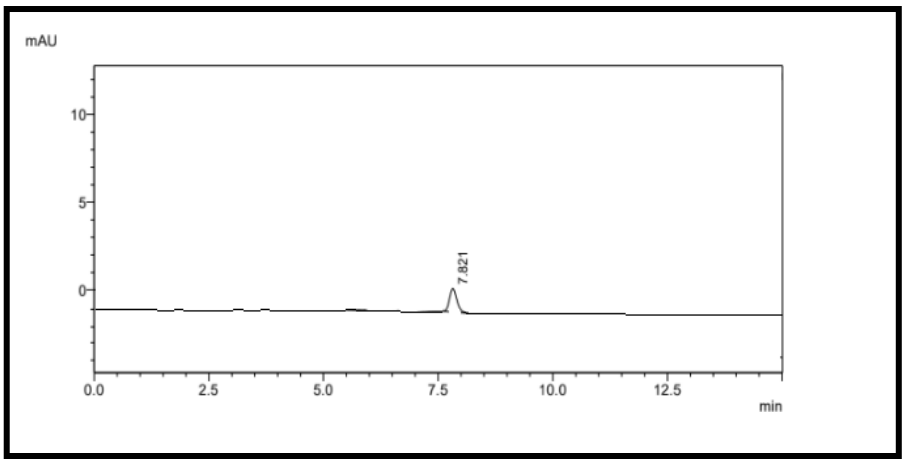

Figure S9: Chromatogram of PER (10µg/ml) in Acetonitrile: Methanol: Buffer(40:10:50v/v/v) (pH 3)

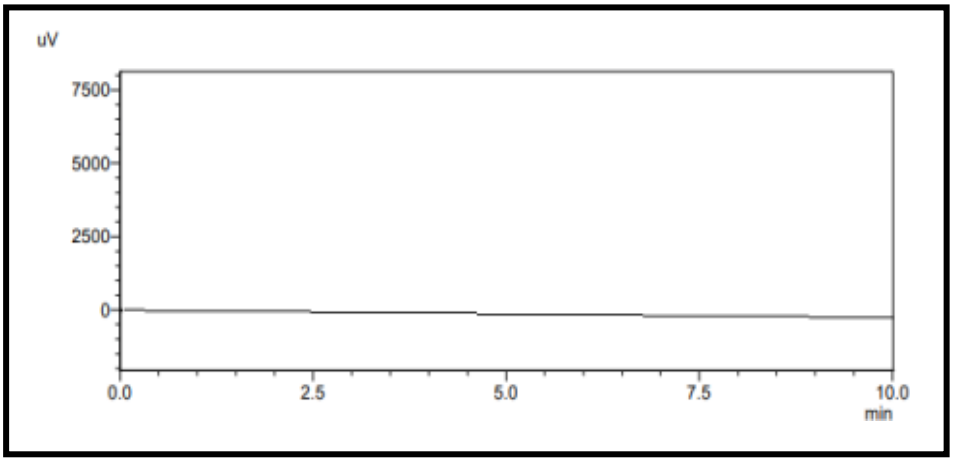

Figure S10: Chromatogram of mobile phase

Table S1: Linearity of atorvastatin and perindopril (HPTLC method)

Sr. no	Concentration (ng/band)	Perindopril		Atorvastatin	
		Mean peak area ± S.D. (n=6)	R.S.D. (%)	Mean peak area ± S.D. (n=6)	R.S.D. (%)
1	800	5899.2 ± 86.78	1.84	630.01 ± 9.98	1.73
2	1600	10432.7 ± 108.21	1.71	1368.21± 3.86	0.28
3	2400	15821.5 ± 89.62	0.57	2310.01± 21.90	0.95
4	3200	19978.7 ± 140.29	0.78	3038.63 ± 57.62	1.85
5	4000	24987.2 ± 155.84	1.13	4138.1 ± 51.42	1.23
6	4800	29958.2± 202.80	1.02	5002.35 ± 58.36	1.12

Table S2: Result of intermediate precision of atorvastatin (HPTLC method)

Atorvastatin	Intraday		Interday	
Conc.(ng/band)	Area ± SD (n=3)	%RSD	Area ± SD (n=3)	%RSD
800	5770.86 ± 91.62	1.58	5781.7 ± 92.42	1.21
2400	15847.83 ± 72.19	0.45	15645.43± 69.78	0.68
4800	30079.17 ±423.27	1.40	30125.17± 356.04	1.24

Table S3: Result of intermediate precision of perindopril (HPTLC method)

Perindopril	Intraday		Interday	
Conc. (ng/band)	Area ± SD (n=3)	%RSD	Area ± SD (n=3)	%RSD
200	635.83 ± 4.64	0.73	629.13 ± 3.96	0.98
600	3073.03 ± 41.40	1.34	3056.41 ± 31.40	1.24
1200	5051.13 ± 31.77	0.62	5123.4 ± 29.76	1.65

Table S4: Result of repeatability precision of atorvastatin (HPTLC method)

	Injection		Rf value	
Conc.ng/band	**Area ± SD (n=6)**	**%RSD**	**Rf ± SD (n=6)**	**%RSD**
2400	11055.65±162.95	1.47	0.70 ± 0.0037	0.52

Table S5: Result of repeatability precision of perindopril (HPTLC method)

	Injection		Rf value	
Conc.ng/band	**Area ± SD(n=6)**	**%RSD**	**Rf ± SD (n=6)**	**%RSD**
600	1414.55 ± 27.04	1.91	0.39 ± 0.0035	0.95

Table S6: Accuracy data of atorvastatin (HPTLC method)

Level	**Conc. of ATO from Synthetic mixture (µg/ml)**	**Amount of Std. ATO added (µg/ml)**	**Total amount of ATO (µg/ml)**	**Total amount of ATO Recovered (µg/ml) * Mean ± SD**	**% Recovery**	**% RSD**
50%	1600	800	2400	2428.4±84.47	101.18%	0.028
100%	1600	1600	3200	32183.9±415.3	100.59%	1.97
150%	1600	2400	4000	2607.9±983.33	100.65%	1.58

Table S7: Accuracy data of perindopril (HPTLC method)

Level	**Conc. of PER from Synthetic mixture (µg/ml)**	**Amount ofStd. PER added (µg/ml)**	**Total amount of PER (µg/ml)**	**Total amount of PER Recovered (µg/ml) Mean ± SD**	**% Recovery**	**% RSD**
50%	400	200	600	605.34±9.52	99.79%	0.41
100%	400	400	800	801.27±272.28	100.54%	1.21
150%	400	600	1000	1011±7.37	101.1%	0.98

Table S8: Assay result of synthetic mixture (HPTLC method)

Formulation	Drug	Conc. (ng/band)	%Assay± SD (n=3)	% R.S.D
Synthetic mixture	Atorvastatin	2400	101.6±30.15	1.21
	Perindopril	600	100.42 ± 45.34	1.76

Table S9: Linearity of Atorvastatin and Perindopril (HPLC method)

Sr. no	Concentration (µg/ml)	Perindopril		Atorvastatin	
		Mean peak area ± S.D. (n=6)	R.S.D. (%)	Mean peak area ± S.D. (n=6)	R.S.D. (%)
1	10	5985±105.32	1.73	14986±289.98	1.90
2	20	12452±225.30	1.83	31246±328.88	1.05
3	30	17895±314.26	1.73	45095±351.54	0.76
4	40	24423±202.85	0.84	61562±390.03	0.63
5	50	29895±194.57	0.64	75426±400.45	0.52

Table S10: Intraday precision data for estimation of ATO and PER (n=3) (HPLC method)

Conc. (µg/ml)		Mean peak area ±SD ATO	% RSD	Mean peak area ±SD PER	% RSD
ATO	PER				
20	10	15063±269.22	1.78	6109.33±88.46	1.44
60	30	45076±98.04	0.21	18002.67±228.55	1.26
100	50	76025.33±136.10	0.17	28031.33±308.03	1.09

Table S11: Interday precision data for estimation of ATO and PER (n=3) (HPLC method)

Conc. (µg/ml)		Mean peak area ±SD ATO	% RSD	Mean peak area ± SD PER	% RSD
ATO	PER				
20	10	15213±207.88	1.36	5929.33±14.07	0.23
60	30	45348.33±303.93	0.67	18017.33±221.69	1.23
100	50	176350±339.04	0.44	29246.67±236.51	0.80

Table S12: Repeatability data for ATO and PER (HPLC method)

Drug	Concentration (µg/ml)	Mean peak area ± S.D. (n=7)	% R.S.D.
ATO	40	31837.83±327.53	1.02
PER	20	12671.33±252.68	1.99

Table S13: Accuracy data of ATO (HPLC method)

Level	Conc. of ATO from Synthetic mixture (µg/ml)	Amount of Std. ATO added (µg/ml)	Total amount of ATO (µg/ml)	Total amount of ATO Recovered (µg/ml) * Mean ± SD	% Recovery	% RSD
50%	40	20	60	59.38±399.24	98.96%	0.87
100%	40	40	80	80.43±143.77	100.53%	0.23
150%	40	60	100	99.33±266.37	99.33%	0.35

Table S14: Accuracy data of PER (HPLC method)

Level	Conc. of PER from Synthetic Mixture (µg/ml)	Amount of Std. PER added (µg/ml)	Total amount of PER (µg/ml)	Total amount of PER Recovered (µg/ml) Mean ± SD	% Recovery	% RSD
50%	10	5	15	15.07±25.31	100.52%	0.27
100%	10	10	20	20.59±61.75	100.95%	0.49
150%	10	15	25	237.36±25.08	100.33%	1.56

Table S15: Analysis data of formulation (HPLC method)

Sr. No	Drug	Concentration (µg/ml)	% Assay ± SD	%R.S. D
1	ATO	40	100.98±200.31	0.60
2	PER	10	100.00 ±60.53	0.46

Table S16: F-test two-sample for variances

	Perindopril		Atorvastatin	
	HPLC	**HPTLC**	**HPLC**	**HPTLC**
Mean	100.446	100.15	100.12	100.3
Variance	0.18628	0.10885	0.467	0.425
Observations	5	5	5	5
df	4	4	4	4
F	1.711345889		1.098824	
P(F<=f) one-tail	0.307745467		0.464712	
F Critical one-tail	6.388232909		6.388233	