

Supplementary

Table S1: Regression and validation parameters for determination of four anti-diabetic drugs by the proposed method.

Parameters	Metformin HCl	Vildagliptin	Pioglitazone	Sitagliptin
linearity	0.2-20µg/mL	1-50µg/mL	0.2-2.5 µg/mL	1-50 µg/mL
Intercept coefficient ± S.E	21.31±12.46	-2.14±0.92	8.37±1.01	3.45±1.09
Intercept confidence interval	13.6-55.93	-0.23-4.51	5.746-10.98	0.76-6.13
Slope coefficient± S.E	74.67±1.01	2.84±0.03	55.64±0.69	3.40±0.04
Slope confidence interval	71.59-77.73	2.75-2.92	53.84-57.41	3.31-3.49
Correlation coefficient	0.9995	0.9996	0.9996	0.9996
Accuracy (mean ± SD)	99.243±1.31	100.34±1.58	100.613±2.24	100.167±1.39
Intra-day (mean ± RSD)	99.77±0.84	99.10±0.84	100.93±0.47	99.67±1.03
Inter-day(mean ± RSD)	100.03±1.24	99.93±0.74	101.32±0.96	100.50±0.75
LOD (µg/mL)	0.06	0.30	0.06	0.27
LOQ (µg/mL)	0.18	0.92	0.18	0.85

Table S2: Accuracy expressed as % recovery of four anti-diabetic drugs by application of standard addition technique.

Dosage Form	Amount added (µg/mL)	Amount found (µg/mL)	% Recovery
Glucovage® tablets Batch no. DCE0712 Claimed to contain 500mg Metformin per tablet	1	1.006	100.60
	5	4.91	98.20
	10	9.89	99.20
	Mean± SD		99.33±1.21
Januvia ®tablets Batch no. Z001274 Claimed to contain 100mg Sitagliptin per tablet	8	8.09	101.10
	20	20.14	100.70
	28	27.60	98.67
	Mean± SD		100.13±1.34
Galvas ®tablets Batch no. S0573 Claimed to contain 50mg Vildagliptin per tablet	8	7.9	98.80
	20	20.38	101.90
	28	28.1	100.40
	Mean± SD		100.37±1.55
Higlitazone ®tablets Batch no0430312 Claimed to contain 15mg Pioglitazone HCl per tablet	0.2	0.198	99.20
	0.6	0.611	101.80
	0.8	0.785	98.10
	Mean± SD		99.70±1.90

Table S3: specificity as %recoveries of laboratory prepared mixture of four anti-diabetic drugs.

Sample no.	Conc. of compounds ($\mu\text{g/mL}$)				% Recoveries			
	Metfm.	Vildg.	Sitag.	Piogl.	Galvas Met		Janumet	
					Metfm.	Vildg.	Sitag.	Piogl.
1	20	1	1	2.50	98.20	101.60	100.00	101.60
2	15	28	28	0.20	97.70	100.70	100.80	100.10
3	10	8	8	1.00	97.90	98.80	100.60	98.10
4	5	20	20	0.80	98.10	98.90	100.60	99.70
5	1	12	12	1.20	98.20	98.70	98.30	98.20
6	0.2	36	36	1.60	99.20	98.60	97.70	101.0
				Mean	98.22	99.55	99.67	99.78
				SD	0.52	1.28	1.33	1.43

Table S4: Determination of four anti-diabetic drugs in the pharmaceutical dosage form by the proposed method

	Conc. of compounds							
	Metfm. (10 $\mu\text{g/ml}$)	Vildg. (28 $\mu\text{g/ml}$)	Sitag. (8 $\mu\text{g/ml}$)	Piogl. (1.6 $\mu\text{g/ml}$)	Metfm. / Vildg. (17/ 1 $\mu\text{g/ml}$)	Metfm. / Sitag. (20/ 1 $\mu\text{g/ml}$)		
% Recoveries	101.10	101.10	98.40	101.10	100.60	101.90	100.70	98.00
	101.30	101.30	98.80	101.40	98.80	101.00	100.80	98.00
	100.00	100.00	98.30	101.90	99.40	102.70	100.80	98.00
	98.81	98.80	98.40	101.20	101.30	101.90	100.90	98.00
	101.30	101.30	98.40	101.30	98.80	101.60	100.90	98.10
Mean	100.50	100.50	98.46	101.38	99.78	101.82	100.82	98.02
SD	1.09	1.09	0.19	0.31	1.12	0.61	0.08	0.04