Table 2: Evaluation of the interday and intraday precisions and accuracy for LK obtained by the proposed methods

Method	Taken Conc. (mg)	Interday			Intraday		
		Accuracy (Er %)	Precision (RSD %)*	Recovery (%)*	Accuracy (Er %)	Precision (RSD %)*	Recovery (%)*
PTA	5 mg	1.12	1.38	101.12	0.275	1.78	100.275
BCP	5 mg	−0.42	0.757	99.58	0.274	0.88	100.274
$HgCl_2$	3 mg	0.275	1.47	100.275	1.15	0.76	101.15
$CuCl_2$	5 mg	1.42	1.48	101.42	−1.35	1.87	98.65

RSD%: Relative standard deviation percentage, Er%: Relative error percentage, *Mean of five determination, PTA: Phosphotungstic acid, BCP: Bromocresol purple, $HgCl_2$: Mercury (II) chloride, $CuCl_2$: Cupric chloride, LK: Losartan potassium

Table 3: Conductometric determination of LK in Losartan® tablets using PTA, BCP, $HgCl_2$, and $CuCl_2$

$CuCl_2$ method		$HgCl_2$ method		BCP method		PTA method	
Found %*	Taken (mg)	Found %*	Taken (mg)	Found %*	Taken (mg)	Found %*	Taken (mg)
99.69	3	101.43	2	100	3	99.58	5
101.47	5	101.54	3	99.08	5	99.41	7
98.68	7	99.57	5	98.81	7	100.96	10
101.42	10	101.45	7	99.08	10	100.23	12
98.34	15	99.12	10	99.88	12	99.58	15
99.88	20					100.96	20
99.91±1.322		100.62±1.177		99.37±0.533		100.12±0.709	Mean±SD
6		5		5		6	N
1.748		1.385		0.284		0.502	V
0.539		0.526		0.239		0.289	S.E
1.323		1.169		0.537		0.709	R.S.D

BCP: Bromocresol purple, $HgCl_2$: Mercury (II) chloride, $CuCl_2$: Cupric chloride, PTA: Phosphotungstic acid, RSD: Relative standard deviation, SE: Standard error, SD: Standard deviation, LK: Losartan potassium

Table 4: Statistical analysis of results obtained by the proposed methods applied on Losartan® tablets compared with the reported method

Parameters	Reported method [6]	PTA method	BCP method	$HgCl_2$ method	$CuCl_2$ method
Mean recovery	99.99	100.12	99.37	100.62	99.91
SD	0.974	0.709	0.533	1.177	1.322
N	6	6	5	5	6
Variance	0.95	0.502	0.284	1.385	1.748
Student-t		0.264 (2.220)*	1.265 (2.262)*	0.972 (2.262)*	1.84 (2.220)*
F-test		1.892 (5.05)*	3.345 (5.19)*	1.458 (5.19)*	0.119 (5.05)*

*Theoretical values of t-test and F-test at p=0.05. PTA: Phosphotungstic acid, BCP: Bromocresol purple, $HgCl_2$: Mercury (II) chloride, $CuCl_2$: Cupric chloride, SD: Standard deviation

the precision was expressed as the relative standard deviation (RSD) percentage (Table 2).

Analytical application

The proposed method was successfully applied to the assay of the studied drug in its pharmaceutical formulations using the standard addition technique. Satisfactory results obtained for the recoveries of the drugs were in good agreement with the label claim and proved the suitability of the proposed methods (Table 3).

According to ICH guidelines, the obtained values indicated a high sensitivity of the proposed methods. Statistical comparison of the results obtained from the analysis of the studied drugs by the proposed method to those of reference method [6] using t-and F-tests, showed no significant difference between them (Table 4).

CONCLUSION

The suggested method has the advantages of simplicity and cost affectivity make it an alternative method to the more complex and expensive methods for assay of LK. The proposed method is easy and very useful for the determination of the studied drug in pharmaceutical formulations and can be applied in laboratories for routine analysis.

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