Electronic Supplementary Information
For

A novel smartphone HPTLC assaying platform *versus* traditional densitometric method for simultaneous quantification of Alfuzosin and Solifenacin in their dosage forms as well as monitoring content uniformity and drug residues on manufacturing equipment

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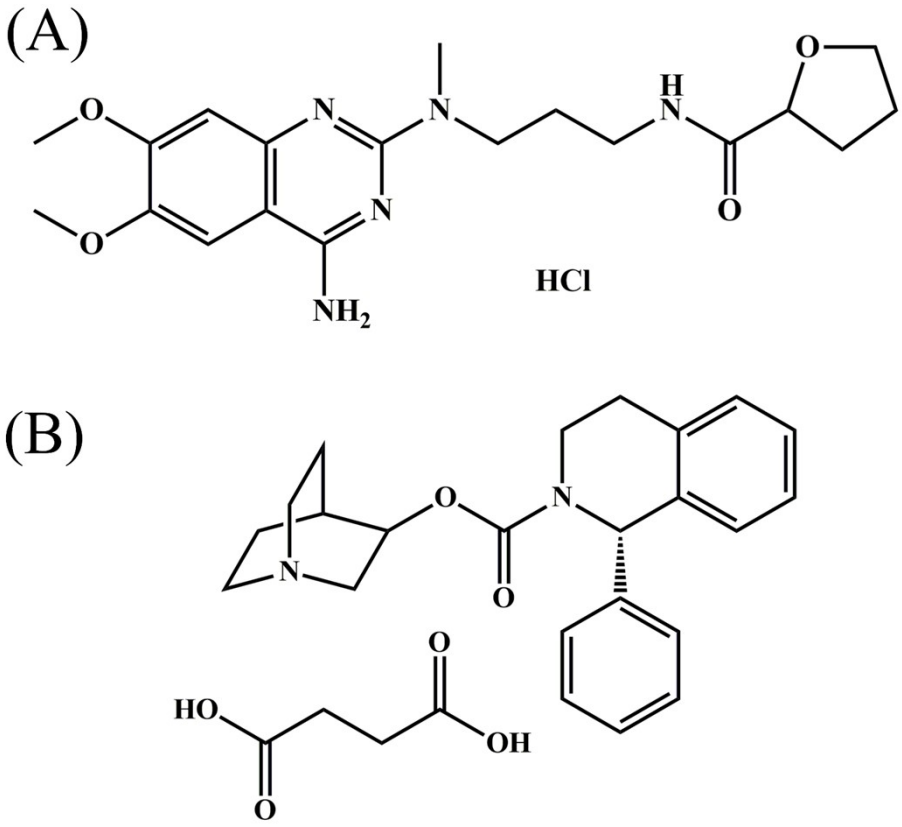

Fig. S1. Chemical structures of (**A**): Alfuzosin hydrochloride (ALF) and (**B**): Solifenacin succinate (SOL).

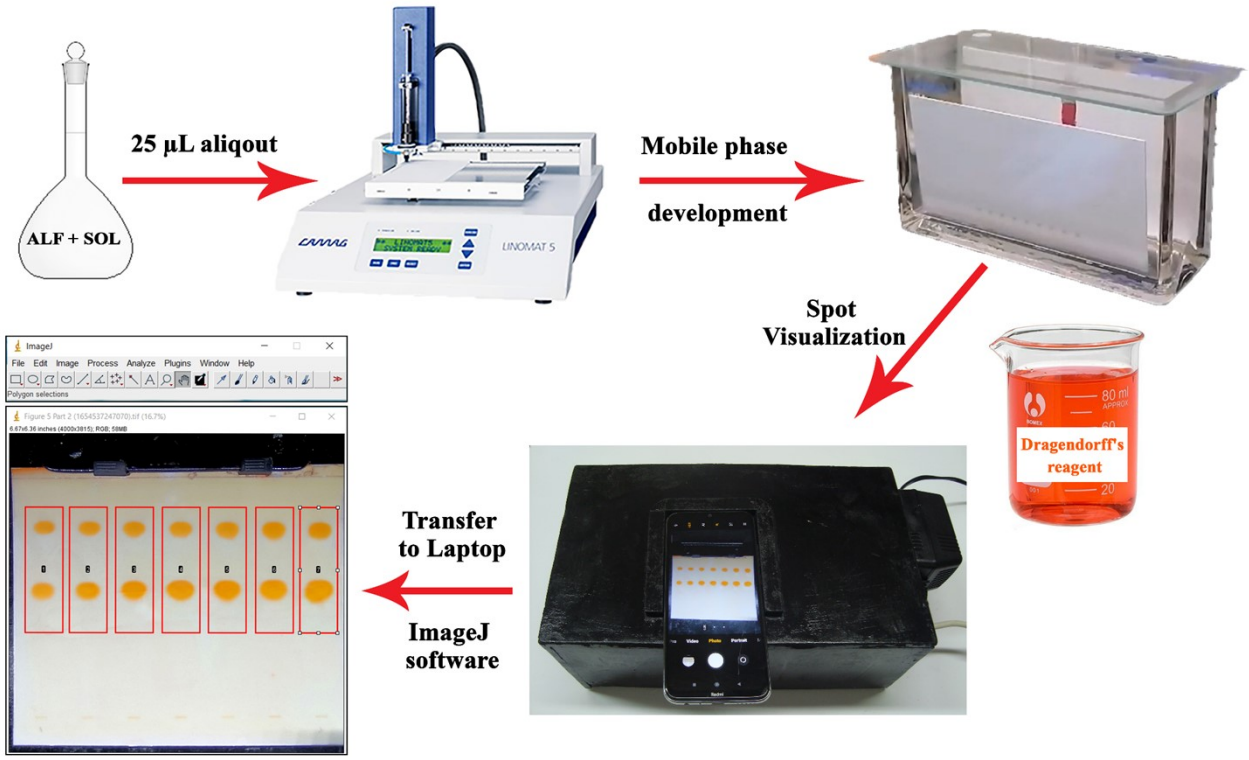

Fig. S2. Schematic illustration for different procedures of the proposed HPTLC/smartphone method for alfuzosin and solifenacin quantification.

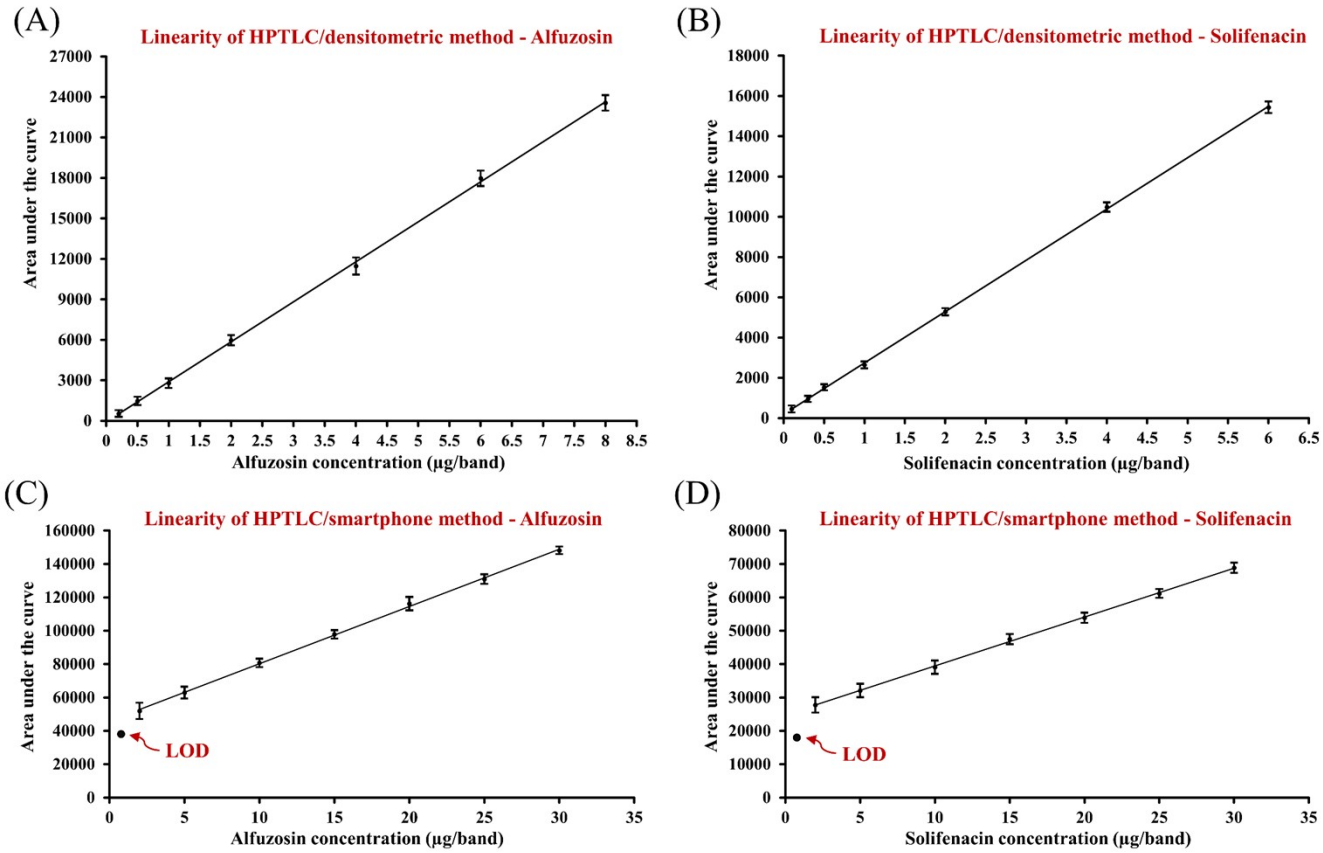

Fig. S3. Linearity plots for (A, C) alfuzosin and (B, D) solifenacin determination by the proposed HPTLC/densitometric & HPTLC/smartphone methods, respectively.

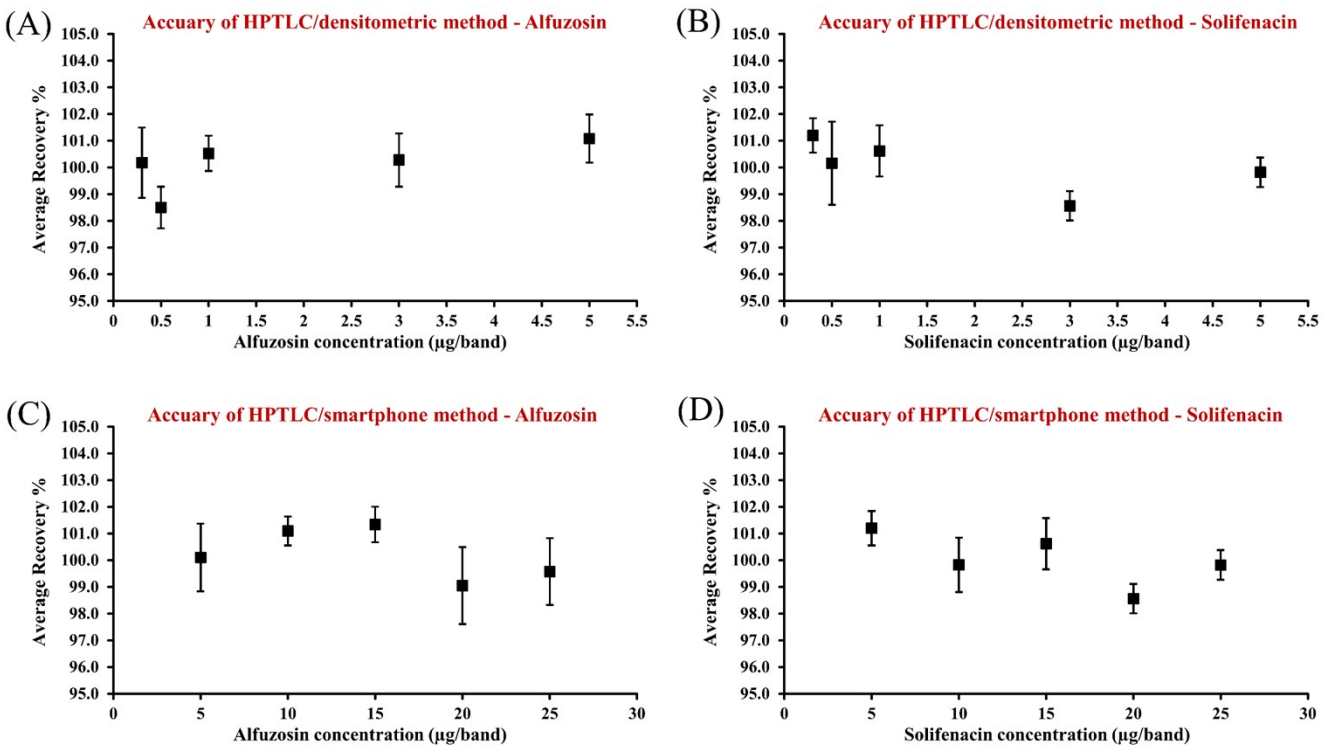

Fig. S4. Accuracy plots for (A, C) alfuzosin and (B, D) solifenacin determination by the proposed HPTLC/densitometric & HPTLC/smartphone methods, respectively.

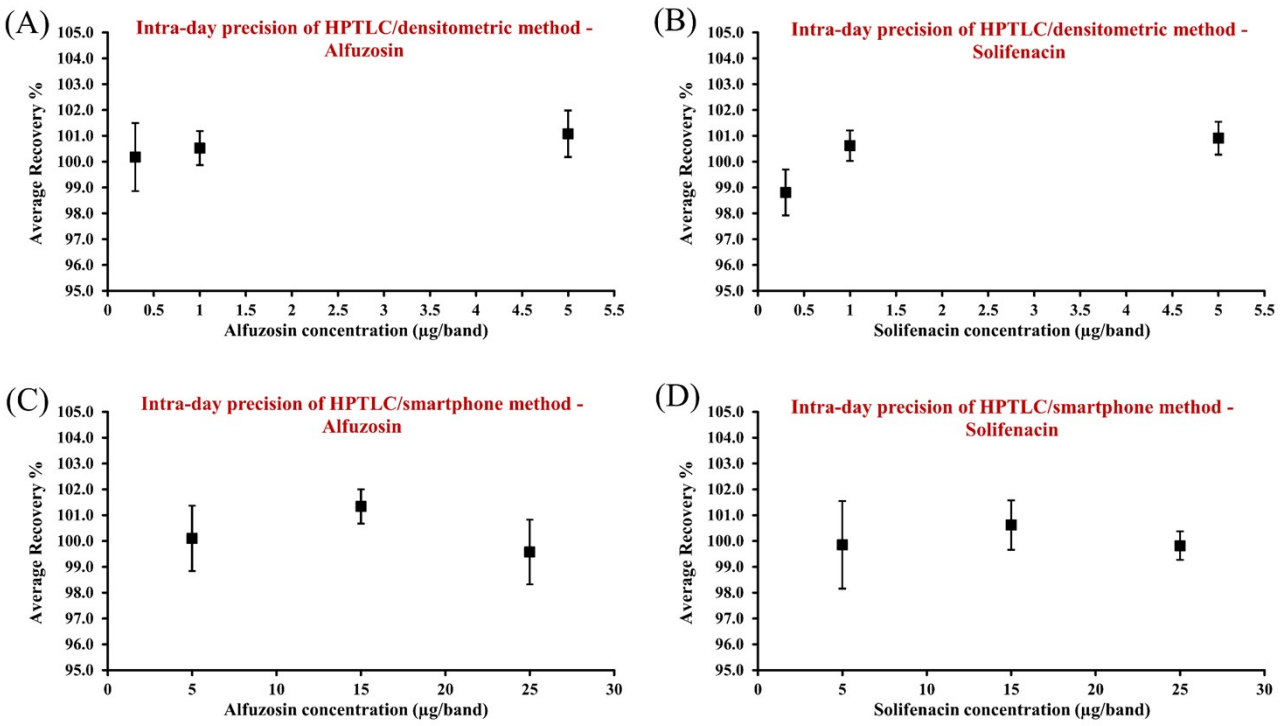

Fig. S5. Intra-day precision plots for (A, C) alfuzosin and (B, D) solifenacin determination by the proposed HPTLC/densitometric & HPTLC/smartphone methods, respectively.

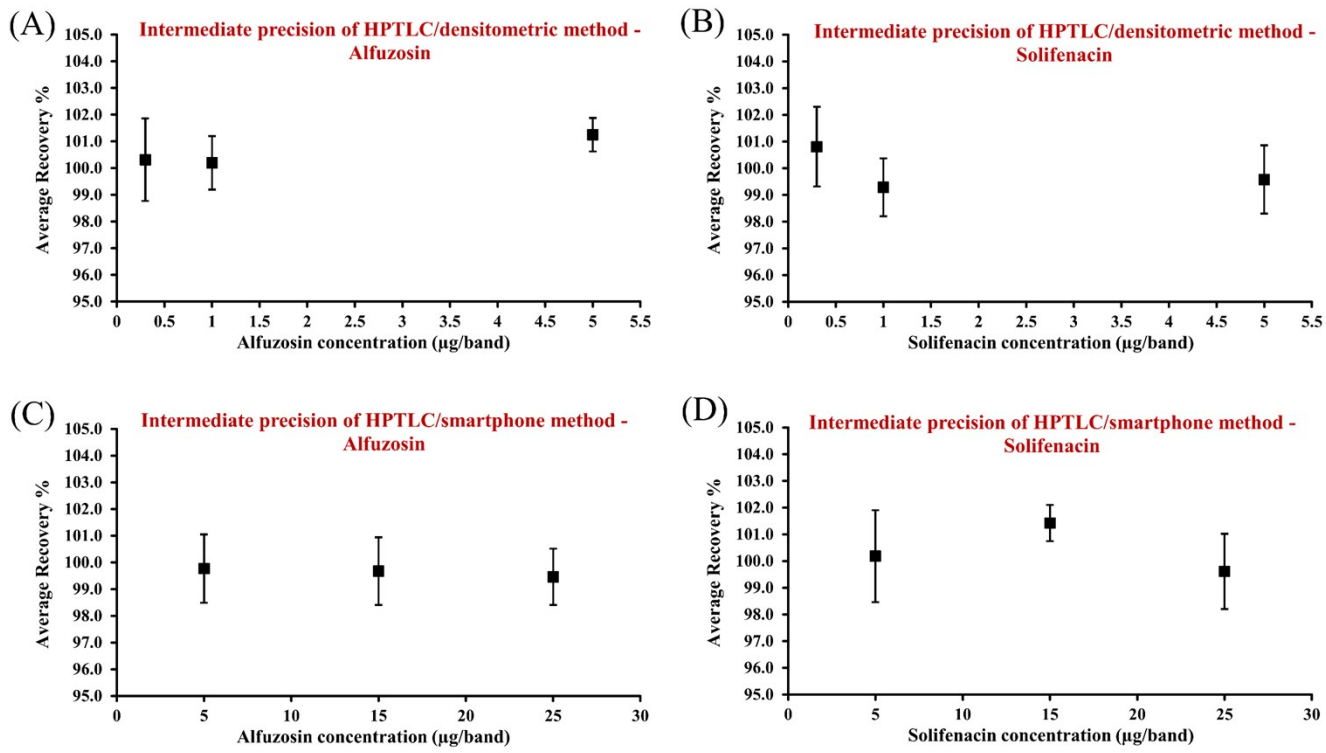

Fig. S6. Intermediate precision plots for (A, C) alfuzosin and (B, D) solifenacin determination by the proposed HPTLC/densitometric & HPTLC/smartphone methods, respectively.

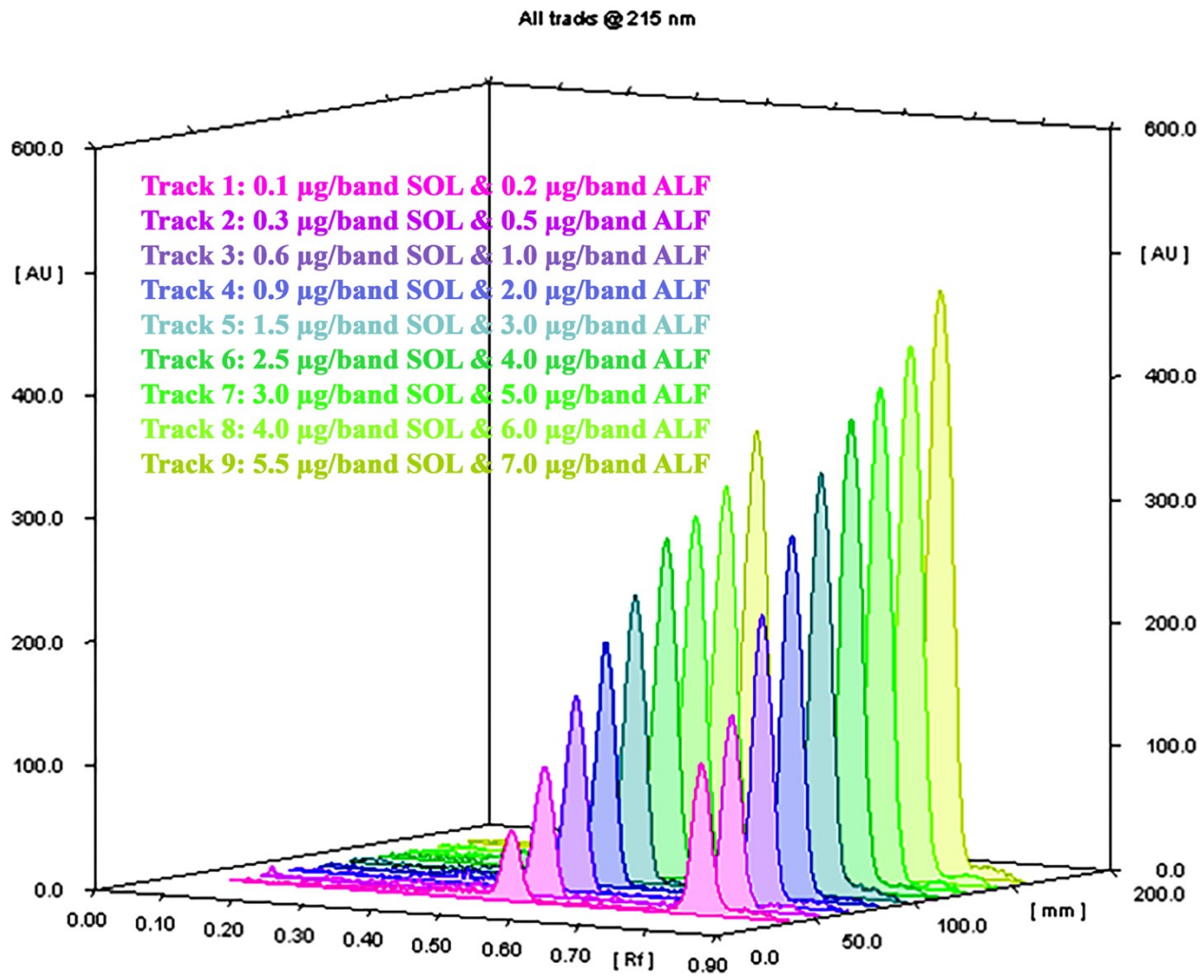

Fig. S7. Scanning 3D profiles of different laboratory prepared mixtures containing increasing concentration of the two studied drugs; solifenacin ($R_f \approx 0.50$) and alfuzosin ($R_f \approx 0.77$) in range of 0.1 - 5.5 µg/band and 0.2 - 7.0 µg/band, respectively.

Table S1. Results of content uniformity testing for determining alfuzosin and solifenacin in Solitral® capsules by the two proposed HPTLC methods

Capsule no.	Label claim (%)			
	HPTLC/densitometric method		HPTLC/smartphone method	
	ALF	SOL	ALF	SOL
1	99.61	99.48	99.42	99.89
2	101.23	100.23	100.98	100.87
3	99.32	98.52	99.11	98.78
4	98.74	98.69	98.97	98.91
5	100.95	101.21	101.27	101.84
6	98.37	99.84	98.88	99.91
7	98.96	100.87	99.45	101.24
8	99.89	101.89	100.78	101.28
9	101.58	99.27	101.89	99.53
10	101.46	98.68	101.95	98.91
Mean	100.01	99.87	100.27	100.12
SD	1.202	1.162	1.228	1.120
RSD%	1.201	1.163	1.225	1.119
Acceptance value (AV)*	**2.884**	**2.788**	**2.947**	**2.688**
Maxi. allowed AV (L1)	15	15	15	15

* Acceptance value = 2.4 × SD

Table S2. Statistical comparison of the results obtained by the two proposed HPTLC methods and official methods for the analysis of alfuzosin and solifenacin.

Parameter	HPTLC/densitometric method		HPTLC/smartphone method		Official methods	
	ALF	SOL	ALF	SOL	ALF [a]	SOL [b]
Mean of recoveries	100.18	100.08	100.23	100.03	100.45	99.35
S.D.	0.962	1.140	0.978	1.216	0.410	1.695
Variance	0.926	1.301	0.956	1.478	0.168	2.874
n	5	5	5	5	5	5
Student's t-test (2.306)[c]	0.572	0.807	0.456	0.729	-	-
F-test (6.388)[c]	5.503	2.210	5.680	1.945	-	-

[a] ALF is determined by non-aqueous titration by dissolving 0.3 g in a mixture of 40 mL of anhydrous acetic acid and 40 mL of acetic anhydride and using 0.1 M perchloric acid as titrant with potentiometric detection of endpoint as per the British Pharmacopoeia.

[b] SOL is determined by non-aqueous titration by dissolving 0.4 g in 50 mL of anhydrous acetic acid and using 0.1 M perchloric acid as titrant with potentiometric detection of endpoint as per the British Pharmacopoeia.

[c] The values in parentheses represent the corresponding tabulated values of t and F at p=0.05.