

1 **S27 Appendix. Pair-wise analysis**
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Table S27 A. Pair-wise sensitivity comparisons of the devices used to test 0% and wrong API samples outside of their packaging. Sensitivities expressed as 95% CI, in grey. The p-value of the McNemar test (n=number of 0%/wrong API medicines assessed by both devices in the pair) is presented. The pairs for which a significant difference was observed are shown in orange, if any.

	4500a FTIR	C-Vue	MicroPHAZIR RX	Minilab	Neospectra 2.5	NIR-S-G1	PADs	PharmaChk	Progeny	QDa	TruScan RM	RDT
4500a FTIR	100 (93.3-100)											
C-Vue	1 (n=19)	100 (82.4-100)										
MicroPHAZIR RX	1 (n=47)	1 (n=19)	100 (92.5-100)									
Minilab	1 (n=53)	1 (n=19)	1 (n=47)	100 (93.3-100)								
Neospectra 2.5	1 (n=47)	1 (n=19)	1 (n=47)	1 (n=47)	100 (92.5-100)							
NIR-S-G1	0.1250 (n=47)	0.2500 (n=19)	0.1250 (n=47)	1 (n=47)	0.1250 (n=47)	91.5 (79.6-97.6)						
PADs	1 (n=31)	1 (n=19)	1 (n=31)	1 (n=31)	1 (n=31)	0.1250 (n=31)	100 (88.8-100)					
PharmaChk	1 (n=6)	N/A	N/A	1 (n=6)	N/A	N/A	N/A	100 (54.1-100)				
Progeny	1 (n=47)	1 (n=19)	1 (n=47)	1 (n=47)	1 (n=47)	0.1250 (n=47)	1 (n=31)	N/A	100 (92.5-100)			
QDa	1 (n=47)	1 (n=19)	1 (n=47)	1 (n=53)	1 (n=47)	0.1250 (n=47)	1 (n=31)	1 (n=6)	1 (n=47)	100 (93.3-100)		
TruScan RM	1 (n=47)	1 (n=19)	1 (n=47)	1 (n=47)	1 (n=47)	0.1250 (n=47)	1 (n=31)	N/A	1 (n=47)	1 (n=47)	100 (92.5-100)	
RDT	1 (n=12)	N/A	1 (n=6)	1 (n=6)	1 (n=6)	1 (n=6)	1 (n=6)	1 (n=6)	1 (n=6)	1 (n=6)	1 (n=6)	100 (73.5-100)

Table S27 B. Pair-wise specificity comparisons of the devices used to test genuine samples outside their packaging.

Specificities expressed as 95% CI, in grey. The p-value of the McNemar test (n=number of 0%/wrong API medicines assessed by both devices in the pair) is presented. The pairs for which a significant difference was observed are shown in orange, if any.

	4500a FTIR	C-Vue	MicroPHAZIR RX	Minilab	Neospectra 2.5	NIR-S-G1	PADs	PharmaChk	Progeny	QDa	TruScan RM	RDT
4500a FTIR	100 (85.8-100)											
C-Vue	0.0313 (n=15)	60 (32.3-83.7)										
MicroPHAZIR RX	1 (n=22)	0.0313 (n=15)	100 (84.6-100)									
Minilab	1 (n=24)	0.0313 (n=15)	1 (n=22)	100 (85.8-100)								
Neospectra 2.5	1 (n=22)	0.0313 (n=15)	1 (n=22)	1 (n=22)	100 (84.6-100)							
NIR-S-G1	1 (n=22)	0.0313 (n=15)	1 (n=22)	1 (n=22)	1 (n=22)	100 (84.6-100)						
PADs	1 (n=20)	0.0313 (n=15)	1 (n=20)	1 (n=20)	1 (n=20)	1 (n=20)	100 (83.2-100)					
PharmaChk	1 (n=2)	N/A	N/A	1 (n=2)	N/A	N/A	N/A	50 (1.3-98.7)				
Progeny	1 (n=22)	0.0625 (n=15)	1 (n=22)	1 (n=22)	1 (n=22)	1 (n=22)	1 (n=20)	N/A	95.5 (77.2-99.9)			
QDa	1 (n=22)	0.1250 (n=15)	1 (n=22)	0.50 (n=24)	1 (n=22)	1 (n=22)	1 (n=20)	1 (n=2)	1 (n=22)	91.7 (73.0-99.0)		
TruScan RM	1 (n=22)	0.0313 (n=15)	1 (n=22)	1 (n=22)	1 (n=22)	1 (n=22)	1 (n=20)	N/A	1 (n=22)	1 (n=22)	100 (84.6-100)	
RDT	1 (n=3)	N/A	1 (n=1)	1 (n=3)	1 (n=1)	1 (n=1)	1 (n=1)	1 (n=2)	1 (n=1)	1 (n=3)	1 (n=1)	100 (29.2-100)

Table S27 C. Pair-wise sensitivity comparisons of the devices used to test 50 % and 80 % API samples outside their packaging.

Sensitivities expressed as 95% CI, in grey. The p-value of the McNemar test (n=number of 0%/wrong API medicines assessed by both devices in the pair) is presented. The pairs for which a significant difference was observed are shown in orange, if any.

	4500a FTIR	C-Vue	MicroPHAZIR RX	Minilab	Neospectra 2.5	NIR-S-G1	PADs	PharmaChk	Progeny	QDa	TruScan RM	RDT
4500a FTIR	28.6 (15.7-44.6)											
C-Vue	0.0005 (n=18)	100 (81.5-100)										
MicroPHAZIR RX	0.0078 (n=36)	0.0039 (n=18)	50.0 (32.9-67.1)									
Minilab	0.0002 (n=42)	0.0156 (n=18)	0.6250 (n=36)	59.5 (43.3-74.4)								
Neospectra 2.5	0.0215 (n=36)	<0.0001 (n=18)	<0.0001 (n=36)	<0.0001 (n=36)	5.6 (0.7-18.7)							
NIR-S-G1	1 (n=36)	0.0010 (n=18)	0.0923 (n=36)	0.0352 (n=36)	0.0117 (n=36)	30.6 (16.3-48.1)						
PADs	0.0078 (n=30)	<0.0001 (n=18)	0.0001 (n=30)	<0.0001 (n=30)	0.5000 (n=30)	0.0039 (n=30)	0 (0-11.6)					
PharmaChk	0.2500 (n=6)	N/A	N/A	1 (n=6)	N/A	N/A	N/A	83.3 (35.9-99.6)				
Progeny	0.3438 (n=36)	0.0001 (n=18)	0.0005 (n=36)	0.0001 (n=36)	0.2188 (n=36)	0.1797 (n=36)	0.0313 (n=30)	N/A	16.7 (6.4-32.8)			
QDa	<0.0001 (n=36)	1 (n=18)	<0.0001 (n=36)	<0.0001 (n=42)	<0.0001 (n=36)	<0.0001 (n=36)	<0.0001 (n=30)	1 (n=6)	<0.0001 (n=36)	100 (91.6-100)		
TruScan RM	0.8036 (n=36)	<0.0001 (n=18)	0.0213 (n=36)	0.0118 (n=36)	0.0313 (n=36)	0.6072 (n=36)	0.0078 (n=30)	N/A	0.7539 (n=36)	<0.0001 (n=36)	22.2 (10.1-39.2)	
RDT	0.6250 (n=12)	N/A	0.2500 (n=6)	0.0313 (n=12)	0.5000 (n=6)	0.5000 (n=6)	1 (n=6)	0.25 (n=6)	1 (n=6)	0.0020 (n=12)	0.0625 (n=6)	16.7 (2.1-48.4)