Supplementary Material

Quantification of Creatinine on Paper-based Devices from Whole Blood using RGB Sensor

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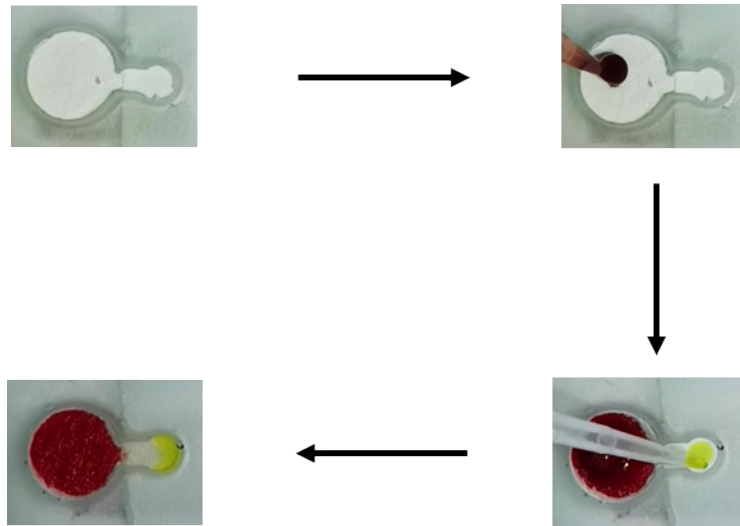
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Fig. S1. Blood-plasma separation and reaction mechanism on fabricated paper-based device.
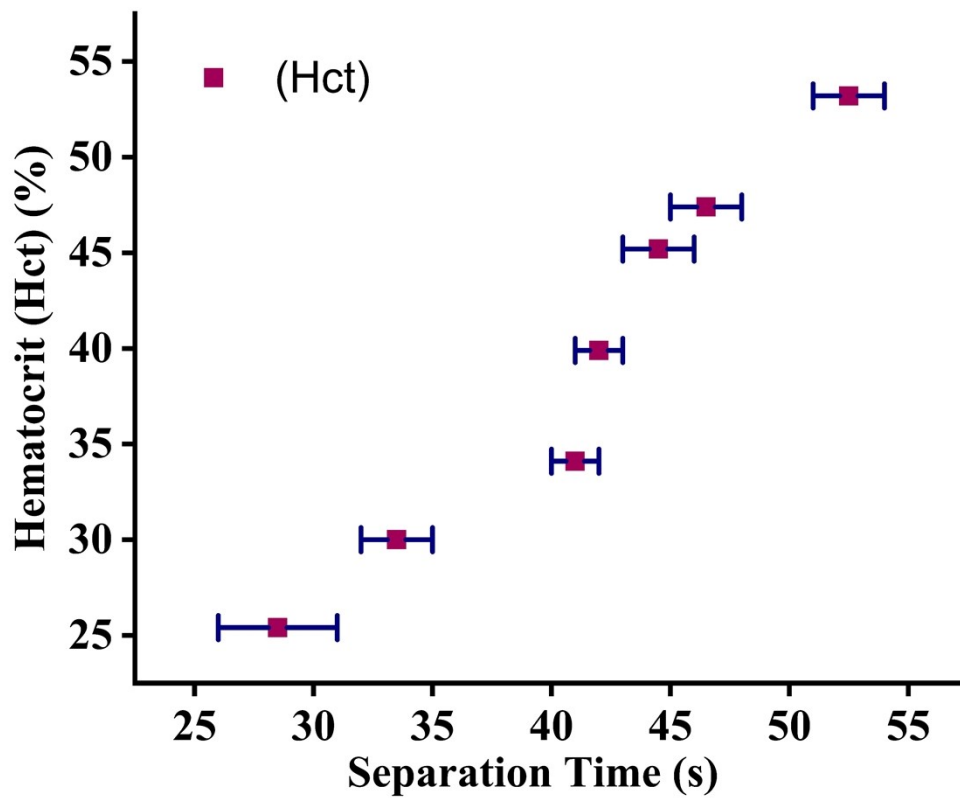

Fig. S2. Graph between plasma separation time vs different hematocrit blood sample.
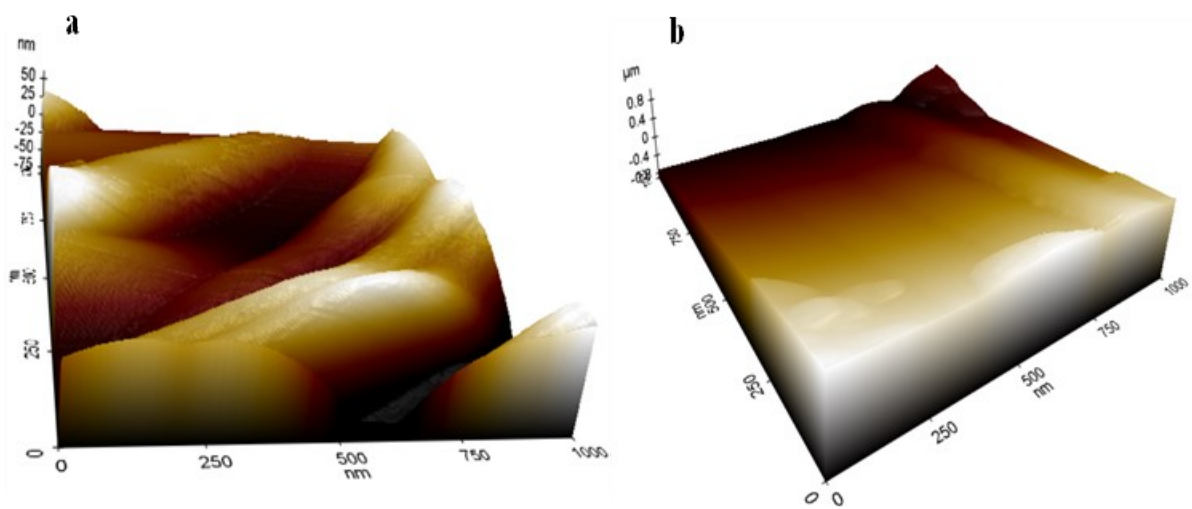
Fig. S3. (a) 3D projection of LF1 filter paper and (b) Whatman grade 1 filter paper
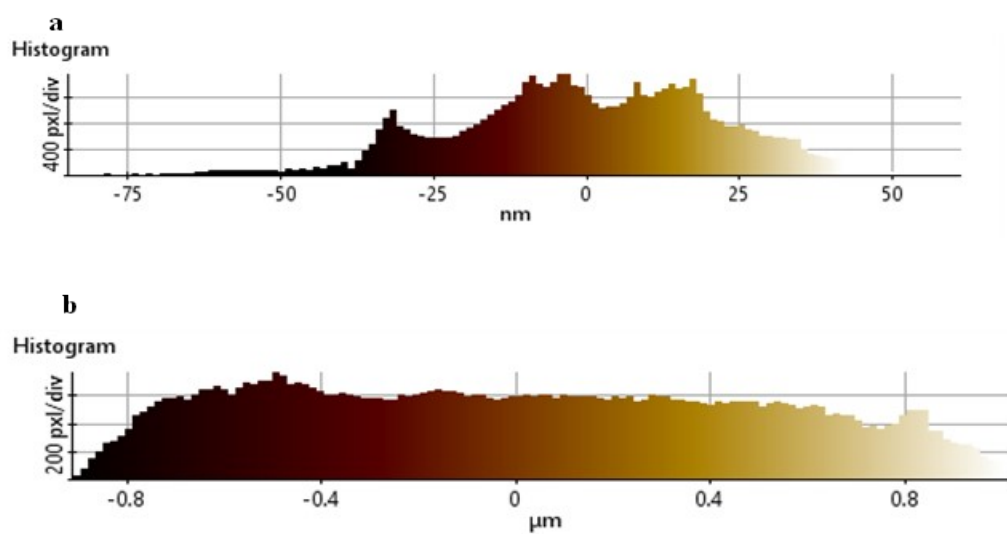

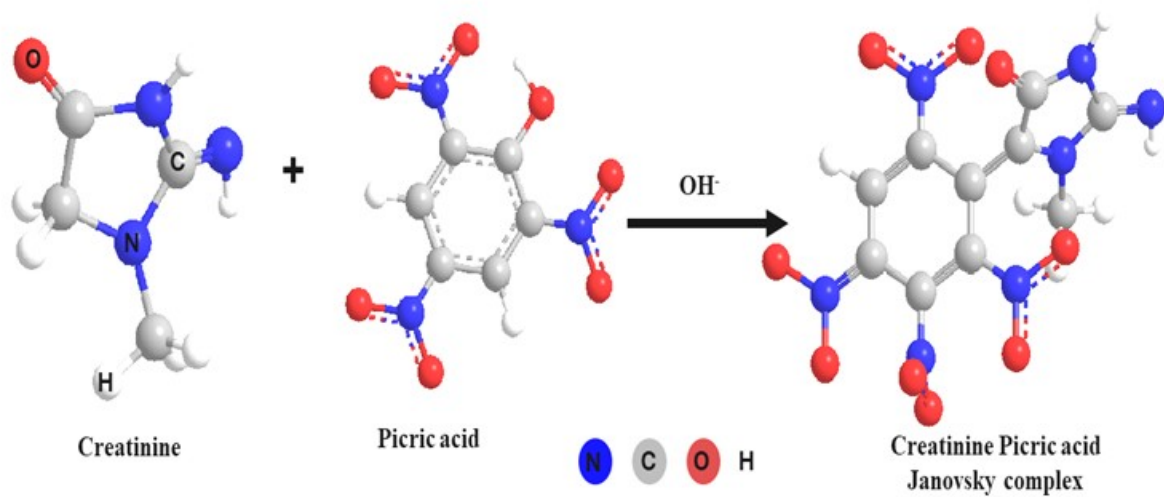Fig. S4. (a) Surface height histogram of LF1 (b) Whatman grade 1

Fig. S5. Schematic showing Jaffé reaction between creatinine and picric acid in NaOH

Table S1 Accuracy table for creatinine measurement using our developed device and gold standard data

S.N.	Creatinine measurement using paper sensor (mg/dL)	Creatinine measurement using the gold standard device (mg/dL)	Accuracy of our developed method	Median
1	0.21	0.25	80.95	
2	0.52	0.47	90.38	
3	0.56	0.50	89.28	
4	0.58	0.62	93.10	
5	0.6	0.56	93.33	
6	0.64	0.58	90.62	
7	0.64	0.59	92.19	
8	0.65	0.60	92.31	
9	0.67	0.62	92.54	
10	0.68	0.70	97.06	
11	0.70	0.65	92.86	
12	0.72	0.75	95.83	
13	0.75	0.71	94.67	
14	0.77	0.70	90.91	94.05
15	0.78	0.72	92.31	
16	0.80	0.83	96.25	
17	0.84	0.79	94.05	
18	0.86	0.92	93.02	
19	0.90	0.90	100.00	
20	0.92	1.10	80.43	
21	0.94	0.89	94.68	
22	0.97	0.95	97.94	
23	0.99	1.16	82.83	
24	1.00	0.90	90.00	
25	1.30	1.64	73.85	
26	1.70	1.65	97.06	
27	2.90	2.80	96.55	
28	3.80	3.70	97.37	
29	4.90	5.10	95.92	
30	5.10	4.80	94.12	
31	7.40	7.20	97.30	
32	8.50	8.80	96.47	
33	9.80	9.30	94.90	

34	12.90	13.12	98.29	
35	14.80	15.00	98.65	