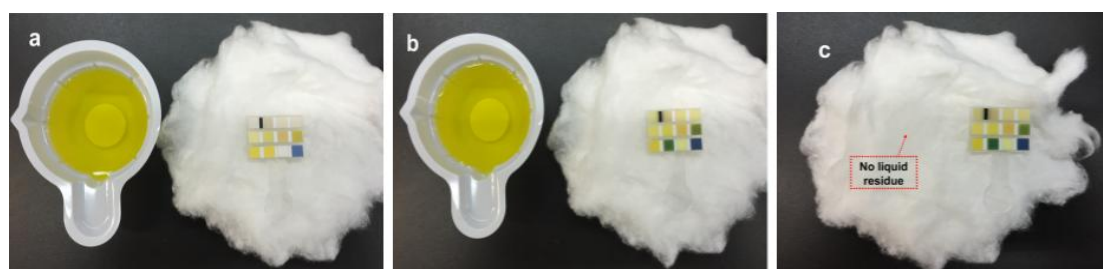


## Supplementary materials

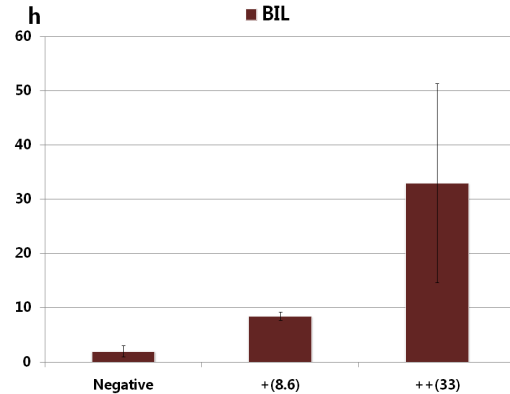
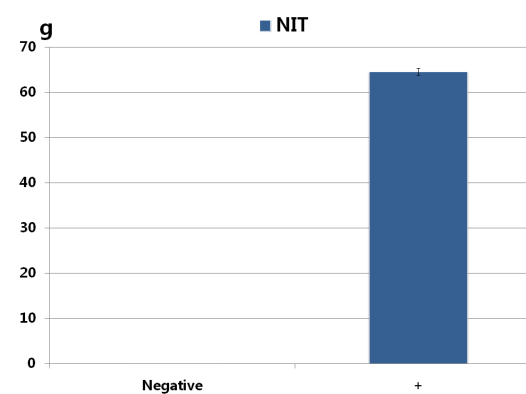
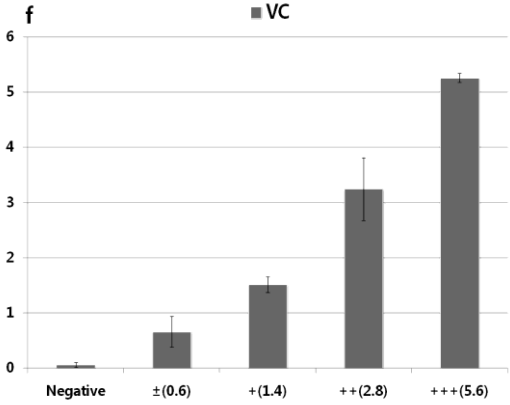
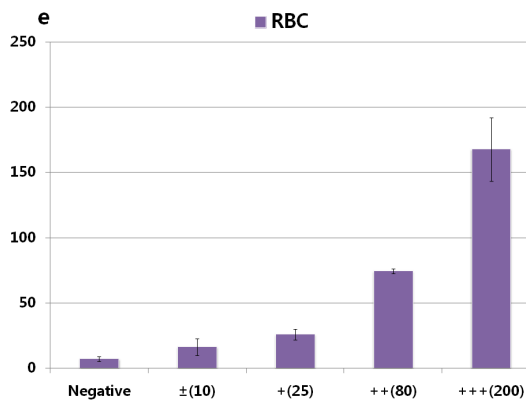
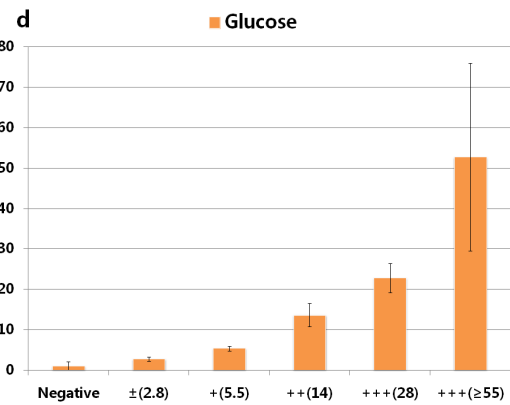
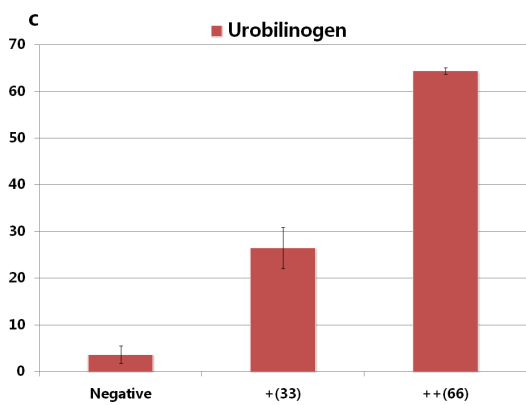
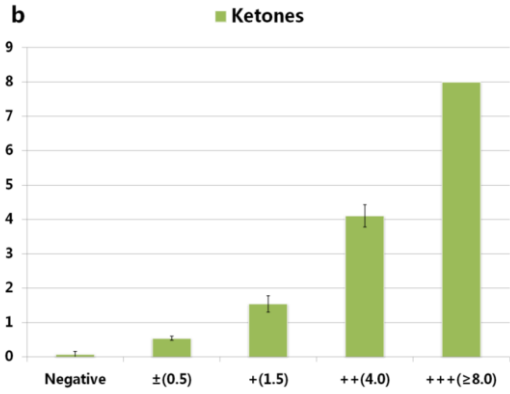
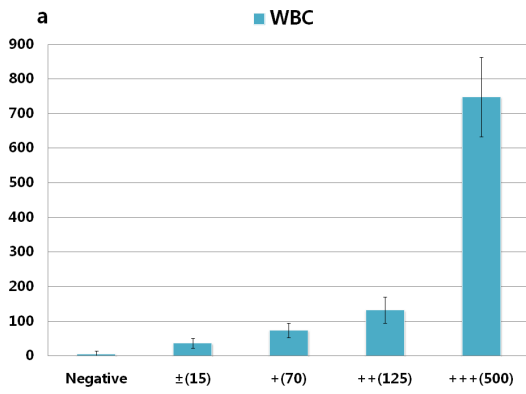
**Table S1.** Imaging parameters of cellphones with different brands and/or different models under the same brand.

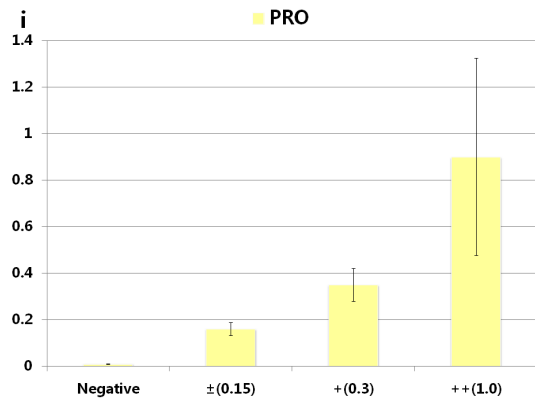
Brand	Product model	Resolution	Rear camera pixels	Front-facing camera pixels
SAMSUNG	SM-C5000	1920×1080 (FHD*, 1080P)	16 million	8 million
MI	Note2	1280×720 (HD*, 720P)	8 million	2 million
HUAWEI	Che2-TL00H	1280×720 (HD*, 720P)	13 million	5 million
Apple	iPhone 5s	1136×640	8 million	1.2 million
Apple	iPhone 6	1334×750	8 million	1.2 million
Apple	iPhone 6S	1334×750	12 million	5 million
Apple	iPhone 6S Plus	1920×1080 (FHD*, 1080P)	12 million	5 million
Apple	iPhone SE	1136×640	12 million	1.2 million

\*FHD : Full High Definition; HD: High Definition

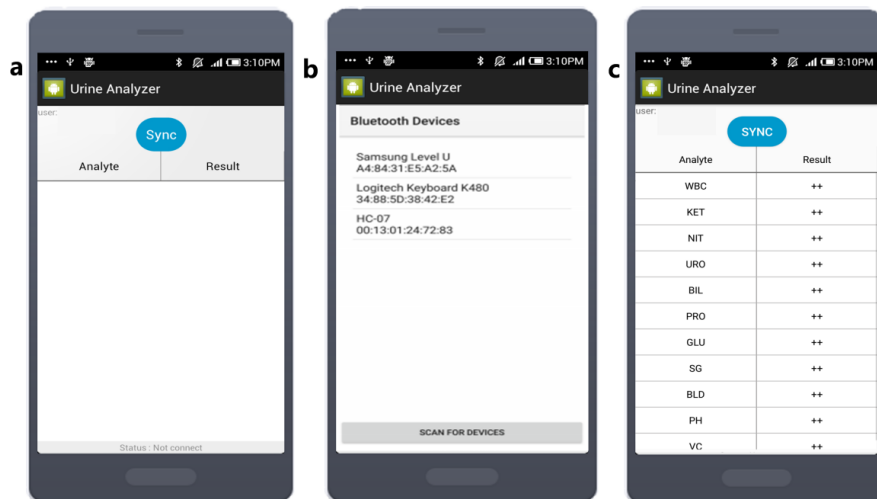


**Figure S1.** (a) Before the reaction unit contacts the colored liquid. (b) After the reaction unit contacts the colored liquid. The reaction unit was placed on the white cotton for contrast. (c) The reaction unit was removed from its original position, and no residual liquid was found on the cotton.

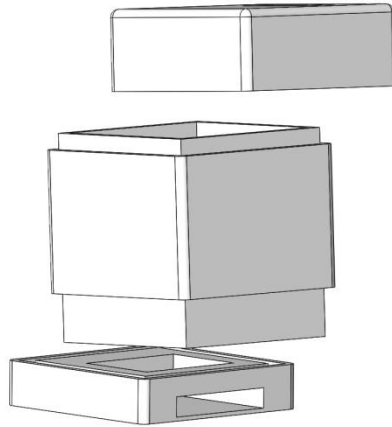




**Figure S2.** Results of dipstick tests (URIT 11G<sup>®</sup>, URIT) from our portable device and the hospital instrument (Urit-500B). The horizontal coordinates represent the true values of the human urine samples; the vertical coordinates represent the values measured by the portable device. (a) WBC, (b) ketones, (c) urobilinogen, (d) glucose, (e) RBC, (f) VC, (g) nitrite, (h) bilirubin ,and(i) protein.



**Figure S3.** The screenshots of the Android app used to show the detection results on the cellphone.(a) Main menu, (b) Scanning for the buletooth device, (c) The interface for results display.



**Figure S4.** The mechanical structure of the portable urine analyzer.