

Smartphone and paper-based fluorescence reader: A do it yourself approach

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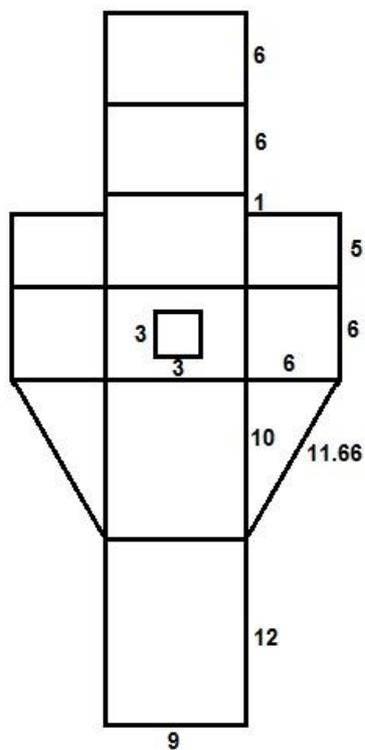


Figure S1. Foldable papercraft of the proposed QDs reader (length units in cm).

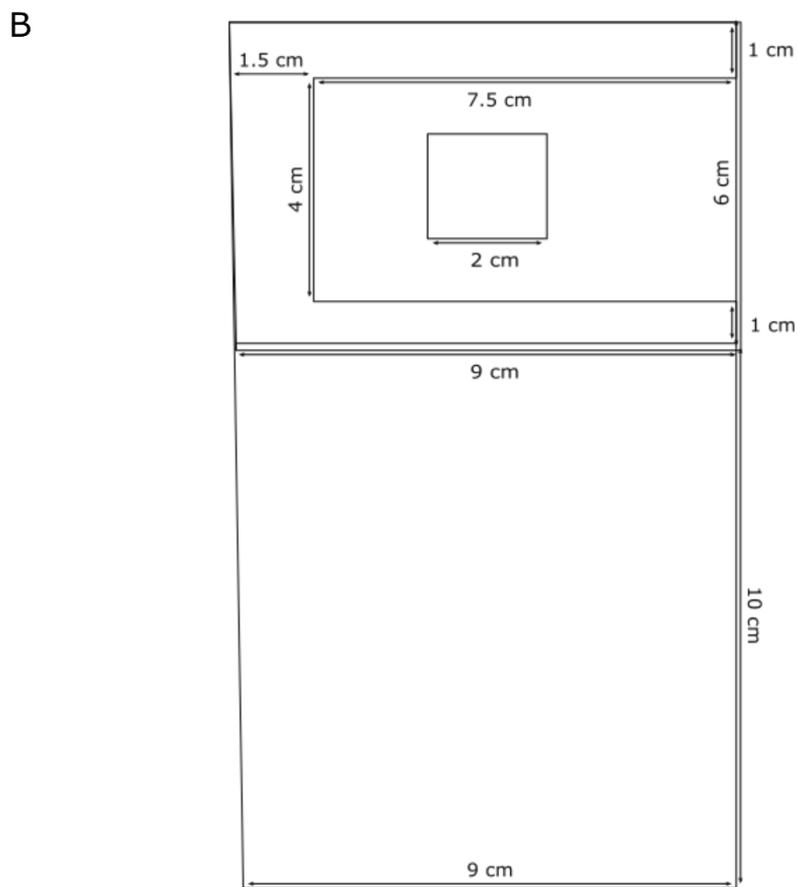
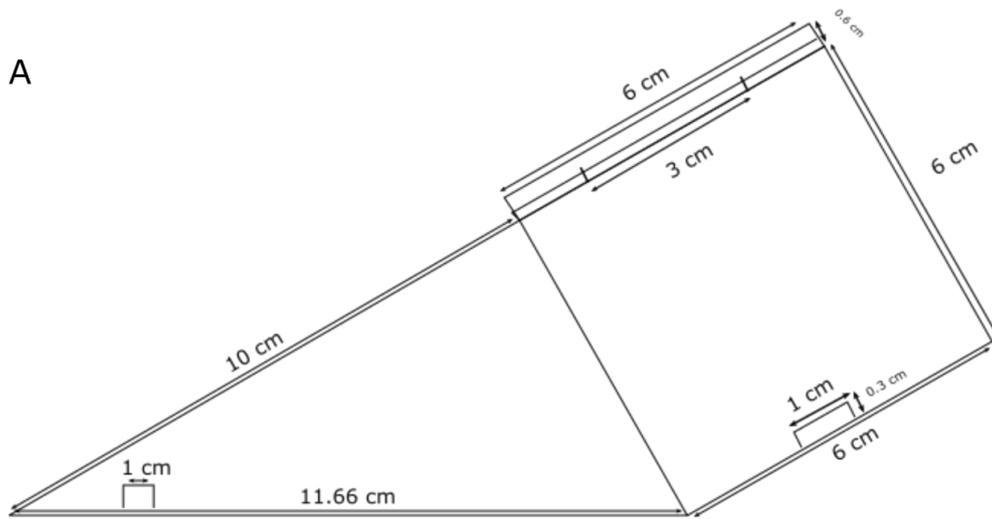


Figure S2. A. Lateral view of the reader case. B. Top view of the reader case.

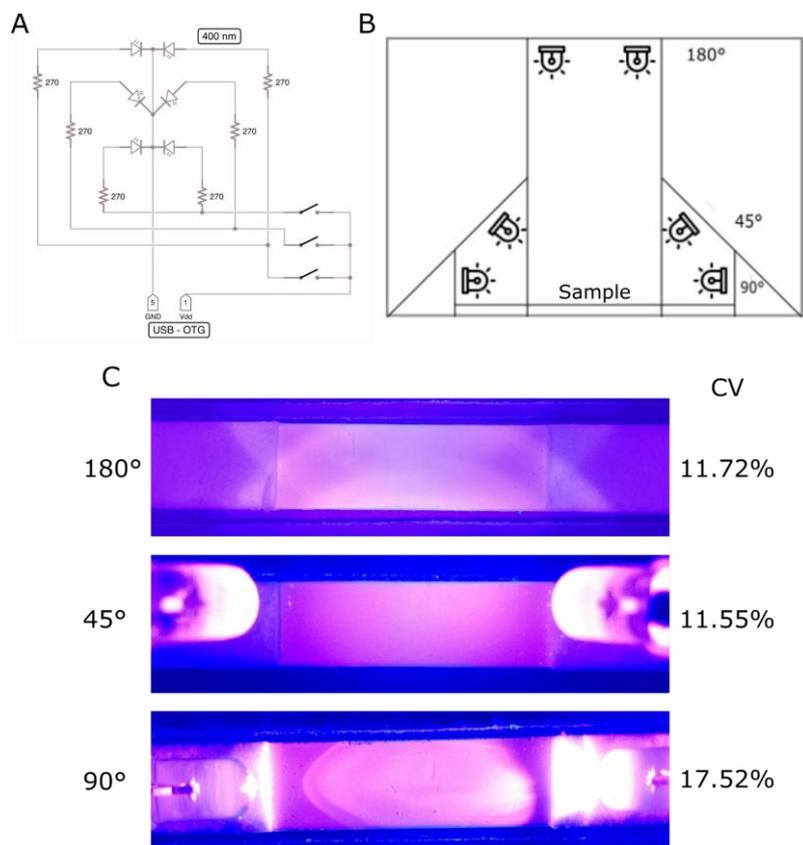


Figure S3. A. Scheme of the employed electronic circuit (resistance values in Ω). The maximum forward current of the employed LEDs was 20 mA. LED Operating voltage, 3.0 - 5 V. Energy consumption, 60 mW. Data offered by the provider (Siled, CDMX, Mexico). B. Scheme of the studied illumination angles and sample position. C. Images acquired by means of the available illumination angles. The employed manual settings are detailed in Table S1.

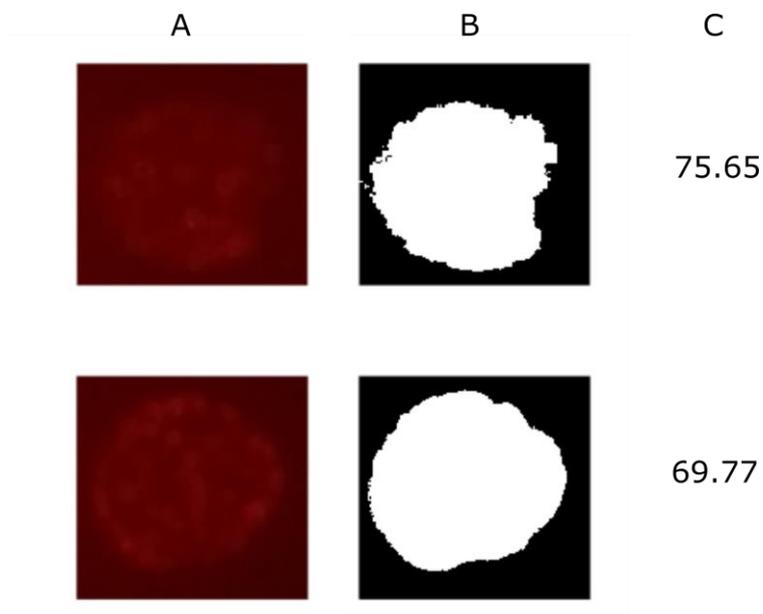


Figure S4. Image processing and pixel intensity estimation. A. Original image. B. Binary mask. C. Average pixel intensity resulting from the pixels covered by the binary mask.

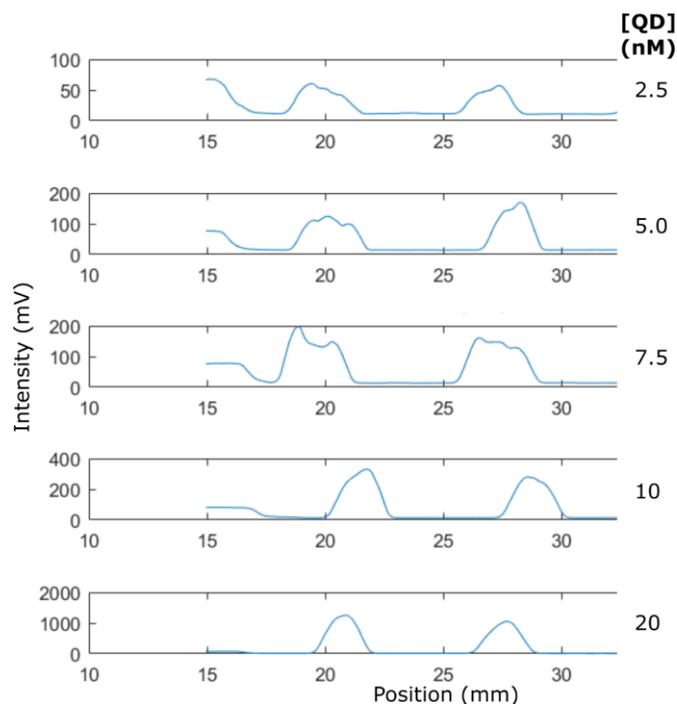


Figure S5. Experimental evidence. Lateral flow strips with different QDs concentrations analyzed using ESEQuant LR3 (QIAGEN, Hilden, Germany).

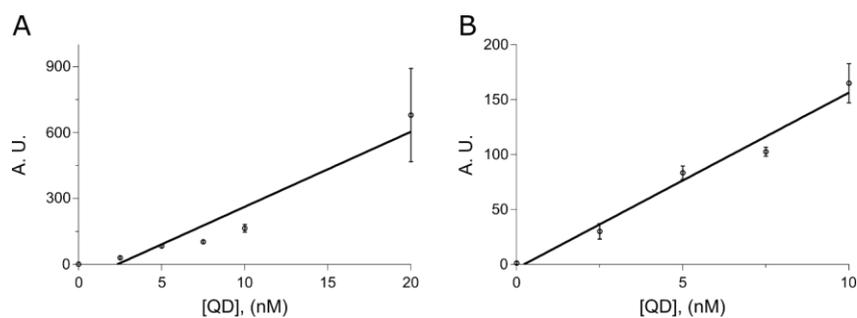


Figure S6. Calibration plots resulting from the calculation of the area below the curves representing the QDs intensities measured by ESEQuant LR3 (see Figure S5). **A.** Dynamic range from 2.5 to 20 nM. **B.** Dynamic range from 2.5 to 10 nM. A. U.; arbitrary units.

Table S1. Smartphone (Moto G5) specifications.

Dimensions: 14.43 × 7.30 × 0.95 cm	
Camera	
Sensor	CMOS
Aperture	f/2
Focal point	3.59 mm
Resolution	4160 × 3120 pixel (12.98 MP)
Manual settings	Focus: Macro (close up) Balance: tungsten (3200 °K) Exposure time: 1/1.5 s ISO: 100 Exposure compensation: 0
USB	
Connector	Micro USB 2.0
Functions	Charge Data storage On-The-Go