

Sample-in-answer-out paper platforms for diagnostic applications

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This presentation will shortly introduce some examples of paper-based analytical devices developed in our group, with special focus on simplified user operation and signal detection. Approaches presented include fluorimetric protein detection in tear fluid [1], colorimetric protein detection in urine [2], bioluminescence readout-based antibody detection in whole blood [3] and colorimetric detection of serum potassium [4]. The most user-friendly devices require nothing more than the application of an untreated sample and the simplest ways of reading out an assay result are in the form of interpreting the length of a colored bar similar to an analogue thermometer, or text or symbols directly displayed on the paper substrate itself.

References

- [1] K. Yamada, D. Citterio, *et al.*, ACS Appl. Mater. Interfaces, 7 (2015), 24864.
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- [4] Y. Soda, D. Citterio, E. Bakker, ACS Sens., 4 (2019), 670.