

Supplementary material for

**Phosphate determination in environmental, biological and industrial samples using a
smartphone as a capture device**

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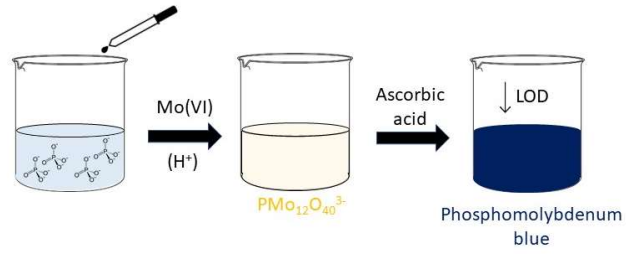


Figure S. 1. Reaction scheme showing to colour evolution during the analytical process. Phosphate is reacted, in acidic media, with Mo(VI) to form a pale yellow complex of P-Mo(VI). Further reaction with ascorbic acid leads to a darker blue colour, due to the formation of a polyoxoanion of P-Mo(VI)-Mo(V). Lower detection limits are obtained thanks to the reduction step.



Figure S. 2. The proposed setup consisted of a desktop lamp as a light source, and a methacrylate stand to place the smartphone. A white diffusive material is placed between the LED bulb and the samples.

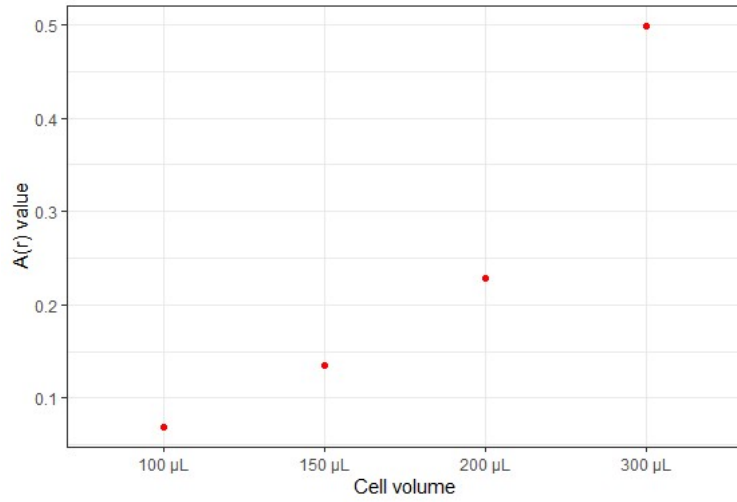


Figure S. 3. A(r) variation with increasing volumes. Data displayed for a 5 mg·L⁻¹ phosphorus solution.

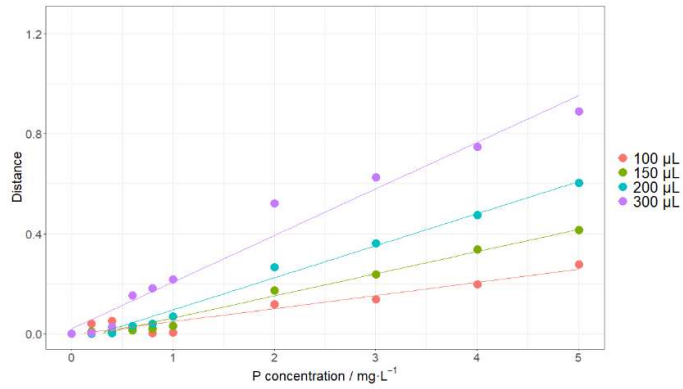


Figure S. 4. Distance value variation over well volume and P concentration.

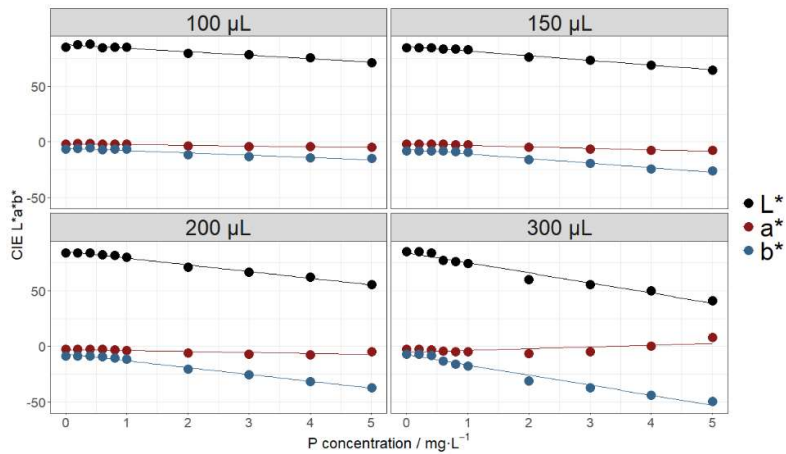


Figure S. 5. CIE L*a*b* colour space result obtained for different well volumes and P concentration.

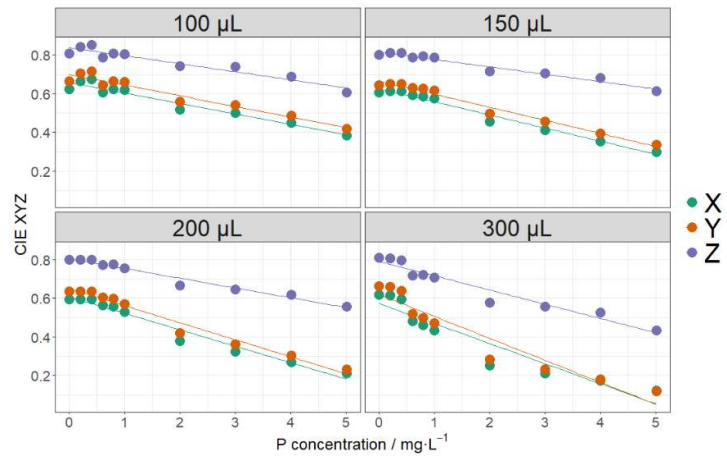


Figure S. 6. CIE XYZ colour space result obtained for different well volumes and P concentration.