Electronic Supplementary Material (ESI) for Nanoscale.

A smartphone quantitative detection platform of mycotoxins based on multiple-color upconversion nanoparticles

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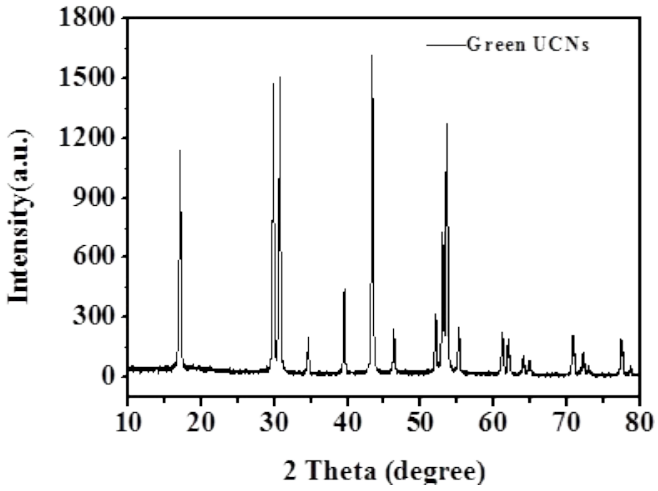
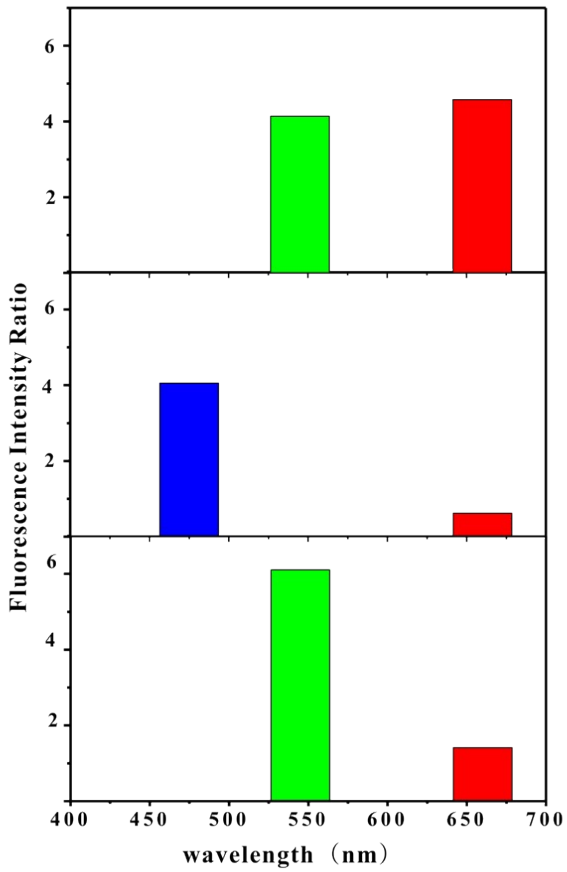
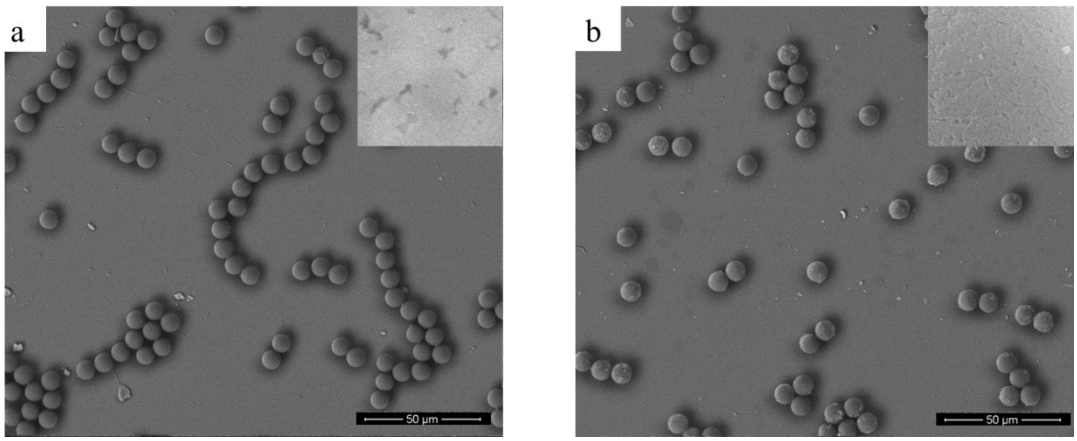


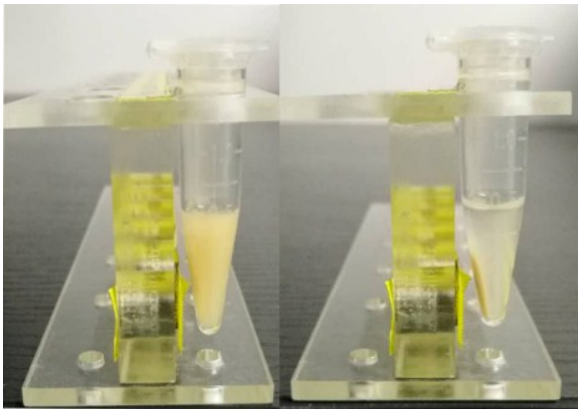
Supporting Information Fig S1. The structure of green emission UCNs measured by the X-ray diffraction (XRD).



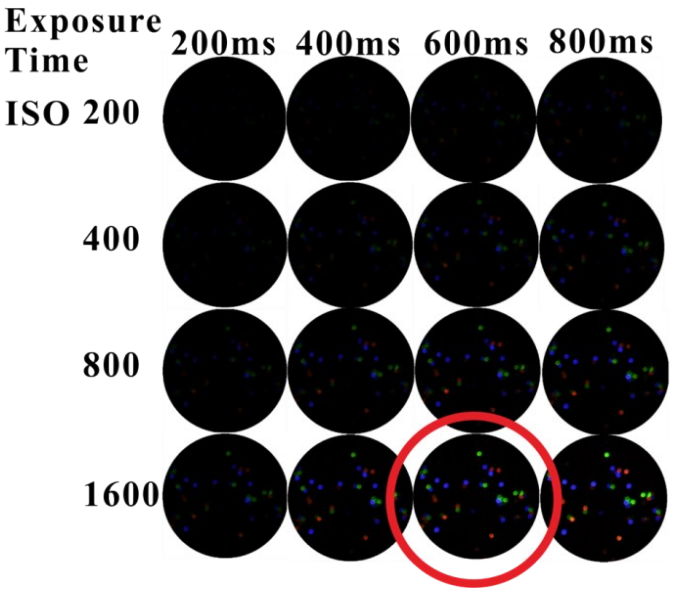
Supporting Information Fig S2. Fluorescence intensity ratio statistics of red/green/blue emission UCNs



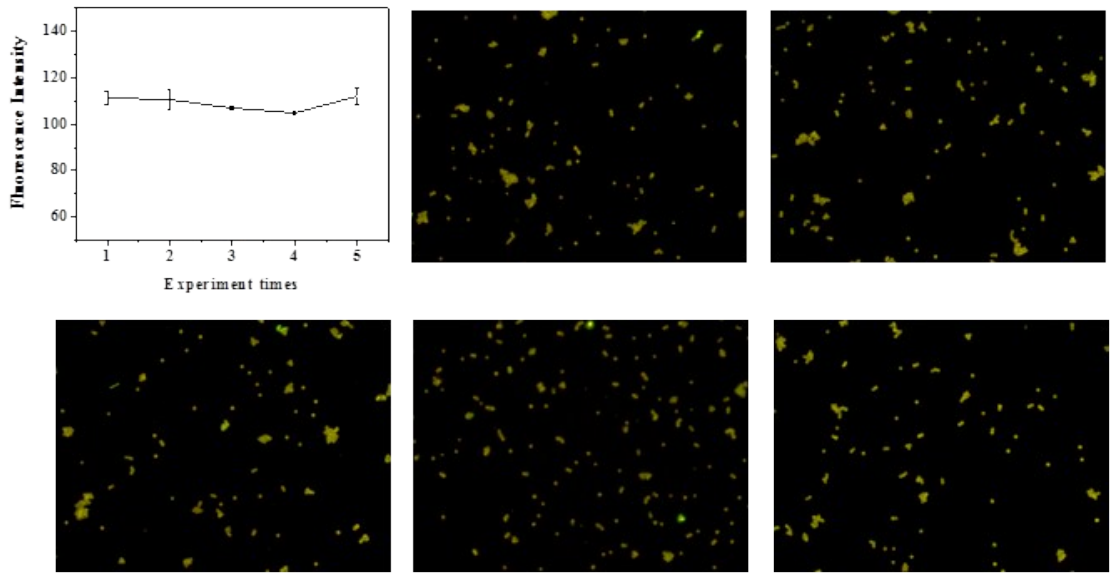
Supporting Information Fig S2. The morphology of empty microspheres(a) and upconversion nanoparticles encoded microspheres (UCNMs) (b) characterized by scanning electron microscope (SEM).



Supporting Information Fig S4. The magnetic separation performance of UCNMs. After 2 min, UCNMs were collected in the magnetic separation rack.

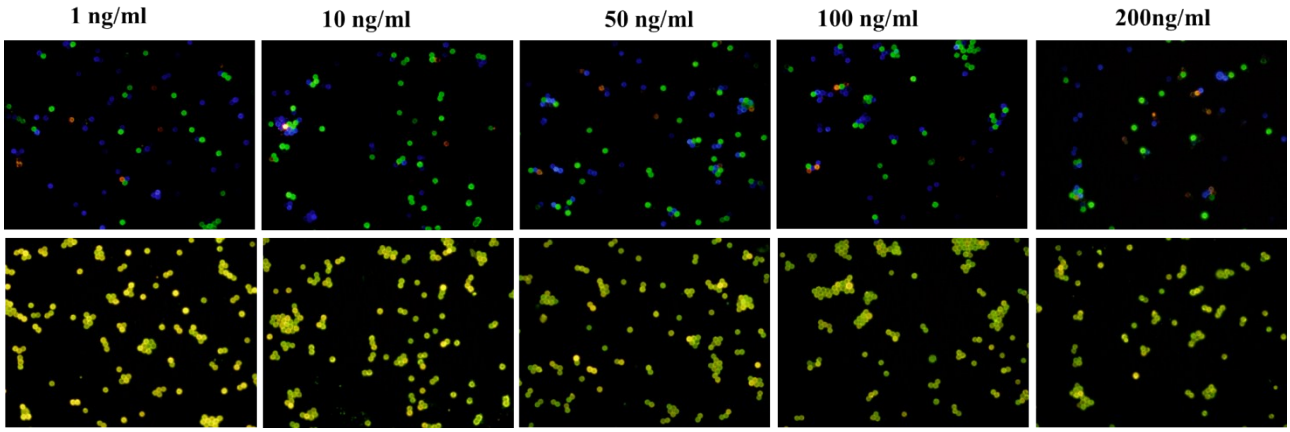


Supporting Information Fig S5.The influence of sensitivity (ISO) and exposure time and when the value of ISO was 1600 and exposure time was 600ms, the effect would be the best.



Supporting Information Fig S6. The reproducibility of UCNMs-based sensor and the fluorescence intensity in the 5 experiments were

111.30235, 110.34715, 107.2094, 104.81405, 111.9784 respectively.



Supporting Information Fig S7. The multiplex detection of mycotoxins by traditional fluorescence microscope.