Portable smartphone enabled colorimetric detection of tetracycline in commercial milk samples via peroxidase-mimicking ZnO-Pd nanobolts

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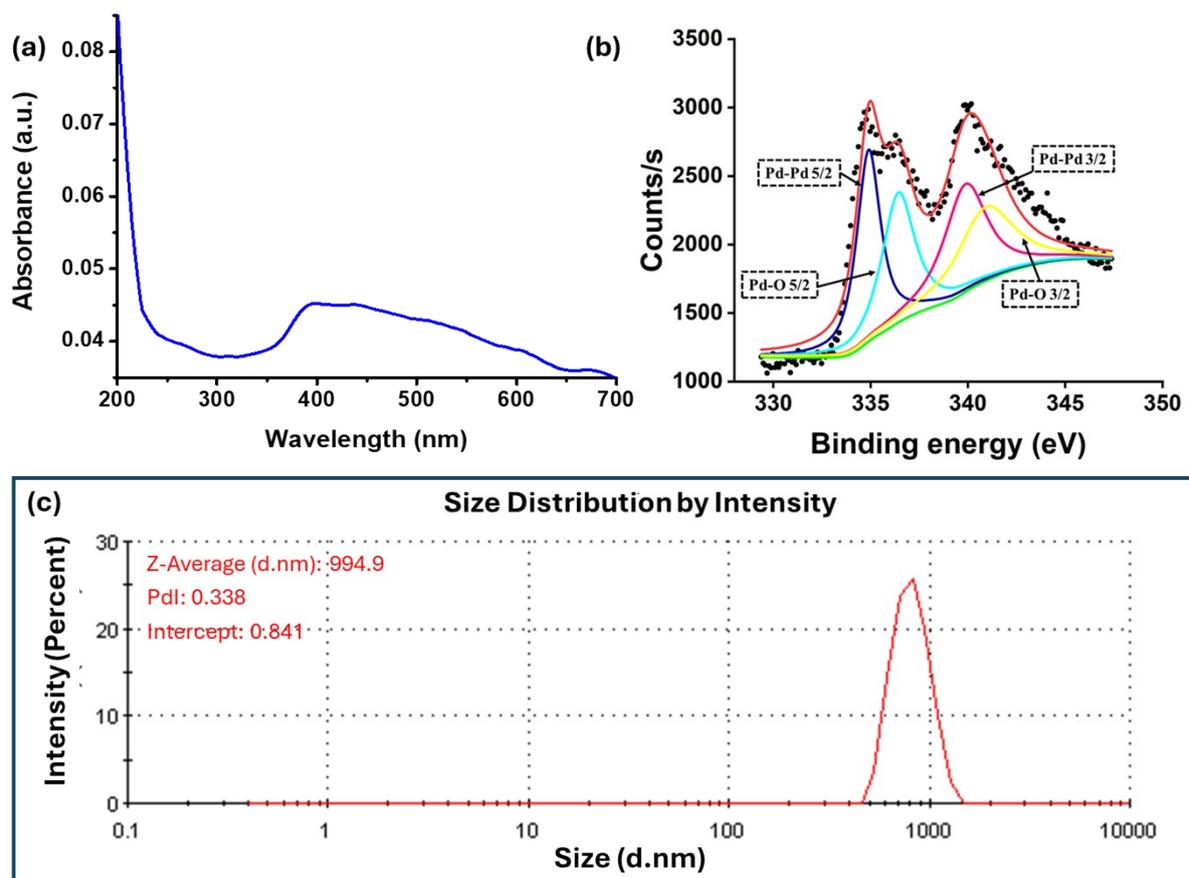*Corresponding author

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Fig. S1. (a) UV-vis spectrum of ZnO-Pd nanobolts (b) XPS micrograph of ZnO-Pd nanobolts and (c) DLS pattern of ZnO-Pd nanobolts.[30]
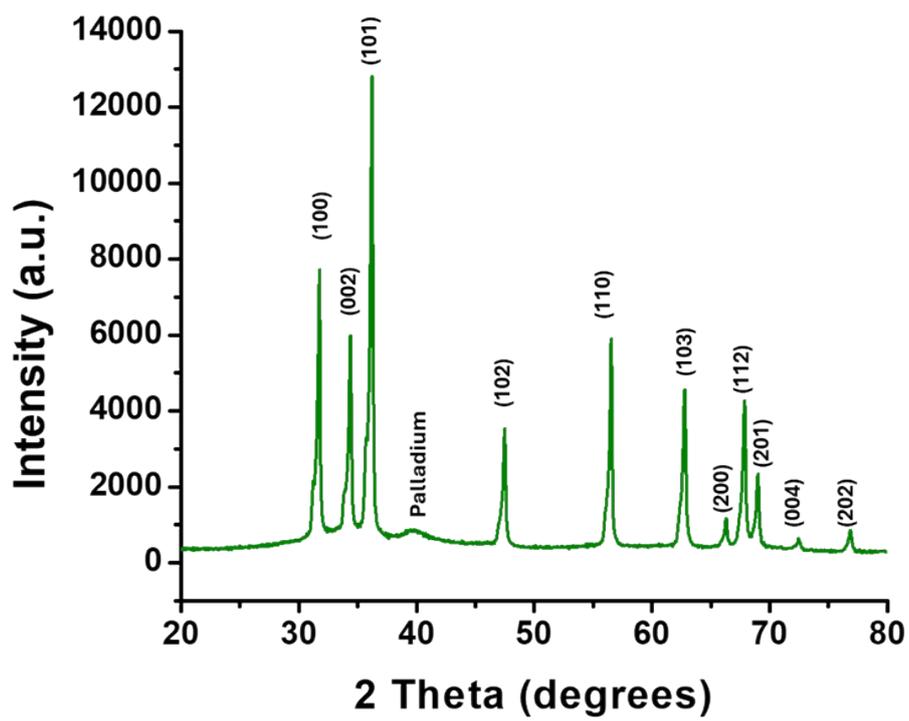
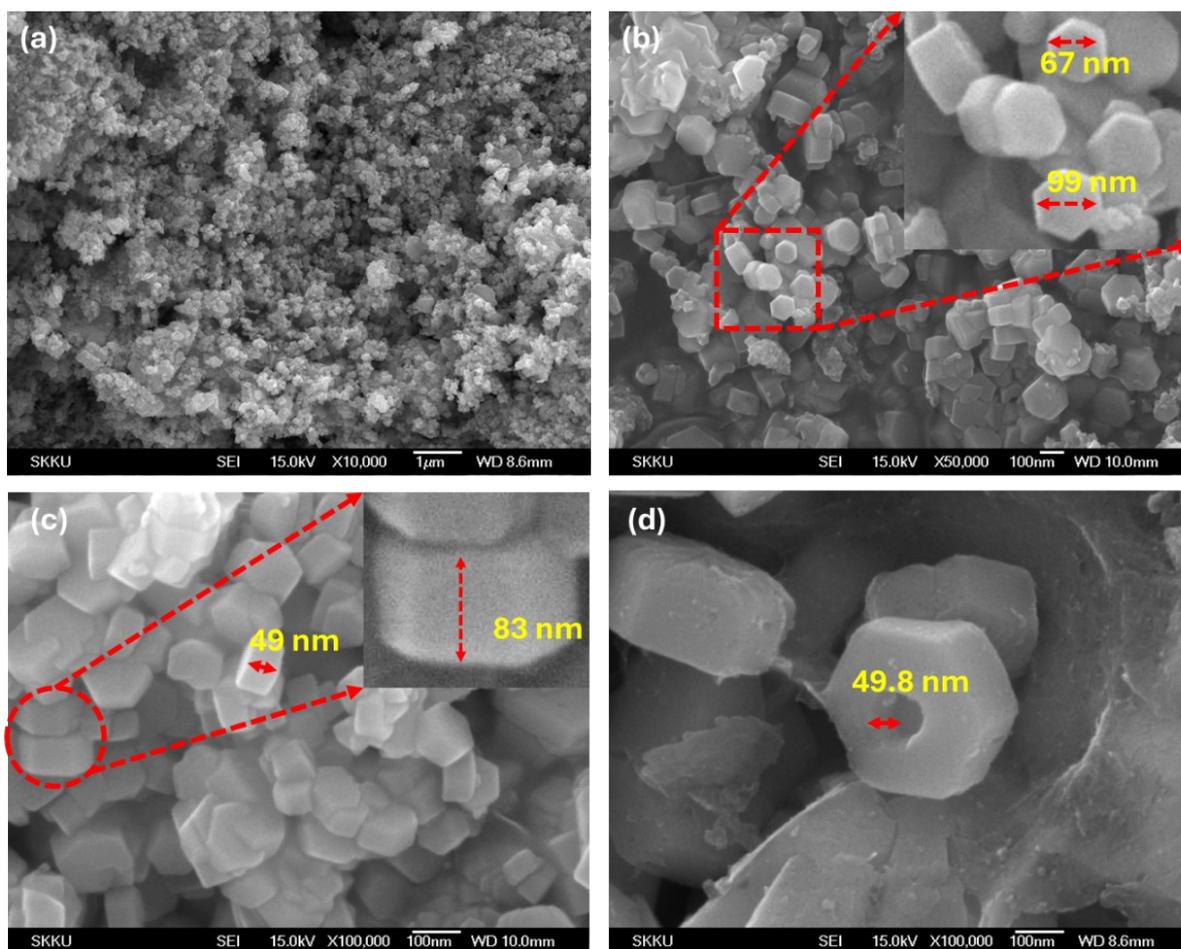*Fig. S2. X-Ray Diffraction graph of the ZnO-Pd nanobolts.[30]*

Fig. S3. Images of the nanomaterial acquired at various magnifications using FESEM.[30] (a) micrograph obtained at 10,000 × magnification (scale bar, 1 μm); (b) micrograph obtained at 50,000 × magnification (scale bar, 100 nm); (c) Scan attained at 100,000 × magnification, depicting the unique morphology of ZnO–Pd nanobolts; (d) Highly magnified scan showing the central hole of the nanobolts.
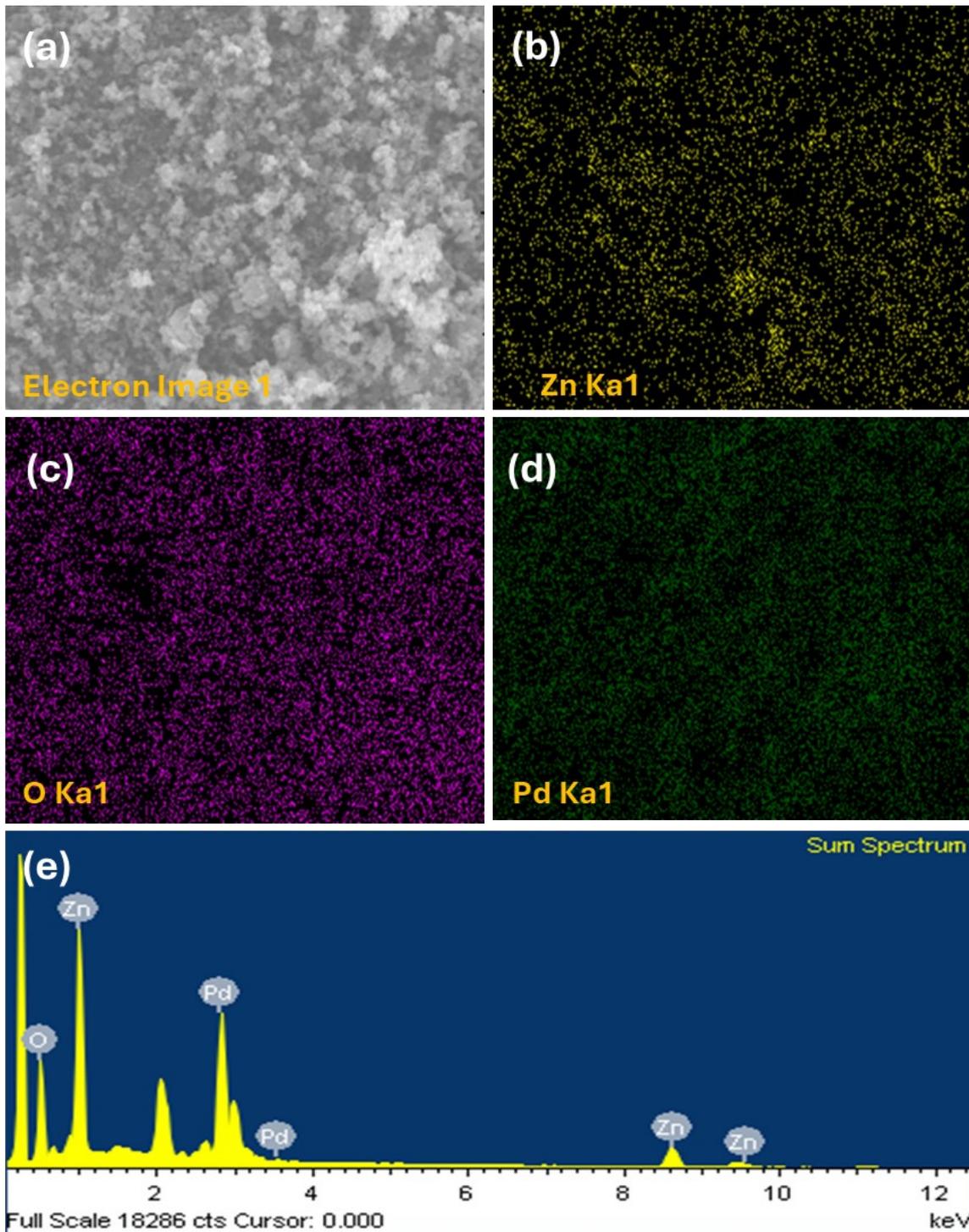
Fig. S4. EDX analysis of ZnO–Pd nanobolts;[30] (a) Area for mapping selected for evaluation from a FESEM reflections, (b) Pd-K map (yellow), (c) Zn-K map (magenta), (d) O-K map (green) and (e) Spectrum demonstrating the elemental composition of the nanomaterial.
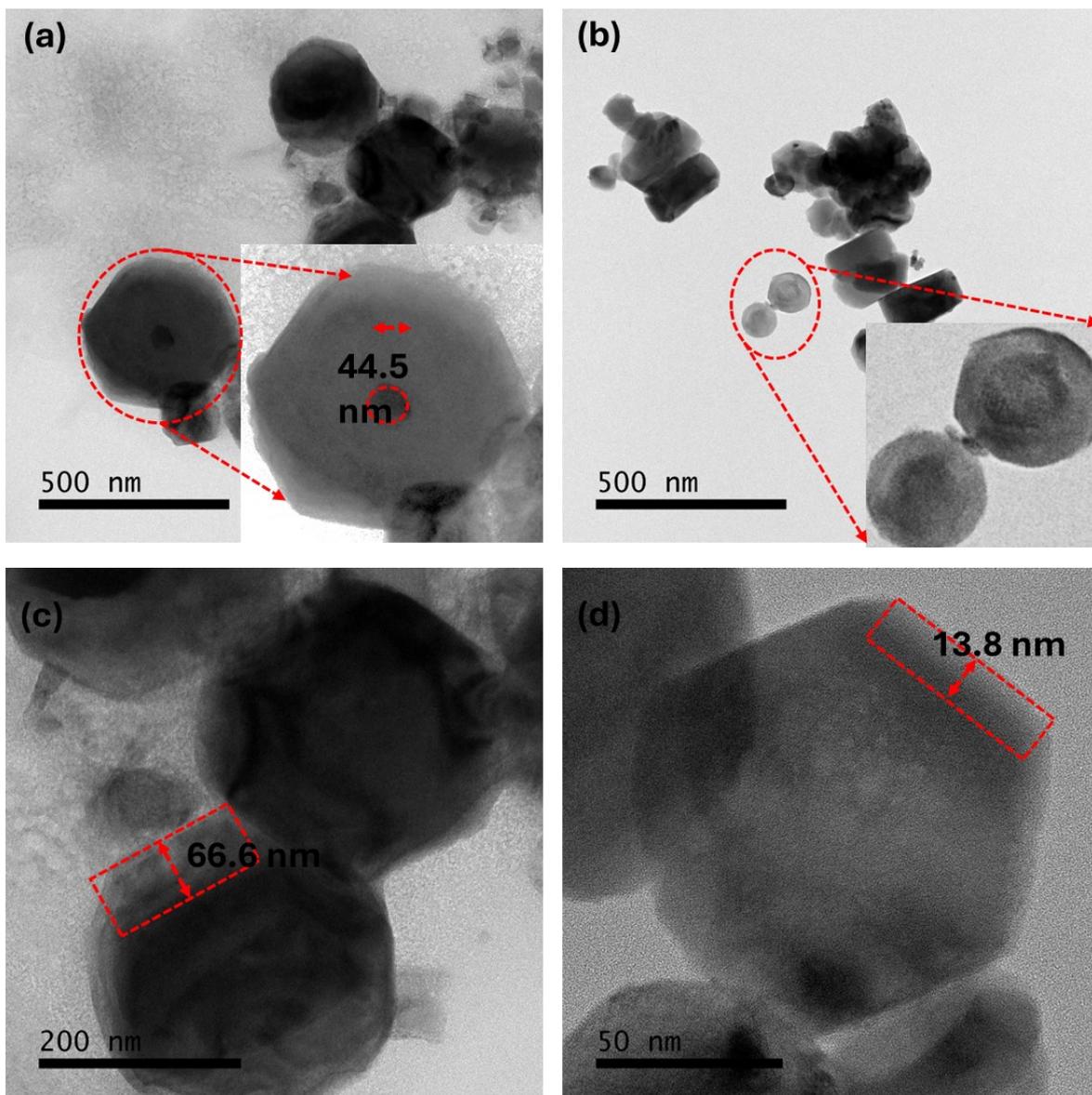
Fig. S5. TEM projections of nanomaterial.[30] (a) An image at the 500 nm scale showing the central hole (inset: depicting diameter of the centre hole); (b) Scan at a scale of 500 nm; (c) Scan at 200 nm depicting thickness; (d) Scan at 50 nm scale.
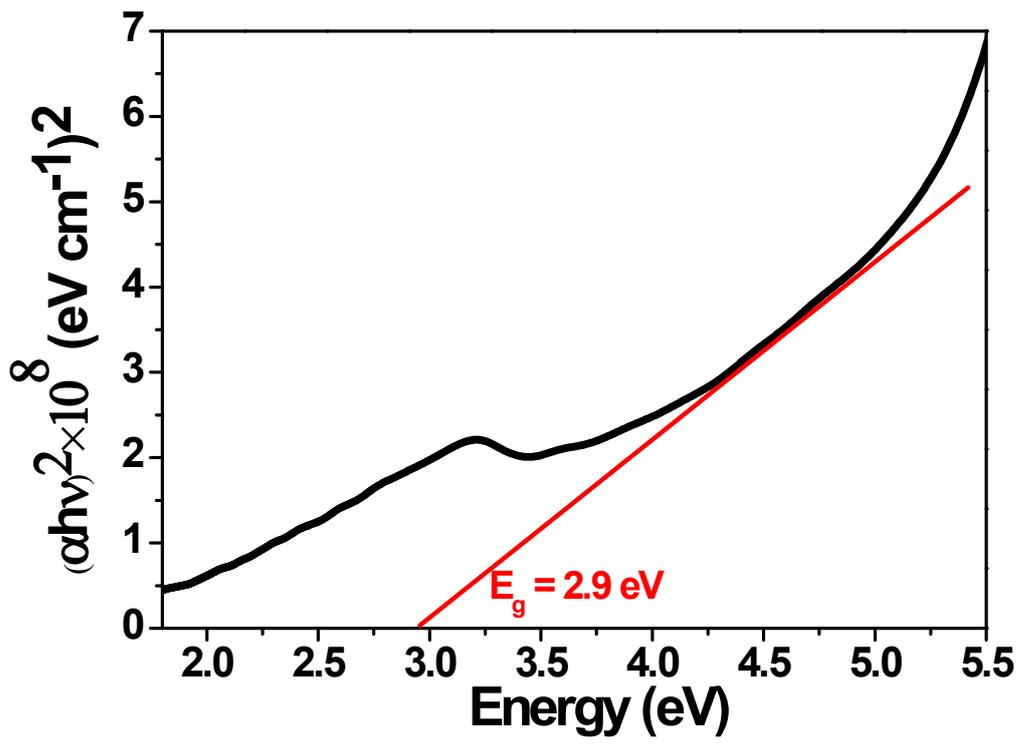
Fig. S6: Tauc plot determining the bandgap of ZnO-Pd.