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ARTICLE

Hemispherical Platinum: Silver Core: Shell Nanoparticles for miRNA Detection

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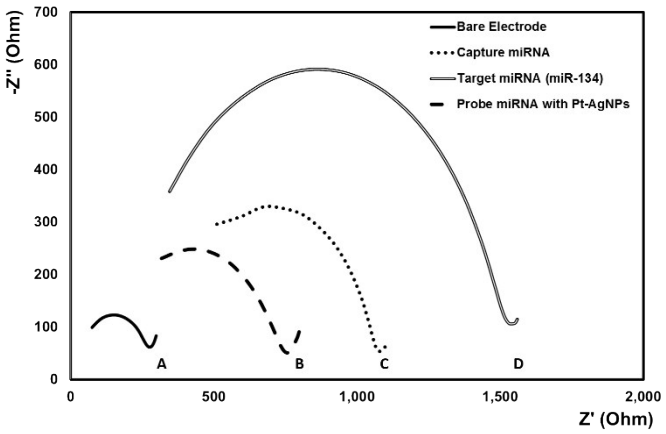
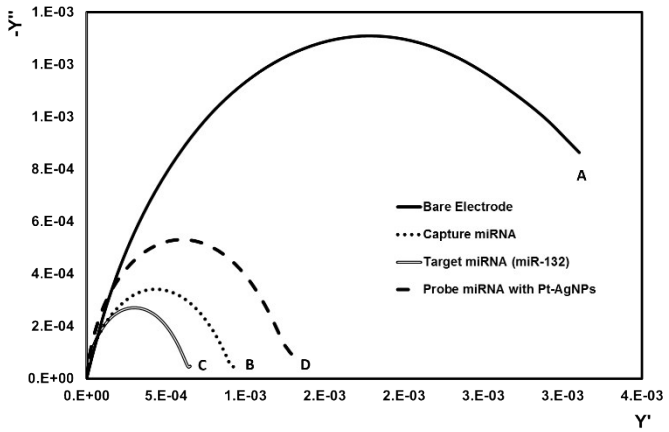


Figure S1: Nyquist plots recorded in 1 mM DPBS (pH 7.4) in the frequency range from 0.01 Hz to 100,000 Hz for a 2 mm diameter electrode (A) after modification with capture strand miRNA (B) and hybridization with the target (C) and platinum: silver core: shell nanoparticles labelled probe sequence (D) where the miR-132 target is 1 µM.

Figure S2: : Admittance plots recorded in 1 mM



DPBS (pH 7.4) in the frequency range from 0.01 Hz to 100,000 Hz for a 2 mm diameter electrode (A) after modification with capture strand miRNA (B) and hybridization with the target (C) and platinum:silver core: shell nanoparticles labelled probe sequence (D) where the miR-132 target is 1 µM.

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† Footnotes relating to the title and/or authors should appear here.
Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x

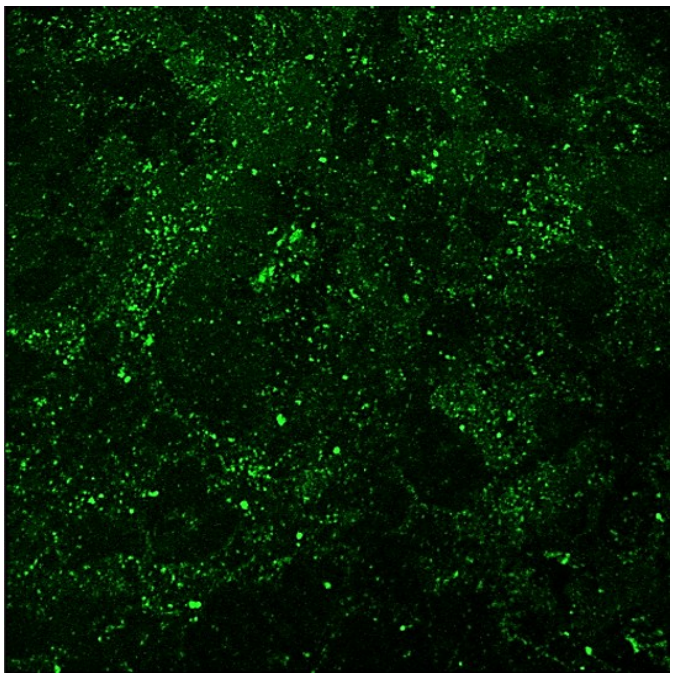

Figure S3: Confocal Fluorescence microscopy image of Hoechst (2 µg mL −1 for 15 minutes at room temperature) labelled Capture DNA. Luminescence images were recorded on a Zeiss LSM510 Meta confocal microscope using a 40× oil immersion objective lens (NA 1.4) and a 405 nm laser excitation. Line bar is 10 µm.

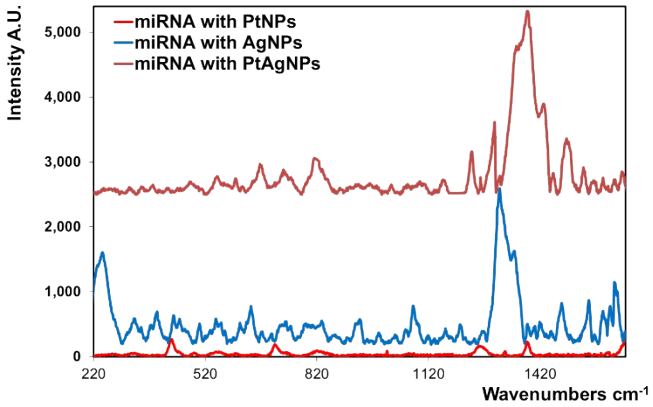

Figure S4: Raman spectra of miR-132 bound on planar gold in the presence (top, offset for clarity) of platinum: silver core: shell nanoparticle, silver (middle) and platinum nanoparticles (bottom).

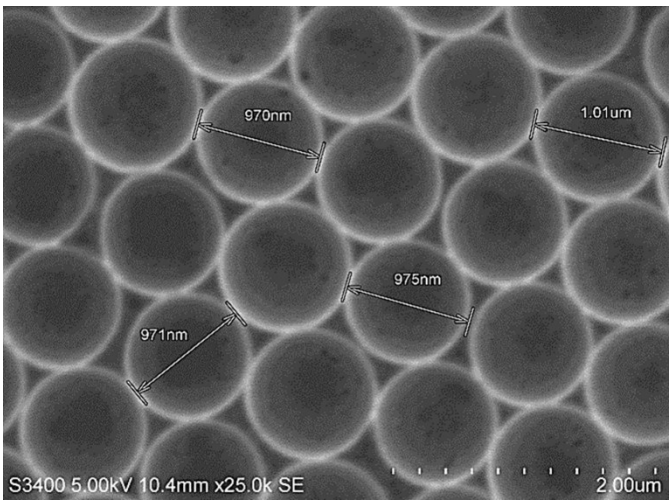

Figure S4: SEM image of the 0.98 µm diameter cavity array. A thin layer of polystyrene (PS) spheres was deposited on the silicon wafers coated with 1000 Å gold (Au) 525 µm thickness over a 50 Å titanium adhesion layer and evaporated over night at room temperature. Images were obtained using a Hitachi S3400n SEM Tungsten system instrument. All images were collected under identical conditions at 5.00 kV accelerating voltage.

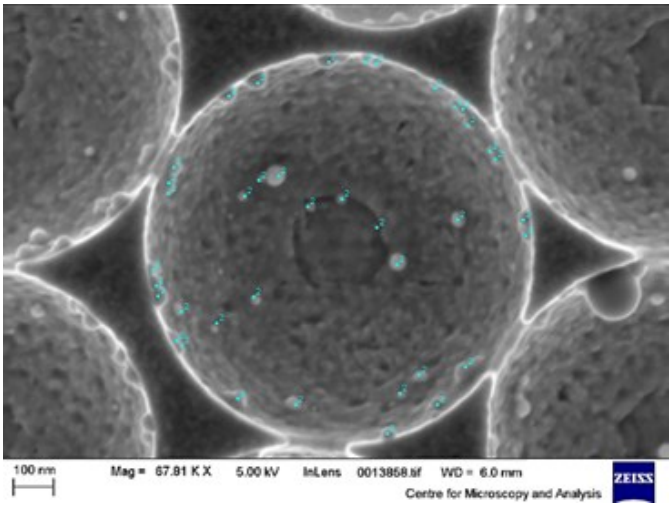

Figure S5: FE-SEM images of the 0.98 µm diameter cavity array after modification with capture strand miRNA and hybridization with the target and platinum: silver core: shell nanoparticles labelled probe sequence where the miR-132 target strand concentration is 1 µM.

Acknowledgements

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Notes and references

‡ Footnotes relating to the main text should appear here. These might include comments relevant to but not central to the matter under discussion, limited experimental and spectral data, and crystallographic data.

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