

Supplementary Information

2D-BN nanoparticles as spectroscopic marker and drug delivery system with protection property

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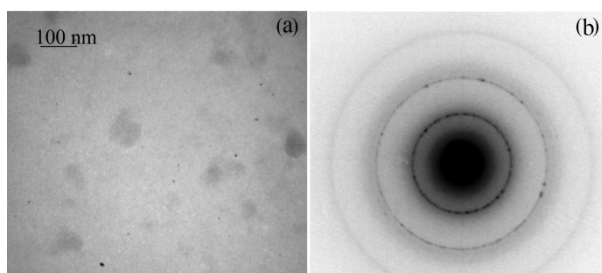


Figure S1. (a) TEM images of 2D-BN particles from aqueous dispersion; (b) typical selected area electron diffraction pattern for 2D-BN particles.

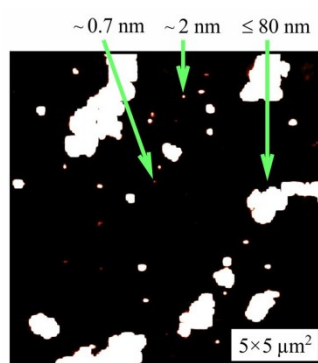


Figure S2. AFM images of 2D-BN particles deposited on the surface of the freshly cleaved mica from aqueous dispersions.

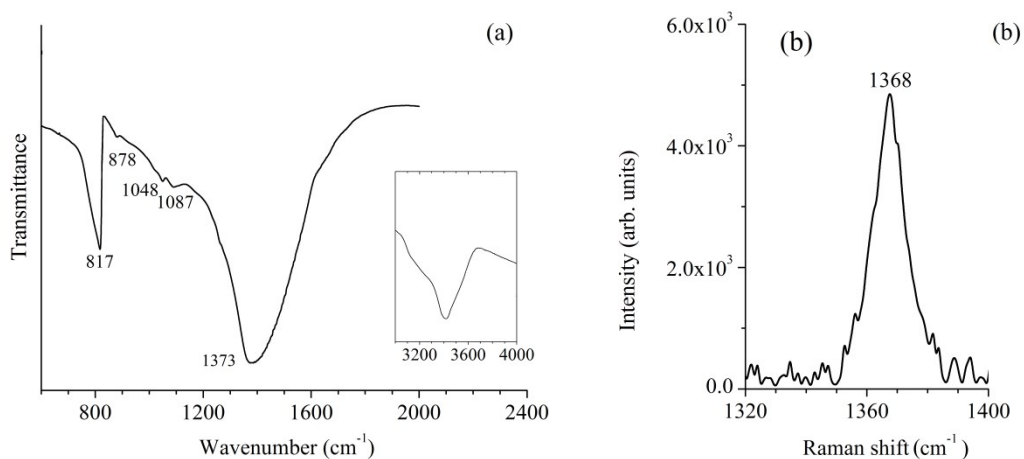


Figure S3. (a) FTIR and (b) Raman ($\lambda_{\text{ex}} = 632.8 \text{ nm}$) spectra of 2D-BN particles.

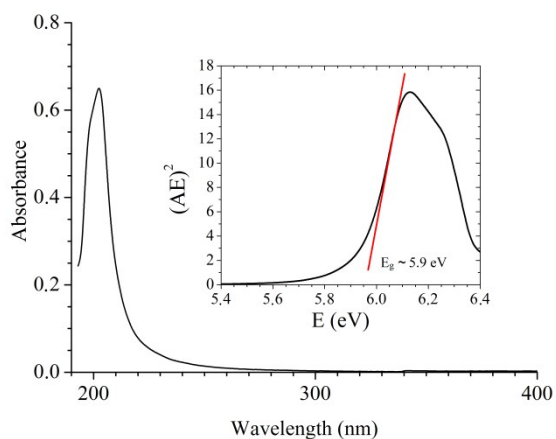


Figure S4. UV-vis spectrum of 2D-BN dispersion in EtOH. Inset: spectrum linearization on the assumption of the allowed direct electron transitions.

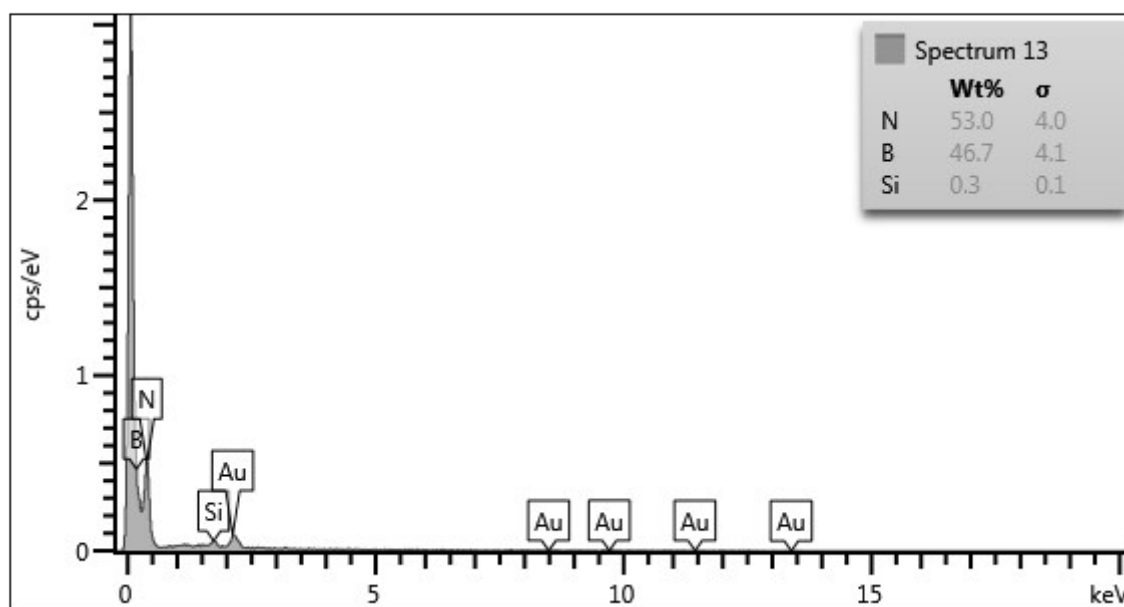


Figure S5. Characterization of 2D-BN nanoparticles by FEI Techai CF 20 transmission electron microscope. Elemental analysis shows the presence of defects in crystal structure and Si.

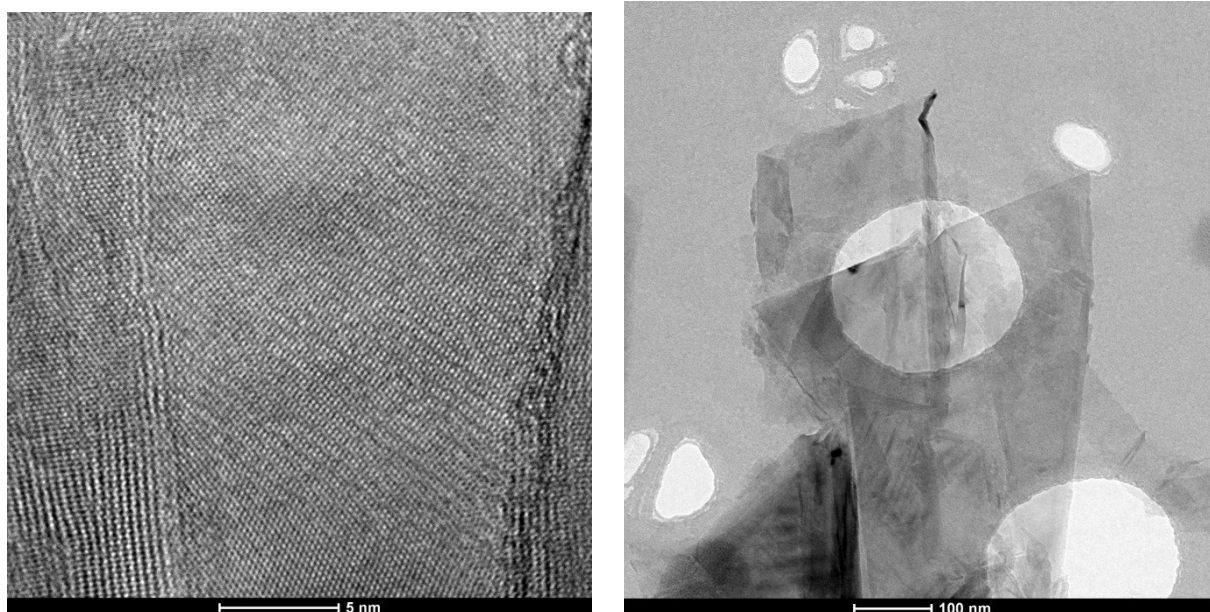


Figure S6. Characterization of 2D-BN nanoparticles done with FEI Techai CF 20 transmission electron microscope. Interlayer distance is equal to 0.34 nm.

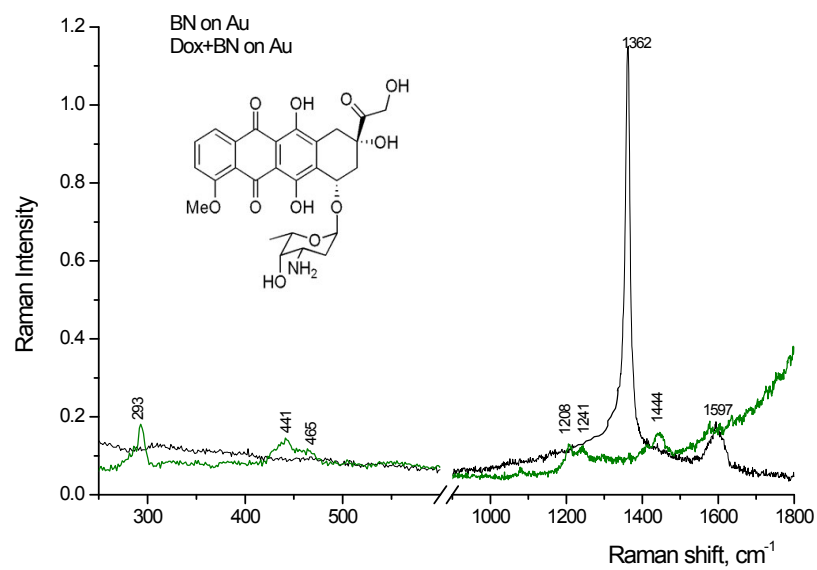


Figure S7. Raman spectra of 2D-BN (black curve) and 2D-BN:DOX (green curve) using $\lambda_{\text{ex}} = 785 \text{ nm}$, 100 mW.

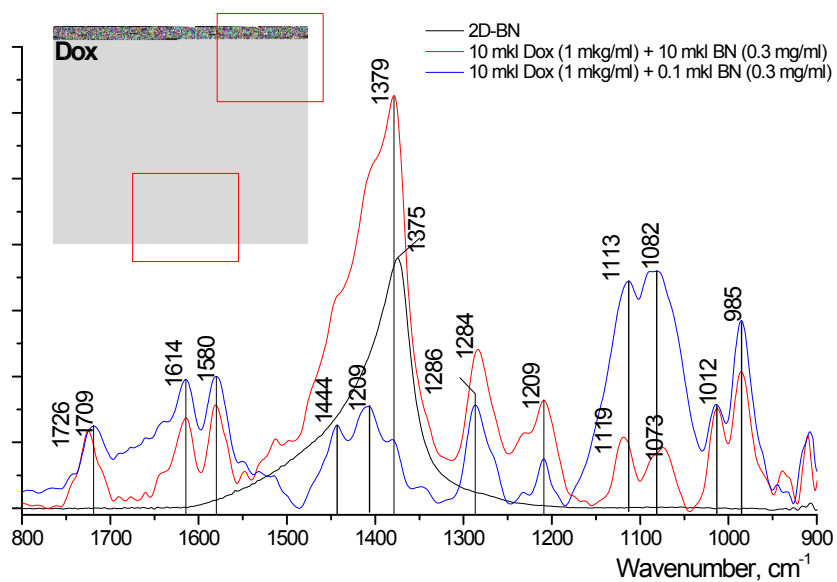


Figure S8. FTIR spectra of 2D-BN and 2D-BN:DOX in 900-1800 cm^{-1} range.

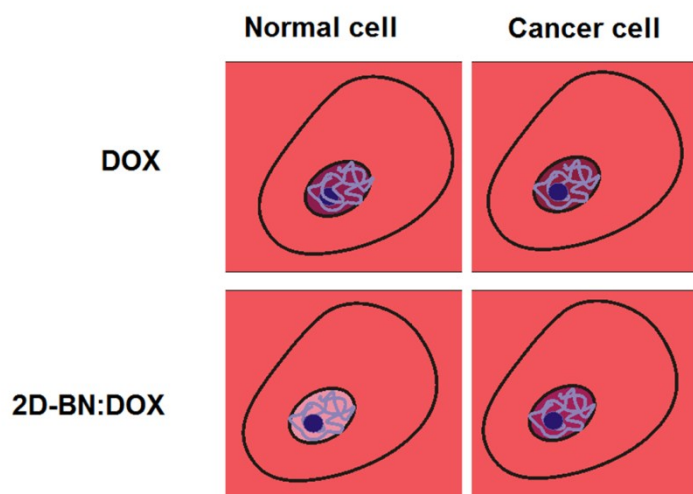


Figure S9. Schematic explanation of lower toxicity of 2D-BN:DOX in comparison with DOX for normal cells (DOX concentration is represented by different tones of red color).