

Hybrids based on graphene oxide and porphyrin as a tool for detection and stabilization of DNA G-quadruplexes

Supporting Information

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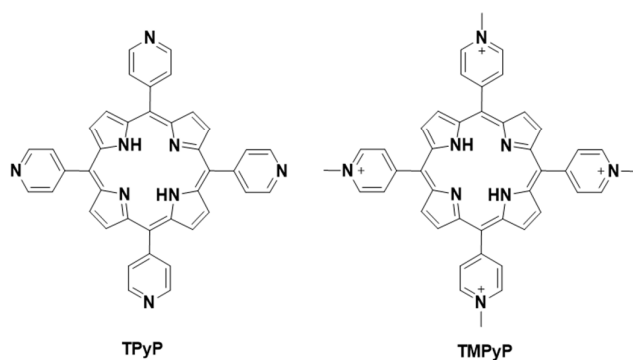


Figure S1. Structures of TPyP and TMPyP.

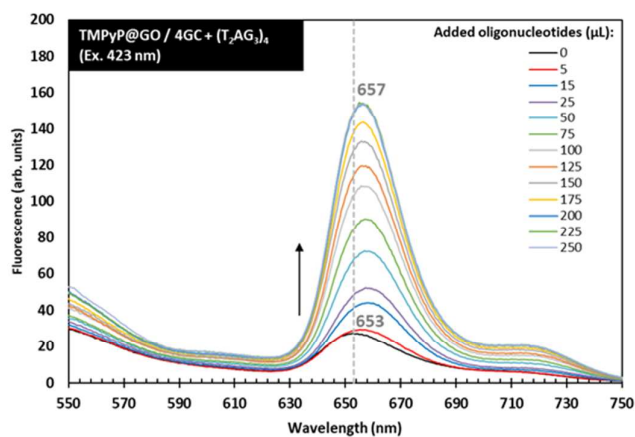


Figure S2. Spectrofluorimetric titration (550-750 nm, excitation at 423 nm) of TMPyP@GO (1 mL, 2 μM) by adding volume increments of a solution containing both 4GC and G-Q (T_2AG_3)₄.

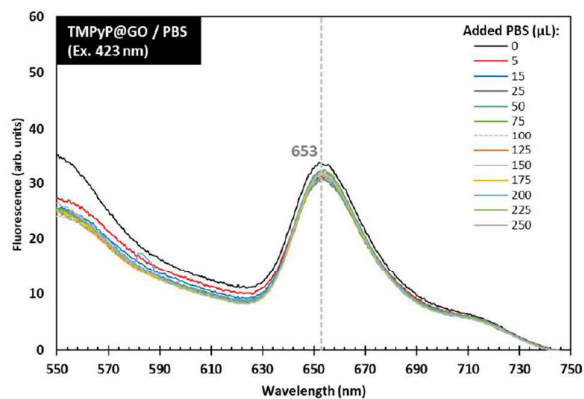


Figure S3. Titration of TMPyP@GO (porphyrin concentration of 2 μM) just with PBS buffer

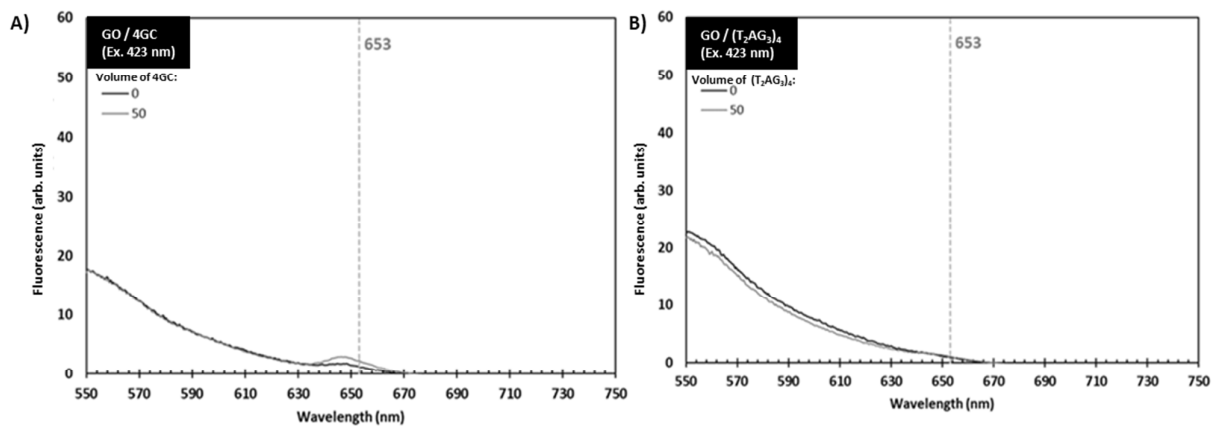


Figure S4. Titration of GO with the duplex 4GC (A) and with G-Q (T₂AG₃)₄ (B). A physiological solution of GO (50 µg/mL) was excited at 423 nm (to resemble the conditions used in the excitation TMPyP and TMPyP@GO) and the used oligonucleotides have a concentration of *ca* 15 µM. Only 50 µL of each oligonucleotide were added to each experiment, since no significant changes occurred and no fluorescence was recorded at the wavelengths of interest.

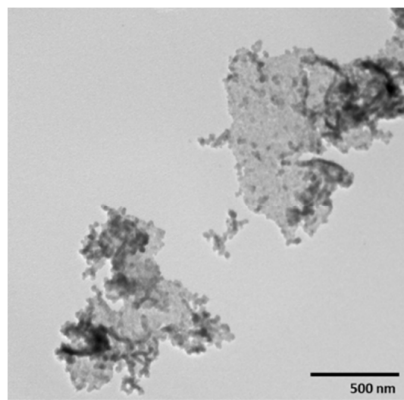


Figure S5. TEM images of TMPyP@GO hybrids.

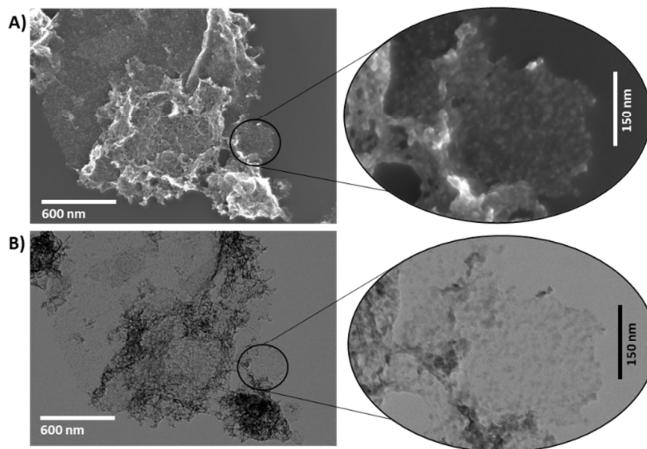


Figure S6. SEM (A) and STEM (B) images of TMPyP@GO that show a detail of more transparent regions but still with assembled porphyrin molecules.

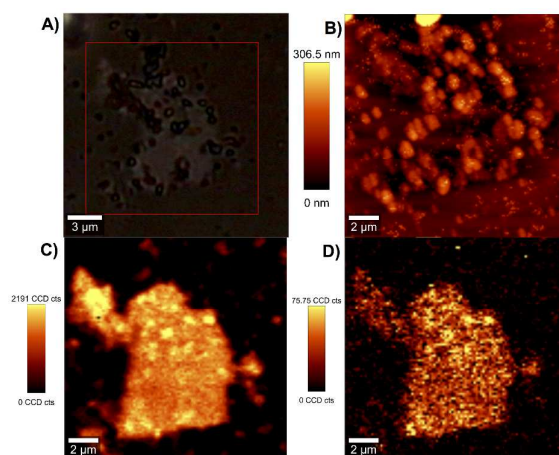


Figure S7. A) Optical microscope image; B) Topography AFM image (15 μm x 15 μm) and Raman imaging of the TMPyP@GO hybrid composite obtained by the integration of the intensity of the Raman bands of GO at 1350 cm^{-1} (C) and the Raman bands of TMPyP at 1006 cm^{-1} .

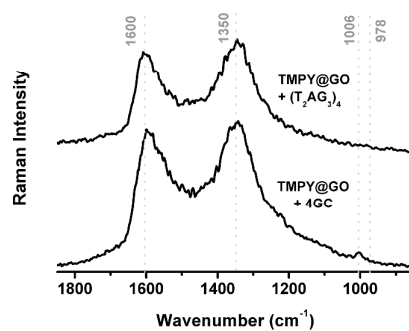


Figure S8. Average Raman spectrum obtained from seven Raman spectra acquired on different regions of TMPyP@GO with 4GC and with G-Q (T_2AG_3)₄ (532nm, 1mW, 10 acquisitions with 2s each).