In vivo therapeutic evaluation of polymeric nanomedicines: effect of different targeting peptides on therapeutic efficacy against breast cancer in a mouse model

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Supplementary Materials

The peptide aptamer with azide modification was synthesised by Australian Biobest Biotechnology Service with peptide sequence as follows: N- terminal (5-azidopentanoic acid)- **YCAYYSPRHKTTF** and N- terminal (5-azidopentanoic acid)-**SPWPRPTY.**

Supplementary Figures

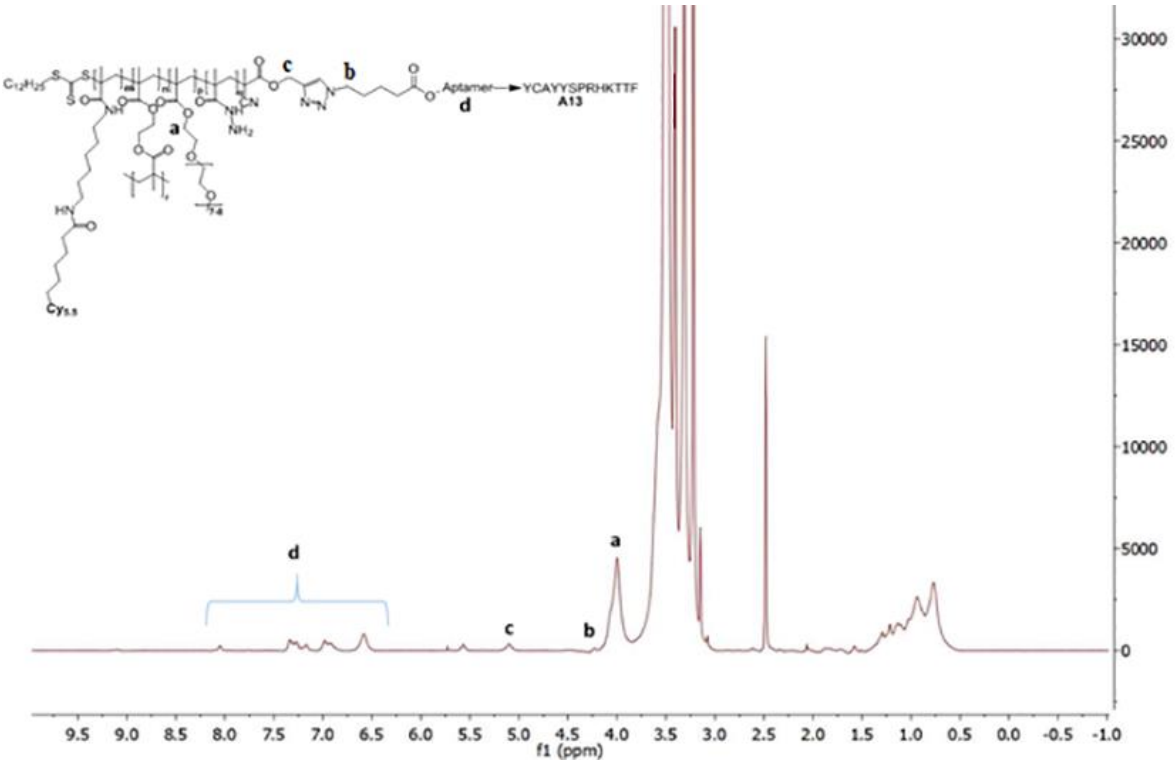

Figure S1. ^{1}H NMR spectrum of HBP/A13 click reaction.

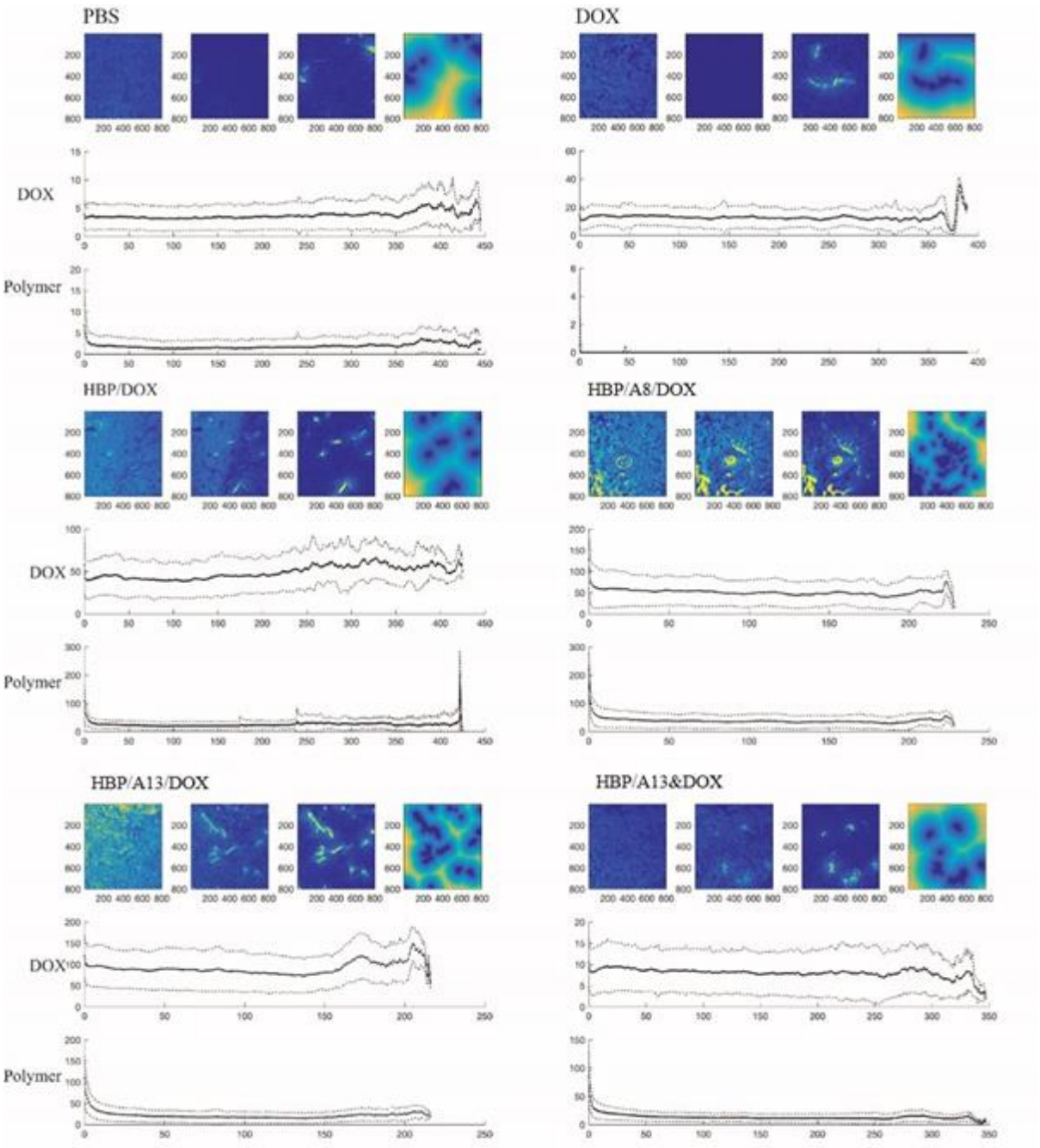

Figure S2. Data analysis of distribution of doxorubicin and polymer in relation to tumour blood vessels in tumour tissue slices excised from tumour-bearing mice following full treatment with the different formulations. Intensity plots (arbitrary value) were calculated from multiple lines drawn away from blood vessels in different tumour slices.

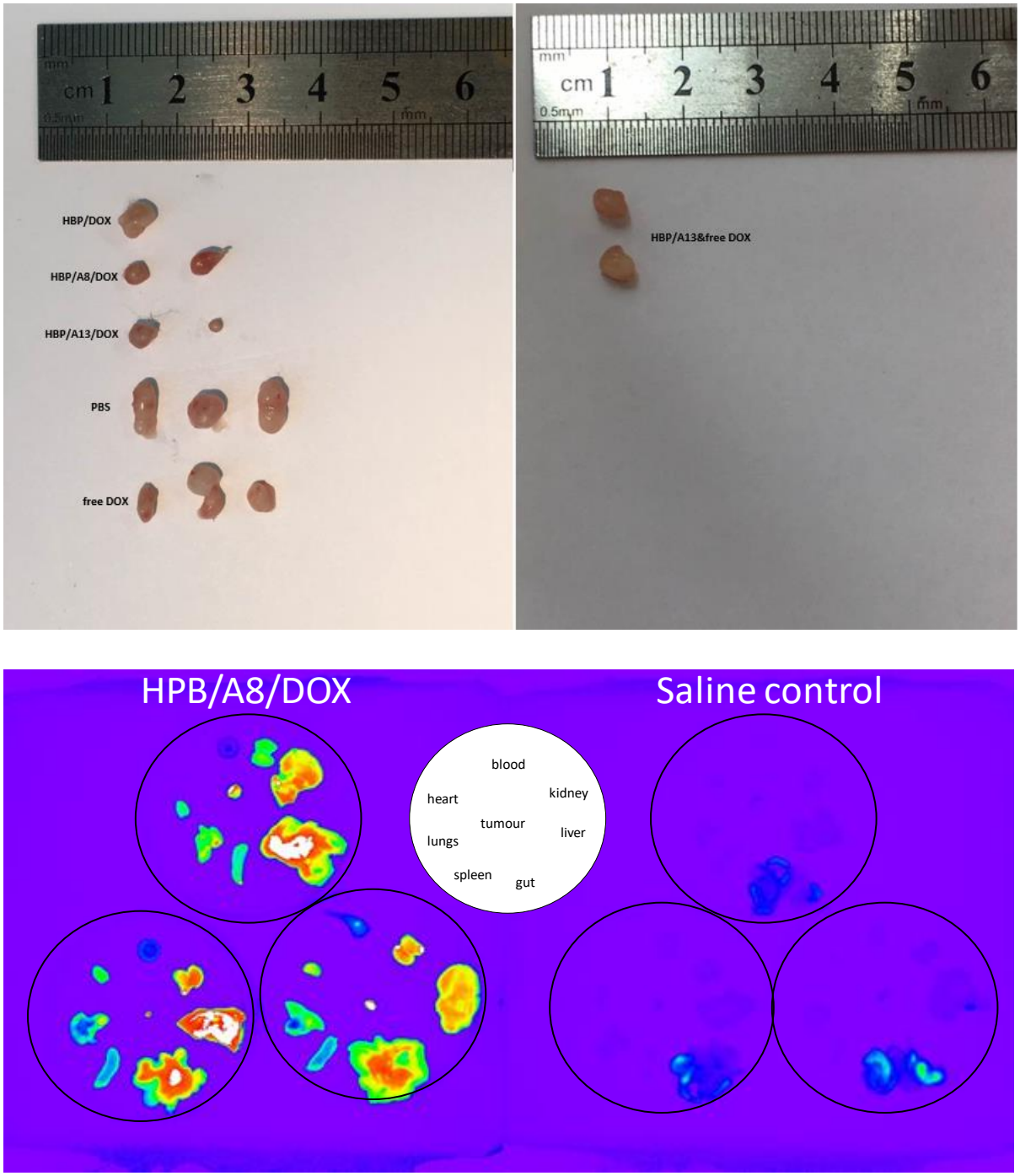

Figure S3. Tumour images of each group after 8 times treatment (top) and *ex vivo* fluorescence imaging of organ distribution (Cy5.5) (bottom).

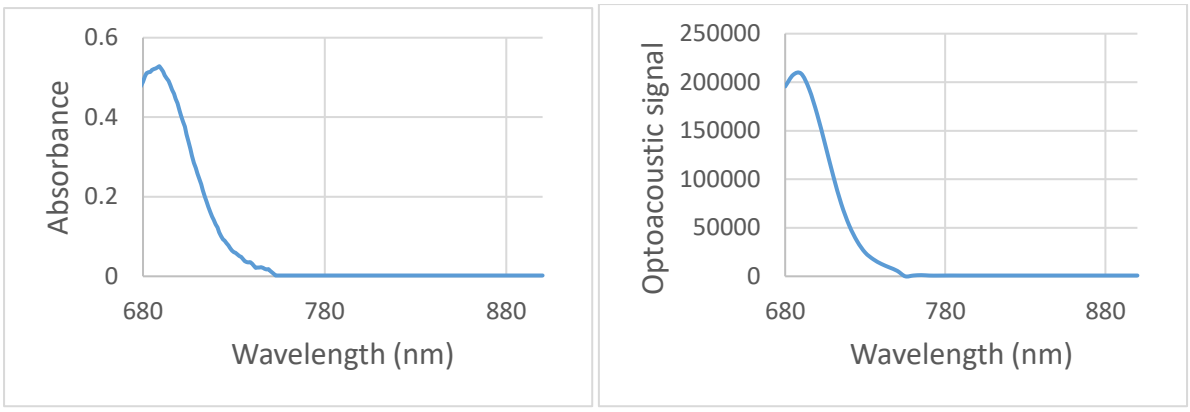

Figure S4. UV-Vis spectrum of Cy5.5-labelled polymer (left) and subsequent MSOT spectral profile for Cy5.5 used for linear spectral unmixing within the MSOT software (right).

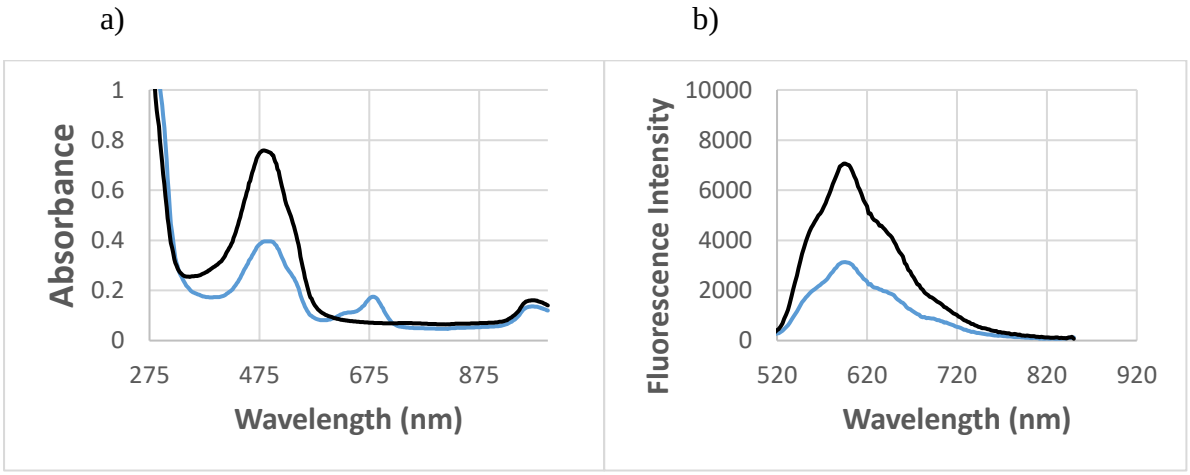

Figure S5. UV-Vis (a) and Fluorescence emission spectra (b) of HBP/DOX (blue line) and free DOX (black) showing minimal variation in optical properties of DOX under formulation conditions.

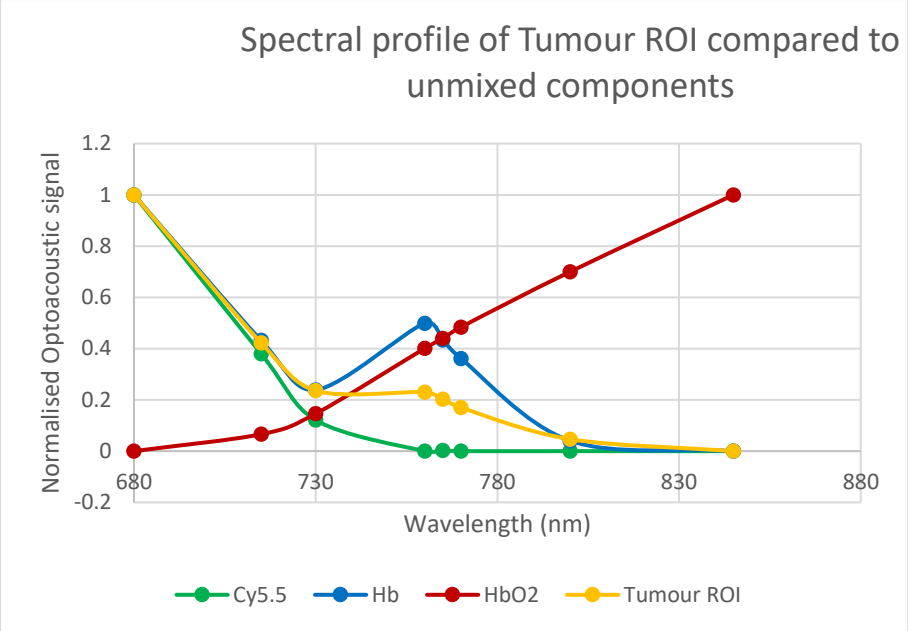

Figure S6. Optoacoustic spectra for endogenous Hb (blue) and HbO2 (red), as well as the signal arising from the Cy-5.5 in the nanomedicine (green). The signal arising from the ROI drawn around the tumour is shown in yellow from which each component is unmixed. Note that the signal intensity for the tumour has been normalised to aid the reader in interpretation.