

Supporting Information

On/off Switchable Epicatechin-based ultra-sensitive MRI visible nanotheranostics – See it and treat it

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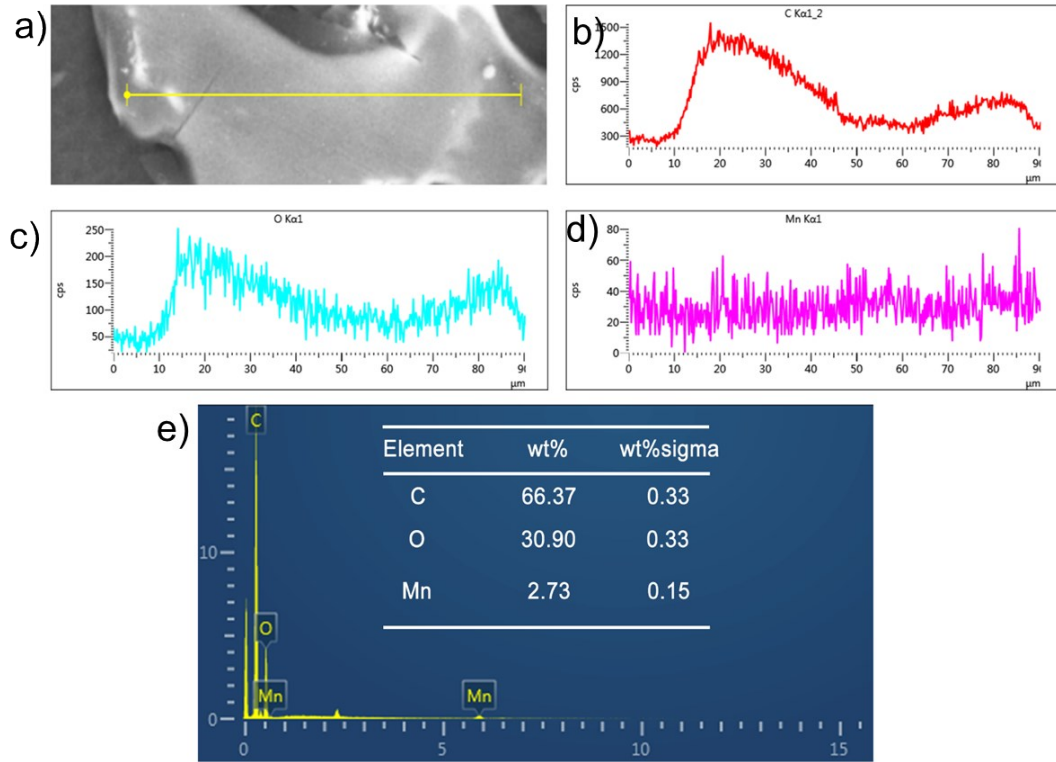


Figure S1. (a) The selective element line scanning FESEM images of PEMN and (b, c, d, e) the corresponding EDS data.

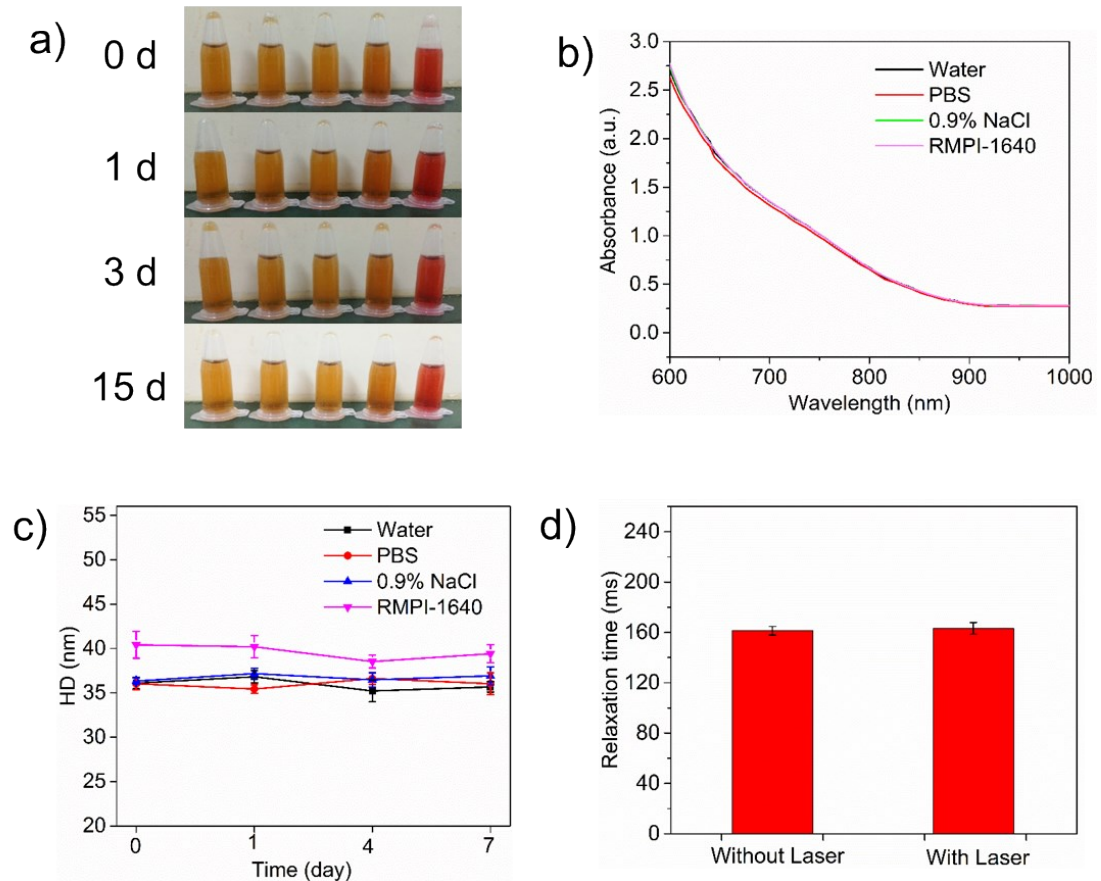


Figure S2. (a) Colloidal stability, (b) absorbance stability, (c) size stability and (d) relaxation time stability of PEMN (all at concentrations of 2 mg mL^{-1}) dispersed in different media (water, PBS, RMPI-1640, FBS, and normal saline) over 7 days.

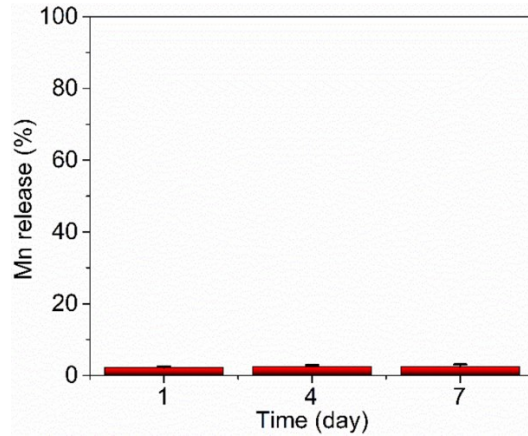


Figure S3. Mn ions released from the PEMN solution within 7 days.

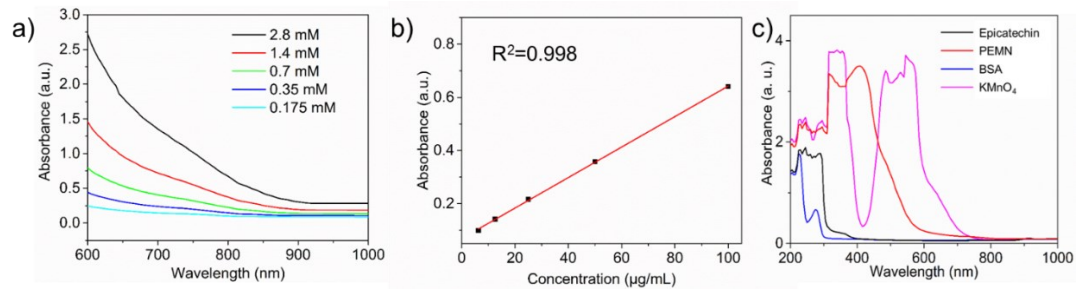


Figure S4. (a) UV-vis absorption spectra of PEMN at different concentrations. (b) The absorbance at 808 nm as a function of PEMN concentration. (c) Absorption spectra of epicatechin, PEMN, BSA, and KMnO_4 solutions.

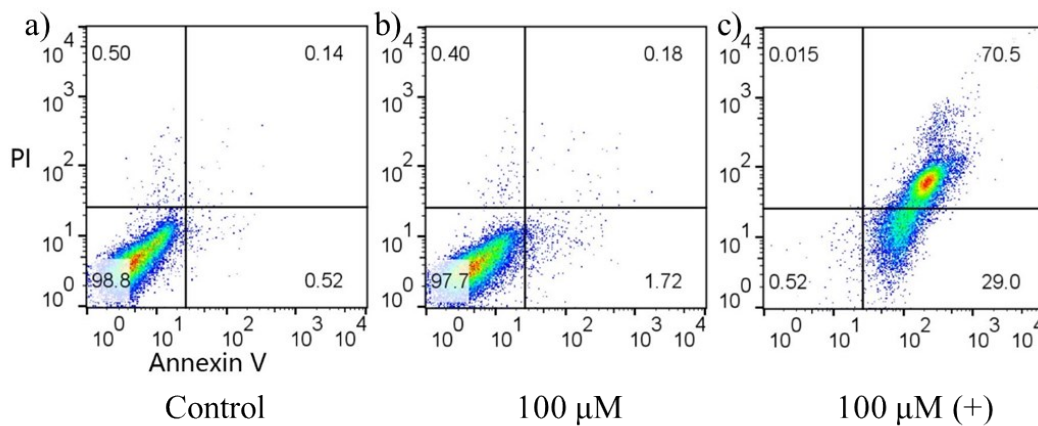


Figure S5. Flow cytometry-based apoptosis of 4T1 cells. (a) PBS only, (b) PEMN ($100 \mu\text{M}$), and (c) PEMN+laser (808 nm , 2 W cm^{-2} , 5 min).

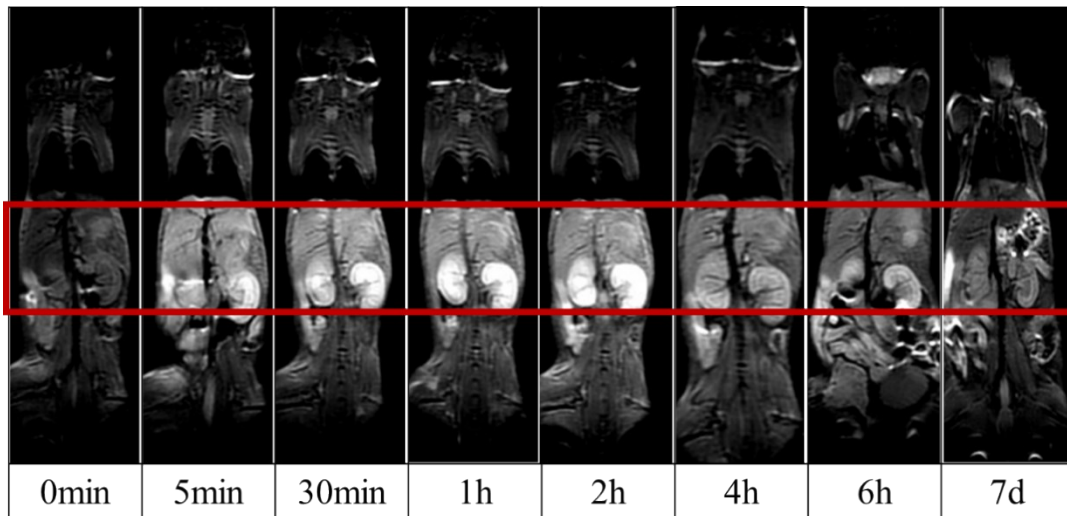


Figure S6. T1-weighted MRI of normal mice before and after administration of PEMN solutions ($28 \mu\text{mol Kg}^{-1} \text{Mn}$) at different time points.



Figure S7. (a) A sectional MR image of liver metastasis and (b) a sectional of corresponding liver tissue are shown. (c) H&E staining of metastatic lesions in the liver tissue.

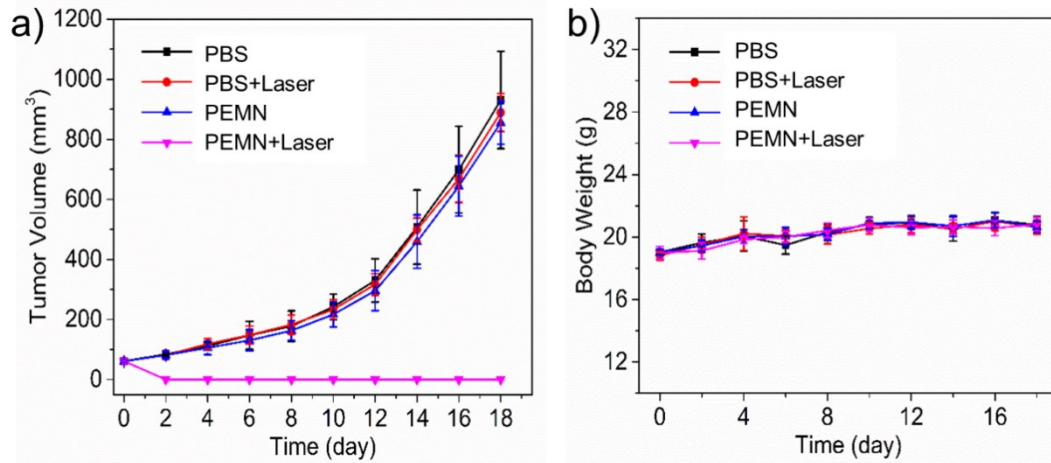


Figure S8. (a) Tumor growth profiles, (b) body weight of orthotopic 4T1 tumors in mice of various groups after different treatments (n=5). ($28 \mu\text{mol Kg}^{-1} \text{Mn}$). Scale bar: $100 \mu\text{m}$.

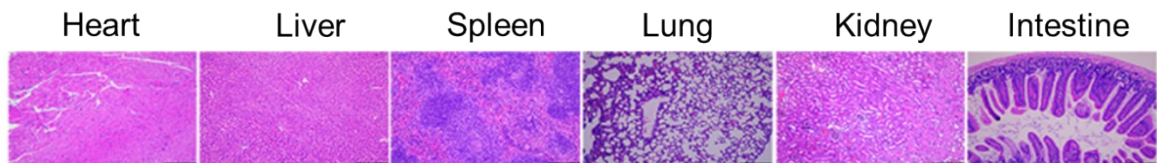


Figure S9. H&E-stained images of the major organs from PEMN-treated healthy mice post 60 days ($28 \mu\text{mol Kg}^{-1} \text{Mn}$). Scale bar: $200 \mu\text{m}$.

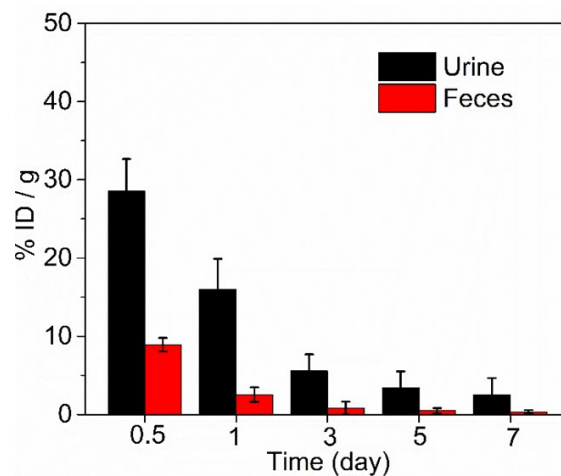


Figure S10. Excretion behaviors of PEMN in orthotopic 4T1 tumor-bearing mice.