**Supporting Information**

**Catalytic Core-shell Nanoparticles with Self-supplied Calcium and H2O2 to enable Combinational Tumor Inhibition**

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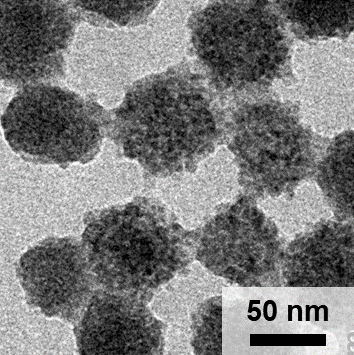
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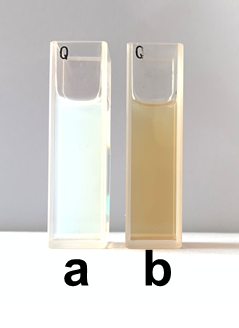
3 Stomatology Hospital, School of Medicine, Zhejiang University, 310006, P.R. China

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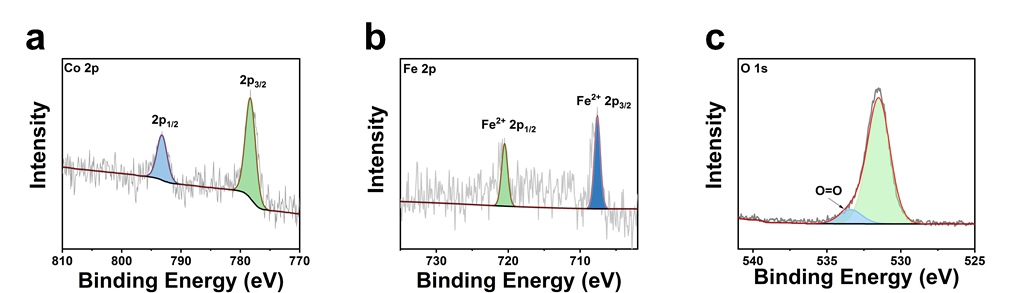
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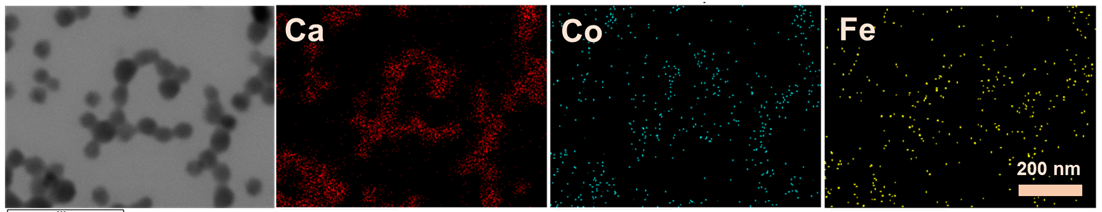
**Figure S1** TEM image of CaO2.



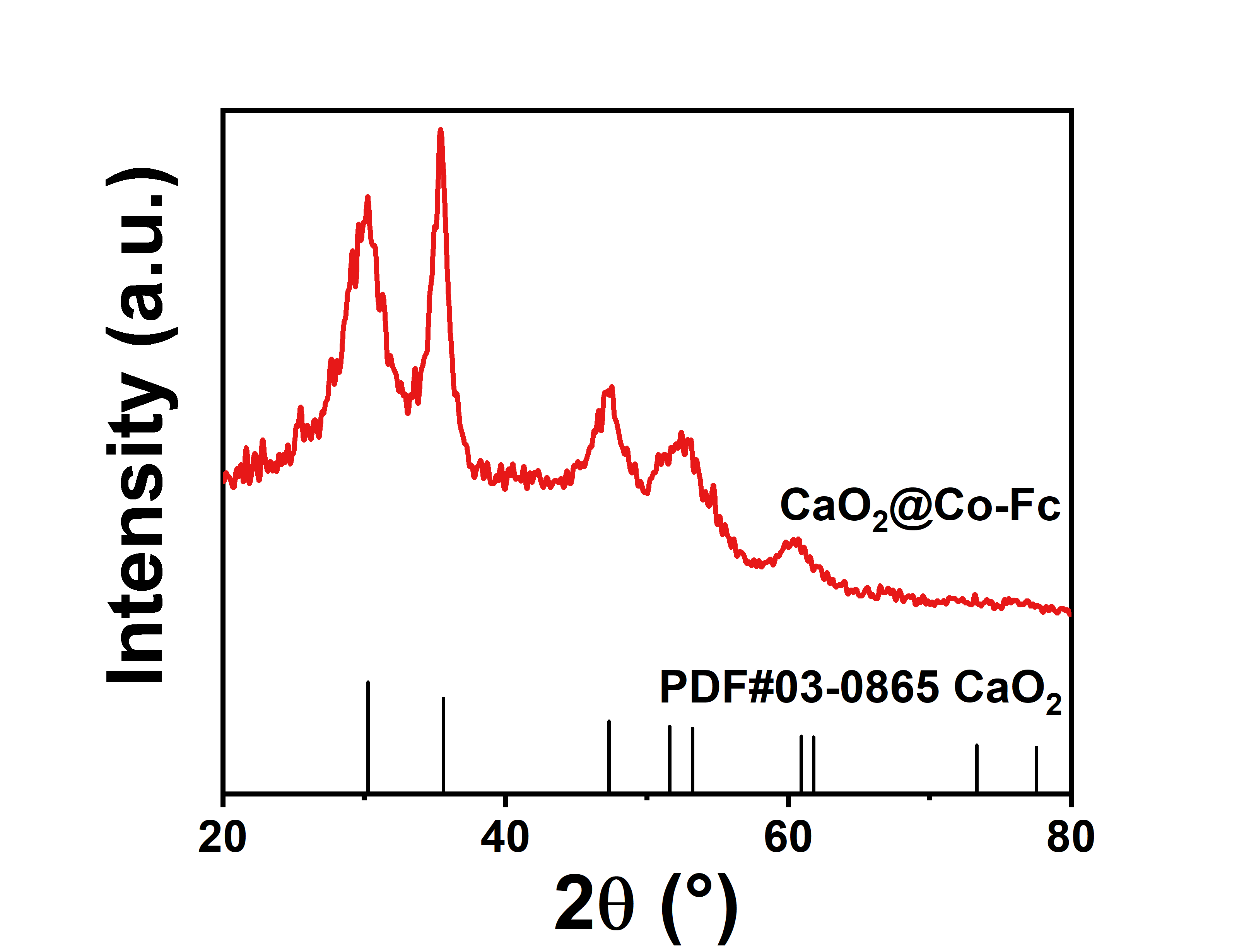
**Figure S2** Optical images of solutions containing (a) CaO2 and (b) CaO2@Co-Fc.



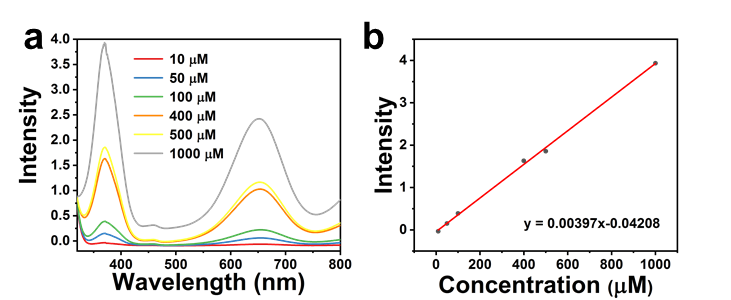
**Figure S3** High-resolution XPS spectra of (a) Co 2p, (b) Fe 2p and (c) O 1s.



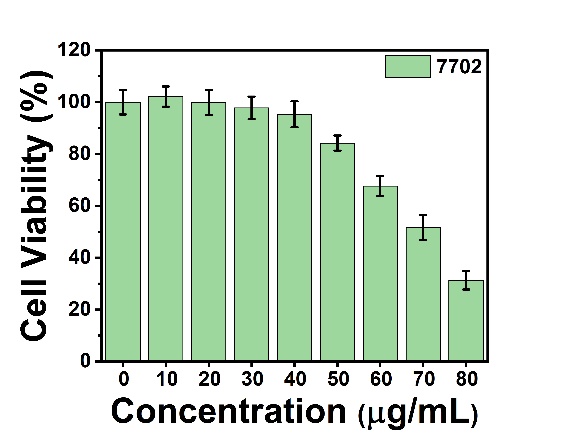
**Figure S4** Elemental mapping of CaO2@Co-Fc.



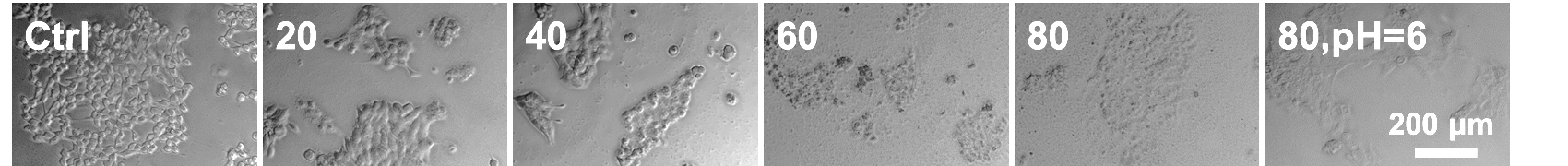
**Figure S5** XRD pattern of CaO2@Co-Fc.



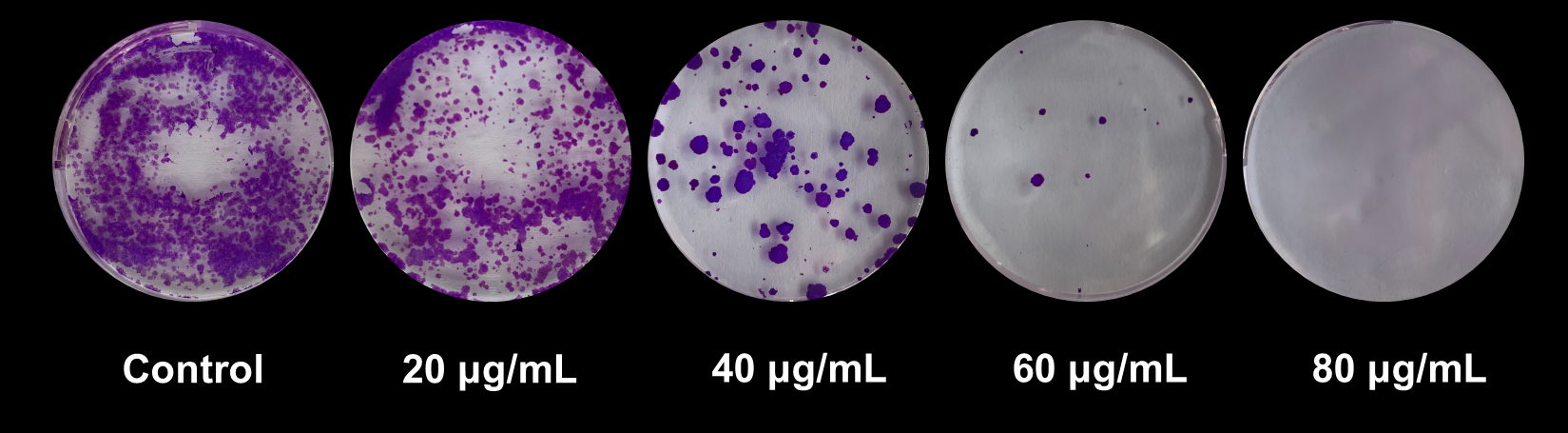
**Figure S6** Standard curves of H2O2 at the peak of 372 nm by TMB method: (a) UV-vis absorbance spectra and (b) plotting curve of TMB solution with the addition of different concentrations of H2O2.



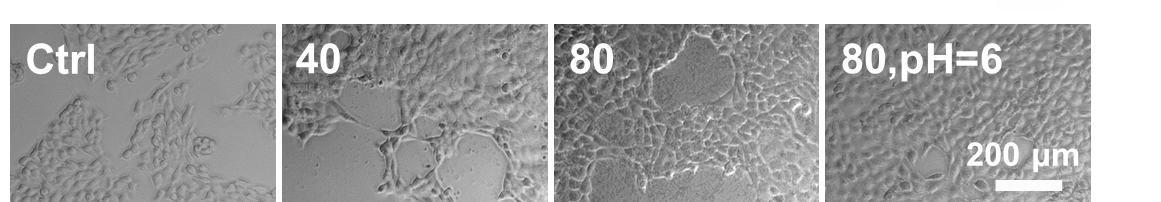
**Figure S7** The viability of 7702 cells cultured with CaO2 with varied concentrations.



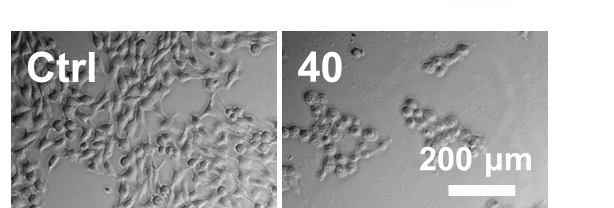
**Figure S8** Bright field images of 4T1 cells incubated with different concentrations of CaO2@Co-Fc after calcein-AM and PI staining for live & dead.



**Figure S9** Colony formation of 4T1 cells incubated with different concentrations of CaO2@Co-Fc.



**Figure S10** Bright field images of 4T1 cells incubated with different treatments after DCFH-DA staining for intercellular ROS.



**Figure S11** Bright field images of 4T1 cells incubated with or without CaO2@Co-Fc after Fluo-4 AM staining for intercellular Ca2+ accumulation.