

## Supporting Information

### Ir(IV) and Ir(III) in-situ transition promotes ROS generation for eradicating multidrug-resistant bacterial infection

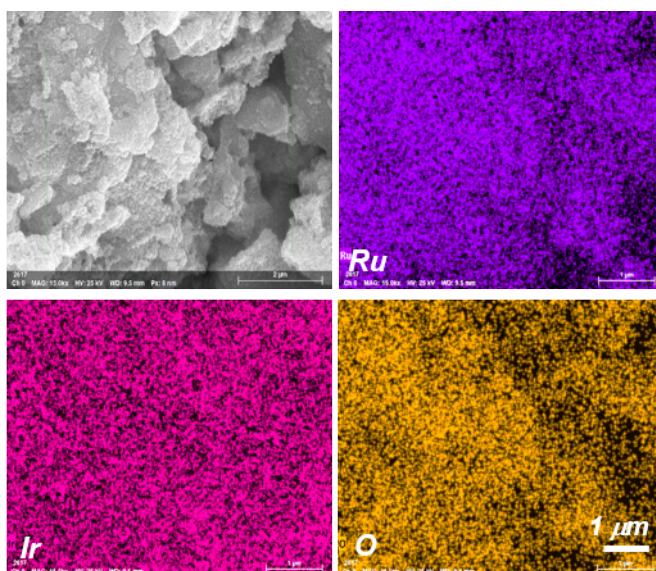
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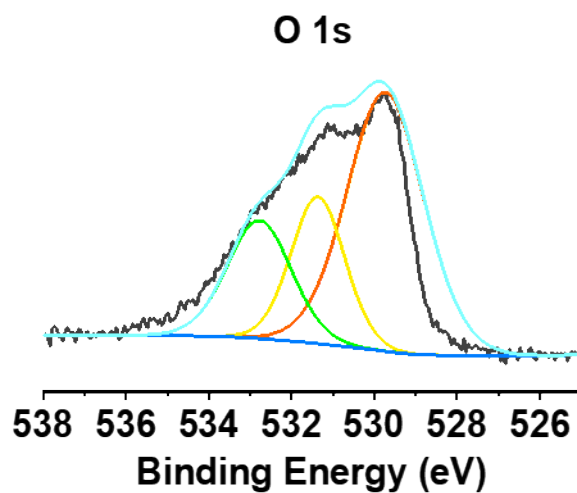
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*c, The Marine Biomedical Research Institute, Guangdong Medical University, The Marine Biomedical Research Institute of Guangdong Zhanjiang, Zhanjiang, Guangdong, 524023, China*

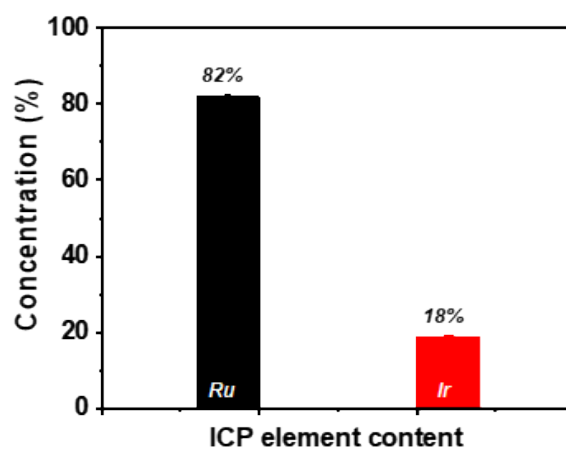
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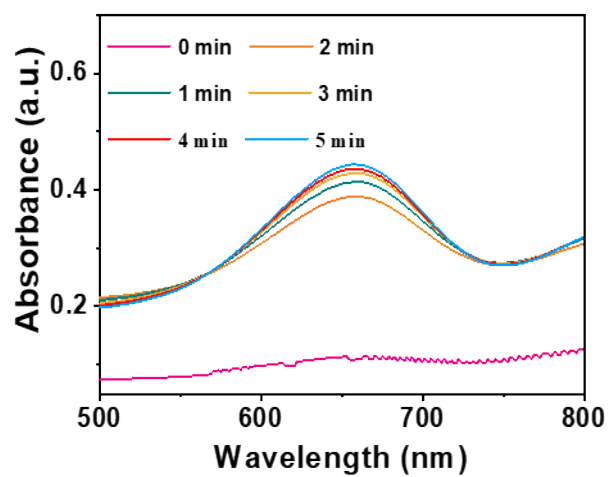
**Figure S1.** SEM picture of IrRuO<sub>x</sub> NPs and its EDS element map.



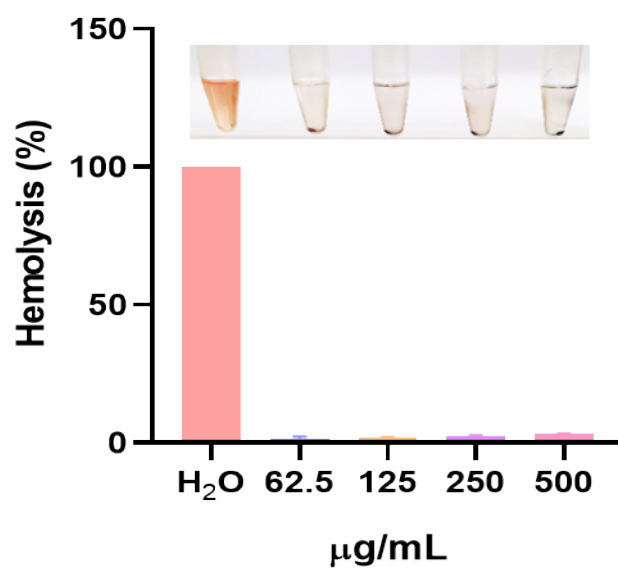
**Figure S2.** The XPS spectrum shows the 1s energy levels of O.



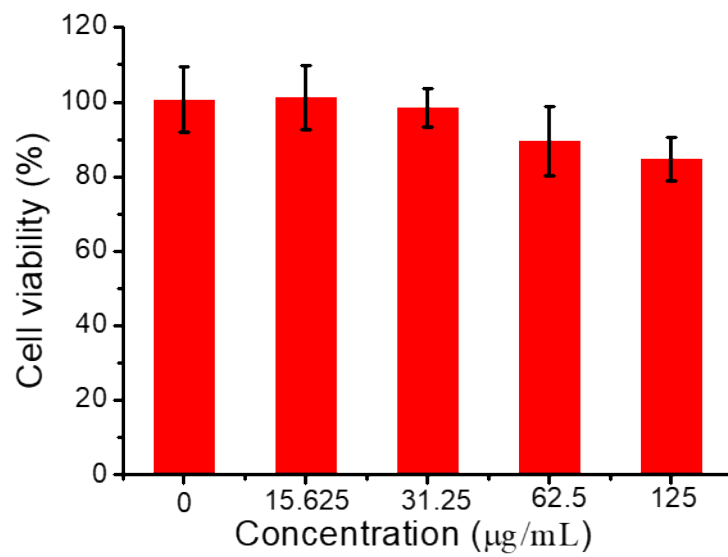
**Figure S3.** The element distribution ratio of IrRuO<sub>x</sub> NPs by ICP-MS.



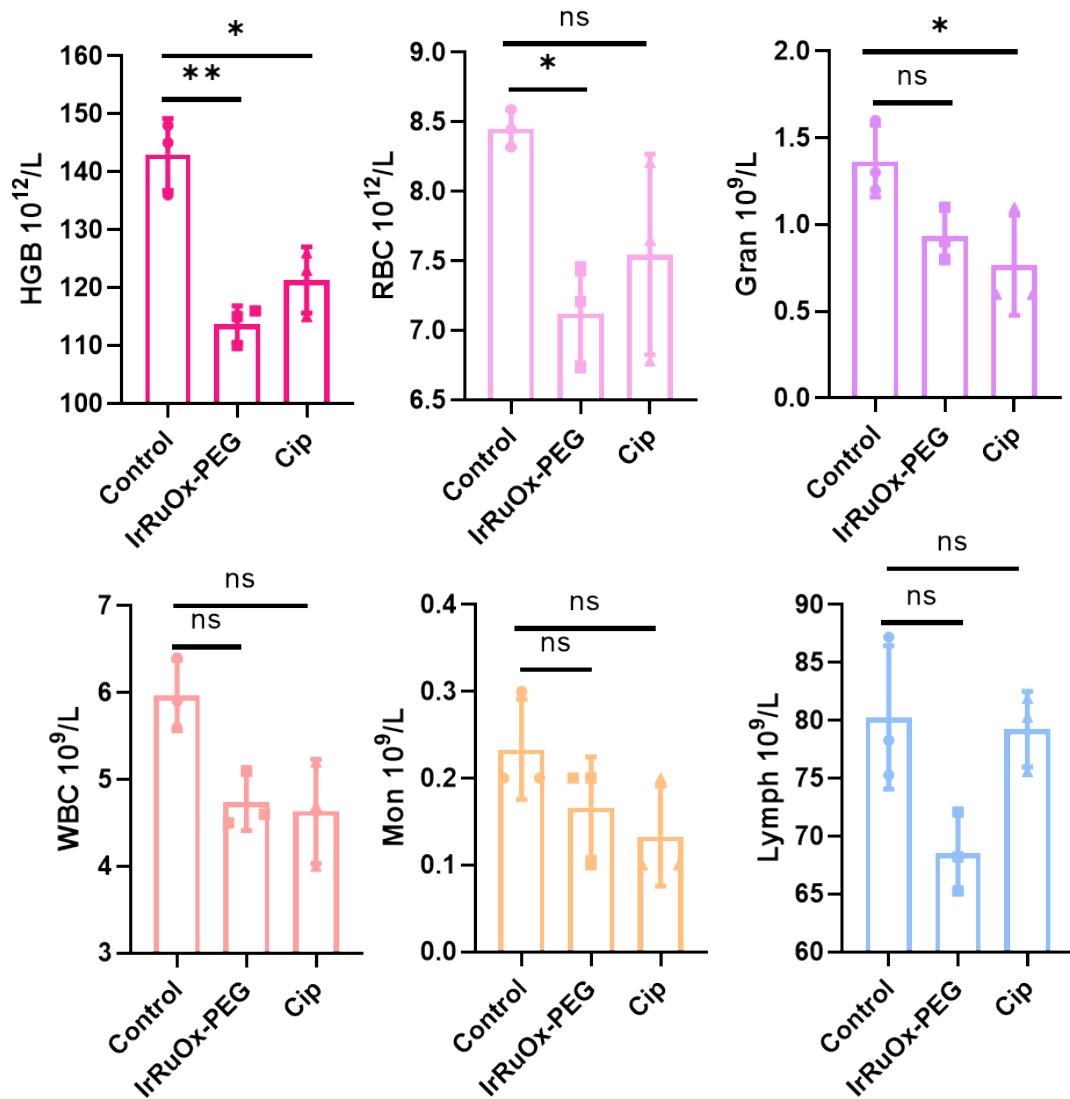
**Figure S4.** UV absorption spectra of IrRuO<sub>x</sub>-PEG at different time.



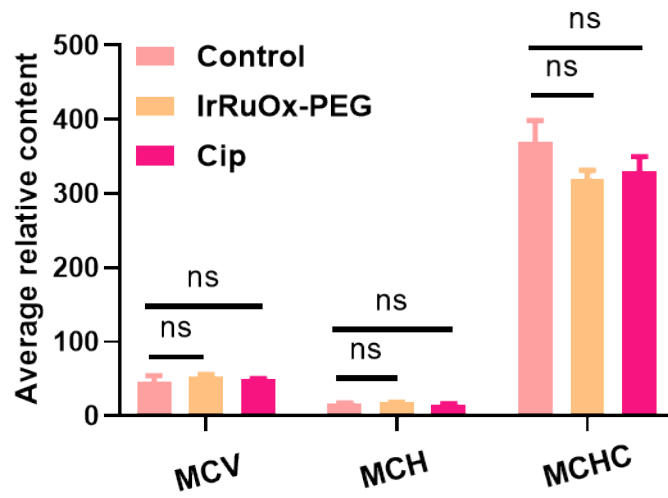
**Figure S5.** Hemolysis rate of IrRuO<sub>x</sub>-PEG at different concentrations.



**Figure S6.** Cytotoxicity of different concentrations of IrRuO<sub>x</sub>-PEG to NIH3T3.



**Figure S7.** Changes in white blood cell (WBC), monocyte (MON), lymphocyte (LY), Hemoglobin (HGB) and red blood cell (RBC) counts in *MRSA*-infected mice after treatment.



**Figure S8.** The average red blood cell volume (MCV), average red blood cell hemoglobin content (MCH) and average red blood cell hemoglobin concentration (MCHC) of MRSA-infected mice after treatment. (n = 6, \*P < 0.05, \*\*P < 0.01, and \*\*\*P < 0.001).