

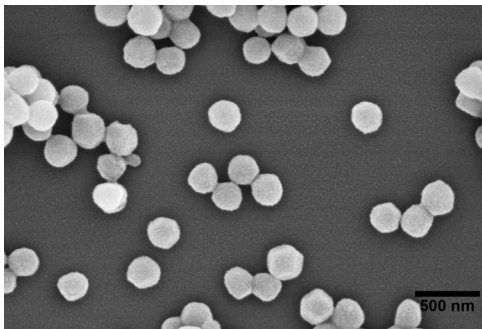
**Appendix 1 The equations**

$$\text{The loading efficiency (\%)} = \frac{\text{Total quality} - \text{Quality in the supernatant}}{\text{Total quality}} \times 100\% \quad [1]$$

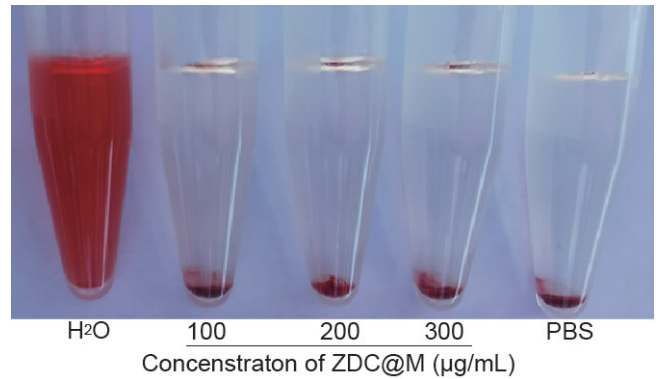
$$\text{Hemolysis rate (\%)} = \frac{OD_{\text{test}} - OD_{\text{NC}}}{OD_{\text{PC}} - OD_{\text{NC}}} \times 100\% \quad [2]$$

$$\text{Release rate (\%)} = \frac{\text{Quality of released DMDD / Ce6}}{\text{Total quality of DMDD / Ce6}} \times 100\% \quad [3]$$

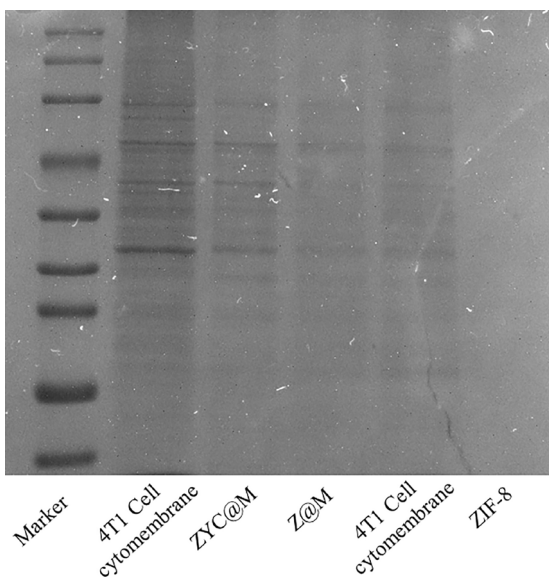
$$\text{The remaining DPBF rate (\%)} = 100 - \frac{\text{Initial absorbance} - \text{Final absorbance}}{\text{Initial absorbance}} \times 100\% \quad [4]$$



**Figure 1** The scanning electron microscopy (SEM) image of the ZIF-8@DMDD/Ce6@cytomembrane (ZDC@M) nanomedicine.



**Figure S3** Hemolysis Assay of the ZIF-8@DMDD/Ce6@cytomembrane (ZDC@M) at different concentrations.



**Figure S2** Gel Electrophoresis of 4T1 cell cytomembrane, ZIF-8@cytomembrane (Z@M) and the ZIF-8@DMDD/Ce6@cytomembrane (ZDC@M).