A multifunctional antibacterial agent (CSO@PM) composed of a mesoporous copper silicate microsphere (CSO) core and a platelet membrane (PM) shell has been designed for bacteria-infected wound healing. CSO@PM can specifically target bonded bacteria, and combined with NIR radiation, exhibiting highly photothermal disruption to bacteria. Additionally, CSO@PM can adsorb endotoxins secreted by gram-negative bacteria, significantly alleviating inflammation, resulting in re-epithelialization and granulation-tissue formation, wound healing promoting.

