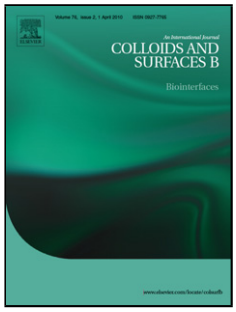

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Rapid *in situ* biosynthesis of gold nanoparticles in living platelets for multimodal biomedical imaging

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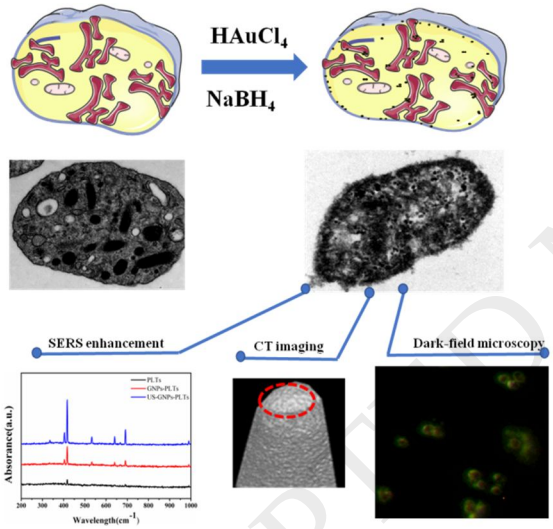
Graphic Abstract



Highlights

•The gold nanoparticles have been *in situ* biosynthesized in the living platelets.

•Such gold nanoparticles engineered platelets remain the natural bioactivity.

•The platelets with gold nanoparticles can produce Raman enhancement effect.

•The platelets with gold nanoparticles can be probed by dark-field microscopic imaging.

•The platelets with gold nanoparticles can be imaged by computed tomography.