Dear Editor,

please find enclosed our manuscript on background-free imaging of single gold nanoparticles in cells through anti-Stokes one-photon-excited photoluminescence. In this work, we show that anti-Stokes luminescence is bright enough to detect and track single small gold nanorods (size

25\*50 nm^2) in live or stained cells. Standard Stokes imaging does not allow detection of single rods in the same conditions because of the large background of cell and labels fluorescence.

We believe this new imaging modality will be very attractive to cell biologists and biophysicists because it requires only minor adaptations to existing fluorescence imaging microscopes. We therefore submit our work to the audience of Biophysical Journal.

With best regards,

M. Orrit.