**Supplementary information**

![Supplementary Fig 1(a)](image1.jpg) (Autofluorescence image of photogranules showing filamentous cyanobacteria and microalgae as seen under confocal microscope. **(b)** Epifluorescence photomicrographs of photogranules stained with acridine orange showing heterotrophic bacteria (green) and cyanobacteria (orange-red). (Reproduced from Kumar and Venugopalan, 2015).19)
Supplementary Fig 2. Absorption spectrum of [Co(II)EDTA]$^{2-}$ and [Co(III)EDTA]$^{-}$ in the visible range (reproduced from Paraneeiswaran et al., 2015).\textsuperscript{21}
**Supplementary Fig 3.** Schematic illustration to explain the hypothesis of the role of quinone electron shuttle in [Co(III)-EDTA]$^-$ reduction by phototrophic granules [adapted from Abicht et al. (2013)]$^{42}$. 