Electronic Supplementary Material (ESI) for Green Chemistry.

Supplementary information

Selective catalysis in cellular microenvironment — a living cell catalytic system with intracellular nanopalladium for olefin hydrogenation

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Results and Discussion

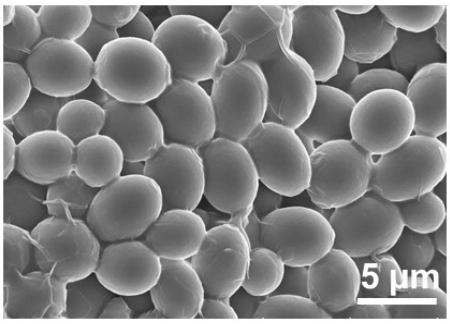

Figure S1. Scanning electron microscopy image of native yeasts.

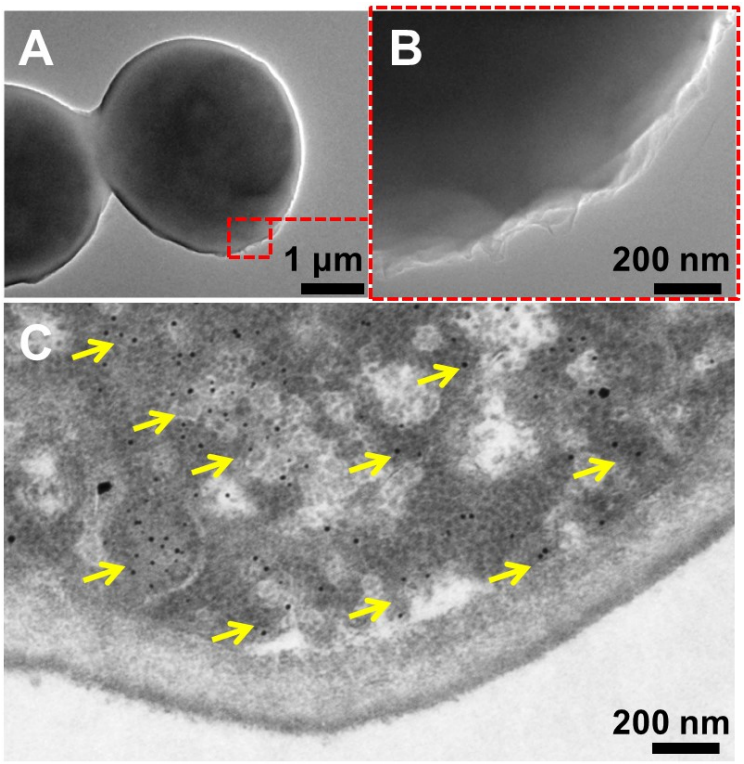

Figure S2. (A) TEM images on the surface of the LCCSs and the corresponding magnified image of the outlined red square (B). (C) The close TEM image of the LCCSs fine slices, the yellow arrows for the distributions of Pd nanoparticles.

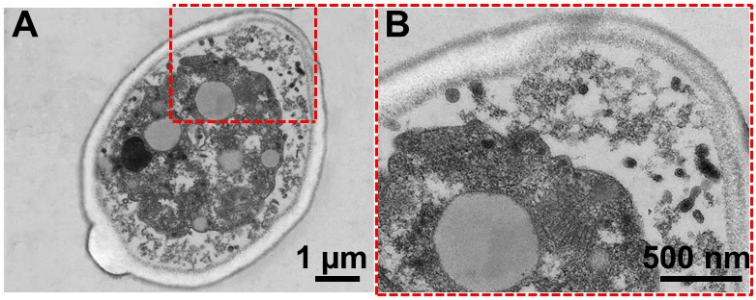

Figure S3. (A) The section image of control group (native yeasts samples). **(B)** The corresponding magnified area of native yeasts from red squares in panel **(A)**.

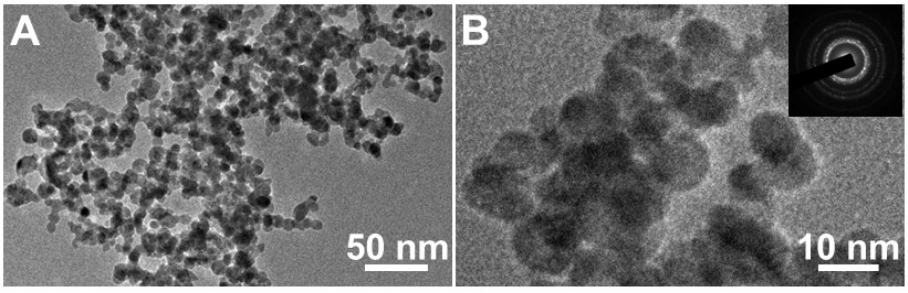

Figure S4. TEM and HRTEM micrographs of the chemosynthetic Pd nanoparticles in absence of cells, the inset showed the SAED pattern.

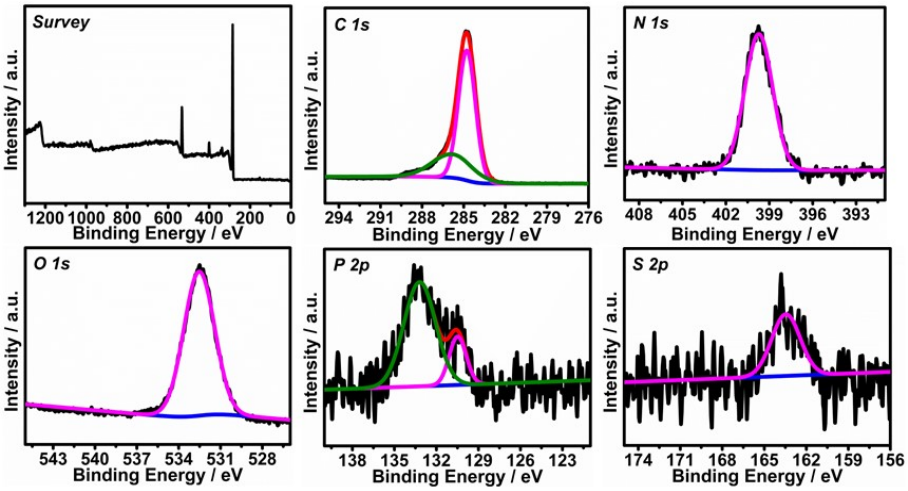

Figure S5. XPS spectra of the bio-nPd separated from LCCSs, indicating that the as-prepared intracellular nanoparticles should be biomass matrix-Pd composite

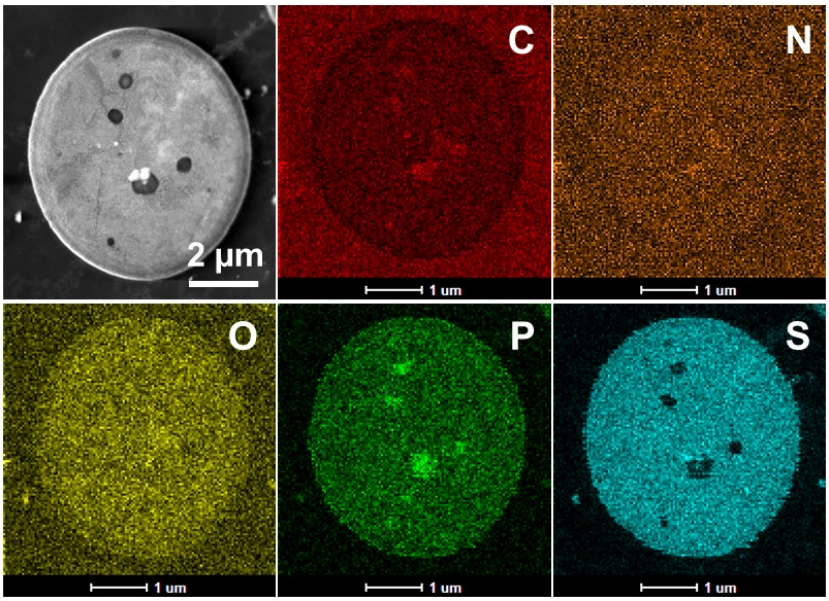

Figure S6. TEM image and EDX elemental maps of LCCS fine slices.

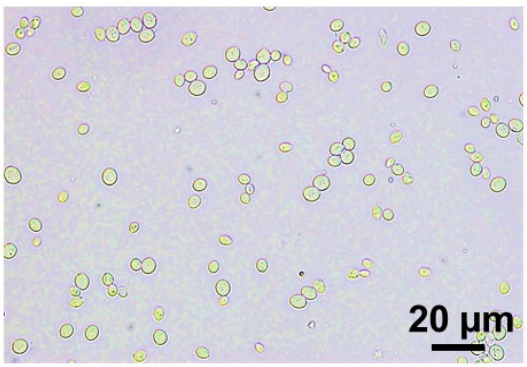

Figure S7. Light micrograph of the LCCSs stained by trypan blue.

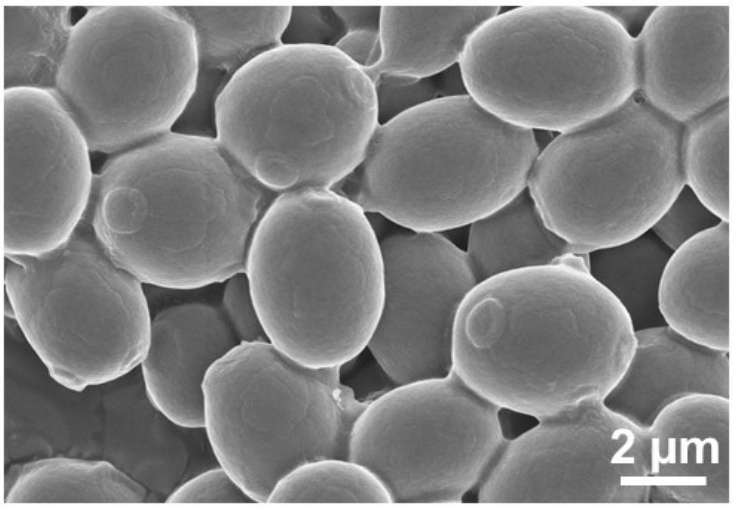

Figure S8. Scanning electron microscopy (SEM) of LCCSs after 25 days in water at room temperature.

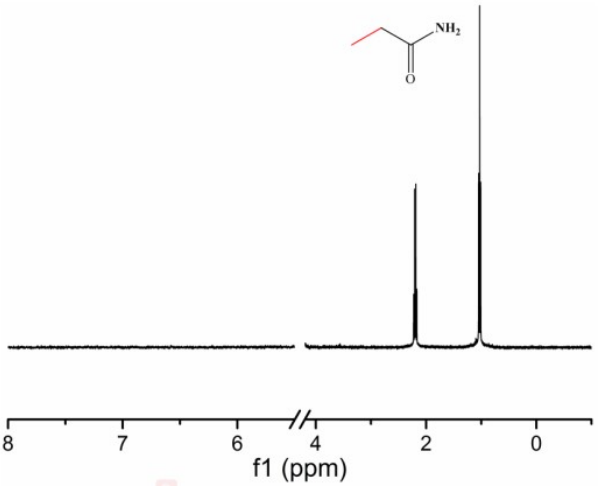

Figure S9. 1H NMR spectrum (400 MHz, D_2O) for the hydrogenated product of acrylamide catalyzed by LCCSs after 25 days in water at room temperature.

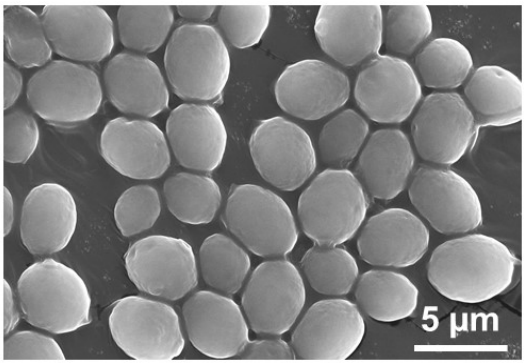

Figure S10. Scanning electron microscopy (SEM) image of LCCSs after cycling runs.

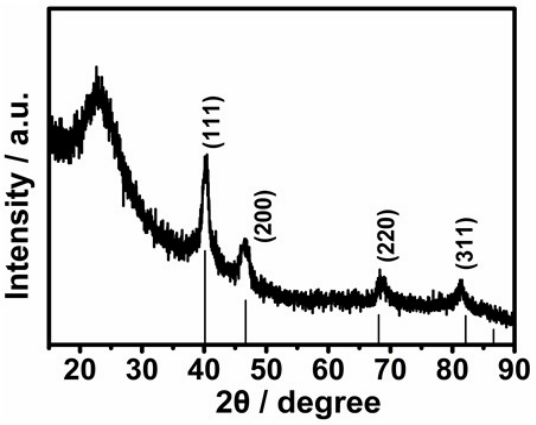

Figure S11. XRD pattern of bio-nPd from LCCSs after cycling runs.

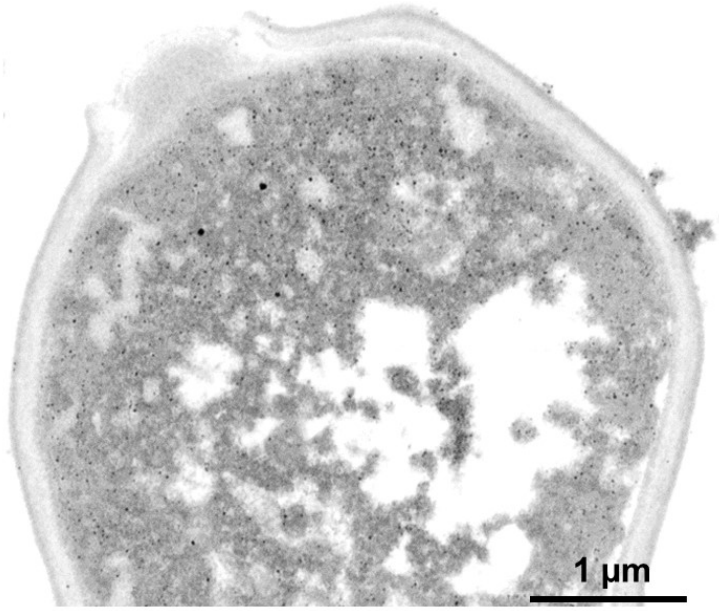

Figure S12. Bio-TEM image of LCCSs fine slices after cycling runs.

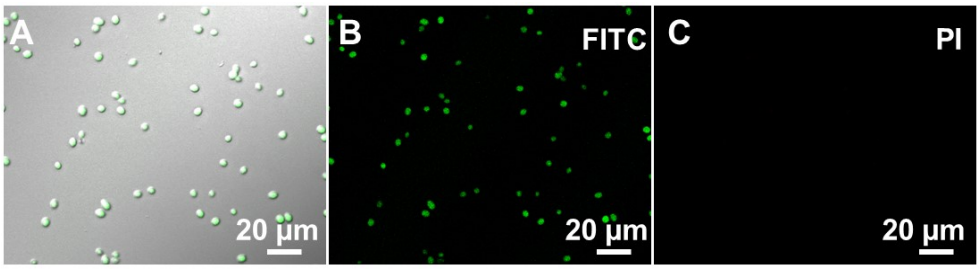

Figure S13. Confocal microscopy images of the fluorescent probes testing for LCCSs after hydrogenation reactions.