

Supplementary information B902260K:

## Fabrication of living multicellular assemblies of rod-like and rhombohedral morphologies based on magnetically responsive templates

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Figure S1 illustrates calcium carbonate microcrystals of rod-like (aragonite) and rhombohedral (calcite) morphologies and yeast cells used in this study.

The charts of zeta-potential of microcrystals as a function of polyelectrolyte layers and magnetic nanoparticles on the surfaces along with optical microscopy images of respective templates are given Figure S2.

Digital photographs illustrating the magnetic field enhanced filtration of magnetically responsive templates and magnetic separation of cellosomes are given in Figure S3.

Figure S4 shows additional optical microscopy images of rod-like and rhombohedral cellosomes.

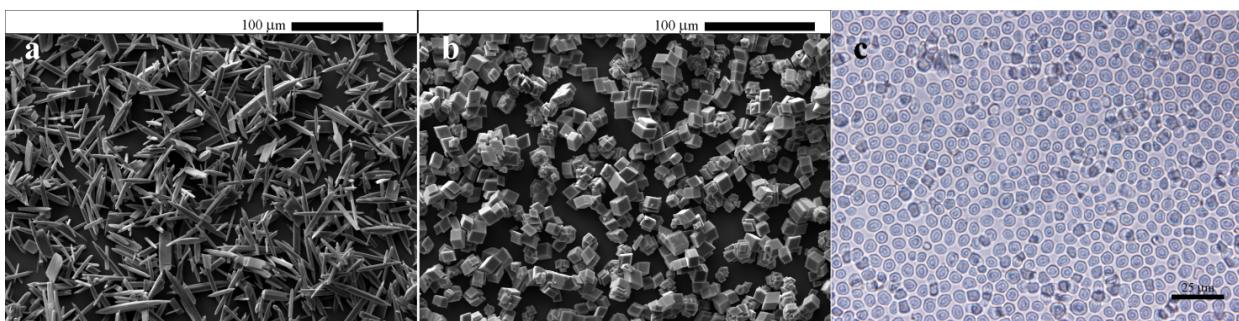


Figure S1. (a) SEM image of rod-like microcrystals; (b) – SEM image of rhombohedral microcrystals; (c) optical microscopy image of yeast cells

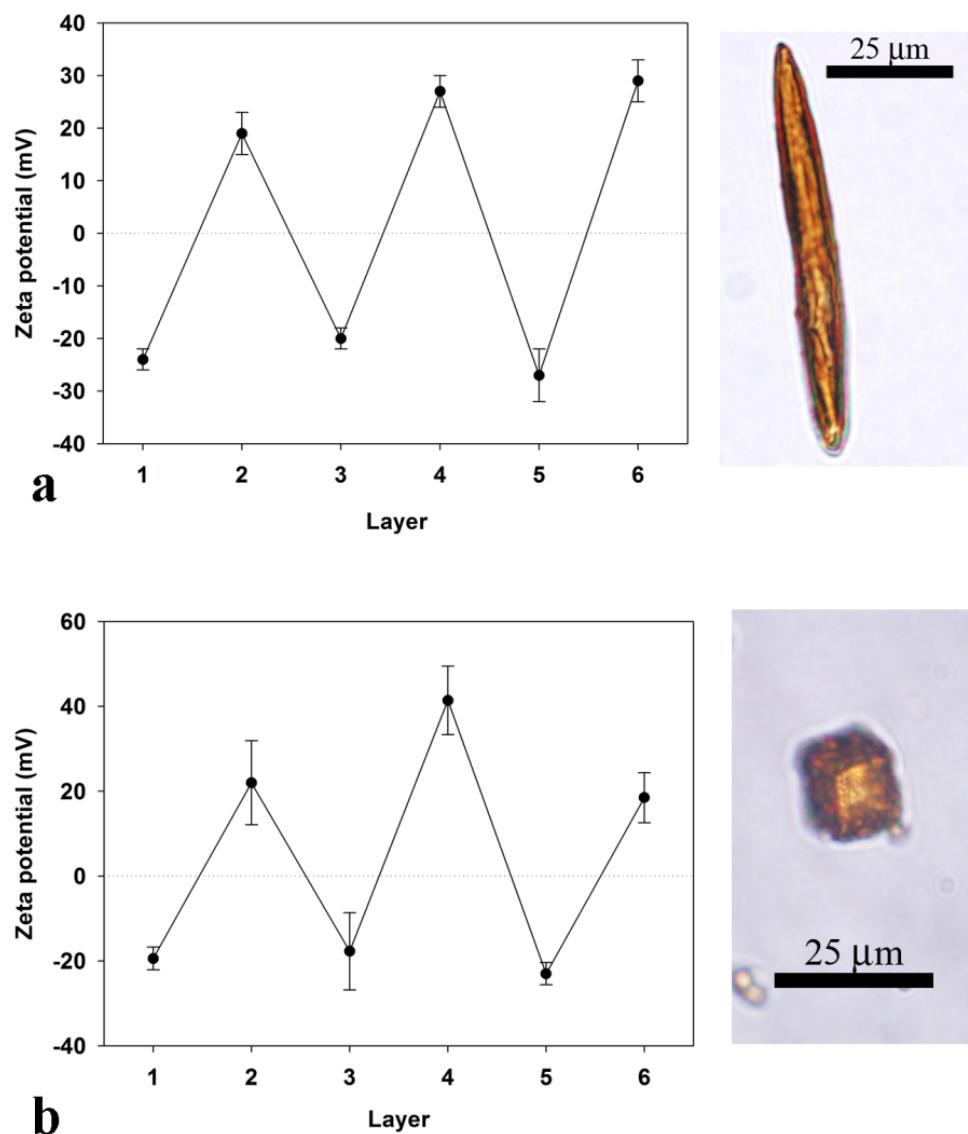


Figure S2. Zeta-potential of rod-like (a) and rhombohedral (b) calcium carbonate microcrystals as a function of coating layers:

- 1) – bare crystals
- 2) PAH
- 3) PAH/MNPs
- 4) PAH/MNPs/PAH
- 5) PAH/MNPs/PAH/PSS
- 6) PAH/MNPs/PAH/PSS/PAH

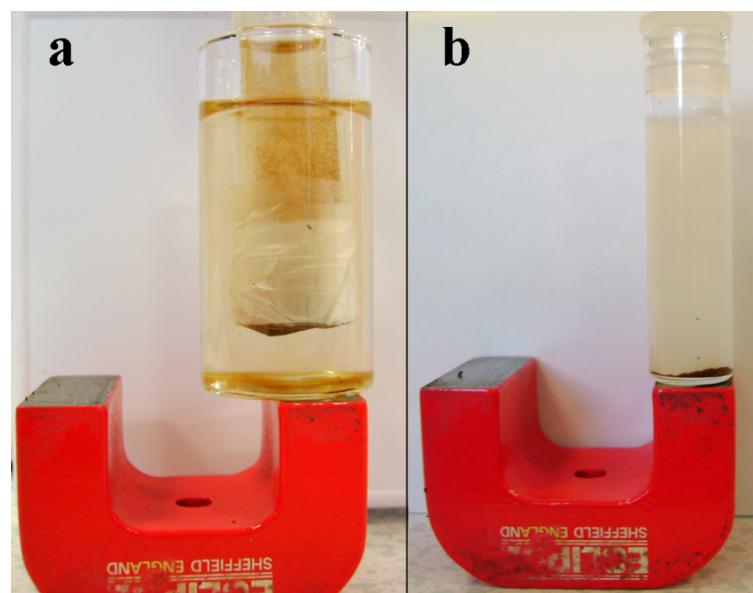


Figure S3. (a)- Magnetic field enhanced filtration of magnetic microcrystals with 14  $\mu\text{m}$  pore filter (Whatman) ; (b) –magnetic separation of cellosomes from the excess of yeast cells

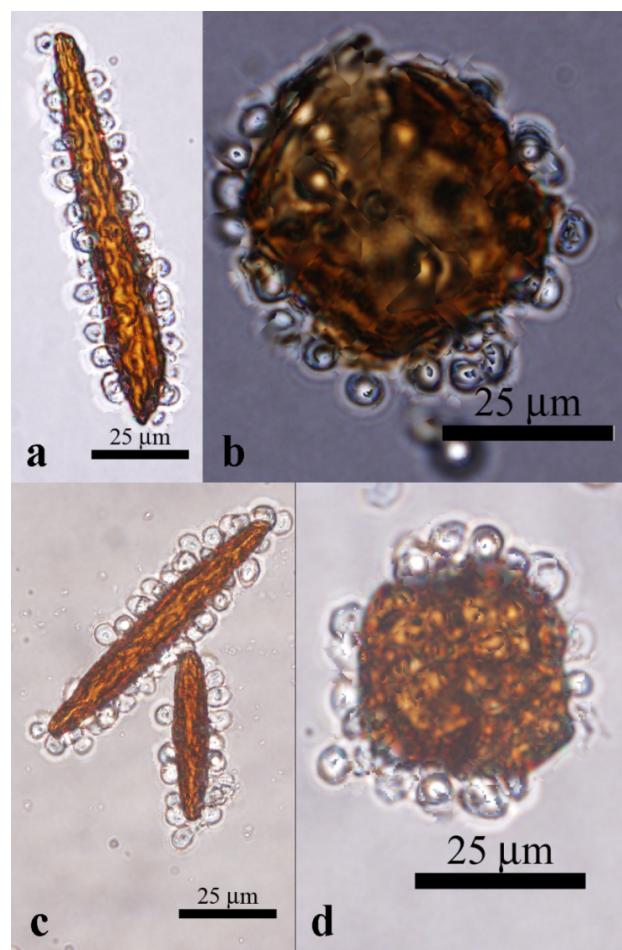


Figure S4. Additional optical images of rod-like (a,c) and rhombohedral (b,d) magnetic cellosomes.