Electronic Supplementary Information (ESI)

Enhancing reaction rate in Pickering emulsion system with natural magnetotactic bacteria as nanoscale magnetic stirring bars

Xin Zhou,[a, b] Changyou Chen,[c] Changyan Cao, *[a, b] Tao Song,[c] Hengquan Yang[d] and Weiguo Song*[a, b]

a Beijing National Laboratory for Molecular Sciences, Laboratory of Molecular Nanostructures and Nanotechnology CAS Research/Education Center for Excellence in Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190 (China). *E-mail: cycao@iccas.ac.cn, wsong@iccas.ac.cn

b University of Chinese Academy of Sciences, Beijing 100049 (China)

c Institute of electrical engineering, Chinese Academy of Sciences, Beijing 100190 (China). *E-mail: songtao@mail.iee.ac.cn

d School of Chemistry and Chemical Engineering, Shanxi University, Taiyuan 030006 (China). *E-mail: hqyang@sxu.edu.cn
**Fig. S1** Hysteretic properties for the bacteria sample.

**Fig. S2** TEM images of AMB-1 cell after immersed in 5% H₂O₂ solution for (a, b) 3 hours and (c, d) 5 hours.

**Fig. S3** Variation in concentration versus reaction time curves for H₂O₂ solution with/without AMB-1 nanoscale magnetic stirring bars under 45 °C.
Fig. S4 Conversion versus reaction time curves for cyclooctene epoxidation with/without AMB-1 nanoscale magnetic stirring bars.