Supplemental material

Production of styrene oxide from styrene by a recombinant *Escherichia coli* with enhanced AcrAB-TolC efflux pump level in an aqueous-organic solvent two-phase system

Noriyuki Doukyu^{a,b*} and Shinichiro Iida^{a,b}

^aDepartment of Life Science, Toyo University, 1-1-1 Izumino, Itakura-machi, Gunma, 374-0193, Japan

^bBio-Nano Electronic Research Center, Toyo University, 2100, Kujirai, Kawagoe, Saitama, 350-8585, Japan

*Corresponding author

Noriyuki Doukyu

Department of Life Science, Toyo University, 1-1-1 Izumino, Itakura-machi, Gunma, Japan

E-mail: dokyu@ toyo. jp

Tel.: +81-276-829219 FAX: +81-276-829219

Table S1 Styrene concentration partitioned into water phase in the two-phase system

Organic solvent	Styrene concn. in organic	Styrene concn. in water phase
	solvent (%[wt vol ⁻¹])	$(mg ml^{-1})^a$
Hexadecane	5	0.024 ± 0.003
	10	0.090 ± 0.008
	20	0.150 ± 0.013
<i>n</i> -Hexane	5	0.018 ± 0.003
	10	0.076 ± 0.006
	20	0.142 ± 0.011
Cyclohexane	5	0.032 ± 0.004
	10	0.113 ± 0.015
	20	0.242 ± 0.023

^aFour milliliters of LBGMg(IPTG, Ara, Amp, Km) medium without inoculation of *E. coli* strains overlaid with 1 ml of an organic solvent containing various amounts of styrene was incubated with shaking at 30°C. After 30 min, samples were recovered from the water phase, and the concentrations of styrene partitioned into the water phase in the two-phase system were analyzed by HPLC. Mean values of three independent experiments are shown.