



Figure S4. Apparent K_m of L-lactate and L-2-hydroxybutylate for L-iLDH in *P. stutzeri* SDM. The reaction mixture contained 0.2 mM MTT, 50 mM Tris-HCl (pH 7.5), and 0.1 μg purified L-iLDH. The reaction was started with variable L-lactate and L-2-hydroxybutylate concentrations. Double-reciprocal plots of the initial rates versus the concentration of L-lactate (a) and L-2-hydroxybutylate (b) were linear and yielded the K_m values of $29 \pm 0.65 \mu\text{M}$ and $99 \pm 3.9 \mu\text{M}$, respectively, at 30°C . The V_{max} values were estimated to be $332.3 \pm 5.4 \mu\text{mol min}^{-1} \text{mg}^{-1}$ for L-lactate, and $305.4 \pm 7.9 \mu\text{mol min}^{-1} \text{mg}^{-1}$ for L-2-hydroxybutylate, with MTT as the electron acceptor. The dispersion values indicate the standard errors of the mean (SEM) of the linear regression analysis of one experiment.