



Figure S1. HPLC analysis of (a) authentic FMN, and (b) the cofactor released from the purified L-iLDH in *P. stutzeri* SDM. For the identification of the cofactor of L-iLDH, the purified L-iLDH was heated to 100°C for 3 min and then centrifuged at $10,000 \times g$ for 10 min to remove denatured protein. Cofactor released from purified protein was analyzed by HPLC (Agilent 1100 series, Hewlett-Packard, USA) using an ODS C18 column (4.6×150 mm, particle size: 5 μm). The eluent was 100 mM ammonium bicarbonate 82-18% methanol. As shown in Figure S1, a compound identical to authentic FMN was produced. Therefore, L-iLDH in *P. stutzeri* SDM used FMN as the cofactor.