



**Fig. S1.**

**H<sub>2</sub> formation from NADH catalyzed by purified butyryl-CoA dehydrogenase/Etf complex from *C. acetobutylicum* in the presence of hydrogenase (HydA from *C. acetobutylicum*), ferredoxin (Fdx from *C. acetobutylicum*), and crotonyl-CoA.**

(A) Amount of H<sub>2</sub> formed as a function of the amount of NADH added in the presence of excess amounts of crotonyl-CoA (B) Amount of H<sub>2</sub> formed as a function of the amount of crotonyl-CoA added in the presence of excess amounts of NADH.