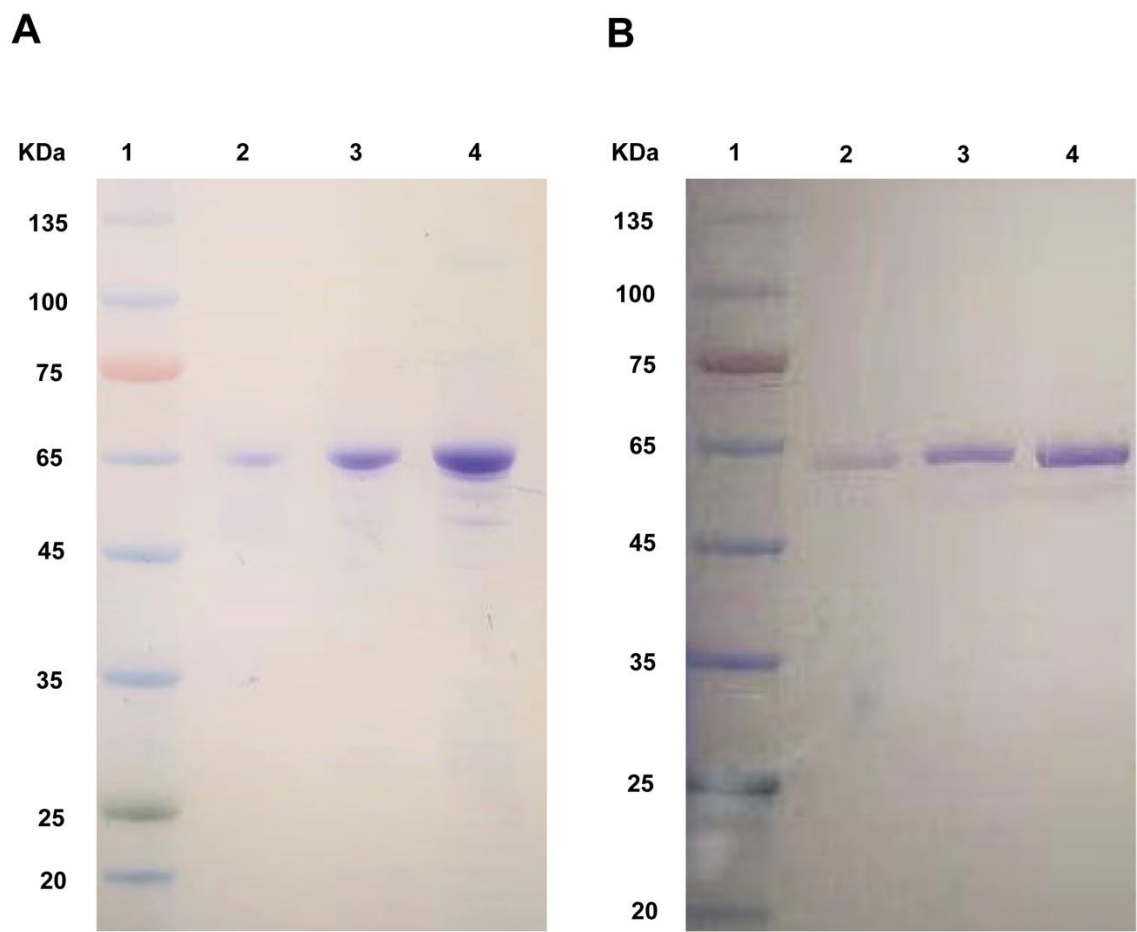
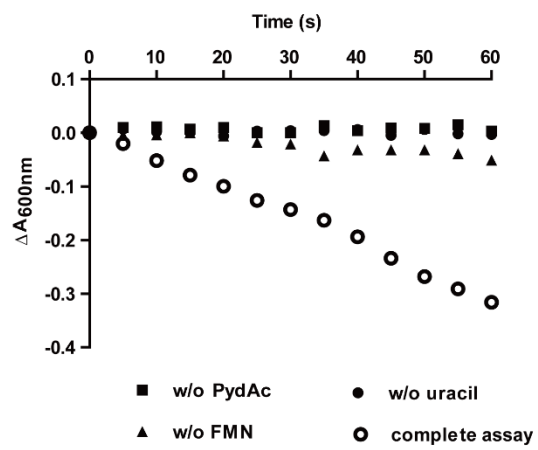


Figure S1



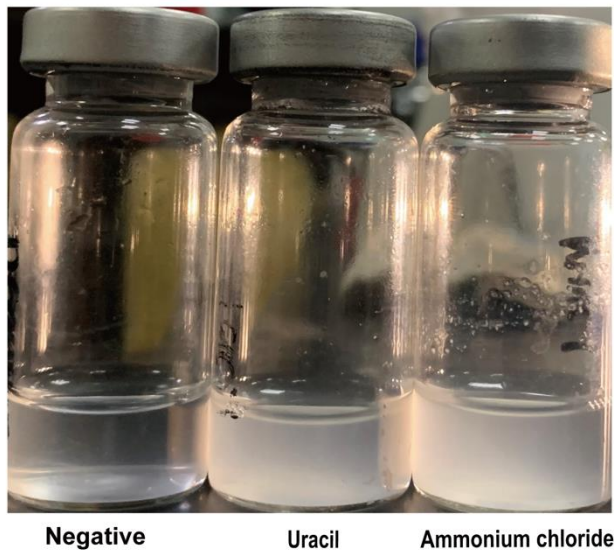
**Figure S1.** SDS-PAGE analyses of purified of PydAc and MBP-ferredoxin. A) PydAc. B) MBP-ferredoxin. 7% SDS gels with: lane 1, molecular weight marker; and lanes 2-4, 1, 2, 4  $\mu$ g of PydAc and ferredoxin. The gel was stained with Coomassie Blue.

**Figure S2**



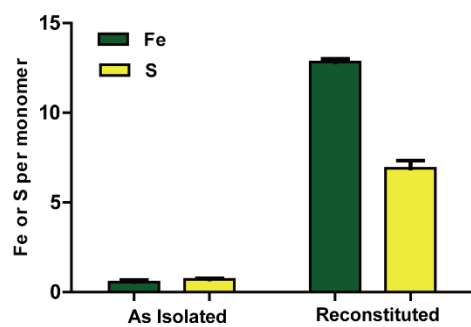
**Figure S2.** Activity assay traces monitoring the decrease in absorbance at 600 nm indicating a consumption of reduced methyl viologen. The complete assay and negative controls omitting the enzyme PydAc, cofactor FMN or substrate uracil are shown.

**Figure S3**



**Figure S3.** Images of *Clostridium chromiireducens* C1 cultures in defined media with uracil or ammonium chloride as the sole nitrogen source. A negative control omitting nitrogen source is included.

**Figure S4**



**Figure S4.** Iron and sulfur content in PydAc. The experiment was performed in triplicate, and the error bars represent standard deviations between the experiments. Green bars represent Fe contents, yellow bars represent S contents.