

Table S1: Integration data for CE traces shown in Figure 3.

The peaks are shown in order of appearance on CE electrophoregrams. The data represent the area of each peak in percentage of the total area of all the sugar-nucleotides present in the reaction. The degradation product P2 was excluded from these calculations due to its poor resolution from NADPH. Errors on peak integration are ~ 2%. The “i” denotes the impurity peak.

Trace	Enzymes	P5 γ	P4 γ	P1	P5 α	P4 β	P4 α	i
Panel A								
d	b + DdahC	0	21.0	26.2	6.6	22.1	16.6	7.6
c	b + MlghC	59.7	10.6	14.5	0	0	7.9	7.3
b	a + MlghB	0	25.6	31.8	0	19.5	17.5	5.6
a	P1 only	0	0	94.5	0	0	0	5.6
Panel B								
d	b + DdahC	0	0	61.5	12.9	0	19.5	6.1
c	b + MlghC	0	0	74.4	0	0	19.5	6.1
b	a + DdahB	0	0	71.5	0	0	23.7	4.9
a	P1 only	0	0	94.5	0	0	0	5.6

Table S2: Integration data for CE traces shown in Figure 4.

The peaks are shown in order of appearance on CE electrophoregrams. The data represent the area of each peak in percentage of the total area of all the sugar-nucleotides present in the reaction. The degradation product P2 was excluded from these calculations due to its poor resolution from NADPH. Errors on peak integration are ~ 2%.

Trace	Enzymes	P5 γ	P4 γ	P3	P1	P5 α	P4 β	P4 α
Panel A								
e	a + MlghC	40.0	0	0	34.4	0	18.1	7.6
d	a + WcaG _{NCTC}	0	34.2	6.3	28.8	0	20.8	9.9
c	a + DdahC	0	34.6	0	33.1	8.8	20.7	2.8
b	a + WcaG ₈₁₁₇₆	0	34.0	13.2	23.6	0	20.5	8.8
a	P1, P4 $\alpha\beta\gamma$	0	35.0	0	35.7	0	20.7	8.7
Panel B								
g	e + WcaG _{NCTC}	58.8	0	41.2	0	0	0	0
f	d + WcaG _{NCTC}	0	0	51.2	17.7	0	20.3	10.9
e	d + MlghC	100	0	0	0	0	0	0
d	a + MlghB	0	23.5	0	30.6	0	28.7	17.2
c	b + MlghC	0	0	54.3	45.7	0	0	0
b	a + WcaG _{NCTC}	0	0	46.6	53.4	0	0	0
a	baseline	0	0	0	100	0	0	0

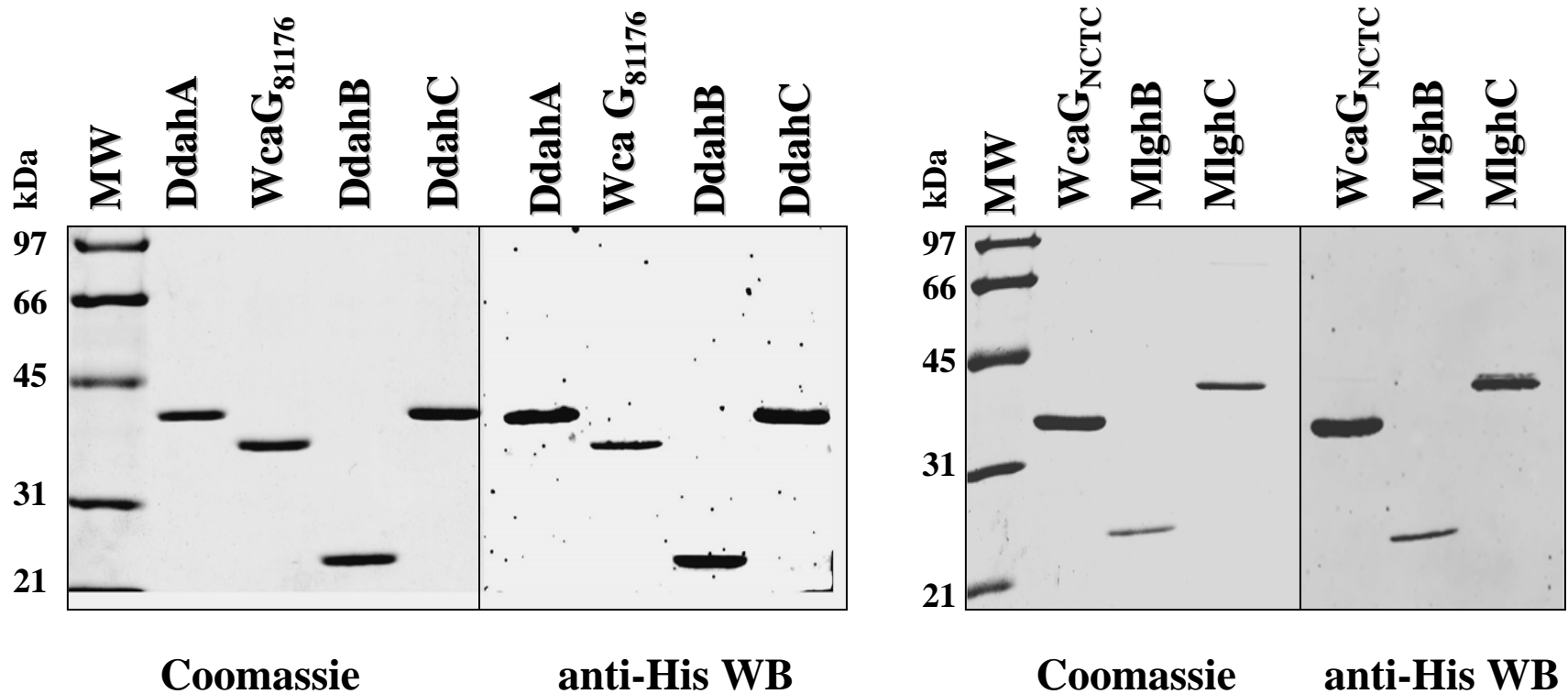


Figure S1: SDS-PAGE analysis of all purified enzymes used in this study. The proteins were purified by nickel affinity chromatography. Detection was performed with Coomassie staining and anti-histidine tag Western blotting (WB). MlghB and DdghB migrated at a higher molecular weight than expected but their identity was confirmed by MALDI-MS (This study and (25)). All other enzymes migrated at their expected molecular weight. MW: Molecular weight.