Synergistic rewiring of carbon metabolism and redox metabolism in cytoplasm and mitochondria of *Aspergillus oryzae* for increased L-malate production

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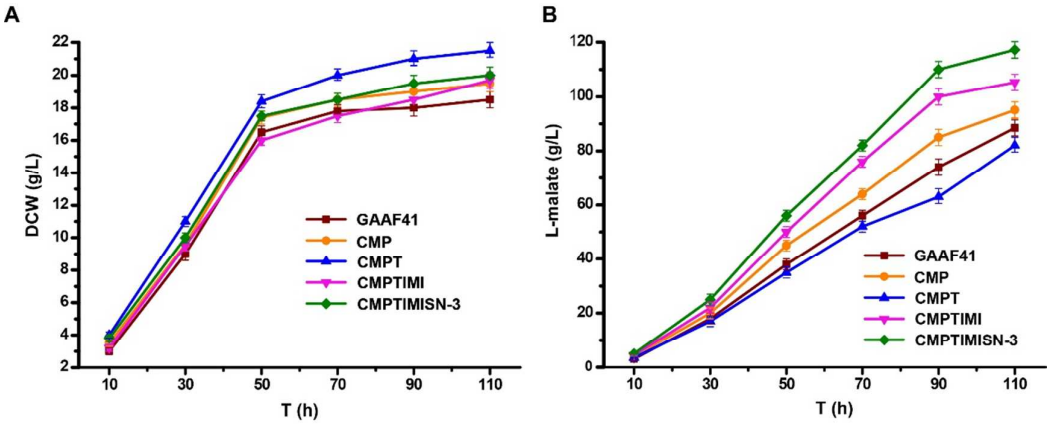
Figure caption

Fig. S1. Time course of dry cell weight (DCW) (A) and malate production (B) during fermentation of main engineered strains. The data shown are mean values from triplicates with error bars indicating the standard error.


A
DCW (g/L)
T (h)
GAAF41
CMP
CMPT
CMPTIMI
CMPTIMISN-3
B
L-malate (g/L)
T (h)
GAAF41
CMP
CMPT
CMPTIMI
CMPTIMISN-3

(Fig. S1)

Table S1. Primers used in this study for plasmid construction.

Primer	Sequence
Tef-1	TCTAGATAGCGAGAGTAAAA
Tef-2	GCTGTGCGTTGGAGGAACATTTTGAAGGTGGTGCGAACTT
COX4-1	AAGTTCGCACCACCTTCAAAATGTTCCTCCAACGCACAGC
COX4-2	CGTACTGGTGCAGCAGGCATCGTACAGCGGATGACGGAGG
Ropyc-1	CCTCCGTCATCCGCTGTACGATGCCTGCTGCACCAGTACG
Ropyc-2	ACGCAGTCGTAGTAAGGTTTTTAGGCTTCCTCTTTGACAA
TryC-1	TTGTCAAAGAGGAAGCCTAAAAACCTTACTACGACTGCGT
TryC-2	TGACACTGGATACGCATGTAGGGAATAATC
OXD-1	ATGCTTCGTACCACAGCCCTCAAGG
OXD-2	TTACTCACCCTTCAACCGCTCCTGG
ACH-1	ATGATCTCCACAAGGCTCGCGCGCA
ACH-2	TTAGTTGCCACCCTTGCGGGCCATG
ISD-1	ATGATGAATTCCCTTCGGCTCCATT
ISD-2	TTACAGTCTGGACTTCAGGTTGGTC
CIS-1	ATGGCTTCTTCCTTGAGAATCGGAA
CIS-2	TTACAGCTTGGCACCGACAAGCTTG
Icl1-1	ATGTTTCGATCAATTCCCCGTC
Icl1-2	TTAAAAACCTACACGCAAAATTAGT
Icl2-1	ATGGGTTTTCTCGAGGACGAGGACA
Icl2-2	TCAGTGCTTGAACTGATCTTCCGTC
MAS-1	ATGAGCCAAATCGACGTGCAGCTCA
MAS-2	TTACAGCTTGGACACCTGGCCCGCT
CIS-3	AAGGAAAAAAGCGGCCGCGGCAAACCAGGAAGTGCTTAACTGGCTCAC
CIS-4	GGCATATGAGCATCAACATTGGGGAAGGGGTTCTTGGT
CIS-5	CGGGATCCGGCAAACCAGGAAGTGCTTAACTGG
CIS-6	GGCATATGCTGAAGATAGATCAGCATTTGTTGGCTTGT
SodM-1	CCCAAGCTTTAGTCACATCCCGCCAACATGATTGGTAAA
SodM -2	ACGCGTCGACTTTGGGTGGTTTGGTTGGTATTCTGGTTGA
AmyB-1	CGGGATCCATATATTATACAGACACAACCTTGGTTACC
AmyB-2	GGGGTACCGGCGCGCCAATGAAAATCTGAGATTAAATGGAAATACA
Sfc1p-1	CAATTCCGCAGCTCGTCAAACCAATGCATGCCACCATGTCTCA
Sfc1p-2	CATATAATCATACGGTTCATCTACTTTAATGGCTTTGGCT
Eno-1	CCAACACGACTGTCTCATT ACTAG
Eno-2	TGAGACATGGTGGCATGCATTGGTTTGACGAGCTGCGGAATTG
Eno-3	AGCCAAAGCCATTAAAGTAGATGAACCGTATGATTATATG
Eno-4	TTTTTTTGGCACTTTTATTGCATTACTGC
NoxE-1	CCAATGCATATGAAGATCGTCGTCATCGG
NoxE-2	AGCTTTGTTTAAACTCACTTGGCGTTAAGGGCAG

Table S2. Primers used in qRT-PCR.

Primer	Sequence
PYC-1	GAGATCATCAAGATCGCCCTGGAGC
PYC-2	CGGAACGACAGGGACCTCGCACT
MDH-1	CAAGATCAACGCCGGCATAGTGC
MDH-2	GGTGAAAGTCTCTGCACGAACGACG
FUH-1	GATTGGTGAGGCTATTCAGAAGG
FUH-2	GTTGGGGTGCACAGGCTTC
CIS-7	CTGTCTGCCGAGTGGGCTG
CIS-8	GCGTAGGCCTTGGCGAAAG
OXD-3	CCAATGATTCCTTCCTCTCGG
OXD-4	CACCACCGGTCGGGGTAG
ACH-3	CGTCCTCTTACGTACGCCGA
ACH-4	GCCAGCCGACATGAACTGAA
ISD-1	CATTTCCTCTTCGTCTTCTTCTTCT
ISD-2	CTCCATCCAGTTCCACCACTG
Icl1-3	CAGCAGATCAAAGATGTGGAGGC
Icl1-4	TGGTATGAACTGGTTTCCCTTCC
Icl2-3	GATGGCCCAGCTGTTCCATG
Icl2-4	CCTCAATGTGAATACCAGCAGCA
MAS-3	CGACTTCAAACAGGGCAACA
MAS-4	CGCGAGCCACCAGTTCCTTGGC
Actin-1	CGGTAGGACGATCACATCAGATCCA
Actin-2	ACGATCAGCTTTCGGATGTGACCAT