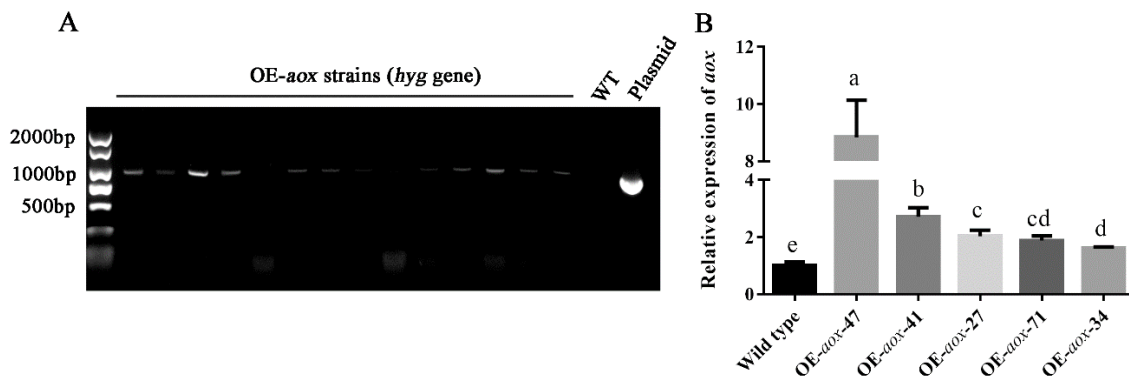**Supplemental Fig. S1** Strategy for the overexpression and RNA interference of target genes in *P. ostreatus*. A. The structure of the OE-*aco* vector. B. The structure of the RNAi-*aco* vector. C. The structure of the OE-*aox* vector.

Supplemental Fig. S2 Validation and selection of OE-*aox* strains. A. Preliminary selection of OE-*aox* transformation strains by amplification of the *hyg* gene. B. qPCR analysis of the expression of *aox* in the tested strains. The values are the mean ± SE. Different letters indicate significant differences for the comparison of samples ($P < 0.05$, according to Duncan's test)

Supplemental gene sequence

>*aco*_cDNA_*Pleurotus ostreatus*_CCMSSC00389

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CGATCCTCATGGACAAGATATTGAACGTGGTGTCTCATATCTCAAGCTGCGGCCTGACC
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>aox_cDNA_*Pleurotus ostreatus*_CCMSSC00389

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