**Table S6.** Gene names and database identifiers used in this study. EC: Enzyme Classification; KO: Kyoto Encyclopedia of Genes and Genomes. Colors signify functional group as defined in **Fig. 1**.

|  |  |  |  |
| --- | --- | --- | --- |
| Gene | Database ID | Gene | Database ID |
| *amoA* | KO:K10944 | *nasA* | KO:K00372 |
| *amoB* | KO:K10945 | *nasB* | KO:K00360 |
| *amoC* | KO:K10946 | *narB* | KO:K00367 |
| *hao* | EC:1.7.2.6 | *nirA* | KO:K00366 |
| *nxrA* | KO:K00370 | *nao* |  |
| *nxrB* | KO:K00371 | *nmoA* |  |
| *narG* | KO:K00370 | *nmoB* |  |
| *narH* | KO:K00371 | *nifD* | KO:K02586 |
| *narI* | KO:K00374 | *nifK* | KO:K02591 |
| *narJ* | KO:K00373 | *nifH* | KO:K02588 |
| *napA* | KO:K02567 | *nrtA* | KO:K15576 |
| *napB* | KO:K02568 | *nrtB* | KO:K15577 |
| *napC* |  | *nrtC* | KO:K15578 |
| *nirK* | KO:K00368 | *nrtD* | KO:K15579 |
| *nirS* | KO:K15864 | *nmoB* | EC:1.14.14.10 |
| *norB* | KO:K04561 | *gdhA* | EC:1.4.1.3 |
| *norC* | KO:K02305 | *gdhB* | EC:1.4.1.4 |
| *nosZ* | KO:K00376 | *nmoA* | EC:1.5.1.42 |
| *nrfA* | KO:K03385 | *nao* | EC:1.7.3.1 |
| *nrfH* | KO:K15876 | *glnA* | EC:2.7.7.42 |
| *nirB* | KO:K00362 | *ureC* | EC:3.5.1.5 |
| *nirD* | KO:K00363 | *glnR* | EC:6.3.1.2 |

|  |  |
| --- | --- |
| Gene | Database ID |
| Alpha-amylase | EC:3.2.1.1 |
| Glucan 1,4-alpha-glucosidase | EC:3.2.1.3 |
| Neopullulanase | EC:3.2.1.135 |
| Pullulanase | EC:3.2.1.41 |
| UDP-arabinopyranose mutase | EC:5.4.99.30 |
| Beta-glucosidase | EC:3.2.1.21 |
| Endo-1,4-beta-xylanase | EC:3.2.1.8 |
| Cellulase | EC:3.2.1.4 |
| Cellulose 1,4-beta-cellobiosidase (non-reducing end) | EC:3.2.1.91 |
| Limonene-1,2-epoxide hydrolase | EC:3.3.2.8 |
| Vanillate monooxygenase | EC:1.14.13.82 |
| Mannosyl-glycoprotein endo-beta-N-acetylglucosaminidase | EC:3.2.1.96 |
| Chitinase | EC:3.2.1.14 |
| Lignin peroxidase | EC:1.11.1.14 |
| Tyrosinase | EC:1.14.18.1 |
| Peroxidase | EC:1.11.1.7 |
| Choline dehydrogenase | EC:1.1.99.1 |
| Catalase | EC:1.11.1.6 |
| Gentisate 1,2-dioxygenase | EC:1.13.11.4 |
| Superoxide dismutase | EC:1.15.1.1 |
| Betaine-aldehyde dehydrogenase | EC:1.2.1.8 |
| Oxidoreductases. Acting on the CH-NH(2) group of donors | EC:1.4.3.- |
| Oxidoreductases. Acting on the CH-NH group of donors | EC:1.5.3.- |
| Alpha,alpha-trehalose-phosphate synthase (UDP-forming) | EC:2.4.1.15 |
| Trehalose-phosphatase | EC:3.1.3.12 |
| Hydrolases. Glycosylases. Glycosidases | EC:3.2.1.- |
| 4-alpha-D-((1->4)-alpha-D-glucano)trehalose trehalohydrolase | EC:3.2.1.141 |
| Maltose alpha-D-glucosyltransferase | EC:5.4.99.16 |