**Influence of different light regimes on the mycoparasitic activity and the production of the secondary metabolite 6-pentyl--pyrone** **in two strains of *Trichoderma atroviride***

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**Supplementary data**

**Table S1**. Primers used for generation of *tmk3* gene deletion cassette and genotyping

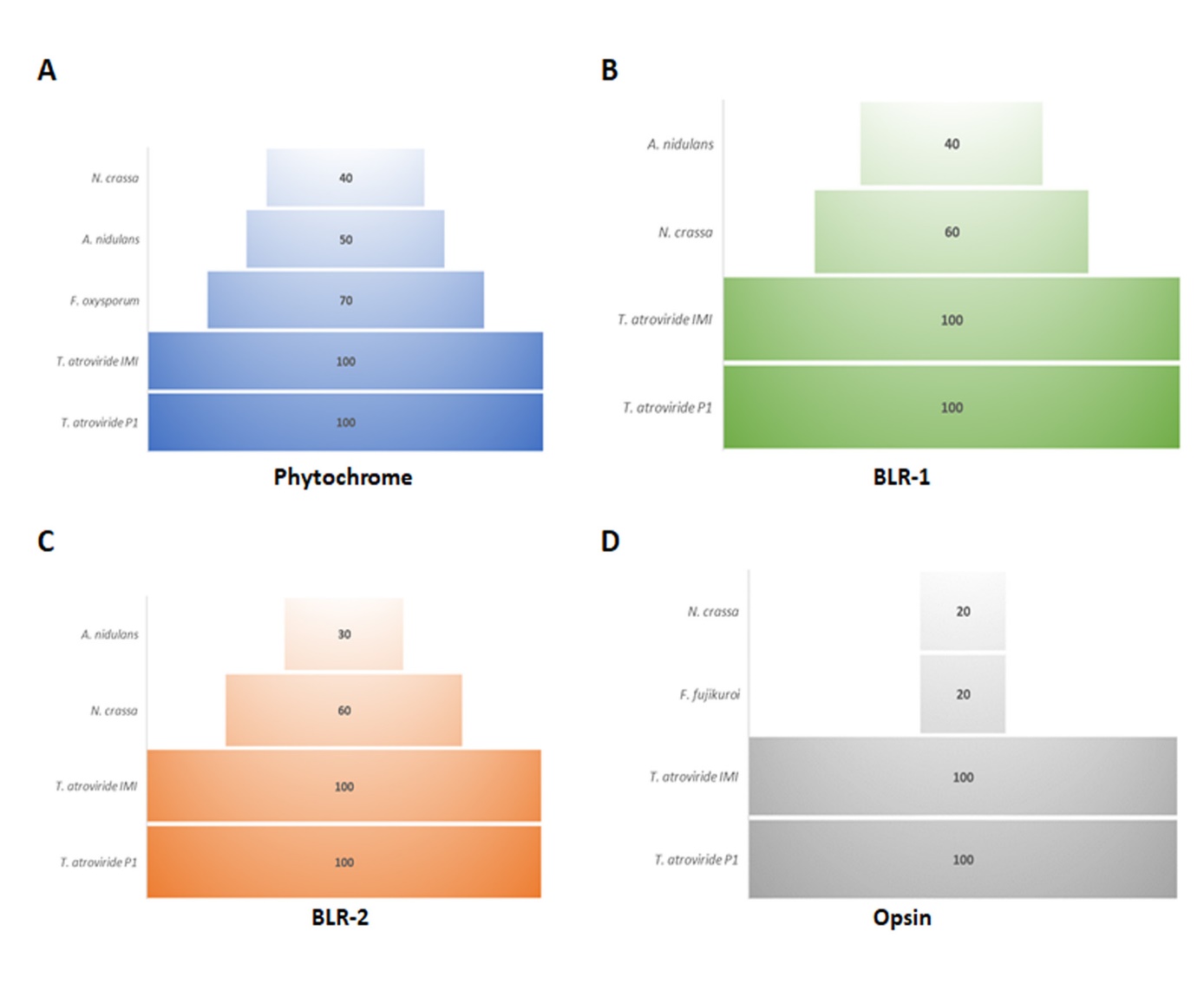
**Figure S1.** Percentage of sequence identity of fungal light sensors

**Figure S2.** Sequence alignment of fungal phytochromes and White collar-like proteins.

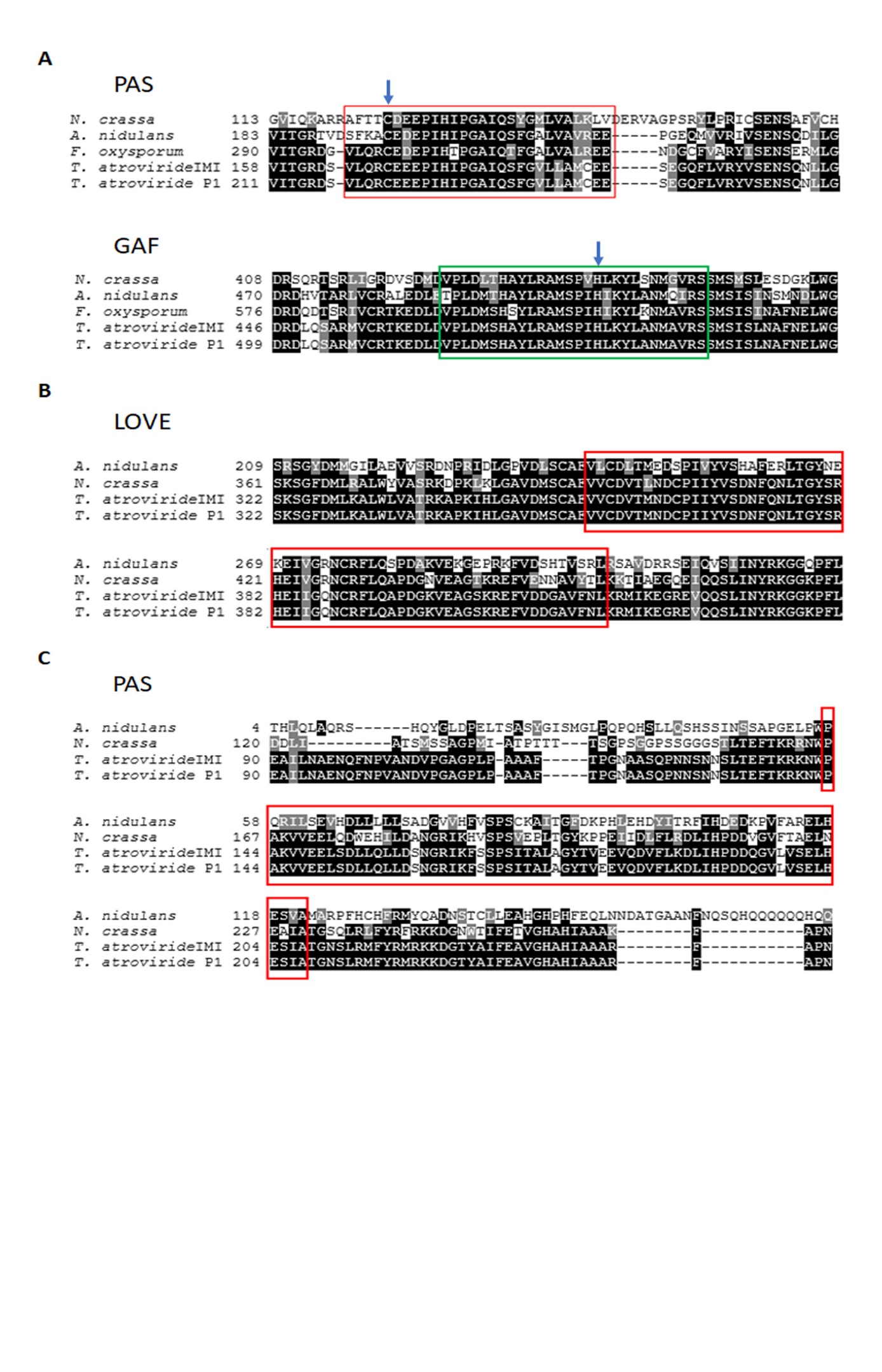
**Figure S3.** Sequence alignment of fungal opsins.

**Table S1****.** Primers used for generation of *tmk3* gene deletion cassette and genotyping

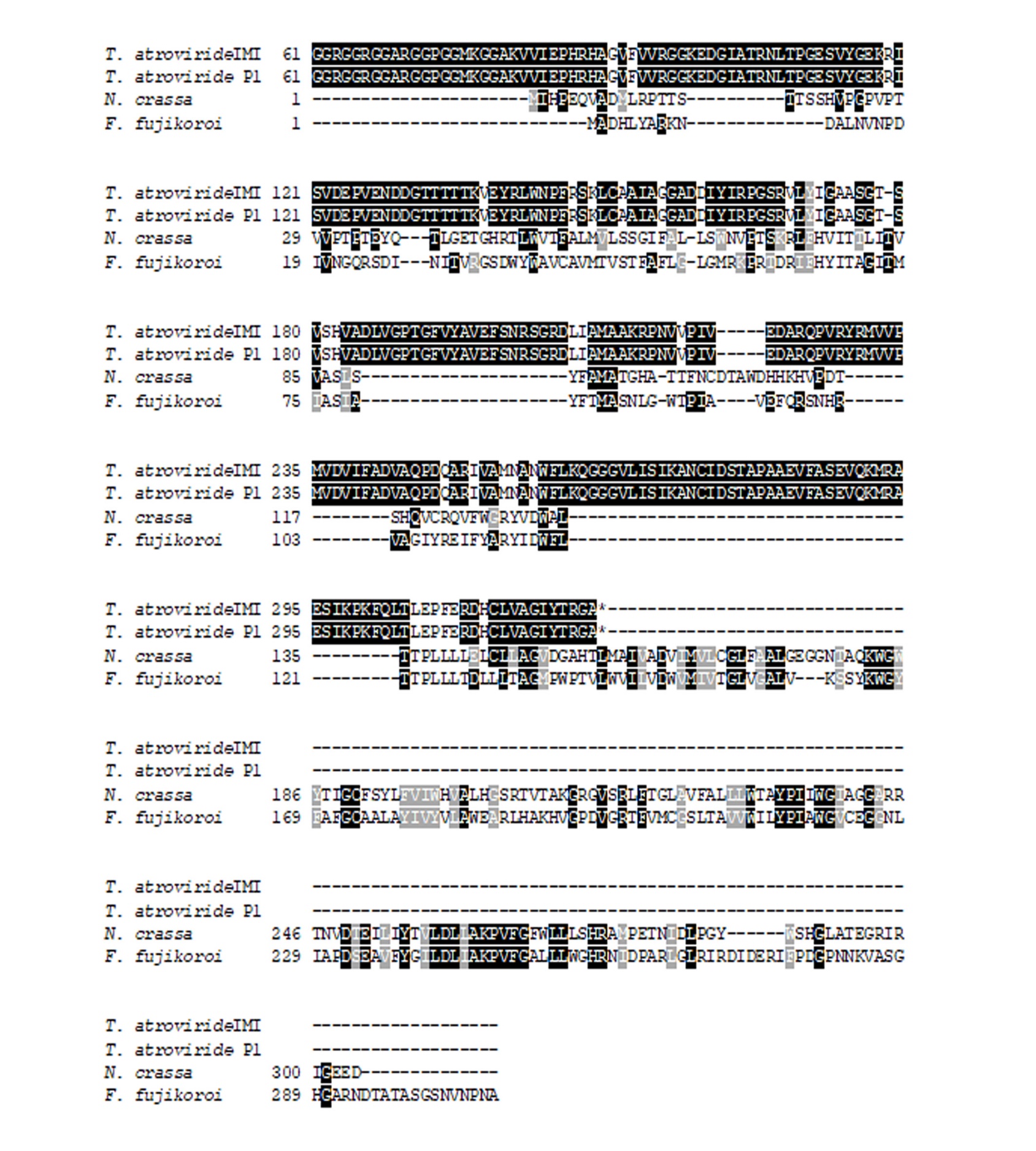
|  |  |
| --- | --- |
| Oligonucleotide | Sequence (5´- 3´) |
| for plasmid construction  BbpDM-tmk3-Fw  BbpDM-tmk3-Rv  5´ Ptmk3-Fw  5´ Ptmk3-Rv  3´ Ptmk3-Fw  3´ Ptmk3-Rv | TTAATTAATTAATTAAATGAAAAAGCCTGAACTCACCGC  TTAATTAATTAATTAAGGTTAAGAGGTTCTTCCGGCT  TGCAAGGCGATTAAGTT**CTGGATGATTGGAGGGGGGAATG**  CCGCTAGTCTCACCGTTATC**ATTCAGATTTCGATTTTTTGGGGG**  GCACTCGTCCGAGGGCAAAGGAATA**GCGCCCGCGCACGCA**  TGACCATGATTACGCCAAGCT**TGGTGGCCACCCATTGCG** |
| for transformation  pLS-trafo-F  pLS-trafo-R | AACTGTTGGGAAGGGCGA  TGTGTGGAATTGTGAGCGG |
| Genotyping  Geno\_hphR-Fw  Geno\_3’ Ttmk3- Rv  Geno\_5‘ Ptmk3-Fw(2)  Geno\_Tmk3-Fw  Geno\_Tmk3-R  Actin-T.a-Fw  Actin-T.a-Rv | GAGCTGATGCTTTGGGCC  TCTCTTGATTTCTACACAAACAGGG  CCCTGAAGCTGCTGGATGGA  ACTCAGACCTCCAGCCTGTG  ATAACATCGTCCGGGGGCG  CTACGGACCAGCAATACGGG  CATACAGGATCGCAAGATCTGC |



**Figure S1.** Percentage of sequence identity of fungal light sensors.A. Alignment of phytochrome protein from *T. atroviride* strains IMI 206040 and P1 with its orthologues from *N. crassa*, *A. nidulans*, and *F. oxysporum*. B. Alignment of the blue light sensor *T* BLR-1 from *T. atroviride* strains IMI206040 and P1 with its orthologues from *N. crassa* and *A. nidulans*. C. Alignment BLR-2 from *T. atroviride* strains IMI206040 and P1 with its orthologues from *N. crassa* and *A. nidulans*. D. Alignment of the opsin from *T. atroviride* strains IMI206040 and P1 with of its orthologue from *N. crassa* and *F. fujikuroi*. Protein sequences were retrieved from NCBI: XP\_682277.1, AAP47230.1, XP\_661211.1 (*A. nidulans*), XP\_960050.2, XP\_011395153.1, XP\_963819.3, XP\_959421.1 (*N. crassa*), XP\_023437812.1 (*F. fujikoroi*), XP\_018237567.1 (*F. oxysporum* f. sp. *lycopersici* 4287) , XP\_013942313.1, XP\_013938043.1, XP\_013938453.1, XP\_013947857.1 (*T. atroviride* IMI 206040) and JGI genome portal (Protein ID): 325757, 421757, 431266, 365324 (*T. atroviride* P1).



**Figure S2.** Sequence alignment of fungal phytochromes and WC proteins.A. Alignment of PAS and GAF domains of phytochrome protein sequences from *T. atroviride* strains IMI 206040 and P1, *N. crassa*, *A. nidulans*, and *F. oxysporum*. B. Alignment LOVE domain of BLR-1 from *T. atroviride* strains IMI and P1 with orthologues from *N. crassa* and *A. nidulans*. C. Alignment of PAS domain of BLR-2 from *T. atroviride* strains IMI and P1 with orthologues from *N. crassa* and *A. nidulans*. Protein sequences were retrieved from NCBI: XP\_682277.1, AAP47230.1, XP\_661211.1 (*A. nidulans*), XP\_960050.2, XP\_011395153.1, XP\_963819.3 (*N. crassa*), XP\_018237567.1 (*F. oxysporum* f. sp. *lycopersici* 4287) , XP\_013942313.1, XP\_013938043.1, XP\_013938453.1 (*T. atroviride* IMI 206040) and JGI genome portal (Protein ID): 325757, 421757, 431266 (*T. atroviride* P1). Alignments were done with ClustalW (http://www.ebi.ac.uk/clustalW) and shading with Boxshade 3.21 (http://www.ch.embnet.org/software/BOX\_form. html.



**Figure S3.** Sequence alignment of fungal opsins.Alignment of the opsin protein from *T. atroviride* strains IMI and P1 with orthologues from *N. crassa* and *F. fujikuroi*. Protein sequences were retrieved from NCBI GenBank: XP\_959421.1 (*N. crassa*), XP\_023437812.1 (*F. fujikoroi*), XP\_013947857.1 (*T. atroviride* IMI 206040); and JGI genome portal (Protein ID): 365324 (*T. atroviride* P1). Alignments were done with ClustalW (http://www.ebi.ac.uk/clustalW) and shading with Boxshade 3.21 (http://www.ch.embnet.org/software/BOX\_form. html.