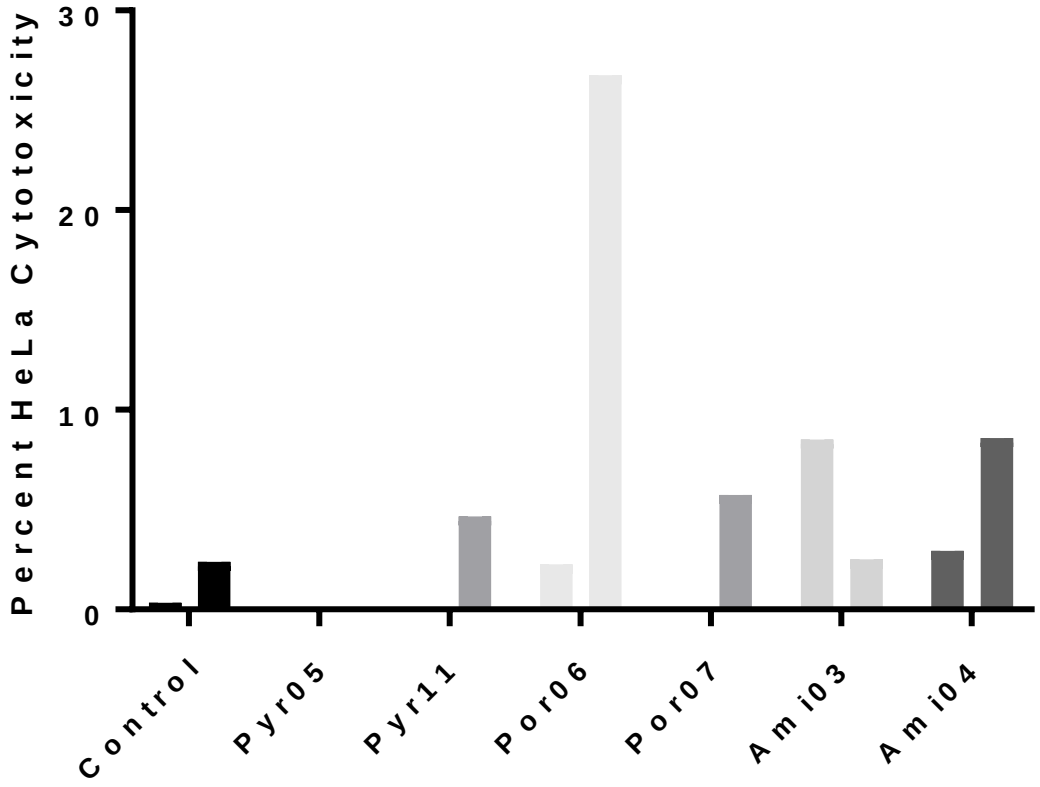

Figure S1. Percent cytotoxicity of HeLa cells grown for 24 h in the presence of 10 µM (left bar) 100 µM (right bar) of the compounds. All the compounds demonstrated less than 10% cytotoxicity with the exception of Pyr06, which had 27% cytotoxicity at a concentration of 100 µM.

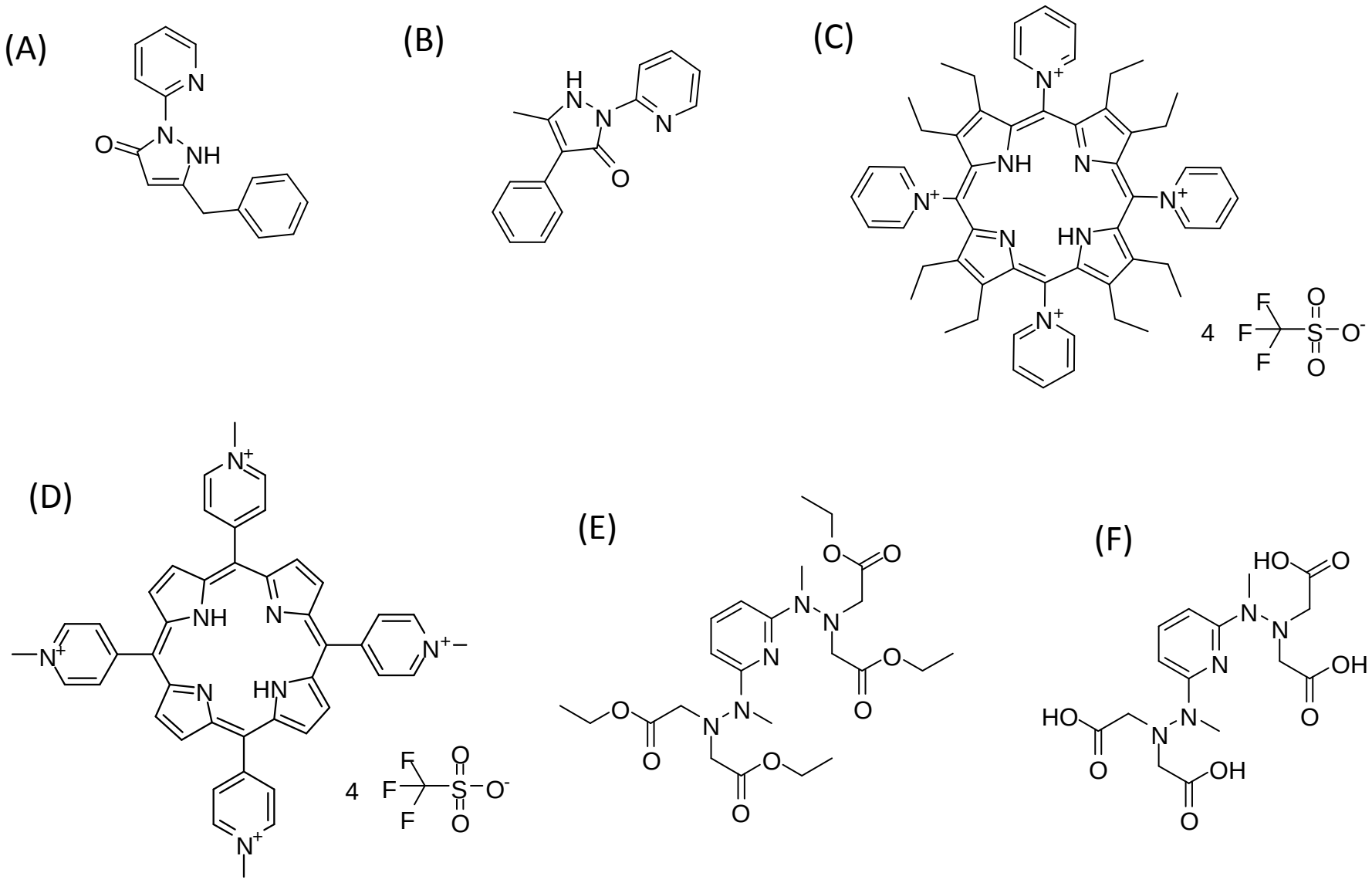

Figure S2. Structures of the pyrazolones (A) Pyr05 and (B) Pyr11, the porphyrins (C) Por06 and (D) Por07, the polyaminocarboxylates (A) Ami03 and (B) Ami04.

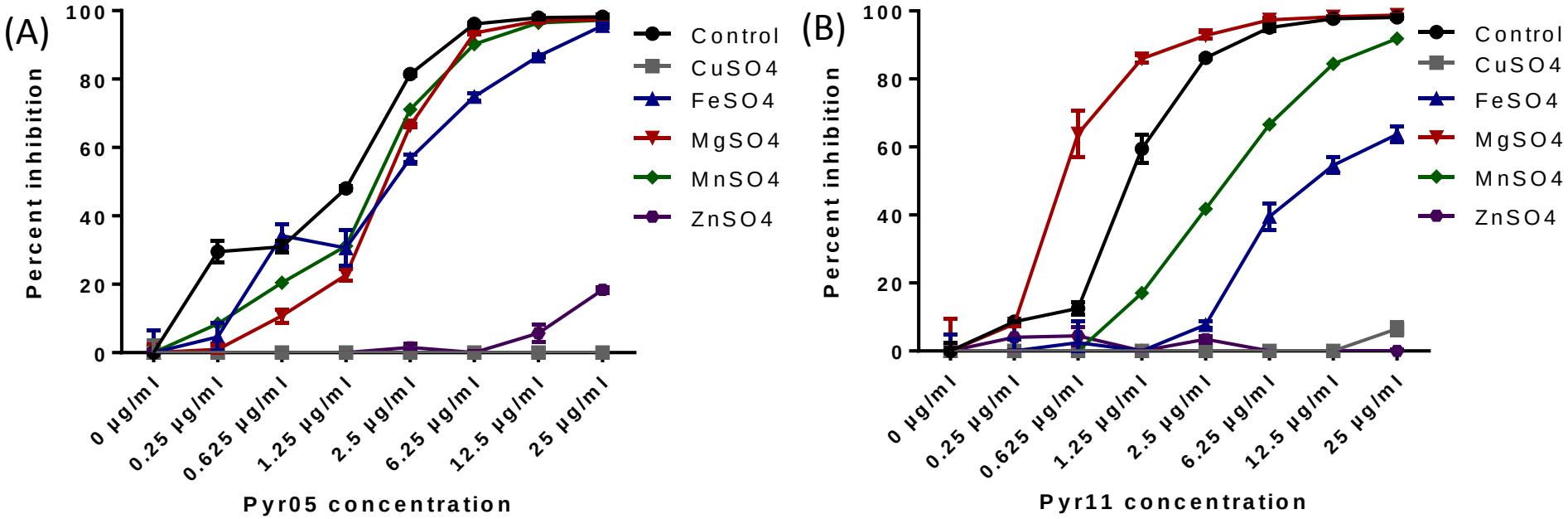

Figure S3. Percent inhibition based on luminescence measurements of *A. fumigatus* wild type (AF14) grown either with no added ions or with an addition of 100 µM CuSO4, FeSO4, MgSO4, MnSO4 or ZnSO4 for 15 h in the presence of the pyrozanole (A) Pyr05 or (B) Pyr11.

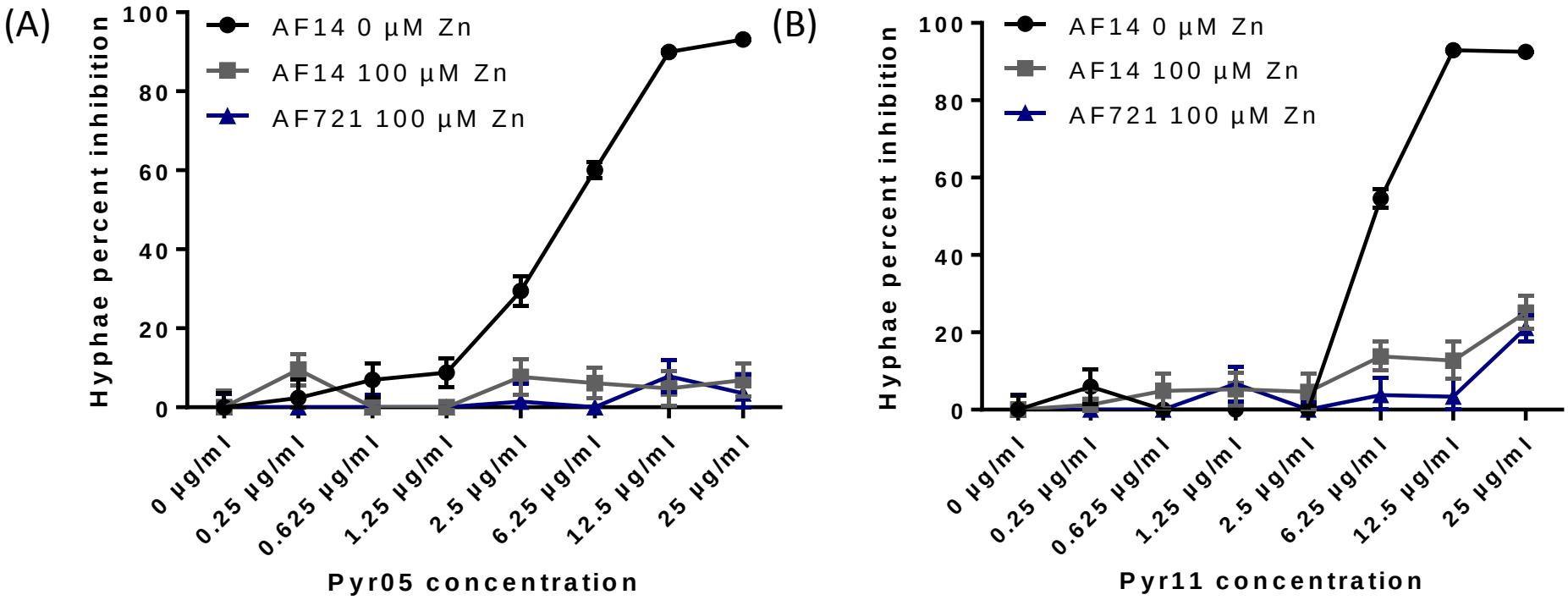

Figure S4. Hyphal length percent inhibition of *A. fumigatus* wild type (AF14) or triple zinc transporter knockout (AF721) grown either with no added zinc or with 100 µM ZnSO4 for 10 h in the presence of the pyrazonoles (A) Pyr05 or (B) Pyr11.

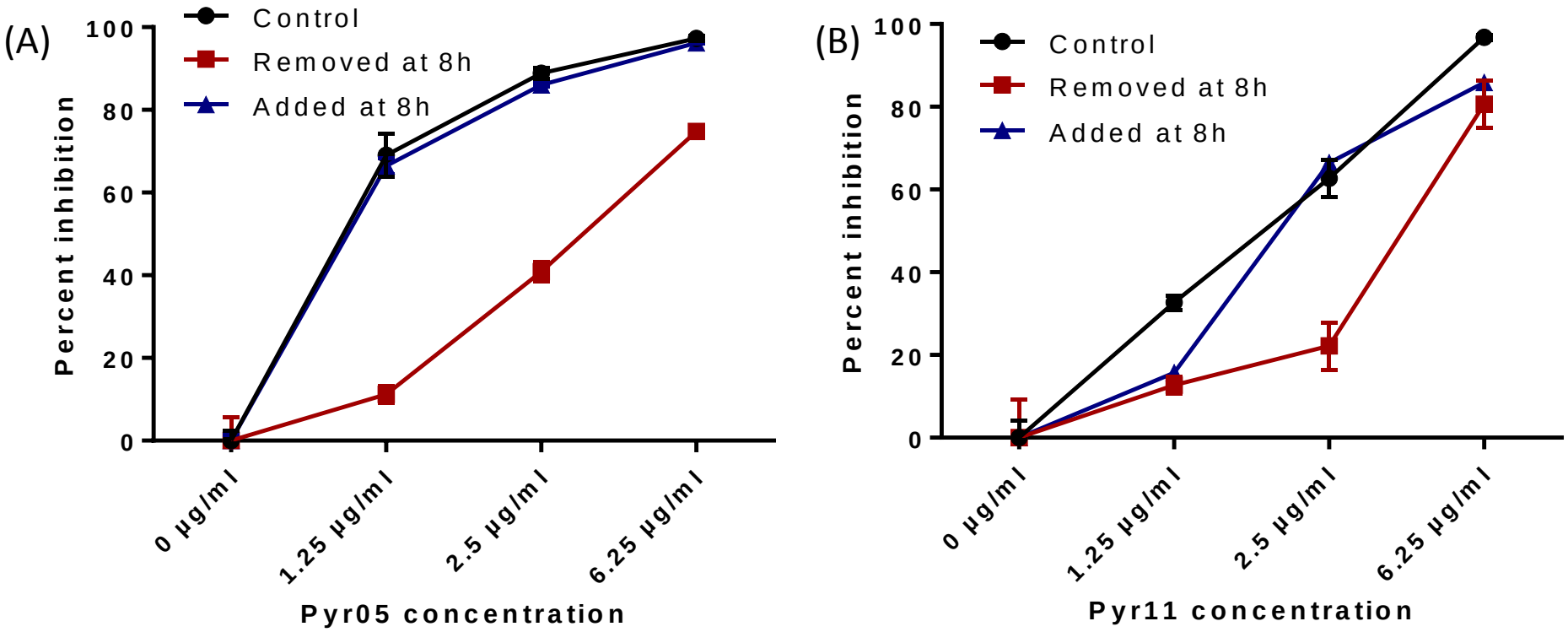

Figure S5. Percent inhibition based on luminescence measurements of *A. fumigatus* wild type (AF14) grown in the presence of the pyrazonole (A) Pyr05 or (B) Pyr11. Removed at 8 h: medium was replaced with fresh medium containing no tested compound after an 8 h incubation. Added at 8 h: compounds were added to the medium after 8 h of incubation. The cultures were incubated for an additional 7 h, resulting in a total incubation time of 15 h.

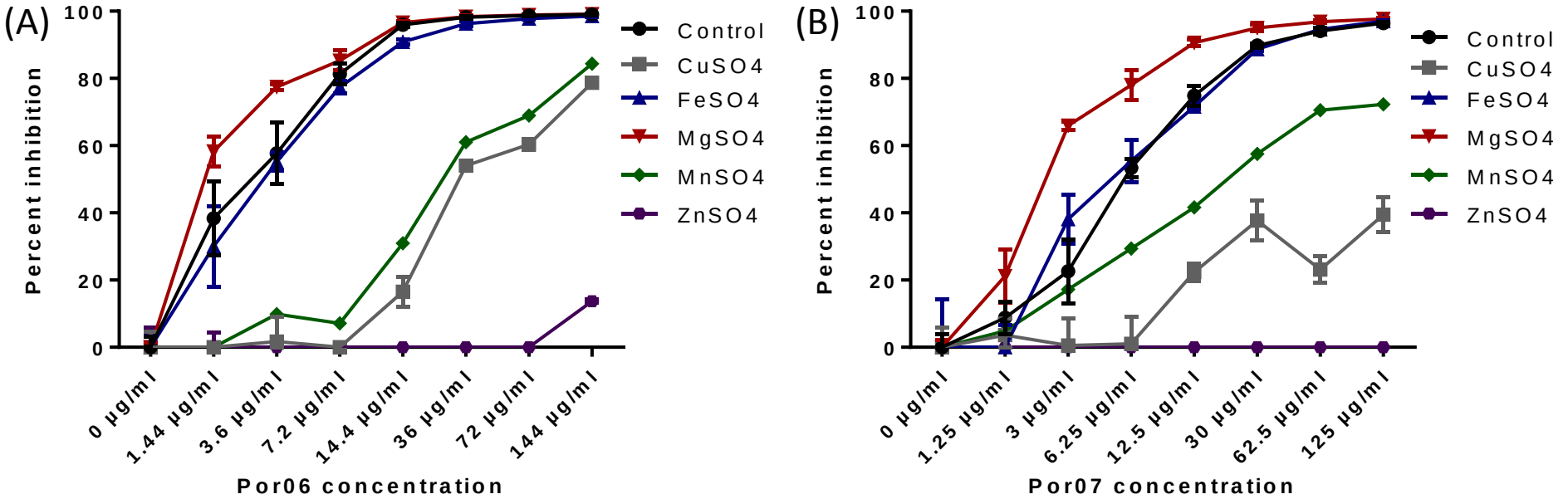

Figure S6. Percent inhibition based on luminescence measurements of *A. fumigatus* wild type (AF14) grown either with no added ions or with an addition of 100 µM CuSO4, FeSO4, MgSO4, MnSO4 or ZnSO4 for 15 h in the presence of the porphyrin (A) Por06 or (B) Por07.

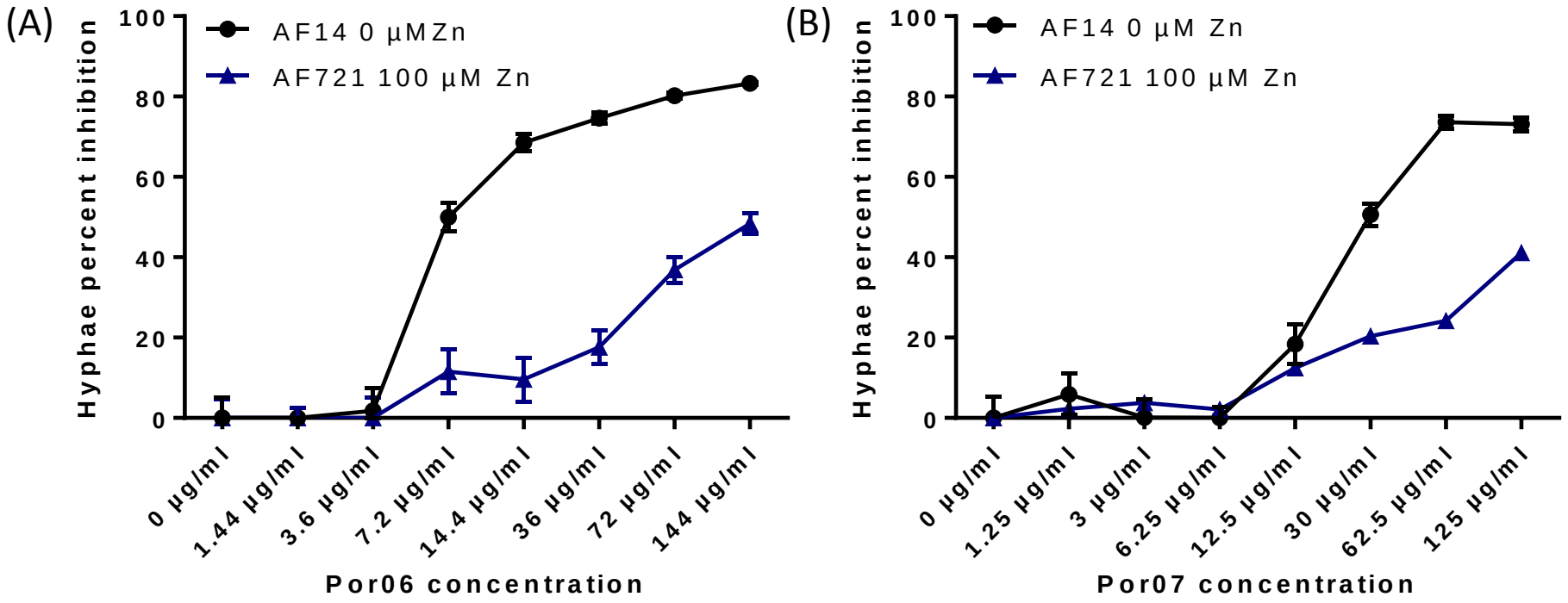

Figure S7. Hyphal length percent inhibition of *A. fumigatus* wild type (AF14) or triple zinc transporter knockout (AF721) grown either with no added zinc or with 100 µM ZnSO4 for 10 h in the presence of the porphyrin (A) Por06 or (B) Por07.

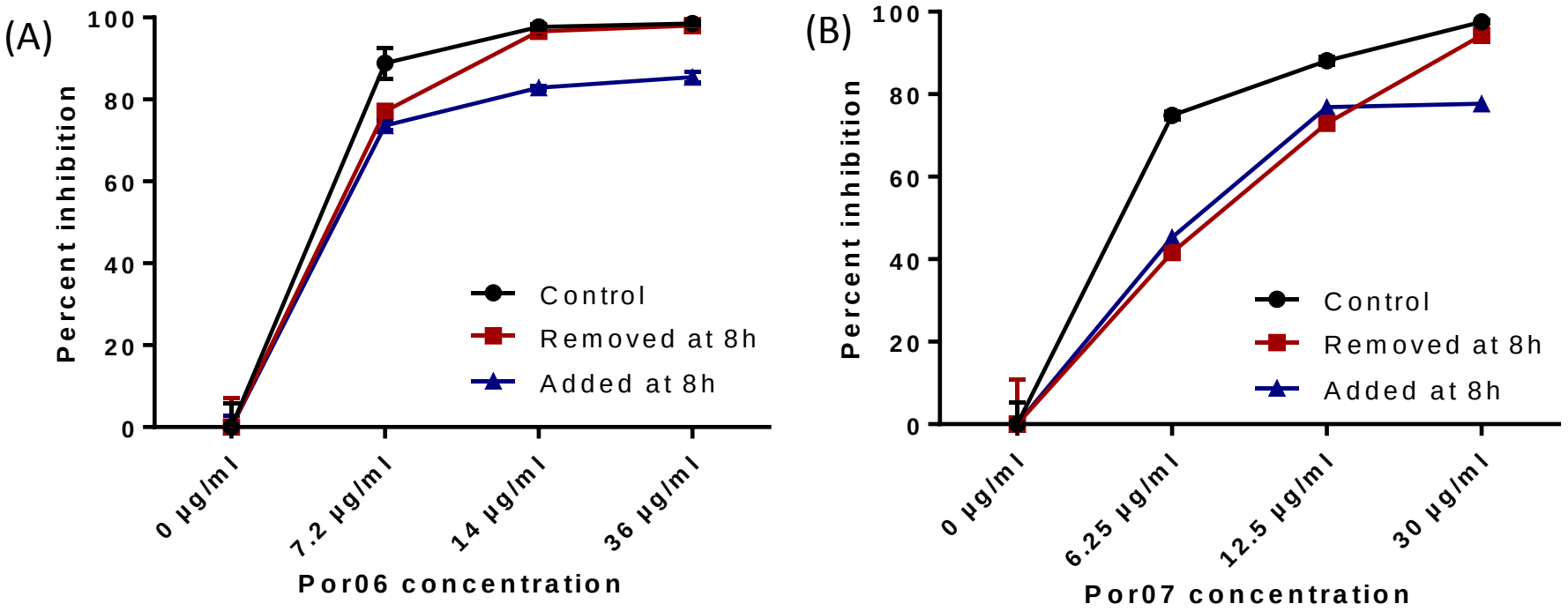

Figure S8. Percent inhibition based on luminescence measurements of *A. fumigatus* wild type (AF14) grown in the presence of the porphyrin (A) Por06 or (B) Por07. Removed at 8 h: medium was replaced with fresh medium containing no tested compound after an 8 h incubation. Added at 8 h: compounds were added to the medium after 8 h of incubation. The cultures were incubated for an additional 7 h, resulting in a total incubation time of 15 h.

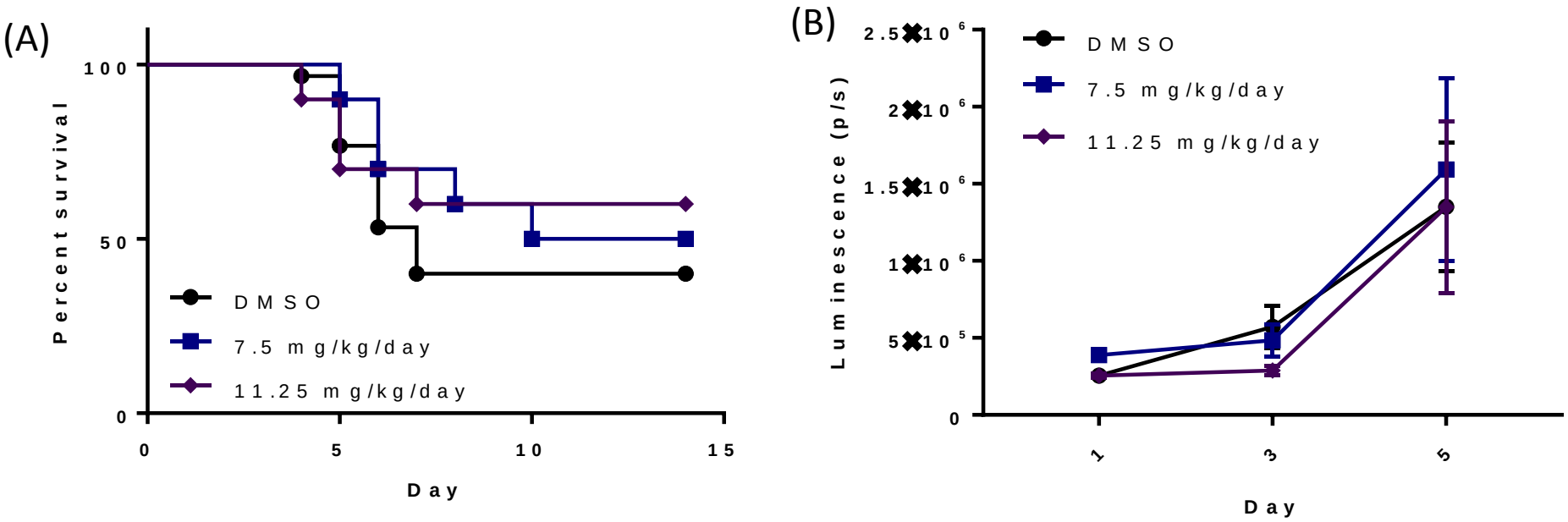

Figure S9. (A) Percent survival and (B) luminescence of immunosuppressed mice intranasally infected with 7.5x10^4 *A. fumigatus* wild type (AF14) conidia and treated with the porphyrin Por06. There was no significant difference in survival, luminescence or weight loss of the treated groups compared to the DMSO control.

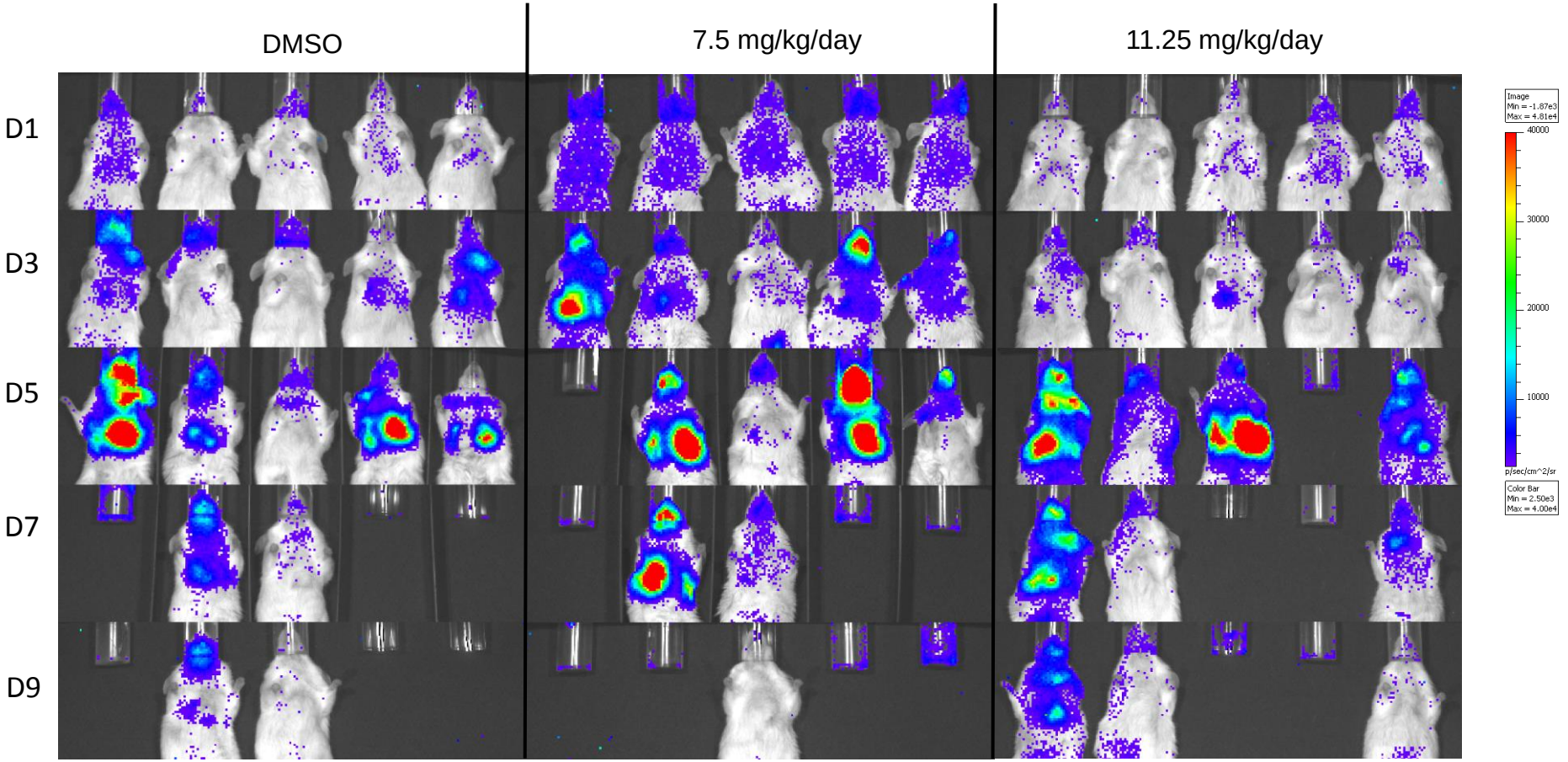

Figure S10. Examples showing luminescence of mice treated with 7.5 or 11.25 mg/kg/day of the porphyrin Por06 and of a DMSO placebo group. Mice in all three groups developed aspergillosis and had similar outcomes.

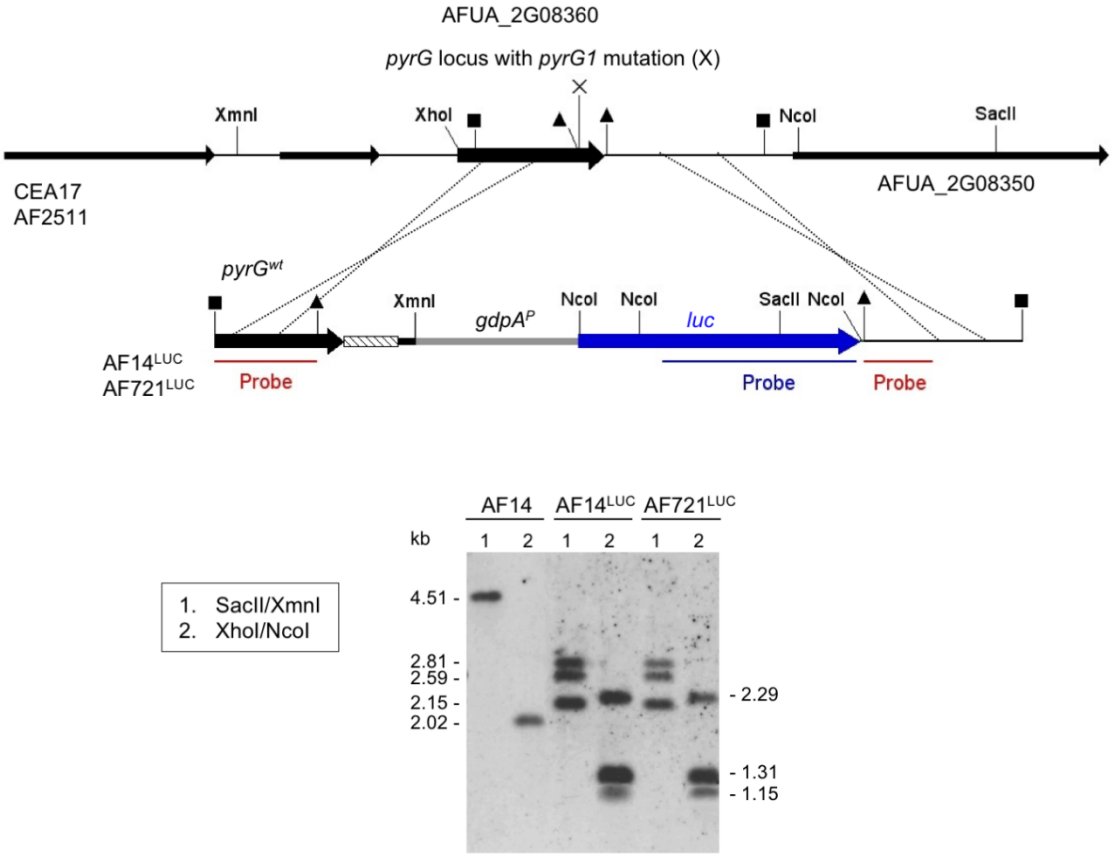

Figure S11. Construction of the AF14^{LUC} and AF721^{LUC} bioluminescent strains. Schematic representation of the construction of the derivative uridine-uracil-prototrophic PyrG^{+} *A. fumigatus* strains AF14^{LUC} and AF721^{LUC} that harbored the coding sequence of the codon-optimized version of the firefly luciferase (*luc*) under the control of the *gdpA* promoter. A 4.77 kb EcoRI-SphI DNA fragment from plasmid pLUC-pyrG-D was introduced between the AFUA_2G08360 (*pyrG*) and AFUA_2G08350 loci of both the CEA17 and AF2511 uridine-uracil-auxotrophic *pyrG1* strains to generate respectively the uridine-uracil-prototrophic strains AF14^{LUC} and AF721^{LUC}. Both strains harboured the correct integration event at the *pyrG* locus, as verified by Southern blotting analyses, using the indicated probes. Only relevant restriction sites are indicated. The source of the genomic DNA, the restriction enzymes used in the digestions, and the sizes of the fragments detected that match the expected sizes are specifically indicated in each panel.