**Supplementary Figure 1:** Scatter plots representing the correlation between the relative expression of the transcriptome pairs.

**Supplementary Figure 2:** Radial growth in solid media of Wt, ∆*fapR*, ∆*fmaA* and ∆*hasA* muntants exposed to 1 and 8 µg/ml of CSP.

**Supplementary Figure 3:** Cellular localization determined by microscopy of FCSP in the Af293, ∆*crzA*Af293 and ∆*crzA*CEA17 strains after 5, 10 and 15 minutes of exposure to 0.125 µg/ml, the vacuoles were labeled with blue CMAC dye.

**Supplementary Figure 4:** Relative expression of genes involved in cell-wall metabolism in Af293, CEA17, ∆*crzA*Af293 and ∆*crzA*CEA17 exposed to LD and HD of CSP.

**Supplementary Figure 5:** Immunoblot assay of MpkA phosphorylation exposed to increasing CSP concentrations using anti-p44/42 MpkA or anti-44/42 MpkA antibodies to detect the phosphorylated and total MpkA, respectively. The anti-γ-tubulin antibody and a Coomassie brilliant blue (CBB) gel were used as loading controls and the signal intensities were quantified using the ImageJ software.

**Supplementary Table 1:** Relative expression of selected genes from Af293 and CEA17 after exposure to LD and HD of CSP.

**Supplementary Table 2:** Relative expression of 26 BGCs from Af293, CEA17, ∆*crzA*Af293 and ∆*crzA*CEA17 strains exposed or not to LD and HD of CSP.

**Supplementary Table 3:** CrzA targets in CEA17 before and after exposure to HD of CSP.

**Supplementary Table 4:** Go terms enriched among the genes induced and repressed in ∆*crzA*Af293 and ∆*crzA*CEA17.

**Supplementary Table 5:** Strains used in this work

**Supplementary File 1:** Relative expression (log2 fold-change) of all *A. fumigatus* genes in each transcriptome.

**Supplementary Text 1:** List of the main findings of previous transcriptional profiling studies using caspofungin