

**Title:** Supplementary Movie 1:

**Description:** Live microscopy of *C. albicans* filamentation in KBM supplemented with 50 mM cytosine. *C. albicans* was incubated at 37°C and 5% CO<sub>2</sub> for 20 h and brightfield pictures were taken every hour.

**Title:** Supplementary Movie 2:

**Description:** Live microscopy of *C. albicans* filamentation in KBM. *C. albicans* was incubated at 37°C and 5% CO<sub>2</sub> for 20 h and brightfield pictures were taken every hour.

**Title:** Supplementary Data 1:

**Description:** Metabolomics dataset. The relative concentrations of each metabolite in each condition are found as original data, scaled data and organised in pathways.

**Title:** Supplementary Data 2:

**Description:** Biomass objective function values and associated flux ranges for all reactions for all simulations and investigated media conditions generated in the study.

**Title:** Supplementary Data 3:

**Description:** Simulation sets over different fractions of required objective function values generated in this study.