

Supplementary Material

Multifactorial inhibition of *Candida albicans* by combinations of lactobacilli and probiotic *Saccharomyces cerevisiae* CNCM I-3856

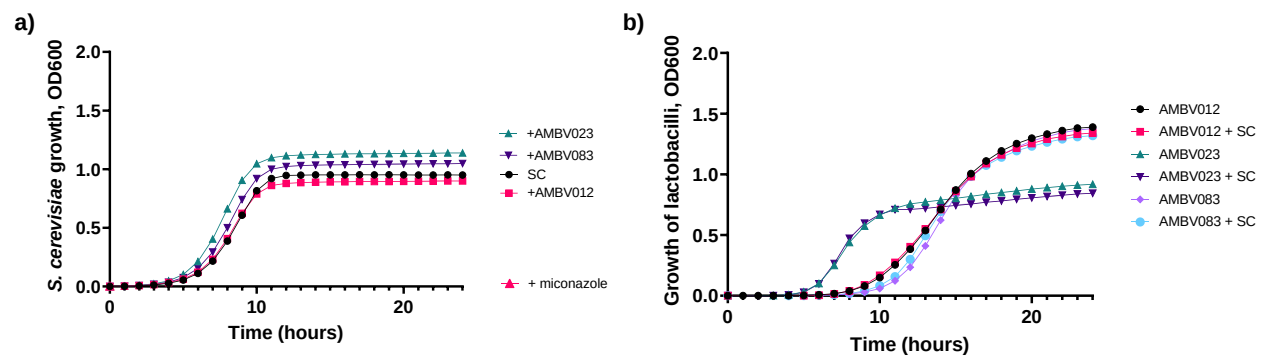
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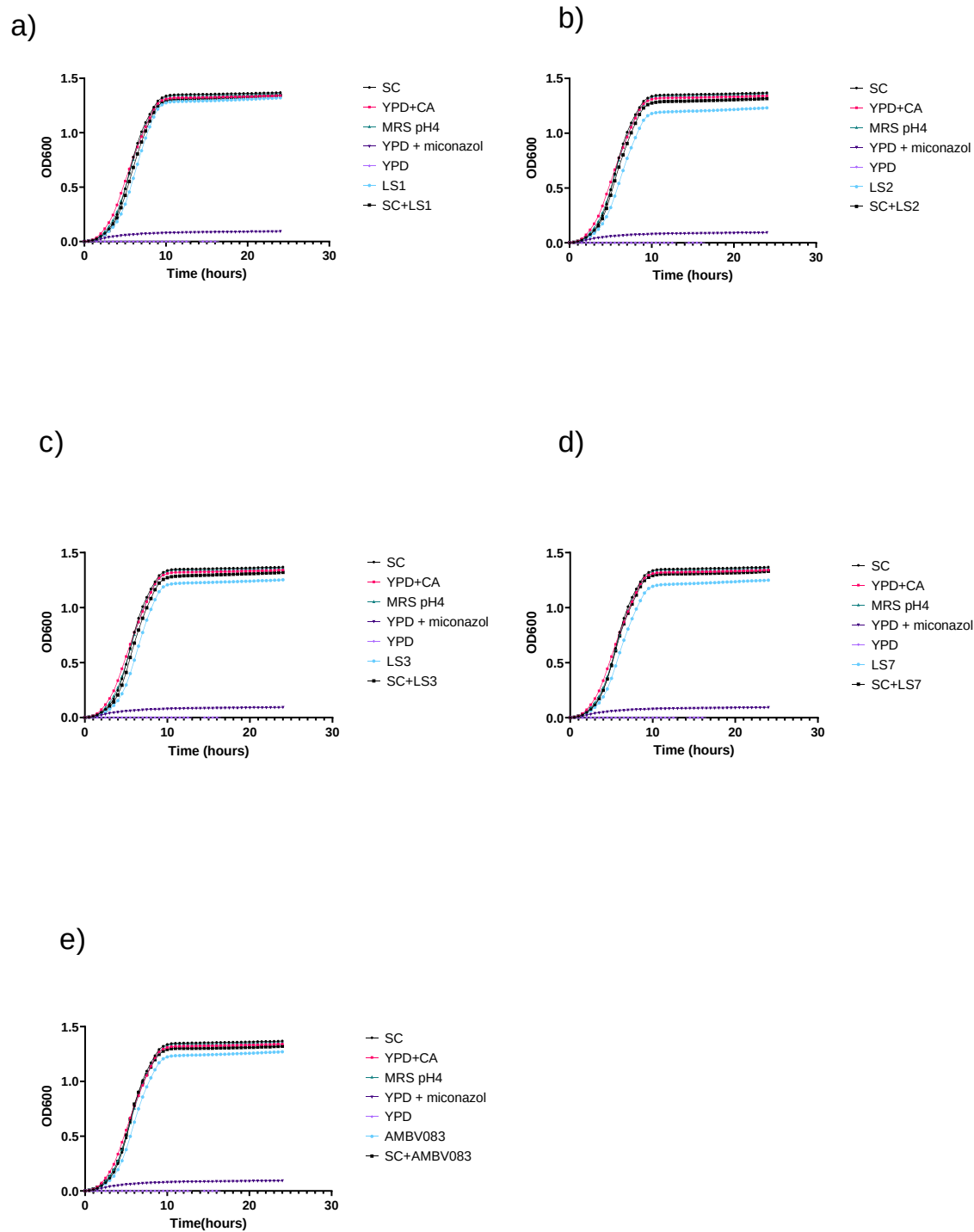
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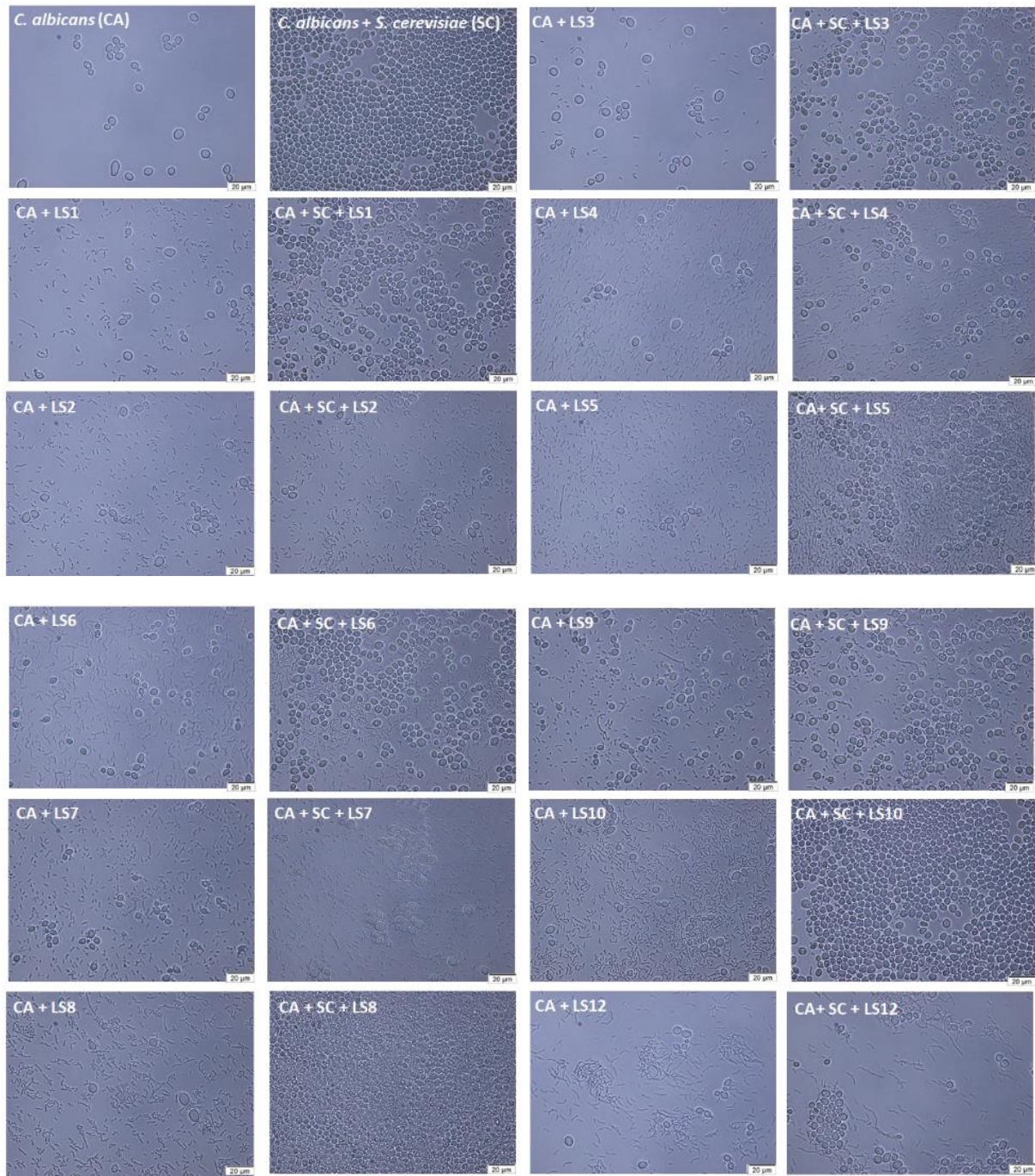
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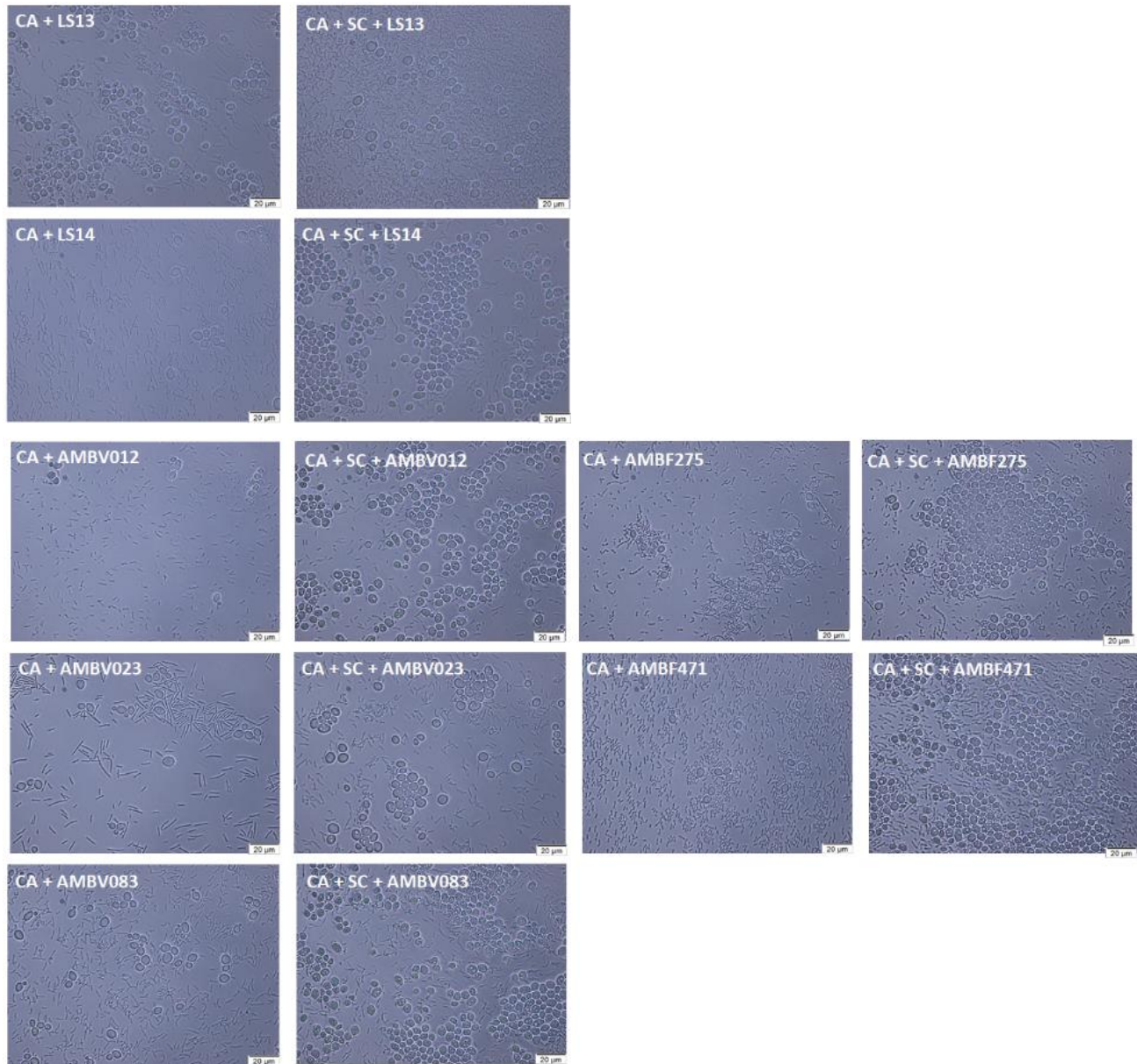


Supplementary Figure S1. Growth curves of a) *S. cerevisiae* CNCM I-3856 (SC) under the influence of the supernatant from vaginal lactobacilli isolates *Lactobacillus crispatus* AMBV012 (+AMBV012), *Lactobacillus johnsonii* AMBV023 (+AMBV023) and *Lactobacillus rhamnosus* AMBV083 (+AMBV083), and b) of vaginal lactobacilli isolates under the influence of *S. cerevisiae* CNCM I-3856 supernatant (+SC conditions), obtained in the time-course growth analysis.

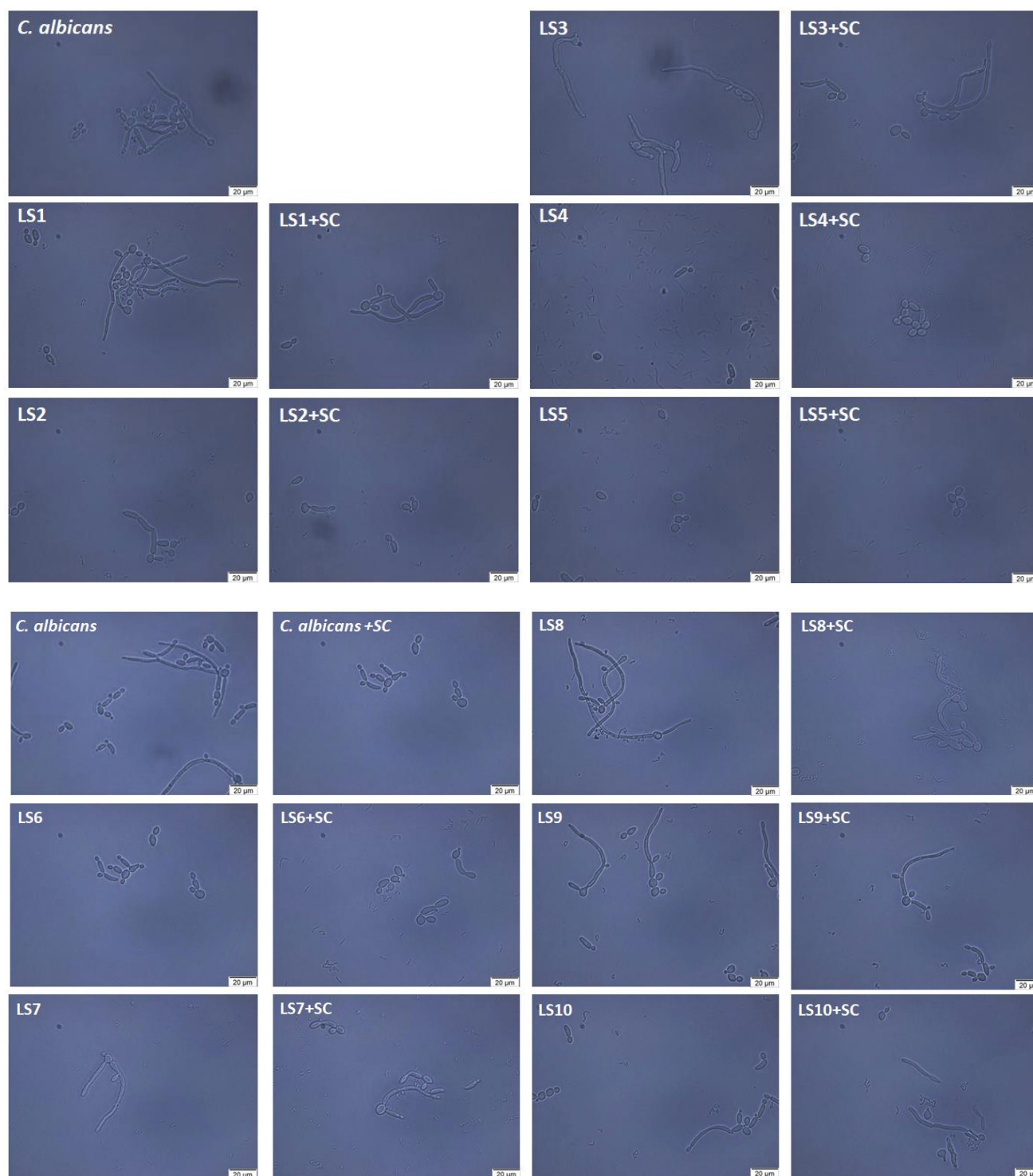


Supplementary Figure S2. Growth curves of *C. albicans* SC5314 obtained in the time-course growth assay under the influence of the supernatants of the best performing lactobacilli and the mixture of lactobacilli and *S. cerevisiae* CNCM I-3856 (SC) supernatant. The lactobacilli strains included: a) LS1, b) LS2, c) LS3, d) LS7 and e) AMBV083.





Supplementary Figure S3. Co-aggregation of *C. albicans* SC5314 cells with lactobacilli as such, or in co-culture with dried *S. cerevisiae* CNCM I-3856 after 1 hour incubation. Samples were visualized with the Olympus CX41 microscope and Olympus U-CMAD3 camera.



Supplementary Figure S4. Microscopic visualization of hyphal induction of *C. albicans* SC5314 during co-incubation with lactobacilli as such, or with cell-free supernatant of *S. cerevisiae* CNCM I-3856 (SC). A concentration of 1/4 FCS was used to induce hyphae. Scale bar = 20 µm. Samples were visualized with the Olympus CX41 microscope and Olympus U-CMAD3 camera. Due to the used growth medium, YPD, the contrast of the figures is less clear, as YPD has a dark color itself.

Supplementary Table S1. Aggregation scores of *C. albicans* SC5314 cells with lactobacilli as such, or in co-culture with dried *S. cerevisiae* CNCM I-3856 after 10 min of incubation. Asterisks indicate that big clusters of lactobacilli were present around the yeasts. The intensity of the green color indicates the aggregation strength (from grey (0) no aggregation to dark green (4) strongest aggregation).

10MIN	- <i>S. CEREVISIAE</i>			+ <i>S. CEREVISIAE</i>		
C.	0	0	0	1	1	1
ALBICANS						
LS1	0	0	0	2	2	2
LS2	1	0	0	2	2	2
LS3	1	1	1	2	2	2
LS4	1	1	1	2	2	2
LS5	0	0	0	2	2	1
LS6	1	1	0	2	2	2
LS7	0	0	0	2	2	2
LS8	0	0	0	2	2	2
LS9	1	1	0	2	2	2
LS10	0	0	0	2	2	2
C.	0	0	0	1	1	1
ALBICANS						
LS11	/	/	/	/	/	/
LS12	1	1	1	2*	2*	2*
LS13	1	1	1	1	1	1
LS14	1	1	1	1*	2*	2*
AMBV012	1	1	1	2	2	2
AMBV023	1	1	1	2	2	2
AMBV083	1	1	1	2	2	2
AMBF275	2*	2*	2*	2	2	2
AMBF471	1	1	1	2	2	2

Supplementary Table S2. Aggregation scores of *C. albicans* SC5314 cells with lactobacilli as such, or in co-culture with dried *S. cerevisiae* CNCM I-3856 after 1 hour of incubation. Asterisks indicate that big clusters of lactobacilli were present around the yeasts. The intensity of the green color indicates the aggregation strength (from grey (0) no aggregation to dark green (4) strongest aggregation).

1 HOUR	- <i>S. CEREVISIAE</i>			+ <i>S. CEREVISIAE</i>		
C.	1	1	1	4	4	4
ALBICANS						
LS1	1	1	1	2	3	3
LS2	1	1	1	2	2	2
LS3	1	1	1	3	3	4
LS4	1	1	1	2	2	2
LS5	1	1	1	3	2	3
LS6	1	1	1	3	2	4
LS7	0	1	1	2	2	2
LS8	0	0	0	2	3	4+
LS9	1	0	1	2	3	2
LS10	2	1	1	4	4	4
C.	1	1	1	3	3	3
ALBICANS						
LS11	/	/	/	/	/	/
LS12	1	1	1	3*	3*	2*
LS13	1	1	1	2*	2*	3*
LS14	1	1	1	3*	3*	3*
AMBV012	1	1	1	2	3	2
AMBV023	1	1	1	2	2	3
AMBV083	1	2*	1	2	3	2
AMBF275	2*	2*	2*	3	3	3
AMBF471	2	1	1	2	3	3