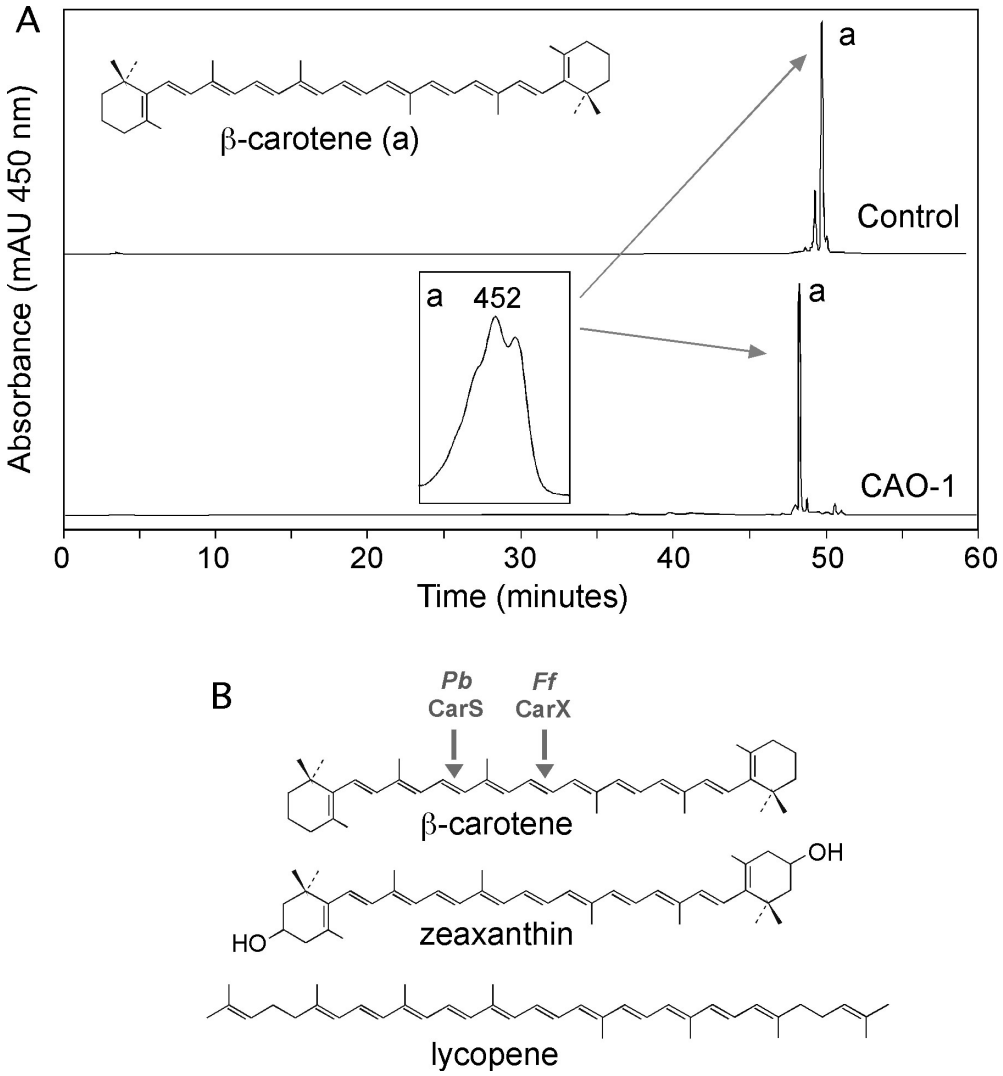
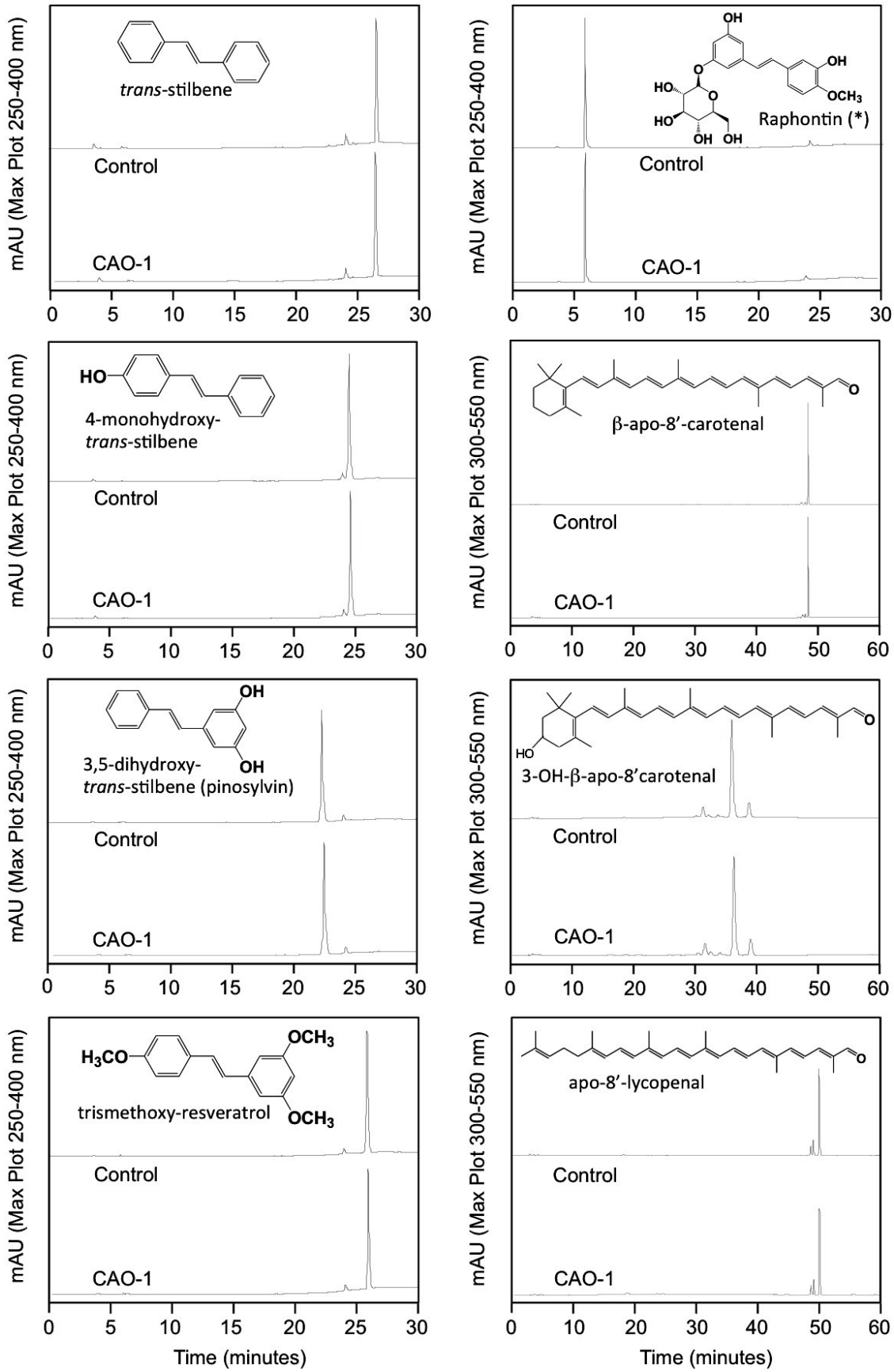


FIG S1 Lack of activity of CAO-1 with carotenoids. (A) *In vivo* assay of CAO-1 activity on β-carotene. *cao-1* cDNA was expressed in β-carotene-accumulating *E. coli* cells under the control of an arabinose-inducible promoter. The HPLC analysis reveals the same amount of β-carotene irrespective of *cao-1* expression and the absence of any degradation product. The same results were obtained upon expression in *E. coli* cells producing zeaxanthin or lycopene. (B) Carotenoids assayed *in vivo* for which no cleaving activity could be detected. Cleavage sites of *P. blakesleeanus* CarS and *F. fujikuroi* CarX on β-carotene are indicated by arrows.



(*) 3,3' ,5-trihydroxy-4' –methoxystilbene-3-O-b-D-glucoside

FIG S2 Lack of activity of CAO-1 with *trans*-stilbene (1), stilbene-derived compounds (2-5), and carotenals (6-8). Each graph shows the HPLC analysis of the *in vitro* assay of CAO-1 with the indicated compound and the control assay without the enzyme.

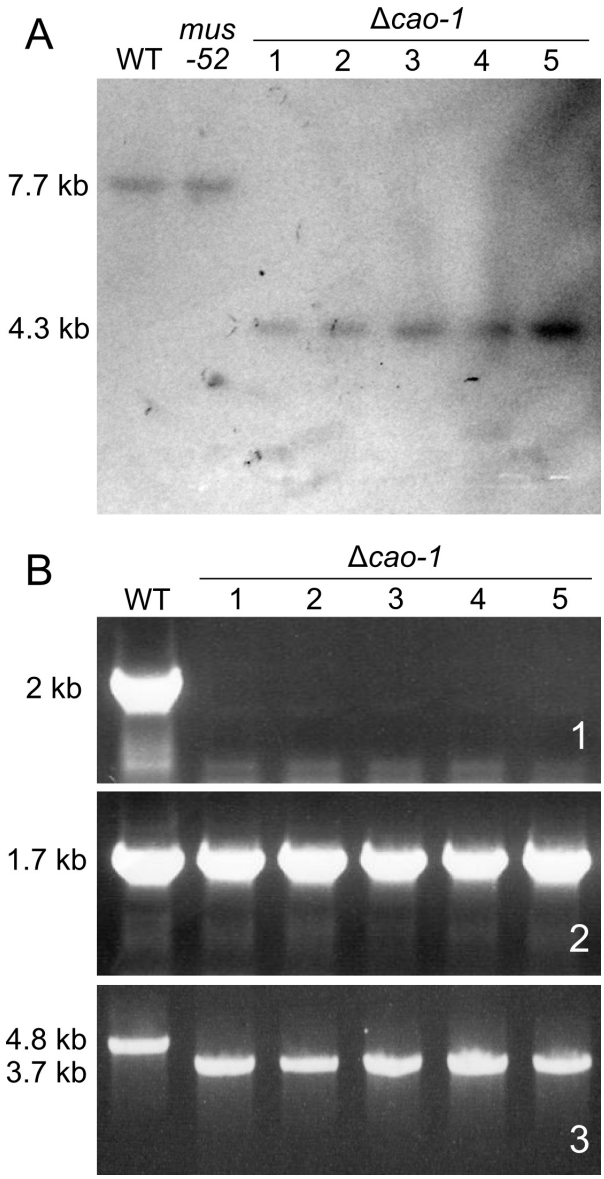


FIG S3 Generation of Δ*cao-1* mutants. (A) Southern blot of genomic DNA from the wild type (WT), the *mus-52*$^-$ strain and five transformants digested with *Pst*I and hybridized with a *cao-1* probe not affected by the gene disruption event. The wild type 7.7 kb band is replaced by a 4.3 kb in the Δ*cao-1* mutants. (B) PCR analyses of the wild type and the five transformants. Panel 1: lack of PCR amplification of a 2 Kb *cao-1* DNA sequence in the Δ*cao-1* mutants. Panel 2: positive control of an internal *al-1* segment amplified from the same genomic DNA samples (1.7 kb band). Panel 3: demonstration of the replacement of the *cao-1* ORF by the hygR cassette in the transformants (4.8 Kb band: wild type *cao-1* allele; 3.7 Kb band: Δ*cao-1* mutant allele).

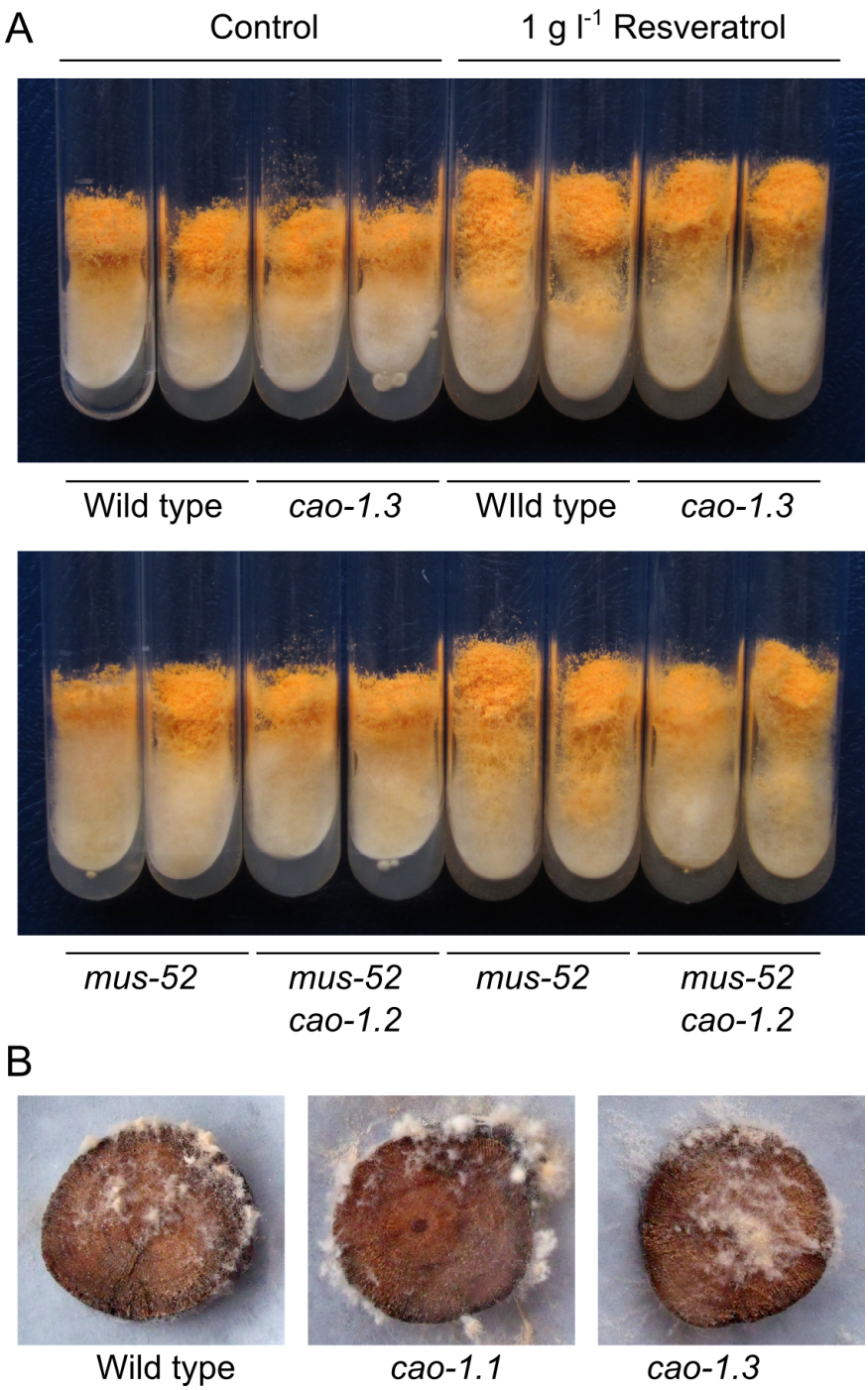


FIG S4 Phenotype of Δ*cao-1* mutants. (A) Slant cultures of two Δ*cao-1* mutants and their respective control strains grown in Vogels's medium for 2 days at 30°C under light and 5 days at 22°C, with or without 1 g l^{-1} resveratrol. (B) Growth of the wild type and two Δ*cao-1* mutants on wood slices of *Platanus hispanica*. The slices were incubated for 7 days under indirect illumination.

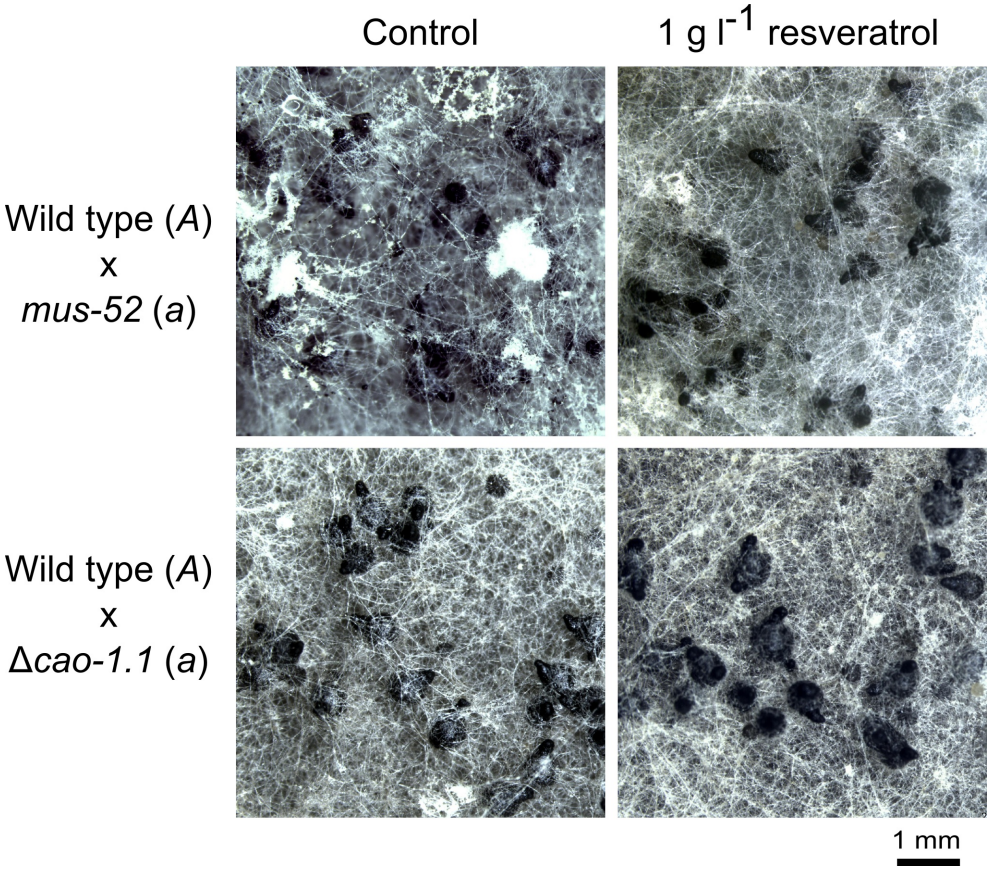


FIG S5 Lack of effect of resveratrol on sexual crossing in a Δ*cao-1* mutant and two control strains of *Neurospora*. The strains of opposite mating type (indicated in parentheses) were grown on synthetic crossing media at 25ºC for three weeks. Mature perithecia were observed in all plates. Pictures were taken under a stereoscopic microscope.

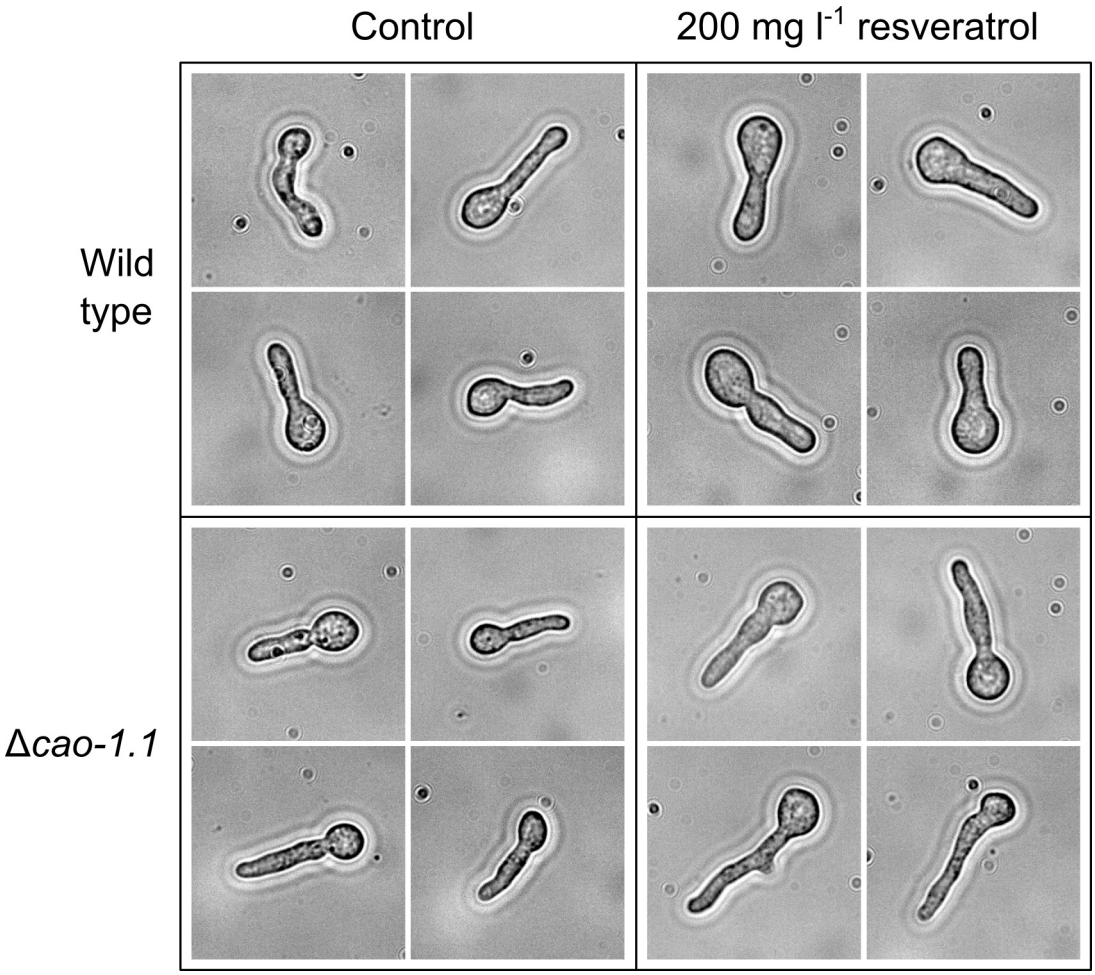


FIG S6 Effect of resveratrol on germination of conidia from the wild type and a Δ*cao-1* mutant. The conidia were incubated for 8 h in Vogel's media with or without 200 mg l^{-1} resveratrol (0.2% ethanol present in resveratrol and control samples).

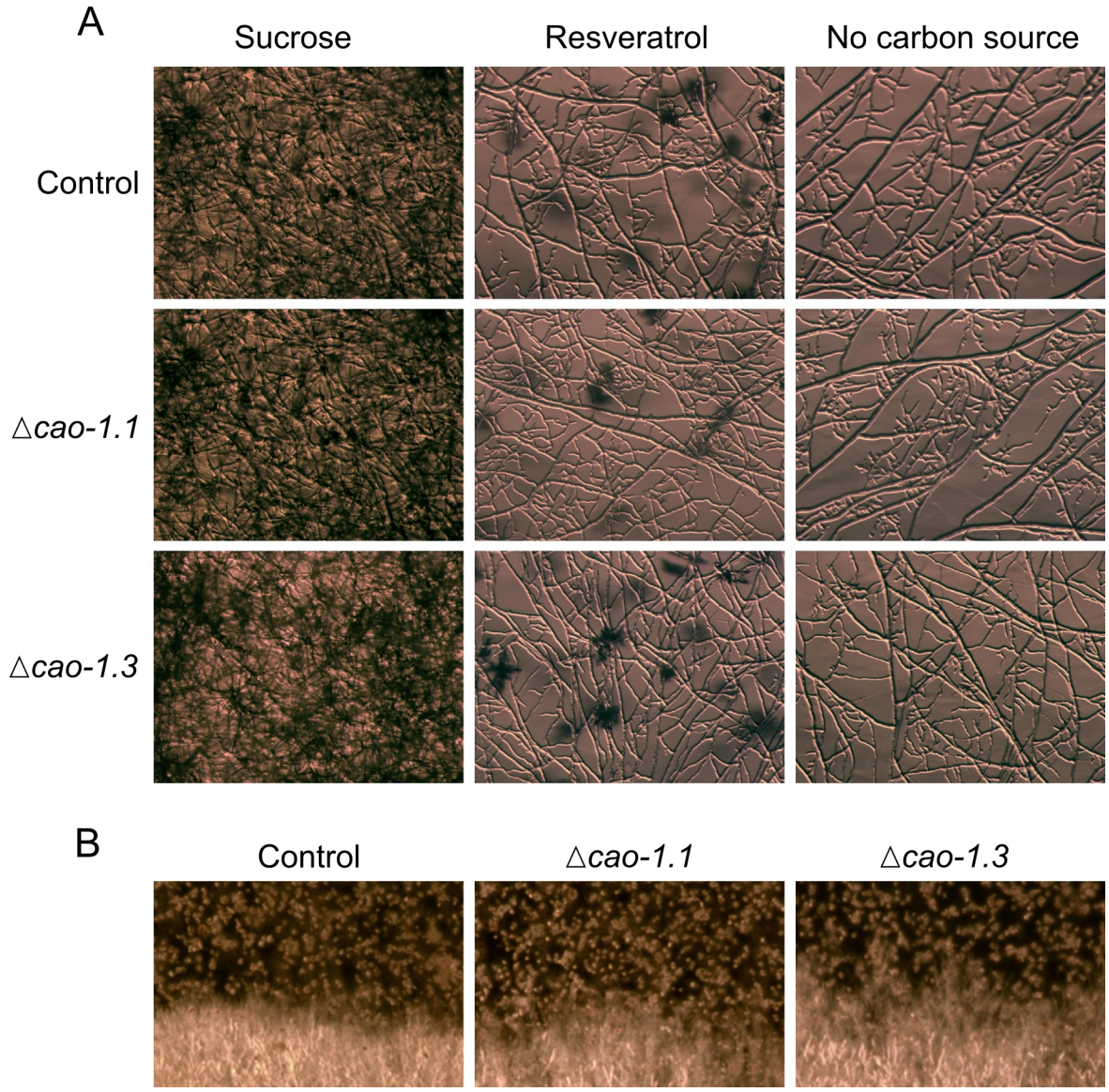


FIG S7 Lack of use of resveratrol as carbon source in *Neurospora*. (A) Mycelia of the wild type and two Δ*cao-1* mutants grown in Vogel's media with no carbon source or with 1 g l^{-1} of either sucrose or resveratrol. (B) Aspect of the borders from colonies of the same strains grown in sorbose-containing agar for 24h (Fig. 5). The pictures were taken under a stereoscopic microscope.

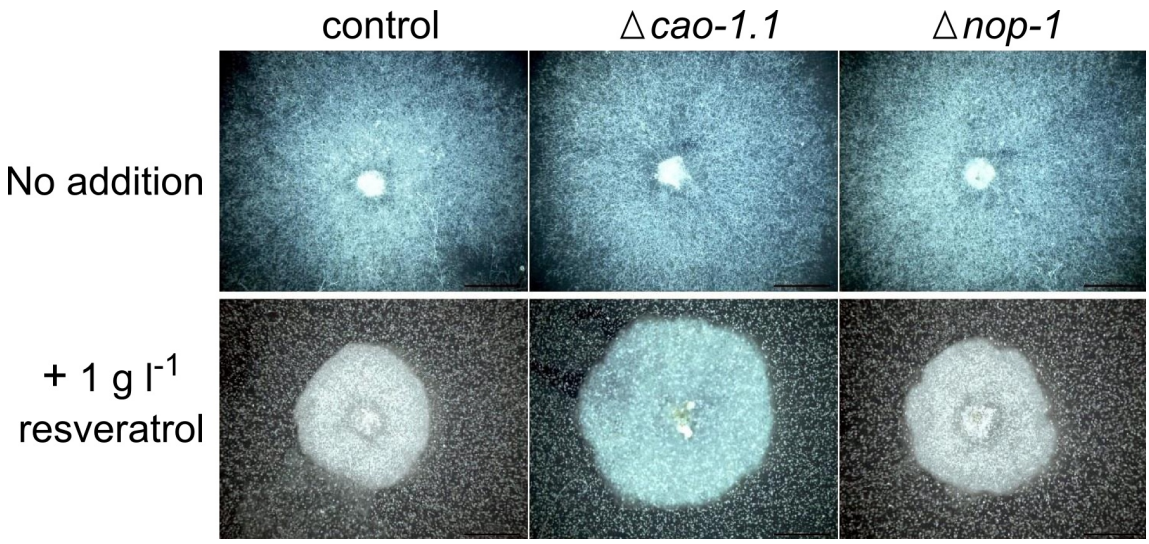


FIG S8 Effect of resveratrol on growth of wild type, Δ*cao-1* and Δ*nop-1* mutants of *Neurospora*. The strains were incubated on low-stringency sorbose-containing agar for 24h. The pictures were taken under a stereoscopic microscope.