

**Table S1. AFS procedure for *Y. lipolytica* cell suspensions.**

Step	Temp (°C)	Time (h)	Gradient (°C h <sup>-1</sup> )
T1	-90	48	
S1		6	5
T2	-60	20	
S2		18	5
S2		12	5
T3	20	24	

Substitution medium at T1 and T2 was 1% glutaraldehyde and 0.1% tannic acid in anhydrous acetone. Three washes in 100% acetone, and 1% osmium tetroxide in 100% acetone followed as substitution media in T2-T3.