

Table S2. Fatty acid compositions (weight %) of yeast cells expressing genes when feeding with C20:4

Fatty acid	Vector	AtFAD2	CeFAT-2	CeFAT-1	Vector	AtFAD2	CeFAT-2	CeFAT-1
C16:0	6.3 ± 0.1	6.4 ± 0.1	6.0 ± 0.0	6.6 ± 0.1	10.2 ± 0.1	10.3 ± 0.1	10.0 ± 0.1	9.9 ± 0.0
C16:1 <sup>Δ9</sup>	16.4 ± 0.1	15.0 ± 0.2	9.2 ± 0.4	17.2 ± 0.5	18.4 ± 0.3	16.7 ± 0.3	11.1 ± 0.3	20.7 ± 0.3
C16:2 <sup>Δ9,12</sup>		0.9 ± 0.0	7.0 ± 0.3			1.6 ± 0.1	7.1 ± 0.1	
C16:3 <sup>Δ9,12,15</sup>			0.3 ± 0.0				0.4 ± 0.0	
C18:0	11.3 ± 0.2	12.0 ± 0.0	13.1 ± 0.3	11.8 ± 0.1	11.7 ± 0.2	12.9 ± 0.1	16.2 ± 0.1	11.3 ± 0.1
C18:1 <sup>Δ9</sup>	35.7 ± 0.9	25.8 ± 0.3	14.1 ± 0.4	38.1 ± 1.1	35.1 ± 0.3	22.3 ± 0.2	13.2 ± 0.2	37.4 ± 0.4
C18:1 <sup>Δ11</sup>	0.5 ± 0.0	0.4 ± 0.0	0.3 ± 0.0	0.5 ± 0.0	0.6 ± 0.0	0.6 ± 0.0	0.4 ± 0.0	0.7 ± 0.0
C18:2 <sup>Δ9,12</sup>		9.2 ± 0.2	18.4 ± 0.9			12.1 ± 0.3	18.4 ± 0.2	
C18:3 <sup>Δ9,12,15</sup>			1.1 ± 0.1				1.7 ± 0.0	
C20:5 <sup>Δ5,8,11,14</sup>					<b>23.7 ± 0.3</b>	<b>23.4 ± 0.8</b>	<b>20.7 ± 0.4</b>	<b>16.1 ± 0.5</b>
C20:4 <sup>Δ8,11,14,17</sup>	<b>29.8 ± 0.9</b>	<b>30.2 ± 0.3</b>	<b>30.1 ± 2.1</b>	<b>25.7 ± 1.8</b>				
C20:4 <sup>Δ5,8,11,14,17</sup>							0.4 ± 0.0	3.5 ± 0.1
Conversion (%)							2.1 ± 0.1	18.0 ± 0.0

The fed substrates indicated in bold.

Trace amount of C15, C17 and trans C16 or C18 are not included