Supplementary Table 1 Lycopene retention of osmotically dehydrated cherry tomatoes dried at different temperatures to reach water content of 20% (wet basis) and the corresponding energy consumption

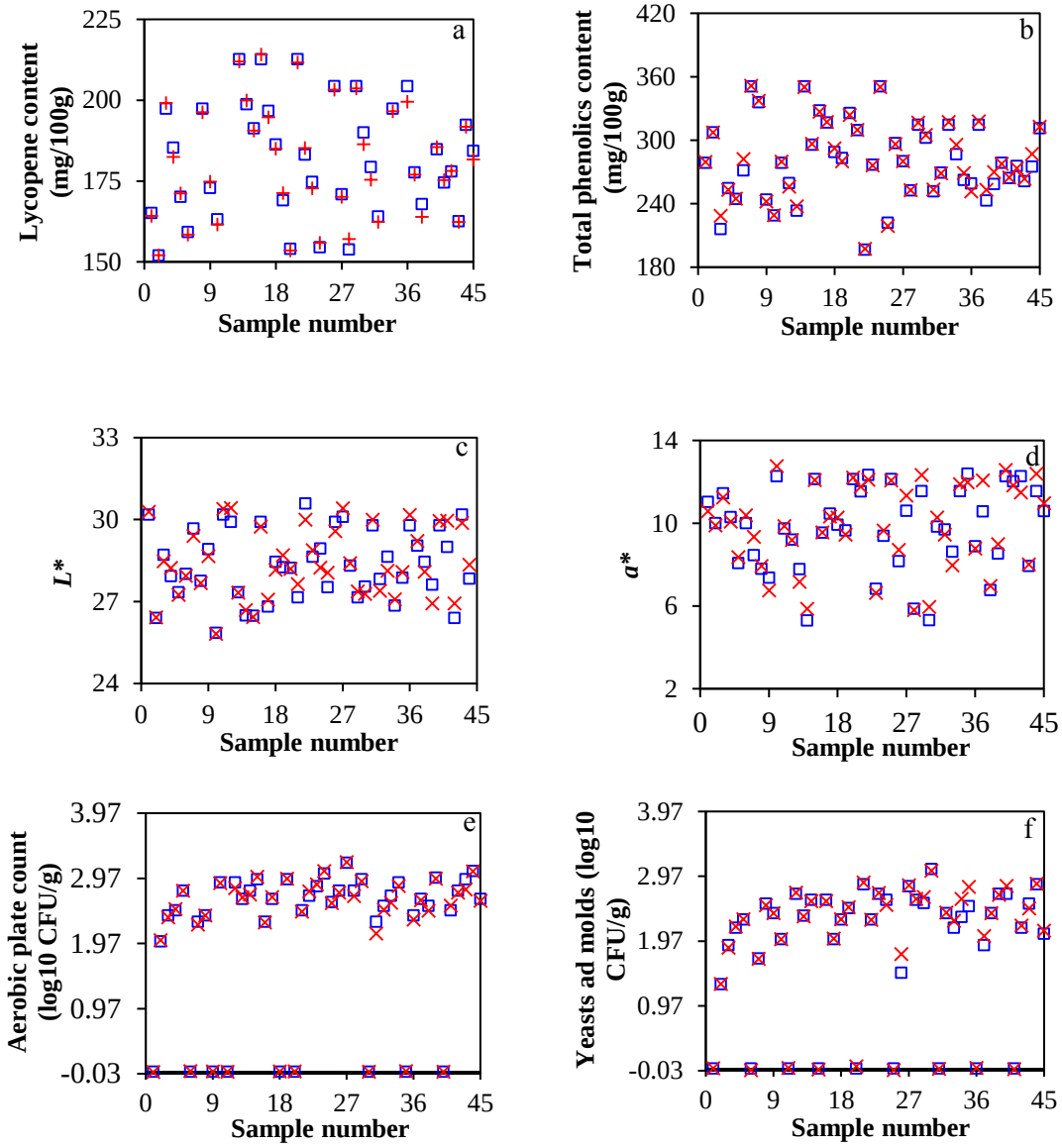
	50 °C	60 °C	70 °C	80 °C
Lycopene retention (%)	80.65±1.05[a]	71.03±2.56[b]	61.80±2.98[c]	50.93±3.12[d]
Energy consumption (kw h)	21.25±0.73[a]	15.30±1.06[b]	10.20±0.90[d]	12.80±0.85[c]

Data were mean value of three replicates ± standard deviation.
Values followed by different letters in each column indicated significant differences (p<0.05).

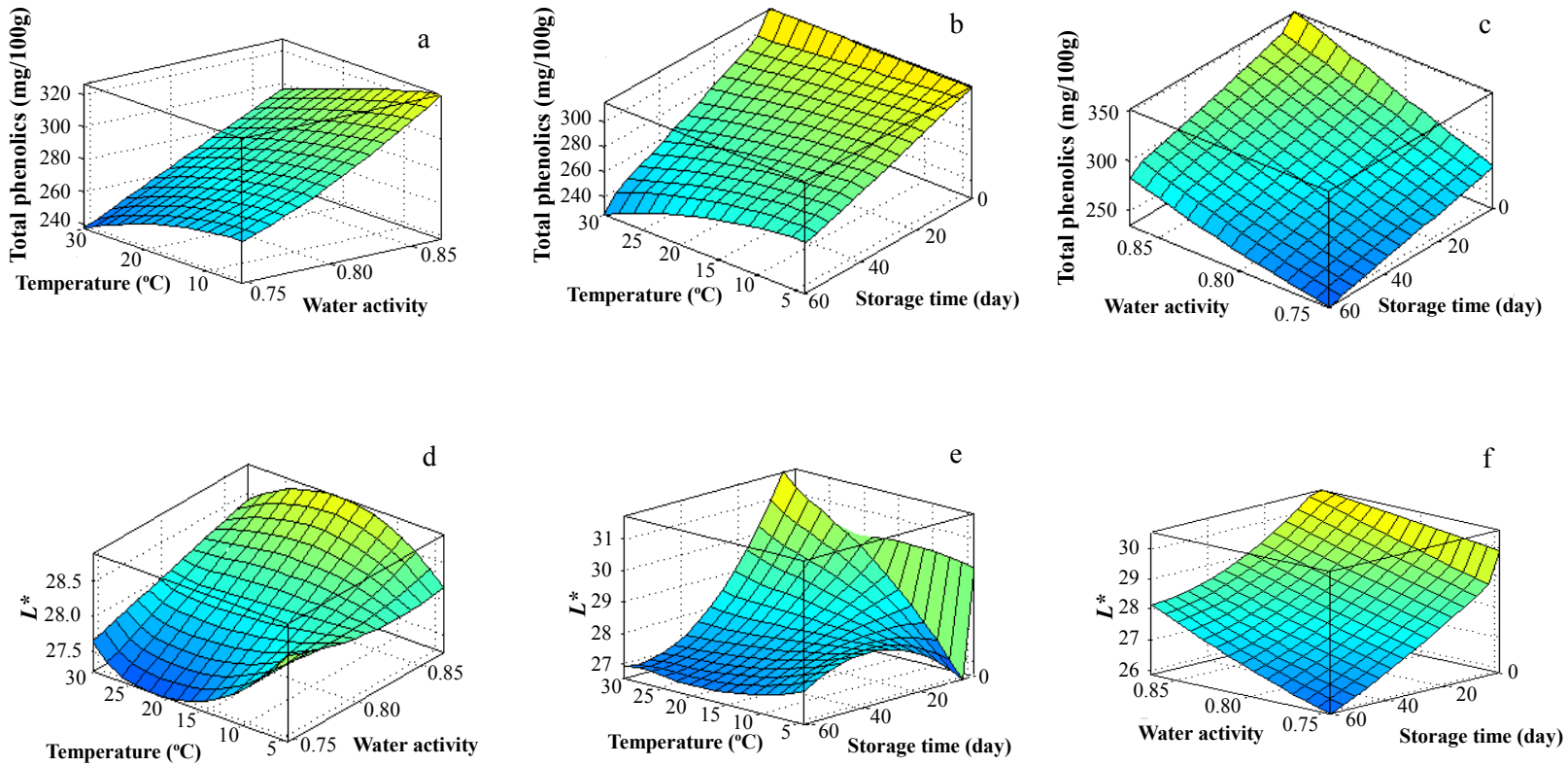
Supplementary Table 2 Models developed using response surface methodology to predict physicochemical and microbiological parameters of partially dried cherry tomatoes during storage

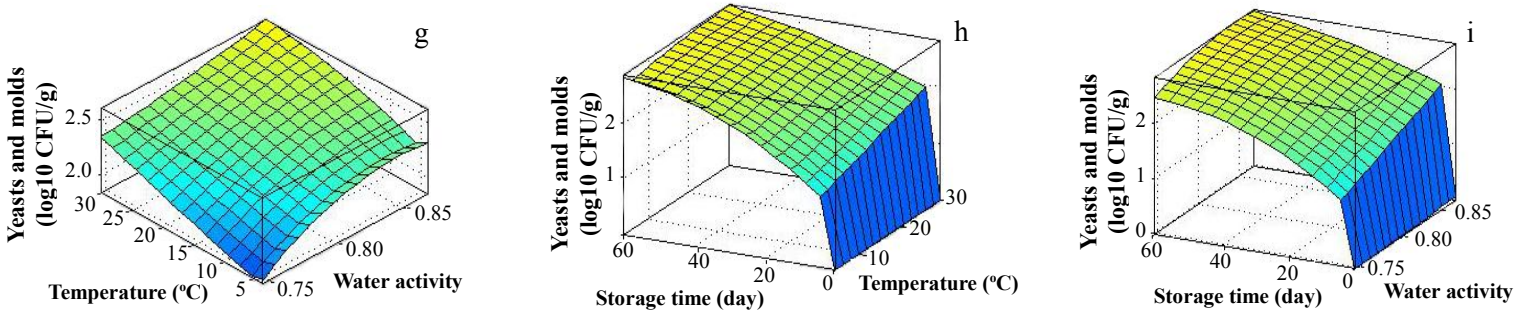
Parameter	Equation
Lycopene	$y = 84.25092 + 144.99301 \times x_1 + 1.78644 \times x_2 - 0.04271 \times x_3 - 1.12924 \times x_1x_2 - 0.82204 \times x_1x_3 - 0.01406 \times x_2x_3 - 0.03000 \times x_2^2 + 1.63492 \times 10^{-4} \times x_3^2$
Total phenolics	$y = -158.99183 + 584.49199 \times x_1 + 1.92820 \times x_2 + 0.84300 \times x_3 - 1.57471 \times x_1x_2 - 1.82860 \times x_1x_3 - 0.02917 \times x_2x_3 - 0.02428 \times x_2^2 + 2.21458 \times 10^{-3} \times x_3^2$
*L**	$y = 32.83311 - 4.39096 \times x_1 - 0.13403 \times x_2 - 0.22600 \times x_3 + 0.20387 \times x_1x_2 + 0.21530 \times x_1x_3 - 1.58236 \times 10^{-3} \times x_2x_3 + 3.97596 \times 10^{-4} \times x_2^2 + 5.84127 \times 10^{-4} \times x_3^2$
*a**	$y = 17.08184 - 6.95317 \times x_1 - 0.01932 \times x_2 - 0.20122 \times x_3 + 0.13887 \times x_1x_2 + 0.21403 \times x_1x_3 - 2.63798 \times 10^{-3} \times x_2x_3 - 1.93413 \times 10^{-3} \times x_2^2 - 4.60317 \times 10^{-5} \times x_3^2$
Aerobic plate count	$y = -0.70118 + 1.06184 \times x_1 + 0.01410 \times x_2 + 0.10753 \times x_3 - 0.01445 \times x_1x_2 + 0.02139 \times x_1x_3 + 7.80740 \times 10^{-5} \times x_2x_3 + 9.11740 \times 10^{-5} \times x_2^2 - 1.39703 \times 10^{-3} \times x_3^2$
Yeasts and molds	$y = -1.93226 + 2.43316 \times x_1 + 0.028608 \times x_2 + 0.09168 \times x_3 - 0.02659 \times x_1x_2 + 0.01965 \times x_1x_3 + 1.78425 \times 10^{-4} \times x_2x_3 + 2.74498 \times 10^{-5} \times x_2^2 - 1.18633 \times 10^{-3} \times x_3^2$

x_1: water activity of partially dried cherry tomato, x_2: storage temperature, x_3: storage time



Supplementary Fig. 1 Comparisons of experimental and predicted output values from ANFIS models (a: lycopene; b: total phenolics, c: *L**; d: *a**; e: aerobic plate count; f: yeasts and molds). □: experimental results; ×: ANFIS predicted results


a
Total phenolics (mg/100g)
320
300
280
260
240
30
20
10
Temperature (ºC)
0.75
0.80
0.85
Water activity
b
Total phenolics (mg/100g)
300
280
260
240
30
25
20
15
10
5
Temperature (ºC)
60
40
20
0
Storage time (day)
c
Total phenolics (mg/100g)
350
300
250
0.85
0.80
0.75
Water activity
60
40
20
0
Storage time (day)
d
L*
28.5
28.0
27.5
30
25
20
15
10
5
Temperature (ºC)
0.75
0.80
0.85
Water activity
e
L*
31
30
29
28
27
30
25
20
15
10
5
Temperature (ºC)
60
40
20
0
Storage time (day)
f
L*
30
29
28
27
26
0.85
0.80
0.75
Water activity
60
40
20
0
Storage time (day)



Supplementary Fig. 2 3D surface plots of total phenolic content (a-c), *L** (d-f) and number of yeasts and molds (g-i) of partially dried cherry tomatoes versus storage conditions