

**Table S4**

Tukey's HSD results for the  $\delta^{15}\text{N}_{\text{Air}}$  (‰) showing significant interaction between the CO<sub>2</sub> and temperature treatments in the *Synechococcus* strains.

CO <sub>2</sub> concentration: Temperature level	<i>Synechococcus</i> Strain	P value
400 ppm: 24°C- 400 ppm: 22°C	RCC555	0.005
800 ppm: 24°C- 400 ppm: 22°C	WH7803	0.008
	WH8102	0.007
400 ppm: 26°C- 400 ppm: 22°C	WH7803	0.018
600 ppm: 26°C- 400 ppm: 22°C	WH7803	$7.6 \times 10^{-5}$
800 ppm: 26°C- 400 ppm: 22°C	WH7803	$4.4 \times 10^{-4}$
	RCC555	$2.2 \times 10^{-4}$
400 ppm: 24°C- 600 ppm: 22°C	RCC55	0.006
800 ppm: 24°C- 600 ppm: 22°C	WH7803	0.026
	WH8102	0.013
400 ppm: 26°C- 600 ppm: 22°C	WH7803	0.059
600 ppm: 26°C- 600 ppm: 22°C	WH7803	$2.4 \times 10^{-4}$
800 ppm: 26°C- 600 ppm: 22°C	WH7803	0.001
	RCC555	$2.5 \times 10^{-4}$
400 ppm: 24°C- 800 ppm: 22°C	WH7803	0.008
	RCC555	$6.8 \times 10^{-4}$
800 ppm: 24°C- 800 ppm: 22°C	WH7803	$8.3 \times 10^{-4}$
	RCC555	0.043
400 ppm: 26°C- 800 ppm: 22°C	WH7803	0.002
	WH8102	0.056
600 ppm: 26°C- 800 ppm: 22°C	WH7803	$1.0 \times 10^{-5}$
800 ppm: 26°C- 800 ppm: 22°C	WH7803	$5.2 \times 10^{-5}$
	RCC555	$3.5 \times 10^{-5}$
600 ppm: 24°C- 400 ppm: 24°C	RCC555	0.031
400 ppm: 26°C- 400 ppm: 24°C	RCC555	0.033
	WH8102	0.024
600 ppm: 26°C- 400 ppm: 24°C	RCC555	$5.7 \times 10^{-4}$
800 ppm: 24°C- 600 ppm: 24°C	WH7803	0.044
600 ppm: 26°C- 600 ppm: 24°C	WH7803	$3.9 \times 10^{-4}$
800 ppm: 26°C- 600 ppm: 24°C	WH7803	0.002
	RCC555	0.001
400 ppm: 26°C- 800 ppm: 24°C	WH8102	$3.3 \times 10^{-4}$
600 ppm: 26°C- 800 ppm: 24°C	RCC555	0.036
800 ppm: 26°C- 800 ppm: 24°C	WH8102	0.001
	RCC555	0.047
800 ppm: 26°C- 400 ppm: 26°C	RCC555	0.001
800 ppm: 26°C- 600 ppm: 26°C	RCC555	$3.0 \times 10^{-5}$