

**Table S2 Response to 50% reduction in isocitrate dehydrogenase (IDH) activity**

Environmental Condition	Enzyme/ Metabolite	Percent Difference	Elasticity Coefficient	F-ratio From ANCOVA <sup>a</sup>
Control	G6PD	NS	NS	NS
	MEN	NS	NS	NS
	CARB	+7.9%	-0.15 ± 0.066	$F = 8.6, P < 0.0042$
	TRIG	NS	NS	NS
Oxidative Stress	G6PD	+6.3%	-0.09 ± 0.046	$F = 12.9, P < 0.0005$
	MEN	+21.2%	-0.26 ± 0.057	$F = 36.4, P < 0.0001$
	CARB	+28.4%	-0.38 ± 0.084	$F = 32.3, P < 0.0001$
	TRIG	NS	NS	NS
Starvation	G6PD	NS	NS	NS
	MEN	NS	NS	NS
	CARB	+25.3%	-0.33 ± 0.082	$F = 36.6, P < 0.0001$
	TRIG	NS	NS	NS
Desiccation	G6PD	NS	NS	NS
	MEN	-6.6%	+0.05 ± 0.055	$F = 10.4, P < 0.0017$
	CARB	+36.0%	-0.39 ± 0.057	$F = 45.4, P < 0.0001$
	TRIG	NS	NS	NS

<sup>a</sup>. Degrees of freedom for  $F$  ratio:  $F_{1,111}$

Abbreviations: G6PD – Glucose-6-phosphate dehydrogenase, MEN – Malic enzyme, CARB – Total carbohydrate concentration, TRIG – Triglyceride concentration, NS – Not significant