Table S5: Summaries of three models investigating the role of cardenolide chemistry to monarch tolerance (the slope of a regression between spore load and monarch lifespan). For models 2 & 3, we created a PCA of the centered log-ratios (CLR) of cardenolide concentrations and then included the most explanatory PCA axes in our models of tolerance to examine the strength of the chemical mechanism we found in *A. curassavica* alone. The model including CO_2 treatment is a better fit to the data suggesting that the effects of eCO_2 on monarch performance are not only mediated by cardenolide concentrations, but additionally, may function through other aspects of plant quality such cardenolide traits.

Model 1	***F***	***p***	**Model 2**	***F***	***p***	**Model 3**	***F***	***p***
spore load	$F_{1,67}$= 37.87	<0.0001***	**spore load**	$F_{1,67}$= 35.57	<0.0001	**spore load**	$F_{1,67}$= 34.34	<0.0001
CO_2 treatment	$F_{1,57}$= 4.53	0.0377*	**PCA1**	$F_{1,53}$= 2.62	0.111	**PCA2**	$F_{1,78}$= 0.77	0.772
spore load * CO_2 treatment	$F_{1,64}$= 6.79	0.0114*	**spore load *PCA1**	$F_{1,67}$= 0.01	0.945	**spore load *PCA2**	$F_{1,77}$= 0.03	0.855
Residual Variance	0.20291		**Residual Variance**	0.20855		**Residual Variance**	0.2086	
AIC	**137.7**		**AIC**	**140.98**		**AIC**	**144.85**	