

Supplement

Movie S1. Molecular modeling of CYP2J19 from the house finch. A movie showing the molecular model of CYP2J19, following the representation show in Fig 5.

Table S1. Means, 95% confidence intervals, full multiple regression and backward stepwise regression results. Hue as dependent variable and parameters below as independent variables. RCR: respiratory control ratio; MMP: mitochondrial membrane potential; 4-HNE: 4-Hydroxynonenal; PGC-1 α : Peroxisome proliferator-activated receptor gamma coactivator 1 α . The value for hue is higher for yellow birds than red (see figure 3). Thus, a negative coefficient indicates a positive relationship between the variable and redness.

	\bar{X}	95% CI	Full multiple regression			Backward-regression		
			β	t	P	β	t	P
Overall model results			---	4.52	0.003	---	10.6	<0.001
Complex I substrates								
state 2 (nmol O ₂ /mg protein/min)	12.59	11.10-14.08	0.563	1.99	0.065	0.43	4.38	0.048
state 3 (nmol O ₂ /mg protein/min)	68.01	62.32-73.70	-0.023	-0.23	0.823	---	---	---
state 4 (nmol O ₂ /mg protein/min)	20.22	16.79-23.66	-0.204	-0.73	0.479	-0.35	7.26	0.013
RCR (state 3/state 4 respiration)	3.803	3.351-4.254	-4.66	-2.81	0.013	-4.44	19.3	<0.001
MMP (relative fluorescence)	400.2	376.7-423.8	-0.036	-2.41	0.029	-0.02	4.30	0.049
Complex II substrate								
state 2 (nmol O ₂ /mg protein/min)	29.60	23.60-32.61	0.127	0.69	0.503	---	---	---
state 3 (nmol O ₂ /mg protein/min)	109.9	101.4-118.5	0.099	0.97	0.348	---	---	---
state 4 (nmol O ₂ /mg protein/min)	35.29	30.48-40.10	-0.381	-1.47	0.163	---	---	---
RCR (state 3/state 4 respiration)	3.395	3.013-3.778	-2.651	-1.11	0.284	---	---	---
MMP (relative fluorescence)	282.5	260.7-304.3	0.004	0.14	0.893	---	---	---
ROS, Oxidative damage, and Biogenesis								
H ₂ O ₂ (nmol/min/mg protein)	6.694	5.212-8.176	-0.009	-0.84	0.412	---	---	---
4-HNE adducts (arbitrary units)	0.822	0.673-0.970	-5.553	-2.34	0.034	-5.97	8.45	0.008
Protein Carbonyl (arbitrary units)	1.414	1.196-1.632	-0.557	-0.27	0.792	---	---	---
PGC-1 α (arbitrary units)	0.069	0.061-0.076	149.1	2.50	0.024	200.0	19.1	<0.001
Citrate Synthase (nmol/min/mg protein)	803.1	743.2-863.1	6385	1.08	0.296	---	---	---