

Supplementary Materials: Differentiated Effects of Secondary Metabolites from Solanaceae and Brassicaceae Plant Families on the Heartbeat of *Tenebrio molitor* Pupae

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Table S1. Percentage changes in the heart beat frequency of *T. molitor* pupae during 24 h recordings including anterograde (A) and retrograde (R) phases. Red marked font presents the increase of the heartbeats per minute, while blue marked font the decrease statistically significant ($p < 0.05$). Black color presents changes not statistically significant.

Tested substances	Change of the heartbeat (%)																							
	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R	A	R
<i>S. tuberosum</i> extract	↑	↑	↑	↑	0	↑	↑	↑	↑	↑	↑	↑	↑	↑	↓	↓	↓	↓	↓	0	↓	↑	↓	↓
α-solanine	↓	↓	↓	↑	↓	↑	↓	0	↑	↑	↓	↑	0	↑	↓	↑	↓	↑	↑	↓	↑	↓	↑	↓
α-chaconine	↑	↑	↑	↑	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
<i>S. nigrum</i> extract	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	↑	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Solasonine	↑	↑	↓	↑	↓	↑	↓	↑	↓	↑	↑	↑	↑	↓	↑	↓	↑	↑	↓	↑	↓	↑	↓	↑
Solamargine	↓	↑	↓	↑	↓	↑	↓	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
<i>S. lycopersicon</i> extract	↑	↑	↑	↓	↑	↑	↑	↓	↑	↓	↓	↑	↓	↓	↓	↓	↓	↓	↓	↑	↓	↑	↓	↑
α-tomatine	↓	↑	↓	↓	↓	↓	0	↓	↑	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↑
<i>A. rusticana</i> extract	↓	↓	↓	↓	↓	↓	↓	↓	↑	↓	↓	↓	↓	↑	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Time (hours)	2		4		6		8		10		12		14		16		18		20		22		24	

Table S2. Percentage changes in the duration anterograde (A), retrograde (R) and diastasis (D) phases of *T. molitor* pupae heart beat during 24 h recordings. Blue colored font presents the phase reduction, while red font the phase elongation statistically significant ($p < 0.05$). Sign “-” means lack of appearance of the phase. Black color presents changes not statistically significant.

Tested substance s	Change of the phase duration (%)																																			
	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D	A	R	D			
S. tuberosum extract	↓ 11	↑ 2	↓ 3	↑ 8	↑ 6	↑ 10	↑ 32	↓ 8	↑ 1	↓ 19	↑ 20	↓ 18	↓ 38	↓ 20	↓ 20	↓ 26	↑ 21	↓ 13	↓ 41	↓ 38	↓ 37	↓ 27	↓ 9	↓ 26	↓ 28	↓ 42	↓ 46	↓ 13	↓ 35	↓ 36	0	↓ 10	↓ 22	0	↑ 7	↓ 30
α-solanine	↓ 40	↑ 17	↓ 44	↓ 31	↓ 30	↓ 64	↓ 46	↓ 16	↓ 61	↓ 57	↓ 13	↓ 78	↓ 58	↓ 52	↓ 59	↓ 21	↑ 7	↓ 88	↓ 49	↓ 34	↓ 84	↓ 47	↑ 43	↓ 89	↓ 33	↓ 23	↓ 79	↑ 49	↓ 28	↑ 84	↑ 14	↑ 28	↑ 48	↑ 9	↑ 31	↓ 33
α-chaconi ne	↑ 33	↑ 10	↑ 19	0	↓ 14	↓ 16	↓ 49	↓ 13	↑ 20	↓ 60	↓ 69	↑ 328	↓ 54	↓ 66	↑ 29 5	↓ 28	↓ 11	↑ 13 9	↓ 42	↓ 42	↑ 11 6	↓ 32	↓ 43	↑ 118	↑ 30	↑ 14	↓ 14	↑ 43	↓ 12	↑ 28	↓ 1	↓ 5	↓ 10	↑ 25	↑ 7	↑ 13
S. nigrum extract	↑ 33	↑ 48	↓ 8	↑ 28	↓ 8	↑ 18	↓ 24	↓ 41	↑ 19	↓ 18	↑ 9	↓ 12	↓ 7	↓ 6	↓ 21	↓ 3	↑ 45	↓ 61	↑ 4	↑ 14	↓ 51	↑ 9	↑ 23	↓ 60	↑ 19	↑ 31	↓ 58	↑ 20	↑ 41	↓ 52	↑ 7	↑ 16	↓ 59	↑ 14	↑ 22	↓ 43
Solasonine	↓ 32	↑ 81	↓ 53	↓ 38	↑ 16	↓ 44	↓ 44	↓ 26	↓ 40	↓ 54	↑ 42	↓ 42	↓ 54	↓ 12	↓ 42	↓ 16	↑ 69	↓ 61	↓ 17	↑ 14	↓ 74	↓ 14	↑ 27	↓ 69	↓ 29	↑ 21	↓ 77	↓ 9	↑ 39	↓ 77	↓ 41	↑ 21	↓ 73	↑ 14	↑ 65	↓ 63
Solamargi ne	↓ 45	↑ 40	↑ 1	↓ 41	↑ 13	↓ 21	↓ 5	↓ 2	↓ 1	↓ 4	↓ 4	↑ 6	0	0	0	0	0	↓ 47	0	0	↓ 42	0	0	↓ 41	↑ 18	↓ 28	↓ 61	↑ 34	↑ 2	↓ 68	↓ 27	↓ 43	↓ 39	↓ 16	↓ 16	↓ 43
S. lycopersico n extract	↓ 13	↑ 5	-	↑ 56	↑ 18	-	↑ 29	↑ 23	-	↑ 28	↑ 41	-	↑ 12	↑ 14	-	↑ 2	↑ 17	↓ 14	↑ 9	↓ 11	↓ 1	↑ 1	↓ 2	↑ 57	↓ 4	↓ 10	↑ 26	↓ 1	↓ 9	↑ 39	↓ 14	↓ 10	↑ 26	↑ 17	↓ 7	↑ 53
α-tomatin e	↑ 17	↓ 5	↓ 4	↑ 31	↓ 10	↑ 37	↓ 6	↓ 11	↑ 40	↑ 13	↓ 12	↑ 15	↓ 9	↓ 7	↑ 17	↑ 23	↑ 54	↓ 18	↑ 35	↑ 14	↓ 44	↑ 4	↑ 50	↓ 23	↑ 54	↓ 23	↓ 27	↑ 65	0	↓ 41	↑ 35	↑ 9	↓ 34	↑ 52	↓ 4	↓ 40
A. rusticana extract	↑ 46	↑ 12	0	↑ 45	↑ 1	↑ 30	↑ 12	↑ 8	↓ 3	↑ 13	↑ 10	↓ 10	0	↑ 7	0	0	↑ 22	↓ 30	0	↑ 13	↓ 28	0	↑ 29	↓ 10	0	↑ 8	↓ 23	0	↑ 20	↓ 5	0	↑ 13	↓ 9	0	↑ 18	↑ 7
Time (hours)	2		4		6		8		10		12		14		16		18		20		22		24													