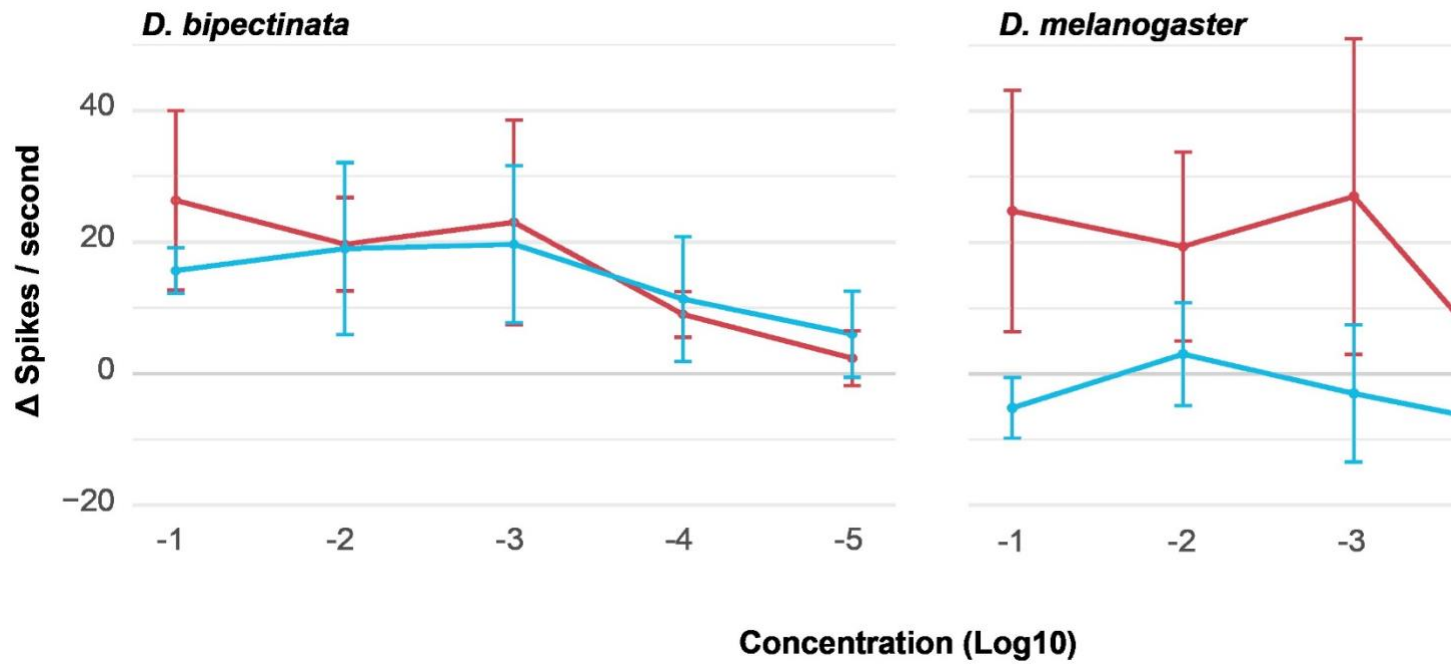


**Supplementary Table 1.** Names, chemical classes, source, and vapor pressure at 25 °C of the compounds used in the SSR experiments.

Compound Name	Chemical class	Vendor/Supplier	CAS Number	Vapor pressure (mmHg @ 25 °C)
( <i>Z</i> )-11-Octadecen-1-yl acetate	Ester	AK Scientific, Inc.	6186-98-7	0.000438
( <i>Z</i> )-9-Hexadecen-1-yl acetate	Ester	synthesized by Jerrit Weißflog		0.00448
( <i>Z</i> )-10-Heneicosene	Alkene	synthesized by Jerrit Weißflog		0.0000873
<i>rac</i> -2-Tridecyl acetate	Ester	synthesized by Jerrit Weißflog		0.004
( <i>Z</i> )-10-Heptadecen-2-one	Ketone	synthesized by Jerrit Weißflog		NA
2-Heptadecanone	Ketone	synthesized by Jerrit Weißflog		0.001
2-Pentadecanone	Ketone	Sigma-Aldrich	2345-28-0	0.003
<i>rac</i> -2-Pentadecyl acetate	Ester	synthesized by Jerrit Weißflog		NA
2-Tridecanone	Ketone	Sigma-Aldrich	593-08-8	0.016
1-Pentadecene	Alkene	Sigma-Aldrich	13360-61-7	0.00454
<i>R</i> -( <i>Z</i> )-10-Heptadecen-2-yl acetate	Ester	synthesized by Jerrit Weißflog		0.003
Myristyl acetate	Ester	AKos Consulting & Solutions	638-59-5	0.001
Palmityl acetate	Ester	AKos Consulting & Solutions	629-70-9	0.00026
( <i>Z</i> )-7-Tricosene	Alkene	AKos Consulting & Solutions	52078-57-6	0.0047
( <i>Z</i> )-11-Hexadecen-1-yl acetate	Ester	synthesized by Jerrit Weißflog		0.00367
<i>rac</i> -2-Heptadecyl acetate	Ester	synthesized by Jerrit Weißflog		0.003
( <i>Z,Z</i> )-19,22-Octacosadien-1-yl acetate	Ester	synthesized by Jerrit Weißflog		0.0000825
( <i>Z</i> )-11-Eicosen-1-yl acetate	Ester	synthesized by Jerrit Weißflog		0.0001
<i>All-trans</i> -Geranylgeraniol	Alcohol	Sigma-Aldrich	24034-73-9	NA
Farnesyl acetate	Ester	synthesized by Jerrit Weißflog		0.000054
( <i>E</i> )-7-Tetradecene	Alkene	Alfa Chemistry	41446-63-3	0.0322
( <i>E</i> )- $\beta$ -Farnesene	Alkene	Sigma-Aldrich	18794-84-8	0.01
Geranyl acetate	Ester	Sigma-Aldrich	105-87-3	0.07
<i>rac</i> -2-Heptyl butanoate	Ester	Alfa Chemistry	39026-94-3	0.09
( <i>Z</i> )-9-Tricosene	Alkene	Sigma-Aldrich	27519-02-4	0.0000353
Methyl laurate	Ester	Sigma-Aldrich	111-82-0	0.0041
Methyl myristate	Ester	Sigma-Aldrich	124-10-7	0.00049

Methyl palmitate	Ester	Sigma-Aldrich	112-39-0	0.000149
2-Hexyl acetate	Ester	synthesized by Jerrit Weißflog		NA
<i>R</i> -2-Tridecyl acetate	Ester	synthesized by Jerrit Weißflog		0.004
<i>S</i> -2-Tridecyl acetate	Ester	synthesized by Jerrit Weißflog		0.004
<i>rac</i> -3-Pentadecyl acetate	Ester	synthesized by Jerrit Weißflog		NA
<i>R</i> -2-Pentadecyl acetate	Ester	synthesized by Jerrit Weißflog		NA
<i>S</i> -2-Pentadecyl acetate	Ester	synthesized by Jerrit Weißflog		NA
<i>S</i> -( <i>Z</i> )-10-Heptadecen-2-yl acetate	Ester	synthesized by Jerrit Weißflog		0.003
( <i>Z</i> )-9-Octadecen-1-yl acetate	Ester	synthesized by Jerrit Weißflog		0.000001
( <i>Z</i> )-7-Pentacosene	Alkene	Biomol GmbH	63623-49-4	NA



**Supplementary Figure 1.** SSR responses from the OSN present in at1 sensilla to  $10^{-1}$ ,  $10^{-2}$ ,  $10^{-3}$ ,  $10^{-4}$ , and  $10^{-5}$  (v/v) concentrations of cVA and Z11-20:Ac. *Drosophila bipectinata* (left); red line, responses to cVA; blue line, responses to Z11-20:Ac; n = 3. *Drosophila melanogaster* (right); red line, responses to cVA; blue line, responses to Z11-20:Ac; n = 5. For all tested flies the solvent (DCM) was used as control.