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Supplemental Information

Olfactory Preference for Egg Laying on *Citrus* Substrates in *Drosophila*

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Supplemental Inventory

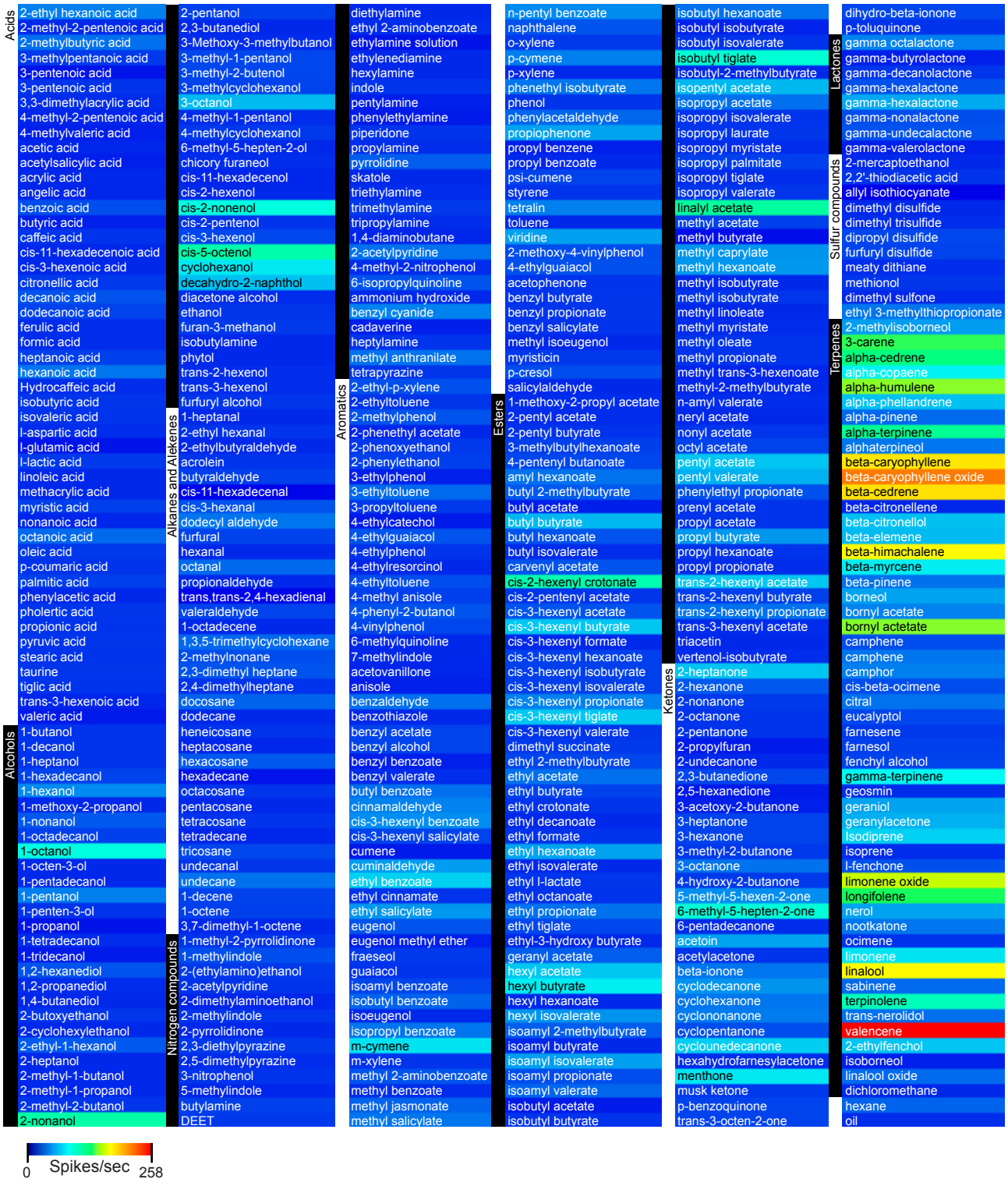

Figure S1 (related to Figure 2).
Heatmap based on responses of ai2A neurons towards 450 screened compounds.

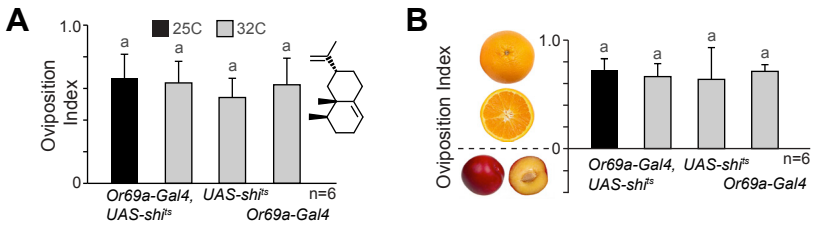

Figure S2 (related to Figure 3).
(A) Oviposition index (OI) to valencene (10^{-2}) of flies expressing *Shibire^{ts}* from the *Or69a* promoter and corresponding parental lines. Significant differences are denoted by letters (analysis of variance [ANOVA] followed by Tukey's test; $p < 0.05$). Error bars represent SEM.
(B) OIs of flies expressing *Shibire^{ts}* from the *Or69a* promoter and corresponding parental lines presented with a choice to oviposit on either oranges or plums. Significant differences are denoted by letters (analysis of variance [ANOVA] followed by Tukey's test; $p < 0.05$). Error bars represent SEM.

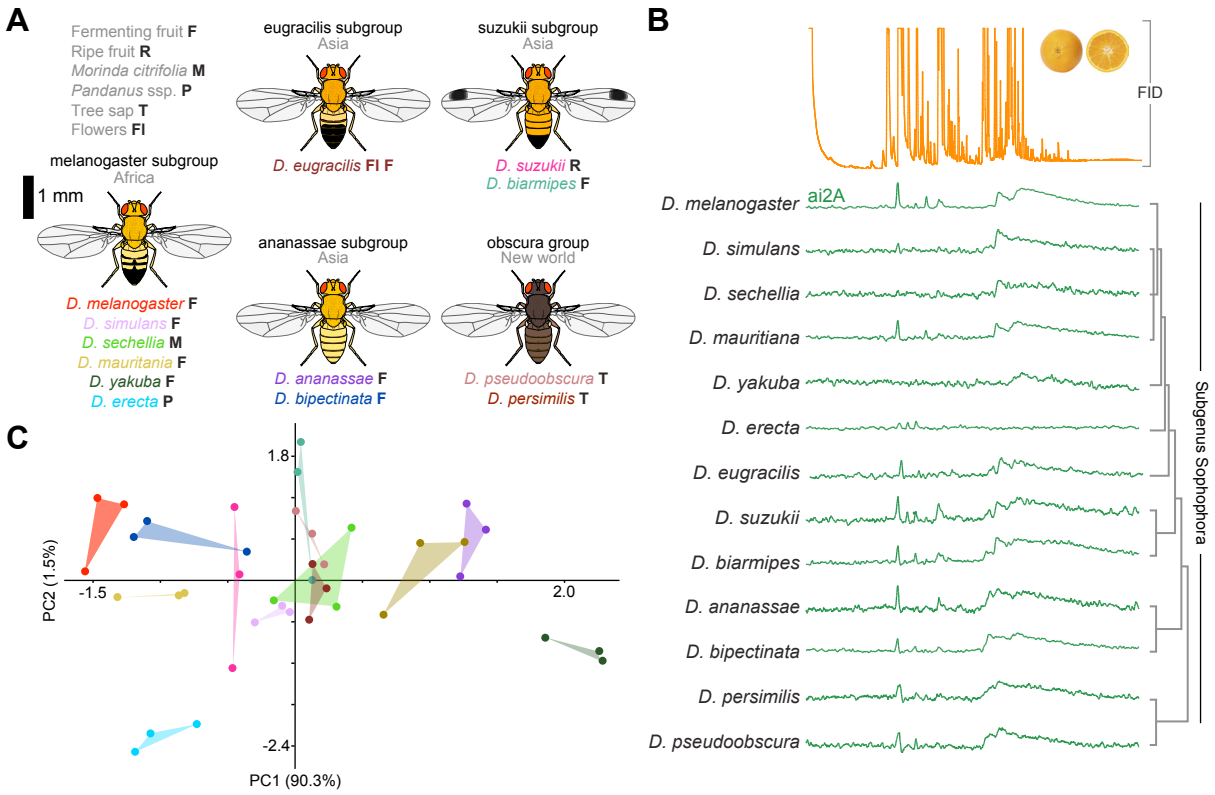

Figure S3 (related to Figure 4).
(A) Examined drosophilid species (subgenus *Sophophora*), sorted according to taxonomic relationship and with breeding substrate indicated.
(B) Representative GC-SSR measurements from 13 species of flies, stimulated with the same orange headspace sample. Phylogenetic relationships of the examined species are given on the right-hand side.
(C) Two-dimensional principal component analysis plot based upon GC-SSR response profiles of 13 species of drosophilids towards orange headspace; exemplified in (B). Color code as in panel (A).