Odorant cues linked to social immunity induce lateralized antenna stimulation in honey bees (*Apis mellifera* L.)

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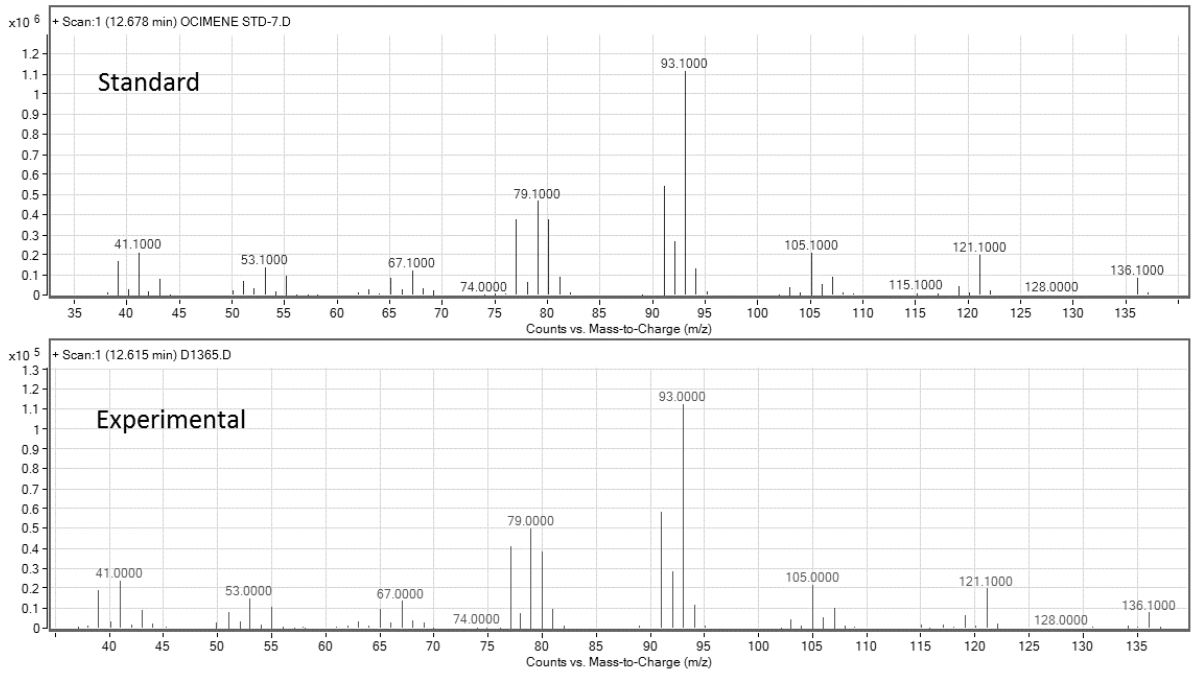
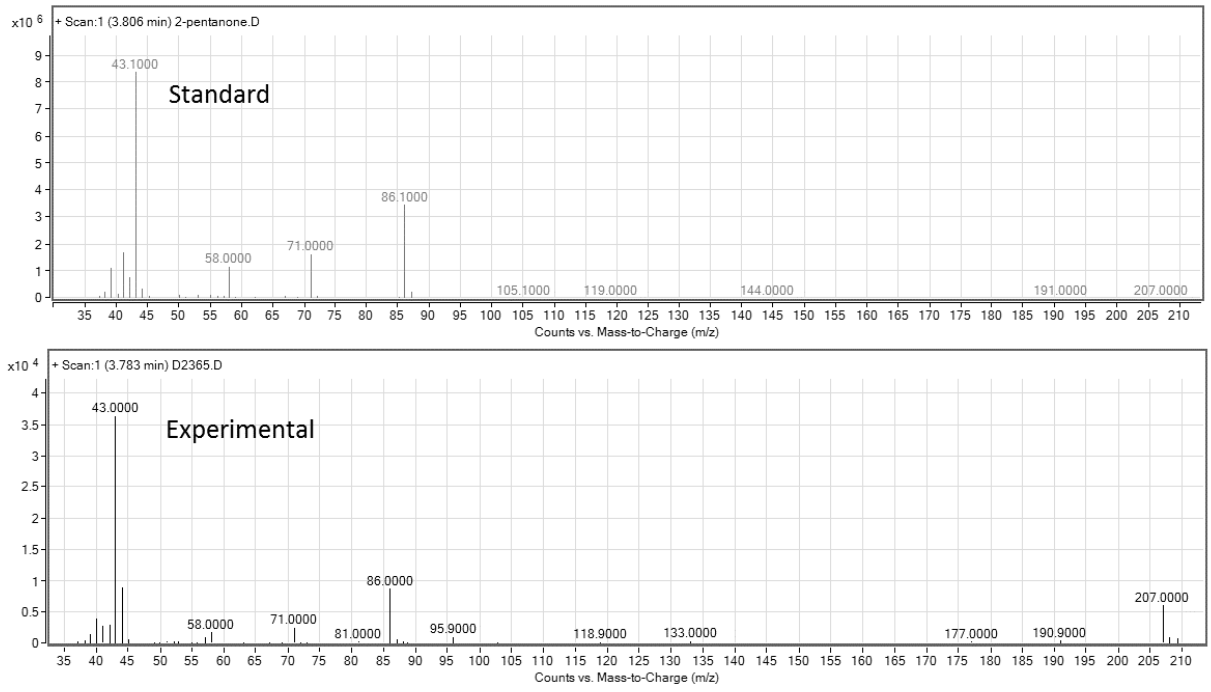
B-ocimene



2-pentanone



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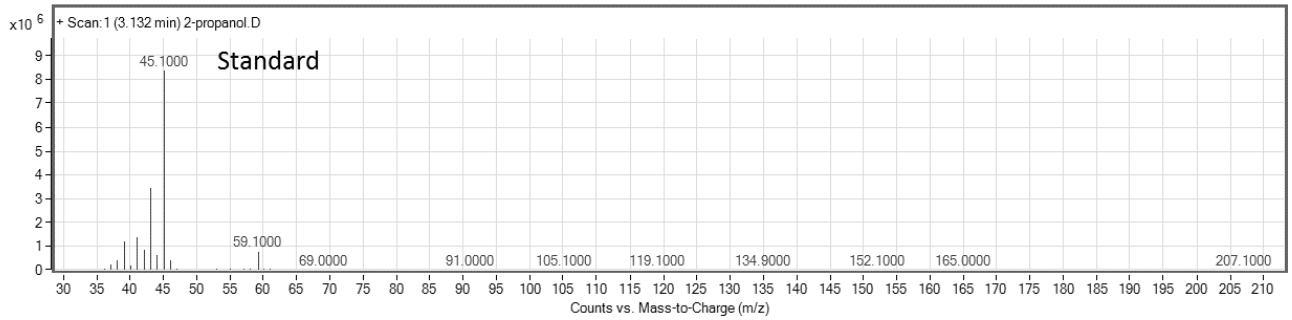
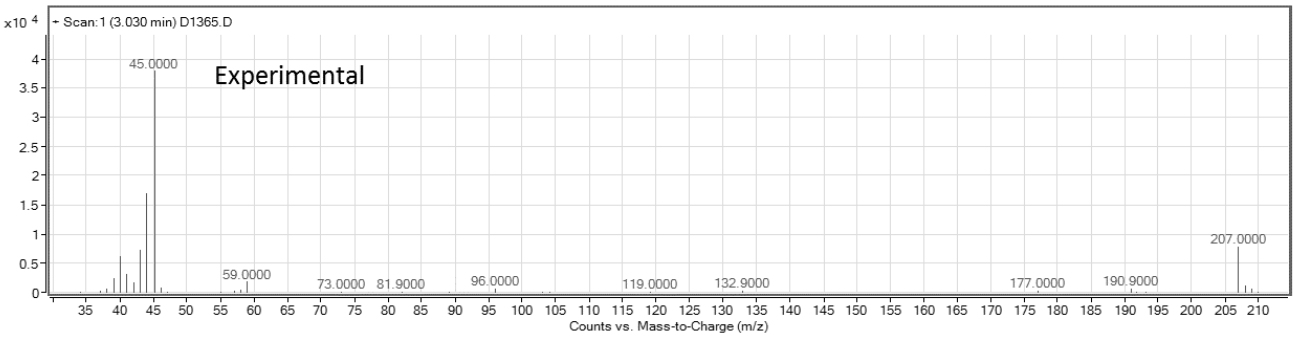
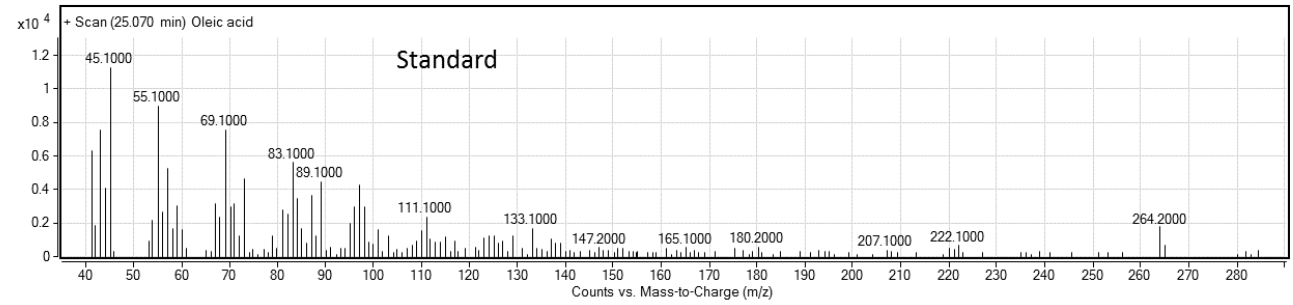
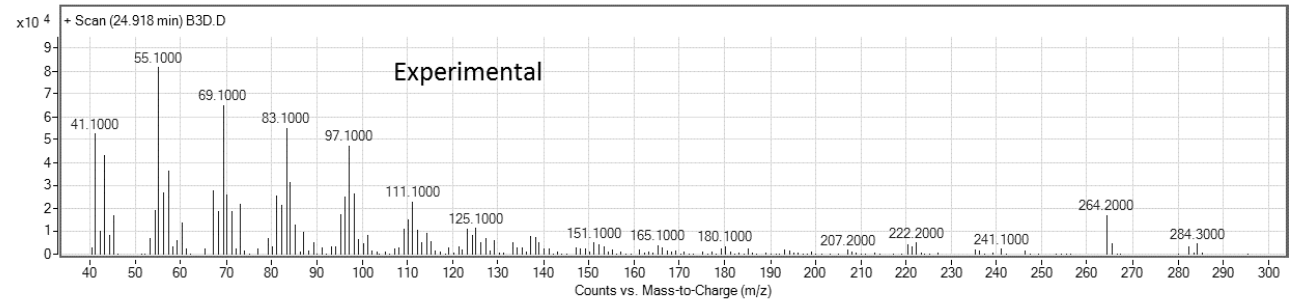


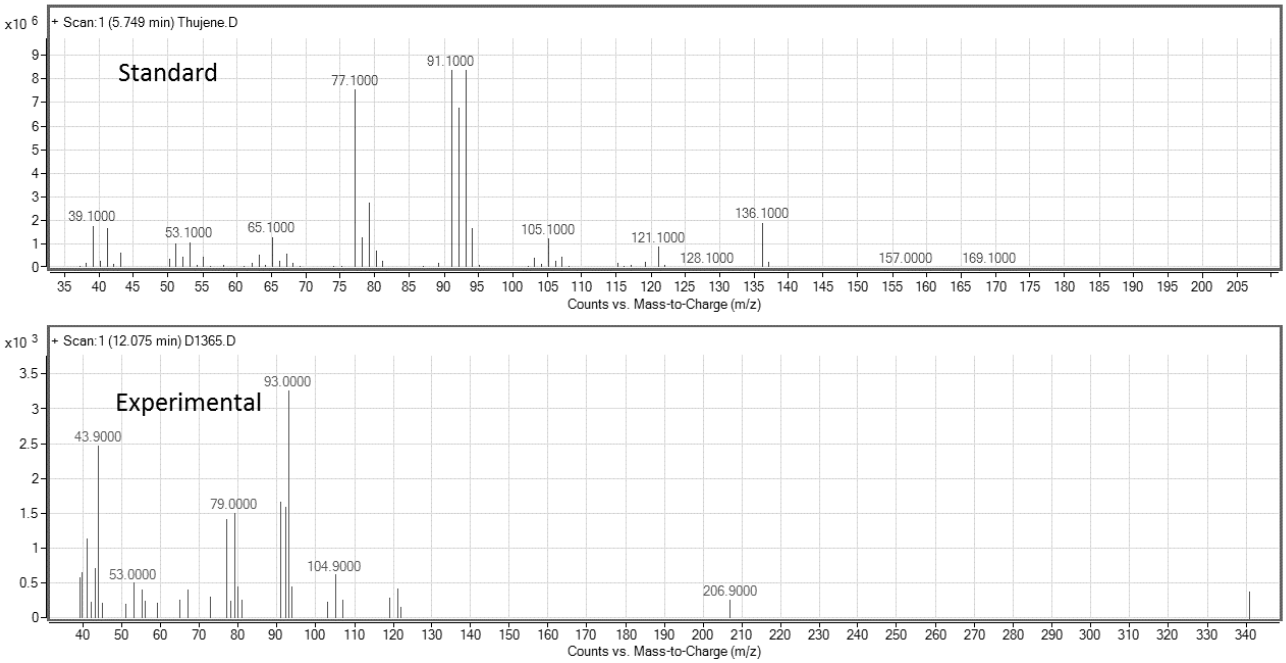


Oleic acid

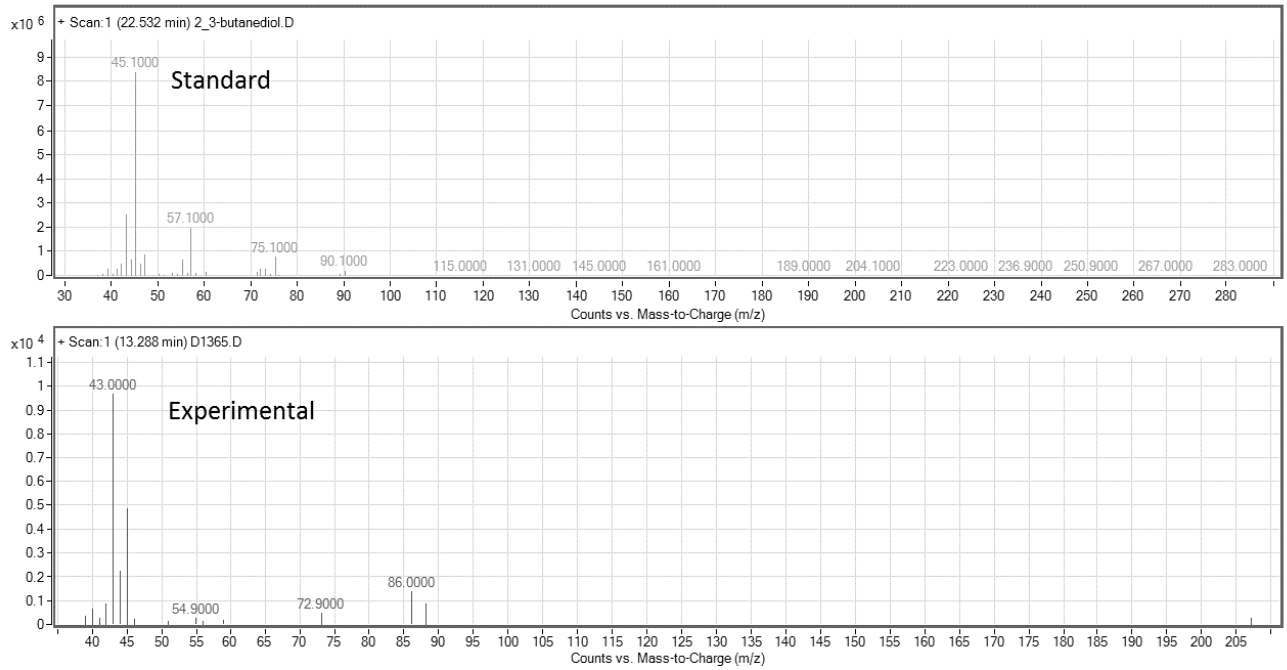




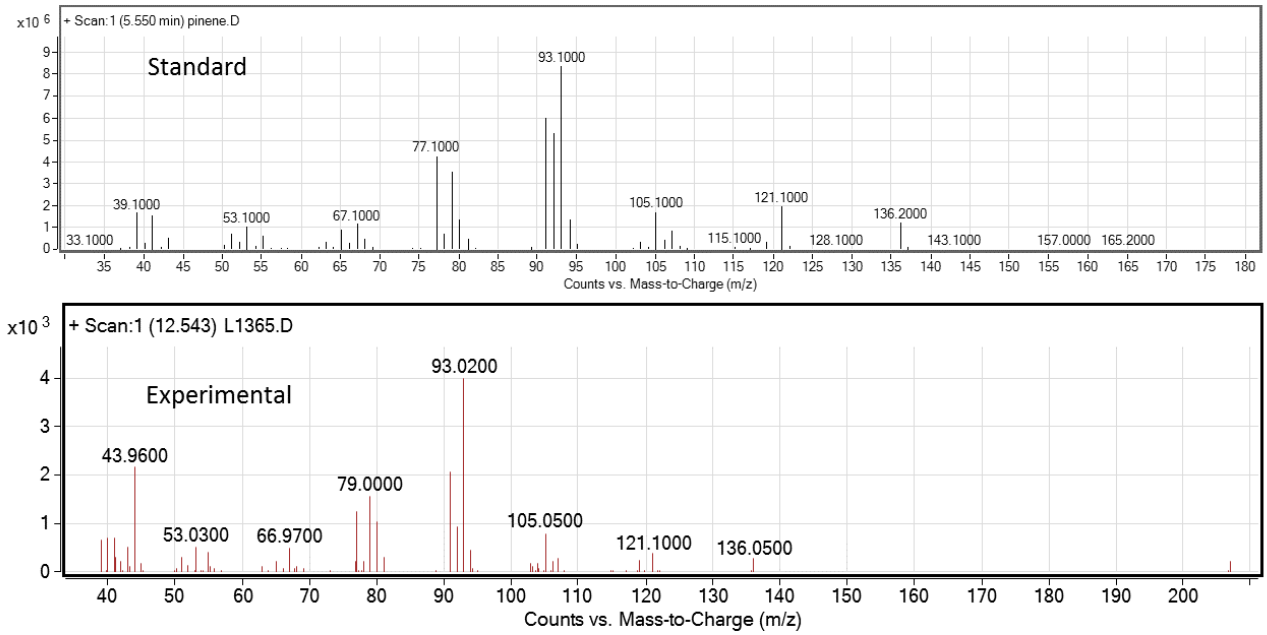
A-thujene



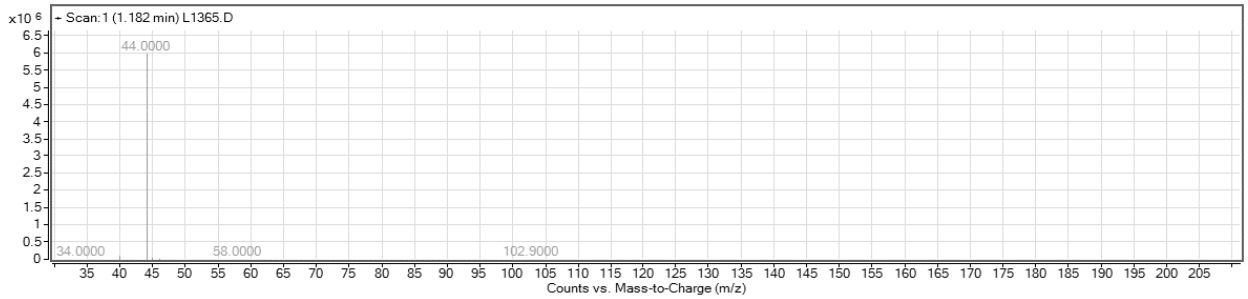
2-3-butanediol



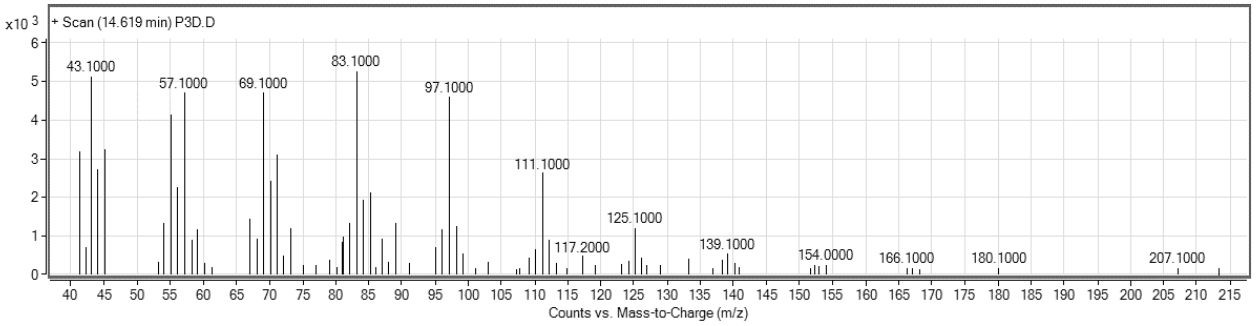
A-pinene



Carbon dioxide



2-methyl tetradecane



Supplementary Figure S1. Example spectra of differentially emitted compounds compared to standards. Only β-ocimene, 2-propanol, 2-pentanone and oleic acid matched both retention times and fragment spectra to the synthetic standards. All others either did not match or a synthetic standard was not available. 2-methyl tetradecane and oleic acid were run on an Agilent 6890N/5975C Inert XL MSD and all others were run on an Agilent 7890A/5975C Inert XL MSD. For more details see Methods, subheading: FKB GC-MS Sample Collection.

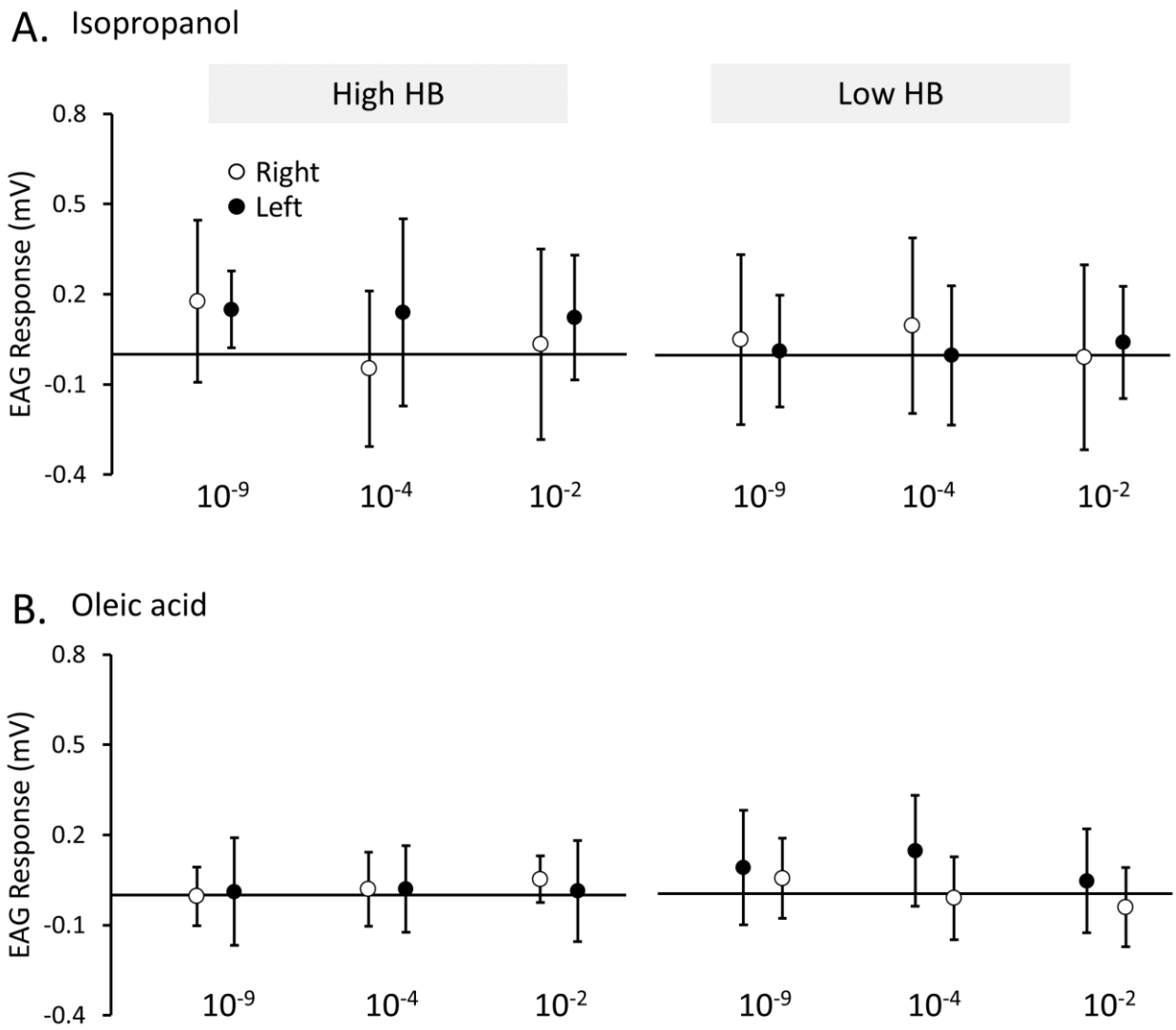
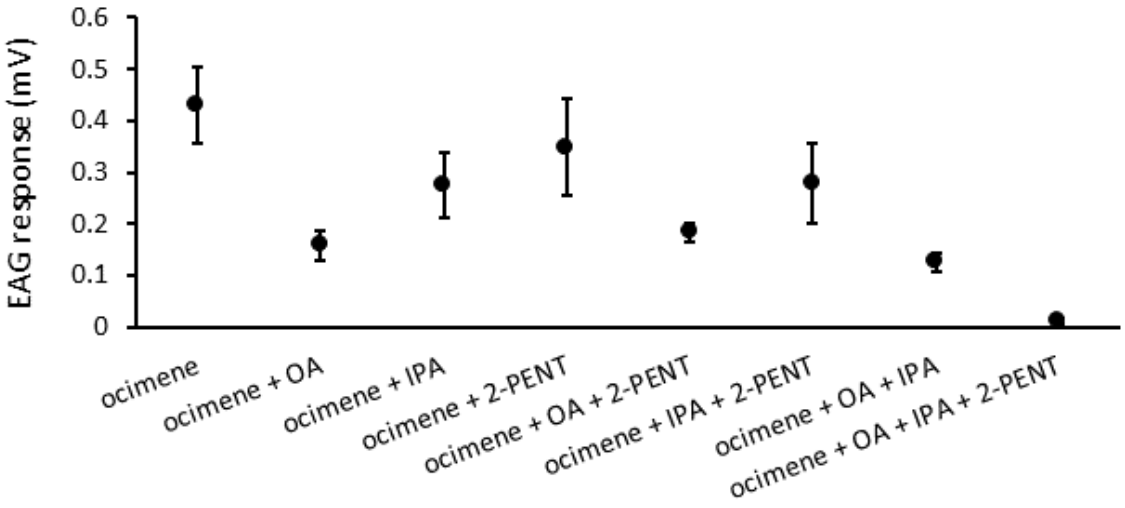
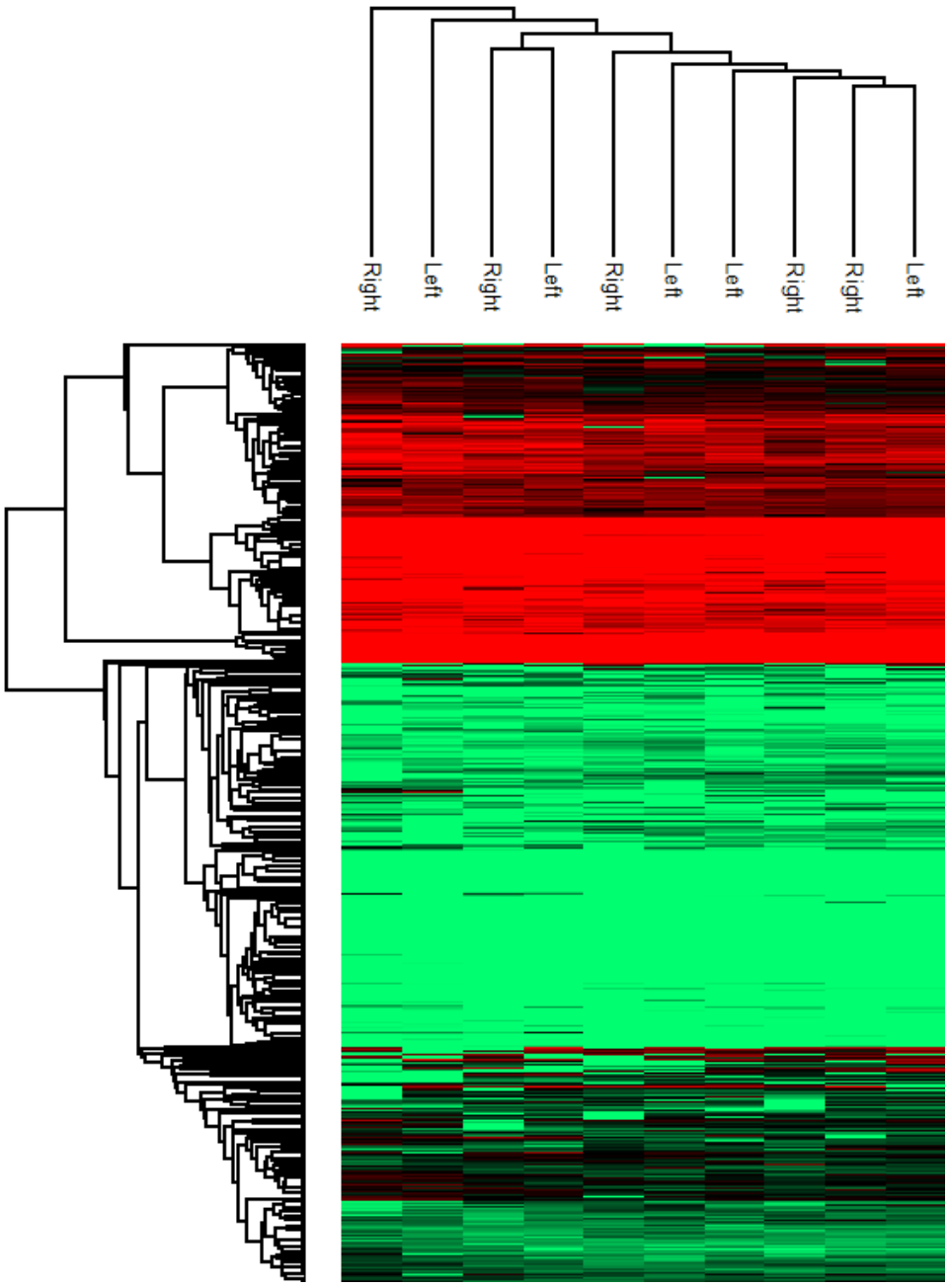


Figure S2. *Electroantennographic data for oleic acid and isopropanol stimulations.* Doses were applied at three dilutions (10^{-9}, 10^{-4} and 10^{-2} v/v). The background solvent stimulus was subtracted from the solvent + compound stimulus to yield the mV stimulation of the compound alone. No significant differences between dose, side or HB were found with these compounds (three-factor ANOVA).



Supplementary Figure S3. *Systematic combinatorial analysis of disease odors.* All combinations of oleic acid (OA), isopropanol (IPA), 2-pentanone (2-PENT) and β-ocimene were mixed to 1% solutions (v/v) and used to stimulate honey bee worker antennae. No stimulations produced stronger EAG responses than β-ocimene (mixtures without β-ocimene are not shown). Error bars represent variance.



Supplementary Figure S4. *Proteomic analysis of left and right antennae from hygienic bees.* Label-free quantitation (LFQ) was performed on left and right antennae from five hygienic colonies. No significantly different proteins were identified.