Bioactive Volatile Compounds from *Penicillium digitatum*-Infected Apples: Oviposition Attractants for Yellow Peach Moth *Conogethes punctiferalis* (Lepidoptera: Crambidae)

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## Supplementary Information (SI)

TABLE S1 Behavior responses of mated YPM females to apples with and without compounds in Y-tube olfactometer assays

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | | **Compounds** | **Volume** | **Selection Rates (%)** | | *χ*2 | ***P* Value** |
| Apples+compounds | Apples |
| A | 1 | styrene | 1830μL | 37.5 | 62.5 | 5.000 | 0.025 |
| B | 2 | methyl 2-methylbutyrate | 320μL | 66.25 | 33.75 | 8.450 | 0.004 |
| C | 3 | methyl caproate | 460μL | 50 | 50 | 0.000 | 1 |
| D | 4 | butyl caprylate | 240μL | 61.25 | 38.75 | 4.050 | 0.044 |
| E | 5 | *n*-tetradecane | 260μL | 66.25 | 33.75 | 8.450 | 0.004 |
| F | 1+5 | styrene+*n*-tetradecane | 1830μL+260μL | 43.75 | 56.25 | 1.250 | 0.264 |
| G | 1+2 | styrene+methyl 2-methylbutyrate | 1830μL+320μL | 40 | 60 | 3.200 | 0.074 |
| H | 1+4 | styrene+butyl caprylate | 1830μL+240μL | 47.5 | 52.5 | 0.200 | 0.655 |
| I | 1+3 | styrene+methyl caproate | 1830μL+460μL | 58.75 | 41.25 | 2.450 | 0.118 |
| G | 2+3 | methyl 2-methylbutyrate+methyl caproate | 320μL+460μL | 58.75 | 41.25 | 2.450 | 0.118 |
| K | 2+4 | methyl 2-methylbutyrate+butyl caprylate | 320μL+240μL | 62.5 | 37.5 | 5.000 | 0.025 |
| L | 2+5 | methyl 2-methylbutyrate+*n*-tetradecane | 320μL+260μL | 63.75 | 36.25 | 6.050 | 0.014 |
| M | 3+4 | methyl caproate+butyl caprylate | 460μL+240μL | 58.75 | 41.25 | 2.450 | 0.118 |
| N | 3+5 | methyl caproate+*n*-tetradecane | 460μL+260μL | 52.5 | 47.5 | 0.200 | 0.655 |
| O | 4+5 | butyl caprylate+*n*-tetradecane | 240μL+260μL | 70 | 30 | 12.800 | <0.001 |
| P | 1+2+3 | styrene+methyl 2-methylbutyrate+methyl caproate | 1830μL+320μL+460μL | 48.75 | 51.25 | 0.050 | 0.823 |
| Q | 1+2+4 | styrene+methyl 2-methylbutyrate+butyl caprylate | 1830μL+320μL+240μL | 52.5 | 47.5 | 0.200 | 0.074 |
| R | 1+2+5 | styrene+methyl 2-methylbutyrate+*n*-tetradecane | 1830μL+320μL+260μL | 62.5 | 37.5 | 5.000 | 0.025 |
| S | 1+3+4 | styrene+methyl caproate+butyl caprylate | 1830μL+460μL+240μL | 50 | 50 | 0.000 | 1 |
| T | 1+3+5 | styrene+methyl caproate+*n*-tetradecane | 1830μL+460μL+260μL | 48.75 | 51.25 | 0.050 | 0.823 |
| U | 1+4+5 | styrene+butyl caprylate+*n*-tetradecane | 1830μL+240μL+260μL | 45 | 55 | 0.800 | 0.371 |
| V | 2+3+4 | methyl 2-methylbutyrate+methyl caproate+butyl caprylate | 320μL+460μL+240μL | 67.5 | 32.5 | 9.800 | 0.002 |
| W | 2+3+5 | methyl 2-methylbutyrate+methyl caproate+*n*-tetradecane | 320μL+460μL+260μL | 48.75 | 51.25 | 0.050 | 0.823 |
| X | 2+4+5 | methyl 2-methylbutyrate+butyl caprylate+*n*-tetradecane | 320μL+240μL+260μL | 50 | 50 | 0.000 | 1 |
| Y | 3+4+5 | methyl caproate+butyl caprylate+*n*-tetradecane | 460μL+240μL+260μL | 52.5 | 47.5 | 0.200 | 0.655 |
| Z | 1+2+3+4 | styrene+methyl 2-methylbutyrate+methyl caproate+butyl caprylate | 1830μL+320μL+460μL+240μL | 61.25 | 38.75 | 4.050 | 0.044 |
| AA | 1+2+3+5 | styrene+methyl 2-methylbutyrate+methyl caproate+*n*-tetradecane | 1830μL+320μL+460μL+260μL | 52.5 | 47.5 | 0.200 | 0.074 |
| AB | 1+2+4+5 | styrene+methyl 2-methylbutyrate+butyl caprylate+*n*-tetradecane | 1830μL+320μL+240μL+260μL | 46.25 | 53.75 | 0.450 | 0.502 |
| AC | 1+3+4+5 | styrene+methyl caproate+butyl caprylate+*n*-tetradecane | 1830μL+460μL+240μL+260μL | 43.75 | 56.25 | 1.250 | 0.264 |
| AD | 2+3+4+5 | methyl 2-methylbutyrate+methyl caproate+butyl caprylate+*n*-tetradecane | 320μL+460μL+240μL+260μL | 61.25 | 38.75 | 4.050 | 0.044 |
| AE | 1+2+3+4+5 | styrene+methyl 2-methylbutyrate+methyl caproate+butyl caprylate+*n*-tetradecane | 1830μL+320μL+460μL+240μL+260μL | 63.75 | 36.25 | 6.050 | 0.014 |

**FIGURE S1 Representative total ion chromatograms of the VOCs emitted by NIA, MDA, PDA, and PPD.** (1) ethyl propionate, (2) *n*-propyl acetate, (3) 2-methyl-1-butanol, (4) methyl 2-methylbutyrate, (5) ethyl butyrate, (6) *n*-propyl propionate, (7) *n*-butyl acetate, (8) ethyl-2-methylbutyrate, (9) 2-methybutyl acetate, (10) styrene, (11) n-propyl butyrate, (12) butyl propionate, (13) amyl acetate, (14) methyl caproate, (15) ethyl tiglate, (16) propyl 2-methylbutyrate, (17) n-butyl butyrate, (18) ethyl caproate, (19) hexyl acetate, (20) butyl 2-methylbutyrate, (21) 2-methylbutyl butyrate, (22) propyl caproate, (23) 2-methylbutyl 2-methylbutyrate, (24) hexyl propionate, (25) isoamyl-2-methylbutyrate, (26) hexyl isobutyrate, (27) butyl hexanoate, (28) ethyl octanoate, (29) hexyl 2-methylbutyrate, (30) 2-methylbutyl hexanoate, (31) amyl hexanoate, (32) propyl octanoate, (33) ethyl trans-4-decenoate, (34) hexyl hexanoate, (35) butyl caprylate, (36) n-tetradecane, (37) isoamyl caprylate, (38) *α*-farnesene, (IS) internal standard (*n*-nonyl acetate). Fungi non-infected apples (NIA), Mechanically damaged apples (MDA), *P. digitatum*-infected apples (PDA), and *P. digitatum* in potato dextrose agar medium(PPD).

**![图示

描述已自动生成]()**