**Supporting Information**.

Molecular organization of the nanoscale surface structures of the dragonfly Hemianax papuensis wing epicuticle

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**Table S1.** Individual wax components of the *Hemianax papuensis* wing epicuticle isolated and identified by GCMS. Components that could not be unambiguously identified are grouped together.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Formula | RI | Chemical name | 10 s | 1 h |
| C7H12O | 965 | 2-Heptenal | 0.15 | 0.17 |
| C12H26 | 1200 | n-dodecane |  | 0.21 |
| C14H30 | 1371 | 3-methyltridecane |  | 0.05 |
| C14H30 | 1400 | n-tetradecane | 5.45 | 2.33 |
| C15H32 | 1540 | 3-methyltetradecane |  | 0.12 |
| C16H34 | 1565 | 2-methylpentadecane |  | 0.014 |
| C16H34 | 1571 | 3-methylpentadecane | 1.47 | 0.69 |
| C16H32 | 1593 | 1-hexadecene |  | 0.11 |
| C16H34 | 1600 | n-hexadecane | 10.57 | 5.66 |
| C18H38 | 1728 | 8-ethylhexadecane |  | 0.085 |
| C18H38 | 1728 | 7-ethylhexadecane |  | 0.085 |
| C18H38 | 1733 | 6-ethylhexadecane |  | 0.04 |
| C18H38 | 1744 | 5-methylheptadecane |  | 0.022 |
| C18H38 | 1744 | 7-methylheptadecane |  | 0.022 |
| C18H38 | 1765 | 2-methylheptadecane |  | 0.03 |
| C18H38 | 1772 | 3-methylheptadecane | 4.2 | 1.51 |
| C18H36 | 1793 | 1-octadecene |  | 0.07 |
| C18H38 | 1800 | n-octadecane | 10.28 | 6.69 |
| C18H38 | 1799 | 6,12-dimethylheptadecane | 10.28 | 6.69 |
| C17H34O2 | 1853 | Pentadecyl acetate |  | 0.024 |
| C18H38 | 1888 | 7,12-dimethylhexadecane |  | 0.12 |
| C20H42 | 1888 | 7,12-dimethyloctadecane |  | 0.12 |
| C20H42 | 1895 | 6,13-dimethyloctadecane |  | 0.04 |
| C20H42 | 1915 | 6,7-dimethyloctadecane |  | 0.095 |
| C20H42 | 1921 | 5,6-dimethyloctadecane |  | 0.06 |
| C20H42 | 1928-1933 | 6,10,14-trimethyloctadecane |  | 0.17 |
| C20H42 | 1944 | 7-methylnonadecane |  | 0.085 |
| C20H42 | 1944 | 8-methylnonadecane |  | 0.085 |
| C20H42 | 1966 | 2-methylnonadecane |  | 0.22 |
| C20H42 | 1973 | 3-methylnonadecane | 2.12 | 1.7 |
| C20H40 | 1994 | 1-eicosene |  | 0.032 |
| C20H42 | 2000 | n-eicosane | 8.5 | 6.3 |
| C18H34O | 2004 | 1-octadecenal |  | 0.014 |
| **C16H32O1** | **2046** | **Hexadecanoic acid** | **24.88** | **32.73** |
| C22H46 | 2116 | 7-ethyleicosane |  | 0.22 |
| C22H46 | 2133 | 11-methylheneicosane |  | 0.08 |
| C22H46 | 2142 | 5-methylheneicosane |  | 0.06 |
| C22H46 | 2142 | 7-methylheneicosane |  | 0.06 |
| C22H46 | 2142 | 9-methylheneicosane |  | 0.06 |
| C10H16O2 | 2162 | (E)-3,7-dimethyl-2,6-octadienoic acid |  | 0.07 |
| C22H46 | 2170 | 3-methylheneicosane | 1.72 | 1.86 |
| C23H48 | 2170 | 7,11-dimethylheneicosane | 1.72 | 1.86 |
| C22H46 | 2200 | n-docosane | 6.9 | 6.68 |
| C18H36O2 | 2244 | Octadecanoic acid |  | 12.96 |
| C24H50 | 2282 | 9-propylheneicosane |  | 0.174 |
| C24H50 | 2315 | 9-ethyldocosane |  | 0.27 |
| C24H50 | 2324 | 2-methyltricosane |  | 0.02 |
| C24H50 | 2373 | 3-methyltricosane | 1.57 | 2.04 |
| C25H52 | 2415 | 12-ethyltricosane |  | 0.07 |
| C25H52 | 2431 | 11-methyltetracosane | 0.19 | 0.17 |
| C26H54 | 2480 | 12-propyltricosane |  | 0.11 |
| C26H54 | 2507 | 11-ethyltetracosane |  | 0.12 |
| C27H56 | 2525 | 11,15-dimethylpentacosane |  | 0.05 |
| C26H54 | 2532 | 9-methylpentacosane |  | 0.12 |
| C26H54 | 2532 | 10-methylpentacosane |  | 0.12 |
| C26H54 | 2532 | 11-methylpentacosane |  | 0.12 |
| C26H54 | 2532 | 13-methylpentacosane |  | 0.12 |
| C26H54 | 2544 | 7-methylpentacosane |  | 0.07 |
| C26H54 | 2544 | 5-methylpentacosane |  | 0.07 |
| C27H56 | 2544 | 9,13-dimethylpentacosane |  | 0.07 |
| C27H56 | 2570 | 7,11-dimethylpentacosane |  | 0.01 |
| C26H54 | 2575 | 3-methylpentacosane | 0.72 | 1.57 |
| C27H56O | 2595 | Heptacosanol |  | 0.04 |
| C26H54 | 2600 | n-hexacosane | 9.95 | 7.1 |
| C28H58 | 2704 | 2,6-dimethylhexacosane |  | 0.08 |
| C29H60 | 2767 | 9,11-dimethylheptacosane |  | 0.043 |
| C29H60 | 2767 | 11,15-dimethylheptacosane |  | 0.043 |
| C29H60 | 2767 | 7,11-dimethylheptacosane |  | 0.043 |
| C28H58 | 2800 | n-octacosane | 2.95 | 4.94 |
| C29H60 | 2807 | 3,15-dimethylheptacosane |  | 0.012 |
| C29H60 | 2807 | 3,11-dimethylheptacosane |  | 0.012 |
| C29H60 | 2807 | 3,9-dimethylheptacosane |  | 0.012 |
| C29H60 | 2900 | n-nonacosane |  | 0.078 |
| C29H60 | 2973 | 3-methyloctacosane | 0.36 | 1.03 |
| C30H62 | 3000 | n-triacontane | 2.42 | 3.11 |
| C32H66 | 3097 | 2,10-dimethyltriacontane | 0.5 | 0.08 |
| C32H66 | 3097 | 2,12-dimethyltriacontane | 0.5 | 0.08 |
| C31H64 | 3100 | n-hentriacontane | 0.09 | 0.053 |
| C33H68 | 3172 | 7,23-dimethylhentriacontane | 0.07 | 0.076 |
| C32H66 | 3172 | 3-methylhentriacontane | 0.07 | 0.076 |
| C33H68 | 3172 | 7,25-dimethylhentriacontane | 0.07 | 0.076 |
| C32H66 | 3200 | n-dotriacontane | 0.34 | 2.14 |
| C35H72 | 3369 | 7,19-dimethyltritriacontane | 0.135 | 0.035 |
| C35H72 | 3369 | 7,21-dimethyltritriacontane | 0.135 | 0.035 |
| C34H70 | 3372 | 3-methyltritriacontane |  | 0.035 |
| C35H72 | 3372 | 7,23-dimethyltritriacontane |  | 0.035 |
| C34H70 | 3400 | n-tetratriacontane | 0.11 | 0.092 |
| C32H52O2 | 3578 | Retinyl dodecanoate | 0.07 | 0.03 |
| C36H74 | 3600 | n-hexatriacontane |  | 0.035 |

%Composition based on measured TIC peak areas without standardization.