

**Supplementary Table S1. BVOCs emission rates and composition for the seven species.**

| Classification      | Name                                | Formula                           | <i>Machilus leptophylla</i>                               | <i>Carya illinoensis</i>                                  | <i>Choerospondias axillaris</i>                           | <i>Liriodendron chinense</i>                              | <i>Edgeworthia chrysantha</i>                             | <i>Wisteria sinensis</i>                                  | <i>Ormosia hosiei</i>                                     |
|---------------------|-------------------------------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|
|                     |                                     |                                   | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) | Emission rate<br>(nmol•m <sup>-2</sup> •s <sup>-1</sup> ) |
| Isoprene            | Isoprene                            | C <sub>5</sub> H <sub>8</sub>     | 0.002 ± 0c                                                | 0.002 ± 0.001c                                            | 0.001 ± 0c                                                | 0.001 ± 0.001c                                            | 1.379 ± 0.316c                                            | 6.487 ± 0.957a                                            | 3.061 ± 0.825b                                            |
|                     | $\alpha$ -phellandrene              | C <sub>10</sub> H <sub>16</sub>   | 0.076 ± 0.008b                                            | 0.09 ± 0.009a                                             | —                                                         | 0.049 ± 0.004c                                            | —                                                         | —                                                         | —                                                         |
|                     | $\alpha$ -pinene                    | C <sub>10</sub> H <sub>16</sub>   | 0.342 ± 0.031a                                            | 0.109 ± 0.015bc                                           | 0.064 ± 0.006cd                                           | 0.147 ± 0.033b                                            | —                                                         | —                                                         | 0.048 ± 0.004d                                            |
|                     | Camphene                            | C <sub>10</sub> H <sub>16</sub>   | 0.07 ± 0.009b                                             | 0.086 ± 0.008a                                            | 0.061 ± 0.006bc                                           | 0.049 ± 0.004c                                            | —                                                         | —                                                         | —                                                         |
|                     | $\beta$ -phellandrene               | C <sub>10</sub> H <sub>16</sub>   | 0.516 ± 0.089a                                            | 0.738 ± 0.233a                                            | —                                                         | 0.067 ± 0.006b                                            | —                                                         | —                                                         | —                                                         |
|                     | $\beta$ -pinene                     | C <sub>10</sub> H <sub>16</sub>   | 0.303 ± 0.035a                                            | 0.161 ± 0.043b                                            | —                                                         | 0.189 ± 0.043b                                            | —                                                         | —                                                         | 0.049 ± 0.004c                                            |
|                     | $\beta$ -myrcene                    | C <sub>10</sub> H <sub>16</sub>   | 0.082 ± 0.009ab                                           | 0.095 ± 0.011a                                            | 0.069 ± 0.005bc                                           | 0.056 ± 0.004c                                            | —                                                         | —                                                         | —                                                         |
|                     | $\alpha$ -thujene                   | C <sub>10</sub> H <sub>16</sub>   | 0.07 ± 0.009b                                             | 0.087 ± 0.008a                                            | —                                                         | 0.048 ± 0.004c                                            | —                                                         | —                                                         | —                                                         |
|                     | Terpinolene                         | C <sub>10</sub> H <sub>16</sub>   | 0.076 ± 0.006b                                            | 0.09 ± 0.008a                                             | —                                                         | 0.05 ± 0.004c                                             | —                                                         | —                                                         | —                                                         |
|                     | D-limonene                          | C <sub>10</sub> H <sub>16</sub>   | 0.084 ± 0.009a                                            | 0.095 ± 0.01a                                             | —                                                         | 0.077 ± 0.019a                                            | —                                                         | 0.088 ± 0.007a                                            | 0.049 ± 0.004b                                            |
| Monoterpene         | trans- $\beta$ -ocimene             | C <sub>10</sub> H <sub>16</sub>   | —                                                         | —                                                         | 0.563 ± 0.145a                                            | —                                                         | —                                                         | —                                                         | —                                                         |
|                     | p-cymene                            | C <sub>10</sub> H <sub>14</sub>   | —                                                         | —                                                         | —                                                         | 0.047 ± 0.004a                                            | —                                                         | —                                                         | 0.049 ± 0.005a                                            |
|                     | Sabinene                            | C <sub>10</sub> H <sub>16</sub>   | 0.082 ± 0.007a                                            | 0.093 ± 0.009a                                            | —                                                         | 0.052 ± 0.004b                                            | —                                                         | —                                                         | 0.049 ± 0.004b                                            |
|                     | Eucalyptol                          | C <sub>10</sub> H <sub>18</sub> O | 0.07 ± 0.009b                                             | 0.096 ± 0.009a                                            | —                                                         | 0.052 ± 0.003c                                            | —                                                         | —                                                         | 0.049 ± 0.004c                                            |
|                     | $\beta$ -ocimene                    | C <sub>10</sub> H <sub>16</sub>   | 0.069 ± 0.009b                                            | 0.086 ± 0.008b                                            | 3.806 ± 0.634a                                            | 0.049 ± 0.004b                                            | —                                                         | 0.088 ± 0.007b                                            | 0.049 ± 0.005b                                            |
|                     | $\gamma$ -terpinene                 | C <sub>10</sub> H <sub>16</sub>   | 0.089 ± 0.003a                                            | 0.093 ± 0.009a                                            | —                                                         | 0.053 ± 0.003b                                            | —                                                         | —                                                         | —                                                         |
|                     | 2-Carene                            | C <sub>10</sub> H <sub>16</sub>   | 0.072 ± 0.008b                                            | 0.088 ± 0.008a                                            | 0.062 ± 0.006bc                                           | 0.049 ± 0.003c                                            | —                                                         | —                                                         | —                                                         |
|                     | Linalool                            | C <sub>10</sub> H <sub>18</sub> O | —                                                         | —                                                         | 0.061 ± 0.006a                                            | 0.047 ± 0.004b                                            | —                                                         | —                                                         | —                                                         |
|                     | 1,3,8-p-menthatriene                | C <sub>10</sub> H <sub>14</sub>   | —                                                         | —                                                         | 0.23 ± 0.06a                                              | —                                                         | —                                                         | —                                                         | —                                                         |
|                     | (E,E)-2,6-dimethyl-2,4,6-octatriene | C <sub>10</sub> H <sub>16</sub>   | —                                                         | —                                                         | 0.064 ± 0.005a                                            | —                                                         | —                                                         | —                                                         | —                                                         |
| Total monoterpene   | Camphor                             | C <sub>10</sub> H <sub>16</sub> O | 0.069 ± 0.009ab                                           | 0.087 ± 0.008a                                            | 0.062 ± 0.005b                                            | 0.048 ± 0.004b                                            | 0.068 ± 0.009ab                                           | 0.088 ± 0.007a                                            | 0.053 ± 0.005b                                            |
|                     | Santolina epoxide                   | C <sub>10</sub> H <sub>16</sub> O | —                                                         | —                                                         | —                                                         | —                                                         | —                                                         | —                                                         | 0.049 ± 0.005a                                            |
|                     |                                     |                                   | 2.07 ± 0.187b                                             | 2.093 ± 0.299b                                            | 5.041 ± 0.792a                                            | 1.128 ± 0.102bc                                           | 0.068 ± 0.009d                                            | 0.264 ± 0.022cd                                           | 0.442 ± 0.041cd                                           |
|                     | (E)- $\beta$ -farnesene             | C <sub>15</sub> H <sub>24</sub>   | —                                                         | —                                                         | 0.062 ± 0.006b                                            | —                                                         | —                                                         | 0.088 ± 0.008a                                            | —                                                         |
|                     | trans- $\alpha$ -bergamotene        | C <sub>15</sub> H <sub>24</sub>   | —                                                         | 0.089 ± 0.009a                                            | —                                                         | —                                                         | —                                                         | —                                                         | —                                                         |
|                     | Caryophyllene                       | C <sub>15</sub> H <sub>24</sub>   | —                                                         | 0.09 ± 0.009a                                             | 0.061 ± 0.006b                                            | 0.047 ± 0.004c                                            | —                                                         | —                                                         | 0.049 ± 0.005bc                                           |
|                     | (Z,Z)- $\alpha$ -farnesene          | C <sub>15</sub> H <sub>24</sub>   | —                                                         | 0.087 ± 0.008a                                            | —                                                         | —                                                         | —                                                         | —                                                         | —                                                         |
|                     | Germacrene D                        | C <sub>15</sub> H <sub>24</sub>   | —                                                         | 0.09 ± 0.009a                                             | —                                                         | —                                                         | —                                                         | —                                                         | —                                                         |
|                     | $\beta$ -cadinene                   | C <sub>15</sub> H <sub>24</sub>   | —                                                         | 0.087 ± 0.008a                                            | —                                                         | —                                                         | —                                                         | —                                                         | —                                                         |
|                     |                                     |                                   | —                                                         | 0.442 ± 0.044a                                            | 0.123 ± 0.011b                                            | 0.047 ± 0.004cd                                           | 0 ± 0                                                     | 0.088 ± 0.008bc                                           | 0.049 ± 0.005cd                                           |
| Total sesquiterpene |                                     |                                   | —                                                         | 0.442 ± 0.044a                                            | 0.123 ± 0.011b                                            | 0.047 ± 0.004cd                                           | 0 ± 0                                                     | 0.088 ± 0.008bc                                           | 0.049 ± 0.005cd                                           |

|                            |                                           |                                               |                  |                 |                 |                |                  |                 |                 |
|----------------------------|-------------------------------------------|-----------------------------------------------|------------------|-----------------|-----------------|----------------|------------------|-----------------|-----------------|
| Aromatic compounds         | Benzene                                   | C <sub>6</sub> H <sub>6</sub>                 | 0.035 ± 0.005bc  | 0.044 ± 0.004ab | 0.031 ± 0.003c  | 0.024 ± 0.002c | 0.034 ± 0.004bc  | 0.045 ± 0.004a  | 0.026 ± 0.002c  |
|                            | Toluene                                   | C <sub>7</sub> H <sub>8</sub>                 | 0.035 ± 0.005ab  | 0.046 ± 0.005ab | 0.032 ± 0.003ab | 0.027 ± 0.004b | 0.036 ± 0.005ab  | 0.059 ± 0.008a  | 0.059 ± 0.019a  |
|                            | Ethylbenzene                              | C <sub>8</sub> H <sub>10</sub>                | 0.034 ± 0.005ab  | 0.044 ± 0.004a  | 0.031 ± 0.003b  | 0.024 ± 0.002b | 0.035 ± 0.004ab  | 0.045 ± 0.004a  | 0.028 ± 0.003b  |
|                            | p-xylene                                  | C <sub>8</sub> H <sub>10</sub>                | 0.035 ± 0.005ab  | 0.045 ± 0.004a  | 0.031 ± 0.003b  | 0.025 ± 0.002b | 0.036 ± 0.005ab  | 0.045 ± 0.004a  | 0.034 ± 0.006ab |
|                            | o-xylene                                  | C <sub>8</sub> H <sub>10</sub>                | 0.034 ± 0.005ab  | 0.044 ± 0.004a  | 0.031 ± 0.003b  | 0.024 ± 0.002b | 0.034 ± 0.004ab  | 0.044 ± 0.004a  | 0.027 ± 0.002b  |
|                            | Styrene                                   | C <sub>8</sub> H <sub>8</sub>                 | 0.034 ± 0.005ab  | 0.044 ± 0.004a  | —               | —              | 0.034 ± 0.004ab  | 0.044 ± 0.004a  | 0.025 ± 0.002b  |
|                            | 1,2,3-trimethyl-benzene                   | C <sub>9</sub> H <sub>12</sub>                | —                | —               | —               | —              | —                | —               | 0.025 ± 0.002a  |
|                            | Mesitylene                                | C <sub>9</sub> H <sub>12</sub>                | —                | —               | —               | —              | —                | —               | 0.024 ± 0.002a  |
|                            | 1-phenyl-1-pentanone                      | C <sub>11</sub> H <sub>14</sub> O             | —                | —               | —               | —              | —                | —               | 0.024 ± 0.002a  |
|                            | $\alpha$ -methylstyrene                   | C <sub>9</sub> H <sub>10</sub>                | 0.035 ± 0.005a   | —               | —               | 0.024 ± 0.002b | 0.034 ± 0.004a   | —               | —               |
|                            | Benzaldehyde                              | C <sub>7</sub> H <sub>6</sub> O               | —                | 0.044 ± 0.004a  | 0.031 ± 0.003b  | —              | —                | —               | 0.025 ± 0.002c  |
|                            | 1-methyl-4-(1-methylethenyl)-benzene      | C <sub>10</sub> H <sub>12</sub>               | —                | 0.043 ± 0.004a  | 0.031 ± 0.003b  | 0.025 ± 0.002c | —                | —               | —               |
|                            | $\alpha,\alpha$ -dimethyl-benzenemethanol | C <sub>9</sub> H <sub>12</sub> O              | 0.035 ± 0.005b   | 0.044 ± 0.004a  | —               | —              | —                | —               | —               |
| Total aromatic compounds   |                                           |                                               | 0.276 ± 0.036bc  | 0.395 ± 0.038a  | 0.247 ± 0.022bc | 0.196 ± 0.016c | 0.278 ± 0.035bc  | 0.283 ± 0.024bc | 0.296 ± 0.032b  |
| Green leaf volatiles       | 2-methyl-3-buten-2-ol                     | C <sub>5</sub> H <sub>10</sub> O              | 0.036 ± 0.005a   | —               | —               | —              | —                | —               | —               |
|                            | 3-octanol                                 | C <sub>8</sub> H <sub>18</sub> O              | —                | —               | —               | —              | —                | —               | 0.024 ± 0.002a  |
|                            | (Z)-3-hexen-1-ol                          | C <sub>6</sub> H <sub>12</sub> O              | —                | —               | —               | —              | —                | —               | 0.024 ± 0.002a  |
|                            | (E)-2-octen-1-ol                          | C <sub>8</sub> H <sub>16</sub> O              | —                | —               | —               | —              | —                | 0.058 ± 0.014a  | —               |
|                            | (E)-3-hexen-1-ol, acetate                 | C <sub>8</sub> H <sub>14</sub> O <sub>2</sub> | 0.058 ± 0.014a   | —               | 0.033 ± 0.003b  | —              | —                | 0.058 ± 0.009a  | 0.028 ± 0.003b  |
|                            | Acetic acid, hexyl ester                  | C <sub>8</sub> H <sub>16</sub> O <sub>2</sub> | —                | —               | —               | —              | —                | 0.045 ± 0.004a  | —               |
|                            | (E)-2-hepten-1-ol                         | C <sub>7</sub> H <sub>14</sub> O              | 0.035 ± 0.005bc  | 0.043 ± 0.004ab | 0.031 ± 0.003cd | 0.024 ± 0.002d | —                | 0.044 ± 0.004a  | 0.024 ± 0.002d  |
|                            | (E)-2-nonen-1-ol                          | C <sub>9</sub> H <sub>18</sub> O              | —                | —               | —               | —              | —                | —               | 0.025 ± 0.003a  |
|                            | (E)-3-nonen-1-ol                          | C <sub>9</sub> H <sub>18</sub> O              | 0.035 ± 0.005a   | 0.044 ± 0.004a  | 0.036 ± 0.003a  | 0.024 ± 0.002b | —                | 0.044 ± 0.004a  | —               |
|                            | 3-methyl-6-hepten-1-ol                    | C <sub>8</sub> H <sub>16</sub> O              | —                | —               | 0.031 ± 0.003a  | —              | —                | —               | —               |
|                            | (Z)-3-nonen-1-ol                          | C <sub>9</sub> H <sub>18</sub> O              | 0.034 ± 0.005b   | 0.044 ± 0.004a  | 0.031 ± 0.003bc | 0.024 ± 0.002c | —                | 0.044 ± 0.004a  | 0.024 ± 0.002c  |
| Total green leaf volatiles |                                           |                                               | 0.197 ± 0.031b   | 0.131 ± 0.013c  | 0.161 ± 0.014bc | 0.071 ± 0.005d | 0 ± 0            | 0.292 ± 0.027a  | 0.174 ± 0.016bc |
| Other compounds            | 2-butene                                  | C <sub>4</sub> H <sub>8</sub>                 | —                | —               | —               | 0.024 ± 0.002a | —                | —               | 0.025 ± 0.002a  |
|                            | 2-methyl-1-butanol                        | C <sub>5</sub> H <sub>12</sub> O              | —                | —               | —               | 0.024 ± 0.002b | —                | 0.044 ± 0.004a  | 0.025 ± 0.002b  |
|                            | Ethanol                                   | C <sub>2</sub> H <sub>6</sub> O               | —                | —               | 0.031 ± 0.003b  | 0.024 ± 0.002c | —                | 0.044 ± 0.004a  | —               |
|                            | Acetone                                   | C <sub>3</sub> H <sub>6</sub> O               | 0.035 ± 0.005abc | 0.046 ± 0.004ab | 0.032 ± 0.003bc | 0.025 ± 0.002c | 0.038 ± 0.004abc | 0.048 ± 0.005a  | 0.04 ± 0.007ab  |
|                            | Acetic acid, methyl ester                 | C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>  | —                | —               | —               | —              | —                | —               | 0.025 ± 0.002a  |

|                             |                                               |                 |                 |                 |                |                 |                 |                 |
|-----------------------------|-----------------------------------------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| 3-pentanol                  | C <sub>5</sub> H <sub>12</sub> O              | —               | 0.043 ± 0.004a  | —               | 0.024 ± 0.002c | 0.034 ± 0.004b  | —               | —               |
| 2-methyl-furan              | C <sub>5</sub> H <sub>6</sub> O               | —               | 0.044 ± 0.004a  | —               | —              | —               | 0.044 ± 0.004a  | 0.025 ± 0.002b  |
| (S)-1,3-butanediol          | C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> | 0.034 ± 0.005b  | —               | 0.031 ± 0.003bc | —              | —               | 0.045 ± 0.004a  | 0.025 ± 0.002c  |
| Ethyl acetate               | C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>  | —               | —               | —               | —              | —               | —               | 0.025 ± 0.003a  |
| 2-Butanol                   | C <sub>4</sub> H <sub>10</sub> O              | —               | —               | —               | —              | —               | —               | 0.025 ± 0.002a  |
| 3-methyl-hexane             | C <sub>7</sub> H <sub>16</sub>                | 0.035 ± 0.004ab | 0.044 ± 0.005a  | —               | 0.024 ± 0.002c | 0.035 ± 0.004ab | 0.044 ± 0.004a  | 0.025 ± 0.002bc |
| Bi-2-cyclohexen-1-yl        | C <sub>12</sub> H <sub>18</sub>               | —               | —               | —               | —              | —               | —               | 0.025 ± 0.002a  |
| 2,3,4-trimethyl-hexane      | C <sub>9</sub> H <sub>20</sub>                | —               | —               | —               | —              | 0.034 ± 0.004a  | —               | —               |
| 2,2,3,4-tetramethyl-pentane | C <sub>9</sub> H <sub>20</sub>                | —               | —               | —               | —              | 0.035 ± 0.004a  | —               | 0.025 ± 0.003b  |
| 2,7-dimethyl-1-octanol      | C <sub>10</sub> H <sub>22</sub> O             | —               | 0.044 ± 0.004a  | 0.031 ± 0.003b  | —              | 0.034 ± 0.004ab | 0.044 ± 0.004a  | 0.031 ± 0.007b  |
| 2-propyl-1-heptanol         | C <sub>10</sub> H <sub>22</sub> O             | —               | 0.043 ± 0.004a  | 0.031 ± 0.003bc | 0.024 ± 0.002c | —               | —               | 0.024 ± 0.002c  |
| 2-butyl-1-octanol           | C <sub>12</sub> H <sub>26</sub> O             | 0.035 ± 0.005bc | 0.046 ± 0.005a  | 0.031 ± 0.003c  | 0.024 ± 0.002c | —               | 0.045 ± 0.004ab | 0.024 ± 0.002c  |
| 4-methyl-1-undecene         | C <sub>12</sub> H <sub>24</sub>               | —               | —               | 0.031 ± 0.003a  | —              | —               | —               | —               |
| Total other compounds       |                                               | 0.138 ± 0.018b  | 0.31 ± 0.03a    | 0.217 ± 0.019b  | 0.192 ± 0.015b | 0.313 ± 0.039a  | 0.357 ± 0.031a  | 0.369 ± 0.038a  |
| Total BVOCs                 |                                               | 2.683 ± 0.257cd | 3.373 ± 0.386cd | 5.791 ± 0.8b    | 1.635 ± 0.115d | 2.039 ± 0.337d  | 7.769 ± 0.989a  | 4.391 ± 0.922bc |

Values are represented as the mean ± standard error (SE) ( $n = 6$ ). Different lowercase letters within a row indicate significant differences among different plant species bases on Tukey's test ( $p < 0.05$ ). “—” indicates was not detected.