

## Supplementary Material

### Can aged *Camellia oleifera* oil truly be used to treat atopic dermatitis?

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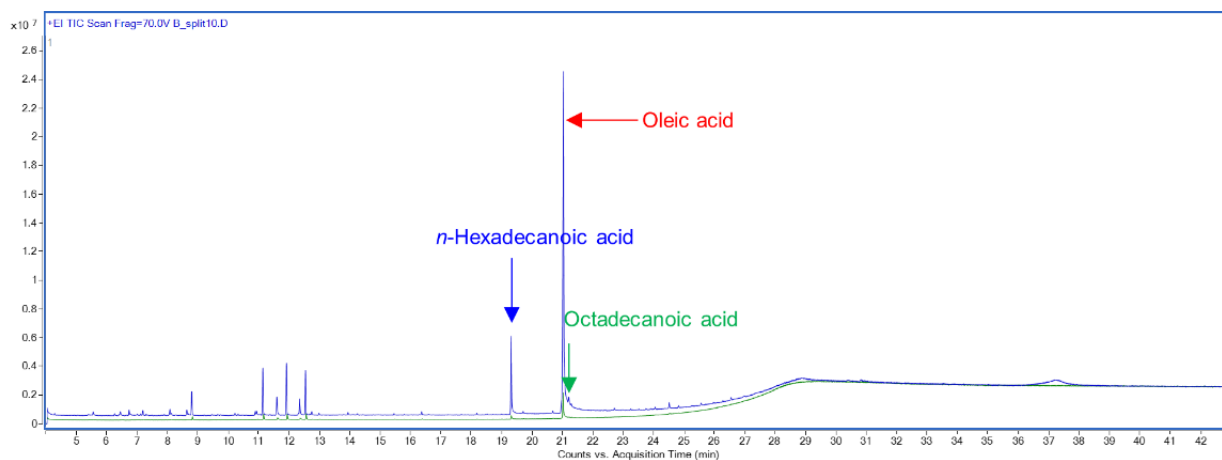
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#### 1 Supplementary Figures and Tables

**Fig 1S** TIC overlap plots of aged COO at 10:1 (blue) and 50:1 (green) split ratio, from which more peaks were detected with a split ratio at 10:1.



**Table 1S** Compositions of aged COO.

| Retention time/min | Compound Name                        | Formula                                       | CAS#       | Aged COO |
|--------------------|--------------------------------------|-----------------------------------------------|------------|----------|
| 4.05               | Hexane, 2,4-dimethyl-                | C <sub>8</sub> H <sub>18</sub>                | 589-43-5   | 1.63     |
| 4.29               | Hexane, 2,3,5-trimethyl-             | C <sub>9</sub> H <sub>20</sub>                | 1069-53-0  | 0.22     |
| 5.42               | 2,3-Octanedione                      | C <sub>8</sub> H <sub>14</sub> O <sub>2</sub> | 585-25-1   | 0.15     |
| 5.56               | Heptanal                             | C <sub>7</sub> H <sub>14</sub> O              | 111-71-7   | 0.80     |
| 6.26               | Pentanal, 2,2-dimethyl-              | C <sub>7</sub> H <sub>14</sub> O              | 14250-88-5 | 0.26     |
| 6.47               | 2-Heptenal, ( <i>E</i> )-            | C <sub>7</sub> H <sub>12</sub> O              | 18829-55-5 | 0.63     |
| 6.74               | Hexanoic acid                        | C <sub>6</sub> H <sub>12</sub> O <sub>2</sub> | 142-62-1   | 0.98     |
| 6.97               | 4-Octanol                            | C <sub>8</sub> H <sub>18</sub> O              | 589-62-8   | 0.06     |
| 7.01               | Furan, 2-pentyl-                     | C <sub>9</sub> H <sub>14</sub> O              | 3777-69-3  | 0.17     |
| 7.12               | Decane                               | C <sub>10</sub> H <sub>22</sub>               | 124-18-5   | 0.18     |
| 7.19               | Octanal                              | C <sub>8</sub> H <sub>16</sub> O              | 124-13-0   | 0.63     |
| 7.90               | Cyclopentane, 1-ethyl-1-methyl-      | C <sub>8</sub> H <sub>16</sub>                | 16747-50-5 | 0.19     |
| 8.08               | 2-Octenal, ( <i>E</i> )-             | C <sub>8</sub> H <sub>14</sub> O              | 2548-87-0  | 0.78     |
| 8.13               | 2,5-Hexanedione                      | C <sub>6</sub> H <sub>10</sub> O <sub>2</sub> | 110-13-4   | 0.36     |
| 8.27               | Cyclopropane, pentyl-                | C <sub>8</sub> H <sub>16</sub>                | 2511-91-3  | 0.16     |
| 8.64               | Furan, 2-butyltetrahydro-            | C <sub>8</sub> H <sub>16</sub> O              | 1004-29-1  | 0.66     |
| 8.80               | Nonanal                              | C <sub>9</sub> H <sub>18</sub> O              | 124-19-6   | 2.34     |
| 9.19               | Cyclopropane, pentyl-                | C <sub>8</sub> H <sub>16</sub>                | 2511-91-3  | 0.06     |
| 9.66               | 2-Nonenal, ( <i>E</i> )-             | C <sub>9</sub> H <sub>16</sub> O              | 18829-56-6 | 0.29     |
| 10.22              | Undecane                             | C <sub>11</sub> H <sub>24</sub>               | 1120-21-4  | 0.25     |
| 10.33              | Decanal                              | C <sub>10</sub> H <sub>20</sub> O             | 112-31-2   | 0.51     |
| 10.95              | 2-Decenal, ( <i>Z</i> )-             | C <sub>10</sub> H <sub>18</sub> O             | 2497-25-8  | 0.13     |
| 11.07              | Benzene, 1,3-bis(1,1-dimethylethyl)- | C <sub>14</sub> H <sub>22</sub>               | 1014-60-4  | 4.33     |

|       |                                                                   |                                                |            |       |
|-------|-------------------------------------------------------------------|------------------------------------------------|------------|-------|
| 11.14 | 2-Decenal, ( <i>E</i> )-                                          | C <sub>10</sub> H <sub>18</sub> O              | 3913-81-3  | 2.52  |
| 11.92 | 2,4-Decadienal, ( <i>E,E</i> )-                                   | C <sub>10</sub> H <sub>16</sub> O              | 25152-84-5 | 5.04  |
| 12.55 | 2-Undecenal, ( <i>Z</i> )-                                        | C <sub>11</sub> H <sub>20</sub> O              | 53448-07-0 | 2.13  |
| 12.55 | 2-Undecenal, ( <i>E</i> )-                                        | C <sub>11</sub> H <sub>20</sub> O              | 2463-77-6  | 4.12  |
| 12.69 | 1H-Imidazole                                                      | C <sub>3</sub> H <sub>4</sub> N <sub>2</sub>   | 288-32-4   | 0.11  |
| 12.75 | 1H-Pyrrole, 2,5-dihydro-                                          | C <sub>4</sub> H <sub>7</sub> N                | 109-96-6   | 0.48  |
| 12.98 | Hexadecane                                                        | C <sub>16</sub> H <sub>34</sub>                | 544-76-3   | 0.26  |
| 13.94 | Ethanone, 1-(1,2,2,3-tetramethylcyclopentyl)-, (1 <i>R</i> -cis)- | C <sub>11</sub> H <sub>20</sub> O              | 59642-07-8 | 0.36  |
| 14.26 | Undecane                                                          | C <sub>11</sub> H <sub>24</sub>                | 1120-21-4  | 0.22  |
| 15.46 | Decane, 2,6,8-trimethyl-                                          | C <sub>13</sub> H <sub>28</sub>                | 62108-26-3 | 0.13  |
| 16.36 | 1-Heptadecene (Uncertain)                                         | C <sub>17</sub> H <sub>34</sub>                | /          | 0.38  |
| 19.31 | <i>n</i> -Hexadecanoic acid                                       | C <sub>16</sub> H <sub>32</sub> O <sub>2</sub> | 57-10-3    | 8.97  |
| 19.71 | 13-Octadecenal, ( <i>Z</i> )-                                     | C <sub>18</sub> H <sub>34</sub> O              | 58594-45-9 | 0.40  |
| 20.68 | 9-Octadecenoic acid ( <i>Z</i> )-, methyl ester                   | C <sub>19</sub> H <sub>36</sub> O <sub>2</sub> | 112-62-9   | 0.33  |
| 21.02 | Oleic Acid                                                        | C <sub>18</sub> H <sub>34</sub> O <sub>2</sub> | 112-80-1   | 55.37 |
| 21.20 | Octadecanoic acid                                                 | C <sub>18</sub> H <sub>36</sub> O <sub>2</sub> | 57-11-4    | 1.64  |
| 24.51 | trans-9-Octadecenoic acid, pentyl ester (Uncertain)               | C <sub>23</sub> H <sub>44</sub> O <sub>2</sub> | /          | 1.05  |
| 24.82 | Heptacosane (Uncertain)                                           | C <sub>27</sub> H <sub>56</sub>                | /          | 0.33  |

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**Table 2S** Composition analysis of different categories of aged COO.

|          | Fatty acid | Ester | Hydrocarbon | Aldehydes and Ketones | Other (alcohols or nitrogen) | Total   |
|----------|------------|-------|-------------|-----------------------|------------------------------|---------|
| Aged COO | 66.96%     | 1.38% | 4.52%       | 25.67%                | 1.48%                        | 100.01% |