

# Artichoke By-Products as Natural Source of Phenolic Food Ingredient

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**Table S1.** Peak areas of the identified compounds in *C. scolymus* PLE extracts expressed as mean  $\pm$  standard deviation of the three analyses replicates.

| Proposed compound     | Peak area $\times$ E+4 |                |                 |                |                 |                |              |                |                |
|-----------------------|------------------------|----------------|-----------------|----------------|-----------------|----------------|--------------|----------------|----------------|
|                       | PLE 1                  | PLE 2          | PLE 3           | PLE 4          | PLE 5           | PLE 6          | PLE 7        | PLE 8          | PLE 9          |
| <b>Phenolic acids</b> |                        |                |                 |                |                 |                |              |                |                |
| Chlorogenic acid      | 265 $\pm$ 20           | 102 $\pm$ 8    | 124 $\pm$ 10    | 217 $\pm$ 24   | 73 $\pm$ 2      | 134 $\pm$ 9    | 211 $\pm$ 15 | 164 $\pm$ 3    | 114 $\pm$ 13   |
| Rosamarinic acid      | 8.4 $\pm$ 0.2          | ND             | ND              | 11.6 $\pm$ 0.6 | 1.5 $\pm$ 0.2   | 5.5 $\pm$ 0.3  | 13 $\pm$ 3   | 3.4 $\pm$ 0.2  | 6.5 $\pm$ 0.3  |
| Cynarin or isomer 1   | 392 $\pm$ 15           | 66 $\pm$ 2     | 120 $\pm$ 2     | 423 $\pm$ 3    | 47 $\pm$ 3      | 156 $\pm$ 4    | 319 $\pm$ 9  | 104 $\pm$ 6    | 149 $\pm$ 9    |
| Cynarin or isomer 2   | 121 $\pm$ 1            | 21.3 $\pm$ 0.8 | 42 $\pm$ 2      | 76 $\pm$ 3     | 12 $\pm$ 4      | 48 $\pm$ 2     | 51 $\pm$ 4   | 30 $\pm$ 1     | 21 $\pm$ 2     |
| <b>Flavonoids</b>     |                        |                |                 |                |                 |                |              |                |                |
| Luteolin-rutinoside   | 64 $\pm$ 1             | 11.6 $\pm$ 0.4 | 13.8 $\pm$ 0.7  | 52 $\pm$ 3     | 9.4 $\pm$ 0.3   | 21.7 $\pm$ 0.7 | 44 $\pm$ 2   | 16.2 $\pm$ 0.5 | 22 $\pm$ 2     |
| Luteolin-glucoside    | 93.7 $\pm$ 0.7         | 14 $\pm$ 1     | 19 $\pm$ 1      | 76.1 $\pm$ 0.9 | 10.2 $\pm$ 0.6  | 30.7 $\pm$ 0.8 | 51 $\pm$ 4   | 18.0 $\pm$ 0.8 | 17.5 $\pm$ 0.9 |
| Apigenin-rutinoside   | 39 $\pm$ 1             | 5.6 $\pm$ 0.2  | 7.5 $\pm$ 0.2   | 37 $\pm$ 1     | 45.5 $\pm$ 0.09 | 12.2 $\pm$ 0.2 | 27 $\pm$ 1   | 8.8 $\pm$ 0.2  | 12.5 $\pm$ 0.5 |
| Apigenin-glucoside    | 41 $\pm$ 2             | 6.2 $\pm$ 0.2  | 6.9 $\pm$ 0.2   | 31 $\pm$ 2     | 3.9 $\pm$ 0.1   | 12.3 $\pm$ 0.5 | 21 $\pm$ 2   | 6.7 $\pm$ 0.3  | 5.7 $\pm$ 0.3  |
| Luteolin              | 49 $\pm$ 2             | 19 $\pm$ 1     | 36 $\pm$ 2      | 36 $\pm$ 1     | 5.4 $\pm$ 0.4   | 15.7 $\pm$ 0.4 | 24 $\pm$ 3   | 6.0 $\pm$ 0.1  | 5.7 $\pm$ 0.3  |
| Apigenin              | 170 $\pm$ 10           | 32.9 $\pm$ 0.3 | 66 $\pm$ 1      | 114 $\pm$ 5    | 10.5 $\pm$ 0.7  | 44 $\pm$ 1     | 86 $\pm$ 6   | 9.8 $\pm$ 0.2  | 11.4 $\pm$ 0.6 |
| Methylapigenin        | 31.02 $\pm$ 0.03       | 4.6 $\pm$ 0.05 | 7.53 $\pm$ 0.02 | 18 $\pm$ 2     | ND              | 8.7 $\pm$ 0.2  | ND           | ND             | ND             |

ND not quantified.

**Table S2.** Statistical data of the PLE extraction conditions for individual phenolic compounds.

| Extraction conditions | Chlorogenic acid | Rosamarinic acid | Cynarin isomer 1 | Luteolin-rutinoside | Luteolin-glucoside | Cynarin isomer 2 | Apigenin-rutinoside | Apigenin-glucoside | Luteolin | Apigenin | Methylapigenin |
|-----------------------|------------------|------------------|------------------|---------------------|--------------------|------------------|---------------------|--------------------|----------|----------|----------------|
| PLE 2-<br>PLE 1       | 1                | 1                | 1                | 1                   | 1                  | 1                | 1                   | 1                  | 1        | 1        | 1              |
| PLE 3-<br>PLE 1       | 1                | 1                | 1                | 1                   | 1                  | 1                | 1                   | 1                  | 1        | 1        | 1              |
| PLE 3-<br>PLE 2       | 0                | 0                | 1                | 0                   | 1                  | 1                | 0                   | 0                  | 1        | 1        | 1              |

[illegible]

|                         |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|
| <b>PLE 9-<br/>PLE 1</b> | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| <b>PLE 9-<br/>PLE 2</b> | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| <b>PLE 9-<br/>PLE 3</b> | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| <b>PLE 9-<br/>PLE 4</b> | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| <b>PLE 9-<br/>PLE 5</b> | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| <b>PLE 9-<br/>PLE 6</b> | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| <b>PLE 9-<br/>PLE 7</b> | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| <b>PLE 9-<br/>PLE 8</b> | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |

1 indicated that the means difference was significant at the 0.05 level.

0 indicated that the means difference was not significant at the 0.05 level.