**Supplementary information**

**Appendix. Supplementary data**

**Table S1.** Components identified in SLPN by LC-MS.

**Figure S1.** Photograph of *Panax notoginseng* plants.

**Figure S2.** Base peak ion chromatogram (BPI) of SLPN analyzed by UPLC - MS (A), principal components of instant beverage identified by HPLC-ELSD (B).

**Table S1.** Components identified in SLPN by LC-MS.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Component | Retention time (min) | Formula | Observed (*m/z*) | Mass error  (m Da) | Mass error  (ppm) | Adducts |
| 1 | Dencichine | 0.66 | C5H8N2O5 | 175.0357 | -0.3 | -1.7 | -H |
| 2 | Quercetin-3-O-β-D-galactose (2⭢1) glucoside | 2.84 | C27H30O17 | 625.1461 | -1.4 | -0.8 | -H |
| 3 | Kaempferol-3-O-β-D-galactose (2⭢1) glucoside | 3.18 | C27H30O16 | 609.1522 | -1.3 | -1.1 | -H |
| 4 | Ginsenoside-La | 7.2 | C42H72O14 | 845.4891 | -1.3 | -1.5 | +HCOO |
| 5 | Floralginsenoside P | 9.63 | C53H90O23 | 1139.5840 | -1.6 | -1.4 | +HCOO, -H |
| 6 | Notoginsenoside D | 10.66 | C64H108O31 | 1417.6830 | -3 | -2.1 | +HCOO, -H |
| 7 | Ginsenoside I (24S or 24R) | 11.06 | C48H82O20 | 977.5307 | -1.9 | -2 | -H |
| 8 | Chikusetsusaponin L5 | 11.72 | C46H78O17 | 947.5195 | -2.6 | -2.8 | +HCOO |
| 9 | Notoginsenoside R4 | 12.16 | C59H100O27 | 1285.6410 | -2.8 | -2.2 | +HCOO, -H |
| 10 | Notoginsenoside R1 | 12.54 | C47H80O18 | 977.5298 | -2.9 | -2.9 | +HCOO |
| 11 | Floralquinquenoside B | 12.55 | C42H72O15 | 815.4780 | -1.8 | -2.2 | -H |
| 12 | Ginsenoside F3 | 12.81 | C41H70O13 | 815.4786 | -1.3 | -1.5 | +HCOO |
| 13 | Ginsenoside Ra1 | 13.35 | C58H98O26 | 1255.6290 | -3.4 | -2.7 | +HCOO, -H |
| 14 | Malonylginsenoside Ra3 | 13.7 | C62H102O30 | 1325.6350 | -3.0 | -2.3 | -H |
| 15 | M-notoginsenoside R4 | 13.9 | C62H102O30 | 1325.6350 | -3.3 | -2.5 | -H |
| 16 | Yesanchinoside J | 14.15 | C61H102O28 | 1281.6450 | -3.4 | -2.6 | -H |
| 17 | Quinquefoloside-Lc | 14.28 | C54H92O23 | 1153.5980 | -3 | -2.6 | +HCOO, -H |
| 18 | Quinquenoside R1 | 14.57 | C56H94O24 | 1195.6080 | -4.2 | -3.5 | +HCOO, -H |
| 19 | Notoginsenoside FP2 | 14.89 | C58H98O26 | 1255.6300 | -2.7 | -2.2 | +HCOO, -H |
| 20 | Malnoylfloralginsenosides Rb1 | 15.26 | C57H94O26 | 1193.5940 | -2.5 | -2.1 | -H |
| 21 | Notoginsenoside Q | 15.71 | C63H106O30 | 1387.6730 | -2.1 | -1.5 | +HCOO, -H |
| 22 | Vinaginsenoside R20 | 15.92 | C48H80O20 | 975.5150 | -2 | -2.1 | -H |
| 23 | Notoginsenoside A | 16.09 | C54H92O24 | 1123.5890 | -1.7 | -1.5 | -H |
| 24 | Ginsenoside F1 | 16.41 | C36H62O9 | 683.4376 | 0.0 | 0.0 | +HCOO |
| 25 | Chikusetsusaponin FK6 | 16.62 | C53H90O22 | 1123.5900 | -1.0 | -0.9 | +HCOO, -H |
| 26 | Ginsenoside Rs1 | 17.3 | C55H92O23 | 1119.5930 | -2.2 | -2.0 | -H |
| 27 | Malnoylfloralginsenosides Rc1 | 17.3 | C56H92O25 | 1163.5840 | -1.7 | -1.5 | -H |
| 28 | Malonylginsenoside Rb2 | 17.4 | C56H92O25 | 1163.5840 | -1.8 | -1.5 | -H |
| 29 | Pseudoginsenoside F8 | 17.68 | C55H92O23 | 1119.5950 | -0.6 | -0.5 | -H |
| 30 | Notoginsenoside K | 18.35 | C48H82O18 | 991.5471 | -1.2 | -1.2 | +HCOO, -H |
| 31 | Malnoylfloralginsenosides Rd1 | 18.44 | C51H84O21 | 1031.5410 | -2.3 | -2.2 | -H |
| 32 | Malnoylfloralginsenosides Re3 | 18.44 | C51H84O21 | 1031.5420 | -1.6 | -1.5 | -H |
| 33 | Notoginsenoside P | 19.03 | C52H88O21 | 1093.5780 | -2.3 | -2.1 | +HCOO, -H |
| 34 | Floralginsenoside O | 19.42 | C53H90O24 | 1155.5720 | -8.9 | -7.7 | +HCOO |
| 35 | Malnoylfloralginsenosides Rd6 | 19.57 | C54H86O24 | 1117.5420 | -1.3 | -1.1 | -H |
| 36 | Quinquefoloside Lb | 19.85 | C53H88O22 | 1075.5680 | -1.9 | -1.8 | -H |
| 37 | Notoginsenoside R6 | 19.95 | C48H82O19 | 961.5350 | -2.8 | -2.9 | -H |
| 38 | Notoginsenoside Fe | 20.71 | C47H80O17 | 961.5363 | -1.5 | -1.5 | +HCOO, -H |
| 39 | Ginsenoside Rb1 | 20.71 | C54H92O23 | 1107.5940 | -1.7 | -1.5 | -H |
| 40 | Ginsenoside F2 | 22.4 | C42H72O13 | 829.4947 | -0.7 | -0.9 | +HCOO |
| 41 | Notoginsenoside ST - 2 | 22.5 | C43H74O15 | 829.4949 | -0.6 | -0.8 | -H |
| 42 | Ginsenoside Rs3 | 22.72 | C44H74O14 | 871.5049 | -1.2 | -1.4 | +HCOO, -H |
| 43 | Ginsenoside Rs4 | 23.32 | C44H72O14 | 869.4895 | -0.9 | -1.0 | +HCOO |
| 44 | 24(R) - Pseudoginsenoside F11 | 23.72 | C42H72O14 | 799.4845 | -0.4 | -0.5 | -H |
| 45 | Gypenoside XIII | 24.61 | C41H70O12 | 799.4847 | -0.3 | -0.3 | +HCOO, -H |
| 46 | 24(R) - Vinaginsenoside R1 | 25 | C44H74O15 | 841.4942 | -1.3 | -1.5 | -H |

树上的花朵

中度可信度描述已自动生成

**Figure S1.** Photograph of *Panax notoginseng* plants



**Figure S2.** Base peak ion chromatogram (BPI) of SLPN analyzed by UPLC - MS (A), principal components of SLPN-instant beverage identified by HPLC-ELSD (B).