Table S1. Sum of carotenoids (free and esterified) organized by carotenoid species and percentage of contribution of each species to total carotenoids in direct extracts of astringent persimmon (*Diospyros Kaki, L.*) cv. Rojo Brillante submitted to pasteurization (85°C, 15 min) and high-pressure processing (HPP; 200 MPa, 25°C, 6 min).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Carotenoid content\* (µg/100 g fresh weight) | | | | | | | | |
|  | Whole Fruit | | | Pulp | | | Peel | | |
| Compound | Control | Pasteurization | HPP | Control | Pasteurization | HPP | Control | Pasteurization | HPP |
| 5,6-epoxy-α-carotene | 24.9±1.2 | 18.4±0.9 | 25.7±1.8 | 12.5±0.9 | 11.3±0.8 | 15.9±1.1 | 28.4±1.4 | 59.9±3.0 | 69.4±3.5 |
| (13Z)-α-carotene | 21.3±1.1 | 14.5±0.7 | 20.9±3.8 | 14.8±1.0 | 11.7±0.8 | 12.8±0.9 | 20.8±1.0 | 23.6±1.2 | 31.3±1.6 |
| (all-*E*)-α-carotene | 56.9±2.8 | 41.7±2.1 | 46.7±0.6 | 13.5±1.0 | 15.5±1.9 | 7.6±0.0 | 301.7±15.1 | 231.9±11.6 | 273.5±13.7 |
| (9Z)-α-carotene | 32.0±1.6 | 23.5±1.2 | 39.7±1.0 | 19.3±2.2 | 14.1±3.9 | 21.2±0.5 | 64.3±3.2 | 32.9±1.6 | 69.4±3.5 |
| **Σ α-carotene** | **135.1 (3.2%)** | **98.1 (3.1%)** | **133.0 (4.1%)** | **60.1 (2.8%)** | **52.6 (2.6%)** | **50.4 (2.3%)** | **415.2 (3.6%)** | **348.3 (2.9%)** | **438.6 (3.5%)** |
|  |  |  |  |  |  |  |  |  |  |
| (13Z)-β-carotene | 12.2±0.6 | 23.5±1.2 | 9.0±1.7 | 10.4±1.4 | 7.7±1.2 | 9.7±1.5 | 44.9±2.2 | 34.7±1.7 | 26.8±1.3 |
| (all-*E*)-β-carotene | 178.6±8.9 | 189.6±9.5 | 197.1±1.5 | 138.1±7.0 | 146.1±8.5 | 123.1±5.5 | 697.6±34.9 | 582.6±29.1 | 607.1±30.4 |
| (9Z)-β-carotene | 29.2±1.5 | 30.1±1.5 | 23.0±0.6 | 20.8±2.5 | 18.0±2.5 | 21.5±2.6 | 216.1±10.8 | 126.4±6.3 | 151.8±7.6 |
| **Σ ß-carotene** | **220.0 (5.3%)** | **243.2 (7.8%)** | **229.1 (7.1%)** | **169.3 (7.8%)** | **171.8 (8.3%)** | **154.3 (7.1%)** | **958.6 (8.3%)** | **743.7 (6.2%)** | **785.7 (6.2%)** |
|  |  |  |  |  |  |  |  |  |  |
| (all-*E*)-violaxanthin | tr. | tr. | tr. | tr. | tr. | tr. | 34.8±1.7 | 21.1±1.1 | 25.4±1.3 |
| (all-*E*)-violaxanthin laurate | 37.1±1.9 | 28.6±1.4 | 23.0±1.3 | 18.1±1.8 | 17.3±1.2 | 25.4±1.5 | 104.5±5.2 | 72.5±3.6 | 107.9±5.4 |
| (all-*E*)-violaxanthin butyrate | 45.8±2.3 | 38.1±1.9 | 34.2±8.2 | 40.4±6.1 | 31.7±4.7 | 37.7±5.7 | 217.1±10.9 | 157.3±7.9 | 199.0±10.0 |
| (all-*E*)-violaxanthin palmitate | 120.0±6.0 | 95.2±4.8 | 68.2±0.9 | 55.8±3.3 | 63.6±4.2 | 64.4±2.4 | 685.0±34.3 | 431.6±21.6 | 479.6±24.0 |
| **Σ violaxanthin** | **202.9 (4.9%)** | **161.9 (5.2%)** | **125.4 (3.9%)** | **114.3 (5.2%)** | **112.6 (5.5%)** | **127.5 (5.9%)** | **1041.4 (9.0%)** | **682.5 (5.7%)** | **811.9 (6.4%)** |
|  |  |  |  |  |  |  |  |  |  |
| (all-*E*)-neoxanthin dibutyrate | 90.0±4.5 | 71.7±3.6 | 35.5±3.3 | 45.3±2.7 | 35.8±4.2 | 38.5±1.1 | 404.9±20.2 | 299.5±15.0 | 358.1±17.9 |
| (9Z) neoxanthin dibutyrate | 133.5±6.7 | 105.9±5.3 | 92.0±3.6 | 33.6±2.0 | 20.3±3.7 | 27.7±4.2 | 404.9±15.2 | 362.9±18.1 | 370.3±18.5 |
| **Σ neoxanthin** | **223.5 (5.4%)** | **177.6 (5.7%)** | **127.5 (3.9%)** | **78.9 (3.6%)** | **56.1 (2.7%)** | **66.2 (3.0%)** | **809.8 (7.0%)** | **662.4 (5.5%)** | **728.4 (5.7%)** |
|  |  |  |  |  |  |  |  |  |  |
| (all-*E*)-zeaxanthin | 24.1±1.2 | 35.6±1.8 | 59.5±7.1 | 28.6±3.7 | 27.3±2.6 | 23.6±4.9 | 150.1±7.5 | 127.3±6.4 | 168.8±8.4 |
| (all-*E*)-zeaxanthin palmitate | 489.9±12.2 | 435.1±21.8 | 425.4±11.6 | 439.6±11.2 | 404.4±24.7 | 410.1±20.1 | 1343.2±67.2 | 1169.8±58.5 | 1143.4±57.2 |
| (all-*E*)-zeaxanthin myristate | 505.3±25.3 | 352.6±17.6 | 413.9±4.6 | 244.0±12.0 | 276.6±1.4 | 267.1±46.6 | 1105.3±55.3 | 1381.9±69.1 | 1477.9±73.9 |
| **Σ zeaxanthin** | **1019.3 (24.5%)** | **823.3 (26.4%)** | **898.8 (27.8%)** | **712.2 (32.6%)** | **708.3 (34.4%)** | **700.8 (32.2%)** | **2598.6 (22.4%)** | **2679.0 (22.2%)** | **2790.1 (22.0%)** |
|  |  |  |  |  |  |  |  |  |  |
| (all-*E*)-antheraxanthin | 37.1±1.9 | 16.7±0.8 | 24.0±2.0 | 26.8±1.2 | 16.1±1.6 | 19.2±0.9 | 53.4±2.7 | 35.6±1.8 | 37.5±1.9 |
| (all-*E*)-antheraxanthin 3-O-palmitate | 102.5±5.1 | 59.5±3.0 | 62.9±6.5 | 30.7±5.6 | 37.9±5.9 | 28.0±16.6 | 272.9±13.6 | 317.8±15.9 | 347.7±17.4 |
| (all-*E*)-antheraxanthin laurate-myristate | 81.8±4.1 | 47.6±2.4 | 47.9±6.4 | 20.9±2.4 | 37.3±0.2 | 34.4±9.3 | 218.3±10.9 | 221.4±11.1 | 224.2±11.2 |
| (all-*E*)-antheraxanthin myristate-palmitate | 279.2±14.0 | 190.4±9.5 | 217.1±6.8 | 65.6±2.8 | 56.4±2.3 | 49.2±8.9 | 686.2±34.3 | 991.7±49.6 | 1100.8±55.0 |
| **Σ antheraxanthin** | **500.6 (12.0%)** | **314.2 (10.1%)** | **351.9 (10.9%)** | **144.0 (6.6%)** | **147.7 (7.2%)** | **130.8 (6.0%)** | **1230.8 (10.6%)** | **1566.5 (13.0%)** | **1710.2 (13.5%)** |
|  |  |  |  |  |  |  |  |  |  |
| (all-*E*)-lutein | 41.5±1.9 | 30.2±1.5 | 41.7±2.4 | n.d. | n.d. | n.d. | 208.0±10.4 | 145.6±7.3 | 195.3±9.8 |
| (all-*E*)-lutein 3-O-palmitate | 662.3±33.1 | 405.7±20.3 | 433.0±8.9 | 340.6±11.5 | 244.5±25.3 | 331.2±20.8 | 1415.8±70.8 | 1603.6±80.2 | 1665.6±83.3 |
| (all-*E*)-lutein dimyristate | 141.8±7.1 | 103.8±5.2 | 80.3±4.1 | 81.8±3.8 | 52.9±5.0 | 80.8±10.2 | 318.5±15.9 | 264.4±13.2 | 271.9±13.6 |
| (all-*E*)-lutein 3-O-laurate-3’-O-myristate | 95.1±4.8 | 47.2±2.4 | 45.8±12.3 | 19.9±3.0 | 32.0±4.8 | 24.7±3.7 | 151.0±7.5 | 169.1±8.5 | 178.7±8.9 |
| **Σ lutein** | **940.7 (22.6%)** | **586.9 (18.8%)** | **600.8 (18.6%)** | **442.3 (20.3%)** | **329.4 (16.0%)** | **436.7 (20.1%)** | **2093.3 (18.0%)** | **2182.7 (18.1%)** | **2311.5 (18.2%)** |
|  |  |  |  |  |  |  |  |  |  |
| (all-*E*)-β-criptoxanthin | 35.9±1.8 | 34.8±1.7 | 41.2±0.2 | 30.6±1.5 | 27.1±1.5 | 34.9±1.4 | 81.3±4.1 | 89.7±4.5 | 97.7±4.9 |
| (all-*E*)-β-criptoxanthin laurate | 424.3±21.2 | 387.8±19.4 | 400.0±3.0 | 328.5±7.2 | 349.9±6.7 | 362.9±22.0 | 889.6±44.5 | 1099.1±55.0 | 1070.9±53.5 |
| (all-*E*)-β-criptoxanthin myristate | 95.1±4.8 | 53.4±2.7 | 80.5±2.6 | n.d. | n.d. | n.d. | 178.9±8.9 | 242.2±12.1 | 267.4±13.4 |
| (all-*E*)-β-criptoxanthin dipalmitate | 160.1±8.0 | 85.8±4.3 | 142.0±7.8 | 53.9±5.0 | 56.2±0.2 | 67.6±9.9 | 255.9±12.8 | 447.1±22.4 | 415.2±20.8 |
| (all-*E*)-β-criptoxanthin palmitate-stearate | 31.2±1.6 | 19.3±1.0 | 30.0±0.7 | 11.7±0.5 | 9.6±0.9 | 13.9±0.1 | 49.1±2.5 | 82.7±4.1 | 90.2±4.5 |
| **Σ ß-criptoxanthin** | **746.6 (17.9%)** | **581.1 (18.6%)** | **693.7 (21.4%)** | **424.7 (19.5%)** | **442.8 (21.5%)** | **479.3 (22.1%)** | **1454.8 (12.5%)** | **1960.8 (16.3%)** | **1941.4 (15.3%)** |
|  |  |  |  |  |  |  |  |  |  |
| lycopene | 176.1±8.8 | 131.3±6.6 | 77.6±21.5 | 37.5±2.5 | 37.2±4.2 | 27.2±5.7 | 1007.7±50.4 | 1214.6±60.7 | 1158.5±57.9 |
| **Σ lycopene** | **176.1 (4.2%)** | **131.3 (4.2%)** | **77.6 (2.4%)** | **37.5 (1.7%)** | **37.2 (1.8%)** | **27.2 (1.3%)** | **1007.7 (8.7%)** | **1214.6 (10.1%)** | **1158.5 (9.1%)** |