

**Table S1.** Spectroscopic characteristics of the main carotenoids identified in the chromatograms of the pulp extracts of Navel, Kirkwood, Valencia and Ruby orange varieties.

| <b>Carotenoid</b>            | <b>UV-Vis absorption maxima (nm)</b> |
|------------------------------|--------------------------------------|
| *Phytoene                    | 285                                  |
| *Phytofluene                 | 331, 346, 364                        |
| ζ-carotene                   | 296(Z), 379, 400, 425                |
| Neurosporene                 | s, 433, 461                          |
| *Lycopene                    | 446, 472, 504                        |
| δ-carotene                   | 431, 457, 487                        |
| *Lutein                      | s, 444, 472                          |
| *β-carotene                  | s, 452, 478                          |
| *β-cryptoxanthin             | 423, 450, 479                        |
| *Zeaxanthin                  | s, 450, 475                          |
| *Antheraxanthin              | s, 441, 469                          |
| *All- <i>E</i> -violaxanthin | 415, 438, 468                        |
| *9- <i>Z</i> -violaxanthin   | 328(Z), 412, 436, 464                |
| Luteoxanthin                 | 396, 421, 448                        |
| Mutatoxanthin                | s, 420, 445                          |

\*Identified using authentic standards; s, shoulder.