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Color Changes and Carotenoid Pigment Loss in Retentate from *Star Ruby* Grapefruit Juice under Refrigerated Conditions

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Retentate, highly pigmented pulp, from red colored *Star Ruby* grapefruit juice was placed in glass test tubes and stored in a refrigerated locker at 4.5°C for 8 weeks. The effect of light exposure (Cool White Fluorescence, 4150 K) on visual color changes using CIE color parameters (*L**, *a**, *b**, hue angle, and chroma), and predominant carotenoid pigment (lycopene, β-carotene) contents by HPLC were investigated during the storage period. The changes in color parameters in the retentate were small, causing a slight color shift. Gradual decline of CIE *a** value indicated the apparent loss of red character in the samples. Total carotenoid concentration gradually declined by more than 25% for both samples after 8 weeks of storage, but no significant effect of light-exposure on pigment loss was observed. Analysis of lycopene and β-carotene by HPLC indicated slight differences in loss but were not statistically significant under this condition.

Keywords: *Star Ruby* grapefruit, retentate, visual color changes, lycopene, β-carotene, HPLC

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