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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,  $\beta$ -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  $\beta$ -carotene by HPLC indicated slight differences in loss but were not statistically significant under this condition.

**Keywords:** <u>Star Ruby grapefruit</u>, retentate, visual color changes, lycopene,  $\beta$ -carotene, <u>HPLC</u>

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