

Exposure to light may adversely affect the quality of foods. This investigation of how light exposure affects citrus (orange and mandarin blend) juice in polyethylene terephthalate (PET) bottles demonstrated that the isomeric form of a compound in the juice changed during storage. This compound was identified as feruloylputrescine (FP; CAS: 501-13-3; $C_{14}H_{20}N_2O_3$) using LC/MS (Q-TOF). LC/MS and NMR measurements showed that the content of the original form, trans-FP, decreased as it isomerized to cis-FP during storage. This phenomenon could be observed in citrus fruit juices containing FP, such as orange and grapefruit juices. Therefore, determining the content of these two isomers of FP could be used to indicate the level of light exposure experienced by citrus fruit products.

Reversible isomerization of feruloylputrescine extracted from citrus juices was observed.