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Chemistry
Explore, 2010, Page No. 36-38
Vol. II No. 2

Determination of percentage of citric acid in fruit juices

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Citric acid is a weak organic acid found in all citrus fruits such as lemons limes, galgals and oranges. Citric acid act as good natural preservative and is also used to add acidic taste to food and soft drinks as it is non–toxic. Citrate is the most abundant organic ion found in the urine. In biochemistry it acts as an important intermediate in the citric acid cycle in the metabolism of living beings. Citric acid has an important component of co-enzyme A which has many metabolic roles, particularly in conversion of pyruvic acid into acetyl co-enzyme A and helps in the degradation of fatty acids. Knowledge of the citric acid content of beverages may be useful in nutrition therapy for calcium urolithiasisl, epically among patients with hypocitraturia. Citrate is a naturally occurring inhibitor of urinary crystallization and achieving therapeutic urinary citrate concentration is one clinical target in the medical management of calcium urolithiasisl. Citrate retards stones formation by inhibiting the calcium oxalate nucleation process and the growth of both calcium oxalate and calcium phosphate stones largely by its ability to bind with urinary calcium and reduces the free calcium contraction, thereby reducing the supersaturation of urine and other crystals and may enhance urinary citrate excretion . Medical interventions to increase urinary citrate are a primary focus in the medical managements of urolithiasis. Its deficiency obviously retards general and mental growth and induces, fatigue, reproductivdebility, fatty liver, graying of hair etc. In various citrus juices, citric acid content can be quantitatively measured. The procedure commonly used to do this take advantage of the known reactivity of citric acid with sodium hydroxide known as titration. We can calculate comparative accounts of the percentage of citric acid in various citrus fruits. Recently its has been shown that certain strains of Candida (a yeast) can produce citric acid from n- alkanes derived from petroleum. This method, when developed will revolutionize the citric acid industry.

Keywords: *Pyruvic acid, Co-Enzyme A, Candia, Urolithiasis, Hypocitraturia, Urinary Citrate.*