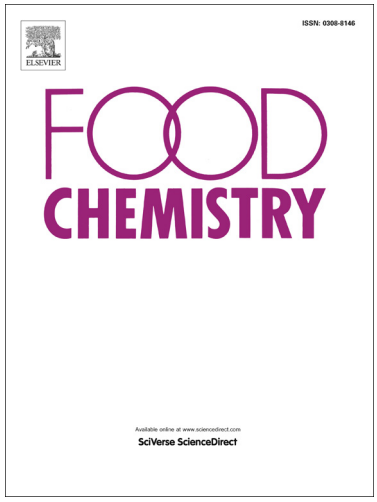

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Abstract

New stevia amino acid sweeteners, stevia glycine ethyl ester (ST-GL) and stevia L-alanine methyl ester (ST-GL), were synthesized and characterized by IR, NMR (^{1}H NMR and ^{13}C NMR) and elemental analysis. The purity of the new sweeteners was determined by HPLC and their sensory properties were evaluated relative to sucrose in an aqueous system. Furthermore, the stevia derivatives (ST-GL and ST-AL) were evaluated for their acute toxicity, melting point, solubility and heat stability. The novel sweeteners were stable in acidic, neutral or basic aqueous solutions maintained at 100°C for 2 h. The sweetness intensity rate of the novel sweeteners was higher than sucrose. Stevia amino acid (ST-GL and ST-AL) solutions had a clean sweetness taste without bitterness when compared to stevioside. The novel sweeteners can be utilized as non-caloric sweeteners in the production of low-calorie food.