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Abstract

Determination Of Energetic Content For 3,5-Dimethylisoxazole Like Antilipolytic Drug

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Abstract: Adipose tissue is the body's largest energy reservoir and a major source of metabolic fuel. In periods of food supply, energy is stored as triglycerides. The Lipolysis is defined as the hydrolytic cleavage of ester bonds in triglycerides, resulting in the generation of fatty acids and glycerol. The rate of lipolysis is regulated by lipolytic and antilipolytic hormones, they reduces the free fatty acid levels in the blood stream; insulin is the most potent antilipolytic hormone known. 3, 5-dimethylisoxazole has been investigated on lipid and carbohydrate metabolism and it showed an antilipolytic effect. Thermodynamic properties acquire growing importance in studies of biologically active substances. The biothermodynamics is being actively developed now. Therefore, it seems particularly important to study thermodynamic properties for this compound. The purpose of this work is to report experimental measurements of thermochemical properties of 3, 5-dimethylisoxazole. The energy of combustion was determined using a combustion static bomb calorimeter. The molar energy of combustion for the compound in the condensate phase at $T = 298.15$ K was $-(2900.02 \pm 1.48)$ kJ·mol⁻¹. From this value, the corresponding standard molar enthalpy of formation was obtained as $-(66.08 \pm 1.69)$ kJ·mol⁻¹.

Keywords: Energetic content, antilipolytic drug, 3,5-dimethylisoxazole

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