

**INFLUENCE OF DEGREE OF HYDROLYSIS ON THE CHEMICAL
COMPOSITIONS OF HYDROLYSATE PRODUCED FROM GREEN
MUSSEL (*Perna viridis*)**

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ABSTRACT

INFLUENCE OF DEGREE OF HYDROLYSIS ON THE CHEMICAL COMPOSITIONS OF HYDROLYSATE PRODUCED FROM GREEN MUSSEL (*Perna viridis*)

The chemical compositions of green mussel (*Perna viridis*) hydrolysate produced at different degree of hydrolysis were studied. Green mussel hydrolysate produced at pH 7 with E/S ratio 5% produced higher percentage yield with 37.00% but lower degree of hydrolysis (DH) with 28.33% as compared to that produced at pH 9 with E/S ratio 3%. The DH is affected by the methods used to calculate DH and amount of sodium hydroxide added during hydrolysis. Chemical analyses including protein, moisture, fat and ash showed significance difference ($p < 0.050$) between the two conditions of green mussel hydrolysate with lower DH producing lower proximate value. Several amino acids associated with bitterness were found in high amount in green mussel hydrolysate produced at pH 9 with E/S ratio 3% such as histidine, tyrosine, valine, methionine, lysine, isoleucine, and phenylalanine. Hydrophobic group analysis by using FTIR detected the presence of amine group which contributed to the bitterness of hydrolysate produced in both conditions. Compounds found in raw green mussel (*Perna viridis*), mussel hydrolysate produced at pH 7 with E/S ratio 5% and pH 9 with E/S ratio 3% are saturated fatty acids, monounsaturated fatty acids (MUFA), polyunsaturated fatty acids (PUFA), aldehyde, ketone, amide and esters. Raw green mussel produced high amount of Eicosapentaenoic acid (EPA) and Docosahexaenoic acid (DHA) which is not present in green mussel hydrolysate. Hydrolysate produced at pH 7 with E/S ratio 5% has better characteristics that has the potential to be used as flavouring agent due to its less bitter characteristics compared to pH 9 with E/S ratio 3%