

ABSTRACT**VALIDATION OF UV-Vis SPECTROPHOTOMETRY METHOD FOR
DETERMINATION OF FORMALDEHYDE IN WHITE TOFU
(TAHU PUTIH)**

Formalin (formaldehyde) is often misuse on certain food product such as white tofu (*tahu putih*) as a preservative. The Spectrophotometry method with chromotropic acid as a reagent has been used for determination of formaldehyde in this research. The aim of this research is to determine the validation of Spectrophotometry method include some parameters that is selectivity, linearity, limit of detection and quantitation, precision and accuracy. Before doing validation, optimalization of method to find the optimum condition was carried out firstly.

The optimum condition of Spectrophotometry method was performed in wavelength of 567 nm. For formaldehyde 2.22 ppm was needed 1.2 ml chromotropic acid 0.5 % and 6 ml concentrated sulfuric acid. Then the absorbance was observed after 15 minutes.

In that condition, the equation of regression was $y = 0.5160x + 0.0433$, $r = 0.9998 > r_{table} = 0.959$; $p = 0.002$ ($p < 0.01$) and $V_{xo} = 1.44\%$ ($V_{xo} \leq 5\%$). The limits of detection and quantitation were found to be 0.0063 ppm and 0.0192 ppm respectively, while the accuracy gave average recovery of $(77.54 \pm 1.64)\%$ and the precision gave variation coefficient of 0.4039 %. The determination of formaldehyde in white tofu was carried out in three sample which was taken from one of traditional markets in Surabaya. The result showed that one of these three samples was positive of formaldehyde and the average concentration was $(150.50 \pm 5.01) \mu\text{g/g}$ in wet sample.

Keyword : Validation, Spectrophotometry, formaldehyde, white tofu (*tahu putih*)