**Infrared fingerprinting on antioxidant activity in roselle UKMR-2 cultivated under the influenced of elevated $CO_2$**

## ABSTRACT

Rapid prediction method using infrared fingerprinting for roselle quality control were developed to investigate the metabolite contents that may influence the antioxidant activity. Multivariate analysis was performed by correlating the bioactivity and infrared spectrum of each extract using orthogonal partial least square (OPLS) method at 4000 – 650 $cm^{-1}$. The loading plot revealed that C=O and C-O infrared signals from phenolic acid, organic acid and anthocyanins in the UKMR-2 extract were positively correlated with the antioxidant activity. The result conclude that multivariate model constructed using FT-IR is a capable technique to predict the bioactivity.