



## **A turbidimetric sequential injection system for the analysis of sodium chloride in fish sauces**

Kamonthip Sreenonchai<sup>1,2\*</sup> and Kanidtha Hanvajanawong<sup>1</sup>

<sup>1</sup>*Department of Chemistry, Faculty of Science and Technology, Thammasat University, Thailand*

<sup>2</sup>*Flow Innovation-Research for Science and Technology Laboratories (FIRST Labs.), Thailand*

\*e-mail: ksreenonchai@hotmail.com

This work proposed a green analytical method by using an automatic sequential injection (SI) system for determination of sodium chloride in fish sauce products. The method was developed based on the reaction between sodium chloride and silver nitrate for formation of silver chloride precipitate. Changing of the absorbance of the formed precipitate, which is corresponded to sodium chloride concentration, was measured by a colorimeter at 410 nm. The affecting parameters involved in the precipitation reaction and SI system were studied to obtain a reliable method and minimum reagent consumption. Under the selected condition provided a linearity range between 10-350 ppm with good correlation coefficients ( $r^2 = 0.998$ ). The proposed method gave high precision with %RSD 1.89 (n = 10). Comparisons of results between the proposed SI method and the AOAC reference method using paired *t*-test at 95% confident limit show good agreement. Our automatic SI method was applied to quantify sodium chloride contents in commercial fish sauces with very low sample/reagents consumption.

**Keywords:** Green method; Sequential injection; Sodium chloride; Fish sauce; Turbidimetry