



Synthesis of 4-Phenyl-2,6-Bis(4-Aminophenyl)Pyridine Compound and Study of Their Fluorescence Behaviour for Formaldehyde Sensing

Dadang Ovianto^{1*}, Ida B. A. R. Sugiharta¹ and Bambang Purwono¹

¹Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia

Abstract : The synthesis of 2,4,6-triarylpyridine derivative compounds has been done. The synthesized compound was tested as fluorescence chemosensor against formaldehyde as substrate and the limit of detection was determined. First step of one-pot synthesis has been done by synthesizing of 4-phenyl-2,6-bis(4-nitrophenyl)pyridine (**1**) compound between benzaldehyde and 4-nitroacetophenone. The second step synthesis has been done by reduction of nitro group to get 4-phenyl-2,6-bis(4-aminophenyl)pyridine (**2**) compound using HCl 37% and Sn metal. The target compound was obtained in 68.9% yield. The fluorescence assay of the solution containing sensor showed the wavelength of emission changed from 489 nm to 442 nm only after the addition of HCHO in ethanol as solvent. The limit of detection by fluorescence was obtained at 6.2 ppm. Thus, the probe should be potential applications for food security.

Keywords : fluorescence, formaldehyde, pyridine, sensors.

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