

SINTESIS 2-METOKSI-6-(*p*-FENILDIAZENILSULFONAT)-4- (FENILIMINO) FENOL DARI VANILIN SEBAGAI KEMOSENSOR SENYAWA AMINA

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INTISARI

Sintesis senyawa azo-imina, 2-metoksi-6-(*p*-fenildiazenilsulfonat)-4-(fenilimino) fenol (**2**) dari bahan dasar vanilin dan uji aktivitasnya sebagai kemosensor senyawa basa amina telah dilakukan.

Sintesis senyawa 4-hidroksi-3-metoksi-5-(*p*-fenildiazenilsulfonat) benzaldehida (**1**) dilakukan melalui reaksi diazotasi antara *p*-anilin sulfonat dan vanilin dengan penggunaan basa K₂CO₃. Selanjutnya senyawa (**1**) direaksikan dengan anilin melalui reaksi *Schiff-base imine* untuk menghasilkan senyawa 2-metoksi-6-(*p*-fenildiazenilsulfonat)-4-(fenilimino) fenol (**2**). Kemurnian senyawa hasil sintesis dianalisis dengan KLT dan dilakukan uji titik lebur. Senyawa (**1**) dilakukan elusidasi struktur dengan instrumen FT-IR, sementara senyawa (**2**) dengan FT-IR dan LC-MS. Senyawa (**2**) dilakukan uji kemampuannya sebagai kemosensor terhadap beberapa senyawa amina, yaitu; NH₃, butilamina, dietilamina dan trietilamina, serta uji kebusukan daging ayam. Kemampuan dari senyawa (**2**) sebagai kemosensor dianalisis dengan spektrofotometer UV-Vis.

Rendemen yang diperoleh dari sintesis senyawa (**1**) dan (**2**) berturut-turut 31% dan 71%. Aktivitas senyawa (**2**) sebagai kemosensor dapat digunakan untuk mendeteksi senyawa amina. Senyawa amina; NH₃, butilamina, dietilamina dan trietilamina memiliki limit deteksi terhadap senyawa (**2**) masing-masing; 256,76 ; 119,005 ; 6,2740 ; 36,640 ppm. Senyawa (**2**) juga mampu merespon kesegaran daging ayam.

Kata Kunci : kemosensor, *p*-anilin sulfonat, *Schiff base*, solvatokromik.

SYNTHESIS OF 2-METHOXY-6-(P-PHENYLDIAZENYLSULFONATE)-4-(PHENYLIMINO) PHENOL FROM VANILLIN AS AMINE CHEMOSENSOR

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ABSTRACT

Synthesis compound of azo-imine, 2-methoxy-6-(*p*-phenyl diazenilsulfonate)-4-(phenylimino)phenol (**2**) from vanillin and its activity test as amine base compound chemosensor has been done.

Synthesis of compound 4-hydroxy-3-methoxy-5-(*p*-phenyl diazenylsulfonate)benzaldehyde (**1**) was done through diazotation reaction from *p*-aniline sulfonate, and vanillin by the use of base K₂CO₃. The compound of (**1**) was then reacted with aniline through *Schiff-base imine* reaction to produce compound of 2-methoxy-6-(*p*-phenyldiazenylsulfonate)-4-(phenylimino) phenol (**2**). Purity of compound (**1**) and (**2**) which has been synthesized were analyzed with TLC and melting point test. Compound (**1**) was elucidated by FT-IR, while compound (**2**) by FT-IR and LC-MS. Compound (**2**) was tested its capability as chemosensor toward some amine compound; NH₃, butylamine, diethylamine, and triethylamine, also spoilage test for chicken meat. The capability of compound (**2**) as chemosensor was analyzed by UV-Vis spectrophotometer.

Synthesise of compound (**1**) and (**2**) gave 31% and 71% yield, respectively. The activity of compound (**2**) as chemosensor can be used to detect amine compound. Amine compounds ; NH₃, butylamine, diethylamine and triethylamine have the detection limit toward compound (**2**) ; 256.76 ; 119.005 ; 6.2740 ; and 36.640 ppm, respectively. Compound (**2**) was also capable to give respond toward chicken meat freshness.

Keywords : *chemosensor, p-aniline sulfonate, Schiff base, solvatochromic.*