

Pengaruh penambahan KOH terhadap stabilitas senyawa 4-((E)-2-(4-okso-3-(4-metoksifenil)-kuinazolin-2-il)etnil) benzensulfasetamida yang dianalisis secara kromatografi lapis tipis densitometri = Effect of KOH additions to the stability of the compound 4-((E)-2-(4-oxo-3-(4-methoxyphenyl)-quinazoline-2-yl) ethinyl) benzensulphasetamide which analyzed by thin layer chromatography densitometry

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Abstrak

4-[(E)-2-{4-okso-3-(4-metoksifenil)-kuinazolin-2-il}etnil] benzensulfasetamida di- peroleh dengan mengkonjugasikan 3-(4-metoksifenil)-2-metil-4(3,4)- kuinazolinon dengan p-formil-benzensulfonamida dalam pelarut asam asetat glasial, katalis natrium asetat asetat dan dehidrating agent, anhidrida asetat. Salah satu sifat yang harus diketahui dari senyawa kimia baru adalah sifat kinetiknya. Pada penelitian ini dilakukan pengujian pengaruh larutan KOH terhadap senyawa 4-[(E)-2-{4-okso-3-(4-metoksifenil)-kuinazolin-2-il}etnil] benzensulfasetamida pada tiga tingkatan suhu yaitu 45°C, 65°C, dan 85°C, dianalisis secara kromatografi lapis tipis densitometri. Kondisi analisis menggunakan lempeng siap pakai silica gel 60 F254, dan fase gerak terpilih yaitu tetrahidrofuran-sikloheksanetil asetat (3:3:4). Analisis dilakukan pada panjang gelombang 324 nm. Penggunaan KOH dengan konsentrasi 0,1 M pada uji stabilitas diperoleh nilai $k_1 = 5,6 \times 10^{-4}$ jam⁻¹, energi aktivasi (E_a) = 24,88 kkal mol⁻¹, shelf life (t_{90}) = 6,6 hari dan waktu paruh ($t_{1/2}$) = 51,56 hari. Penambahan larutan KOH dapat memutus gugus asetil dari 4-[(E)-2-{4-okso-3-(4-metoksifenil)-kuinazolin-2-il}etnil]benzensulfasetamida (R_f 0,44) menghasilkan senyawa 4-[(E)-2-{4-okso-3-(4-metoksifenil)-kuinazolin-2-il}etnil]benzensulfonamida (R_f 0,61).

.....4-[(E)-2-{4-oxo-3-(4-methoxyphenyl)-quinazoline-2-yl}-ethinyl] benzensulphacetamide obtained by conjugate 3-(4-methoxyphenyl)-2-methyl-4 (3, 4)-quinazolinon with p-formyl-benzensulphonamide in glacial acetic acid solvent, anhydrous sodium acetate as catalyst and acetic anhydride as dehydrating agent. One of the requirements that should be known of the new chemical compounds is their kinetic properties. This research tested the effect of KOH additions to the stability of 4-[(E)-2-{4-oxo-3-(4-methoxyphenyl)-quinazoline-2-yl}ethinyl] benzensulphacetamide at three levels of temperature ie 45°C, 65°C and 85°C were analyzed by densitometry thin layer chromatography. Condition analysis used ready-made silica gel plates 60 F254, and the mobile phase was selected tetrahydrofuran- cyclohexane-ethyl acetate (3:3:4). Analyses were performed at a wavelength of 324 nm. In the addition of 0.1 M KOH concentration with a of known value $k_1 = 5,6 \times 10^{-4}$ hour⁻¹, activation energy (E_a) = 24.88 kcal mol⁻¹, shelf life (t_{90}) = 6,6 days and the half-life time ($t_{1/2}$) = 51,56 days. The addition of KOH solution can hydrolysis the acetyl group of 4-[(E)-2-{4-oxo-3-(4-methoxyphenyl)-quinazoline-2-yl}ethinyl]benzensulphacetamide (R_f 0,44) afforded 4-[(E)-2-{4-oxo-3-(4-methoxyphenyl)-quinazoline-2-yl}ethinyl] benzensulphonamide (R_f 0,61).