Safitri, Brilliana Via, 2019, Pengaruh Jenis Substituen pada Benzaldehid terhadap Reaksi Sintesis Turunan 2-Stirilkromon. Skripsi dibawah bimbingan Dr. Alfinda Novi Kristanti, D.E.A dan Dr. Hery Suwito, M.Si. Departemen Kimia, Fakultas Sains dan Teknologi.

ABSTRAK

2-stirilkromon merupakan senyawa dengan *building block* C_6-C_5-C_6 yang memiliki struktur heterosiklis pada kerangka utamanya. Senyawa jenis ini telah banyak diketahui memiliki bioaktivitas tertentu, seperti antikanker, antivirus, antioksidan, antineoplastik, antialergi, dan sebagainya. Mengingat pentingnya peranan 2-stirilkromon dan turunannya, maka penelitian ini dilakukan dengan tujuan mensintesis turunan 2-stirilkromon yaitu 4'-fluoro-2-stirilkromon (MT-1) dan 4'-metoksi-2-stirilkromon (MT-2) dengan metode yang lebih sederhana, bahan yang mudah didapatkan dan harga yang terjangkau, serta tahapan reaksi yang tidak terlalu panjang. Sintesis dilakukan melalui tiga tahap reaksi. Tahap pertama yaitu dengan mereaksikan 2'-hidroksiasetofenon, etil asetat dan logam Na. Tahap kedua sintesis 2-metilkromon menggunakan katalis pTSA melalui reaksi dehidrasi. Tahap ketiga merupakan reaksi antara 2-metilkromon dengan 4-fluorobenzaldehid untuk MT-1 dan 4-metoksibenzaldehid untuk MT-2. Sintesis senyawa ini melibatkan reaksi transesterifikasi, dehidrasi dan reaksi kondensasi aldol. Rendemen yang dihasilkan pada sintesis MT-1 sebesar 46,34% dan MT-2 sebesar 54,18%. Analisis kemurnian MT-1 maupun MT-2 menggunakan Kromatografi Lapis Tipis (KLT) dengan tiga sistem eluen yang berbeda serta uji titik leleh menggunakan *Fischer-John Melting Point Apparatus.* Penentuan struktur senyawa ditentukan menggunakan metode spektroskopi yang meliputi spektrometri UV-Vis, FT-IR, ^{1}H-NMR dan ^{13}C-NMR APT.

Kata kunci : *2-stirilkromon, 4-fluorobenzaldehid, 4-metoksibenzaldehid, 2-hidroksibenzoilaseton, 2-metilkromon, 4'-fluoro-2-stirilkromon, 4'-metoksi-2-stirilkromon, Reaksi transesterifikasi, Reaksi dehidrasi, Reaksi kondensasi aldol.*

Safitri, Brilliana Via, 2019, The Effect of Substituents on Benzaldehyde In The Synthesis Of 2-Styrylchromone Derivatives. Thesis under the guidance of Dr. Alfinda Novi Kristanti, D.E.A and Dr. Hery Suwito, M.Si. Department of Chemistry, Faculty of Science and Technology.

ABSTRACT

2-styrylchromone is a compound with building block C_6-C_5-C_6 which has a heterocyclic structure in its main skeleton. This type of compound has been widely known to have certain bioactivity, such as anticancer, antiviral, antioxidant, antineoplastic, antiallergenic, and *etc*. Based on the important role of 2-styrylchromone and its derivatives, this study was conducted with the aim of synthesizing 2-styrylchromone derivatives namely 4'-fluoro-2-styrylchromone (MT-1) and 4'-methoxy-2-styrylchromone (MT-2) by simpler, easily available materials and affordable prices, and not too long reaction stages. The synthesis is carried out through three stages of reaction. The first step is by reacting 2'-hydroxyacetophenone, ethyl acetate and sodium. The second stage is synthesizing 2-methylchromone through dehydration. The third stage is the reaction between 2-methylchromone with 4-fluorobenzaldehyde for MT-1 and 4-methoxybenzaldehyde for MT-2. The synthesis of this compound involves transesterification reaction, dehydration and aldol condensation reaction. The yield produced in MT-1 synthesis was 46.34% and MT-2 was 54.18%. Purity test of MT-1 and MT-2 using Thin Layer Chromatography (TLC) with three different eluent systems and melting point test using the Fischer-John Melting Point Apparatus. Determination of compound structure was determined using spectroscopic methods which included UV-Vis, FT-IR, ^{1}H-NMR and ^{13}C-NMR APT spectrometry.

Keywords: *2-styrylchromone, 4-fluorobenzaldehyde, 4-methoxybenzaldehyde, 2-hydroxybenzoylacetone, 2-methylchromone, 4'-fluoro-2-styrylchromone, 4'-methoxy-2-styrylchromone, transesterification reaction, dehydration, Aldol condensation reaction.*