

**STUDY ON THE MOBILE PHASE COMPOSITION AND  
FLOW RATE PARAMETER FOR TRIBUTYRIN USING  
HIGH PERFORMANCE LIQUID CHROMATOGRAPHY-UV  
DETECTOR (HPLC-UV)**

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**Final Year Project Report Submitted in  
Partial Fulfilment of the Requirements for the  
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in the Faculty of Applied Sciences  
Universiti Teknologi MARA**

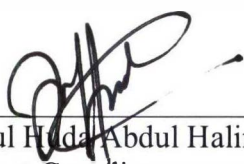
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This Final Year Project Reported entitled **“Study On The Mobile Phase Composition and Flowrate Parameter For Tributyrin Using High Performance Liquid Chromatography (HPLC)”** was submitted by Fariswan Bin Atan, in partial fulfilment of the requirements for the Degree of Bachelor of Sciences (Hons.) Chemistry, in the Faculty of Applied Science, and was approved by



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## ABSTRACT

### STUDY ON MOBILE PHASE RATIO AND FLOW RATE PARAMETER OF HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) FOR TRIBUTYRIN

The chromatographic separation for standard tributyrin was done by using high performance liquid chromatography (HPLC) equipped with ultraviolet (UV) detector. 20  $\mu$ L of tributyrin standard with concentration of 0.018 mM was injected into HPLC attached to the column Carbon18 (C18) at 215 nm wavelength. Two optimization of HPLC parameters have been done in order to study the best condition for tributyrin elution. Two parameters were studied for the elution of tributyrin which are mobile phase composition and flowrate. It was found that the optimum mobile phase composition for tributyrin was 50:50 acetonitrile:acetone and the optimum flowrate for tributyrin was at 0.55 mL/min. The calibration curve of standard tributyrin's range was found proportionally linear to tributyrin concentration from 0.009-0.075 mM and the value of  $R^2$  was 0.9502. Limit of detection (LOD) and limit of quantitation (LOQ) also have been conducted in this study. The value of LOD and LOQ obtained from the calculation were 0.0032 mM and 0.0096 mM respectively.