

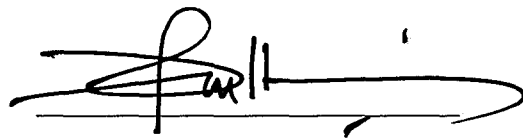
**THE EFFECTS OF SQDNs PROPERTIES COATED BY POTASSIUM**

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**Final Year Project Report Submitted in Partial Fulfillment of the  
Requirements for the Degree of Bachelor of Science (Hons.)  
Physics in the Faculty of Applied Sciences  
Universiti Teknologi MARA Malaysia**

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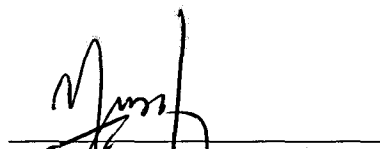
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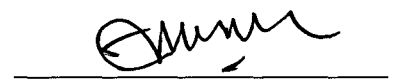
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## ABSTRACT

### THE EFFECTS OF SQDNs PROPERTIES COATED BY POTASSIUM

Silicon Quantum Dots nanoparticles (SQDNs) were formed by grinding the free standing of Porous silicon that have been formed by anodically etching p-type Si [100] wafer in hydrofluoric (HF) solution at 1:1 ratio of ethanol with increase current density to 50 mA/cm<sup>2</sup>. The samples were prepared by coating to different concentration of potassium which is 0.6 M, 0.8 M and 1.0 M. The samples were characterized by using SEM, UV-Vis, FTIR spectrometer and PL spectrometer. The Potassium was successful coated into SQDNs. The samples were immersed in 30 ml distilled water to investigate the Potassium absorption in SQDNs wash for four batches. The UV-Vis result show that more quantity of K release from SQDNs for 1<sup>st</sup> wash batch for all concentration. The FTIR spectrum show the amount of KNO<sub>3</sub> released after wash for four batches. The coating SQDNs with KNO<sub>3</sub> show the wavelengths shifted to longer on the PL intensity.

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