



**UNIVERSITI PUTRA MALAYSIA**

**STABILITY OF BETANIN AND BETA-CAROTENE IN ENCAPSULATED  
PITAYA (*Hylocereus polyrhizus* (F.A.C. WEBER) BRITTON & ROSE)  
AND CARROT (*Daucus carota* L.) JUICES USING VARIOUS WALL  
MATERIALS AND APPLICATIONS IN CONFECTION**

**SAFURA SHAARUDDIN**

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By

**SAFURA BINTI SHAARUDDIN**

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