

DEVELOPMENT OF TERNARY PHASE DIAGRAM: OPTICAL AND  
MECHANICAL CHARACTERIZATION OF WATER/TAPIOCA  
STARCH/TRITON X-100 LIQUID CRYSTAL

By  
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A thesis submitted in partial fulfillment  
of the requirement for the award of the degree of  
Bachelor of Applied Science  
(Physics, Electronics and Instrumentations)

DEPARTMENT OF PHYSICAL SCIENCES  
FACULTY OF SCIENCE AND TECHNOLOGY  
UNIVERSITY MALAYSIA TERENGGANU  
2011



**PENGAKUAN DAN PENGESAHAN LAPORAN PENYELIDIKAN SFZ 4399A/B**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: DEVELOPMENT OF TERNARY PHASE DIAGRAM: OPTICAL AND MECHANICAL CHARACTERIZATION OF WATER/TAPIOCA STARCH/TRITON X-100 LIQUID CRYSTAL oleh MUHD FAZREEL B MUHAMMAD ROSLI no. matrik: UK16780 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Fizik sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains Gunaan (Fizik Elektronik & Instrumentasi), Fakulti Sains dan Teknologi, UMT.

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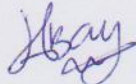
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## DECLARATION

I hereby that this FYP research report entitled Development of Ternary Phase Diagram: Optical and mechanical Characterization of Water/Tapioca Starch/Triton X-100 Liquid Crystal is the result of my own research except as cited in the references.

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## ABBREVIATION

### Abbreviation

LC	Liquid Crystal
LLC	Lyotropic Liquid Crystal
TLC	Thermotropic Liquid Crystal
MLC	Metallotropic Liquid Crystal
POM	Polarizing Optical Microscope
SWAXS	Simultaneous to Wide Angle X-Ray Scattering
STF	Shear Thickening Fluid
SEM	Scanning Electron Microscope
EDS	Energy Dispersive X-Ray Spectroscopy
UMP	Universiti Malaysia Pahang
UKM	Universiti Kebangsaan Malaysia

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