

ASSOCIATION BEHAVIOUR OF MIXED NONIONIC-CATIONIC
SURFACTANT/ALCOHOL/WATER SYSTEM

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UNIVERSITI PUTRA MALAYSIA

2002

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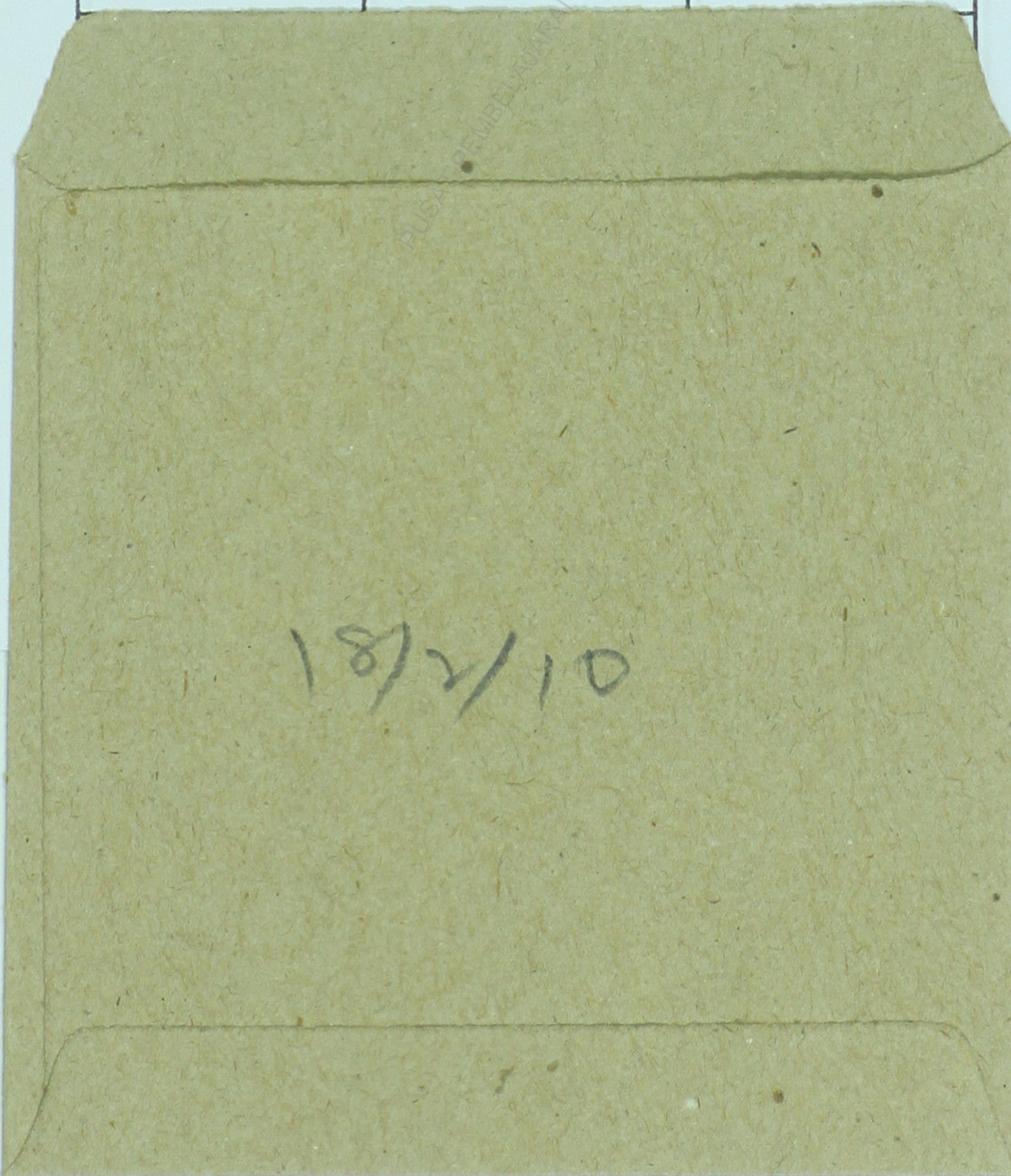
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Association behaviour of mixed nonionic-cationic
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**ASSOCIATION BEHAVIOUR OF MIXED NONIONIC-CATIONIC
SURFACTANT/ALCOHOL/WATER SYSTEM**

By

CHOONG SEE LOON

**Thesis submitted in partial fulfillment of the requirement for the
Degree of Bachelor of Science (Hons.) Chemistry**

PUSAT PEMBELAJARAN DIGITAL SULTANAH NUR ZAHIRAH

**FACULTY OF SCIENCE AND TECHNOLOGY
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
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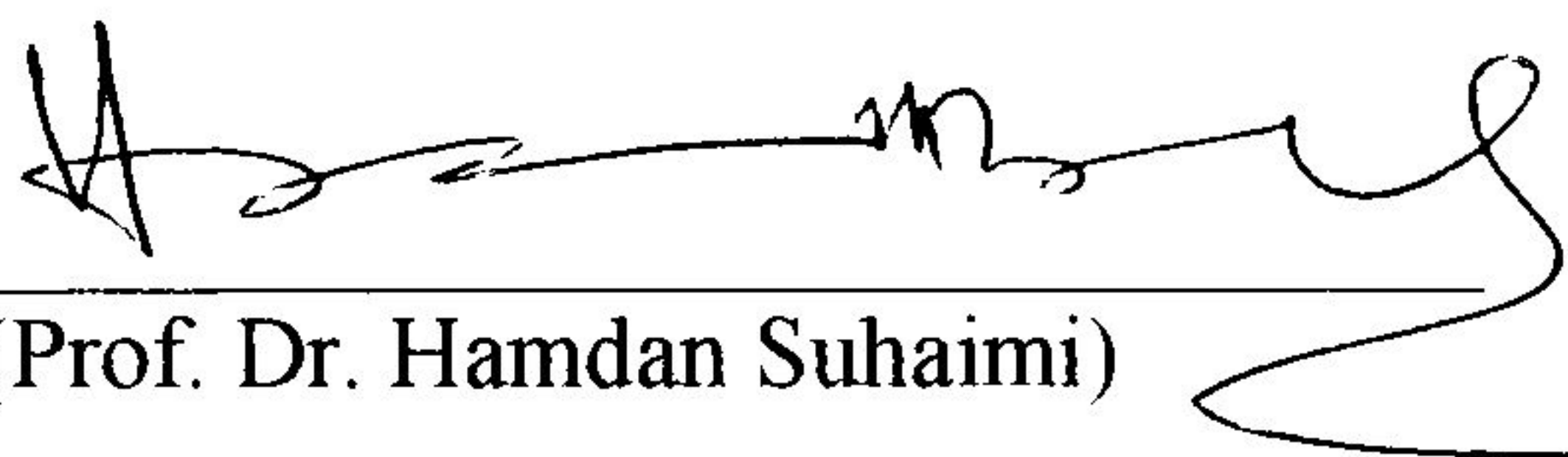
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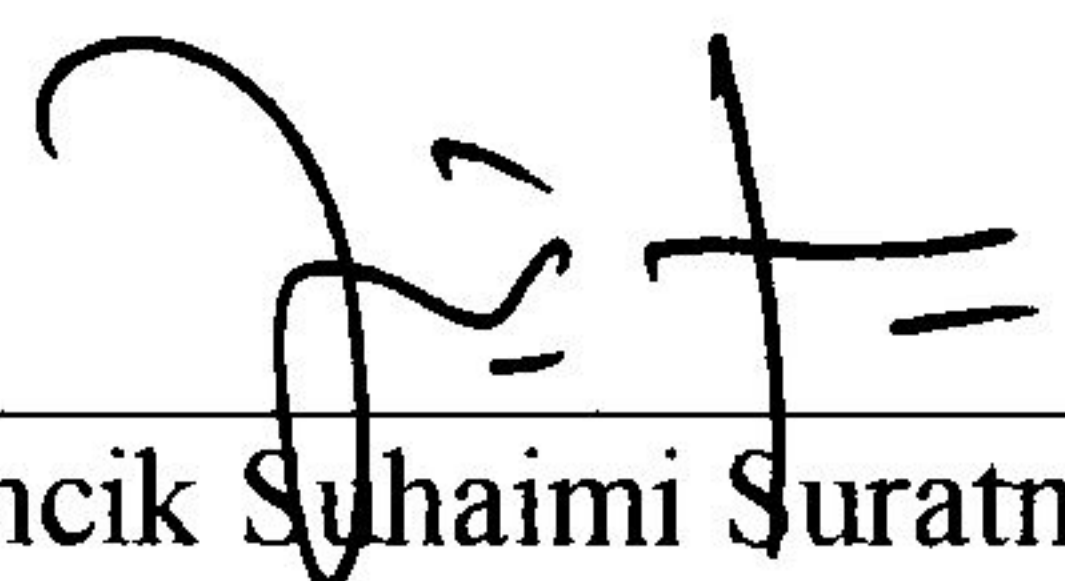
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ACKNOWLEDGEMENTS

First and for most, I would like to take this golden opportunity to express my sincere gratitude and appreciation to my supervisor, Prof. Dr. Hamdan Hj. Suhaimi for his continuous guidance, invaluable advices, constructive comments and patience throughout the course of the project.

I would like to thank the member of examination board for their patience in reviewing my thesis. For all the assistance and help from the lab assistance, Kak Hasbah, I would like to extend my gratitude.

I cannot adequately express my gratitude to my beloved Jen Kim and course mates who make these years of study a most memorable one.

Last but not least, I wish to thank my family for their support and the rest whom had helped me in making this project a successful one.

ABSTRAK

Kepentingan sistem campuran surfaktan dalam kegunaan adalah disebabkan oleh prestasi formulasi campuran adalah lebih baik berbanding dengan surfaktan individu. Kajian terhadap sistem surfaktan hexadecyl polyoxyethylene ether (Brij 58) dan cetyltrimethylammonium bromide (CTAB) campuran/pentanol/air telah dilakukan pada suhu 30°C. Keputusan menunjukkan komposisi 0.6 pecahan mol Brij 58 adalah paling stabil dan mempunyai kawasan misel yang terbesar. Keputusan juga menunjukkan bahawa campuran tersebut menunjukkan sifat tidak unggul (antagonistic). Nilai parameter interaksi molekul, β , didapati lebih kurang pada 1.5.

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ABSTRACT

The importances of mixed surfactant system in practical applications are due to the formulated mixtures often providing superior performance to that obtainable by single surfactants. Studies on a mixed nonionic-cationic surfactant system of hexadecyl polyoxyethylene ether (Brij 58) and cetyltrimethylammonium bromide (CTAB)/pentanol/water were carried out at 30°C. Results indicated a composition of 0.6 mole fraction of Brij 58 exhibited a stable and largest micellar region. Results also indicated that the mixture behaved nonideally (antagonistic interaction). The corresponding molecular interaction parameter value, β , was concluded at about 1.5.

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