

UNIVERSITI TEKNOLOGI MARA

**SYNTHESIS AND SWELLING STUDY ON POLY
(HEMA-co-DMAPMA) BASED COPOLYMER
HYDROGELS**

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APPROVAL SHEET

I hereby recommend that the thesis prepared under my supervision by Anis Izyan Bt Abdul Rahman entitled Synthesis and Swelling Study on Poly (HEMA-co-DMAPMA) Based Copolymer Hydrogels be accepted in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy from Faculty of Pharmacy, UiTM.

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ABSTRACT

Hydrogels can be classified based on a variety of characteristics. Polymers commonly used in preparation of hydrogels with pharmaceutical and biological applications are from natural or synthetic origins. 2-hydroxyethyl methacrylate (HEMA) and N-[3-(dimethylamino) propyl] methacrylamide (DMAPMA) are the polymers used in the synthesis of hydrogels which the main objective of this study was to synthesis and swelling studies on HEMA and DMAPMA based stimuli (pH/temperature) responsive hydrogels for stomach specific delivery. Finding from studies show that the synthesis of 2-hydroxyethyl methacrylate (HEMA) and N-[3-(dimethylamino) propyl] methacrylamide (DMAPMA) based stimuli (pH/temperature) responsive hydrogels works very well on releasing drug at the stomach region due to its high swelling ratio in the low pH. This can be apply for future formulation on targeting the drug release at the stomach region which able to prevent premature drug release and increase the therapeutics level of the drug.