

Nurul Istiqomah. 080810144, 2012. The Preparation Hydrogel of Chitosan – Glutaraldehyde for Wound Dressing Application by In Vivo. Skripsi were supervised of Drs. Djoni Izak R., M.Si. and Dr Sri Sumarsih, M.Si., Study Program Biomedical Engineering Department of Physics Faculty of Science and Technology University of Airlangga.

Abstract

The preparation hydrogel of chitosan – glutaraldehyde had been researched for wound dressing application by in vivo. Preparation of hydrogels was made by mixing chitosan dissolved in 1% acetic acid with 1% glutaraldehyde solution. The addition of glutaraldehyde was served to improve the mechanical properties of chitosan. Chitosan – glutaraldehyde hydrogel were characterized using FTIR, the ability of absorption and in vivo test. FTIR results indicate the formation of crosslinking between chitosan and glutaraldehyde, which can be shown at wavenumber $1638,23 \text{ cm}^{-1}$ and $1550,49 \text{ cm}^{-1}$, the absorption ability of the test result showed that the swelling ratio was decreased by the increasing degree of crosslinking, the result of in vivo test showed that the larger volume of glutaraldehyde, healing process need much time. The best result of hydrogels was showed by the addition of 3 ml of glutaraldehyde which has the absorption capacity value of 560,7 % on average and in vivo test in which experimental animals recovered on day 5.

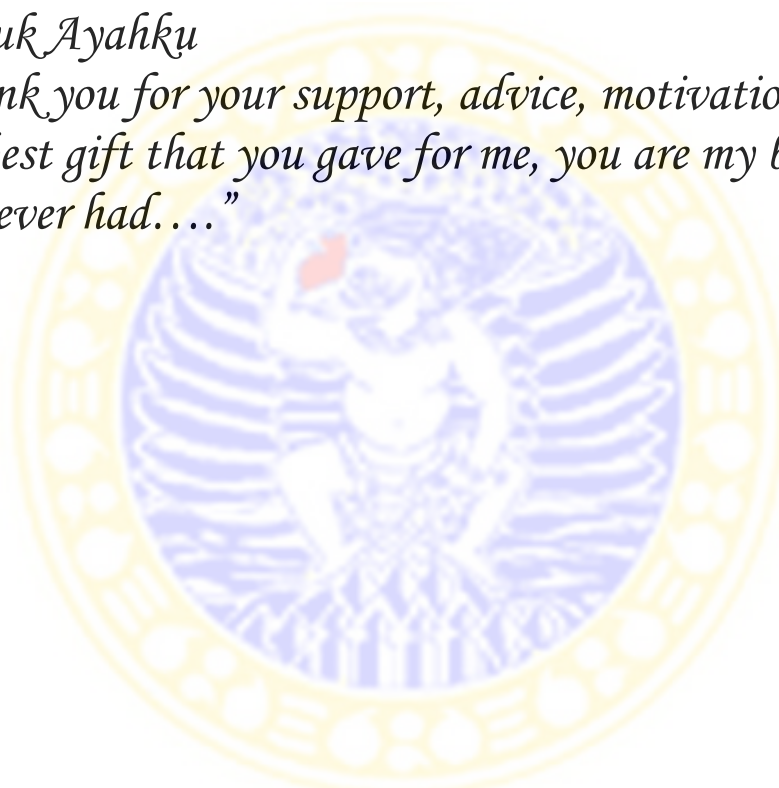
Key Word : Hydrogel, chitosan, glutaraldehyde, wound dressing, in vivo, swelling index, FTIR.

Untuk Ibuku

When I wanted to go I would have gone by now, but I really need you near me to keep my mind off the edge when I wanted to leave I would have left by now, but you're the only one that knows me better than I know myself....”

Untuk Ayahku

Thank you for your support, advice, motivation and the best gift that you gave for me, you are my best Dad I've ever had....”



My Quote

“Don't think too much it's simple”