

Optimizing Conditions to Cholesterol Adsorbed with Carboxymethyl Chitosan

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Author Order	of
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Abstract	A research on optimizing conditions to cholesterol adsorbed have been performed. Optimization was performed by varying: contact time, adsorbent weight and temperature of the system's. A full factorial experimental design was used in this study. Characterization performed on the synthesized chitosan and carboxymethyl chitosan including FTIR, water content, ash content, solubility, porosity, and swelling effect. The results showed that carboxymethyl chitosan able to adsorb cholesterol under conditions optimal adsorbent with cholesterol ratio (1:200) with a contact time of 90 minutes at temperature of 40 °C. Meanwhile, at a temperature of 55 °C carboxymethyl chitosan capable of adsorb cholesterol under conditions optimal adsorbent with cholesterol ratio (1:300) with a contact time of 30 minutes. Chitosan and carboxymethyl chitosan synthesized has a water content of 7.4 and 10.2%, ash content of 0.14 and 2.29%, solubility in distilled water at 1.10 ⁻⁵ and 1.98.10 ⁻³ %, solubility in acetic acid 0.02 and 0.04%, porosity at 88.3% and 88.8%, and swelling at 163.13 and 182.98%.
Publisher Name	Universitas Jenderal Soedirman
Publish Date	2016-05-16
Publish Year	2016
Doi	DOI: 10.20884/1.jm.2016.11.1.200
Citation	2
Source	Molekul
Source Issue	Vol 11, No 1 (2016)
Source Page	112-124
Url	https://ojs.jmolekul.com/ojs/index.php/jm/article/view/200
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