Synthesis of Ag_2O/bentonite material as antibacterial of *Escherichia coli*

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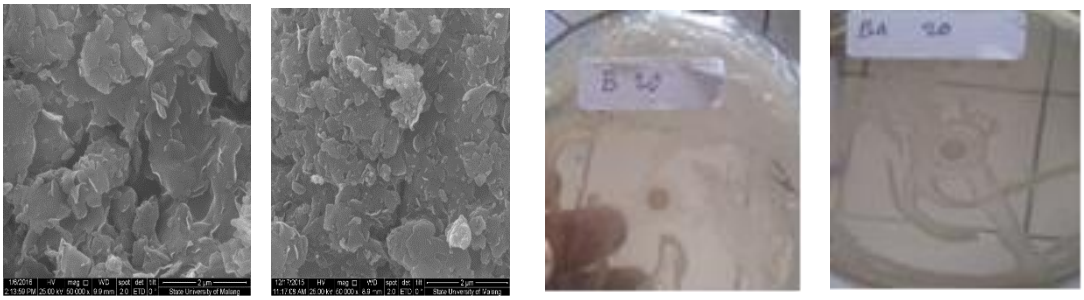
A so called Ag_2O/bentonite material had been synthesized with an antibacterial property against *Escherichia coli*. The research was initiated by activating the bentonite with H_2SO_4 to produce H/bentonite. The H/bentonite then was dispersed into $AgNO_3$, NH_4OH, NaOH solutions to form Ag_2O/bentonite. After that this material was characterized by FTIR, XRD and SEM-EDS analysis methods, respectively. Antibacterial activity of Ag_2O/bentonite was then tested by Agar Diffusion Test method. The result showed that activation of bentonite by H_2SO_4 solution caused dealumination, it was confirmed by FTIR and EDS analysis. The formation of Ag_2O in the bentonite framework was confirmed by XRD difractogram with presented by appearing peaks at $2\theta = 33.92^o$ and 37.67^o. SEM image showed that bentonite modification with Ag_2O/bentonite changed the surface of bentonite. EDS analysis indicated that wt % of Ag increased from 1.38 to 21.70 wt % after bentonite was modified to Ag_2O/bentonite. The result of antibacterial test showed that Ag_2O/bentonite had antibacterial properties against *E.coli*



Keyword: Ag_2O/bentonite, antibacterial, bentonite, dealumination, *Eschericia coli*