

# T NG H P XANH H T NANO B C T D CH CHI T NHA AM VÀ KH N NG KHÁNG KHU N

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## Tóm t t

T ng h p xanh nano b c là m t trong nh ng ph ng pháp ang c quan tâm hi n nay. Trong nghiên c u này, d ch chi t nha am c s d ng ng th i nh tác nhân kh và tác nhân n nh t o h t nano b c. M t s thông s c a quá trình kh nh th i gian, nhi t , t l d ch chi t: dung d ch AgNO<sub>3</sub> c kh o sát. Ngoài ra, nh h ng c a glucose làm ch t kh h tr c ng c kh o sát. K t qu cho th y d ch chi t nha am có th kh ion b c t o nano b c đ ng tròn, kích th c kho ng 10 – 20 nm, h t có phân b kích th c r ng. Khi k t h p glucose, nano b c t o thành v i m t cao h n tuy nhiên xu t hi n s k t t h o c h t có kích th c to. H t nano b c t o thành có kh n ng kháng vi khu n E. Coli, S. Aureus và n m B. Cinerea. K t qu này cho th y kh n ng s d ng cây nha am t i Vi t Nam t ng h p xanh h t nano b c có ho t tính kháng khu n cao.

T khóa: t ng h p xanh, nha am, nano b c, ho t tính kháng khu n.

# GREEN SYNTHESIS OF SILVER NANOPARTICLES FROM ALOE VERA EXTRACT AND THEIR ANTIMICROBIAL ACTIVITY

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## Abstract

Recently, the green synthesis of silver nanoparticles has been attracted many attentions. In this article, aloe vera extract (AVE) are used as both the reduced agent and the stabilized agent to synthesis silver nanoparticles. Several influence factors such as time, temperature, the ratio of AVE solution and AgNO<sub>3</sub> solution were investigated. In addition, the effect of glucose as the additional reduced agent was also investigated. The results showed that AVE are able to reduce Ag ion to afford silver nanoparticle in spherical shapes with the size about 10 – 20 nm, broad size distribution. When adding glucose, the agglomeration to large-sized particles is observed. The silver nanoparticles show the antibiomicrobial activity on bacterials E. Coli, S. Aureus and fungus B. Cinerea. The results indicated the possibility of using Vietnam's aloe vera for green synthesis of silver nanoparticles with high antimicrobial activity.

Key words: Green systhesis, aloe vera, silver nanoparticles, antimicrobial activity.