TÀI LIỆU KHAM KHẢO

Tài liệu kham khảo tiếng việt

Bao, V.V.Q. and Dang, T.N. (2018) 'KHẢ NĂNG KHÁNG NẤM CỦA CHẾ PHẨM NANO BẠC–TBS ĐỐI VỚI Macrophoma theicola GÂY HẠI TRÊN QUẢ QUÝT

Hai, N.T.T. *et al.* (2019) 'TỔNG HỢP VẬT LIỆU NANO BẠC VÀ ĐÁNH GIÁ KHẢ NĂNG KHÁNG NẤM PYRICULARIA ORYZAE GÂY BỆNH ĐẠO ÔN TRÊN CÂY LÚA', *Hue University Journal of Science: Natural Science*, 128(1C), pp. 69–76.

Hiền B.T.M. and Hương N.T.L. (2023) 'TỔNG HỢP XANH VÀ KHẢO SÁT ĐỘNG HỌC XÚC TÁC CỦA NANO BẠC THU ĐƯỢC TỪ CHIẾT XUẤT HOA AGLAIA

Hùng, N.N. (2011) *Nghiên cứu chế tạo hạt nano bạc*. Available at: https://www.slideshare.net/8s0nc1/nghien-cuchtohtnanobcvakhnngsatkhuncanokl (Accessed: 9 April 2023).

Lan, N.T.M. *et al.* (2018) 'TẠO CHẾ PHẨM KẾT HỢP TINH CHẤT TRÀ XANH VÀ NANO BẠC ỨNG DỤNG LÀM DUNG DỊCH VỆ SINH VÀ HỖ TRỢ LÀM LÀNH VẾT LOÉT SINH DỤC'.

Lê Thị Thu Hiền, Nông Văn Hải, L.T.B. (2004) *Bài tổng quan công nghệ sinh học nano*. Tạp chí công nghệ sinh học

Nguyễn Hoàng Hải (2007) *các hạt nano kim loại*. Tạp chí Vật lý Việt Nam.

Nguyen, V.T. (2020) 'Sunlight-Driven Synthesis of Silver Nanoparticles Using Pomelo

Nhựt, D.T. *et al.* (2015) 'Nghiên cứu ảnh hưởng của nano bạc lên sự nhân chồi, sinh trưởng và phát triển của cây hoa hồng (Rosa sp.) in vitro', *Tạp chí Công nghệ Sinh học*, 13(2), pp. 231–239.

Phương Uyên/HELLO BACSI (2022) *công dụng của vỏ cam*. Available at: https://hellobacsi.com/an-uong-lanh-manh/thong-tin-dinh-duong/cong-dung-cua-vo-cam/ (Accessed: 27 August 2023).

Phuong, V.N.X. and Nguyen, L.P. (2015) 'Ứng dụng công nghệ nano trong ngành công nghiệp dầu khí và hướng nghiên cứu tiềm năng ở Việt Nam', *Petrovietnam Journal*, 4, pp. 66–74.

Sa T.N.A. *et al.* (2021) 'TỔNG HỢP XANH NANO BẠC (AGNPS) TỪ DỊCH CHIẾT CHỨA ANTHOCYANINS VÀ ỨNG DỤNG TRONG PHÂN TÍCH PB(II), ZN(II)', *Tạp chí Phân tích Hóa, Lý và Sinh học*, 26(3B), pp. 117–117.

Trần, N.M.Â. (2016) ‘Tổng hợp xanh Nano bạc từ AgNO3 và dịch chiết lá diếp cá’, *VNU Journal of Science: Natural Sciences and Technology*, 32(3).

Tài liệu kham khảo tiếng anh

Bindhu, M.R. and Umadevi, M. (2013) ‘Synthesis of monodispersed silver nanoparticles using Hibiscus cannabinus leaf extract and its antimicrobial activity’, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 101, pp. 184–190. Available at: https://doi.org/10.1016/j.saa.2012.09.031.

Chandra, A. *et al.* (2020) ‘Green Synthesis of Silver Nanoparticles Using Tea Leaves from Three Different Elevations’, *ChemistrySelect*, 5(14), pp. 4239–4246. Available at: https://doi.org/10.1002/slct.201904826.

Drake, P.L. and Hazelwood, K.J. (2005) ‘Exposure-related health effects of silver and silver compounds: a review’, *The Annals of occupational hygiene*, 49(7), pp. 575–585.

Full article: Photocatalytic degradation of methylene blue and antibacterial activity of silver nanoparticles synthesized from Camellia sinensis leaf extract (no date). Available at: https://www.tandfonline.com/doi/full/10.1080/17458080.2023.2225759 (Accessed: 13 September 2023).

González-Pedroza, M.G. *et al.* (2023) ‘Biogeneration of silver nanoparticles from Cuphea procumbens for biomedical and environmental applications’, *Scientific Reports*, 13(1), p. 790. Available at: https://doi.org/10.1038/s41598-022-26818-3.

Danilczuk, M. *et al.* (2006) ‘Conduction electron spin resonance of small silver particles’, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 63(1), pp. 189–191.

Green tea extract mediated biogenic synthesis of silver nanoparticles: Characterization, cytotoxicity evaluation and antibacterial activity - ScienceDirect (no date). Available at: https://www.sciencedirect.com/science/article/abs/pii/S0169433218323481 (Accessed: 14 September 2023).

Hatchett, D.W. and White, H.S. (1996) ‘Electrochemistry of sulfur adlayers on the low-index faces of silver’, *The Journal of Physical Chemistry*, 100(23), pp. 9854–9859.

Ibrahim, H.M.M. (2015) ‘Green synthesis and characterization of silver nanoparticles using banana peel extract and their antimicrobial activity against representative microorganisms’, *Journal of Radiation Research and Applied Sciences*, 8(3), pp. 265–275. Available at: https://doi.org/10.1016/j.jrras.2015.01.007.

Kaviya, S. *et al.* (2011) 'Biosynthesis of silver nanoparticles using Citrus sinensis peel extract and its antibacterial activity', *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 79(3), pp. 594–598.

Kim, J.S. *et al.* (2007) 'Antimicrobial effects of silver nanoparticles', *Nanomedicine: Nanotechnology, biology and medicine*, 3(1), pp. 95–101.

lLibor Kvitek, R.P. (2005) *Review the preparation and application of silver nanoparticles*. Journal of materials science.

Loo, C. *et al.* (2005) 'Immunotargeted nanoshells for integrated cancer imaging and therapy', *Nano letters*, 5(4), pp. 709–711.

Martínez-Castañón, G.A. *et al.* (2008) 'Synthesis and antibacterial activity of silver nanoparticles with different sizes', *Journal of Nanoparticle Research*, 10(8), pp. 1343–1348. Available at: https://doi.org/10.1007/s11051-008-9428-6.

Matsumura, Y. *et al.* (2003) 'Mode of bactericidal action of silver zeolite and its comparison with that of silver nitrate', *Applied and environmental microbiology*, 69(7), pp. 4278–4281.

Morones, J.R. *et al.* (2005) 'The bactericidal effect of silver nanoparticles', *Nanotechnology*, 16(10), p. 2346.

Panyala, N.R., Peña-Méndez, E.M. and Havel, J. (2008) 'Silver or silver nanoparticles: a hazardous threat to the environment and human health?', *Journal of applied biomedicine*, 6(3).

Pawar, O. *et al.* (2016) 'Green synthesis of silver nanoparticles from purple acid phosphatase apoenzyme isolated from a new source Limonia acidissima', *Journal of Experimental Nanoscience*, 11(1), pp. 28–37.

Prathna, T.C. *et al.* (2011) 'Biomimetic synthesis of silver nanoparticles by Citrus limon (lemon) aqueous extract and theoretical prediction of particle size', *Colloids and Surfaces B: Biointerfaces*, 82(1), pp. 152–159. Available at: https://doi.org/10.1016/j.colsurfb.2010.08.036.

Randoin, L. *et al.* (1976) 'Tables de composition des aliments', *Paris, France* [Preprint].

Shin, S.-H. *et al.* (2007) 'The effects of nano-silver on the proliferation and cytokine expression by peripheral blood mononuclear cells', *International immunopharmacology*, 7(13), pp. 1813–1818.

Shrivastava, S. *et al.* (2007) 'Characterization of enhanced antibacterial effects of novel silver nanoparticles', *Nanotechnology*, 18(22), p. 225103.

Silver-attached reduced graphene oxide nanocomposite as an eco-friendly photocatalyst for organic dye degradation | SpringerLink (no date). Available at: https://link.springer.com/article/10.1007/s11164-018-3443-8 (Accessed: 15 September 2023).

Singh, M. *et al.* (2008) 'Nanotechnology in medicine and antibacterial effect of silver nanoparticles', *Digest Journal of Nanomaterials and Biostructures*, 3(3), pp. 115–122.

Slawson, R.M., Trevors, J.T. and Lee, H. (1992) 'Silver accumulation and resistance in Pseudomonas stutzeri', *Archives of microbiology*, 158, pp. 398–404.

Sougandhi, P.R. and Ramanaiah, S. (2020) 'Green synthesis and spectral characterization of silver nanoparticles from Psidium guajava leaf extract', *Inorganic and Nano-Metal Chemistry*, 50(12), pp. 1290–1294. Available at: https://doi.org/10.1080/24701556.2020.1745839.

Synthesis of Silver Nanoparticles Using Orange Peel Extract Prepared by Plasmochemical Extraction Method and Degradation of Methylene Blue under Solar Irradiation(nodate).Availableat:https://www.hindawi.com/journals/amse/2019/8306015/ (Accessed: 18 September 2023).

Vanaja, M. *et al.* (2014) 'Degradation of methylene blue using biologically synthesized silver nanoparticles', *Bioinorganic chemistry and applications*, 2014.

Wan Mat Khalir, W.K.A. *et al.* (2020) 'Biosynthesized Silver Nanoparticles by Aqueous Stem Extract of Entada spiralis and Screening of Their Biomedical Activity', *Frontiers inChemistry*,8Availablat:https://www.frontiersin.org/articles/10.3389/fchem.2020.00620 (Accessed: 13 September 2023).

Zhao, G. and Stevens, S.E. (1998) 'Multiple parameters for the comprehensive evaluation of the susceptibility of Escherichia coli to the silver ion', *Biometals*, 11, pp. 27–32.

PHỤ LỤC

I. Bảng phân bố kích thước hạt đo được khi chụp ảnh TEM

STT	Đường kính hạt (nm)
1	39
2	23
3	45
4	29
5	33
6	36
7	23
8	23
9	48
10	19
11	29
12	39
13	23
14	13
15	23
16	33
17	13
18	23
19	19
20	19
21	36
22	29
23	29
24	26
25	16
26	42

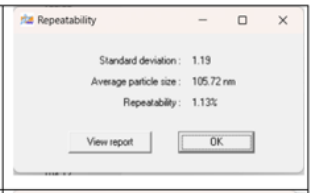
Từ bảng số liệu có thể tính được kích thước trung bình của hạt là 28 nm và độ lệch chuẩn kích thước là 9.54nm. Do đó kích thước trung bình hạt là 28 ± 9.59 nm.

II. Hình ảnh đo kích thước hạt bằng máy DLS của các khảo sát

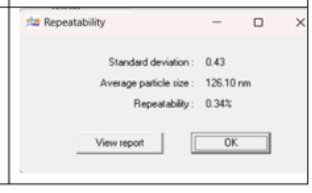
- *Khảo sát ảnh hưởng của pH lên quá trình hình thành nano bạc*

pH = 6

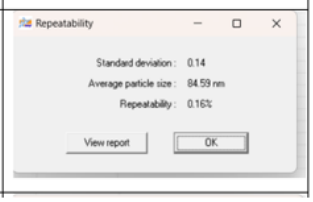
pH= 7.5



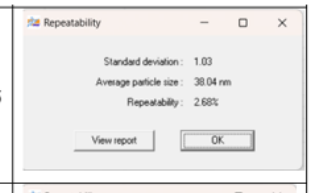
pH = 7



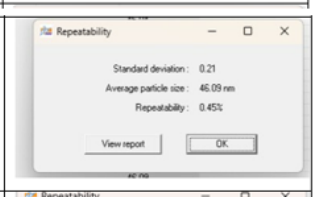
pH = 8



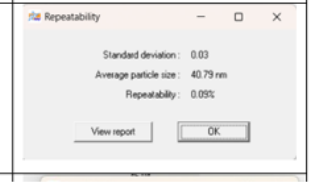
pH = 8.5



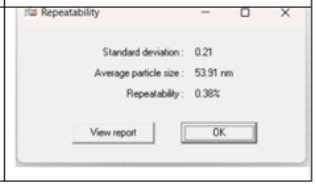
pH = 8.8



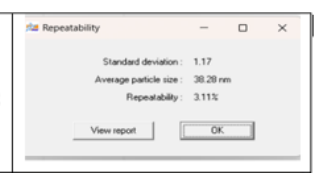
pH= 8.7



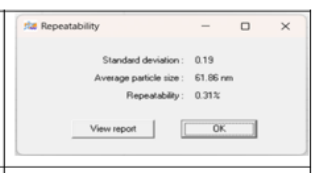
pH = 9



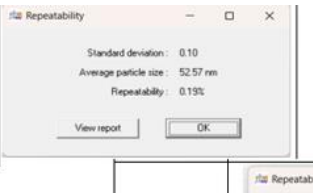
pH = 9.2



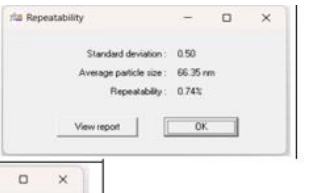
pH = 9.5



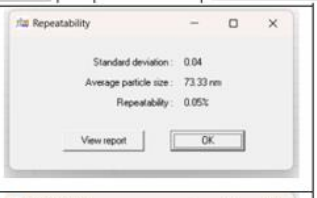
pH = 9.3



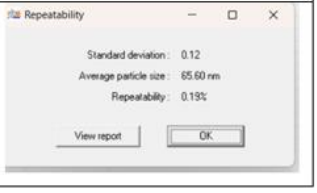
pH = 10



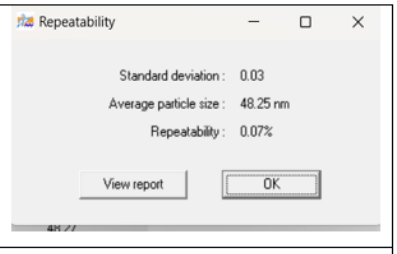
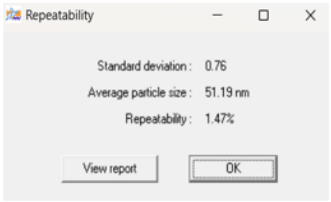
pH = 10.5

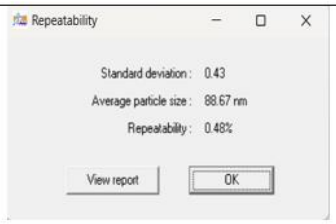
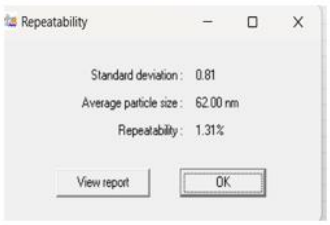


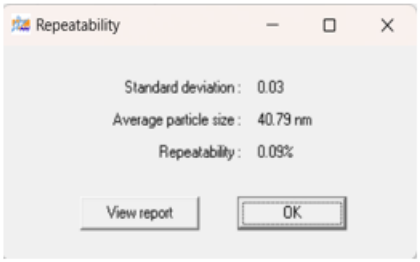
pH = 11



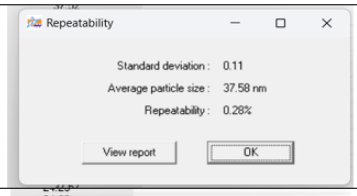
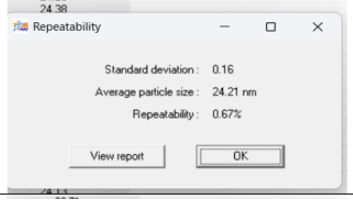
- *Khảo sát tỷ lệ dịch chiết và $AgNO_3$ tham gia phản ứng*

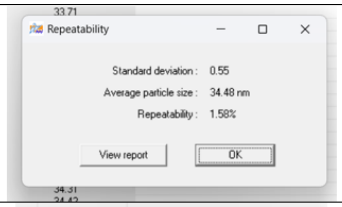
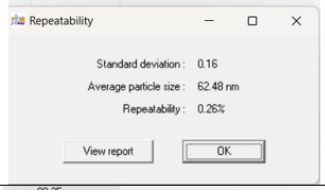
1:5	
1:5	

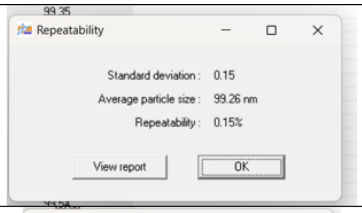
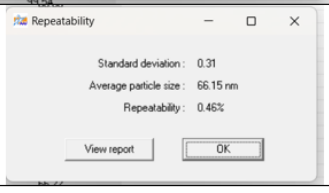
1:10	
1:10	

1:1	

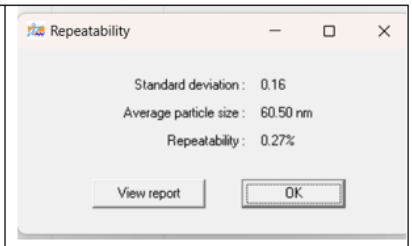
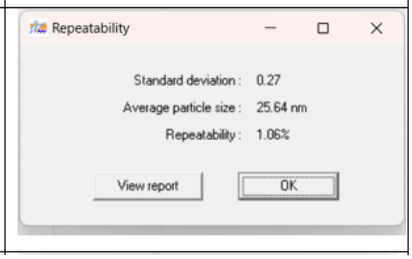
- *Khảo sát ảnh hưởng của thời gian phản ứng*

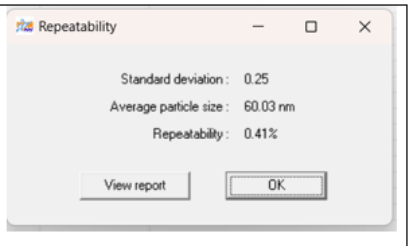
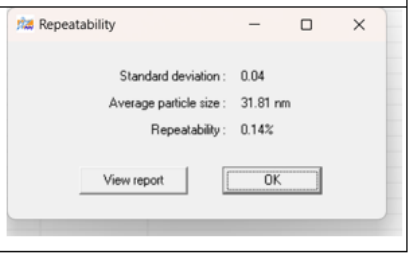
15 PHÚT	
30 PHÚT	

45 PHÚT	
60 PHÚT	

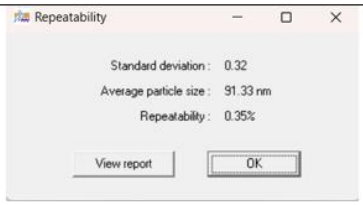
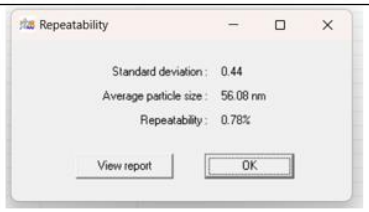
90 PHÚT	
120 PHÚT	

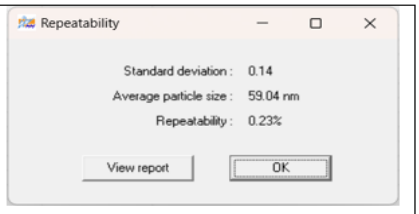
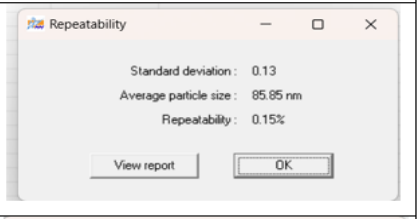
- *Khảo sát ảnh hưởng của nồng độ $AgNO_3$ khi tham gia phản ứng*

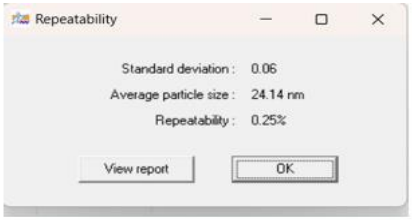
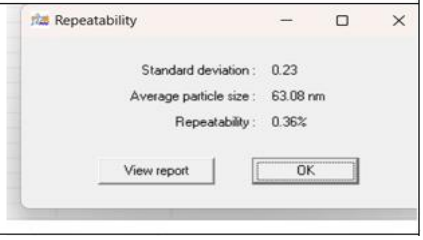
1mM	
2.5mM	

4mM	
5.5mM	

- *Khảo sát ảnh hưởng của nhiệt độ phản ứng*

30°C	
40°C	

50°C	
60°C	

70°C	
75°C	

80°C