

# TÀI LIỆU THAM KHẢO

## Tài liệu tham khảo tiếng Việt

Á T. (2022) *Xử lý nước thải dệt nhuộm: Công nghệ và quy trình thiết kế*, Toàn Á. Available at: <https://toana.vn/kien-thuc/he-thong-xu-ly-nuoc-thai-det-nhuom.html> (Accessed: 1 April 2023).

Ân, T.N.M. (2016) ‘Tổng hợp xanh Nano bạc từ AgNO<sub>3</sub> và dịch chiết lá diếp cá’, *VNU Journal of Science: Natural Sciences and Technology*, 32(3). Available at: <https://doi.org/10.25073/2588-1140/vnunst.3623>.

Chi, N.T.H. *et al.* (2016) ‘Nghiên cứu khả năng quang xúc tác của BiNbO<sub>4</sub> phân hủy methyl da cam dưới ánh sáng trong vùng khả kiến’, *Vietnam Journal of Chemistry*, 54(5), pp. 644–644. Available at: <https://doi.org/10.15625/0866-7144.2016-00380>.

*Food-Info.net: Thuốc nhuộm azo* (no date). Available at: <http://www.food-info.net/uk/colour/azo.htm> (Accessed: 2 April 2023).

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 DUPERREANA’, *Journal of Science and Technology - IUH*, 62(02). Available at: <https://doi.org/10.46242/jstiuh.v62i02.4783>.

Thuật P.N. (2022) ‘TỔNG HỢP XANH NANO BẠC SỬ DỤNG DỊCH CHIẾT LÁ CHÈ VÀ ĐÁNH GIÁ HOẠT TÍNH KHÁNG KHUẨN’, *Tạp chí Phân tích Hóa, Lý và Sinh học*, 28(4), pp. 188–188.

## Tài liệu tham khảo tiếng Anh

Ahmed, S. *et al.* (2017) ‘A review on biogenic synthesis of ZnO nanoparticles using plant extracts and microbes: A prospect towards green chemistry’, *Journal of Photochemistry and Photobiology B: Biology*, 166, pp. 272–284. Available at: <https://doi.org/10.1016/j.jphotobiol.2016.12.011>.

Arunachalam, R. *et al.* (2012) ‘Phytosynthesis of silver nanoparticles using *Coccinia grandis* leaf extract and its application in the photocatalytic degradation’, *Colloids and Surfaces. B, Biointerfaces*, 94, pp. 226–230. Available at: <https://doi.org/10.1016/j.colsurfb.2012.01.040>.

Azmi, W., Sani, R.K. and Banerjee, U.C. (1998) ‘Biodegradation of triphenylmethane dyes’, *Enzyme and Microbial Technology*, 22(3), pp. 185–191. Available at: [https://doi.org/10.1016/S0141-0229\(97\)00159-2](https://doi.org/10.1016/S0141-0229(97)00159-2).

- Bhardwaj, A.K., Gupta, M.K. and Naraiian, R. (2019) 'Myco-Nanotechnological Approach for Improved Degradation of Lignocellulosic Waste: Its Future Aspect', in R. Naraiian (ed.) *Mycodegradation of Lignocelluloses*. Cham: Springer International Publishing (Fungal Biology), pp. 227–245. Available at: [https://doi.org/10.1007/978-3-030-23834-6\\_12](https://doi.org/10.1007/978-3-030-23834-6_12).
- Bose, D. and Chatterjee, S. (2016) 'Biogenic synthesis of silver nanoparticles using guava (*Psidium guajava*) leaf extract and its antibacterial activity against *Pseudomonas aeruginosa*', *Applied Nanoscience*, 6(6), pp. 895–901. Available at: <https://doi.org/10.1007/s13204-015-0496-5>.
- Byrappa, K. *et al.* (2006) 'Photocatalytic degradation of rhodamine B dye using hydrothermally synthesized ZnO', *Bulletin of Materials Science*, 29(5), pp. 433–438. Available at: <https://doi.org/10.1007/BF02914073>.
- Chagas, E.P. and Durrant, L.R. (2001) 'Decolorization of azo dyes by *Phanerochaete chrysosporium* and *Pleurotus sajorcaju*', *Enzyme and Microbial Technology*, 29(8), pp. 473–477. Available at: [https://doi.org/10.1016/S0141-0229\(01\)00405-7](https://doi.org/10.1016/S0141-0229(01)00405-7).
- Chung, K.-T., Stevens, S.E. and Cerniglia, C.E. (1992) 'The Reduction of Azo Dyes by the Intestinal Microflora', *Critical Reviews in Microbiology*, 18(3), pp. 175–190. Available at: <https://doi.org/10.3109/10408419209114557>.
- Das, S.K. *et al.* (2013) 'Nano-silica fabricated with silver nanoparticles: antifouling adsorbent for efficient dye removal, effective water disinfection and biofouling control', *Nanoscale*, 5(12), pp. 5549–5560. Available at: <https://doi.org/10.1039/C3NR00856H>.
- Eisa, W.H. *et al.* (2019) 'Clean production of powdery silver nanoparticles using *Zingiber officinale*: The structural and catalytic properties', *Journal of Cleaner Production*, 241, p. 118398. Available at: <https://doi.org/10.1016/j.jclepro.2019.118398>.
- Elbadawy, H.A. *et al.* (2023) 'Sustainable and energy-efficient photocatalytic degradation of textile dye assisted by ecofriendly synthesized silver nanoparticles', *Scientific Reports*, 13(1), p. 2302. Available at: <https://doi.org/10.1038/s41598-023-29507-x>.
- El-Bahy, Z.M., Ismail, A.A. and Mohamed, R.M. (2009) 'Enhancement of titania by doping rare earth for photodegradation of organic dye (Direct Blue)', *Journal of Hazardous Materials*, 166(1), pp. 138–143. Available at: <https://doi.org/10.1016/j.jhazmat.2008.11.022>.

- Fukui, H. (2018) 'Application 1 - Development of New Cosmetics Based on Nanoparticles', in M. Naito et al. (eds) *Nanoparticle Technology Handbook (Third Edition)*. Elsevier, pp. 399–405. Available at: <https://doi.org/10.1016/B978-0-444-64110-6.00008-1>.
- Garcia, M.A. (2011) 'Surface plasmons in metallic nanoparticles: fundamentals and applications', *Journal of Physics D: Applied Physics*, 44(28), p. 283001. Available at: <https://doi.org/10.1088/0022-3727/44/28/283001>.
- Gómez-López, P. et al. (2020) 'Nanomaterials and catalysis for green chemistry', *Current Opinion in Green and Sustainable Chemistry*, 24, pp. 48–55. Available at: <https://doi.org/10.1016/j.cogsc.2020.03.001>.
- González-Pedroza, M.G. et al. (2023) 'Biogenesis 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>.
- Gupta, V.K. and Suhas (2009) 'Application of low-cost adsorbents for dye removal – A review', *Journal of Environmental Management*, 90(8), pp. 2313–2342. Available at: <https://doi.org/10.1016/j.jenvman.2008.11.017>.
- Gutiérrez, R.M.P., Mitchell, S. and Solis, R.V. (2008) 'Psidium guajava: A review of its traditional uses, phytochemistry and pharmacology', *Journal of Ethnopharmacology*, 117(1), pp. 1–27. Available at: <https://doi.org/10.1016/j.jep.2008.01.025>.
- He, Q. and Venant, N. (2004) 'Antioxidant power of phytochemicals from *Psidium guajava* leaf', *Journal of Zhejiang University-SCIENCE A*, 5(6), pp. 676–683. Available at: <https://doi.org/10.1007/BF02840979>.
- Hildenbrand, S. et al. (1999) 'Azo dyes and carcinogenic aromatic amines in cell cultures', *International Archives of Occupational and Environmental Health*, 72(3), pp. M052–M056. Available at: <https://doi.org/10.1007/PL00014217>.
- Jo, H.-J. et al. (2008) 'Toxicity identification and reduction of wastewaters from a pigment manufacturing factory', *Chemosphere*, 70(6), pp. 949–957. Available at: <https://doi.org/10.1016/j.chemosphere.2007.08.018>.
- Jose, P.P.A. et al. (2018) 'Silver-attached reduced graphene oxide nanocomposite as an eco-friendly photocatalyst for organic dye degradation', *Research on Chemical Intermediates*, 44(9), pp. 5597–5621. Available at: <https://doi.org/10.1007/s11164-018-3443-8>.

- Kamath J.V. *et al.* (2008) 'Psidium guajava L: A review', *International Journal of Green Pharmacy (IJGP)*, 2(1). Available at: <https://doi.org/10.22377/ijgp.v2i1.386>.
- Kordy, M.G.M. *et al.* (2022) 'Phyto-Capped Ag Nanoparticles: Green Synthesis, Characterization, and Catalytic and Antioxidant Activities', *Nanomaterials*, 12(3), p. 373. Available at: <https://doi.org/10.3390/nano12030373>.
- Kumar, P. *et al.* (2013) 'Photocatalytic degradation of methyl orange dye using silver (Ag) nanoparticles synthesized from *Ulva lactuca*', *Colloids and Surfaces. B, Biointerfaces*, 103, pp. 658–661. Available at: <https://doi.org/10.1016/j.colsurfb.2012.11.022>.
- Lau, W.-J. and Ismail, A.F. (2009) 'Polymeric nanofiltration membranes for textile dye wastewater treatment: Preparation, performance evaluation, transport modelling, and fouling control — a review', *Desalination*, 245(1), pp. 321–348. Available at: <https://doi.org/10.1016/j.desal.2007.12.058>.
- Manu, B. and Chaudhari, S. (2003) 'Decolorization of indigo and azo dyes in semicontinuous reactors with long hydraulic retention time', *Process Biochemistry*, 38(8), pp. 1213–1221. Available at: [https://doi.org/10.1016/S0032-9592\(02\)00291-1](https://doi.org/10.1016/S0032-9592(02)00291-1).
- Marimuthu, S. *et al.* (2020) 'Silver nanoparticles in dye effluent treatment: A review on synthesis, treatment methods, mechanisms, photocatalytic degradation, toxic effects and mitigation of toxicity', *Journal of Photochemistry and Photobiology B: Biology*, 205, p. 111823. Available at: <https://doi.org/10.1016/j.jphotobiol.2020.111823>.
- Martins, M.A.M. *et al.* (2002) 'Relationship of chemical structures of textile dyes on the pre-adaptation medium and the potentialities of their biodegradation by *Phanerochaete chrysosporium*', *Research in Microbiology*, 153(6), pp. 361–368. Available at: [https://doi.org/10.1016/S0923-2508\(02\)01332-3](https://doi.org/10.1016/S0923-2508(02)01332-3).
- Mohamed, R.M. *et al.* (2012) 'Photocatalytic Degradation of Methylene Blue by Fe/ZnO/SiO<sub>2</sub> Nanoparticles under Visiblelight', *Journal of Nanotechnology*, 2012, p. e329082. Available at: <https://doi.org/10.1155/2012/329082>.
- Murphy, M. *et al.* (2015) 'Current development of silver nanoparticle preparation, investigation, and application in the field of medicine', *Journal of Nanomaterials*, 2015, p. 5:5. Available at: <https://doi.org/10.1155/2015/696918>.
- Nangmenyi, G. and Economy, J. (2009) 'Chapter 1 - Nanometallic Particles for Oligodynamic Microbial Disinfection', in N. Savage *et al.* (eds) *Nanotechnology*

*Applications for Clean Water*. Boston: William Andrew Publishing (Micro and Nano Technologies), pp. 3–15. Available at: <https://doi.org/10.1016/B978-0-8155-1578-4.50010-X>.

Nasrollahzadeh, M. *et al.* (2020) ‘Biosynthesis and characterization of Ag/MgO nanocomposite and its catalytic performance in the rapid treatment of environmental contaminants’, *Ceramics International*, 46(2), pp. 2093–2101. Available at: <https://doi.org/10.1016/j.ceramint.2019.09.191>.

Ntomba, A.A. *et al.* (2019) ‘Biogenic Synthesis of Silver Nanoparticles Using Guava (*Psidium guajava*) Leaf Extract and Its Larvicidal Action against *Anopheles gambiae*’, *Journal of Biomaterials and Nanobiotechnology*, 11(01), p. 49. Available at: <https://doi.org/10.4236/jbnt.2020.111004>.

Oćwieja, M. *et al.* (2015) ‘Silver particle monolayers — Formation, stability, applications’, *Advances in Colloid and Interface Science*, 222, pp. 530–563. Available at: <https://doi.org/10.1016/j.cis.2014.07.001>.

Pan, L. *et al.* (2006) ‘Mechanism underlying mitochondrial protection of asiatic acid against hepatotoxicity in mice’, *Journal of Pharmacy and Pharmacology*, 58(2), pp. 227–233. Available at: <https://doi.org/10.1211/jpp.58.2.0010>.

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. Available at: <https://doi.org/10.1080/17458080.2015.1025300>.

Pradeep, T. and Anshup (2009) ‘Noble metal nanoparticles for water purification: A critical review’, *Thin Solid Films*, 517(24), pp. 6441–6478. Available at: <https://doi.org/10.1016/j.tsf.2009.03.195>.

Pryshchepa, O., Pomastowski, P. and Buszewski, B. (2020) ‘Silver nanoparticles: Synthesis, investigation techniques, and properties’, *Advances in Colloid and Interface Science*, 284, p. 102246. Available at: <https://doi.org/10.1016/j.cis.2020.102246>.

Raghunandan, D. *et al.* (2011) ‘Microwave-assisted rapid extracellular synthesis of stable bio-functionalized silver nanoparticles from guava (*Psidium guajava*) leaf extract’, *Journal of Nanoparticle Research*, 13(5), pp. 2021–2028. Available at: <https://doi.org/10.1007/s11051-010-9956-8>.

- Raina, S., Roy, A. and Bharadvaja, N. (2020) 'Degradation of dyes using biologically synthesized silver and copper nanoparticles', *Environmental Nanotechnology, Monitoring & Management*, 13, p. 100278. Available at: <https://doi.org/10.1016/j.enmm.2019.100278>.
- Raj, S. *et al.* (2020) 'Biogenic synthesis of AgNPs employing Terminalia arjuna leaf extract and its efficacy towards catalytic degradation of organic dyes', *Scientific Reports*, 10(1), p. 9616. Available at: <https://doi.org/10.1038/s41598-020-66851-8>.
- Rajaguru, P. *et al.* (2000) 'Biodegradation of azo dyes in a sequential anaerobic–aerobic system', *Applied Microbiology and Biotechnology*, 54(2), pp. 268–273. Available at: <https://doi.org/10.1007/s002530000322>.
- Reddy, K.R. *et al.* (2008) 'Facile synthesis of conducting polymer–metal hybrid nanocomposite by in situ chemical oxidative polymerization with negatively charged metal nanoparticles', *Materials Letters*, 62(12), pp. 1815–1818. Available at: <https://doi.org/10.1016/j.matlet.2007.10.025>.
- Robinson, P.R. and Hsu, C.S. (2017) 'Introduction to Petroleum Technology', in C.S. Hsu and P.R. Robinson (eds) *Springer Handbook of Petroleum Technology*. Cham: Springer International Publishing (Springer Handbooks), pp. 1–83. Available at: [https://doi.org/10.1007/978-3-319-49347-3\\_1](https://doi.org/10.1007/978-3-319-49347-3_1).
- Sarkar, B. *et al.* (2022) 'Nanotechnology: A next-generation tool for sustainable aquaculture', *Aquaculture*, 546, p. 737330. Available at: <https://doi.org/10.1016/j.aquaculture.2021.737330>.
- 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>.
- Suwan, T., Khongkhunthian, S. and Okonogi, S. (2019) 'Antifungal activity of polymeric micelles of silver nanoparticles prepared from *Psidium guajava* aqueous extract', *Drug Discoveries & Therapeutics*, 13(2), pp. 62–69. Available at: <https://doi.org/10.5582/ddt.2019.01024>.
- Tahir, K. *et al.* (2015) 'An efficient photo catalytic activity of green synthesized silver nanoparticles using *Salvadora persica* stem extract', *Separation and Purification*

*Technology*, 150, pp. 316–324. Available at:  
<https://doi.org/10.1016/j.seppur.2015.07.012>.

Thaipong, K. *et al.* (2005) ‘Hydrophilic and lipophilic antioxidant activities of guava fruits’, *The Southeast Asian journal of tropical medicine and public health*, 36 Suppl 4, pp. 254–7.

Trieu, Q.-A. *et al.* (2023) ‘Photocatalytic degradation of methylene blue and antibacterial activity of silver nanoparticles synthesized from *Camellia sinensis* leaf extract’, *Journal of Experimental Nanoscience*, 18(1), p. 2225759. Available at:  
<https://doi.org/10.1080/17458080.2023.2225759>.

Vanaja, M. *et al.* (2014) ‘Degradation of Methylene Blue Using Biologically Synthesized Silver Nanoparticles’, *Bioinorganic Chemistry and Applications*, 2014, p. e742346. Available at: <https://doi.org/10.1155/2014/742346>.

Vanaja, M. and Annadurai, G. (2013) ‘*Coleus aromaticus* leaf extract mediated synthesis of silver nanoparticles and its bactericidal activity’, *Applied Nanoscience*, 3(3), pp. 217–223. Available at: <https://doi.org/10.1007/s13204-012-0121-9>.

Vankar, P.S. and Shukla, D. (2012) ‘Biosynthesis of silver nanoparticles using lemon leaves extract and its application for antimicrobial finish on fabric’, *Applied Nanoscience*, 2(2), pp. 163–168. Available at: <https://doi.org/10.1007/s13204-011-0051-y>.

Viorica, R.-P. *et al.* (2017) ‘*Lactococcus lactis* as a safe and inexpensive source of bioactive silver composites’, *Applied Microbiology and Biotechnology*, 101(19), pp. 7141–7153. Available at: <https://doi.org/10.1007/s00253-017-8443-x>.

Waldmann, I. and Vakilzadeh, F. (1997) ‘[Delayed type allergic reaction to red azo dye in tattooing]’, *Der Hautarzt; Zeitschrift Fur Dermatologie, Venerologie, Und Verwandte Gebiete*, 48(9), pp. 666–670. Available at:  
<https://doi.org/10.1007/s001050050643>.

Wang, L. *et al.* (2018) ‘Characterization, antioxidant and antimicrobial activities of green synthesized silver nanoparticles from *Psidium guajava* L. leaf aqueous extracts’, *Materials Science and Engineering: C*, 86, pp. 1–8. Available at:  
<https://doi.org/10.1016/j.msec.2018.01.003>.

Weber, E.J. and Stickney, V.C. (1993) 'Hydrolysis kinetics of Reactive Blue 19-Vinyl Sulfone', *Water Research*, 27(1), pp. 63–67. Available at: [https://doi.org/10.1016/0043-1354\(93\)90195-N](https://doi.org/10.1016/0043-1354(93)90195-N).

Whittig, L.D. and Allardice, W.R. (1986) 'X-Ray Diffraction Techniques', in *Methods of Soil Analysis*. John Wiley & Sons, Ltd, pp. 331–362. Available at: <https://doi.org/10.2136/sssabookser5.1.2ed.c12>.

Williams, D.B. and Carter, C.B. (1996) 'The Transmission Electron Microscope', in D.B. Williams and C.B. Carter (eds) *Transmission Electron Microscopy: A Textbook for Materials Science*. Boston, MA: Springer US, pp. 3–17. Available at: [https://doi.org/10.1007/978-1-4757-2519-3\\_1](https://doi.org/10.1007/978-1-4757-2519-3_1).

Ye, Z. *et al.* (2018) 'A comparative study of photocatalytic activity of ZnS photocatalyst for degradation of various dyes', *Optik*, 164, pp. 345–354. Available at: <https://doi.org/10.1016/j.ijleo.2018.03.030>.

van der Zee, F.P., Lettinga, G. and Field, J.A. (2001) 'Azo dye decolourisation by anaerobic granular sludge', *Chemosphere*, 44(5), pp. 1169–1176. Available at: [https://doi.org/10.1016/S0045-6535\(00\)00270-8](https://doi.org/10.1016/S0045-6535(00)00270-8).

## PHỤ LỤC

**Bảng tính toán %PD và SD của khảo sát giá trị pH**

<b>Giá trị pH</b>	<b>pH 1.5</b>	<b>pH 2</b>	<b>pH 3</b>	<b>pH 4</b>
<b>%PD</b>	96.4369	95.0581	65.0478	42.0165
<b>SD</b>	3.0307	4.0093	3.3995	7.5914

**Bảng tính toán %PD và SD của khảo sát thời gian phơi sáng**

<b>Thời gian (h)</b>	<b>%PD</b>	<b>SD</b>
1	30.8237	1.5555
2	58.1332	1.7052
4	66.9584	0.9165
8	71.8926	1.3145
12	74.0087	1.5227
16	81.9365	0.1534
20	87.4129	2.3917
24	89.3029	0.1424
36	91.5678	1.1100
48	93.7103	0.0511
72	97.5342	0.2373

**Bảng tính toán %PD và SD của khảo sát lượng AgNPs sử dụng**

<b>Lượng AgNPs (mL)</b>	<b>0.1</b>	<b>0.2</b>	<b>0.4</b>	<b>0.6</b>	<b>0.8</b>	<b>1</b>
<b>%PD</b>	22.1637	41.2445	59.2254	84.4487	87.7640	95.0658
<b>SD</b>	6.2148	10.5747	2.5195	3.0271	2.7569	4.0495

**Bảng tính toán %PD và SD của khảo sát ánh sáng và cường độ chiếu sáng**

<b>Ánh sáng và cường độ chiếu sáng</b>	<b>%PD</b>	<b>SD</b>
<b>230 Lux (as phòng)</b>	61.6370	0.3140
<b>353 Lux (LED)</b>	56.8784	1.1429
<b>461 Lux (LED)</b>	55.2103	1.8309
<b>588 Lux (LED)</b>	68.4637	0.2337
<b>764 Lux (LED)</b>	79.2486	1.1721
<b>2394 Lux (as mặt trời)</b>	96.8655	0.2410

**Bảng tính toán %PD và SD của khảo sát nồng độ thuốc nhuộm ban đầu**

<b>Nồng độ metyl red (mg/L)</b>	<b>1</b>	<b>5</b>	<b>10</b>
<b>% PD</b>	96.9300	96.2200	93.6974
<b>SD</b>	0.6755	0.1241	1.2086

**Bảng kích thước hạt đo được dựa vào ảnh TEM**

<b>Đường kính hạt (nm)</b>	<b>TB</b>	<b>SD</b>
10	11.8710	6.0649
8		
8		
8		
10		
10		
8		
6		
12		
24		
6		
4		
8		

10

18

8

8

28

8

8

8

10

12

14

24

12

12

10

22

22

12

