

## DAFTAR PUSTAKA

- Abbaspour, A., Mehrgardi, M.A., Noori, A., Kamyabi, M.A., Khalafi-Nezhad, A., and Rad, M.N.S., 2006, Speciation of iron(II), iron(III) and full-range pH monitoring using paptode: A simple colorimetric method as an appropriate alternative for optodes, *Sensors Actuators, B Chem.*, 113, 857–865.
- Ahmad, T., Irfan, M., Bustam, M.A., and Bhattacharjee, S., 2016, Effect of Reaction Time on Green Synthesis of Gold Nanoparticles by Using Aqueous Extract of Elaise Guineensis (Oil Palm Leaves), *Procedia Eng.*, 148, 467–472.
- Annur, S., Raya, U.S., Santosa, S.J., Mada, U.G., Aprilita, N.H., and Mada, U.G., 2018, A Preliminary Research for Selective Detection of Cr (III) In Water A Preliminary Research for Selective Detection of Cr (III) In Water Sample, 1.
- Annur, S., Santosa, S.J., and Aprilita, N.H., 2018, PH dependence of size control in gold nanoparticles synthesized at room temperature, *Orient. J. Chem.*, 34, 2305–2312.
- Anuradha, J., Abbasi, T., and Abbasi, S.A., 2015, An eco-friendly method of synthesizing gold nanoparticles using an otherwise worthless weed pistia (*Pistia stratiotes* L.), *J. Adv. Res.*, 6, 711–720.
- AOAC, 2011, A Single-Laboratory Validated Method for the Generation of, *J. Aoac Int.*, 94, 201–211.
- Balasubramanian, S.K., Jittiwat, J., Manikandan, J., Ong, C.N., Yu, L.E., and Ong, W.Y., 2010, Biodistribution of gold nanoparticles and gene expression changes in the liver and spleen after intravenous administration in rats, *Biomaterials*, 31, 2034–2042.
- Banerjee, S., Hemraj-Benny, T., and Wong, S.S., 2005, Covalent surface chemistry of single-walled carbon nanotubes, *Adv. Mater.*, 17, 17–29.
- Bastús, N.G., Merkoçi, F., Piella, J., and Puntès, V., 2014, Synthesis of highly monodisperse citrate-stabilized silver nanoparticles of up to 200 nm: Kinetic control and catalytic properties, *Chem. Mater.*, 26, 2836–2846.
- Benezra, M., Penate-Medina, O., Zanzonico, P.B., Schaer, D., Ow, H., Burns, A., DeStanchina, E., Longo, V., Herz, E., Iyer, S., Wolchok, J., Larson, S.M., Wiesner, U., and Bradbury, M.S., 2011, Multimodal silica nanoparticles are effective cancer-targeted probes in a model of human melanoma, *J. Clin. Invest.*, 121, 2768–2780.
- Benkert, A., Scheller, F., Schössler, W., Hentschel, C., Micheel, B., Behrsing, O., Scharte, G., Stöcklein, W., and Warsinke, A., 2000, Development of a creatinine ELISA and an amperometric antibody-based creatinine sensor with a detection

limit in the nanomolar range, *Anal. Chem.*, 72, 916–921.

- Benkert, A., Scheller, F.W., Schoessler, W., Micheel, B., and Warsinke, A., 2000, Size exclusion redox-labeled immunoassay (SERI): A new format for homogeneous amperometric creatinine determination, *Electroanalysis*, 12, 1318–1321.
- Borah, S.B.D., Bora, T., Baruah, S., and Dutta, J., 2015, Heavy metal ion sensing in water using surface plasmon resonance of metallic nanostructures, *Groundw. Sustain. Dev.*, 1, 1–11.
- Boruah, J.S., Kalita, P., Chowdhury, D., and Barthakur, M., 2020, Conjugation of citrate capped gold nanoparticles with gabapentin to use as biosensor, *Mater. Today Proc.*, 46, 6404–6408.
- Byrne, L., Barker, J., Pennarun-Thomas, G., Diamond, D., and Edwards, S., 2000, Digital imaging as a detector for generic analytical measurements, *TrAC - Trends Anal. Chem.*, 19, 517–522.
- Cantrell, K., Erenas, M.M., De Orbe-Payá, I., and Capitán-Vallvey, L.F., 2010, Use of the hue parameter of the hue, saturation, value color space as a quantitative analytical parameter for bitonal optical sensors, *Anal. Chem.*, 82, 531–542.
- Del Carmen Hurtado-Sánchez, M., Espinosa-Mansilla, A., Rodríguez-Cáceres, M.I., Martín-Tornero, E., and Durán-Merás, I., 2012, Development of a method for the determination of advanced glycation end products precursors by liquid chromatography and its application in human urine samples, *J. Sep. Sci.*, 35, 2575–2584.
- Chang, B.Y., 2012, Smartphone-based chemistry instrumentation: Digitization of colorimetric measurements, *Bull. Korean Chem. Soc.*, 33, 549–552.
- Chen, J.C., Kumar, A.S., Chung, H.H., Chien, S.H., Kuo, M.C., and Zen, J.M., 2006, An enzymeless electrochemical sensor for the selective determination of creatinine in human urine, *Sensors Actuators, B Chem.*, 115, 473–480.
- Chen, S., Fang, Y.M., Xiao, Q., Li, J., Li, S.B., Chen, H.J., Sun, J.J., and Yang, H.H., 2012, Rapid visual detection of aluminium ion using citrate capped gold nanoparticles, *Analyst*, 137, 2021–2023.
- Cheng, W., Dong, S., and Wang, E., 2003, Synthesis and Self-Assembly of Cetyltrimethylammonium Bromide-Capped Gold Nanoparticles, *Langmuir*, 19, 9434–9439.
- Chi, H., Liu, B., Guan, G., Zhang, Z., and Han, M.Y., 2010, A simple, reliable and sensitive colorimetric visualization of melamine in milk by unmodified gold nanoparticles, *Analyst*, 135, 1070–1075.
- Choodum, A., Kanatharana, P., Wongniramaikul, W., and Nic Daeid, N., 2013, Using

- the iPhone as a device for a rapid quantitative analysis of trinitrotoluene in soil, *Talanta*, 115, 143–149.
- Contreras-Trigo, B., Díaz-García, V., Guzmán-Gutierrez, E., Sanhueza, I., Coelho, P., Godoy, S.E., Torres, S., and Oyarzún, P., 2018, Slight pH fluctuations in the gold nanoparticle synthesis process influence the performance of the citrate reduction method, *Sensors (Switzerland)*, 18.
- Daruich De Souza, C., Ribeiro Nogueira, B., and Rostelato, M.E.C.M., 2019, Review of the methodologies used in the synthesis gold nanoparticles by chemical reduction, *J. Alloys Compd.*, 798, 714–740.
- Doores, K.J. and Davis, B.G., 2005, “Polar patch” proteases as glycopeptidases, *Chem. Commun.*, 1, 168–170.
- Dugdale, S.J., Bergeron, N.E., and St-Hilaire, A., 2013, Temporal variability of thermal refuges and water temperature patterns in an Atlantic salmon river, *Remote Sens. Environ.*, 136, 358–373.
- Eustis, S. and El-Sayed, M.A., 2006, Why gold nanoparticles are more precious than pretty gold: Noble metal surface plasmon resonance and its enhancement of the radiative and nonradiative properties of nanocrystals of different shapes, *Chem. Soc. Rev.*, 35, 209–217.
- de Faria, L.C. and Pasquini, C., 1992, Spectrophotometric determination of creatinine by monosegmented continuous flow analysis, *J. Automat. Chem.*, 14, 97–100.
- Fatimah, I., 2016, Green synthesis of silver nanoparticles using extract of *Parkia speciosa* Hassk pods assisted by microwave irradiation, *J. Adv. Res.*, 7, 961–969.
- Firdaus, M.L., Alwi, W., Trinoveldi, F., Rahayu, I., Rahmidar, L., and Warsito, K., 2014, Determination of Chromium and Iron Using Digital Image-based Colorimetry, *Procedia Environ. Sci.*, 20, 298–304.
- Gardea-Torresdey, J.L., Tiemann, K.J., Parsons, J.G., Gamez, G., Herrera, I., and Jose-Yacaman, M., 2002, XAS investigations into the mechanism(s) of Au(III) binding and reduction by alfalfa biomass, *Microchem. J.*, 71, 193–204.
- Ghosh, S.K., Pal, A., Kundu, S., Nath, S., and Pal, T., 2004, Fluorescence quenching of 1-methylaminopyrene near gold nanoparticles: Size regime dependence of the small metallic particles, *Chem. Phys. Lett.*, 395, 366–372.
- Giannoulis, K.M., Giokas, D.L., Tsogas, G.Z., and Vlessidis, A.G., 2014, Ligand-free gold nanoparticles as colorimetric probes for the non-destructive determination of total dithiocarbamate pesticides after solid phase extraction, *Talanta*, 119, 276–283.
- Gittins, D.I. and Caruso, F., 2001, Spontaneous phase transfer of nanoparticulate

- metals from organic to aqueous media, *Angew. Chemie - Int. Ed.*, 40, 3001–3004.
- Govaerts, B., Dewé, W., Maumy, M., and Boulanger, B., 2008, Pre-study analytical method validation: Comparison of four alternative approaches based on quality-level estimation and tolerance intervals, *Qual. Reliab. Eng. Int.*, 24, 667–680.
- Guo, S. and Wang, E., 2007, Synthesis and electrochemical applications of gold nanoparticles, *Anal. Chim. Acta*, 598, 181–192.
- Gustavo González, A. and Ángeles Herrador, M., 2007, A practical guide to analytical method validation, including measurement uncertainty and accuracy profiles, *TrAC - Trends Anal. Chem.*, 26, 227–238.
- Hanžić et al., 2015, The synthesis of gold nanoparticles by a citrate-radiolytical method, 77–82.
- Harvey, D., 2000, *Modern Analytic Chemistry Spectroscopy*, 1–817.
- Hatcher, D.W., Symons, S.J., and Manivannan, U., 2004, Developments in the use of image analysis for the assessment of oriental noodle appearance and colour, *J. Food Eng.*, 61, 109–117.
- He, Y. and Peng, R., 2014, Luminol functionalized gold nanoparticles as colorimetric and chemiluminescent probes for visual, label free, highly sensitive and selective detection of minocycline, *Nanotechnology*, 25.
- He, Y., Zhang, X., and Yu, H., 2015, Gold nanoparticles-based colorimetric and visual creatinine assay, *Microchim. Acta*, 182, 2037–2043.
- Husdan, H. and Rapoport, A., 1968, Estimation of creatinine by the Jaffe reaction. A comparison of three methods., *Clin. Chem.*, 14, 222–238.
- Isaacs, S.R., Cutler, E.C., Park, J.S., Lee, T.R., and Shon, Y.S., 2005, Synthesis of tetraoctylammonium-protected gold nanoparticles with improved stability, *Langmuir*, 21, 5689–5692.
- Jin, W., Huang, P., Chen, Y., Wu, F., and Wan, Y., 2015, Colorimetric detection of Cr<sup>3+</sup> using gold nanoparticles functionalized with 4-amino hippuric acid, *J. Nanoparticle Res.*, 17, 1–10.
- Kazmierczak, S.C., Van Lente, F., and Hodges, E.D., 1991, Diagnostic and prognostic utility of phospholipase A activity in patients with acute pancreatitis: Comparison with amylase and lipase, *Clin. Chem.*, 37, 356–360.
- Kehoe, E. and Penn, R.L., 2013, Introducing colorimetric analysis with camera phones and digital cameras: An activity for high school or general chemistry, *J. Chem. Educ.*, 90, 1191–1195.

- Koenig, M.H., Yi, E.P., Sandridge, M.J., Mathew, A.S., and Demas, J.N., 2015, Open-box approach to measuring fluorescence quenching using an ipad screen and digital SLR camera, *J. Chem. Educ.*, 92, 310–316.
- Kohl, S.K., Landmark, J.D., and Stickle, D.F., 2006, Demonstration of absorbance using digital color image analysis and colored solutions, *J. Chem. Educ.*, 83, 644–646.
- Krutyakov, Y.A., Kudrinskiy, A.A., Olenin, A.Y., and Lisichkin, G. V, 2008, Synthesis and properties of silver nanoparticles: advances and prospects, *Russ. Chem. Rev.*, 77, 233–257.
- Kumar, S., Gandhi, K.S., and Kumar, R., 2007, Modeling of formation of gold nanoparticles by citrate method, *Ind. Eng. Chem. Res.*, 46, 3128–3136.
- Kuntzleman, T.S. and Jacobson, E.C., 2016, Teaching Beer's Law and absorption spectrophotometry with a smart phone: A substantially simplified protocol, *J. Chem. Educ.*, 93, 1249–1252.
- Krajczewski, J., Kołataj, K., dan Kudelski, A., 2017, Plasmonic Nanoparticles in Chemical Analysis, *RSC Adv.*, 7, 17559–17576
- Lad, U., Khokhar, S., and Kale, G.M., 2008, Electrochemical creatinine biosensors, *Anal. Chem.*, 80, 7910–7917.
- Lapresta-Fernández, A. and Capitán-Vallvey, L.F., 2011, Environmental monitoring using a conventional photographic digital camera for multianalyte disposable optical sensors, *Anal. Chim. Acta*, 706, 328–337.
- Lee, J.H., Choi, S.U.S., Jang, S.P., and Lee, S.Y., 2012, Production of aqueous spherical gold nanoparticles using conventional ultrasonic bath, *Nanoscale Res. Lett.*, 7, 1–7.
- Leiva, A., Bonarrrd, S., Pino, M., Saldías, C., Kortaberria, G., and Radić, D., 2015, Improving the performance of chitosan in the synthesis and stabilization of gold nanoparticles, *Eur. Polym. J.*, 68, 419–431.
- Li, T.J., Chen, P.Y., Nien, P.C., Lin, C.Y., Vittal, R., Ling, T.R., and Ho, K.C., 2012, Preparation of a novel molecularly imprinted polymer by the sol-gel process for sensing creatinine, *Anal. Chim. Acta*, 711, 83–90.
- Lin, C., Tao, K., Hua, D., Ma, Z., and Zhou, S., 2013, Size effect of gold nanoparticles in catalytic reduction of p-nitrophenol with NaBH<sub>4</sub>, *Molecules*, 18, 12609–12620.
- Lind, R., 2012, Open source software for image processing and analysis: picture this with ImageJ, Woodhead Publishing Limited.
- Lu, L., Zhang, J., and Yang, X., 2013, Simple and selective colorimetric detection of

- hypochlorite based on anti-aggregation of gold nanoparticles, *Sensors Actuators, B Chem.*, 184, 189–195.
- Malikova, N., Pastoriza-Santos, I., Schierhorn, M., Kotov, N.A., and Liz-Marzán, L.M., 2002, Layer-by-layer assembled mixed spherical and planar gold nanoparticles: Control of interparticle interactions, *Langmuir*, 18, 3694–3697.
- Polte, J., Ahner, T.T., Delissen, F., Sokolov, S., Emmerling, F., Thünemann, A.F., and Kraehnert, R., 2010, Mechanism of Gold Nanoparticle Formation Citrate Synthesis, 1296–1301.
- Pourali, P., Badiie, S.H., Manafi, S., Noorani, T., Rezaei, A., and Yahyaei, B., 2017, Biosynthesis of gold nanoparticles by two bacterial and fungal strains, *Bacillus cereus* and *Fusarium oxysporum*, and assessment and comparison of their nanotoxicity in vitro by direct and indirect assays, *Electron. J. Biotechnol.*, 29, 86–93.
- Philip, D., 2008, Synthesis and spectroscopic characterization of gold nanoparticles, *Spectrochimica Acta Part A*, 71, 80–85.
- Pinto, V. V., Ferreira, M.J., Silva, R., Santos, H.A., Silva, F., dan Pereira, C.M., 2010, Long Time Effect on the Stability of Silver Nanoparticles in Aqueous Medium: Effect of the Synthesis and Storage Conditions, *Colloids Surfaces A Physicochem. Eng. Asp.*, 364, 19–25.
- Pu, W., Zhao, H., Huang, C., Wu, L., and Xu, D., 2013, Visual detection of arginine based on the unique guanidino group-induced aggregation of gold nanoparticles, *Anal. Chim. Acta*, 764, 78–83.
- Putnam, 1971, Composition and concentrative properties of human urine, *NASA Contract. Reports*.
- Qin, L., Zeng, G., Lai, C., Huang, D., Xu, P., Zhang, C., Cheng M., Liu X., Liu S., Li B., dan Yi H., 2018, “Gold Rush” in Modern Science: Fabrication Strategies and Typical Advanced Applications of Gold Nanoparticles in Sensing, *Coord. Chem. Rev.*, 359, 1–31.
- Rajathi, 2012, Spectrochimica Acta Part A : Molecular and Biomolecular Spectroscopy Biosynthesis of antibacterial gold nanoparticles using brown alga , *Stoechospermum marginatum* ( kützing ), *Spectrochim. ACTA PART A Mol. Biomol. Spectrosc.*, 99, 166–173.
- Randviir, E.P., Kampouris, D.K., and Banks, C.E., 2013, An improved electrochemical creatinine detection method via a Jaffe-based procedure, *Analyst*, 138, 6565–6572.
- Rao, H., Lu, Z., Ge, H., Liu, X., Chen, B., Zou, P., Wang, X., He, H., Zeng, X., and

- Wang, Y., 2017, Electrochemical creatinine sensor based on a glassy carbon electrode modified with a molecularly imprinted polymer and a Ni@polyaniline nanocomposite, *Microchim. Acta*, 184, 261–269.
- Raveendran, 2003, Completely “Green” Synthesis and Stabilization of Metal Nanoparticles,” *Opt. Pura y Apl.*, 46, 111–119.
- Reinstein, D.Z., Archer, T.J., Silverman, R.H., and Coleman, D.J., 2006, Accuracy, repeatability, and reproducibility of Artemis very high-frequency digital ultrasound arc-scan lateral dimension measurements, *J. Cataract Refract. Surg.*, 32, 1799–1802.
- Ruzicka, J. and Marshall, G.D., 1990, Sequential injection: a new concept for chemical sensors, process analysis and laboratory assays, *Anal. Chim. Acta*, 237, 329–343.
- Sadeghi, S. and Hosseinpour-Zaryabi, M., 2020, Sodium gluconate capped silver nanoparticles as a highly sensitive and selective colorimetric probe for the naked eye sensing of creatinine in human serum and urine, *Microchem. J.*, 154, 104601.
- Safavi, A., Maleki, N., Rostamzadeh, A., and Maesum, S., 2007, CCD camera full range pH sensor array, *Talanta*, 71, 498–501.
- Seol, S.K., Kim, D., Jung, S., and Hwu, Y., 2011, Microwave synthesis of gold nanoparticles: Effect of applied microwave power and solution pH, *Mater. Chem. Phys.*, 131, 331–335.
- Shaikh, R., Memon, N., Solangi, A.R., Shaikh, H.I., Agheem, M.H., Ali, S.A., Shah, M.R., dan Kandhro, A., 2017, 2,3-Pyridine Dicarboxylic Acid Functionalized Gold Nanoparticles: Insight Into Experimental Conditions for Cr<sup>3+</sup> Sensing, *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.*, 173, 241–250.
- Sharma, P., Semwal, V., and Gupta, B.D., 2019, Highly sensitive and selective localized surface plasmon resonance biosensor for detecting glutamate realized on optical fiber substrate using gold nanoparticles, *Photonics Nanostructures - Fundam. Appl.*, 37, 100730.
- Shrivastava, K., Shankar, R., and Dewangan, K., 2015, Gold nanoparticles as a localized surface plasmon resonance based chemical sensor for on-site colorimetric detection of arsenic in water samples, *Sensors Actuators, B Chem.*, 220, 1376–1383.
- Singh, A.K., Tiwari, R., Singh, V.K., Singh, P., Khadim, S.R., Singh, U., Laxmi, Srivastava, V., Hasan, S.H., and Asthana, R.K., 2019, Green synthesis of gold nanoparticles from *Dunaliella salina*, its characterization and in vitro anticancer activity on breast cancer cell line, *J. Drug Deliv. Sci. Technol.*, 51, 164–176.

- van Staden, J.F., 1983, Determination of creatinine in urine and serum by flow-injection analysis using the Jaffé reaction, *Fresenius' Zeitschrift für Anal. Chemie*, 315, 141–144.
- Thompson, M., Elison, S., Wood R., 2002, Harmonized Guidelines for Single laboratory Validation of Methods of Analysis. Pure Applied Chemistry, *Pure Appl. Chem.*, 74, 835–855.
- Tsai, H.A. and Syu, M.J., 2005, Synthesis of creatinine-imprinted poly( $\beta$ -cyclodextrin) for the specific binding of creatinine, *Biomaterials*, 26, 2759–2766.
- Turkevich, J., Stevenson, P.C., and Hillier, J., 1951, A study of the nucleation and growth processes in the synthesis of colloidal gold, *Discuss. Faraday Soc.*, 11, 55–75.
- Tyagi, H., Kushwaha, A., Kumar, A., and Aslam, M., 2011, PH-dependent synthesis of stabilized gold nanoparticles using ascorbic acid, *Int. J. Nanosci.*, 10, 857–860.
- Wagers, K., Chui, T., and Adem, S., 2014, Effect of pH on the Stability of Gold Nanoparticles and Their Application for Melamine Detection in Infant Formula, *IOSR J. Appl. Chem.*, 7, 15–20.
- Williams, D.L., Flaherty, T.J., Jupe, C.L., Coleman, S.A., Marquez, K.A., and Stanton, J.J., 2007, Beyond  $\lambda_{max}$ : Transforming visible spectra into 24-bit color values, *J. Chem. Educ.*, 84, 1873–1877.
- Wang, Y., Li, Y.S., Zhang, Z., dan An, D., 2003, Surface-enhanced Raman Scattering of Some Water Insoluble Drugs in Silver Hydrosols, *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.*, 59, 589–594
- Wongwilai, W., Lapanantnoppakhun, S., Grudpan, S., and Grudpan, K., 2010, Webcam camera as a detector for a simple lab-on-chip time based approach, *Talanta*, 81, 1137–1141.
- Yan, Y., Chen, K. Bin, Li, H.R., Hong, W., Hu, X. Bin, and Xu, Z., 2014, Capping effect of reducing agents and surfactants in synthesizing silver nanoplates, *Trans. Nonferrous Met. Soc. China (English Ed.)*, 24, 3732–3738.
- Yin, K., Pandian, V., Kadimisetty, K., Ruiz, C., Cooper, K., You, J., and Liu, C., 2019, Synergistically enhanced colorimetric molecular detection using smart cup: A case for instrument-free HPV-associated cancer screening, *Theranostics*, 9, 2637–2645.
- Yoshimura, N., Sabir, A., Kubo, T., Lin, P.J.P., Clouse, M.E., and Hatabu, H., 2006, Correlation between image noise and body weight in coronary CTA with 16-row MDCT, *Acad. Radiol.*, 13, 324–328.
- Zahran, M.K., Ahmed, H.B., and El-Rafie, M.H., 2014, Alginate mediate for synthesis

controllable sized AgNPs, *Carbohydr. Polym.*, 111, 10–17.

Zha, J., Dong, C., Wang, X., Zhang, X., Xiao, X., and Yang, X., 2017, Green synthesis and characterization of monodisperse gold nanoparticles using Ginkgo Biloba leaf extract, *Optik (Stuttg.)*, 144, 511–521.

Zhao, P., Li, N., and Astruc, D., 2013, State of the art in gold nanoparticle synthesis, *Coord. Chem. Rev.*, 257, 638–665.

Zhybak, M., Beni, V., Vagin, M.Y., Dempsey, E., Turner, A.P.F., and Korpan, Y., 2016, Creatinine and urea biosensors based on a novel ammonium ion-selective copper-polyaniline nano-composite, *Biosens. Bioelectron.*, 77, 505–511.

Zümreoglu-Karan, B., 2009, A rationale on the role of intermediate Au(III)-vitamin C complexation in the production of gold nanoparticles, *J. Nanoparticle Res.*, 11, 1099–1105.