DAFTAR PUSTAKA

Abbas, A., Tabish, T.A., Bull, S.J., Lim, T.M., and Phan, A.N., 2020, High yield synthesis of graphene quantum dots from biomass waste as a highly selective probe for Fe^{3+} sensing, *Sci. Rep.*, 10(1), 21262–21277.

Abbas, M.W., Soomro, R.A., Kalwar, N.H., Zahoor, M., Avci, A., Pehlivan, E., Hallam, K.R., and Willander, M., 2019, Carbon quantum dot coated Fe_3O_4 hybrid composites for sensitive electrochemical detection of uric acid, *Microchem. J.*, 146, 517–524.

Abdi, M.M., Ekramul Mahmud, H.N.M., Abdullah, L.C., Kassim, A., Rahman, M.Z.A., and Chyi, J.L.Y., 2012, Optical band gap and conductivity measurements of polypyrrole-chitosan composite thin films, *Chin. J. Polym. Sci. (Engl. Ed.)*, 30(1), 93–100.

Abdulla, H.S., and Abbo, A.I., 2012, Optical and electrical properties of thin films of polyaniline and polypyrrole, *Int. J. Electrochem. Sci.*, 7, 10666 – 10678.

Abinaya, M., Rajakumaran, R., Chen, S.M., Karthik, R., and Muthuraj, V., 2019, *In situ* synthesis, characterization, and catalytic performance of polypyrrole polymer-incorporated Ag_2MoO_4 nanocomposite for detection and degradation of environmental pollutants and pharmaceutical drugs, *ACS Appl. Mater. Interfaces*, 11(41), 38321–38335.

AbouElhamd, A.R., Al-Sallal, K.A., and Hassan, A., 2019, Review of core/shell quantum dots technology integrated into building's glazing, *Energies*, 12(6), 1–22.

Aghamali, A., Khosravi, M., Hamishehkar, H., Modirshahla, N., and Behnajady, M.A., 2018, Synthesis and characterization of high efficient photoluminescent sunlight driven photocatalyst of N-carbon quantum dots, *J. Lumin.*, 201, 265–274.

Ahmad, I., Ismail Khan, M., Ishaq, M., Khan, H., Gul, K., and Ahmad, W., 2013, Catalytic efficiency of some novel nanostructured heterogeneous solid catalysts in pyrolysis of HDPE, *Polym. Degrad. Stabil.*, 98(12), 2512–2519.

Ali, A.A.Q., and Siddiqui, Z.N., 2023, Heteropoly ionic liquids functionalized γ-Fe_2O_3 NPs: synthesis, characterization, and catalytic application in selective oxidation of benzyl alcohol to benzaldehyde using H_2O_2 as a green oxidant, *Res. Chem. Intermed.*, 49(3), 1085–1113.

Ali, H., and Ismail, A.M., 2023, Fabrication of magnetic Fe_3O_4/polypyrrole/carbon black nanocomposite for effective uptake of congo red and methylene blue dye: adsorption investigation and mechanism, *J. Polym. Environ.*, 31(3), 976–998.

Ali, M. S., Bhunia, N., Ali, M. S., Karmakar, S., Mukherjee, P., and Chattopadhyay, D., 2023, Fluorescent N-doped carbon quantum dots: A selective detection of

Fe^{3+} and understanding its mechanism, *Chem. Phys. Lett.*, 825, 140574-140581.

Amobonye, A., Bhagwat, P., Singh, S., and Pillai, S., 2021, Plastic biodegradation: Frontline microbes and their enzymes, *Sci. Total Environ.*, 759, 143536.

Ananthanarayanan, A., Wang, X., Routh, P., Sana, B., Lim, S., Kim, D.H., Lim, K.H., Li, J., and Chen, P., 2014, Facile synthesis of graphene quantum dots from 3D graphene and their application for Fe^{3+} sensing, *Adv. Funct. Mater.*, 24(20), 3021–3026.

Andhika, I.F., Saraswati, T.E., and Hastuti, S., 2020, The structural characteristics of carbon nanoparticles produced by arc discharge in toluene without added catalyst or gases, *Evergreen*, 7(3), 417–428.

Anjana, R.R., Anjali Devi, J.S., Jayasree, M., Aparna, R.S., Aswathy, B., Praveen, G.L., Lekha, G.M., and Sony, G., 2018, S,N-doped carbon dots as a fluorescent probe for bilirubin, *Microchim. Acta*, 185(1), 11–21.

Aslandaş, A.M., Balci, N., Arik, M., Şakiroılu, H., Onganer, Y., and Meral, K., 2015, Liquid nitrogen-assisted synthesis of fluorescent carbon dots from Blueberry and their performance in Fe^{3+} detection, *Appl. Surf. Sci.*, 356, 747–752.

Atchudan, R., Edison, T.N.J.I., Perumal, S., Muthuchamy, N., and Lee, Y.R., 2020, Hydrophilic nitrogen-doped carbon dots from biowaste using dwarf banana peel for environmental and biological applications, *Fuel*, 275, 117821–117830.

Barman, M.K., and Patra, A., 2018, Current status and prospects on chemical structure driven photoluminescence behaviour of carbon dots, *J. Photochem. Photobiol. C*, 37, 1–22.

Benabid, F.Z., Kharchi, N., Zouai, F., Mourad, A.H.I., and Benachour, D., 2019, Impact of co-mixing technique and surface modification of ZnO nanoparticles using stearic acid on their dispersion into HDPE to produce HDPE/ZnO nanocomposites, *Polym. Polym. Compos.*, 27(7), 389–399.

Birang O., S.E., Smith, A.S., and Steinmann, P., 2021, Phonon-based thermal configurational forces: Definitions and applications in rupture of semiconductors, *Eng. Fract. Mech.*, 257, 108014–108029.

Cao, D., Li, H., Pan, L., Li, J., Wang, X., Jing, P., Cheng, X., Wang, W., Wang, J., and Liu, Q., 2016, High saturation magnetization of γ 3-Fe_2O_3 nanoparticles by a facile one-step synthesis approach, *Sci. Rep.*, 6, 32360–32369.

Chan, K., and Zinchenko, A., 2022, Aminolysis-assisted hydrothermal conversion of waste PET plastic to N-doped carbon dots with markedly enhanced fluorescence, *J. Environ. Chem. Eng.*, 10(3), 107749–107759.

Chattopadhyay, J., Kim, C., Kim, R., and Pak, D., 2008, Thermogravimetric characteristics and kinetic study of biomass co-pyrolysis with plastics, *Korean J. Chem. Eng.*, 25(5), 1047–1053.

Chaudhari, M.P., and Sawant, S.B., 2005, Kinetics of heterogeneous oxidation of benzyl alcohol with hydrogen peroxide, *Chem. Eng. J.*, 106(2), 111–118.

Chen, Q.L., Ji, W.Q., and Chen, S., 2016, Direct Synthesis of Multicolor Fluorescent Hollow Carbon Spheres Encapsulating Enriched Carbon Dots, *Sci. Rep.*, 6, 19382–19389.

Cheng, C., Xing, M., and Wu, Q., 2019, A universal facile synthesis of nitrogen and sulfur co-doped carbon dots from cellulose-based biowaste for fluorescent detection of Fe^{3+} ions and intracellular bioimaging, *Mater. Sci. Eng. C*, 99, 611–619.

Cho, M. J., and Park, S. Y., 2019, Carbon-dot-based ratiometric fluorescence glucose biosensor, *Sens. Actuators B Chem.*, 282, 719–729.

Chu, R., Tan, D., Zhang, J., Chen, Y., Jiang, H., Lin, J., Li, L., Zhang, Y., and Guo, H., 2020, Long-term cycling of core-shell Fe_3O_4-Polypyrrole composite electrodes via diffusive and capacitive lithiation, *J. Alloys Compd.*, 835, 155192–155198.

Condon, J.B., 2019. *Surface area and porosity determinations by physisorption: Measurement, classical theories and quantum theory*, Elsevier, Amsterdam (Netherland).

Costa, C.S., Muñoz, M., Ribeiro, M.R., and Silva, J.M., 2021, A thermogravimetric study of HDPE conversion under a reductive atmosphere, *Catal. Today*, 379, 192–204.

Couzi, M., Bruneel, J.L., Talaga, D., and Bokobza, L., 2016, A multi wavelength Raman scattering study of defective graphitic carbon materials: The first order Raman spectra revisited, *Carbon*, 107, 388–394.

Cruz, M.I.S. Dela, Thongsai, N., Luna, M.D.G. de, In, I., and Paoprasert, P., 2019, Preparation of highly photoluminescent carbon dots from polyurethane: Optimization using response surface methodology and selective detection of silver (I) ion, *Colloids Surf. A Physicochem. Eng. Asp.*, 568, 184–194.

Cui, X., Wang, Yinglin, Liu, J., Yang, Q., Zhang, B., Gao, Y., Wang, Y., and Lu, G., 2017, Dual functional N- and S-co-doped carbon dots as the sensor for temperature and Fe^{3+} ions, *Sens. Actuators B Chem.*, 242, 1272–1280.

Danielowska, D.S., and Jabłońska, M., 2022, Chemical and mineral composition of ashes from wood biomass combustion in domestic wood-fired furnaces, *Int. J. Environ. Sci. Technol. (Tehran)*, 19(6), 5359–5372.

Danso, D., Chow, J., and Streita, W.R., 2019, Plastics: Environmental and biotechnological perspectives on microbial degradation, *Appl. Environ. Microbiol.*, 85(19), e01095–19.

Das, P., Ganguly, S., Mondal, S., Bose, M., Das, A.K., Banerjee, S., and Das, N.C., 2018, Heteroatom doped photoluminescent carbon dots for sensitive detection of acetone in human fluids, *Sens. Actuators B Chem.*, 266, 583–593.

Ding, H., Yu, S.B., Wei, J.S., and Xiong, H.M., 2016, Full-color light-emitting carbon dots with a surface-state-controlled luminescence mechanism, *ACS Nano*, 10(1), 484–491.

Du, F., Cheng, Z., Tan, W., Sun, L. and Ruan, G., 2020, Development of sulfur doped carbon quantum dots for highly selective and sensitive fluorescent detection of Fe^{2+} and Fe^{3+} ions in oral ferrous gluconate samples, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 226, 117602–117609.

Erbetta, C.D.C., Manoel, G.F., Oliveira, A.P.L.R., Silva, M.E.S.R. e, Freitas, R.F.S., and Sousa, R.G., 2014, Rheological and thermal behavior of high-density polyethylene (HDPE) at different temperatures, *Mater. Sci. Applications*, 5(13), 923–931.

Esmeryan, K.D., Castano, C.E., Bressler, A.H., Abolghasemibizaki, M., Fergusson, C.P., Roberts, A., and Mohammadi, R., 2017, Kinetically driven graphite-like to diamond-like carbon transformation in low temperature laminar diffusion flames, *Diam. Relat. Mater.*, 75, 58–68.

Fan, J., Daly, R., Hobson, P., Ho, L., and Brookes, J., 2013, Impact of potassium permanganate on cyanobacterial cell integrity and toxin release and degradation, *Chemosphere*, 92(5), 529–534.

Fu, W.J., Peng, Z.X., Dai, Y., Yang, Y.F., Song, J.Y., Sun, W., Ding, B., Gu, H.W., and Yin, X.L., 2022, Highly fluorescent N doped C-dots as sensor for selective detection of Hg^{2+} in beverages, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 265, 120392–120400.

Gao, T., Wang, X., Yang, L.Y., He, H., Ba, X.X., Zhao, J., Jiang, F.L. and Liu, Y., 2017, Red, yellow, and blue luminescence by graphene quantum dots: syntheses, mechanism, and cellular imaging, *ACS Appl. Mater. Interfaces*, 9(29), 24846–24856.

Geng, C., Shang, Y., Qiu, J.J., Wang, Q., Chen, X., Li, S., Ma, W., Fan, H.J., Omer, A.A.A., and Chen, R., 2020, Carbon quantum dots interfacial modified graphene/silicon Schottky barrier solar cell, *J. Alloys Compd.*, 835, 155268–155277.

Gewert, B., Plassmann, M.M., and Macleod, M., 2015, Pathways for degradation of plastic polymers floating in the marine environment, *Environ. Sci. Process. Impacts*, 17(9), 1513–1521.

Geyer, R., Jambeck, J.R., and Law, K.L., 2017, Production, use, and fate of all plastics ever made, *Sci. Adv.*, 3(7), 25–29.

Gholinejad, M., Najera, C., Hamed, F., Seyedhamzeh, M., Bahrami, M., and Kompany-Zareh, M., 2017, Green synthesis of carbon quantum dots from vanilin for modification of magnetite nanoparticles and formation of palladium nanoparticles: Efficient catalyst for Suzuki reaction, *Tetrahedron*, 73(38), 5585–5592.

Gong, X., Lu, W., Paau, M.C., Hu, Q., Wu, X., Shuang, S., Dong, C., and Choi, M.M.F., 2015, Facile synthesis of nitrogen-doped carbon dots for Fe^{3+} sensing and cellular imaging, *Anal. Chim. Acta*, 861, 74–84.

Guo, X., Zhang, H., Sun, H., Tade, M.O., and Wang, S., 2017, Green synthesis of carbon quantum dots for sensitized solar cells, *Chem. Photo. Chem.*, 1(4), 116–119.

Heikkinen, J.M., Hordijk, J.C., de Jong, W., and Spliethoff, H., 2004, Thermogravimetry as a tool to classify waste components to be used for energy generation, *J. Anal. Appl. Pyrolysis*, 71(2), 883–900.

Heng, Z.W., Chong, W.C., Pang, Y.L., and Koo, C.H., 2021, An overview of the recent advances of carbon quantum dots/metal oxides in the application of heterogeneous photocatalysis in photodegradation of pollutants towards visible-light and solar energy exploitation, *J. Environ. Chem. Eng.*, 9(3), 105199–105233.

Hidalgo, J.M.M, Rodríguez, I.J.B, Hernández, J.G., Pabello, V.M.L., and Thangarasu, P., 2023, Histamine recognition by carbon dots from plastic waste and development of cellular imaging: experimental and theoretical studies, *J. Fluoresc.* 33, 2041–2059.

Hsieh, C. T., Tzou, D.Y., Hsieh, K.Y., and Yin, K.M., 2017, Photoluminescence from amino functionalized graphene quantum dots prepared by electrochemical exfoliation method in the presence of ammonium ions, *RSC Adv.*, 7(30), 18340–18346.

Hu, S., Trinchi, A., Atkin, P., and Cole, I., 2015, Tunable photoluminescence across the entire visible spectrum from carbon dots excited by white light, *Angew. Chem. Int. Ed.*, 54(10), 2970–2974.

Hu, Y., Gao, Z., Yang, J., Chen, H., and Han, L., 2019, Environmentally benign conversion of waste polyethylene terephthalate to fluorescent carbon dots for “on-off-on” sensing of ferric and pyrophosphate ions, *J. Colloid Interface Sci.*, 538, 481–488.

Hu, Y., Yang, J., Tian, J., Jia, L., and Yu, J.S., 2014, Green and size-controllable synthesis of photoluminescent carbon nanoparticles from waste plastic bags, *RSC Adv.*, 4(88), 47169–47176.

Hu, Y., Yang, J., Tian, J., Jia, L. and Yu, J.S., 2014, Waste frying oil as a precursor for one-step synthesis of sulfur-doped carbon dots with pH-sensitive photoluminescence, Carbon, 77, 775-782.

Huang, J., Yin, X.Y., Yang, J.Y., and Guo, M.L., 2014, Solid protonic acids and luminescent carbon dots derived from waste expanded polystyrene, *Mater.Lett.*, 117, 112–115.

Huang, Y., Liang, Y., Rao, Y., Zhu, D., Cao, J.J., Shen, Z., Ho, W., and Lee, S.C., 2017, Environment-friendly carbon quantum dots/znfe$_2$o$_4$ photocatalysts: characterization, biocompatibility, and mechanisms for NO removal, *Environ. Sci. Technol.*, 51(5), 2924–2933.

Irdhawati, I., Methaninditya, N. K. S. M., and Putra, A. A. B., 2023, Carbon paste electrode modified by dibenzo-18-crown-6 for the determination of paracetamol using differential pulse voltammetry technique, *Indones. J. Chem.*, 23(1), 53–61.

Jahani, G., Malmir, M., and Heravi, M.M., 2022, Catalytic oxidation of alcohols over a nitrogen- and sulfur-doped graphitic carbon dot-modified magnetic nanocomposite, *Ind. Eng. Chem. Res.*, 61(5), 2010–2022.

Jambeck, J.R., Geyer, R., Wilcox, C., Siegler, T.R., Perryman, M., Andrady, A., Narayan, R., and Law, K.L., 2015, Plastic waste inputs from land into the ocean, *Science*, 347(6223), 768–771.

Jang, M.H., Ha, H.D., Lee, E.S., Liu, F., Kim, Y.H., Seo, T.S. and Cho, Y.H., 2015, Is the chain of oxidation and reduction process reversible in luminescent graphene quantum dots?, *Small*, 11(31), 3773–3781.

Ji, C., Zhou, Y., Leblanc, R.M., and Peng, Z., 2020, Recent developments of carbon dots in biosensing: A Review, *ACS Sens.*, 5(9), 2724–2741.

Jia, A., Lou, L.L., Zhang, C., Zhang, Y., and Liu, S., 2009, Selective oxidation of benzyl alcohol to benzaldehyde with hydrogen peroxide over alkali-treated ZSM-5 zeolite catalysts, *J. Mol. Catal. A Chem.*, 306(1–2), 123–129.

Jian, X., Yang, H.M, Li, J.G, Zhang, E.H, Cao, L.L., and Liang, Z.H., 2017, Flexible all-solid-state high-performance supercapacitor based on electrochemically synthesized carbon quantum dots/polypyrrole composite electrode, *Electrochim. Acta*, 228, 483–493.

Jin, K., Zhang, J., Tian, W., Ji, X., Yu, J., and Zhang, J., 2020, Facile access to solid-state carbon dots with high luminescence efficiency and excellent formability via cellulose derivative coatings, *ACS Sustain. Chem. Eng.*, 8(15), 5937–5945.

Juang, R.S., Ju, Y.C., Liao, C.S., Lin, K.S., Lu, H.C., Wang, S.F., and Sun, A.C., 2017, Synthesis of carbon dots on fe3o4 nanoparticles as recyclable visible-light photocatalysts, *IEEE Trans. Magn.*, 53(11), 1–4.

Jung, H., Sapner, V. S., Adhikari, A., Sathe, B. R., and Patel, R., 2022, Recent progress on carbon quantum dots based photocatalysis, *Front. Chem.*, 10, 881495–881522.

Kamakshi, T., Sundari, G.S., Erothu, H., and Singh, R.S., 2019, Effect of nickel dopant on structural, morphological and optical characteristics of Fe_3O_4 nanoparticles, *Rasayan J. Chem.*, 12(2), 531–536.

Kang, C., Huang, Y., Yang, H., Yan, X.F., and Chen, Z.P., 2020, A review of carbon dots produced from biomass wastes, *Nanomaterials*, 10(11), 1–24.

Konar, S., Samanta, D., Mandal, S., Das, S., Mahto, M.K., Shaw, M., Mandal, M., and Pathak, A., 2018, Selective and sensitive detection of cinnamaldehyde by nitrogen and sulphur co-doped carbon dots: A detailed systematic study, *RSC Adv.*, 8(74), 42361–42373.

Koutsogiannis, P., Thomou, E., Stamatis, H., Gournis, D., and Rudolf, P., 2020, Advances in fluorescent carbon dots for biomedical applications, *Adv. Phys. X*, 5(1), 1758592–175628.

Krueger, M.C., Harms, H., and Schlosser, D., 2015, Prospects for microbiological solutions to environmental pollution with plastics, *Appl. Microbiol. Biotechnol.*, 99(21), 8857–8874.

Kumar, R., Kumar, V.B., and Gedanken, A., 2020, Sonochemical synthesis of carbon dots, mechanism, effect of parameters, and catalytic, energy, biomedical and tissue engineering applications, *Ultrason. Sonochem.*, 64, 105009.

Kumar, V.B., Porat, Z., and Gedanken, A., 2016, Facile one-step sonochemical synthesis of ultrafine and stable fluorescent C-dots, *Ultrason. Sonochem.*, 28, 367–375.

Kumari, A., Kumar, A., Sahu, S.K., and Kumar, S., 2018, Synthesis of green fluorescent carbon quantum dots using waste polyolefins residue for Cu^{2+} ion sensing and live cell imaging, *Sens. Actuators B Chem.*, 254, 197–205.

Kumari, M., and Chaudhary, S., 2020, Modulating the physicochemical and biological properties of carbon dots synthesised from plastic waste for effective sensing of E. coli, *Colloids Surf. B*, 196, 111333–111342.

Lestari, R., Kartini, I., and Wahyuningsih, T.D., 2022, Effect of Hydrogen Peroxide Concentration to Fluorescence Properties of Carbon Dot from HDPE, *Key Eng. Mater.*, 920, 106–113.

Lestari, R., Wahyuningsih, T. D., Kamiya, Y., and Kartini, I., 2023, Transforming high-density polyethylene plastic bags into eco-friendly carbon dots for detecting ferric (Fe^{3+}) ions, *Diam. Relat. Mater.*, 139, 110271.

Li, G., Lv, N., Bi, W., Zhang, J., and Ni, J., 2016, Nitrogen-doped carbon dots as a fluorescence probe suitable for sensing Fe^{3+} under acidic conditions, *New J. Chem.*, 40(12), 10213–10218.

Li, H., Li, Y., and Xu, Y., 2023, Nitrogen-doped carbon dots from polystyrene for three analytes sensing and their logic recognition, *Inorg. Chem. Commun.*, 148, 110369–110376.

Li, H., Liu, R., Lian, S., Liu, Y., Huang, H., and Kang, Z., 2013, Near-infrared light controlled photocatalytic activity of carbon quantum dots for highly selective oxidation reaction, *Nanoscale*, 5(8), 3289–3297.

Li, L., and Dong, T., 2018, Photoluminescence tuning in carbon dots: Surface passivation or/and functionalization, heteroatom doping, *J. Mater. Chem. C*, 6(30), 7944–7970.

Li, L., Li, M., Liang, J., Yang, X., Luo, M., Ji, L., Guo, Y., Zhang, H., Tang, N. and Wang, X., 2019, Preparation of core-shell CQD@PANI nanoparticles and their electrochemical properties, *ACS Appl. Mater. Interfaces*, 11(25), 22621–22627.

Li, Q., Zhou, M., Yang, M., Yang, Q., Zhang, Z. and Shi, J., 2018, Induction of long-lived room temperature phosphorescence of carbon dots by water in hydrogen-bonded matrices, *Nat Commun*, 9 (1), 734–741.

Lim, S.Y., Shen, W., and Gao, Z., 2015, Carbon quantum dots and their applications, *Chem. Soc. Rev.*, 44(1), 362–381.

Lima, R.M.A.P., and Oliveira, H.P.D., 2020, Carbon dots reinforced polypyrrole/ graphene nanoplatelets on flexible eggshell membranes as electrodes of all-solid flexible supercapacitors, *J. Energy Storage*, 28, 101284–101293.

Lin, J.H., Pan, Y.J., Liu, C.F., Huang, C.L., Hsieh, C.T., Chen, C.K., Lin, Z.I., and Lou, C.W., 2015, Preparation and compatibility evaluation of polypropylene/high density polyethylene polyblends, *Materials*, 8(12), 8850–8859.

Ling, J., Zhang, W., Cheng, Z., and Ding, Y., 2022, Recyclable magnetic fluorescence sensor based on Fe_3O_4 and carbon dots for detection and purification of methcathinone in sewage, *ACS Appl. Mater. Interfaces*, 14(3), 3752–3761.

Liu, M., 2020, Optical properties of carbon dots: A Review, *Nanoarchitectonics*, 1(1), 1–12.

Liu, Q., Zhai, Z., Sun, J., He, Y., Yuan, Z., and Chen, S., 2022, Synthesis of graphitic carbon nitride and polypyrrole nanocomposite (PPy/g-C_3N_4) as efficient photocatalysts for dibenzothiophene degradation in oilfield produced wastewater, *Int. J. Electrochem. Sci.*, 17.

Luna, L.R., Martínez, D.B., and Valenzuela, E., 2021, Two-step pyrolysis for waste HDPE valorization, *Process Saf. Environ. Prot.*, 149, 526–536.

Ma, G., Wang, R., Zhang, M., Dong, Z., Zhang, A., Qu, M., Gao, L., Wei, Y., and Wei, J., 2023, Solvothermal preparation of nitrogen-doped carbon dots with PET waste as precursor and their application in LEDs and water detection, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 289, p.122178.

Ma, Z., Ming, H., Huang, H., Liu, Y., and Kang, Z., 2012, One-step ultrasonic synthesis of fluorescent N-doped carbon dots from glucose and their visible-light sensitive photocatalytic ability, *New J. Chem.*, 36(4), 861–864.

Mahamuni, N.N., Gogate, P.R., and Pandit, A.B., 2006, Ultrasonic synthesis of benzaldehyde from benzyl alcohol using H 2020: Role of ultrasound, *Ind. Eng. Chem. Res.*, 45(1), 98–108.

Mahyari, M. and Gavgani, J.N., 2018, Cobalt porphyrin supported on N and P co-doped graphene quantum dots/graphene as an efficient photocatalyst for aerobic oxidation of alcohols under visible-light irradiation, *Res. Chem. Intermed.*, 44(5), 3641–3657.

Malik, R., Lata, S., Soni, U., Rani, P., and Malik, R.S., 2020, Carbon quantum dots intercalated in polypyrrole (PPy) thin electrodes for accelerated energy storage, *Electrochim. Acta*, 364, 137281–137290.

Manioudakis, J., Victoria, F., Thompson, C.A., Brown, L., Movsum, M., Lucifero, R., and Naccache, R., 2019, Effects of nitrogen-doping on the photophysical properties of carbon dots, *J. Mater. Chem. C*, 7(4), 853–862.

Maw, A.M., and Theingi, M., 2019, A study on the dielectric properties of polypyrrole-bentonite composites preparation and characterization of pyrrole view project. *J. Myanmar Acad. Arts Sci.*, XVII (1B), 581–598.

Mehta, A., Mishra, A., Basu, S., Shetti, N.P., Reddy, K.R., Saleh, T.A., and Aminabhavi, T.M., 2019, Band gap tuning and surface modification of carbon dots for sustainable environmental remediation and photocatalytic hydrogen production – A review, *J. Environ. Manage.*, 250(August), 109486–109500.

Meiling, T.T., Schürmann, R., Vogel, S., Ebel, K., Nicolas, C., Milosavljević, A.R., and Bald, I., 2018, Photophysics and chemistry of nitrogen-doped carbon nanodots with high photoluminescence quantum yield, *J. Phys. Chem. C*, 122(18), 10217–10230.

Mickaël, C., Jiahui, F., Mickaël, R., Françoise, P., and Luc, L., 2019, Influence of carbonization conditions on luminescence and gene delivery properties of nitrogen-doped carbon dots, *RSC Adv.*, 9(6), 3493–3502.

Midya, L., Sarkar, A.N., Das, R., Maity, A., and Pal, S., 2020, Crosslinked chitosan embedded TiO2 NPs and carbon dots-based nanocomposite: An excellent photocatalyst under sunlight irradiation, *Int. J. Biol. Macromol.*, 164, 3676–3686.

Mohammadi, M., Rezaei, A., Khazaei, A., Xuwei, S., and Huajun, Z., 2019, Targeted development of sustainable green catalysts for oxidation of alcohols via tungstate-decorated multifunctional amphiphilic carbon quantum dots, *ACS Appl. Mater. Interfaces*, 11(36), 33194–33206.

Mondal, T.K., Dinda, D., and Saha, S.K., 2018, Nitrogen, sulphur co-doped graphene quantum dot: An excellent sensor for nitroexplosives, *Sens. Actuators B Chem.*, 257, 586–593.

Naik, V.M., Gunjal, D.B., Gore, A.H., Pawar, S.P., Mahanwar, S.T., Anbhule, P. V., and Kolekar, G.B., 2018, Quick and low cost synthesis of sulphur doped carbon dots by simple acidic carbonization of sucrose for the detection of Fe^{3+} ions in highly acidic environment, *Diam. Relat. Mater.*, 88, 262–268.

Niino, S., Takeshita, S., Iso, Y., and Isobe, T., 2016, Influence of chemical states of doped nitrogen on photoluminescence intensity of hydrothermally synthesized carbon dots, *J. Lumin.*, 180, 123–131.

Okan, M., Aydin, H. M., and Barsbay, M., 2019, Current approaches to waste polymer utilization and minimization: a review, *J. Chem. Technol. Biotechnol.*, 94 (1), 8–21).

Oliveira, B.P.D, Bessa, N.U.D.C., Nascimento, J.F.D, Cavalcante, C.S.D.P, Fontenelle, R.O.D.S., and Abreu, F.O.M.D.S., 2023, Synthesis of luminescent chitosan-based carbon dots for Candida albicans bioimaging, *Int. J. Biol. Macromol.*, 227, 805–814.

Omer, K.M., Mohammad, N.N., Baban, S.O., and Hassan, A.Q., 2018, Carbon nanodots as efficient photosensitizers to enhance visible-light driven photocatalytic activity, *J. Photochem. Photobiol. A*, 364, 53–58.

Pal, A., Sk, Md.P., and Chattopadhyay, A., 2016, Conducting carbon dot-polypyrrole nanocomposite for sensitive detection of picric acid, *ACS Appl. Mater. Interfaces*, 8(9), 5758–5762.

Pandey, F.P., Rastogi, A., and Singh, S., 2020, Optical properties and zeta potential of carbon quantum dots (CQDs) dispersed nematic liquid crystal 4′- heptyl-4-biphenylcarbonitrile (7CB), *Opt. Mater.*, 105, 109849–109858.

Pang, Y., Gao, H., Wu, S., and Li, X., 2017, Facile synthesis the nitrogen and sulfur co-doped carbon dots for selective fluorescence detection of heavy metal ions, *Mater. Lett.*, 193, 236–239.

Pat, S., Temel, S., Ekem, N., Korkmaz, Ş., Özkan, M., and Balbağ, M.Z., 2011, Diamond-like carbon coated on polyethylene terephthalate by Thermionic Vacuum Arc, *J. Plast. Film Sheeting*, 27(1–2), 127–137.

Paul, A., and Kurian, M., 2021, Facile synthesis of nitrogen doped carbon dots from waste biomass: Potential optical and biomedical applications, *Clean. Eng. Technol.*, 3, 100103–100109.

Permatasari, F.A., Fukazawa, H., Ogi, T., Iskandar, F., and Okuyama, K., 2018, Design of pyrrolic-n-rich carbon dots with absorption in the first near-infrared window for photothermal therapy, *ACS Appl. Nano Mater.*, 1(5), 2368–2375.

Pete, A.M., Ingle, P.U., Raut, R.W., Shende, S.S., Rai, M., Minkina, T.M., Rajput, V.D., Kalinitchenko, V.P., and Gade, A.K., 2023, Biogenic synthesis of fluorescent carbon dots (CD) and their application in bioimaging of agricultural crops, *Nanomaterials*, 13(1), 209–222.

Phang, S.J., and Tan, L.L., 2019, Recent advances in carbon quantum dot (CQD)-based two dimensional materials for photocatalytic applications, *Catal. Sci. Technol.*, 9(21), 5882–5905.

Pirsaheb, M., Asadi, A., Sillanpää, M., and Farhadian, N., 2018, Application of carbon quantum dots to increase the activity of conventional photocatalysts: A systematic review, *J. Mol. Liq.*, 271, 857–871.

Pontes, S.M.A., Rodrigues, V.S.F., Carneiro, S.V., Oliveira, J.J.P., Moura, T.A., Paschoal, A.R., Antunes, R.A., Oliveira, D.R.D, Oliveira, J.R., Fechine, L.M.U.D., Mazzetto, S.E., Fechine, P.B.A., and Clemente, C.D.S., 2022, One-pot solvothermal synthesis of full-color carbon quantum dots for application in light emitting diodes, *Nano-Struct. Nano-Objects*, 32, 100917.

Prathibha, E., Rangasamy, R., Sridhar, A., and Lakshmi, K., 2020, Synthesis and characterization of fe3o4/carbon dot supported MnO_2 nanoparticles for the controlled oxidation of benzyl alcohols, *Chemistry Select*, 5(3), 988–993.

Qi, H., Sun, X., Jing, T., Li, J., and Li, J., 2022, Integration detection of mercury (ii) and GSH with a fluorescent "on-off-on" switch sensor based on nitrogen, sulfur co-doped carbon dots, *RSC Adv.*, 12(4), 1989–1997.

Qin, M., Zong, S., Zhang, P., and Li, J., 2023, Sustainable route for synthesis of nitrogen-doped carbon dots with high efficiency for iron(III) and copper(II) ions detection, *J. Mater. Sci.*, 58, 7559–7570.

Radoń, A., Drygała, A., Hawełek, Ł., and Łukowiec, D., 2017, Structure and optical properties of Fe_3O_4 nanoparticles synthesized by co-precipitation method with different organic modifiers, *Mater. Charact.*, 131, 148–156.

Rahal, M., Atassi, Y., Ali, N.N., and Alghoraibi, I., 2020, Novel microwave absorbers based on polypyrrole and carbon quantum dots, *Mater. Chem. Phys.*, 255, p. 123491.

Rajeevgandhi, C., Bharanidharan, S., Savithiri, S., Guganathan, L., Sugumar, P., Sathiyamurthy, K., and Mohan, K., 2020, Synthesis, characterizations and quantum chemical calculations of the spinel structure of Fe_3O_4 nanoparticles, *J. Mater. Sci. Mater. Electron.*, 31(23), 21419–21430.

Ramanan, V., Siddaiah, B., Raji, K., and Ramamurthy, P., 2018, Green synthesis of multifunctionalized, nitrogen-doped, highly fluorescent carbon dots from waste expanded polystyrene and its application in the fluorimetric detection of au^{3+} ions in aqueous media, *ACS Sustain. Chem. Eng.*, 6(2), 1627–1638.

Rao, V.N., Reddy, N.L., Kumari, M.M., Cheralathan, K.K., Ravi, P., Sathish, M., Neppolian, B., Reddy, K.R., Shetti, N.P., Prathap, P., Aminabhavi, T.M., and Shankar, M.V., 2019, Sustainable hydrogen production for the greener environment by quantum dots-based efficient photocatalysts: A review, *J. Environ. Manage.*, 248(March), 109246.

Riaz, R., Ali, M., Maiyalagan, T., Anjum, A.S., Lee, S., Ko, M.J., and Jeong, S.H., 2019, Dye-sensitized solar cell (DSSC) coated with energy down shift layer of nitrogen-doped carbon quantum dots (N-CQDs) for enhanced current density and stability, *Appl. Surf. Sci.*, 483, 425–431.

Romero, V., Vila, V., la Calle, I. de, Lavilla, I., and Bendicho, C., 2019, Turn–on fluorescent sensor for the detection of periodate anion following photochemical synthesis of nitrogen and sulphur co–doped carbon dots from vegetables, *Sens. Actuators B Chem.*, 280, 290–297.

Rong, M., Feng, Y., Wang, Y., and Chen, X., 2017, One-pot solid phase pyrolysis synthesis of nitrogen-doped carbon dots for Fe^{3+} sensing and bioimaging, *Sens. Actuators B Chem.*, 245, 868–874.

Saikia, M., Das, T., Dihingia, N., Fan, X., Silva, L.F.O., and Saikia, B.K., 2020, Formation of carbon quantum dots and graphene nanosheets from different abundant carbonaceous materials, *Diam. Relat. Mater.*, 106, 107813–107822.

Salem, A.M., Mohamed, A.R., Abdelghany, A.M., and Yassin, A.Y., 2022, Effect of polypyrrole on structural, optical and thermal properties of CMC-based blends for optoelectronic applications, *Opt. Mater.*, 134, 113128-113130.

Saravanan, A., Maruthapandi, M., Das, P., Ganguly, S., Margel, S., Luong, J.H.T., and Gedanken, A., 2020, Applications of N-doped carbon dots as antimicrobial agents, antibiotic carriers, and selective fluorescent probes for nitro explosives, *ACS Appl. Bio Mater*, 3(11), 8023–8031.

Sarkar, T., Tiwari, S., Rawat, K., Solanki, P.R., and Bohidar, H.B., 2017, Hydrophilic, fluorescent and superparamagnetic iron oxide-carbon composite nanoparticles, *Colloids Surf. A Physicochem. Eng. Asp.*, 514, 218–225.

Sarma, D., Majumdar, B., and Sarma, T.K., 2018, Carboxyl-functionalized carbon dots as competent visible light photocatalysts for aerobic oxygenation of alkyl benzenes: role of surface functionality, *ACS Sustain. Chem. Eng.*, 6(12), 16573–16585.

Sarmasti, N., Khazaei, A., and Yousefi Seyf, J., 2019, High density sulfonated magnetic carbon quantum dots as a photo enhanced, photo-induced proton generation, and photo switchable solid acid catalyst for room temperature one-pot reaction, *Res. Chem. Intermed.*, 45(7), 3929–3942.

Sathyan, M., Jandas, P.J., Venkatesan, M., Pillai, S.C., and John, H., 2022, Electrode material for high performance symmetric supercapacitors based on superparamagnetic Fe_3O_4 nanoparticles modified with cetyltrimetylammonium bromide, *Synth. Met.*, 287, 117080–117090.

Schneiderman, D.K., and Hillmyer, M.A., 2017, 50th Anniversary perspective: there is a great future in sustainable polymers, *Macromolecules*, 50(10), 3733–3749.

Sharma, S., Dutta, V., Singh, P., Raizada, P., Rahmani-Sani, A., Hosseini-Bandegharaei, A., and Thakur, V.K., 2019, Carbon quantum dot supported semiconductor photocatalysts for efficient degradation of organic pollutants in water: A review, *J. Clean. Prod.*, 228, 755–769.

Sharma, S., Umar, A., Sood, S., Mehta, S.K., and Kansal, S.K., 2018, Photoluminescent C-dots: An overview on the recent development in the synthesis, physiochemical properties and potential applications, *J. Alloys Compd.*, 748, 818–853.

Shen, H., Song, J., Yang, Ye, Su, P., and Yang, Yi, 2019, DNA-directed enzyme immobilization on Fe_3O_4 modified with nitrogen-doped graphene quantum dots as a highly efficient and stable multi-catalyst system, *J. Mater. Sci.*, 54(3), 2535–2551.

Smeaton, C., 2021, Augmentation of global marine sedimentary carbon storage in the age of plastic, *Limnol. Oceanogr. Lett.*, 6(3), 113–118.

Sogancioglu, M., Yel, E., and Ahmetli, G., 2017, Pyrolysis of waste high density polyethylene (HDPE) and low density polyethylene (LDPE) plastics and production of epoxy composites with their pyrolysis chars, *J. Clean. Prod.*, 165, 369–381.

Song, H., Liu, Z., Wang, Y., Zhang, N., Qu, X., Guo, K., Xiao, M., and Gai, H., 2019, Template-free synthesis of hollow TiO_2 nanospheres supported Pt for selective photocatalytic oxidation of benzyl alcohol to benzaldehyde, *Green Energy Environ.*, 4(3), 278–286.

Song, Z., Quan, F., Xu, Y., Liu, M., Cui, L., and Liu, J., 2016, Multifunctional N,S co-doped carbon quantum dots with pH- and thermo-dependent switchable fluorescent properties and highly selective detection of glutathione, *Carbon*, 104, 169–178.

Soumya, K., More, N., Choppadandi, M., Aishwarya, D.A., Singh, G., and Kapusetti, G., 2023, A comprehensive review on carbon quantum dots as an effective photosensitizer and drug delivery system for cancer treatment, *Biomed. Technol.*, 4, 11–20.

Stachowska, J.D., Murphy, A., Mellor, C., Fernandes, D., Gibbons, E.N., Krysmann, M.J., Kelarakis, A., Burgaz, E., Moore, J., and Yeates, S.G., 2021, A rich gallery of carbon dots based photoluminescent suspensions and powders derived by citric acid/urea, *Sci. Rep.*, 11(1), 10554–10567.

Stefanescu, D.M., Alonso, G., Larrañaga, P., La Fuente, E.D., and Suarez, R., 2016, On the crystallization of graphite from liquid iron-carbon-silicon melts, *Acta Mater.*, 107, 102–126.

Stepanidenko, E.A., Arefina, I.A., Khavlyuk, P.D., Dubavik, A., Bogdanov, K. V., Bondarenko, D.P., Cherevkov, S.A., Kundelev, E.V., Fedorov, A.V., Baranov, A.V., Maslov, V.G., Ushakova, E.V., and Rogach, A.L., 2020, Influence of the solvent environment on luminescent centers within carbon dots, *Nanoscale*, 12(2), 602–609.

Su, R., Wang, D., Liu, M., Yan, J., Wang, J.X., Zhan, Q., Pu, Y., Foster, N.R., and Chen, J.F., 2018, Subgram-scale synthesis of biomass waste-derived fluorescent carbon dots in subcritical water for bioimaging, sensing, and solid-state patterning, *ACS Omega*, 3(10), 13211–13218.

Sun, A.C., 2018, Synthesis of magnetic carbon nanodots for recyclable photocatalytic degradation of organic compounds in visible light, *Adv. Powder Technol.*, 29(3), 719–725.

Sunilkumar, A., Manjunatha, S., Ravikiran, Y.T., and Machappa, T., 2023, AC conductivity and dielectric behaviour of polypyrrole – Holmium oxide composites, *Mater. Today: Proc.*, 89(1), 54–58.

Sutradhar, M., Martins, M.G., Simões, D.H.B.G.O.R., Serôdio, R.M.N., Lapa, H.M., Alegria, E.C.B.A., Guedes da Silva, M.F.C., and Pombeiro, A.J.L., 2022, Ultrasound and photo-assisted oxidation of toluene and benzyl alcohol with oxidovanadium(V) complexes, *Appl. Catal. A: Gen.*, 638, 118623–118631.

Tadesse, A., Ramadevi, D., Hagos, M., Battu, G., and Basavaiah, K., 2018, Synthesis of nitrogen doped carbon quantum dots/magnetite nanocomposites for efficient removal of methyl blue dye pollutant from contaminated water, *RSC Adv.*, 8(16), 8528–8536.

Tang, J., Zhang, J., Zhang, Y., Xiao, Y., Shi, Y., Chen, Y., Ding, L. and Xu, W., 2019, Influence of group modification at the edges of carbon quantum dots on fluorescent emission, *Nanoscale Res. Lett.*, 14(1), 241–50.

Tang, Q., Zhu, W., He, B., and Yang, P., 2017, Rapid conversion from carbohydrates to large-scale carbon quantum dots for all-weather solar cells, *ACS Nano*, 11(2), 1540–1547.

Tang, X.D., Yu, H.M., Nguyen, W., Amador, E., Cui, S.-P., Ma, K., Chen, M.L., Wang, S.Y., Hu, Z.Z., and Chen, W., 2023, New observations on concentration-regulated carbon dots, *Adv. Photonics Research*, 4(3), 2200314.

Tang, Z., Chen, W., Hu, J., Li, S., Chen, Y., Yang, H., and Chen, H., 2020, Co-pyrolysis of microalgae with low-density polyethylene (LDPE) for deoxygenation and denitrification, *Bioresour. Technol.*, 311, 123502–123508.

Todica, M., Stefan, T., Simon, S., Balasz, I., and Daraban, L., 2014, UV-Vis and XRD investigation of graphite-doped poly(acrylic) acid membranes, *Turk. J. Phys.*, 38(2), 261–267.

Tsai, I.H., Li, J.T., and Chang, C.W., 2021, Effects of sonication and hydrothermal treatments on the optical and chemical properties of carbon dots, *ACS Omega*, 6(22), 14174–14181.

Wang, H., Wei, Z., Matsui, H., and Zhou, S., 2014, Fe_3O_4/carbon quantum dots hybrid nanoflowers for highly active and recyclable visible-light driven photocatalyst, *J. Mater. Chem. A*, 2(38), 15740–15745.

Wang, K., Dong, J., Sun, L., Chen, H., Wang, Y., Wang, C., and Dong, L., 2016, Effects of elemental doping on the photoluminescence properties of graphene quantum dots, *RSC Adv.*, 6(94), 91225–91232.

Wang, L., Li, W., Yin, L., Liu, Y., Guo, H., Lai, J., Han, Y., Li, G., Li, M., Zhang, J., Vajtai, R., Ajayan, P.M., and Wu, M., 2020, Full-color fluorescent carbon quantum dots, *Sci. Adv.*, 6, 1–8.

Wang, Q., Li, J., Tu, X., Liu, H., Shu, M., Si, R., Ferguson, C.T.J., Zhang, K.A.I., and Li, R., 2020, Single atomically anchored cobalt on carbon quantum dots as efficient photocatalysts for visible light-promoted oxidation reactions, *Chem. Mater.*, 32(2), 734–743.

Wang, R., Lu, K.Q., Tang, Z.R., and Xu, Y.J., 2017, Recent progress in carbon quantum dots: synthesis, properties and applications in photocatalysis, *J. Mater. Chem. A*, 5(8), 3717–3734.

Wang, W., Ni, Y., and Xu, Z., 2015, One-step uniformly hybrid carbon quantum dots with high-reactive TiO_2 for photocatalytic application, *J. Alloys Compd.*, 622, 303–308.

Wang, Y., Chang, Q., and Hu, S., 2017, Carbon dots with concentration-tunable multicolored photoluminescence for simultaneous detection of Fe^{3+} and Cu^{2+} ions, *Sens. Actuators B Chem.*, 253, 928–933.

Wang, Y., and Hu, A., 2014, Carbon quantum dots: Synthesis, properties and applications, *J. Mater. Chem. C*, 2(34), 6921–6939.

Wang, Y., Zhang, J., Chen, S., Zhang, H., Li, L., and Fu, Z., 2018, Surface passivation with nitrogen-doped carbon dots for improved perovskite solar cell performance, *J. Mater. Sci.*, 53(12), 9180–9190.

Wu, Y., Ma, G., Zhang, A., Gu, W., Wei, J., and Wang, R., 2022, Preparation of carbon dots with ultrahigh fluorescence quantum yield based on pet waste, *ACS Omega*, 7(42), 38037–38044.

Xiao, X., Jiang, J., and Zhang, L., 2013, Selective oxidation of benzyl alcohol into benzaldehyde over semiconductors under visible light: The case of Bi12O17Cl2 nanobelts, *Appl. Catal. B*, 142–143, 487–493.

Xu, J., Wang, Y., Sun, L., Qi, Q., and Zhao, X., 2021, Chitosan and κ-carrageenan-derived nitrogen and sulfur co-doped carbon dots ‘on-off-on’ fluorescent probe for sequential detection of Fe3+ and ascorbic acid, *Int J Biol Macromol*, 191 (Nov), 1221–1227.

Xu, Q., Liu, Y., Gao, C., Wei, J., Zhou, H., Chen, Y., Dong, C., Sreeprasad, T.S., Li, N., and Xia, Z., 2015, Synthesis, mechanistic investigation, and application of photoluminescent sulfur and nitrogen co-doped carbon dots, *J. Mater. Chem. C*, 3(38), 9885–9893.

Xu, X., Ray, R., Gu, Y., Ploehn, H.J., Gearheart, L., Raker, K., and Scrivens, W.A., 2004, Electrophoretic analysis and purification of fluorescent single-walled carbon nanotube fragments, *J. Am. Chem. Soc.*, 126(40), 12736–12737.

Yamashita, T., and Hayes, P., 2008, Analysis of XPS spectra of Fe^{2+} and Fe^{3+} ions in oxide materials, *Appl. Surf. Sci.*, 254(8), 2441–2449.

Yang, Y., Zou, T., Wang, Z., Xing, X., Peng, S., Zhao, R., Zhang, X., and Wang, Y., 2019, The fluorescent quenching mechanism of N and S Co-doped graphene quantum dots with Fe^{3+} and Hg^{2+} ions and their application as a novel fluorescent sensor, Nanomaterials, 9(5), 738–754.

Ye, R., Peng, Z., Metzger, A., Lin, J., Mann, J.A., Huang, K., Xiang, C., Fan, X., Samuel, E.L.G., Alemany, L.B., Martí, A.A., and Tour, J.M., 2015, Bandgap engineering of coal-derived graphene quantum dots, *ACS Appl. Mater. Interfaces*, 7(12), 7041–7048.

Yeh, T.F., Huang, W.L., Chung, C.J., Chiang, I.T., Chen, L.C., Chang, H.Y., Su, W.C., Cheng, C., Chen, S.J., and Teng, H., 2016, Elucidating quantum confinement in graphene oxide dots based on excitation-wavelength-independent photoluminescence, *J. Phys. Chem. Lett.*, 7(11), 2087–2092.

Zhang, D., Chao, D., Yu, C., Fu, Y., Zhou, S., Tian, L., and Zhou, L., 2023, One-pot synthesis of multicolor carbon quantum dots: One as pH sensor, one with ultra-narrow emission as fluorescent sensor for uric acid, *Dyes Pigm.*, 213, 9846–9852.

Zhang, F., Zhao, Y., Wang, D., Yan, M., Zhang, J., Zhang, P., Ding, T., Chen, L., and Chen, C., 2021, Current technologies for plastic waste treatment: A review, *Clean. Prod.*, 282, p. 124523.

Zhang, H., Chen, Y., Liang, M., Xu, L., Qi, S., Chen, H., and Chen, X., 2014, Solid-phase synthesis of highly fluorescent nitrogen-doped carbon dots for sensitive and selective probing ferric ions in living cells, *Anal. Chem.*, 86(19), 9846–9852.

Zhang, J., Wang, J., Fu, J., Fu, X., Gan, W., and Hao, H., 2018, Rapid synthesis of N, S co-doped carbon dots and their application for Fe^{3+} ion detection, *J. Nanopart. Res.*, 20(2), 41–49.

Zhang, X., Niu, Y., Meng, X., Li, Y., and Zhao, J., 2013, Structural evolution and characteristics of the phase transformations between α-Fe_2O_3, Fe_3O_4 and γ-Fe_2O_3 nanoparticles under reducing and oxidizing atmospheres', *Cryst. Eng Comm.*, 15(40), 8166–8172.

Zhang, X., Wang, J., Liu, J., Wu, J., Chen, H., and Bi, H., 2017, Design and preparation of a ternary composite of graphene oxide/carbon dots/polypyrrole for supercapacitor application: Importance and unique role of carbon dots, *Carbon*, 115, 134–146.

Zheng, Z., Han, F., Xing, B., Han, X., and Li, B., 2022, Synthesis of Fe_3O_4@CD@CQDs ternary core–shell heterostructures as a magnetically recoverable photocatalyst for selective alcohol oxidation coupled with H_2O_2 production, *J. Colloid Interface Sci.*, 624, 460–470.

Zhou, Y., Zahran, E.M., Quiroga, B.A., Perez, J., Mintz, K.J., Peng, Z., Liyanage, P.Y., Pandey, R.R., Chusuei, C.C., and Leblanc, R.M., 2019, Size-dependent photocatalytic activity of carbon dots with surface-state determined photoluminescence, *Appl. Catal. B*, 248, 157–166.

Zhu, S., Song, Y., Wang, J., Wan, H., Zhang, Y., Ning, Y., and Yang, B., 2017, Photoluminescence mechanism in graphene quantum dots: Quantum confinement effect and surface/edge state, *Nano Today*, 13, 10–14.

Zhu, S., Song, Y., Zhao, X., Shao, J., Zhang, J., and Yang, B., 2015, The photoluminescence mechanism in carbon dots (graphene quantum dots, carbon nanodots, and polymer dots): current state and future perspective, *Nano Res.*, 8(2), 355–381.

Zhu, S., Wang, K., Hu, J., Liu, R., and Zhu, H., 2020, Nitrogen and sulphur co-doped carbon quantum dots and their optical power limiting properties, *Mater. Adv.*, 1(9), 3176–3181.

Zhu, Z., Yang, P., Li, X., Luo, M., Zhang, W., Chen, M., and Zhou, X., 2020, Green preparation of palm powder-derived carbon dots co-doped with sulfur/chlorine and their application in visible-light photocatalysis, *Spectrochim. Acta A Mol. Biomol. Spectrosc.*, 227, 117659–117665.

Zolkin, A., Semerikova, A., Chepkasov, S., and Khomyakov, M., 2017, Characteristics of the Raman spectra of diamond-like carbon films. Influence of methods of synthesis, *Mater. Today: Proc.*, 4,11480–11485.

Zou, W.S., Kong, W.L., Zhao, Q.C., Zhang, J., Zhao, X., Zhao, D., and Wang, Y.Q., 2019, A composite consisting of bromine-doped carbon dots and ferric ions as a fluorescent probe for determination and intracellular imaging of phosphate, *Microchim. Acta*, 186, 1–9.

Zulfajri, M., Dayalan, S., Li, W.Y., Chang, C.J., Chang, Y.P., and Huang, G.G., 2019, Nitrogen-doped carbon dots from *averrhoa carambola* fruit extract as a fluorescent probe for methyl orange, *Sensors (Switzerland)*, 19(22), 5008.

Zulfajri, M., Gedda, G., Chang, C.J., Chang, Y.P., and Huang, G.G., 2019, Cranberry beans derived carbon dots as a potential fluorescence sensor for selective detection of Fe^{3+} ions in aqueous solution, *ACS Omega*, 4(13), 15382–15392.