

DAFTAR PUSTAKA

- Abbasi, A., and Shakir, M., 2022, Simple One-Step Solid-State Synthesis of Highly Crystalline N Doped Carbon Dots as Selective Turn Off-Sensor for Picric Acid and Metanil Yellow, *J. Fluoresc.*, 32, 1239–1246.
- Aji, M.P., Wati, A.L., Priyanto, A., Karunawan, J., Nuryadin, B.W., Wibowo, E., Marwoto, P., and Sulhadi, 2018, Polymer Carbon Dots from Plastics Waste Upcycling, *Environ. Nanotechnol. Monit. Manag.*, 9, 136–140.
- Alam, O., Billah, M., and Yajie, D., 2018, Characteristics of Plastic Bags and Their Potential Environmental Hazards, *Resour. Conserv. Recycl.*, 132, 121–129.
- Alamdari, N.G., Almasi, H., Moradi, M., and Akhgari, M., 2023, Characterization of Carbon Quantum Dots Synthesized from Vinasse and Date Seeds as Agro-Industrial Wastes, *Waste Biomass Valorization*.
- Ashokkumar, M., Lee, J., Kentish, S., and Grieser, F., 2007, Bubbles in an Acoustic Field: An Overview, *Ultrason. Sonochem.*, 14, 470–475.
- Baig, Z., Mamat, O., Mustapha, M., Mumtaz, A., Munir, K.S., and Sarfraz, M., 2018, Investigation of Tip Sonication Effects on Structural Quality of Graphene Nanoplatelets (GNPs) for Superior Solvent Dispersion, *Ultrason. Sonochem.*, 45, 133–149.
- Bansod, B., Kumar, T., Thakur, R., Rana, S., and Singh, I., 2017, A Review on Various Electrochemical Techniques for Heavy Metal Ions Detection with Different Sensing Platforms, *Biosens. Bioelectron.*, 94, 443–455.
- Bao, L., Liu, C., Zhang, Z.L., and Pang, D.W., 2015, Photoluminescence-Tunable Carbon Nanodots: Surface-State Energy-Gap Tuning, *Adv. Mater.*, 27, 1663–1667.
- Barman, M.K., Jana, B., Bhattacharyya, S., and Patra, A., 2014, Photophysical Properties of Doped Carbon Dots (N, P, and B) and Their Influence on Electron/Hole Transfer in Carbon Dots–Nickel(II) Phthalocyanine Conjugates, *J. Phys. Chem. C*, 118, 20034–20041.
- Batool, M., Junaid, H.M., Tabassum, S., Kanwal, F., Abid, K., Fatima, Z., and Shah, A.T., 2022, Metal Ion Detection by Carbon Dots-A Review, *Crit. Rev. Anal. Chem.*, 52, 756–767.

- Cao, X., Wang, J., Deng, W., Chen, J., Wang, Y., Zhou, J., Du, P., Xu, W., Wang, Qiang, Wang, Qilong, Yu, Q., Spector, M., Yu, J., and Xu, X., 2018, Photoluminescent Cationic Carbon Dots as Efficient Non-Viral Delivery of Plasmid SOX9 and Chondrogenesis of Fibroblasts, *Sci. Rep.*, 8, 1–11.
- Chao, H.-W., Chen, H.-H., and Chang, T.-H., 2021, Measuring the Complex Permittivities of Plastics in Irregular Shapes, *Polymers*, 13.
- Chaudhary, S., Kumari, M., Chauhan, P., and Ram Chaudhary, G., 2021, Upcycling of Plastic Waste into Fluorescent Carbon Dots: An Environmentally Viable Transformation to Biocompatible C-dots with Potential Prospective in Analytical Applications, *Waste Manage.*, 120, 675–686.
- Chen, S., Liu, Z., Jiang, S., and Hou, H., 2020, Carbonization: A Feasible Route for Reutilization of Plastic Wastes, *Sci. Total Environ.*, 710.
- Chen, X., Jin, Q., Wu, L., Tung, C.H., and Tang, X., 2014, Synthesis and Unique Photoluminescence Properties of Nitrogen-Rich Quantum Dots and Their Applications, *Angew. Chem. Int. Ed.*, 53, 12542–12547.
- Cheng, Q., Debnath, S., Gregan, E., and Byrne, H.J., 2010, Ultrasound-Assisted SWNTs Dispersion: Effects of Sonication Parameters and Solvent Properties, *J. Phys. Chem. C*, 114, 8821–8827.
- Choi, D., Jang, D., Joh, H.-I., Reichmanis, E., and Lee, S., 2017, High Performance Graphitic Carbon from Waste Polyethylene: Thermal Oxidation as a Stabilization Pathway Revisited, *Chem.Mater.*, 29, 9518–9527.
- Chukwuocha, E.O., Onyeaju, M.C., and Harry, T.S.T., 2012, Theoretical Studies on the Effect of Confinement on Quantum Dots Using the Brus Equation, *World J. Condens. Matter Phys.*, 02, 96–100.
- Costa E Silva, D.L., Pires Kassab, L.R., dos Santos, A.D., and Pillis, M.F., 2018, Evaluation of Carbon Thin Films Using Raman Spectroscopy, *Mater. Res.*, 21.
- Dai, D., Yang, J., Wang, Y., and Yang, Y.W., 2021, Recent Progress in Functional Materials for Selective Detection and Removal of Mercury(II) Ions, *Adv. Funct. Mater.*, 31.
- Dang, H., Huang, L.K., Zhang, Y., Wang, C.F., and Chen, S., 2016, Large-Scale Ultrasonic Fabrication of White Fluorescent Carbon Dots, *Ind. Eng. Chem. Res.*, 55, 5335–5341.

- Das, S., Ngashangva, L., and Goswami, P., 2021, Carbon Dots: An Emerging Smart Material for Analytical Applications, *Micromachines*, 12, 1–36.
- Das, S.K., Gawas, R., Chakrabarty, S., Harini, G., Patidar, R., and Jasuja, K., 2019, An Unexpected Transformation of Organic Solvents into 2D Fluorescent Quantum Dots during Ultrasonication-Assisted Liquid-Phase Exfoliation, *J. Phys. Chem. C*, 123, 25412–25421.
- Depan, D., Chirdon, W., and Khattab, A., 2021, Morphological and Chemical Analysis of Low-Density Polyethylene Crystallized on Carbon and Clay Nanofillers, *Polymers*, 13.
- Dias, C., Vasimalai, N., P. Sárria, M., Pinheiro, I., Vilas-Boas, V., Peixoto, J., and Espiña, B., 2019, Biocompatibility and Bioimaging Potential of Fruit-Based Carbon Dots, *Nanomaterials*, 9.
- Do, S., Kwon, W., and Rhee, S.-W., 2014, Soft-Template Synthesis of Nitrogen-Doped Carbon Nanodots: Tunable Visible-Light Photoluminescence and Phosphor-Based Light-Emitting Diodes, *J. Mater. Chem. C*, 2, 4221–4226.
- Dong, Y., Pang, H., Yang, H. Bin, Guo, C., Shao, J., Chi, Y., Li, C.M., and Yu, T., 2013, Carbon-Based Dots Co-doped with Nitrogen and Sulfur for High Quantum Yield and Excitation-Independent Emission, *Angew. Chem. Int. Ed.*, 52, 7800–7804.
- Eriksen, M.K., Damgaard, A., Boldrin, A., and Astrup, T.F., 2019, Quality Assessment and Circularity Potential of Recovery Systems for Household Plastic Waste, *J. Ind. Ecol.*, 23, 156–168.
- Fang, Q., Dong, Y., Chen, Y., Lu, C.H., Chi, Y., Yang, H.H., and Yu, T., 2017, Luminescence Origin of Carbon Based Dots Obtained from Citric Acid and Amino Group-Containing Molecules, *Carbon*, 118, 319–326.
- Faria, I.P. de, Martinez, M.L.B., and Queiroz, A.A.A. de, 2015, Electrical Performance Evaluation of Plasticized Polyolefin Formulation Developed for Manufacturing Surge Arresters Housings, *IEEE Trans. Dielectr. Electr. Insul.*, 22, 3429–3441.
- Ferrari, A.C., Meyer, J.C., Scardaci, V., Casiraghi, C., Lazzeri, M., Mauri, F., Piscanec, S., Jiang, D., Novoselov, K.S., Roth, S., and Geim, A.K., 2006, Raman Spectrum of Graphene and Graphene Layers, *Phys. Rev. Lett.*, 97.

- Gao, Z., Li, X., Shi, L., and Yang, Y., 2019, Deep Eutectic Solvents-Derived Carbon Dots for Detection of Mercury(II), Photocatalytic Antifungal Activity and Fluorescent Labeling for *C. albicans*, *Spectrochim. Acta-A: Mol. Biomol. Spectrosc.*, 220.
- Gaurh, P., and Pramanik, H., 2018, Production and Characterization of Pyrolysis Oil Using Waste Polyethylene in a Semi Batch Reactor, *Indian J. Chem. Technol.*, 25, 336-344.
- Hallaj, T., Azizi, N., and Amjadi, M., 2021, A Dual-Mode Colorimetric and Fluorometric Nanosensor for Detection of Uric Acid Based on N, P Co-doped Carbon Dots and in-situ Formation of Au/Ag Core-Shell Nanoparticles, *Microchem. J.*, 162, 105865.
- Homocianu, M., Airinei, A., and Dorohoi, D.O., 2011, Solvent Effects on the Electronic Absorption and Fluorescence Spectra, *J. Adv. Res. Phys.*, 2, 1–9.
- 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, 2970–2974.
- Hu, S.L., Niu, K.Y., Sun, J., Yang, J., Zhao, N.Q., and Du, X.W., 2009, One-Step Synthesis of Fluorescent Carbon Nanoparticles by Laser Irradiation, *J. Mater. Chem.*, 19, 484–488.
- 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, 47169–47176.
- Huang, H., Weng, Y., Zheng, L., Yao, B., Weng, W., and Lin, X., 2017, Nitrogen-Doped Carbon Quantum Dots as Fluorescent Probe for “Off-On” Detection of Mercury Ions, L-cysteine and Iodide Ions, *J. Colloid Interface Sci.*, 506, 373–378.
- Jelinek, R., 2017, Characterization and Physical Properties of Carbon-Dots, In *Carbon Quantum Dots: Synthesis, Properties and Applications*, 1st ed, Springer Cham, 29–46.

- Jia, J., Sun, Y., Zhang, Y., Liu, Q., Cao, J., Huang, G., Xing, B., Zhang, C., Zhang, L., and Cao, Y., 2020, Facile and Efficient Fabrication of Bandgap Tunable Carbon Quantum Dots Derived From Anthracite and Their Photoluminescence Properties, *Front. Chem.*, 8.
- Kementerian Lingkungan Hidup dan Kehutanan, 2022, Sistem Informasi Pengelolaan Sampah Nasional (SIPSN), www.sipsn.menlhk.go.id, diakses pada tanggal 25 Desember 2022.
- Kim, S., Hwang, S.W., Kim, M.-K., Shin, D.Y., Shin, D.H., Kim, C.O., Yang, S.B., Park, J.H., Hwang, E., Choi, S.-H., Ko, G., Sim, S., Sone, C., Choi, H.J., Bae, S., and Hong, B.H., 2012, Anomalous Behaviors of Visible Luminescence from Graphene Quantum Dots: Interplay between Size and Shape, *ACS Nano.*, 6, 8203–8208.
- 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.
- 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 Cu²⁺ Ion Sensing and Live Cell Imaging, *Sens. Actuators B Chem.*, 254, 197–205.
- Kunwar, B., Moser, B.R., Chandrasekaran, S.R., Rajagopalan, N., and Sharma, B.K., 2016, Catalytic and Thermal Depolymerization of Low Value Post-Consumer High Density Polyethylene Plastic, *Energy*, 111, 884–892.
- Lee, A., Yun, S., Kang, E.S., Kim, J.W., Park, J.H., and Choi, J.S., 2021, Effect of Heteroatoms on the Optical Properties and Enzymatic Activity of N-doped Carbon Dots, *RSC Adv.*, 11, 18776–18782.
- Lee, H.J., Jana, J., Thi Ngo, Y.L., Wang, L.L., Chung, J.S., and Hur, S.H., 2019, The effect of Solvent Polarity on Emission Properties of Carbon Dots and Their Uses in Colorimetric Sensors for Water and Humidity, *Mater. Res. Bull.*, 119.
- Li, H., He, X., Liu, Y., Huang, H., Lian, S., Lee, S.-T., and Kang, Z., 2011, One-Step Ultrasonic Synthesis of Water-Soluble Carbon Nanoparticles with Excellent Photoluminescent Properties, *Carbon*, 49, 605–609.

- Li, L., and Dong, T., 2018, Photoluminescence Tuning in Carbon Dots: Surface Passivation or/and Functionalization, Heteroatom Doping, *J. Mater. Chem. C Mater.*, 6, 7944–7970.
- Li, X., Chai, C., Zhang, Y., Wang, Y., Lv, J., Bian, W., and Choi, M.M.F., 2020, Microwave Synthesis of Nitrogen and Sulfur Co-doped Carbon Dots for the Selective Detection of Hg²⁺ and Glutathione, *Opt. Mater*, 99, 109559.
- Li, Y., Chen, J., Wang, Y., Li, H., Yin, J., Li, M., Wang, L., Sun, H., and Chen, L., 2021, Large-Scale Direct Pyrolysis Synthesis of Excitation-Independent Carbon Dots and Analysis of Ferric(III) Ion Sensing Mechanism, *Appl. Surf. Sci.*, 538, 148151.
- Li, Y., Li, S., Wang, Y., Wang, J., Liu, H., Liu, Xinqian, Wang, L., Liu, Xiaoguang, Xue, W., and Ma, N., 2017, Electrochemical Synthesis of Phosphorus-doped Graphene Quantum Dots for Free Radical Scavenging, *Phys. Chem. Chem. Phys.*, 19, 11631–11638.
- Lin, Y., Du, W., Tu, D., Zhong, W., and Du, Q., 2005, Space Charge Distribution and Crystalline Structure in Low Density Polyethylene (LDPE) Blended with High Density Polyethylene (HDPE), *Polym Int*, 54, 465–470.
- Liu, H., Xu, H., and Li, H., 2022, Detection of Fe³⁺ and Hg²⁺ Ions by Using High Fluorescent Carbon Dots Doped with S and N as Fluorescence Probes, *J. Fluoresc.*, 32, 1089–1098.
- Liu, M., 2020, Optical Properties of Carbon Dots: A Review, *Nanoarchitectonics*, 1, 1–12.
- Liu, X., Sun, Y., Perez, L.A., Wen, W., Toney, M.F., Heeger, A.J., and Bazan, G.C., 2012, Narrow-Band-Gap Conjugated Chromophores with Extended Molecular Lengths, *J. Am. Chem. Soc.*, 134, 20609–20612.
- Liu, Y., He, M., Chen, B., and Hu, B., 2016, Ultra-Trace Determination of Gold Nanoparticles in Environmental Water by Surfactant Assisted Dispersive Liquid-Liquid Microextraction Coupled with Electrothermal Vaporization-Inductively Coupled Plasma-Mass Spectrometry, *Spectrochim. Acta Part B At. Spectrosc.*, 122, 94–102.
- Liu, Z., Zou, H., Wang, N., Yang, T., Peng, Z., Wang, J., Li, N., and Huang, C., 2018, Photoluminescence of Carbon Quantum Dots: Coarsely Adjusted by Quantum Confinement Effects and Finely by Surface Trap States, *Sci. China Chem.*, 61, 490–496.

- Longo, A., Palomba, M., Urban, F., Di Bartolomeo, A., Sorrentino, A., Barucca, G., Ambrosone, G., Coscia, U., and Carotenuto, G., 2021, Structural and Electrical Properties of Graphite Platelet Films Deposited on Low-Density Polyethylene Substrate,. In, *Material Proceedings*. MDPI AG, pp. 1–5.
- 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.
- Manavi, P.N., and Mazumder, A., 2018, Potential Risk of Mercury to Human Health in Three Species of Fish from the Southern Caspian Sea, *Mar. Pollut. Bull.*, 130, 1–5.
- Marpongahtun, Andriyani, Muis, Y., Gea, S., Amaturrahim, S.A., Attaurazaq, B., and Daulay, A., 2023, Synthesis of Nitrogen-Doped Carbon Dots from Nanocrystalline Cellulose by Pyrolysis Method as Hg²⁺ Detector, *Int. J. Tech.*, 14, 219–231.
- Maurya, A., Bhattacharya, A., and Khare, S.K., 2020, Enzymatic Remediation of Polyethylene Terephthalate (PET)–Based Polymers for Effective Management of Plastic Wastes: An Overview, *Front. Bioeng. Biotechnol.*, 8.
- Mondal, S., Karthik, P.E., Sahoo, L., Chatterjee, K., Sathish, M., and Gautam, U.K., 2020, High and Reversible Oxygen Uptake in Carbon Dot Solutions Generated from Polyethylene Facilitating Reactant-Enhanced Solar Light Harvesting, *Nanoscale*, 12, 10480–10490.
- Mukherjee, S., Mishra, P.C., Chakrabarty, S., and Chaudhuri, P., 2022, Effects of Sonication Period on Colloidal Stability and Thermal Conductivity of SiO₂–Water Nanofluid: An Experimental Investigation, *J. Clust. Sci.*, 33, 1763–1771.
- Munaro, M., and Akcelrud, L., 2008, Correlations Between Composition and Crystallinity of LDPE/HDPE Blends, *J. Polymer Res.*, 15, 83–88.
- Murray, K.A., Kennedy, J.E., Mcevoy, B., Vrain, O., Ryan, D., Cowman, R., and Higginbotham, C.L., 2013, Characterisation of the Surface and Structural Properties of Gamma Ray and Electron Beam Irradiated Low Density Polyethylene, *Int. J. Mat. Sci. (IJMSCI)*, 3(1).
- Newberry, R.W., and Raines, R.T., 2017, The n→π* Interaction, *Acc. Chem. Res.*, 50, 1838–1846.

- Norris, D.J., Efros, A.L., and Erwin, S.C., 2008, Doped Nanocrystals, *Science*, 319, 1776–1779.
- Pajewska-Szmyt, M., Buszewski, B., and Gadzała-Kopciuch, R., 2020, Sulphur and Nitrogen Doped Carbon Dots Synthesis by Microwave Assisted Method as Quantitative Analytical Nano-Tool for Mercury Ion Sensing, *Mater. Chem. Phys.*, 242, 122484.
- Pal, A., Natu, G., Ahmad, K., and Chattopadhyay, A., 2018, Phosphorus Induced Crystallinity in Carbon Dots for Solar Light Assisted Seawater Desalination, *J. Mater. Chem. A Mater.*, 6, 4111–4118.
- Papajani, B., Qoku, E., Malkaj, P., and Dilo, T., 2013, The Study of Phase Compound and the Degree of Crystallinity of Recycled LDPE by X-ray Diffractometer and Optical Microscope, *Int. J. Sci. Res.*, 4, 2319-7064.
- Park, J.Y., Rama Raju, G.S., Hong, W.T., and Yang, H.K., 2023, Photobleach Effect of Multi-Color Emitting Carbon Dots for UV-light Sensing, *Chem. Eng. J.*, 464.
- Peacock, A., 2000, *Handbook of Polyethylene: Structure, Properties and Applications*, 1st Edition. Marcel Dekker, New York.
- Pei, L., Zhang, W., Yang, S., Chen, K., Zhu, X., Zhao, Y., and Han, S., 2023, Nitrogen and Sulfur Co-doped Carbon Dots as a Turn-Off Fluorescence Probe for the Detection of Cerium and Iron, *J. Fluoresc.*, 33, 1147–1156.
- 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 Au³⁺ Ions in Aqueous Media, *ACS Sustain. Chem. Eng.*, 6, 1627–1638.
- Ravi, J., Hills, A.E., Cerasoli, E., Rakowska, P.D., and Ryadnov, M.G., 2011, FTIR Markers of Methionine Oxidation for Early Detection of Oxidized Protein Therapeutics, *Eur. Biophys. J.*, 40, 339–345.
- Reckmeier, C.J., Schneider, J., Susha, A.S., and Rogach, A.L., 2016, Luminescent Colloidal Carbon Dots: Optical Properties and Effects of Doping Invited, *Opt. Express*, 24, A312–A340.
- Saleem, M., Naz, M.Y., Shukrullah, S., Shujah, M.A., Akhtar, M., Ullah, S., and Ali, S., 2022, One-Pot Sonochemical Preparation of Carbon Dots, Influence

of Process Parameters and Potential Applications: A Review, *Carbon Lett.*, 32, 39–55.

Sciortino, A., Cannizzo, A., and Messina, F., 2018, Carbon Nanodots: A Review-From the Current Understanding of the Fundamental Photophysics to the Full Control of the Optical Response, *C (basel)*, 4, 1–35.

Sharma, V., Tiwari, P., and Mobin, S.M., 2017, Sustainable Carbon-Dots: Recent Advances in Green Carbon Dots for Sensing and Bioimaging, *J. Mater. Chem. B*, 5, 8904–8924.

Shastri, A., Das, A.K., Krishnakumar, S., Singh, P.J., and Raja Sekhar, B.N., 2017, Spectroscopy of N, N-dimethylformamide in the VUV and IR Regions: Experimental and Computational Studies, *J. Chem. Phys.*, 147.

Shen, J., Zhu, Y., Chen, C., Yang, X., and Li, C., 2011, Facile Preparation and Upconversion Luminescence of Graphene Quantum Dots, *Chem. Commun.*, 47, 2580–2582.

Siddique, A.B., Pramanick, A.K., Chatterjee, S., and Ray, M., 2018, Amorphous Carbon Dots and their Remarkable Ability to Detect 2,4,6-Trinitrophenol, *Sci. Rep.*, 8, 9770.

da Silva, D.J., and Wiebeck, H., 2017, Using PLS, iPLS and siPLS linear regressions to determine the composition of LDPE/HDPE blends: A comparison between confocal Raman and ATR-FTIR spectroscopies, *Vib. Spectrosc.*, 92, 259–266.

Singh, S., and Kansal, S.K., 2022, Dual Fluorometric Detection of Fe³⁺ and Hg²⁺ Ions in an Aqueous Medium Using Carbon Quantum Dots as a “Turn-off” Fluorescence Sensor, *J. Fluoresc.*, 32, 1143–1154.

Śmiechowski, M., 2021, The Influence of Intermolecular Correlations on the Infrared Spectrum of Liquid Dimethyl Sulfoxide, *Spectrochim. Acta A: Mol. Biomol. Spectrosc.*, 260, 119869.

Song, T., Zhao, Y., Wang, T., Li, J., Jiang, Z., and Yang, P., 2020, Carbon Dots Doped with N and S towards Controlling Emitting, *J. Fluoresc.*, 30, 81–89.

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, 602–609.

Tabaraki, R., and Hajisharifi, F., 2023, Fluorescence Sensors for Titanium(IV) and Mercury(II) Based on Doped Carbon Dots Synthesized from Acetamide and Thioacetamide, a Comparative Study, *Chem. Pap.*, 77, 2625–2633.

Tabaraki, R., and Sadeghinejad, N., 2018, Microwave Assisted Synthesis of Doped Carbon Dots and Their Application as Green and Simple Turn Off–On Fluorescent Sensor for Mercury (II) and Iodide in Environmental Samples, *Ecotoxicol. Environ. Saf.*, 153, 101–106.

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. Res.*, 4, 2200314.

Tang, Z., Yang, J., Li, G., and Hu, Y., 2019, Synthesis of Sulfur-Rich Nitrogen Dots from a Single Source Precursor and Its Application in Dual-Mode Sensing, *Talanta*, 195, 550–557.

Tao, S., Lu, S., Geng, Y., Zhu, S., Redfern, S.A.T., Song, Y., Feng, T., Xu, W., and Yang, B., 2018, Design of Metal-Free Polymer Carbon Dots: A New Class of Room-Temperature Phosphorescent Materials, *Angew. Chem. Int. Ed.*, 57, 2393–2398.

Tempa, K., Chettri, N., Thapa, G., Phurba, Gyeltshen, C., Norbu, D., Gurung, D., and Wangchuk, U., 2022, An Experimental Study and Sustainability Assessment of Plastic Waste as a Binding Material for Producing Economical Cement-Less Paver Blocks, *Eng. Sci. Technol. Int. J.*, 26, 101008.

Upadhyay, A.K., and Reddy, C.C., 2017, On the Mechanism of Charge Transport in Low Density Polyethylene, *J. Appl. Phys.*, 122, 064105.

Veerakumar, P., Salamalai, K., Thanasekaran, P., and Lin, K.-C., 2018, Simple Preparation of Porous Carbon-Supported Ruthenium: Propitious Catalytic Activity in the Reduction of Ferrocyanate(III) and a Cationic Dye, *ACS Omega*, 3, 12609–12621.

Wang, F., Wang, S., Sun, Z., and Zhu, H., 2015, Study on Ultrasonic Single-Step Synthesis and Optical Properties of Nitrogen-Doped Carbon Fluorescent Quantum Dots, *Fuller. Nanotub. Carbon Nanostructures*, 23, 769–776.

- Wang, H., Sun, C., Chen, X., Zhang, Y., Colvin, V.L., Rice, Q., Seo, J., Feng, S., Wang, S., and Yu, W.W., 2017, Excitation Wavelength Independent Visible Color Emission of Carbon Dots, *Nanoscale*, 9, 1909–1915.
- Wang, J., Wang, S., Wei, Y., Chen, L., Yang, Y., Liu, X., Yu, S., and Zhang, L., 2019, Rapid Synthesis of Nitrogen Doped Carbon Dots with Green Fluorescent for Bio-imaging, *Opt. Mater.*, 98, 109486.
- Wang, J., Wei, J., Su, S., and Qiu, J., 2015, Novel Fluorescence Resonance Energy Transfer Optical Sensors for Vitamin B12 Detection Using Thermally Reduced Carbon Dots, *New J. Chem.*, 39, 501–507.
- Wang, J., Yang, Y., and Liu, X., 2020, Solid-State Fluorescent Carbon Dots: Quenching Resistance Strategies, High Quantum Efficiency Control, Multicolor Tuning, and Applications, *Mater. Adv.*, 1, 3122–3142.
- Wang, Y., Kim, S.-H., and Feng, L., 2015, Highly Luminescent N,S- Co-doped Carbon Dots and Their Direct Use as Mercury(II) Sensor, *Anal. Chim. Acta.*, 890, 134–142.
- Wei, K., Li, J., Ge, Z., You, Y., and Xu, H., 2014, Sonochemical synthesis of highly photoluminescent carbon nanodots, *RSC Adv.*, 4, 52230–52234.
- Wei, Y., Chen, L., Wang, J., Liu, X., Yang, Y., and Yu, S., 2020, Rapid Synthesis of B-N co-doped Yellow Emissive Carbon Quantum Dots for Cellular Imaging, *Opt. Mater.*, 100, 109647.
- Williams, P.T., 2021, Hydrogen and Carbon Nanotubes from Pyrolysis-Catalysis of Waste Plastics: A Review, *Waste Biomass Valorization*, 12, 1–28.
- Wu, P., Zhao, T., Wang, S., and Hou, X., 2014, Semiconductor Quantum Dots-Based Metal Ion Probes, *Nanoscale*, 6, 43–64.
- Wu, Z.L., Gao, M.X., Wang, T.T., Wan, X.Y., Zheng, L.L., and Huang, C.Z., 2014, A General Quantitative pH Sensor Developed with Dicyandiamide N-Doped High Quantum Yield Graphene Quantum Dots, *Nanoscale*, 6, 3868–3874.
- Xia, C., Zhu, S., Feng, T., Yang, M., and Yang, B., 2019, Evolution and Synthesis of Carbon Dots: From Carbon Dots to Carbonized Polymer Dots, *Adv. Sci.*, 6, 1901316.
- Xu, S., Liu, Y., Yang, H., Zhao, K., Li, J., and Deng, A., 2017, Fluorescent Nitrogen and Sulfur Co-doped Carbon Dots from Casein and Their

Applications for Sensitive Detection of Hg²⁺ and biothiols and Cellular Imaging, *Anal. Chim. Acta.*, 964, 150–160.

Yang, H., Zhou, B., Zhang, Y., Liu, H., Liu, Y., He, Y., and Xia, S., 2021, Valorization of Expired Passion Fruit Shell by Hydrothermal Conversion into Carbon Quantum Dot: Physical and Optical Properties, *Waste Biomass Valorization*, 12, 2109–2117.

Yang, S., Sun, J., Li, X., Zhou, W., Wang, Z., He, P., Ding, G., Xie, X., Kang, Z., and Jiang, M., 2014, Large-Scale Fabrication of Heavy Doped Carbon Quantum Dots with Tunable-Photoluminescence and Sensitive Fluorescence Detection, *J. Mater. Chem. A Mater.*, 2, 8660–8667.

Yang, Y., Chen, X., Wang, Y., Wu, M., Ma, Y., and Yang, X., 2020, A Novel Fluorescent Test Papers Based on Carbon Dots for Selective and Sensitive Detection of Cr(VI), *Front. Chem.*, 8.

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 Fe³⁺ and Hg²⁺ Ions and Their Application as a Novel Fluorescent Sensor, *Nanomaterials*, 9.

Yaqoob, L., Noor, T., and Iqbal, N., 2022, Conversion of Plastic Waste to Carbon-Based Compounds and Application in Energy Storage Devices, *ACS Omega*, 7, 13403–13435.

Yogesh, G.K., Shuaib, E.P., Roopmani, P., Gumpu, M.B., Krishnan, U.M., and Sastikumar, D., 2020, Synthesis, Characterization and Bioimaging Application of Laser-Ablated Graphene-Oxide Nanoparticles (nGOs), *Diam. Relat. Mater.*, 104, 107733.

Yoo, D., Park, Y., Cheon, B., and Park, M.-H., 2019, Carbon Dots as an Effective Fluorescent Sensing Platform for Metal Ion Detection, *Nanoscale Res. Lett.*, 14, 272.

Zhang, L., Dou, X., Zhang, C., Ying, G., Liu, C., Luo, J., Li, Q., Li, P., Wang, Y., and Yang, M., 2018, Facile Preparation of Stable PEG-Functionalized Quantum Dots with Glycine-Enhanced Photoluminescence and Their Application for Screening of Aflatoxin B1 in Herbs, *Sens. Actuators B Chem.*, 261, 188–195.

Zhang, Y., He, Y.H., Cui, P.P., Feng, X.T., Chen, L., Yang, Y.Z., and Liu, X.G., 2015, Water-Soluble, Nitrogen-Doped Fluorescent Carbon Dots for Highly

Sensitive and Selective Detection of Hg²⁺ in Aqueous Solution, *RSC Adv.*, 5, 40393–40401.

Zhao, F., Qian, J., Quan, F., Wu, C., Zheng, Y., and Zhou, L., 2017, Aconitic Acid Derived Carbon Dots as Recyclable “On–Off–on” Fluorescent Nanoprobes for Sensitive Detection of Mercury(II) Ions, Cysteine and Cellular Imaging, *RSC Adv.*, 7, 44178–44185.

Zhu, J., Bai, X., Bai, J., Pan, G., Zhu, Y., Zhai, Y., Shao, H., Chen, X., Dong, B., Zhang, H., and Song, H., 2018, Emitting color tunable carbon dots by adjusting solvent towards light-emitting devices, *Nanotechnology*, 29, 085705.

Zhu, J., Li, X., Huang, C., Chen, L., and Li, L., 2013, Plasticization Effect of Triacetin on Structure and Properties of Starch Ester Film, *Carbohydr. Polym.*, 94, 874–881.

Zhuo, C., and Levendis, Y.A., 2014, Upcycling Waste Plastics into Carbon Nanomaterials: A Review, *J. Appl. Polym. Sci.*, 131.