

References

- ❖ Taniguchi, N. (1974). On the basic concept of nano-technology proceedings of the international conference on production engineering tokyo part ii japan society of precision engineering. *Pabbati et al.*
- ❖ Offenhäusser, A., & Rinaldi, R. (Eds.). (2009). *Nanobioelectronics-for Electronics, Biology, and Medicine*. Springer Science & Business Media.
- ❖ Roco, M. C. (2007). National nanotechnology initiative-past, present, future. *Handbook on nanoscience, engineering and technology*, 2.
- ❖ Zhu, W., Bartos, P. J., & Porro, A. (2004). Application of nanotechnology in construction. *Materials and structures*, 37(9), 649-658.
- ❖ Murty, B. S., Shankar, P., Raj, B., Rath, B. B., & Murday, J. (2013). Applications of nanomaterials. In *Textbook of nanoscience and nanotechnology* (pp. 107-148). Springer, Berlin, Heidelberg.
- ❖ Mangaraj, A., Das, A. K., & Malla, B. (2020). Nanoparticles Used in Construction and Other Industries: a Review.
- ❖ Clayton, G. (2018). *Nanoscience and Nanotechnology*. Scientific e-Resources.
- ❖ Ealia, S. A. M., & Saravanakumar, M. P. (2017, November). A review on the classification, characterisation, synthesis of nanoparticles and their application. In *IOP conference series: materials science and engineering* (Vol. 263, No. 3, p. 032019). IOP Publishing.
- ❖ Haruta, M. (2002). Catalysis of gold nanoparticles deposited on metal oxides. *Cattech*, 6(3), 102-115.
- ❖ Aitken, R. J., Chaudhry, M. Q., Boxall, A. B. A., & Hull, M. (2006). Manufacture and use of nanomaterials: current status in the UK and global trends. *Occupational medicine*, 56(5), 300-306.
- ❖ Kumar, A. P., Depan, D., Tomer, N. S., & Singh, R. P. (2009). Nanoscale particles for polymer degradation and stabilization—trends and future perspectives. *Progress in polymer science*, 34(6), 479-515.
- ❖ Ealia, S. A. M., & Saravanakumar, M. P. (2017, November). A review on the classification, characterisation, synthesis of nanoparticles and their application. In *IOP conference series: materials science and engineering* (Vol. 263, No. 3, p. 032019). IOP Publishing.

-
- ❖ Mageswari, A., Srinivasan, R., Subramanian, P., Ramesh, N., & Gothandam, K. M. (2016). Nanomaterials: classification, biological synthesis and characterization. In *Nanoscience in Food and Agriculture 3* (pp. 31-71). Springer, Cham.
 - ❖ Baig, N., Kammakakam, I., & Falath, W. (2021). Nanomaterials: A review of synthesis methods, properties, recent progress, and challenges. *Materials Advances*, 2(6), 1821-1871.
 - ❖ Thakur, P., & Thakur, A. (2022). Introduction to Nanotechnology. In *Synthesis and Applications of Nanoparticles* (pp. 1-17). Springer, Singapore.
 - ❖ Xia, Y., Yang, P., Sun, Y., Wu, Y., Mayers, B., Gates, B., & Yan, H. (2003). One-dimensional nanostructures: synthesis, characterization, and applications. *Advanced materials*, 15(5), 353-389.
 - ❖ Georgakilas, V., Perman, J. A., Tucek, J., & Zboril, R. (2015). Broad family of carbon nanoallotropes: classification, chemistry, and applications of fullerenes, carbon dots, nanotubes, graphene, nanodiamonds, and combined superstructures. *Chemical reviews*, 115(11), 4744-4822.
 - ❖ Tiwari, J. N., Tiwari, R. N., & Kim, K. S. (2012). Zero-dimensional, one-dimensional, two-dimensional and three-dimensional nanostructured materials for advanced electrochemical energy devices. *Progress in Materials Science*, 57(4), 724-803.
 - ❖ Ferrari, A. C., Bonaccorso, F., Fal'Ko, V., Novoselov, K. S., Roche, S., Bøggild, P., & Kinaret, J. (2015). Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. *Nanoscale*, 7(11), 4598-4810.
 - ❖ Vallet-Regí, M., González, B., & Izquierdo-Barba, I. (2019). Nanomaterials as promising alternative in the infection treatment. *International journal of molecular sciences*, 20(15), 3806.
 - ❖ Wang, B., Thukral, A., Xie, Z., Liu, L., Zhang, X., Huang, W., & Facchetti, A. (2020). Flexible and stretchable metal oxide nanofiber networks for multimodal and monolithically integrated wearable electronics. *Nature communications*, 11(1), 1-11.
 - ❖ Ealia, S. A. M., & Saravanakumar, M. P. (2017, November). A review on the classification, characterisation, synthesis of nanoparticles and their application. In *IOP conference series: materials science and engineering* (Vol. 263, No. 3, p. 032019). IOP Publishing.
 - ❖ Majhi, K. C., & Yadav, M. (2021). Synthesis of inorganic nanomaterials using carbohydrates. In *Green Sustainable Process for Chemical and Environmental Engineering and Science* (pp. 109-135). Elsevier.

-
- ❖ Tyagi, D., Wang, H., Huang, W., Hu, L., Tang, Y., Guo, Z., & Zhang, H. (2020). Recent advances in two-dimensional-material-based sensing technology toward health and environmental monitoring applications. *Nanoscale*, *12*(6), 3535-3559.
 - ❖ Bhalla, N., Pan, Y., Yang, Z., & Payam, A. F. (2020). Opportunities and challenges for biosensors and nanoscale analytical tools for pandemics: COVID-19. *ACS nano*, *14*(7), 7783-7807.
 - ❖ Huang, X., Yin, Z., Wu, S., Qi, X., He, Q., Zhang, Q., & Zhang, H. (2011). Graphene-based materials: synthesis, characterization, properties, and applications. *Small*, *7*(14), 1876-1902.
 - ❖ Ghosh, S., & Das, A. P. (2015). Modified titanium oxide (TiO₂) nanocomposites and its array of applications: a review. *Toxicological & Environmental Chemistry*, *97*(5), 491-514.
 - ❖ Pu, K. Y., & Liu, B. (2011). Fluorescent conjugated polyelectrolytes for bioimaging. *Advanced Functional Materials*, *21*(18), 3408-3423.
 - ❖ Chen, C., Ng, D. Y. W., & Weil, T. (2020). Polymer bioconjugates: Modern design concepts toward precision hybrid materials. *Progress in Polymer Science*, *105*, 101241.
 - ❖ Sahu, T., Ratre, Y. K., Chauhan, S., Bhaskar, L. V. K. S., Nair, M. P., & Verma, H. K. (2021). Nanotechnology based drug delivery system: Current strategies and emerging therapeutic potential for medical science. *Journal of Drug Delivery Science and Technology*, *63*, 102487.
 - ❖ Sulthana, R., & Archer, A. C. (2021). Bacteriocin nanoconjugates: boon to medical and food industry. *Journal of Applied Microbiology*, *131*(3), 1056-1071.
 - ❖ Khalid, K., Tan, X., Mohd Zaid, H. F., Tao, Y., Lye Chew, C., Chu, D. T., & Chin Wei, L. (2020). Advanced in developmental organic and inorganic nanomaterial: A review. *Bioengineered*, *11*(1), 328-355.
 - ❖ Liang, R., Wei, M., Evans, D. G., & Duan, X. (2014). Inorganic nanomaterials for bioimaging, targeted drug delivery and therapeutics. *Chemical communications*, *50*(91), 14071-14081.
 - ❖ Broza, Y. Y., & Haick, H. (2013). Nanomaterial-based sensors for detection of disease by volatile organic compounds. *Nanomedicine*, *8*(5), 785-806.
 - ❖ Zhang, N., Song, X., Jiang, H., & Tang, C. Y. (2021). Advanced thin-film nanocomposite membranes embedded with organic-based nanomaterials for water

- and organic solvent purification: A review. *Separation and Purification Technology*, 269, 118719.
- ❖ Cha, C., Shin, S. R., Annabi, N., Dokmeci, M. R., & Khademhosseini, A. (2013). Carbon-based nanomaterials: multifunctional materials for biomedical engineering. *ACS nano*, 7(4), 2891-2897.
 - ❖ Sharma, V., Tiwari, P., & Mobin, S. M. (2017). Sustainable carbon-dots: recent advances in green carbon dots for sensing and bioimaging. *Journal of Materials Chemistry B*, 5(45), 8904-8924.
 - ❖ Su, D. S., & Centi, G. (2013). A perspective on carbon materials for future energy application. *Journal of Energy Chemistry*, 22(2), 151-173.
 - ❖ Serrano-Aroca, Á., Takayama, K., Tuñón-Molina, A., Seyran, M., Hassan, S. S., Pal Choudhury, P., & Brufsky, A. (2021). Carbon-based nanomaterials: promising antiviral agents to combat COVID-19 in the microbial-resistant era. *ACS nano*, 15(5), 8069-8086.
 - ❖ Peng, Z. A., & Peng, X. (2001). Formation of high-quality CdTe, CdSe, and CdS nanocrystals using CdO as precursor. *Journal of the American Chemical Society*, 123(1), 183-184.
 - ❖ Vossmeier, T., Katsikas, L., Giersig, M., Popovic, I. G., Diesner, K., Chemseddine, A., & Weller, H. (1994). CdS nanoclusters: synthesis, characterization, size dependent oscillator strength, temperature shift of the excitonic transition energy, and reversible absorbance shift. *The Journal of Physical Chemistry*, 98(31), 7665-7673.
 - ❖ Wang, S., Yu, J., Zhao, P., Guo, S., & Han, S. (2021). One-step synthesis of water-soluble CdS quantum dots for silver-ion detection. *ACS omega*, 6(10), 7139-7146.
 - ❖ Kershaw, S. V., Burt, M., Harrison, M., Rogach, A., Weller, H., & Eychmüller, A. (1999). Colloidal CdTe/HgTe quantum dots with high photoluminescence quantum efficiency at room temperature. *Applied Physics Letters*, 75(12), 1694-1696.
 - ❖ Cao, L., Wang, X., Meziani, M. J., Lu, F., Wang, H., Luo, P. G., & Sun, Y. P. (2007). Carbon dots for multiphoton bioimaging. *Journal of the American Chemical Society*, 129(37), 11318-11319.
 - ❖ Shamsipur, M., Barati, A., Taherpour, A. A., & Jamshidi, M. (2018). Resolving the multiple emission centers in carbon dots: from fluorophore molecular states to aromatic domain states and carbon-core states. *The journal of physical chemistry letters*, 9(15), 4189-4198.

-
- ❖ Pan, D., Zhang, J., Li, Z., Wu, C., Yan, X., & Wu, M. (2010). Observation of pH-, solvent-, spin-, and excitation-dependent blue photoluminescence from carbon nanoparticles. *Chemical Communications*, 46(21), 3681-3683.
 - ❖ Sun, Y. P., Zhou, B., Lin, Y., Wang, W., Fernando, K. S., Pathak, P., & Xie, S. Y. (2006). Quantum-sized carbon dots for bright and colorful photoluminescence. *Journal of the American Chemical Society*, 128(24), 7756-7757.
 - ❖ Li, X., Wang, H., Shimizu, Y., Pyatenko, A., Kawaguchi, K., & Koshizaki, N. (2010). Preparation of carbon quantum dots with tunable photoluminescence by rapid laser passivation in ordinary organic solvents. *Chemical Communications*, 47(3), 932-934.
 - ❖ Hu, S. L., Niu, K. Y., Sun, J., Yang, J., Zhao, N. Q., & Du, X. W. (2009). One-step synthesis of fluorescent carbon nanoparticles by laser irradiation. *Journal of Materials Chemistry*, 19(4), 484-488.
 - ❖ Xu, X., Ray, R., Gu, Y., Ploehn, H. J., Gearheart, L., Raker, K., & Scrivens, W. A. (2004). Electrophoretic analysis and purification of fluorescent single-walled carbon nanotube fragments. *Journal of the American Chemical Society*, 126(40), 12736-12737.
 - ❖ Deng, J., Lu, Q., Mi, N., Li, H., Liu, M., Xu, M., & Yao, S. (2014). Electrochemical synthesis of carbon nanodots directly from alcohols. *Chemistry—A European Journal*, 20(17), 4993-4999.
 - ❖ Zhao, Z., & Xie, Y. (2017). Enhanced electrochemical performance of carbon quantum dots-polyaniline hybrid. *Journal of Power Sources*, 337, 54-64.
 - ❖ Anwar, S., Ding, H., Xu, M., Hu, X., Li, Z., Wang, J., & Bi, H. (2019). Recent advances in synthesis, optical properties, and biomedical applications of carbon dots. *ACS Applied Bio Materials*, 2(6), 2317-2338.
 - ❖ Zhou, J., Booker, C., Li, R., Zhou, X., Sham, T. K., Sun, X., & Ding, Z. (2007). An electrochemical avenue to blue luminescent nanocrystals from multiwalled carbon nanotubes (MWCNTs). *Journal of the American Chemical Society*, 129(4), 744-745.
 - ❖ Zheng, L., Chi, Y., Dong, Y., Lin, J., & Wang, B. (2009). Electrochemiluminescence of water-soluble carbon nanocrystals released electrochemically from graphite. *Journal of the American Chemical Society*, 131(13), 4564-4565.
 - ❖ Li, H., He, X., Kang, Z., Huang, H., Liu, Y., Liu, J., & Lee, S. T. (2010). Water-soluble fluorescent carbon quantum dots and photocatalyst design. *Angewandte Chemie International Edition*, 49(26), 4430-4434.

-
- ❖ Ngo, Y. L. T., Jana, J., Chung, J. S., & Hur, S. H. (2020). Electrochemical Biosensors based on Nanocomposites of Carbon-based Dots. *Korean Chemical Engineering Research*, 58(4), 499-513.
 - ❖ Huang, H., Lu, Y. C., Wang, A. J., Liu, J. H., Chen, J. R., & Feng, J. J. (2014). A facile, green, and solvent-free route to nitrogen–sulfur-codoped fluorescent carbon nanoparticles for cellular imaging. *RSC Advances*, 4(23), 11872-11875.
 - ❖ Peng, H., & Travas-Sejdic, J. (2009). Simple aqueous solution route to luminescent carbogenic dots from carbohydrates. *Chemistry of Materials*, 21(23), 5563-5565.
 - ❖ Liu, H., Ye, T., & Mao, C. (2007). Fluorescent carbon nanoparticles derived from candle soot. *Angewandte chemie*, 119(34), 6593-6595.
 - ❖ Zhu, H., Wang, X., Li, Y., Wang, Z., Yang, F., & Yang, X. (2009). Microwave synthesis of fluorescent carbon nanoparticles with electrochemiluminescence properties. *Chemical Communications*, (34), 5118-5120.
 - ❖ Tang, L., Ji, R., Cao, X., Lin, J., Jiang, H., Li, X., & Lau, S. P. (2012). Deep ultraviolet photoluminescence of water-soluble self-passivated graphene quantum dots. *ACS nano*, 6(6), 5102-5110.
 - ❖ Xiao, D., Yuan, D., He, H., & Gao, M. (2013). Microwave assisted one-step green synthesis of fluorescent carbon nanoparticles from ionic liquids and their application as novel fluorescence probe for quercetin determination. *Journal of luminescence*, 140, 120-125.
 - ❖ Liu, S., Tian, J., Wang, L., Luo, Y., & Sun, X. (2012). A general strategy for the production of photoluminescent carbon nitride dots from organic amines and their application as novel peroxidase-like catalysts for colorimetric detection of H₂O₂ and glucose. *Rsc Advances*, 2(2), 411-413.
 - ❖ Roshni, V., & Praveen, O. D. (2017). Fluorescent N-doped carbon dots from mustard seeds: one step green synthesis and its application as an effective Hg (II) sensor. *Braz J Anal Chem*, 4(14), 17-24.
 - ❖ Wang, S., Tang, L. A. L., Bao, Q., Lin, M., Deng, S., Goh, B. M., & Loh, K. P. (2009). Room-temperature synthesis of soluble carbon nanotubes by the sonication of graphene oxide nanosheets. *Journal of the american chemical society*, 131(46), 16832-16837.
 - ❖ Zhang, S., Yang, K., & Liu, Q. (2015). Formation of silver nanoparticles induced by ultrasonically treated sodium dodecyl benzene sulphonate. *Micro & Nano Letters*, 10(8), 422-426.

-
- ❖ Li, H., He, X., Liu, Y., Huang, H., Lian, S., Lee, S. T., & Kang, Z. (2011). One-step ultrasonic synthesis of water-soluble carbon nanoparticles with excellent photoluminescent properties. *Carbon*, 49(2), 605-609.
 - ❖ Roshni, V., & Praveen, O. D. (2017). Fluorescent N-doped carbon dots from mustard seeds: one step green synthesis and its application as an effective Hg (II) sensor. *Braz J Anal Chem*, 4(14), 17-24.
 - ❖ Jamkhande, P. G., Ghule, N. W., Bamer, A. H., & Kalaskar, M. G. (2019). Metal nanoparticles synthesis: An overview on methods of preparation, advantages and disadvantages, and applications. *Journal of drug delivery science and technology*, 53, 101174.
 - ❖ Zhang, B., Liu, C. Y., & Liu, Y. (2010). A novel one-step approach to synthesize fluorescent carbon nanoparticles.
 - ❖ Zhu, S., Meng, Q., Wang, L., Zhang, J., Song, Y., Jin, H., & Yang, B. (2013). Highly photoluminescent carbon dots for multicolor patterning, sensors, and bioimaging. *Angewandte Chemie*, 125(14), 4045-4049.
 - ❖ De, B., & Karak, N. (2013). A green and facile approach for the synthesis of water soluble fluorescent carbon dots from banana juice. *Rsc Advances*, 3(22), 8286-8290.
 - ❖ Valeur, B., & Berberan-Santos, M. N. (2011). A brief history of fluorescence and phosphorescence before the emergence of quantum theory. *Journal of Chemical Education*, 88(6), 731-738.
 - ❖ Barman, M. K., & Patra, A. (2018). Current status and prospects on chemical structure driven photoluminescence behaviour of carbon dots. *Journal of Photochemistry and Photobiology C: Photochemistry Reviews*, 37, 1-22.
 - ❖ Sk, M. A., Ananthanarayanan, A., Huang, L., Lim, K. H., & Chen, P. (2014). Revealing the tunable photoluminescence properties of graphene quantum dots. *Journal of Materials Chemistry C*, 2(34), 6954-6960.
 - ❖ Kwon, W., Lee, G., Do, S., Joo, T., & Rhee, S. W. (2014). Size-controlled soft-template synthesis of carbon nanodots toward versatile photoactive materials. *Small*, 10(3), 506-513.
 - ❖ Miao, X., Qu, D., Yang, D., Nie, B., Zhao, Y., Fan, H., & Sun, Z. (2018). Synthesis of carbon dots with multiple color emission by controlled graphitization and surface functionalization. *Advanced materials*, 30(1), 1704740.

-
- ❖ Long, Y. M., Zhou, C. H., Zhang, Z. L., Tian, Z. Q., Bao, L., Lin, Y., & Pang, D. W. (2012). Shifting and non-shifting fluorescence emitted by carbon nanodots. *Journal of Materials Chemistry*, 22(13), 5917-5920.
 - ❖ Xu, X., Ray, R., Gu, Y., Ploehn, H. J., Gearheart, L., Raker, K., & Scrivens, W. A. (2004). Electrophoretic analysis and purification of fluorescent single-walled carbon nanotube fragments. *Journal of the American Chemical Society*, 126(40), 12736-12737.
 - ❖ Sun, Y. P., Zhou, B., Lin, Y., Wang, W., Fernando, K. S., Pathak, P., & Xie, S. Y. (2006). Quantum-sized carbon dots for bright and colorful photoluminescence. *Journal of the American Chemical Society*, 128(24), 7756-7757.
 - ❖ Yeh, T. F., Huang, W. L., Chung, C. J., Chiang, I. T., Chen, L. C., Chang, H. Y., & Teng, H. (2016). Elucidating quantum confinement in graphene oxide dots based on excitation-wavelength-independent photoluminescence. *The journal of physical chemistry letters*, 7(11), 2087-2092.
 - ❖ Wei, J., & Qiu, J. (2015). Unveil the fluorescence of carbon quantum dots. *Advanced Engineering Materials*, 17(2), 138-142.
 - ❖ Zhu, X., Zeng, Y., Zhang, Z., Yang, Y., Zhai, Y., Wang, H., & Li, L. (2018). A new composite of graphene and molecularly imprinted polymer based on ionic liquids as functional monomer and cross-linker for electrochemical sensing 6-benzylaminopurine. *Biosensors and Bioelectronics*, 108, 38-45.
 - ❖ Bao, L., Liu, C., Zhang, Z. L., & Pang, D. W. (2015). Photoluminescence-tunable carbon nanodots: surface-state energy-gap tuning. *Advanced Materials*, 27(10), 1663-1667.
 - ❖ Xue, Y., Li, Y., Zhang, J., Liu, Z., & Zhao, Y. (2018). 2D graphdiyne materials: challenges and opportunities in energy field. *Science China Chemistry*, 61(7), 765-786.
 - ❖ Deng, Y., Zhao, D., Chen, X., Wang, F., Song, H., & Shen, D. (2013). Long lifetime pure organic phosphorescence based on water soluble carbon dots. *Chemical communications*, 49(51), 5751-5753.
 - ❖ Lombardo, M. E., Benetti, D., La Carrubba, V., & Rosei, F. (2020, May). Heteroatom-Doping for Carbon Dots: An Efficient Strategy to Improve Their Optoelectronic Properties. In *ECS Meeting Abstracts* (No. 16, p. 1087). IOP Publishing.
 - ❖ Liu, S., Tian, J., Wang, L., Zhang, Y., Qin, X., Luo, Y., & Sun, X. (2012). Hydrothermal treatment of grass: a low-cost, green route to nitrogen-doped,

- carbon-rich, photoluminescent polymer nanodots as an effective fluorescent sensing platform for label-free detection of Cu (II) ions. *Advanced materials*, 24(15), 2037-2041.
- ❖ Dey, S., Chithaiah, P., Belawadi, S., Biswas, K., & Rao, C. N. R. (2014). New methods of synthesis and varied properties of carbon quantum dots with high nitrogen content. *Journal of Materials Research*, 29(3), 383-391.
 - ❖ Wang, L., Yin, Y., Jain, A., & Zhou, H. S. (2014). Aqueous phase synthesis of highly luminescent, nitrogen-doped carbon dots and their application as bioimaging agents. *Langmuir*, 30(47), 14270-14275.
 - ❖ Jiang, K., Sun, S., Zhang, L., Wang, Y., Cai, C., & Lin, H. (2015). Bright-yellow-emissive N-doped carbon dots: preparation, cellular imaging, and bifunctional sensing. *ACS applied materials & interfaces*, 7(41), 23231-23238.
 - ❖ Ji, H., Zhou, F., Gu, J., Shu, C., Xi, K., & Jia, X. (2016). Nitrogen-doped carbon dots as a new substrate for sensitive glucose determination. *Sensors*, 16(5), 630.
 - ❖ Zhu, S., Meng, Q., Wang, L., Zhang, J., Song, Y., Jin, H., & Yang, B. (2013). Highly photoluminescent carbon dots for multicolor patterning, sensors, and bioimaging. *Angewandte Chemie*, 125(14), 4045-4049.
 - ❖ Chandra, S., Patra, P., Pathan, S. H., Roy, S., Mitra, S., Layek, A., & Goswami, A. (2013). Luminescent S-doped carbon dots: an emergent architecture for multimodal applications. *Journal of Materials Chemistry B*, 1(18), 2375-2382.
 - ❖ Xu, Q., Pu, P., Zhao, J., Dong, C., Gao, C., Chen, Y., & Zhou, H. (2015). Preparation of highly photoluminescent sulfur-doped carbon dots for Fe (III) detection. *Journal of Materials Chemistry A*, 3(2), 542-546.
 - ❖ Hu, Y., Yang, J., Tian, J., Jia, L., & 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.
 - ❖ Dany Rahmayanti, H., & Aji, M. P. (2015). Synthesis of sulfur-doped carbon dots by simple heating method. In *Advanced Materials Research* (Vol. 1123, pp. 233-236). Trans Tech Publications Ltd.
 - ❖ Wu, F., Yang, M., Zhang, H., Zhu, S., Zhu, X., & Wang, K. (2018). Facile synthesis of sulfur-doped carbon quantum dots from vitamin B1 for highly selective detection of Fe³⁺ ion. *Optical Materials*, 77, 258-263.

-
- ❖ Wang, F., Hao, Q., Zhang, Y., Xu, Y., & Lei, W. (2016). Fluorescence quenchometric method for determination of ferric ion using boron-doped carbon dots. *Microchimica Acta*, 183(1), 273-279.
 - ❖ Zhou, J., Zhou, H., Tang, J., Deng, S., Yan, F., Li, W., & Qu, M. (2017). Carbon dots doped with heteroatoms for fluorescent bioimaging: a review. *Microchimica Acta*, 184(2), 343-368.
 - ❖ Shan, X., Chai, L., Ma, J., Qian, Z., Chen, J., & Feng, H. (2014). B-doped carbon quantum dots as a sensitive fluorescence probe for hydrogen peroxide and glucose detection. *Analyst*, 139(10), 2322-2325.
 - ❖ Bourlinos, A. B., Trivizas, G., Karakassides, M. A., Baikousi, M., Kouloumpis, A., Gournis, D., & Couris, S. (2015). Green and simple route toward boron doped carbon dots with significantly enhanced non-linear optical properties. *Carbon*, 83, 173-179.
 - ❖ Jia, Y., Hu, Y., Li, Y., Zeng, Q., Jiang, X., & Cheng, Z. (2019). Boron doped carbon dots as a multifunctional fluorescent probe for sorbate and vitamin B12. *Microchimica Acta*, 186(2), 1-10.
 - ❖ Zhou, J., Shan, X., Ma, J., Gu, Y., Qian, Z., Chen, J., & Feng, H. (2014). Facile synthesis of P-doped carbon quantum dots with highly efficient photoluminescence. *Rsc Advances*, 4(11), 5465-5468.
 - ❖ Shi, D., Yan, F., Zheng, T., Wang, Y., Zhou, X., & Chen, L. (2015). P-doped carbon dots act as a nanosensor for trace 2, 4, 6-trinitrophenol detection and a fluorescent reagent for biological imaging. *RSC advances*, 5(119), 98492-98499.
 - ❖ Sarkar, S., Das, K., Ghosh, M., & Das, P. K. (2015). Amino acid functionalized blue and phosphorous-doped green fluorescent carbon dots as bioimaging probe. *RSC Advances*, 5(81), 65913-65921.
 - ❖ Yang, F., He, X., Wang, C., Cao, Y., Li, Y., Yan, L., & Li, Y. (2018). Controllable and eco-friendly synthesis of P-riched carbon quantum dots and its application for copper (II) ion sensing. *Applied Surface Science*, 448, 589-598.
 - ❖ Dong, Y., Pang, H., Yang, H. B., Guo, C., Shao, J., Chi, Y., & Yu, T. (2013). Carbon-based dots co-doped with nitrogen and sulfur for high quantum yield and excitation-independent emission. *Angewandte Chemie International Edition*, 52(30), 7800-7804.
 - ❖ Xue, M., Zhang, L., Zhan, Z., Zou, M., Huang, Y., & Zhao, S. (2016). Sulfur and nitrogen binary doped carbon dots derived from ammonium thiocyanate for selective probing doxycycline in living cells and multicolor cell imaging. *Talanta*, 150, 324-330.

- ❖ Wang, H., Lu, Q., Hou, Y., Liu, Y., & Zhang, Y. (2016). High fluorescence S, N co-doped carbon dots as an ultra-sensitive fluorescent probe for the determination of uric acid. *Talanta*, *155*, 62-69.
- ❖ Ding, H., Wei, J. S., & Xiong, H. M. (2014). Nitrogen and sulfur co-doped carbon dots with strong blue luminescence. *Nanoscale*, *6*(22), 13817-13823.
- ❖ Chandra, S., Laha, D., Pramanik, A., Ray Chowdhuri, A., Karmakar, P., & Sahu, S. K. (2016). Synthesis of highly fluorescent nitrogen and phosphorus doped carbon dots for the detection of Fe³⁺ ions in cancer cells. *Luminescence*, *31*(1), 81-87.
- ❖ Gong, Y., Yu, B., Yang, W., & Zhang, X. (2016). Phosphorus, and nitrogen co-doped carbon dots as a fluorescent probe for real-time measurement of reactive oxygen and nitrogen species inside macrophages. *Biosensors and Bioelectronics*, *79*, 822-828.
- ❖ Sun, X., Brückner, C., & Lei, Y. (2015). One-pot and ultrafast synthesis of nitrogen and phosphorus co-doped carbon dots possessing bright dual wavelength fluorescence emission. *Nanoscale*, *7*(41), 17278-17282.
- ❖ Shi, B., Su, Y., Zhang, L., Huang, M., Liu, R., & Zhao, S. (2016). Nitrogen and phosphorus co-doped carbon nanodots as a novel fluorescent probe for highly sensitive detection of Fe³⁺ in human serum and living cells. *ACS applied materials & interfaces*, *8*(17), 10717-10725.
- ❖ Liu, L., Mi, Z., Huo, X., Yuan, L., Bao, Y., Liu, Z., & Feng, F. (2022). A label-free fluorescence nanosensor based on nitrogen and phosphorus co-doped carbon quantum dots for ultra-sensitive detection of new coccine in food samples. *Food Chemistry*, *368*, 130829.
- ❖ Jana, D., Sun, C. L., Chen, L. C., & Chen, K. H. (2013). Effect of chemical doping of boron and nitrogen on the electronic, optical, and electrochemical properties of carbon nanotubes. *Progress in Materials Science*, *58*(5), 565-635.
- ❖ Liu, J., Li, J., Xu, L., Qiao, Y., & Chen, J. (2017). Facile synthesis of N, B-doped carbon dots and their application for multisensor and cellular imaging. *Industrial & Engineering Chemistry Research*, *56*(14), 3905-3912.
- ❖ Ye, Q., Yan, F., Shi, D., Zheng, T., Wang, Y., Zhou, X., & Chen, L. (2016). N, B-doped carbon dots as a sensitive fluorescence probe for Hg²⁺ ions and 2, 4, 6-trinitrophenol detection for bioimaging. *Journal of Photochemistry and Photobiology B: Biology*, *162*, 1-13.
- ❖ Guo, Y., Chen, Y., Cao, F., Wang, L., Wang, Z., & Leng, Y. (2017). Hydrothermal synthesis of nitrogen and boron doped carbon quantum dots with yellow-green

- emission for sensing Cr (VI), anti-counterfeiting and cell imaging. *RSC advances*, 7(76), 48386-48393.
- ❖ Huang, S., Yang, E., Yao, J., Liu, Y., & Xiao, Q. (2018). Carbon dots doped with nitrogen and boron as ultrasensitive fluorescent probes for determination of α -glucosidase activity and its inhibitors in water samples and living cells. *Microchimica Acta*, 185(8), 1-9.
 - ❖ Xiao, N., Liu, S. G., Mo, S., Yang, Y. Z., Han, L., Ju, Y. J., & Luo, H. Q. (2018). B, N-carbon dots-based ratiometric fluorescent and colorimetric dual-readout sensor for H₂O₂ and H₂O₂-involved metabolites detection using ZnFe₂O₄ magnetic microspheres as peroxidase mimics. *Sensors and Actuators B: Chemical*, 273, 1735-1743.
 - ❖ Zhao, C., Jiao, Y., Zhang, L., & Yang, Y. (2018). One-step synthesis of S, B co-doped carbon dots and their application for selective and sensitive fluorescence detection of diethylstilbestrol. *New Journal of Chemistry*, 42(4), 2857-2864.
 - ❖ Phillips, S. R., Wilson, L. J., & Borkman, R. F. (1986). Acrylamide and iodide fluorescence quenching as a structural probe of tryptophan microenvironment in bovine lens crystallins. *Current eye research*, 5(8), 611-620.
 - ❖ Yuan, P., & Walt, D. R. (1987). Calculation for fluorescence modulation by absorbing species and its application to measurements using optical fibers. *Analytical Chemistry*, 59(19), 2391-2394.
 - ❖ Feng, J., Chen, Y., Han, Y., Liu, J., Ren, C., & Chen, X. (2016). Fluorescent carbon nanoparticles: a low-temperature trypsin-assisted preparation and Fe³⁺ sensing. *Analytica Chimica Acta*, 926, 107-117.
 - ❖ Chatzimarkou, A., Chatzimitakos, T. G., Kasouni, A., Sygellou, L., Avgeropoulos, A., & Stalikas, C. D. (2018). Selective FRET-based sensing of 4-nitrophenol and cell imaging capitalizing on the fluorescent properties of carbon nanodots from apple seeds. *Sensors and Actuators B: Chemical*, 258, 1152-1160.
 - ❖ Ganiga, M., & Cyriac, J. (2016). FRET based ammonia sensor using carbon dots. *Sensors and Actuators B: Chemical*, 225, 522-528.
 - ❖ Koç, O. K., Üzer, A., & Apak, R. (2022). High Quantum Yield Nitrogen-Doped Carbon Quantum Dot-Based Fluorescent Probes for Selective Sensing of 2, 4, 6-Trinitrotoluene. *ACS Applied Nano Materials*, 5(4), 5868-5881.
 - ❖ Shi, W., Wang, Q., Long, Y., Cheng, Z., Chen, S., Zheng, H., & Huang, Y. (2011). Carbon nanodots as peroxidase mimetics and their applications to glucose detection. *Chemical Communications*, 47(23), 6695-6697.

-
- ❖ Zhu, A., Qu, Q., Shao, X., Kong, B., & Tian, Y. (2012). Carbon-dot-based dual-emission nanohybrid produces a ratiometric fluorescent sensor for in vivo imaging of cellular copper ions. *Angewandte Chemie International Edition*, 51(29), 7185-7189.
 - ❖ Shi, W., Li, X., & Ma, H. (2012). A tunable ratiometric pH sensor based on carbon nanodots for the quantitative measurement of the intracellular pH of whole cells. *Angewandte Chemie International Edition*, 51(26), 6432-6435.
 - ❖ Zhu, S., Meng, Q., Wang, L., Zhang, J., Song, Y., Jin, H., & Yang, B. (2013). Highly photoluminescent carbon dots for multicolor patterning, sensors, and bioimaging. *Angewandte Chemie*, 125(14), 4045-4049.
 - ❖ Zhao, H. X., Liu, L. Q., De Liu, Z., Wang, Y., Zhao, X. J., & Huang, C. Z. (2011). Highly selective detection of phosphate in very complicated matrixes with an off-on fluorescent probe of europium-adjusted carbon dots. *Chemical Communications*, 47(9), 2604-2606.
 - ❖ Li, H., Zhang, Y., Wang, L., Tian, J., & Sun, X. (2011). Nucleic acid detection using carbon nanoparticles as a fluorescent sensing platform. *Chemical Communications*, 47(3), 961-963.
 - ❖ Mandal, T. K., & Parvin, N. (2011). Rapid detection of bacteria by carbon quantum dots. *Journal of biomedical nanotechnology*, 7(6), 846-848.
 - ❖ Qu, K., Wang, J., Ren, J., & Qu, X. (2013). Carbon dots prepared by hydrothermal treatment of dopamine as an effective fluorescent sensing platform for the label-free detection of iron (III) ions and dopamine. *Chemistry—A European Journal*, 19(22), 7243-7249.
 - ❖ Singh, I., Arora, R., Dhiman, H., & Pahwa, R. (2018). Carbon quantum dots: Synthesis, characterization and biomedical applications. *Turkish Journal of Pharmaceutical Sciences*, 15(2), 219.
 - ❖ Zhang, W., Zhong, H., Zhao, P., Shen, A., Li, H., & Liu, X. (2022). Carbon quantum dot fluorescent probes for food safety detection: progress, opportunities and challenges. *Food Control*, 133, 108591.
 - ❖ Du, F., Min, Y., Zeng, F., Yu, C., & Wu, S. (2014). A targeted and FRET-based ratiometric fluorescent nanoprobe for imaging mitochondrial hydrogen peroxide in living cells. *Small*, 10(5), 964-972.

-
- ❖ Hu, X., Li, Y., Xu, Y., Gan, Z., Zou, X., Shi, J., & Li, Y. (2021). Green one-step synthesis of carbon quantum dots from orange peel for fluorescent detection of *Escherichia coli* in milk. *Food Chemistry*, 339, 127775.
 - ❖ Tian, X., Peng, H., Li, Y., Yang, C., Zhou, Z., & Wang, Y. (2017). Highly sensitive and selective paper sensor based on carbon quantum dots for visual detection of TNT residues in groundwater. *Sensors and Actuators B: Chemical*, 243, 1002-1009.
 - ❖ Khan, Z. M., Saifi, S., Aslam, Z., Khan, S. A., & Zulfequar, M. (2020). A facile one step hydrothermal synthesis of carbon quantum dots for label-free fluorescence sensing approach to detect picric acid in aqueous solution. *Journal of Photochemistry and Photobiology A: Chemistry*, 388, 112201.
 - ❖ Chandra, S., Bano, D., Pradhan, P., Singh, V. K., Yadav, P. K., Sinha, D., & Hasan, S. H. (2020). Nitrogen/sulfur-co-doped carbon quantum dots: a biocompatible material for the selective detection of picric acid in aqueous solution and living cells. *Analytical and Bioanalytical Chemistry*, 412(15), 3753-3763.
 - ❖ Li, H., Sun, C., Vijayaraghavan, R., Zhou, F., Zhang, X., & MacFarlane, D. R. (2016). Long lifetime photoluminescence in N, S co-doped carbon quantum dots from an ionic liquid and their applications in ultrasensitive detection of pesticides. *Carbon*, 104, 33-39.
 - ❖ Wu, X., Song, Y., Yan, X., Zhu, C., Ma, Y., Du, D., & Lin, Y. (2017). Carbon quantum dots as fluorescence resonance energy transfer sensors for organophosphate pesticides determination. *Biosensors and Bioelectronics*, 94, 292-297.
 - ❖ Chandra, S., Bano, D., Sahoo, K., Kumar, D., Kumar, V., Yadav, P. K., & Hasan, S. H. (2022). Synthesis of fluorescent carbon quantum dots from *Jatropha* fruits and their application in fluorometric sensor for the detection of chlorpyrifos. *Microchemical Journal*, 172, 106953.
 - ❖ Han, M., Lu, S., Qi, F., Zhu, S., Sun, H., & Yang, B. (2020). Carbon dots–implanted graphitic carbon nitride nanosheets for photocatalysis: simultaneously manipulating carrier transport in inter-and intralayers. *Solar RRL*, 4(4), 1900517.
 - ❖ Xu, L., Bai, X., Guo, L., Yang, S., Jin, P., & Yang, L. (2019). Facial fabrication of carbon quantum dots (CDs)-modified N-TiO₂-x nanocomposite for the efficient photoreduction of Cr (VI) under visible light. *Chemical Engineering Journal*, 357, 473-486.
 - ❖ Yan, Y., Chen, J., Li, N., Tian, J., Li, K., Jiang, J., & Chen, P. (2018). Systematic bandgap engineering of graphene quantum dots and applications for photocatalytic water splitting and CO₂ reduction. *ACS nano*, 12(4), 3523-3532.

-
- ❖ Sarma, D., Majumdar, B., & Sarma, T. K. (2019). Visible-light induced enhancement in the multi-catalytic activity of sulfated carbon dots for aerobic carbon–carbon bond formation. *Green Chemistry*, 21(24), 6717-6726.
 - ❖ Bhattacharyya, S., Ehrat, F., Urban, P., Teves, R., Wyrwich, R., Döblinger, M., & Stolarczyk, J. K. (2017). Effect of nitrogen atom positioning on the trade-off between emissive and photocatalytic properties of carbon dots. *Nature communications*, 8(1), 1-9.
 - ❖ Zhang, X., Wang, F., Huang, H., Li, H., Han, X., Liu, Y., & Kang, Z. (2013). Carbon quantum dot sensitized TiO₂ nanotube arrays for photoelectrochemical hydrogen generation under visible light. *Nanoscale*, 5(6), 2274-2278.
 - ❖ Li, Q., Cui, C., Meng, H., & Yu, J. (2014). Visible-Light Photocatalytic Hydrogen Production Activity of ZnIn₂S₄ Microspheres Using Carbon Quantum Dots and Platinum as Dual Co-catalysts. *Chemistry–An Asian Journal*, 9(7), 1766-1770.
 - ❖ Di, J., Xia, J., Ge, Y., Li, H., Ji, H., Xu, H., & Li, M. (2015). Novel visible-light-driven CQDs/Bi₂WO₆ hybrid materials with enhanced photocatalytic activity toward organic pollutants degradation and mechanism insight. *Applied Catalysis B: Environmental*, 168, 51-61.
 - ❖ Zhang, H., Huang, H., Ming, H., Li, H., Zhang, L., Liu, Y., & Kang, Z. (2012). Carbon quantum dots/Ag₃PO₄ complex photocatalysts with enhanced photocatalytic activity and stability under visible light. *Journal of Materials Chemistry*, 22(21), 10501-10506.
 - ❖ Li, H., Liu, R., Liu, Y., Huang, H., Yu, H., Ming, H., & Kang, Z. (2012). Carbon quantum dots/Cu₂O composites with protruding nanostructures and their highly efficient (near) infrared photocatalytic behavior. *Journal of Materials Chemistry*, 22(34), 17470-17475.
 - ❖ Zhang, H., Ming, H., Lian, S., Huang, H., Li, H., Zhang, L., & Lee, S. T. (2011). Fe₂O₃/carbon quantum dots complex photocatalysts and their enhanced photocatalytic activity under visible light. *Dalton Transactions*, 40(41), 10822-10825.
 - ❖ Han, M., Lu, S., Qi, F., Zhu, S., Sun, H., & Yang, B. (2020). Carbon dots–implanted graphitic carbon nitride nanosheets for photocatalysis: simultaneously manipulating carrier transport in inter-and intralayers. *Solar RRL*, 4(4), 1900517.
 - ❖ Sun, M., Ma, X., Chen, X., Sun, Y., Cui, X., & Lin, Y. (2014). A nanocomposite of carbon quantum dots and TiO₂ nanotube arrays: enhancing photoelectrochemical and photocatalytic properties. *Rsc Advances*, 4(3), 1120-1127.

-
- ❖ Zhao, H., Ding, R., Zhao, X., Li, Y., Qu, L., Pei, H., & Zhang, W. (2017). Graphene-based nanomaterials for drug and/or gene delivery, bioimaging, and tissue engineering. *Drug Discovery Today*, 22(9), 1302-1317.
 - ❖ Yang, S. T., Cao, L., Luo, P. G., Lu, F., Wang, X., Wang, H., & Sun, Y. P. (2009). Carbon dots for optical imaging in vivo. *Journal of the American Chemical Society*, 131(32), 11308-11309.
 - ❖ Zhu, S., Meng, Q., Wang, L., Zhang, J., Song, Y., Jin, H., & Yang, B. (2013). Highly photoluminescent carbon dots for multicolor patterning, sensors, and bioimaging. *Angewandte Chemie*, 125(14), 4045-4049.
 - ❖ Cao, L., Wang, X., Mezziani, M. J., Lu, F., Wang, H., Luo, P. G., & Sun, Y. P. (2007). Carbon dots for multiphoton bioimaging. *Journal of the American Chemical Society*, 129(37), 11318-11319.
 - ❖ Liu, J., Li, R., & Yang, B. (2020). Carbon dots: A new type of carbon-based nanomaterial with wide applications. *ACS Central Science*, 6(12), 2179-2195.
 - ❖ Tao, H., Yang, K., Ma, Z., Wan, J., Zhang, Y., Kang, Z., & Liu, Z. (2012). In vivo NIR fluorescence imaging, biodistribution, and toxicology of photoluminescent carbon dots produced from carbon nanotubes and graphite. *Small*, 8(2), 281-290.
 - ❖ Hsu, P. C., Shih, Z. Y., Lee, C. H., & Chang, H. T. (2012). Synthesis and analytical applications of photoluminescent carbon nanodots. *Green Chemistry*, 14(4), 917-920.
 - ❖ Sahu, S., Behera, B., Maiti, T. K., & Mohapatra, S. (2012). Simple one-step synthesis of highly luminescent carbon dots from orange juice: application as excellent bioimaging agents. *Chemical communications*, 48(70), 8835-8837.
 - ❖ Wu, Z. L., Zhang, P., Gao, M. X., Liu, C. F., Wang, W., Leng, F., & Huang, C. Z. (2013). One-pot hydrothermal synthesis of highly luminescent nitrogen-doped amphoteric carbon dots for bioimaging from Bombyx mori silk-natural proteins. *Journal of Materials Chemistry B*, 1(22), 2868-2873.
 - ❖ Wang, X., Gao, S., Xu, N., Xu, L., Chen, S., Mei, C., & Xu, C. (2021). Facile synthesis of phosphorus-nitrogen doped carbon quantum dots from cyanobacteria for bioimaging. *The Canadian Journal of Chemical Engineering*, 99(9), 1926-1939.
 - ❖ Cohen, O., & Granek, R. (2014). Nucleus-targeted drug delivery: theoretical optimization of nanoparticles decoration for enhanced intracellular active transport. *Nano letters*, 14(5), 2515-2521.

- ❖ Miao, X., Yan, X., Qu, D., Li, D., Tao, F. F., & Sun, Z. (2017). Red emissive sulfur, nitrogen codoped carbon dots and their application in ion detection and theranostics. *ACS applied materials & interfaces*, 9(22), 18549-18556.
- ❖ Zhou, L., Wang, W., Tang, J., Zhou, J. H., Jiang, H. J., & Shen, J. (2011). Graphene oxide noncovalent photosensitizer and its anticancer activity in vitro. *Chemistry–A European Journal*, 17(43), 12084-12091.
- ❖ Su, W., Wu, H., Xu, H., Zhang, Y., Li, Y., Li, X., & Fan, L. (2020). Carbon dots: a booming material for biomedical applications. *Materials Chemistry Frontiers*, 4(3), 821-836.
- ❖ Ding, H., Zhang, F., Zhao, C., Lv, Y., Ma, G., Wei, W., & Tian, Z. (2017). Beyond a carrier: graphene quantum dots as a probe for programmatically monitoring anti-cancer drug delivery, release, and response. *ACS applied materials & interfaces*, 9(33), 27396-27401.
- ❖ Iannazzo, D., Pistone, A., Salamò, M., Galvagno, S., Romeo, R., Giofrè, S. V., & Di Pietro, A. (2017). Graphene quantum dots for cancer targeted drug delivery. *International journal of pharmaceutics*, 518(1-2), 185-192.
- ❖ Samimi, S., Ardestani, M. S., & Dorkoosh, F. A. (2021). Preparation of carbon quantum dots-quinic acid for drug delivery of gemcitabine to breast cancer cells. *Journal of Drug Delivery Science and Technology*, 61, 102287.
- ❖ Li, G., Pei, M., & Liu, P. (2020). DOX-conjugated CQD-based nanosponges for tumor intracellular pH-triggered DOX release and imaging. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 603, 125258.
- ❖ Jia, X., Pei, M., Zhao, X., Tian, K., Zhou, T., & Liu, P. (2016). PEGylated oxidized alginate-DOX prodrug conjugate nanoparticles cross-linked with fluorescent carbon dots for tumor theranostics. *ACS Biomaterials Science & Engineering*, 2(9), 1641-1648.
- ❖ Wu, X., Sun, S., Wang, Y., Zhu, J., Jiang, K., Leng, Y., & Lin, H. (2017). A fluorescent carbon-dots-based mitochondria-targetable nanoprobe for peroxynitrite sensing in living cells. *Biosensors and Bioelectronics*, 90, 501-507.
- ❖ Hua, X. W., Bao, Y. W., & Wu, F. G. (2018). Fluorescent carbon quantum dots with intrinsic nucleolus-targeting capability for nucleolus imaging and enhanced cytosolic and nuclear drug delivery. *ACS applied materials & interfaces*, 10(13), 10664-10677.
- ❖ Kwak, J., Bae, W. K., Lee, D., Park, I., Lim, J., Park, M., & Lee, C. (2012). Bright and efficient full-color colloidal quantum dot light-emitting diodes using an inverted device structure. *Nano letters*, 12(5), 2362-2366.

-
- ❖ Sun, Q., Wang, Y. A., Li, L. S., Wang, D., Zhu, T., Xu, J., & Li, Y. (2007). Bright, multicoloured light-emitting diodes based on quantum dots. *Nature photonics*, *1*(12), 717-722.
 - ❖ Feng, X. T., Zhang, F., Wang, Y. L., Zhang, Y., Yang, Y. Z., & Liu, X. G. (2015). Luminescent carbon quantum dots with high quantum yield as a single white converter for white light emitting diodes. *Applied Physics Letters*, *107*(21), 213102.
 - ❖ Sun, M., Qu, S., Hao, Z., Ji, W., Jing, P., Zhang, H., & Shen, D. (2014). Towards efficient solid-state photoluminescence based on carbon-nanodots and starch composites. *Nanoscale*, *6*(21), 13076-13081.
 - ❖ Zhang, W., Yu, S. F., Fei, L., Jin, L., Pan, S., & Lin, P. (2015). Large-area color controllable remote carbon white-light light-emitting diodes. *Carbon*, *85*, 344-350.
 - ❖ Tetsuka, H., Nagoya, A., & Asahi, R. (2015). Highly luminescent flexible amino-functionalized graphene quantum dots@ cellulose nanofiber–clay hybrids for white-light emitting diodes. *Journal of Materials Chemistry C*, *3*(15), 3536-3541.
 - ❖ Guo, X., Wang, C. F., Yu, Z. Y., Chen, L., & Chen, S. (2012). Facile access to versatile fluorescent carbon dots toward light-emitting diodes. *Chemical communications*, *48*(21), 2692-2694.
 - ❖ Chen, Q. L., Wang, C. F., & Chen, S. (2013). One-step synthesis of yellow-emitting carbogenic dots toward white light-emitting diodes. *Journal of Materials Science*, *48*(6), 2352-2357.
 - ❖ Zhang, Y. Q., Ma, D. K., Zhang, Y. G., Chen, W., & Huang, S. M. (2013). N-doped carbon quantum dots for TiO₂-based photocatalysts and dye-sensitized solar cells. *Nano Energy*, *2*(5), 545-552.
 - ❖ Wang, H., Sun, P., Cong, S., Wu, J., Gao, L., Wang, Y., & Zou, G. (2016). Nitrogen-doped carbon dots for “green” quantum dot solar cells. *Nanoscale research letters*, *11*(1), 1-6.
 - ❖ Chen, Y., Cao, H., Shi, W., Liu, H., & Huang, Y. (2013). Fe–Co bimetallic alloy nanoparticles as a highly active peroxidase mimetic and its application in biosensing. *Chemical Communications*, *49*(44), 5013-5015.
 - ❖ Hosseini, M., Sabet, F. S., Khabbaz, H., Aghazadeh, M., Mizani, F., & Ganjali, M. R. (2017). Enhancement of the peroxidase-like activity of cerium-doped ferrite nanoparticles for colorimetric detection of H₂O₂ and glucose. *Analytical Methods*, *9*(23), 3519-3524.

- ❖ Yu, F., Huang, Y., Cole, A. J., & Yang, V. C. (2009). The artificial peroxidase activity of magnetic iron oxide nanoparticles and its application to glucose detection. *Biomaterials*, 30(27), 4716-4722.
- ❖ Asati, A., Santra, S., Kaittanis, C., Nath, S., & Perez, J. M. (2009). Oxidase-like activity of polymer-coated cerium oxide nanoparticles. *Angewandte Chemie*, 121(13), 2344-2348.
- ❖ Maneiro, M., Bermejo, M. R., Fernandez, M. I., Gómez-Fórneas, E., González-Noya, A. M., & Tyryshkin, A. M. (2003). A new type of manganese-Schiff base complex, catalysts for the disproportionation of hydrogen peroxide as peroxidase mimics. *New Journal of Chemistry*, 27(4), 727-733.
- ❖ Dong, W., Yang, L., & Huang, Y. (2017). Glycine post-synthetic modification of MIL-53 (Fe) metal-organic framework with enhanced and stable peroxidase-like activity for sensitive glucose biosensing. *Talanta*, 167, 359-366.
- ❖ Wei, H., & Wang, E. (2008). Fe₃O₄ magnetic nanoparticles as peroxidase mimetics and their applications in H₂O₂ and glucose detection. *Analytical chemistry*, 80(6), 2250-2254.
- ❖ Pal, T., Mohiyuddin, S., & Packirisamy, G. (2018). Facile and green synthesis of multicolor fluorescence carbon dots from curcumin: in vitro and in vivo bioimaging and other applications. *ACS omega*, 3(1), 831-843.
- ❖ Song, Y., Wang, X., Zhao, C., Qu, K., Ren, J., & Qu, X. (2010). Label-free colorimetric detection of single nucleotide polymorphism by using single-walled carbon nanotube intrinsic peroxidase-like activity. *Chemistry—A European Journal*, 16(12), 3617-3621.
- ❖ Shi, W., Wang, Q., Long, Y., Cheng, Z., Chen, S., Zheng, H., & Huang, Y. (2011). Carbon nanodots as peroxidase mimetics and their applications to glucose detection. *Chemical Communications*, 47(23), 6695-6697.
- ❖ Wu, X., Zhang, Y., Han, T., Wu, H., Guo, S., & Zhang, J. (2014). Composite of graphene quantum dots and Fe₃O₄ nanoparticles: Peroxidase activity and application in phenolic compound removal. *RSC advances*, 4(7), 3299-3305.
- ❖ Tripathi, K. M., Ahn, H. T., Chung, M., Le, X. A., Saini, D., Bhati, A., & Kim, T. (2020). N, S, and P-co-doped carbon quantum dots: Intrinsic peroxidase activity in a wide pH range and its antibacterial applications. *ACS Biomaterials Science & Engineering*, 6(10), 5527-5537.
- ❖ Shamsipur, M., Molaie, K., Molaabasi, F., Alipour, M., Alizadeh, N., Hosseinkhani, S., & Hosseini, M. (2018). Facile preparation and characterization of new green

- emitting carbon dots for sensitive and selective off/on detection of Fe³⁺ ion and ascorbic acid in water and urine samples and intracellular imaging in living cells. *Talanta*, 183, 122-130.
- ❖ Amin, N., Afkhami, A., Hosseinzadeh, L., & Madrakian, T. (2018). Green and cost-effective synthesis of carbon dots from date kernel and their application as a novel switchable fluorescence probe for sensitive assay of Zoledronic acid drug in human serum and cellular imaging. *Analytica chimica acta*, 1030, 183-193.
 - ❖ Singh, V. K., Yadav, P. K., Chandra, S., Bano, D., Talat, M., & Hasan, S. H. (2018). Peroxidase mimetic activity of fluorescent NS-carbon quantum dots and their application in colorimetric detection of H₂O₂ and glutathione in human blood serum. *Journal of Materials Chemistry B*, 6(32), 5256-5268.
 - ❖ Chandra, S., Singh, V. K., Yadav, P. K., Bano, D., Kumar, V., Pandey, V. K., ... & Hasan, S. H. (2019). Mustard seeds derived fluorescent carbon quantum dots and their peroxidase-like activity for colorimetric detection of H₂O₂ and ascorbic acid in a real sample. *Analytica chimica acta*, 1054, 145-156.
 - ❖ Jia, H., Yang, D., Han, X., Cai, J., Liu, H., & He, W. (2016). Peroxidase-like activity of the Co₃O₄ nanoparticles used for biodetection and evaluation of antioxidant behavior. *Nanoscale*, 8(11), 5938-5945.
 - ❖ Lin, Y., Ren, J., & Qu, X. (2014). Catalytically active nanomaterials: a promising candidate for artificial enzymes. *Accounts of chemical research*, 47(4), 1097-1105.
 - ❖ Khanna, P. K., & Singh, N. (2007). Light emitting CdS quantum dots in PMMA: synthesis and optical studies. *Journal of Luminescence*, 127(2), 474-482.
 - ❖ Arul, V., Edison, T. N. J. I., Lee, Y. R., & Sethuraman, M. G. (2017). Biological and catalytic applications of green synthesized fluorescent N-doped carbon dots using *Hylocereus undatus*. *Journal of Photochemistry and Photobiology B: Biology*, 168, 142-148.
 - ❖ Jampaiah, D., Reddy, T. S., Kandjani, A. E., Selvakannan, P. R., Sabri, Y. M., Coyle, V. E., ... & Bhargava, S. K. (2016). Fe-doped CeO₂ nanorods for enhanced peroxidase-like activity and their application towards glucose detection. *Journal of Materials Chemistry B*, 4(22), 3874-3885.
 - ❖ Wolfenden, R., & Snider, M. J. (2001). The depth of chemical time and the power of enzymes as catalysts. *Accounts of chemical research*, 34(12), 938-945.
 - ❖ Vasileva, N., Godjevargova, T., Ivanova, D., & Gabrovska, K. (2009). Application of immobilized horseradish peroxidase onto modified acrylonitrile copolymer membrane in

- removing of phenol from water. *International journal of biological macromolecules*, 44(2), 190-194.
- ❖ Wang, B., Liu, F., Wu, Y., Chen, Y., Weng, B., & Li, C. M. (2018). Synthesis of catalytically active multielement-doped carbon dots and application for colorimetric detection of glucose. *Sensors and Actuators B: Chemical*, 255, 2601-2607.
 - ❖ Chen, X., Tian, X., Su, B., Huang, Z., Chen, X., & Oyama, M. (2014). Au nanoparticles on citrate-functionalized graphene nanosheets with a high peroxidase-like performance. *Dalton Transactions*, 43(20), 7449-7454.
 - ❖ Chen, Y., Cao, H., Shi, W., Liu, H., & Huang, Y. (2013). Fe–Co bimetallic alloy nanoparticles as a highly active peroxidase mimetic and its application in biosensing. *Chemical Communications*, 49(44), 5013-5015.
 - ❖ Hosseini, M., Sabet, F. S., Khabbaz, H., Aghazadeh, M., Mizani, F., & Ganjali, M. R. (2017). Enhancement of the peroxidase-like activity of cerium-doped ferrite nanoparticles for colorimetric detection of H₂O₂ and glucose. *Analytical Methods*, 9(23), 3519-3524.
 - ❖ Wei, H., & Wang, E. (2013). Nanomaterials with enzyme-like characteristics (nanozymes): next-generation artificial enzymes. *Chemical Society Reviews*, 42(14), 6060-6093.
 - ❖ Yu, F., Huang, Y., Cole, A. J., & Yang, V. C. (2009). The artificial peroxidase activity of magnetic iron oxide nanoparticles and its application to glucose detection. *Biomaterials*, 30(27), 4716-4722.
 - ❖ Asati, A., Santra, S., Kaftanis, C., Nath, S., & Perez, J. M. (2009). Oxidase-like activity of polymer-coated cerium oxide nanoparticles. *Angewandte Chemie*, 121(13), 2344-2348.
 - ❖ Pirmohamed, T., Dowding, J. M., Singh, S., Wasserman, B., Heckert, E., Karakoti, A. S., ... & Self, W. T. (2010). Nanoceria exhibit redox state-dependent catalase mimetic activity. *Chemical communications*, 46(16), 2736-2738.
 - ❖ Kong, D., Cha, J. J., Wang, H., Lee, H. R., & Cui, Y. (2013). First-row transition metal dichalcogenide catalysts for hydrogen evolution reaction. *Energy & Environmental Science*, 6(12), 3553-3558.
 - ❖ Lu, Q., Yu, Y., Ma, Q., Chen, B., & Zhang, H. (2016). 2D transition-metal-dichalcogenide-nanosheet-based composites for photocatalytic and electrocatalytic hydrogen evolution reactions. *Advanced Materials*, 28(10), 1917-1933.
 - ❖ Dong, W., Yang, L., & Huang, Y. (2017). Glycine post-synthetic modification of MIL-53 (Fe) metal–organic framework with enhanced and stable peroxidase-like activity for sensitive glucose biosensing. *Talanta*, 167, 359-366.

-
- ❖ Chai, Y., Zhang, L., Liu, Q., Yang, F., & Dai, W. L. (2018). Insights into the relationship of the heterojunction structure and excellent activity: photo-oxidative coupling of benzylamine on CeO₂-rod/g-C₃N₄ hybrid under mild reaction conditions. *ACS Sustainable Chemistry & Engineering*, 6(8), 10526-10535.
 - ❖ Wei, H., & Wang, E. (2008). Fe₃O₄ magnetic nanoparticles as peroxidase mimetics and their applications in H₂O₂ and glucose detection. *Analytical chemistry*, 80(6), 2250-2254.
 - ❖ Pal, T., Mohiyuddin, S., & Packirisamy, G. (2018). Facile and green synthesis of multicolor fluorescence carbon dots from curcumin: in vitro and in vivo bioimaging and other applications. *ACS omega*, 3(1), 831-843.
 - ❖ Xu, H. H., Deng, H. H., Lin, X. Q., Wu, Y. Y., Lin, X. L., Peng, H. P., ... & Chen, W. (2017). Colorimetric glutathione assay based on the peroxidase-like activity of a nanocomposite consisting of platinum nanoparticles and graphene oxide. *Microchimica Acta*, 184(10), 3945-3951.
 - ❖ Song, Y., Wang, X., Zhao, C., Qu, K., Ren, J., & Qu, X. (2010). Label-free colorimetric detection of single nucleotide polymorphism by using single-walled carbon nanotube intrinsic peroxidase-like activity. *Chemistry—A European Journal*, 16(12), 3617-3621.
 - ❖ Shi, W., Wang, Q., Long, Y., Cheng, Z., Chen, S., Zheng, H., & Huang, Y. (2011). Carbon nanodots as peroxidase mimetics and their applications to glucose detection. *Chemical Communications*, 47(23), 6695-6697.
 - ❖ Lin, T., Zhong, L., Wang, J., Guo, L., Wu, H., Guo, Q., & Chen, G. (2014). Graphite-like carbon nitrides as peroxidase mimetics and their applications to glucose detection. *Biosensors and Bioelectronics*, 59, 89-93.
 - ❖ Wu, X., Zhang, Y., Han, T., Wu, H., Guo, S., & Zhang, J. (2014). Composite of graphene quantum dots and Fe₃O₄ nanoparticles: Peroxidase activity and application in phenolic compound removal. *RSC advances*, 4(7), 3299-3305.
 - ❖ Wang, W., Jiang, X., & Chen, K. (2012). Iron phosphate microflowers as peroxidase mimic and superoxide dismutase mimic for biocatalysis and biosensing. *Chemical Communications*, 48(58), 7289-7291.
 - ❖ Shamsipur, M., Molaei, K., Molaabasi, F., Alipour, M., Alizadeh, N., Hosseinkhani, S., & Hosseini, M. (2018). Facile preparation and characterization of new green emitting carbon dots for sensitive and selective off/on detection of Fe³⁺ ion and ascorbic acid in water and urine samples and intracellular imaging in living cells. *Talanta*, 183, 122-130.
 - ❖ Amin, N., Afkhami, A., Hosseinzadeh, L., & Madrakian, T. (2018). Green and cost-effective synthesis of carbon dots from date kernel and their application as a novel

- switchable fluorescence probe for sensitive assay of Zoledronic acid drug in human serum and cellular imaging. *Analytica chimica acta*, 1030, 183-193.
- ❖ Peng, H., Lin, D., Liu, P., Wu, Y., Li, S., Lei, Y., & Liu, A. (2017). Highly sensitive and rapid colorimetric sensing platform based on water-soluble WO_x quantum dots with intrinsic peroxidase-like activity. *Analytica chimica acta*, 992, 128-134.
 - ❖ Purbia, R., & Paria, S. (2018). Green synthesis of single-crystalline akaganeite nanorods for peroxidase mimic colorimetric sensing of ultralow-level vitamin B1 and sulfide ions. *ACS Applied Nano Materials*, 1(3), 1236-1246.
 - ❖ Yang, B., Li, J., Deng, H., & Zhang, L. (2016). Progress of mimetic enzymes and their applications in chemical sensors. *Critical Reviews in Analytical Chemistry*, 46(6), 469-481.
 - ❖ Jiang, P., Huang, G., Jmaiff Blackstock, L. K., Zhang, J., & Li, X. F. (2017). Ascorbic acid assisted high performance liquid chromatography mass spectrometry differentiation of isomeric C-chloro-and N-chloro-tyrosyl peptides in water. *Analytical chemistry*, 89(24), 13642-13650.
 - ❖ Sajid, M. M., Khan, S. B., Shad, N. A., Amin, N., & Zhang, Z. (2018). Visible light assisted photocatalytic degradation of crystal violet dye and electrochemical detection of ascorbic acid using a BiVO₄/FeVO₄ heterojunction composite. *RSC advances*, 8(42), 23489-23498.
 - ❖ Wang, J., Peng, X., Li, D., Jiang, X., Pan, Z., Chen, A., & Hu, J. (2018). Ratiometric ultrasensitive fluorometric detection of ascorbic acid using a dually emitting CdSe@SiO₂@CdTe quantum dot hybrid. *Microchimica Acta*, 185(1), 1-8.
 - ❖ Nie, Q., Cai, Q., Xu, H., Qiao, Z., & Li, Z. (2018). A facile colorimetric method for highly sensitive ascorbic acid detection by using CoOOH nanosheets. *Analytical Methods*, 10(22), 2623-2628.
 - ❖ Ji, D., Du, Y., Meng, H., Zhang, L., Huang, Z., Hu, Y., & Li, Z. (2018). A novel colorimetric strategy for sensitive and rapid sensing of ascorbic acid using cobalt oxyhydroxide nanoflakes and 3, 3', 5, 5'-tetramethylbenzidine. *Sensors and Actuators B: Chemical*, 256, 512-519.
 - ❖ Bano, D., Kumar, V., Singh, V. K., & Hasan, S. H. (2018). Green synthesis of fluorescent carbon quantum dots for the detection of mercury (II) and glutathione. *New Journal of Chemistry*, 42(8), 5814-5821.
 - ❖ Zhu, A., Qu, Q., Shao, X., Kong, B., & Tian, Y. (2012). Carbon-dot-based dual-emission nanohybrid produces a ratiometric fluorescent sensor for in vivo imaging of cellular copper ions. *Angewandte Chemie International Edition*, 51(29), 7185-7189.

-
- ❖ Yu, J., Xu, C., Tian, Z., Lin, Y., & Shi, Z. (2016). Facilely synthesized N-doped carbon quantum dots with high fluorescent yield for sensing Fe³⁺. *New Journal of Chemistry*, 40(3), 2083-2088.
 - ❖ Zhang, Y., He, Y. H., Cui, P. P., Feng, X. T., Chen, L., Yang, Y. Z., & Liu, X. G. (2015). Water-soluble, nitrogen-doped fluorescent carbon dots for highly sensitive and selective detection of Hg²⁺ in aqueous solution. *RSC Advances*, 5(50), 40393-40401.
 - ❖ Hu, Y., Zhang, L., Li, X., Liu, R., Lin, L., & Zhao, S. (2017). Green preparation of S and N Co-doped carbon dots from water chestnut and onion as well as their use as an off-on fluorescent probe for the quantification and imaging of coenzyme A. *ACS Sustainable Chemistry & Engineering*, 5(6), 4992-5000.
 - ❖ Song, Y., Zhu, S., Xiang, S., Zhao, X., Zhang, J., Zhang, H., & Yang, B. (2014). Investigation into the fluorescence quenching behaviors and applications of carbon dots. *Nanoscale*, 6(9), 4676-4682.
 - ❖ Deng, S. Q., Zou, H. Y., Lan, J., & Huang, C. Z. (2016). Aggregation-induced superior peroxidase-like activity of Cu_{2-x}Se nanoparticles for melamine detection. *Analytical Methods*, 8(41), 7516-7521.
 - ❖ Yang, M., Zhou, H., Li, Y., Zhang, Q., Li, J., Zhang, C., & Yu, C. (2017). Peroxidase activity of the coronene bisimide supramolecular architecture and its applications in colorimetric sensing of H₂O₂ and glucose. *Journal of Materials Chemistry B*, 5(32), 6572-6578.
 - ❖ Geiszt, M., & Leto, T. L. (2004). The Nox family of NAD(P)H oxidases: host defense and beyond. *Journal of Biological Chemistry*, 279(50), 51715-51718.
 - ❖ Jiang, Y., Song, N., Wang, C., Pinna, N., & Lu, X. (2017). A facile synthesis of Fe₃O₄/nitrogen-doped carbon hybrid nanofibers as a robust peroxidase-like catalyst for the sensitive colorimetric detection of ascorbic acid. *Journal of Materials Chemistry B*, 5(27), 5499-5505.
 - ❖ Meister, A. (1992). On the antioxidant effects of ascorbic acid and glutathione. *Biochemical pharmacology*, 44(10), 1905-1915.
 - ❖ Choleva, T. G., Gatselou, V. A., Tsogas, G. Z., & Giokas, D. L. (2018). Intrinsic peroxidase-like activity of rhodium nanoparticles, and their application to the colorimetric determination of hydrogen peroxide and glucose. *Microchimica Acta*, 185(1), 1-9.
 - ❖ Ding, C., Yan, Y., Xiang, D., Zhang, C., & Xian, Y. (2016). Magnetic Fe₃S₄ nanoparticles with peroxidase-like activity, and their use in a photometric enzymatic glucose assay. *Microchimica Acta*, 183(2), 625-631.

-
- ❖ Su, L., Feng, J., Zhou, X., Ren, C., Li, H., & Chen, X. (2012). Colorimetric detection of urine glucose based ZnFe₂O₄ magnetic nanoparticles. *Analytical chemistry*, 84(13), 5753-5758.
 - ❖ Lin, L., Song, X., Chen, Y., Rong, M., Zhao, T., Wang, Y., & Chen, X. (2015). Intrinsic peroxidase-like catalytic activity of nitrogen-doped graphene quantum dots and their application in the colorimetric detection of H₂O₂ and glucose. *Analytica chimica acta*, 869, 89-95.
 - ❖ Yang, Q., Lu, S., Shen, B., Bao, S., & Liu, Y. (2018). An iron hydroxyl phosphate microoctahedron catalyst as an efficient peroxidase mimic for sensitive and colorimetric quantification of H₂O₂ and glucose. *New Journal of Chemistry*, 42(9), 6803-6809.
 - ❖ Darabdhara, G., Sharma, B., Das, M. R., Boukherroub, R., & Szunerits, S. (2017). Cu-Ag bimetallic nanoparticles on reduced graphene oxide nanosheets as peroxidase mimic for glucose and ascorbic acid detection. *Sensors and Actuators B: Chemical*, 238, 842-851.
 - ❖ Zhang, J. W., Zhang, H. T., Du, Z. Y., Wang, X., Yu, S. H., & Jiang, H. L. (2014). Water-stable metal-organic frameworks with intrinsic peroxidase-like catalytic activity as a colorimetric biosensing platform. *Chemical Communications*, 50(9), 1092-1094.
 - ❖ Ai, L., Li, L., Zhang, C., Fu, J., & Jiang, J. (2013). MIL-53 (Fe): a metal-organic framework with intrinsic peroxidase-like catalytic activity for colorimetric biosensing. *Chemistry-A European Journal*, 19(45), 15105-15108.
 - ❖ Wang, Z., Liu, J., Liang, Q., Wang, Y., & Luo, G. (2002). Carbon nanotube-modified electrodes for the simultaneous determination of dopamine and ascorbic acid. *Analyst*, 127(5), 653-658.
 - ❖ Yang, X. H., Ling, J., Peng, J., Cao, Q. E., Wang, L., Ding, Z. T., & Xiong, J. (2013). Catalytic formation of silver nanoparticles by bovine serum albumin protected-silver nanoclusters and its application for colorimetric detection of ascorbic acid. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 106, 224-230.
 - ❖ Hu, L., Deng, L., Alsaïari, S., Zhang, D., & Khashab, N. M. (2014). "Light-on" sensing of antioxidants using gold nanoclusters. *Analytical chemistry*, 86(10), 4989-4994.
 - ❖ Tan, H., Ma, C., Gao, L., Li, Q., Song, Y., Xu, F., & Wang, L. (2014). Metal-organic framework-derived copper nanoparticle@ carbon nanocomposites as peroxidase mimics for colorimetric sensing of ascorbic acid. *Chemistry-A European Journal*, 20(49), 16377-16383.

-
- ❖ Zhang, L., Chen, M., Jiang, Y., Chen, M., Ding, Y., & Liu, Q. (2017). A facile preparation of montmorillonite-supported copper sulfide nanocomposites and their application in the detection of H₂O₂. *Sensors and Actuators B: Chemical*, 239, 28-35.
 - ❖ Liu, J., Hu, X., Hou, S., Wen, T., Liu, W., Zhu, X., & Wu, X. (2012). Au@ Pt core/shell nanorods with peroxidase-and ascorbate oxidase-like activities for improved detection of glucose. *Sensors and Actuators B: Chemical*, 166, 708-714.
 - ❖ Wang, X., Qu, K., Xu, B., Ren, J., & Qu, X. (2011). Multicolor luminescent carbon nanoparticles: synthesis, supramolecular assembly with porphyrin, intrinsic peroxidase-like catalytic activity and applications. *Nano Research*, 4(9), 908-920.
 - ❖ Yang, H., Zha, J., Zhang, P., Xiong, Y., Su, L., & Ye, F. (2016). Sphere-like CoS with nanostructures as peroxidase mimics for colorimetric determination of H₂O₂ and mercury ions. *RSC advances*, 6(71), 66963-66970.
 - ❖ Navadeepthy, D., Rebekah, A., Viswanathan, C., & Ponpandian, N. (2017). N-doped Graphene/ZnFe₂O₄: a novel nanocomposite for intrinsic peroxidase based sensing of H₂O₂. *Materials Research Bulletin*, 95, 1-8.
 - ❖ Li, N., Liu, S. G., Fan, Y. Z., Ju, Y. J., Xiao, N., Luo, H. Q., & Li, N. B. (2018). Adenosine-derived doped carbon dots: from an insight into effect of N/P co-doping on emission to highly sensitive picric acid sensing. *Analytica chimica acta*, 1013, 63-70.
 - ❖ Li, J., Zhang, L., Li, P., Zhang, Y., & Dong, C. (2018). One step hydrothermal synthesis of carbon nanodots to realize the fluorescence detection of picric acid in real samples. *Sensors and Actuators B: Chemical*, 258, 580-588.
 - ❖ Ye, Q., Yan, F., Shi, D., Zheng, T., Wang, Y., Zhou, X., & Chen, L. (2016). N, B-doped carbon dots as a sensitive fluorescence probe for Hg²⁺ ions and 2, 4, 6-trinitrophenol detection for bioimaging. *Journal of Photochemistry and Photobiology B: Biology*, 162, 1-13.
 - ❖ Hu, L., Sun, Y., Zhou, Y., Bai, L., Zhang, Y., Han, M., & Kang, Z. (2017). Nitrogen and sulfur co-doped chiral carbon quantum dots with independent photoluminescence and chirality. *Inorganic Chemistry Frontiers*, 4(6), 946-953.
 - ❖ Jiang, X., Qin, D., Mo, G., Feng, J., Yu, C., Mo, W., & Deng, B. (2019). Ginkgo leaf-based synthesis of nitrogen-doped carbon quantum dots for highly sensitive detection of salazosulfapyridine in mouse plasma. *Journal of Pharmaceutical and Biomedical Analysis*, 164, 514-519.

- ❖ Xu, J., Sahu, S., Cao, L., Anilkumar, P., Tackett, K. N., Qian, H., & Sun, Y. P. (2011). Carbon nanoparticles as chromophores for photon harvesting and photoconversion. *ChemPhysChem*, 12(18), 3604-3608.
- ❖ Li, H., He, X., Kang, Z., Huang, H., Liu, Y., Liu, J., ... & Lee, S. T. (2010). Water-soluble fluorescent carbon quantum dots and photocatalyst design. *Angewandte Chemie International Edition*, 49(26), 4430-4434.
- ❖ Wang, F., Pang, S., Wang, L., Li, Q., Kreiter, M., & Liu, C. Y. (2010). One-step synthesis of highly luminescent carbon dots in noncoordinating solvents. *Chemistry of Materials*, 22(16), 4528-4530.
- ❖ Zhou, J., Booker, C., Li, R., Zhou, X., Sham, T. K., Sun, X., & Ding, Z. (2007). An electrochemical avenue to blue luminescent nanocrystals from multiwalled carbon nanotubes (MWCNTs). *Journal of the American Chemical Society*, 129(4), 744-745.
- ❖ Yang, F., Zhao, M., Zheng, B., Xiao, D., Wu, L., & Guo, Y. (2012). Influence of pH on the fluorescence properties of graphene quantum dots using ozonation pre-oxide hydrothermal synthesis. *Journal of Materials Chemistry*, 22(48), 25471-25479.
- ❖ Yang, Z. C., Wang, M., Yong, A. M., Wong, S. Y., Zhang, X. H., Tan, H., ... & Wang, J. (2011). Intrinsically fluorescent carbon dots with tunable emission derived from hydrothermal treatment of glucose in the presence of monopotassium phosphate. *Chemical communications*, 47(42), 11615-11617.
- ❖ Mondal, T. K., Dinda, D., & Saha, S. K. (2018). Nitrogen, sulphur co-doped graphene quantum dot: An excellent sensor for nitroexplosives. *Sensors and Actuators B: Chemical*, 257, 586-593.
- ❖ Wan, Y., Wang, M., Zhang, K., Fu, Q., Gao, M., Wang, L., ... & Gao, D. (2019). Facile and green synthesis of fluorescent carbon dots from the flowers of *Abelmoschus manihot* (Linn.) Medicus for sensitive detection of 2, 4, 6-trinitrophenol and cellular imaging. *Microchemical Journal*, 148, 385-396.
- ❖ Liu, S., Shi, F., Chen, L., & Su, X. (2013). Bovine serum albumin coated CuInS₂ quantum dots as a near-infrared fluorescence probe for 2, 4, 6-trinitrophenol detection. *Talanta*, 116, 870-875.
- ❖ Deng, X., Huang, X., & Wu, D. (2015). Förster resonance-energy-transfer detection of 2, 4, 6-trinitrophenol using copper nanoclusters. *Analytical and Bioanalytical Chemistry*, 407(16), 4607-4613.
- ❖ Chen, B. B., Liu, Z. X., Zou, H. Y., & Huang, C. Z. (2016). Highly selective detection of 2, 4, 6-trinitrophenol by using newly developed terbium-doped blue carbon dots. *Analyst*, 141(9), 2676-2681.

-
- ❖ Wang, B., Mu, Y., Zhang, C., & Li, J. (2017). Blue photoluminescent carbon nanodots prepared from zeolite as efficient sensors for picric acid detection. *Sensors and Actuators B: Chemical*, 253, 911-917.
 - ❖ Khan, Z. M., Saifi, S., Aslam, Z., Khan, S. A., & Zulfequar, M. (2020). A facile one step hydrothermal synthesis of carbon quantum dots for label-free fluorescence sensing approach to detect picric acid in aqueous solution. *Journal of Photochemistry and Photobiology A: Chemistry*, 388, 112201.
 - ❖ Rong, M., Lin, L., Song, X., Zhao, T., Zhong, Y., Yan, J., ... & Chen, X. (2015). A label-free fluorescence sensing approach for selective and sensitive detection of 2, 4, 6-trinitrophenol (TNP) in aqueous solution using graphitic carbon nitride nanosheets. *Analytical chemistry*, 87(2), 1288-1296.
 - ❖ Wang, M., Fu, Q., Zhang, K., Wan, Y., Wang, L., Gao, M., ... & Gao, D. (2019). A magnetic and carbon dot based molecularly imprinted composite for fluorometric detection of 2, 4, 6-trinitrophenol. *Microchimica Acta*, 186(2), 1-11.
 - ❖ Tian, M., Wang, Y., & Zhang, Y. (2018). Synthesis of fluorescent nitrogen-doped carbon quantum dots for selective detection of picric acid in water samples. *Journal of Nanoscience and Nanotechnology*, 18(12), 8111-8117.
 - ❖ Wang, Y., Chang, X., Jing, N., & Zhang, Y. (2018). Hydrothermal synthesis of carbon quantum dots as fluorescent probes for the sensitive and rapid detection of picric acid. *Analytical Methods*, 10(23), 2775-2784.
 - ❖ Barron, L., & Gilchrist, E. (2014). Ion chromatography-mass spectrometry: a review of recent technologies and applications in forensic and environmental explosives analysis. *Analytica chimica acta*, 806, 27-54.
 - ❖ Srinivasan, P., Gunasekaran, M., Kanagasekaran, T., Gopalakrishnan, R., & Ramasamy, P. (2006). 2, 4, 6-trinitrophenol (TNP): An organic material for nonlinear optical (NLO) applications. *Journal of crystal growth*, 289(2), 639-646.
 - ❖ Ko, H., Chang, S., & Tsukruk, V. V. (2009). Porous substrates for label-free molecular level detection of nonresonant organic molecules. *ACS nano*, 3(1), 181-188.
 - ❖ Ho, M. Y., D'Souza, N., & Migliorato, P. (2012). Electrochemical aptamer-based sandwich assays for the detection of explosives. *Analytical chemistry*, 84(10), 4245-4247.

-
- ❖ Babae, S., & Beiraghi, A. (2010). Micellar extraction and high performance liquid chromatography-ultra violet determination of some explosives in water samples. *Analytica chimica acta*, 662(1), 9-13.
 - ❖ Siddique, A. B., Pramanick, A. K., Chatterjee, S., & Ray, M. (2018). Amorphous carbon dots and their remarkable ability to detect 2, 4, 6-trinitrophenol. *Scientific reports*, 8(1), 1-10.
 - ❖ Peng, Y., Zhang, A. J., Dong, M., & Wang, Y. W. (2011). A colorimetric and fluorescent chemosensor for the detection of an explosive—2, 4, 6-trinitrophenol (TNP). *Chemical communications*, 47(15), 4505-4507.
 - ❖ Hussain, M., Nafady, A., Sherazi, S. T. H., Shah, M. R., Alsalmeh, A., Kalhor, M. S., ... & Siddiqui, S. (2016). Cefuroxime derived copper nanoparticles and their application as a colorimetric sensor for trace level detection of picric acid. *RSC advances*, 6(86), 82882-82889.
 - ❖ Zhang, X., Hu, J., Wang, B., Li, Z., Xu, S., & Ma, X. (2019). A chiral zinc (II) metal-organic framework as high selective luminescent sensor for detecting trace nitro explosives picric acid and Fe³⁺ ion. *Journal of Solid State Chemistry*, 269, 459-464.
 - ❖ Lu, X., Zhang, G., Li, D., Tian, X., Ma, W., Li, S., ... & Tian, Y. (2019). Thiophene aromatic amine derivatives with two-photon activities as probes for the detection of picric acid and pH. *Dyes and Pigments*, 170, 107641.
 - ❖ Zhang, C., Zhang, S., Yan, Y., Xia, F., Huang, A., & Xian, Y. (2017). Highly fluorescent polyimide covalent organic nanosheets as sensing probes for the detection of 2, 4, 6-trinitrophenol. *ACS applied materials & interfaces*, 9(15), 13415-13421.
 - ❖ Pal, A., Sk, M. P., & Chattopadhyay, A. (2016). Conducting carbon dot–polypyrrole nanocomposite for sensitive detection of picric acid. *ACS Applied Materials & Interfaces*, 8(9), 5758-5762.
 - ❖ Pramanik, S., Bhalla, V., & Kumar, M. (2013). Mercury assisted fluorescent supramolecular assembly of hexaphenylbenzene derivative for femtogram detection of picric acid. *Analytica chimica acta*, 793, 99-106.
 - ❖ Wang, M., Zhang, H., Guo, L., & Cao, D. (2018). Fluorescent polymer nanotubes as bifunctional materials for selective sensing and fast removal of picric acid. *Sensors and Actuators B: Chemical*, 274, 102-109.
 - ❖ Zhang, J. R., Yue, Y. Y., Luo, H. Q., & Li, N. B. (2016). Supersensitive and selective detection of picric acid explosive by fluorescent Ag nanoclusters. *Analyst*, 141(3), 1091-1097.

-
- ❖ Liu, B., Tong, C., Feng, L., Wang, C., He, Y., & Lü, C. (2014). Water-soluble polymer functionalized CdTe/ZnS quantum dots: A facile ratiometric fluorescent probe for sensitive and selective detection of nitroaromatic explosives. *Chemistry–A European Journal*, 20(8), 2132-2137.
 - ❖ Hou, X. G., Wu, Y., Cao, H. T., Sun, H. Z., Li, H. B., Shan, G. G., & Su, Z. M. (2014). A cationic iridium (III) complex with aggregation-induced emission (AIE) properties for highly selective detection of explosives. *Chemical Communications*, 50(45), 6031-6034.
 - ❖ Zhao, Z., Zhang, J., Wang, Y., Chen, L., & Zhang, Y. (2016). Hydrothermal synthesis of fluorescent nitrogen-doped carbon quantum dots from ascorbic acid and valine for selective determination of picric acid in water samples. *International Journal of Environmental Analytical Chemistry*, 96(14), 1402-1413.
 - ❖ Han, C., Wang, R., Wang, K., Xu, H., Sui, M., Li, J., & Xu, K. (2016). Highly fluorescent carbon dots as selective and sensitive “on-off-on” probes for iron (III) ion and apoferritin detection and imaging in living cells. *Biosensors and Bioelectronics*, 83, 229-236.
 - ❖ Bano, D., Kumar, V., Singh, V. K., & Hasan, S. H. (2018). Green synthesis of fluorescent carbon quantum dots for the detection of mercury (II) and glutathione. *New Journal of Chemistry*, 42(8), 5814-5821.
 - ❖ Zhao, Y., Zou, S., Huo, D., Hou, C., Yang, M., Li, J., & Bian, M. (2019). Simple and sensitive fluorescence sensor for methotrexate detection based on the inner filter effect of N, S co-doped carbon quantum dots. *Analytica Chimica Acta*, 1047, 179-187.
 - ❖ Liao, S., Zhao, X., Zhu, F., Chen, M., Wu, Z., Yang, H., & Chen, X. (2018). Novel S, N-doped carbon quantum dot-based "off-on" fluorescent sensor for silver ion and cysteine. *Talanta*, 180, 300-308.
 - ❖ Song, Z., Quan, F., Xu, Y., Liu, M., Cui, L., & 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.
 - ❖ Zhu, C., Zhai, J., & Dong, S. (2012). Bifunctional fluorescent carbon nanodots: green synthesis via soy milk and application as metal-free electrocatalysts for oxygen reduction. *Chemical communications*, 48(75), 9367-9369.
 - ❖ Chandra, S., Singh, V. K., Yadav, P. K., Bano, D., Kumar, V., Pandey, V. K., ... & Hasan, S. H. (2019). Mustard seeds derived fluorescent carbon quantum dots and their peroxidase-like activity for colorimetric detection of H₂O₂ and ascorbic acid in a real sample. *Analytica chimica acta*, 1054, 145-156.

-
- ❖ Xue, M., Zhang, L., Zou, M., Lan, C., Zhan, Z., & Zhao, S. (2015). Nitrogen and sulfur co-doped carbon dots: a facile and green fluorescence probe for free chlorine. *Sensors and Actuators B: Chemical*, 219, 50-56.
 - ❖ Sun, Y., Shen, C., Wang, J., & Lu, Y. (2015). Facile synthesis of biocompatible N, S-doped carbon dots for cell imaging and ion detecting. *RSC Advances*, 5(21), 16368-16375.
 - ❖ Bano, D., Kumar, V., Singh, V. K., Chandra, S., Singh, D. K., Yadav, P. K., ... & Hasan, S. H. (2018). A facile and simple strategy for the synthesis of label free carbon quantum dots from the latex of *Euphorbia milii* and its peroxidase-mimic activity for the naked eye detection of glutathione in a human blood serum. *ACS Sustainable Chemistry & Engineering*, 7(2), 1923-1932.
 - ❖ Yang, H., He, L., Pan, S., Liu, H., & Hu, X. (2019). Nitrogen-doped fluorescent carbon dots for highly sensitive and selective detection of tannic acid. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 210, 111-119.
 - ❖ Yadav, P. K., Singh, V. K., Chandra, S., Bano, D., Kumar, V., Talat, M., & Hasan, S. H. (2018). Green synthesis of fluorescent carbon quantum dots from *azadirachta indica* leaves and their peroxidase-mimetic activity for the detection of H₂O₂ and ascorbic acid in common fresh fruits. *ACS Biomaterials Science & Engineering*, 5(2), 623-632.
 - ❖ Hu, Y., Zhang, L., Li, X., Liu, R., Lin, L., & Zhao, S. (2017). Green preparation of S and N Co-doped carbon dots from water chestnut and onion as well as their use as an off-on fluorescent probe for the quantification and imaging of coenzyme A. *ACS Sustainable Chemistry & Engineering*, 5(6), 4992-5000.
 - ❖ Song, Y., Zhu, S., Xiang, S., Zhao, X., Zhang, J., Zhang, H., ... & Yang, B. (2014). Investigation into the fluorescence quenching behaviors and applications of carbon dots. *Nanoscale*, 6(9), 4676-4682.
 - ❖ Dinda, D., Gupta, A., Shaw, B. K., Sadhu, S., & Saha, S. K. (2014). Highly selective detection of trinitrophenol by luminescent functionalized reduced graphene oxide through FRET mechanism. *ACS applied materials & interfaces*, 6(13), 10722-10728.
 - ❖ Shi, Z. Q., Guo, Z. J., & Zheng, H. G. (2015). Two luminescent Zn (ii) metal-organic frameworks for exceptionally selective detection of picric acid explosives. *Chemical Communications*, 51(39), 8300-8303.
 - ❖ Liu, Y., Gao, M., Lam, J. W., Hu, R., & Tang, B. Z. (2014). Copper-catalyzed polycoupling of diynes, primary amines, and aldehydes: a new one-pot

- multicomponent polymerization tool to functional polymers. *Macromolecules*, 47(15), 4908-4919.
- ❖ Sk, M. P., & Chattopadhyay, A. (2014). Induction coil heater prepared highly fluorescent carbon dots as invisible ink and explosive sensor. *RSC Advances*, 4(60), 31994-31999.
 - ❖ Cheng, F., An, X., Zheng, C., & Cao, S. (2015). Green synthesis of fluorescent hydrophobic carbon quantum dots and their use for 2, 4, 6-trinitrophenol detection. *RSC advances*, 5(113), 93360-93363.
 - ❖ Niu, Q., Gao, K., Lin, Z., & Wu, W. (2013). Amine-capped carbon dots as a nanosensor for sensitive and selective detection of picric acid in aqueous solution via electrostatic interaction. *Analytical methods*, 5(21), 6228-6233.
 - ❖ Lin, L., Rong, M., Lu, S., Song, X., Zhong, Y., Yan, J., ... & Chen, X. (2015). A facile synthesis of highly luminescent nitrogen-doped graphene quantum dots for the detection of 2, 4, 6-trinitrophenol in aqueous solution. *Nanoscale*, 7(5), 1872-1878.
 - ❖ Peng, D., Zhang, L., Li, F. F., Cui, W. R., Liang, R. P., & Qiu, J. D. (2018). Facile and green approach to the synthesis of boron nitride quantum dots for 2, 4, 6-trinitrophenol sensing. *ACS applied materials & interfaces*, 10(8), 7315-7323.
 - ❖ Sun, X., He, J., Meng, Y., Zhang, L., Zhang, S., Ma, X., ... & Lei, Y. (2016). Microwave-assisted ultrafast and facile synthesis of fluorescent carbon nanoparticles from a single precursor: preparation, characterization and their application for the highly selective detection of explosive picric acid. *Journal of Materials Chemistry A*, 4(11), 4161-4171.
 - ❖ Bano, D., Kumar, V., Chandra, S., Singh, V. K., Mohan, S., Singh, D. K., ... & Hasan, S. H. (2019). Synthesis of highly fluorescent nitrogen-rich carbon quantum dots and their application for the turn-off detection of cobalt (II). *Optical Materials*, 92, 311-318.
 - ❖ Hebert, R. M., & Jackovitz, A. M. (2015). Wildlife toxicity assessment for picric acid (2, 4, 6-trinitrophenol). In *Wildlife Toxicity Assessments for Chemicals of Military Concern* (pp. 271-277). Elsevier.
 - ❖ Liu, K., Dong, H., & Deng, Y. (2016). Recent advances on rapid detection of pesticides based on enzyme biosensor of nanomaterials. *Journal of Nanoscience and Nanotechnology*, 16(7), 6648-6656.

-
- ❖ Pretty, J. (2008). Agricultural sustainability: concepts, principles and evidence. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 363(1491), 447-465.
 - ❖ Zhang, N., Si, Y., Sun, Z., Li, S., Li, S., Lin, Y., & Wang, H. (2014). Lab-on-a-drop: biocompatible fluorescent nanoprobes of gold nanoclusters for label-free evaluation of phosphorylation-induced inhibition of acetylcholinesterase activity towards the ultrasensitive detection of pesticide residues. *Analyst*, 139(18), 4620-4628.
 - ❖ Zheng, Z., Li, X., Dai, Z., Liu, S., & Tang, Z. (2011). Detection of mixed organophosphorus pesticides in real samples using quantum dots/bi-enzyme assembly multilayers. *Journal of Materials Chemistry*, 21(42), 16955-16962.
 - ❖ Li, Z., Wang, Y., Ni, Y., & Kokot, S. (2014). Unmodified silver nanoparticles for rapid analysis of the organophosphorus pesticide, dipterex, often found in different waters. *Sensors and Actuators B: Chemical*, 193, 205-211.
 - ❖ Nsibande, S. A., & Forbes, P. B. C. (2016). Fluorescence detection of pesticides using quantum dot materials—a review. *Analytica Chimica Acta*, 945, 9-22.
 - ❖ Kamyabi, M. A., & Moharramnezhad, M. (2020). An ultra-sensitive electrochemiluminescence platform based on ZnONPs/Ni-foam and K2S2O8 for detection of chlorpyrifos. *Journal of Electroanalytical Chemistry*, 865, 114120.
 - ❖ Islam, S., Shukla, S., Bajpai, V. K., Han, Y. K., Huh, Y. S., Ghosh, A., & Gandhi, S. (2019). Microfluidic-based graphene field effect transistor for femtomolar detection of chlorpyrifos. *Scientific reports*, 9(1), 1-7.
 - ❖ He, Y., Xiao, S., Dong, T., & Nie, P. (2019). Gold nanoparticles with different particle sizes for the quantitative determination of chlorpyrifos residues in soil by SERS. *International journal of molecular sciences*, 20(11), 2817.
 - ❖ Wang, P., Dai, W., Ge, L., Yan, M., Ge, S., & Yu, J. (2013). Visible light photoelectrochemical sensor based on Au nanoparticles and molecularly imprinted poly (o-phenylenediamine)-modified TiO₂ nanotubes for specific and sensitive detection chlorpyrifos. *Analyst*, 138(3), 939-945.
 - ❖ Ayodhya, D., & Veerabhadram, G. (2019). Fabrication of Schiff base coordinated ZnS nanoparticles for enhanced photocatalytic degradation of chlorpyrifos pesticide and detection of heavy metal ions. *Journal of Materiomics*, 5(3), 446-454.
 - ❖ Kim, Y. A., Lee, E. H., Kim, K. O., Lee, Y. T., Hammock, B. D., & Lee, H. S. (2011). Competitive immunochromatographic assay for the detection of the organophosphorus pesticide chlorpyrifos. *Analytica chimica acta*, 693(1-2), 106-113.

-
- ❖ Lee, J., & Lee, H. K. (2011). Fully automated dynamic in-syringe liquid-phase microextraction and on-column derivatization of carbamate pesticides with gas chromatography/mass spectrometric analysis. *Analytical chemistry*, 83(17), 6856-6861.
 - ❖ Johannesen, E., Hvingel, C., Aschan, M., & Bogstad, B. (2007). Survey based estimation of consumption: spatial and seasonal aspects of cod predation on shrimp. In *Northwest Atlantic Fisheries Organization SCIENTIFIC COUNCIL MEETING—OCTOBER/NOVEMBER*.
 - ❖ Albanis, T. A., Hela, D. G., Lambropoulou, D. A., & Vasilios, A. S. (2004). Gas chromatographic–mass spectrometric methodology using solid-phase microextraction for the multiresidue determination of pesticides in surface waters. *International Journal of Environmental Analytical Chemistry*, 84(14-15), 1079-1092.
 - ❖ Leandro, C. C., Hancock, P., Fussell, R. J., & Keely, B. J. (2006). Comparison of ultra-performance liquid chromatography and high-performance liquid chromatography for the determination of priority pesticides in baby foods by tandem quadrupole mass spectrometry. *Journal of Chromatography A*, 1103(1), 94-101.
 - ❖ Sanz, C. P., Halko, R., Ferrera, Z. S., & Rodriguez, J. S. (2004). Micellar extraction of organophosphorus pesticides and their determination by liquid chromatography. *Analytica Chimica Acta*, 524(1-2), 265-270.
 - ❖ Gabaldon, J. A., Maquieira, A., & Puchades, R. (2007). Development of a simple extraction procedure for chlorpyrifos determination in food samples by immunoassay. *Talanta*, 71(3), 1001-1010.
 - ❖ Chen, A., Du, D., & Lin, Y. (2012). Highly sensitive and selective immuno-capture/electrochemical assay of acetylcholinesterase activity in red blood cells: a biomarker of exposure to organophosphorus pesticides and nerve agents. *Environmental science & technology*, 46(3), 1828-1833.
 - ❖ Wang, Y., Zhang, S., Du, D., Shao, Y., Li, Z., Wang, J., & Lin, Y. (2011). Self-assembly of acetylcholinesterase on a gold nanoparticles–graphene nanosheet hybrid for organophosphate pesticide detection using polyelectrolyte as a linker. *Journal of Materials Chemistry*, 21(14), 5319-5325.
 - ❖ Du, D., Wang, J., Wang, L., Lu, D., & Lin, Y. (2012). Integrated lateral flow test strip with electrochemical sensor for quantification of phosphorylated cholinesterase: biomarker of exposure to organophosphorus agents. *Analytical chemistry*, 84(3), 1380-1385.
 - ❖ Viswanathan, S., Radecka, H., & Radecki, J. (2009). Electrochemical biosensor for pesticides based on acetylcholinesterase immobilized on polyaniline deposited on

- vertically assembled carbon nanotubes wrapped with ssDNA. *Biosensors and Bioelectronics*, 24(9), 2772-2777.
- ❖ Long, Q., Li, H., Zhang, Y., & Yao, S. (2015). Upconversion nanoparticle-based fluorescence resonance energy transfer assay for organophosphorus pesticides. *Biosensors and Bioelectronics*, 68, 168-174.
 - ❖ Hou, J., Dong, J., Zhu, H., Teng, X., Ai, S., & Mang, M. (2015). A simple and sensitive fluorescent sensor for methyl parathion based on l-tyrosine methyl ester functionalized carbon dots. *Biosensors and Bioelectronics*, 68, 20-26.
 - ❖ Liang, M., Fan, K., Pan, Y., Jiang, H., Wang, F., Yang, D., ... & Yan, X. (2013). Fe₃O₄ magnetic nanoparticle peroxidase mimetic-based colorimetric assay for the rapid detection of organophosphorus pesticide and nerve agent. *Analytical chemistry*, 85(1), 308-312.
 - ❖ Fahimi-Kashani, N., & Hormozi-Nezhad, M. R. (2016). Gold-nanoparticle-based colorimetric sensor array for discrimination of organophosphate pesticides. *Analytical chemistry*, 88(16), 8099-8106.
 - ❖ Liu, P., Chen, D., Wang, Y., Tang, X., Li, H., Shi, J., ... & Dong, Y. (2017). A highly sensitive “turn-on” fluorescent probe with an aggregation-induced emission characteristic for quantitative detection of γ -globulin. *Biosensors and Bioelectronics*, 92, 536-541.
 - ❖ Gonzalez-Cortes, T., Recio-Vega, R., Lantz, R. C., & Chau, B. T. (2017). DNA methylation of extracellular matrix remodeling genes in children exposed to arsenic. *Toxicology and applied pharmacology*, 329, 140-147.
 - ❖ Sun, J., Guo, L., Bao, Y., & Xie, J. (2011). A simple, label-free AuNPs-based colorimetric ultrasensitive detection of nerve agents and highly toxic organophosphate pesticide. *Biosensors and Bioelectronics*, 28(1), 152-157.
 - ❖ Wan, Y., Wang, M., Zhang, K., Fu, Q., Gao, M., Wang, L., ... & Gao, D. (2019). Facile and green synthesis of fluorescent carbon dots from the flowers of *Abelmoschus manihot* (Linn.) Medicus for sensitive detection of 2, 4, 6-trinitrophenol and cellular imaging. *Microchemical Journal*, 148, 385-396.
 - ❖ Wu, X., Song, Y., Yan, X., Zhu, C., & Ma, Y. (2017). Du D; Lin Y Biosens. *Bioelectron*, 94, 292-297.
 - ❖ Kumar, S., Singh, R., Kumar, V., Rani, A., & Jain, R. (2017). Cannabis sativa: A plant suitable for phytoremediation and bioenergy production. In *Phytoremediation potential of bioenergy plants* (pp. 269-285). Springer, Singapore.

-
- ❖ Okeola, F. O., Odebunmi, E. O., Nwosu, F. O., Abu, T. O., Idiagbonya, O. S., Amoloye, M. A., ... & Abdulmummeen, A. G. (2017). Remediation of aqueous solution of cypermethrin and chlorpyrifos using derived adsorbent from *Jatropha curcas*. *Journal of Applied Sciences and Environmental Management*, 21(1), 40-46.
 - ❖ Kamusoko, R., & Jingura, R. M. (2017). Utility of *Jatropha* for phytoremediation of heavy metals and emerging contaminants of water resources: a review. *CLEAN–Soil, Air, Water*, 45(11), 1700444.
 - ❖ Li, H., Yan, X., Lu, G., & Su, X. (2018). Carbon dot-based bioplatfrom for dual colorimetric and fluorometric sensing of organophosphate pesticides. *Sensors and Actuators B: Chemical*, 260, 563-570.
 - ❖ Yan, X., Li, H., Han, X., & Su, X. (2015). A ratiometric fluorescent quantum dots based biosensor for organophosphorus pesticides detection by inner-filter effect. *Biosensors and Bioelectronics*, 74, 277-283.
 - ❖ Li, H., Yan, X., Lu, G., & Su, X. (2018). Carbon dot-based bioplatfrom for dual colorimetric and fluorometric sensing of organophosphate pesticides. *Sensors and Actuators B: Chemical*, 260, 563-570.
 - ❖ Zhang, K., Mei, Q., Guan, G., Liu, B., Wang, S., & Zhang, Z. (2010). Ligand replacement-induced fluorescence switch of quantum dots for ultrasensitive detection of organophosphorothioate pesticides. *Analytical chemistry*, 82(22), 9579-9586.
 - ❖ Gupta, B., Sharma, R., & Ghosh, K. K. (2019). Facile and visual detection of acetylcholinesterase inhibitors by carbon quantum dots. *New Journal of Chemistry*, 43(25), 9924-9933.
 - ❖ Jintelmann, J., Katayama, A., Kurihara, N., Shore, L., & Wenzel, A. (2003). Endocrine disruptors in the environment. *Pure and Applied Chemistry*, 75, 631-681.
 - ❖ Fukuto, T. R. (1990). Mechanism of action of organophosphorus and carbamate insecticides. *Environmental health perspectives*, 87, 245-254.
 - ❖ Van Dyk, J. S., & Pletschke, B. (2011). Review on the use of enzymes for the detection of organochlorine, organophosphate and carbamate pesticides in the environment. *Chemosphere*, 82(3), 291-307.
 - ❖ Klotz, D. M., Arnold, S. F., & McLachlan, J. A. (1997). Inhibition of 17 beta-estradiol and progesterone activity in human breast and endometrial cancer cells by carbamate insecticides. *Life Sciences*, 60(17), 1467-1475.

- ❖ Meng, X., Schultz, C. W., Cui, C., Li, X., & Yu, H. Z. (2015). On-site chip-based colorimetric quantitation of organophosphorus pesticides using an office scanner. *Sensors and Actuators B: Chemical*, 215, 577-583.
- ❖ Yu, H., Man, B. K. W., Chan, L. L. N., Lam, M. H. W., Lam, P. K., Wang, L., ... & Wu, R. S. (2004). Cloud-point extraction of nodularin-R from natural waters. *Analytica chimica acta*, 509(1), 63-70.
- ❖ Moser, M., Schneider, R., Behnke, T., Schneider, T., Falkenhagen, J., & Resch-Genger, U. (2016). Ellman's and aldrithiol assay as versatile and complementary tools for the quantification of thiol groups and ligands on nanomaterials. *Analytical Chemistry*, 88(17), 8624-8631.
- ❖ Bano, D., Kumar, V., Singh, V. K., & Hasan, S. H. (2018). Green synthesis of fluorescent carbon quantum dots for the detection of mercury (II) and glutathione. *New Journal of Chemistry*, 42(8), 5814-5821.
- ❖ Yu, J., Xu, C., Tian, Z., Lin, Y., & Shi, Z. (2016). Facilely synthesized N-doped carbon quantum dots with high fluorescent yield for sensing Fe³⁺. *New Journal of Chemistry*, 40(3), 2083-2088.
- ❖ Zhu, A., Qu, Q., Shao, X., Kong, B., & Tian, Y. (2012). Carbon-dot-based dual-emission nanohybrid produces a ratiometric fluorescent sensor for in vivo imaging of cellular copper ions. *Angewandte Chemie International Edition*, 51(29), 7185-7189.
- ❖ Isotahdon, E., Huttunen-Saarivirta, E., Kuokkala, V. T., & Paju, M. (2012). Corrosion behaviour of sintered Nd-Fe-B magnets. *Materials Chemistry and Physics*, 135(2-3), 762-771.
- ❖ Hu, Y., Zhang, L., Li, X., Liu, R., Lin, L., & Zhao, S. (2017). Green preparation of S and N Co-doped carbon dots from water chestnut and onion as well as their use as an off-on fluorescent probe for the quantification and imaging of coenzyme A. *ACS Sustainable Chemistry & Engineering*, 5(6), 4992-5000.
- ❖ Song, Y., Zhu, S., Xiang, S., Zhao, X., Zhang, J., Zhang, H., ... & Yang, B. (2014). Investigation into the fluorescence quenching behaviors and applications of carbon dots. *Nanoscale*, 6(9), 4676-4682.
- ❖ Chen, Y., Ren, H. L., Liu, N., Sai, N., Liu, X., Liu, Z., ... & Ning, B. A. (2010). A fluoroimmunoassay based on quantum dot-streptavidin conjugate for the detection of chlorpyrifos. *Journal of agricultural and food chemistry*, 58(16), 8895-8903.
- ❖ Chen, Y. P., Ning, B., Liu, N., Feng, Y., Liu, Z., Liu, X., & Gao, Z. X. (2010). A rapid and sensitive fluoroimmunoassay based on quantum dot for the detection of

chlorpyrifos residue in drinking water. *Journal of Environmental Science and Health Part B*, 45(6), 508-515.

- ❖ Ren, X., Liu, H., & Chen, L. (2015). Fluorescent detection of chlorpyrifos using Mn (II)-doped ZnS quantum dots coated with a molecularly imprinted polymer. *Microchimica Acta*, 182(1), 193-200.
- ❖ Zhang, H., Wang, P., Zhou, Q., & Wang, Y. (2018). A Novel Method for the Detection of Chlorpyrifos by Combining Quantum Dot-Labeled Molecularly Imprinted Polymer with Flow Cytometry. *Analytical Letters*, 51(6), 921-934.
- ❖ Guo, X., Zhang, X., Cai, Q., Shen, T., & Zhu, S. (2013). Developing a novel sensitive visual screening card for rapid detection of pesticide residues in food. *Food Control*, 30(1), 15-23.
- ❖ Molaei, M. J. (2020). Principles, mechanisms, and application of carbon quantum dots in sensors: a review. *Analytical Methods*, 12(10), 1266-1287.
- ❖ Panigrahi, S. K., & Mishra, A. K. (2019). Inner filter effect in fluorescence spectroscopy: As a problem and as a solution. *Journal of Photochemistry and Photobiology C: Photochemistry Reviews*, 41, 100318.

List of publications

1. **Chandra, S.**, Singh, V. K., Yadav, P. K., Bano, D., Kumar, V., Pandey, V. K., & **Hasan, S. H. (2019)**. Mustard seeds derived fluorescent carbon quantum dots and their peroxidase-like activity for colorimetric detection of H₂O₂ and ascorbic acid in a real sample. *Analytica chimica acta*, 1054, 145-156.
2. **Chandra, S.**, Bano, D., Pradhan, P., Singh, V. K., Yadav, P. K., Sinha, D., & **Hasan, S. H. (2020)**. Nitrogen/sulfur-co-doped carbon quantum dots: a biocompatible material for the selective detection of picric acid in aqueous solution and living cells. *Analytical and Bioanalytical Chemistry*, 412, 3753-3763.
3. **Chandra, S.**, Bano, D., Sahoo, K., Kumar, D., Kumar, V., Yadav, P. K., & **Hasan, S. H. (2022)**. Synthesis of fluorescent carbon quantum dots from Jatropha fruits and their application in fluorometric sensor for the detection of chlorpyrifos. *Microchemical Journal*, 172, 106953.
4. Bano, D., **Chandra, S.**, Yadav, P. K., Singh, V. K., & **Hasan, S. H. (2020)**. Off-on detection of glutathione based on the nitrogen, sulfur codoped carbon quantum dots@ MnO₂ nano-composite in human lung cancer cells and blood serum. *Journal of Photochemistry and Photobiology A: Chemistry*, 112558.
5. Bano, D., Kumar, V., Singh, V. K., **Chandra, S.**, Singh, D. K., Yadav, P. K., & **Hasan, S. H. (2018)**. A facile and simple strategy for the synthesis of label free carbon quantum dots from the latex of Euphorbia milii and its peroxidase-mimic activity for the naked eye detection of glutathione in a human blood serum. *ACS Sustainable Chemistry & Engineering*, 7(2), 1923-1932.
6. Bano, D., Kumar, V., **Chandra, S.**, Singh, V. K., Mohan, S., Singh, D. K., & **Hasan, S. H. (2019)**. Synthesis of highly fluorescent nitrogen-rich carbon quantum dots and their application for the turn-off detection of cobalt (II). *Optical Materials*, 92, 311-318.
7. Singh, V. K., Singh, V., Yadav, P. K., **Chandra, S.**, Bano, D., Koch, B., & **Hasan, S. H. (2019)**. Nitrogen doped fluorescent carbon quantum dots for on-off-on detection of Hg²⁺ and glutathione in aqueous medium: Live cell imaging and IMPLICATION logic gate operation. *Journal of Photochemistry and Photobiology A: Chemistry*, 384, 112042.

8. Yadav, P. K., Singh, V. K., **Chandra, S.**, Bano, D., Kumar, V., Talat, M., & Hasan, **S. H.** (2018). Green synthesis of fluorescent carbon quantum dots from azadirachta indica leaves and their peroxidase-mimetic activity for the detection of H₂O₂ and ascorbic acid in common fresh fruits. *ACS Biomaterials Science & Engineering*, 5(2), 623-632.
9. Singh, V. K., Yadav, P. K., **Chandra, S.**, Bano, D., Talat, M., & **Hasan, S. H.** (2018). Peroxidase mimetic activity of fluorescent NS-carbon quantum dots and their application in colorimetric detection of H₂O₂ and glutathione in human blood serum. *Journal of Materials Chemistry B*, 6(32), 5256-5268.
10. Singh, V. K., Singh, V., Yadav, P. K., **Chandra, S.**, Bano, D., Kumar, V., & **Hasan, S. H.** (2018). Bright-blue-emission nitrogen and phosphorus-doped carbon quantum dots as a promising nanoprobe for detection of Cr (VI) and ascorbic acid in pure aqueous solution and in living cells. *New Journal of Chemistry*, 42(15), 12990-12997.
11. Azad, I., Akhter, Y., Khan, T., Azad, M. I., **Chandra, S.**, Singh, P., & Nasibullah, M. (2020). Synthesis, quantum chemical study, AIM simulation, in silico ADMET profile analysis, molecular docking and antioxidant activity assessment of aminofuran derivatives. *Journal of Molecular Structure*, 1203, 127285.
12. Yadav, P. K., Singh, V. K., Kumar, C., **Chandra, S.**, Jit, S., Singh, S. K., & **Hasan, S. H.** (2019). A Facile Synthesis of Green-Blue Carbon Dots from Artocarpus lakoocha Seeds and Their Application for the Detection of Iron (III) in Biological Fluids and Cellular Imaging. *ChemistrySelect*, 4(42), 12252-12259.
13. Kumar, V., Upadhyay, R. K., Bano, D., **Chandra, S.**, Kumar, D., Jit, S., & **Hasan, S. H.** (2021). The fabrication and characterization of a supramolecular Cu-based metallogel thin-film based Schottky diode. *New Journal of Chemistry*, 45(14), 6273-6280.
14. Yadav, P. K., Upadhyay, R. K., Kumar, D., Bano, D., **Chandra, S.**, Jit, S., & **Hasan, S. H.** (2021). Synthesis of green fluorescent carbon quantum dots from the latex of Ficus benghalensis for the detection of tyrosine and fabrication of Schottky barrier diode. *New Journal of Chemistry*, 45(28), 12549-12556.

15. Pandey, V. K., Singh, V. K., **Chandra, S., & Hasan, S. H. (2019)**. Coordination polymeric fluorescent gel: effect of removal of branch substituents of the central core over properties. *Journal of Coordination Chemistry*.

Conferences

Poster Presentations

- ❖ **Chandra, S., Hasan, S. H.**, Mustard seeds derived fluorescent carbon quantum dots and their peroxidase like activity for colorimetric detection of H₂O₂ and ascorbic acid in real sample “International Conference on Nano Science & Engineering Applications-2018” Centre for Nano Science and Technology, Institute of Science and Technology, JNTUH Hyderabad.
- ❖ **Subhash, S., Hasan, S. H.**, Synthesis of fluorescent carbon quantum dots via like activity for colorimetric detection of H₂O₂ and ascorbic acid in a real sample, 2nd International Conference on Engineering Science & Advance Research, 13-15 March 2019 organized by Rama University, Kanpur, India.