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## References

- Abbaspour, A. and Ghaffarinejad, A. Electrocatalytic oxidation of L-cysteine with a stable copper-cobalt hexacyanoferrate electrochemically modified carbon paste electrode. *Electrochimica Acta*, 53(22):6643-6650, 2008.
- Adekunle, A. S., Farah, A. M., Pillay, J., Ozoemena, K. I., Mamba, B. B., and Agboola, B. O. Electrocatalytic properties of prussian blue nanoparticles supported on poly (m-aminobenzenesulphonic acid)-functionalised single-walled carbon nanotubes towards the detection of dopamine. *Colloids and surfaces. B, Biointerfaces*, 95, 186–194, 2012.
- Adekunle, A. S., Mamba, B. B., Agboola, B. O., and Ozoemena, K. I. Nitrite electrochemical sensor based on prussian blue/single-walled carbon nanotubes modified pyrolytic graphite electrode. 2011.
- Ahmadalinezhad, A., Kafi, A., and Chen, A. Glucose biosensing based on the highly efficient immobilization of glucose oxidase on a prussian blue modified nanostructured au surface. *Electrochemistry Communications*, 11(10):2048-2051, 2009.
- Ang, J. Q., Nguyen, B. T. T., and Toh, C.-S. A dual  $k^+$ - $na^+$  selective prussian blue nanotubes sensor. *Sensors and Actuators B: Chemical*, 157(2):417-423, 2011.
- Arun. T., Prakash, K., Kuppusamy, R., and Joseyphus. R. J. Magnetic properties of prussian blue modified  $Fe_3O_4$  nanocubes. *Journal of Physics and Chemistry of Solids*, 74(12):1761-1768. 2013.
- Astruc, D., Lu. F., and Aranzaes, J. R. Nanoparticles as recyclable catalysts: the frontier between homogeneous and heterogeneous catalysis. *Angewandte Chemie International Edition*. 44(48):7852-7872, 2005.

- 
- Boxhoorn, G., Moolhuysen, J., Coolegem, J. G., and van Santen, R. A. Cyanometallates: an underestimated class of molecular sieves. *Journal of the Chemical Society, Chemical Communications*, (19):1305-1307, 1985.
- Boyer, A., Kalcher, K., and Pietsch, R. Voltammetric behavior of perborate on Prussian blue modified carbon paste electrodes. *Electroanalysis*, 2(2):155-161, 1990.
- Bozorth, R., Williams, H., and Walsh, D. E. Magnetic properties of some orthoferrites and cyanides at low temperatures. *Physical Review*, 103(3):572, 1956.
- Buser, H., Ludi, A., Petter, W., and Schwarzenbach, D. Single-crystal study of prussian blue:  $\text{Fe}_4[\text{Fe}(\text{CN})_6]_2 \cdot 14\text{H}_2\text{O}$ . *Journal of the Chemical Society, Chemical Communications*, (23):1299-1299, 1972.
- Buser, H., Schwarzenbach, D., Petter, W., and Ludi, A. J. I. C. The crystal structure of Prussian blue:  $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3 \cdot x\text{H}_2\text{O}$ . *Inorganic chemistry*, 16(11):2704-2710, 1977.
- Carson, B.L. Ellis, H.V. and McCann, J.L. *Toxicology and Biological Monitoring of Metals in Humans*, Lewis Publishers, Chelsea, MI, 5, no.6 (1986) 420-420.
- Chen, L.-C., Tseng, K.-S., and Ho, K.-C. General kinetic model for amperometric sensors based on prussian blue mediator and its analogs: Application to cysteine detection. *Electroanalysis: An International Journal Devoted to Fundamental and Practical Aspects of Electroanalysis*. 18(13-14):1313-1321, 2006.
- Chen, R.; Tanaka, H.; Kawamoto, T.; Asai, M.; Fukushima, C.; Na, H.; Kurihara, M.; Watanabe, M.; Arisaka, M.; Nankawa, T. Selective removal of cesium ions from wastewater using copper hexacyanoferrate nanofilms in an electrochemical system. *Electrochim. Acta* **2013**, 87, 119–125.

- 
- Chen, X., Chen, Z., Tian, R., Yan, W., and Yao, C. Glucose biosensor based on three dimensional ordered macroporous self-doped polyaniline/prussian blue bicomponent film. *Analytica chimica acta*, 723:94-100, 2012b.
- Chi, Q. and Dong, S. Amperometric biosensors based on the immobilization of oxidases in a prussian blue film by electrochemical codeposition. *Analytica chimica acta*, 310(3):429-436, 1995.
- Cimino, G and Caristi, C. "Acute toxicity of heavy metals to aerobic digestion of waste cheese whey," *Biological Wastes*, 33(3) (1990) 201-210.
- Cinti, S., Cusenza, R., Moscone, D. and Arduini, F. based synthesis of Prussian Blue Nanoparticles for the development of whole blood glucose electrochemical biosensor. *Talanta*, 187, pp.59-64, 2018.
- Coon, D. R., Amos, L. J., Bocarsly, A. B., and Fitzgerald Bocarsly, P. A. Analytical applications of cooperative interactions associated with charge transfer in cyanometalate electrodes: analysis of sodium and potassium in human whole blood. *Analytical chemistry*, 70(15):3137-3145, 1998.
- Cui, L., Zhu, J., Meng, X., Yin, H., Pan, X., and Ai, S. Controlled chitosan coated Prussian blue nanoparticles with the mixture of graphene nanosheets and carbon nanospheres as a redox mediator for the electrochemical oxidation of nitrite. *Sensors and Actuators B: Chemical*, 161(1):641-647, 2012.
- da Costa, J.G.D.R., Costa, J.M. and de Almeida Neto, A.F. Recent advances and future applications in electro-adsorption technology: An updated review. *Journal of Environmental Chemical Engineering*, 9(6), 2021, p.106355.

- 
- Davidson, D. and Welo, L. A. The nature of prussian blue. *The Journal of Physical Chemistry*, 32(8):1191-1196, 2002.
- De Mattos, I. L., Gorton, L., and Ruzgas, T. Sensor and biosensor based on prussian blue modified gold and platinum screen printed electrodes. *Biosensors and Bioelectronics*, 18(23):193-200, 2003.
- De Tacconi, N. R., Rajeshwar, K., and Lezna, R. O. Metal hexacyanoferrates: electrosynthesis, in situ characterization, and applications. *Chemistry of Materials*, 15(16): 3046–3062, 2003.
- Ding, Y., Hu, Y.L., Gu, G. and Xia, X.H., Controllable synthesis and formation mechanism investigation of Prussian blue nanocrystals by using the polysaccharide hydrolysis method. *The Journal of Physical Chemistry C*, 113(33), pp.14838-14843, 2009.
- Dostal, A., Meyer, B., Scholz, F., Schroeder, U., Bond, A. M., Marken, F., and Shaw, S. J. Electrochemical study of microcrystalline solid prussian blue particles mechanically attached to graphite and gold electrodes: electrochemically induced lattice reconstruction. *The Journal of Physical Chemistry*, 99(7):2096-2103, 1995.
- Draouil, H.; Alvarez, L.; Causse, J.; Flaud, V.; Zaibi, M.A.; Bantignies, J.L.; Oueslati, M.; Cambedouzou, J. Copper hexacyanoferrate functionalized single-walled carbon nanotubes for selective cesium extraction. *New J. Chem.* 2017, 41, 7705–7713.
- Du, J., Wang, Y., Zhou, X., Xue, Z., Liu, X., Sun, K., and Lu, X. Improved sensing in physiological buffers by controlling the nanostructure of prussian blue films. *The Journal of Physical Chemistry C*, 114(35):14786-14793, 2010.
- Dunford, H. B. and Hasinoff, B. B. Kinetics of the oxidation of ferrocyanide by horseradish peroxidase compounds i and ii. *Biochemistry*, 9(25):4930-4939, 1970.

- 
- Durand, P., Fornasieri, G., Baumier, C., Beaunier, P., Durand, D., Rivière, E., and Bleuzen, A. Control of stoichiometry, size and morphology of inorganic polymers by template assisted coordination chemistry. *Journal of Materials Chemistry*, 20(42):9348–9354, 2010.
- Düssel, H., Dostal, A., and Scholz, F. Hexacyanoferrate-based composite ion-sensitive electrodes for voltammetry. *Fresenius' journal of analytical chemistry*, 355(1):21-28, 1996.
- Dutta, D., Chatterjee, S., Pillai, K., Pujari, P., and Ganguly, B. Pore structure of silica gel: a comparative study through BET and PALS. *Chemical physics*, 312(1-3):319-324, 2005.
- Edwards, M. “Chemistry of arsenic: removal during coagulation and Fe-Mn oxidation,” *J. Am. Water Works Assoc.*, 86(9) (1994) 64-78.
- Eftekhari, A. A high-voltage solid-state secondary cell based on chromium hexacyanometallates. *Journal of power sources*, 117(1-2):249-254, 2003.
- Eftekhari, A. Electrochemical behavior of gallium hexacyanoferrate film directly modified electrode in a cool environment. *Journal of The Electrochemical Society*, 151(9), p.E297, 2004.
- Eftekhari, A. Fabrication of all-solid-state thin-film secondary cells using hexacyanometallate based electrode materials. *Journal of power sources*, 132(1-2):291-295, 2004.
- Ellis, D., Eckhoff, M. and Neff, V.D. Electrochromism in the mixed-valence hexacyanides. 1. Voltammetric and spectral studies of the oxidation and reduction of thin films of Prussian blue. *The Journal of Physical Chemistry* 85(9) pp. 1225-1231, 1981.
- Enami, S., Sakamoto, Y. and Colussi, A.J. Fenton chemistry at aqueous interfaces. *Proceedings of the National Academy of Sciences*. [112] pp. 623-628, 2014.

- 
- Entley, W.R. and Girolami, G.S., High-temperature molecular magnets based on cyanovanadate building blocks: spontaneous magnetization at 230 K. *Science*, 268(5209), pp.397-400, 1995.
- Estelrich, J. and Busquets, M.A. Prussian blue: A safe pigment with zeolitic-like activity. *International Journal of Molecular Sciences*, 22(2). p.780. 2021.
- Feng, L., Li, N., Tang, S., Guo, Y., Zheng, J. and Li, X. Photoelectrochemical performance of titanium dioxide/Prussian blue analogue synthesized by impregnation conversion method as photoanode. *Inorganic Chemistry Communications*. 125. p.108349, 2021.
- Ferlay, S., Mallah, T., Ouahes, R., Veillet, P. and Verdaguer, M., A room-temperature organometallic magnet based on Prussian blue. *Nature*, 378(6558), pp.701-703, 1995.
- Fernandez, C. A., Nune, S. K., Motkuri, R. K., Thallapally, P. K., Wang, C., Liu, J., Exarhos, G. J., and McGrail, B. P. Synthesis, characterization, and application of metal organic framework nanostructures. *Langmuir*, 26(24):18591-18594, 2010.
- Fu, G., Yue, X., and Dai, Z. Glucose biosensor based on covalent immobilization of enzyme in sol-gel composite film combined with prussian blue/carbon nanotubes hybrid, *Biosensors and Bioelectronics*, 26(9):3973-3976, 2011.
- Gaitán, M., Gonçalves, V. R., Soler-Illia, G. J., Baraldo, L. M., and de Torresi, S. I. C. Structure effects of self-assembled prussian blue confined in highly organized meso-porous tio<sub>2</sub> on the electrocatalytic properties towards h<sub>2</sub>O<sub>2</sub> detection. *Biosensors and Bioelectronics*. 26(2):890-893, 2010.
- Gao, Q., Chen, J., Li, Q., Zhang, J., Zhai, Z., Zhang, S., Yu, R., and Xing, X. Structure and excellent visible light catalysis of prussian blue analogues BiFe(CN)<sub>6</sub>·4H<sub>2</sub>O. *Inorganic Chemistry Frontiers*, 5(2):438-445, 2018.

- 
- Ghandhi, Shanaz A., Waylon Weber, Dunstana Melo, Melanie Doyle-Eisele, Mashkura Chowdhury, Raymond Guilmette, and Sally A. Amundson. "Effect of  $^{90}\text{Sr}$  internal emitter on gene expression in mouse blood." *BMC genomics* 16, no. 1 (2015): 1-15.
- Ghobadi, T.G.U., Ghobadi, A., Demirtas, M., Buyuktemiz, M., Ozvural, K.N., Yildiz, E.A., Erdem, E., Yaglioglu, H.G., Durgun, E., Dede, Y. and Ozbay, E. Building an Iron Chromophore Incorporating Prussian Blue Analogue for Photoelectrochemical Water Oxidation. *Chemistry-A European Journal*, 27(35), pp. 8966-8976, 2021.
- Gholivand, M. B. and Azadbakht, A. A novel hydrazine electrochemical sensor based on a zirconium hexacyanoferrate film-bimetallic au-pt inorganic-organic hybrid nanocomposite onto glassy carbon-modified electrode. *Electrochimica acta*, 56(27):10044-10054, 2011.
- Gotoh, A., Uchida, H., Ishizaki, M., Satoh, T., Kaga, S., Okamoto, S., Ohta, M., Sakamoto, M., Kawamoto, T., Tanaka, H., et al. Simple synthesis of three primary colour nanoparticle inks of prussian blue and its analogues. *Nanotechnology*, 18(34): 345609, 2007.
- Grabner, E. and Kalwellis-Mohn, S. Hexacyanoferrate layers as electrodes for secondary cells. *Journal of applied electrochemistry*, 17(3):653-656, 1987.
- Greene, N.D., Bishop, C.R. and Stern, M. Corrosion and electrochemical behavior of chromium-noble metal alloys. *Journal of the Electrochemical Society*, 108(9), p.836, 1961.
- Gurban, A.M., Noguer, T., Bala, C. and Rotariu, L., Improvement of NADH detection using Prussian blue modified screen-printed electrodes and different strategies of immobilisation. *Sensors and Actuators B: Chemical*, 128(2), pp.536-544, 2008.
- Gwon YJ, Lee JJ, Lee KW, Ogden MD, Harwood LM, Lee TS. Prussian blue decoration on polyacrylonitrile nanofibers using polydopamine for effective Cs ion removal. *Industrial & Engineering Chemistry Research*. 2020 Mar 4;59(11):4872-80.

- 
- Haghighi, B., Hamidi, H., and Gorton, L. Electrochemical behavior and application prussian blue nanoparticle modified graphite electrode. *Sensors and Actuators & Chemical* 147(1):270-276, 2010.
- Häkkinen, H., Abbet, S., Sanchez, A., Heiz, U, and Landman, U. Structural, electronic, impurity-doping effects in nanoscale chemistry: supported gold nanoclusters *Angewandte Chemie International Edition*, 42(11), pp.1297-1300, 2003.
- Hartmann, M., Grabner, E., and Bergveld, P. Prussian blue-coated interdigitated array electrodes for possible analytical application, *Analytica chimica acta*, 242:249-257, 1991.
- Haruta, M., Yamada, N., Kobayashi, T., and Iijima, S. Gold catalysts prepared coprecipitation for low-temperature oxidation of hydrogen and of carbon monoxide. *Journal of catalysis*, 115(2):301-309, 1989.
- Herren, F., Fischer, P., Ludi, A. and Halg, W. Neutron diffraction study of prussian blue  $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3 \cdot x\text{H}_2\text{O}$ . Location of water molecules and long-range magnetic order. *Inorganic chemistry*, 19(4):956-959, 1980.
- Ho, K.C. and Lin, C.L. A novel potassium ion sensing based on Prussian blue thin films *Sensors and Actuators B: Chemical*, 76(1-3), pp.512-518, 2001.
- Holmes, S.M. and Girolami, G.S., Sol–Gel Synthesis of  $\text{KVII} [\text{CrIII}(\text{CN})_6] \cdot 2\text{H}_2\text{O}$ : A Crystalline Molecule-Based Magnet with a Magnetic Ordering Temperature above 100 C. *Journal of the American Chemical Society*, 121(23), pp.5593-5594, 1999.
- Hosseinzadeh, R., Sabzi, R. E., and Ghasemlu, K. Effect of cetyltrimethyl ammonium bromide (ctab) in determination of dopamine and ascorbic acid using carbon paste electrode

- 
- modified with tin hexacyanoferrate. *Colloids and Surfaces B: Biointerfaces*, 68(2):213-211, 2009.
- Hu, M., Furukawa, S., Ohtani, R., Sukegawa, H., Nemoto, Y., Reboul, J., Kitagawa, S., and Yamauchi, Y. Synthesis of prussian blue nanoparticles with a hollow interior by controlled chemical etching. *Angewandte Chemie International Edition*, 51(4):984-988, 2012.
- Hutchings, G. J. and Haruta, M. A golden age of catalysis: A perspective. *Applied Catalysis A: General*, 291(1-2):2-5, 2005.
- Imanishi, N., Morikawa, T., Kondo, J., Takeda, Y., Yamamoto, O., Kinugasa, N., and Yamagishi, T. Lithium intercalation behavior into iron cyanide complex as positive electrode of lithium secondary battery. *Journal of Power Sources*, 79(2):215-219, 1999.
- Işık, Birol, Ayşe E. Kurtoğlu, Gülten Gürdağ, and Gönül Keçeli. "Radioactive cesium ion removal from wastewater using polymer metal oxide composites." *Journal of Hazardous Materials* 403 (2021): 123652.
- Itaya, K., Ataka, T., and Toshima, S. Spectroelectrochemistry and electrochemical preparation method of prussian blue modified electrodes. *Journal of the American Chemical Society*, 104(18):4767-4772, 1982a.
- Itaya, K., Shibayama, K., Akahoshi, H., and Toshima, S. Prussian-blue-modified electrodes: An application for a stable electrochromic display device. *Journal of Applied Physics*, 53(1):804-805, 1982b.
- Itaya, K., Shoji, N., and Uchida, I. Catalysis of the reduction of molecular oxygen to water at prussian blue modified electrodes. *Journal of the American Chemical Society*, 106(12):34233429, 1984.
-

- 
- Jaffari, S. and Pickup, J. Novel hexacyanoferrate (iii)-modified carbon electrodes: application in miniaturized biosensors with potential for in vivo glucose sensing. *Biosensors and Bioelectronics*, 11(11):1167-1175, 1996.
- Jain, A. K., Singh, R. P., and Bala, C. Solid membranes of copper hexacyanoferrate (iii) as thallium (i) sensitive electrode. *Analytical Letters*, 15(19):1557-1563, 1982.
- Jang, S.C.; Haldorai, Y.; Lee, G.W.; Hwang, S.K.; Han, Y.K.; Roh, C.; Huh, Y.S. Porous three-dimensional graphene foam/Prussian blue composite for efficient removal of radioactive <sup>137</sup>Cs. *Sci. Rep.* 2015, 5, 17510.
- Jayalakshmi, M. and Scholz, F. Charge discharge characteristics of a solid-state prussian blue secondary cell. *Journal of power sources*, 87(1-2):212-217, 2000a.
- Jayalakshmi, M. and Scholz, F. Performance characteristics of zinc hexacyanoferrate/prussian blue and copper hexacyanoferrate/prussian blue solid state secondary cells. *Journal of power sources*, 91(2):217-223, 2000b.
- Jeevanandam, J., Barhoum, A., Chan, Y.S., Dufresne, A. and Danquah, M.K. Review on and nanostructured nanoparticles materials: history, sources, toxicity and regulations. *Beilstein journal of nanotechnology*, 9(1), pp.1050-1074, 2018.
- Jia, Z. and Sun, G. Preparation of prussian blue nanoparticles with single precursor. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 302(1-3), 2007, pp.326-329.
- Jia, Z. Synthesis of prussian blue nanocrystals with metal complexes as precursors: Quantitative calculations of species distribution and its effects on particles size. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 389(1-3):144-148, 2011.

- 
- Jiang, Y., Zhang, X., Shan, C., Hua, S., Zhang, Q., Bai, X., Dan, L., and Niu, L. Functionalization of graphene with electrodeposited prussian blue towards amperometric sensing application. *Talanta*, 85(1):76-81, 2011.
- Johansson, A., Widenkvist, E., Lu, J., Boman, M., and Jansson, U. Fabrication of high- aspectratio prussian blue nanotubes using a porous alumina template. *Nano letters*, 5 (8):1603-1606, 2005.
- Kahlert, H., Komorsky-Lovrić, Š., Hermes, M. and Scholz, F. A Prussian blue-based reactive electrode (reactrode) for the determination of thallium ions. *Fresenius' journal of analytical chemistry*, 356(3), pp.204-208, 1996.
- Karyakin, A. A. and Karyakina, E. E. Prussian blue-based artificial peroxidase as a transducer for hydrogen peroxide detection. application to biosensors. *Sensors and Actuators B Chemical*, 57(1-3):268-273, 1999.
- Karyakin, A. A. Prussian blue and its analogues: electrochemistry and analytical applications. *Electroanalysis: An International Journal Devoted to Fundamental and Practical Aspects of Electroanalysis*, 13(10):813-819, 2001.
- Karyakin, A. A., Gitelmacher, O. V., and Karyakina, E. E. A high-sensitive glucose amperometric biosensor based on prussian blue modified electrodes. *Analytical Letters*, 27(15):2861-2869, 1994.
- Karyakin, A. A., Gitelmacher, O. V., and Karyakina, E. E. Prussian blue-based first- generation biosensor. a sensitive amperometric electrode for glucose. *Analytical chemistry*, 67(14):2419-2423, 1995.

- 
- Karyakin, A. A., Karyakina, E. E., and Gorton, L. Amperometric biosensor for glutamate using prussian blue-based artificial peroxidase as a transducer for hydrogen peroxide. *Analytical chemistry*, 72(7):1720-1723, 2000.
- Karyakin, A. A., Karyakina, E. E., and Gorton, L. Prussian-blue-based amperometric biosensors in flow-injection analysis. *Talanta*, 43(9):1597-1606, 1996.
- Kawamoto, T., Tanaka, H., Kurihara, M., Sakamoto, M., Oomura, A., Watanabe, H., and Goto, A., U.S. Patent 20110268963 A1, November 3, 2011.
- Kaye, S.S. and Long, J.R., Hydrogen Storage in the Dehydrated Prussian Blue Analogues  $M_3[Co(CN)_6]_2$  (M= Mn, Fe, Co, Ni, Cu, Zn). *Journal of the American Chemical Society*, 127(18), pp.6506-6507, 2005.
- Kayser, H. "Über die Verdichtung von Gasen an Oberflächen in ihrer Abhängigkeit von Druck und Temperatur," *Annalen der Physik und Chemie*, 248 (4) (1881) 526–537.
- Keggin, J. and Miles, F. Structures and formulae of the prussian blues and related compounds. *Nature*, 137(3466):577-578, 1936.
- Kim, Jimin, Keunyoung Lee, Bum-Kyoung Seo, and Jae-Hyuk Hyun. "Effective removal of radioactive cesium from contaminated water by synthesized composite adsorbent and its thermal treatment for enhanced storage stability." *Environmental Research* 191 (2020): 110099.
- Kitto, Michael E., Joseph C. Marrantino, Eileen M. Fielman, Douglas K. Haines, Thomas M. Semkow, and Abdul Bari. "Long-term monitoring of radioactivity in fish from New York waters." *Journal of Environmental Radioactivity* 146 (2015): 44-50.
- Klamerth, N., Malato, S., Aguera, A., Fernandez-Alba, A., and Mailhot, G. Treatment of municipal wastewater treatment plant effluents with modified photo-fenton as a tertiary treatment for

- 
- the degradation of micro pollutants and disinfection. *Environmental science & technology*, 46(5):2885-2892, 2012.
- Köhler, F.H., Storcheva, O., Paramagnetic Prussian Blue Analogues CsM(II)[M(III)(CN)<sub>6</sub>]. The Quest for Spin on Cesium Ions by Use of (<sup>133</sup>Cs) MAS NMR Spectroscopy. *Inorg. Chem.* 2015, 54, 6801-6.
- Komkova, M. A., Karyakina, E. E., Marken, F., and Karyakin, A. A. Hydrogen peroxide detection in wet air with a prussian blue based solid salt bridged three electrode system. *Analytical chemistry*, 85(5):2574-2577, 2013.
- Komkova, M.A., Pasquarelli, A., Andreev, E.A., Galushin, A.A. and Karyakin, A.A. Prussian Blue modified boron-doped diamond interfaces for advanced H<sub>2</sub>O<sub>2</sub> electrochemical sensors. *Electrochimica Acta*, 339, p. 135924, 2020.
- Koncki, R. and Wolfbeis, O. S. Composite films of prussian blue and n-substituted polypyrroles: fabrication and application to optical determination of ph. *Analytical chemistry*, 70(13):2544-2550, 1998a.
- Koncki, R. and Wolfbeis, O. S. Optical chemical sensing based on thin films of prussianblue. *Sensors and Actuators B: Chemical*, 51(1-3):355-358, 1998b.
- Koncki, R. Chemical sensors and biosensors based on prussian blues. *Critical reviews in analytical chemistry*, 32(1):79-96, 2002.
- Koncki, R., Lenarczuk, T., Radomska, A., and Glab, S. Optical biosensors based on prussian blue films. *Analyst*, 126(7):1080-1085, 2001.
- Koshiyama, T., Tanaka, M., Honjo, M., Fukunaga, Y., Okamura, T. and Ohba, M. Direct synthesis of Prussian blue nanoparticles in liposomes incorporating natural ion channels for Cs<sup>+</sup> adsorption and particle size control. *Langmuir*, 34(4), pp. 1666-1672, 2018.

- 
- Krishnan, V., Xidis, A. L., and Neff, V. Prussian blue solid-state films and membranes as potassium ion-selective electrodes. *Analytica chimica acta*, 239:7-12, 1990.
- Kumar, A. S., Barathi, P., and Pillai, K. C. In situ precipitation of nickel-hexacyanoferrate within multi-walled carbon nanotube modified electrode and its selective hydrazine electrocatalysis in physiological pH. *Journal of electroanalytical chemistry*, 654(1-2): 85-95, 2011.
- Labianca, D. A. A classic case of thallium poisoning and scientific serendipity. *Journal of Chemical Education*, 67(12): 1019, 1990.
- Lenarczuk, T., Glab, S., and Koncki, R. Application of prussian blue-based optical sensor in pharmaceutical analysis. *Journal of pharmaceutical and biomedical analysis*, 26(1):163-169, 2001a.
- Lenarczuk, T., Wencel, D., Glab, S., and Koncki, R. Prussian blue-based optical glucose biosensor in flow-injection analysis. *Analytica Chimica Acta*, 447(1-2):23-32, 2001b.
- Li, Na, Shaogui Yang, Jian Chen, Jia Gao, Huan He, and Cheng Sun. "Electro-adsorption of tetracycline from aqueous solution by carbonized pomelo peel and composite with aniline." *Applied Surface Science* 386 (2016): 460-466.
- Li, S.-J., Du, J.-M., Shi, Y.-F., Li, W.-J., and Liu, S.-R. Functionalization of graphene with prussian blue and its application for amperometric sensing of  $H_2O_2$ . *Journal of Solid State Electrochemistry*, 16(6):2235-2241, 2012.
- Li, T.; He, F.; Dai, Y. Prussian blue analog caged in chitosan surface-decorated carbon nanotubes for removal cesium and strontium. *J. Radioanal. Nucl. Chem.* 2016, 310, 1139-1145.

- 
- Li, X., Liu, J., Rykov, A. I., Han, H., Jin, C., Liu, X., and Wang, J. Excellent photo-fenton catalysts of Fe-Co prussian blue analogues and their reaction mechanism study. *Applied Catalysis B: Environmental*, 179:196-205, 2015a.
- Li, X., Wang, J., Rykov, A. I., Sharma, V. K., Wei, H., Jin, C., Liu, X., Li, M., Yu, S., Sun, C., et al. Prussian blue/TiO<sub>2</sub> nanocomposites as a heterogeneous photo-fenton catalyst for degradation of organic pollutants in water. *Catalysis Science & Technology*, 5(1):504-514, 2015b.
- Li, J., Peng, T., and Peng, Y. A cholesterol biosensor based on entrapment of cholesterol oxidase in a silicic sol-gel matrix at a prussian blue modified electrode. *Electroanalysis: An International Journal Devoted to Fundamental and Practical Aspects of Electroanalysis*, 15(12):1031-1037, 2003.
- Lin, Y., Hu, L., Yin, L. and Guo, L. Electrochemical glucose biosensor with improved performance based on the use of glucose oxidase and Prussian Blue incorporated into a thin film of self-polymerized dopamine. *Sensors and Actuators B: Chemical*, 210, pp.513-518, 2015.
- Liu, S.-Q. and Chen, H.-Y. Spectroscopic and voltammetric studies on a lanthanum hexacyanoferrate modified electrode. *Journal of Electroanalytical Chemistry*, 528(1-2):190195, 2002.
- Liu, S.-Q., Cheng, S., Feng, L.-R., Wang, X.-M., and Chen, Z.-G. Effect of alkali cations on heterogeneous photo-fenton process mediated by prussian blue colloids. *Journal of hazardous materials*, 182(1-3):665-671, 2010.
- Liu, S.-Q., Cheng, S., Luo, L., Cheng, H.-Y., Wang, S.-J., and Lou, S. *Environmental Chemistry Letters*, 9(1):31-35, 2011.

- 
- Ludi, A. Prussian blue, an inorganic evergreen. *Journal of chemical education*, 58(12): 1013, 1981.
- Ludi, A. and Güdel, H. 1.1. Structural chemistry of polynuclear transition metal cyanides. In *Inorganic chemistry* (pp. 1-21). Springer, Berlin, Heidelberg, 1973.
- Ma, Hailing, Minghai Shen, Yao Tong, and Xiao Wang. "Radioactive Wastewater Treatment Technologies: A Review." *Molecules* 28, no. 4 (2023): 1935.
- Madoni, P. Davoli, D. Gorbi, G. and Vescovi, L. "Toxic effect of heavy metals on the activated sludge protozoan community," *Water Research*, 30 (1996) 135-142.
- Mai, N.X.D., Yoon, J., Kim, J.H., Kim, I.T., Son, H.B., Bae, J. and Hur, J. Hybrid hydrogel and aerogel membranes based on chitosan/prussian blue for photo-fenton based wastewater treatment using sunlight. *Science of Advanced Materials*, 9(9), pp.1484-1487, 2017.
- Majidi, M. R., Asadpour-Zeynali, K., and Hafezi, B. Sensing l-cysteine in urine using a pencil graphite electrode modified with a copper hexacyanoferrate nanostructure. *Microchimica Acta*, 169(3-4):283-288, 2010.
- Maksin, D.D. Nastasović, A.B. Nikolić, A.D.M. Suručić, L.T. Sandić, Z.P. Hercigonj, R.V. and Onji, A.E. "Equilibrium and kinetics study on hexavalent chromium adsorption onto diethylene triamine grafted glycidyl methacrylate based copolymers," *J. Hazard. Mater.*, 209–210 (2012) 99-110.
- Mauter, M.S. and Elimelech, M. Environmental applications of carbon-based nanomaterials. *Environmental science & technology*, 42(16), pp.5843-5859, 2008.
- Mažeikienė, R., Niaura, G., and Malinauskas, A. Electrocatalytic reduction of hydrogen peroxide at prussian blue modified electrode: An in situ raman spectroelectrochemical study. *Journal of electroanalytical chemistry*, 660(1):140-146, 2011.

- 
- Mitra, M.D., Pandey, P.C., Functional trialkoxysilane mediated controlled synthesis of fluorescent gold nanoparticles and fluoremetric sensing of dopamine, *Optical Materials*. 2022, 132,112.
- Mokrushina, A. V., Heim, M., Karyakina, E. E., Kuhn, A., and Karyakin, A. A. Enhanced hydrogen peroxide sensing based on prussian blue modified macroporous micro-electrodes. *Electrochemistry communications*, 29:78-80, 2013.
- Moscone, D., D'ottavi, D., Compagnone, D., Palleschi, G., and Amine, A. Construction and analytical characterization of prussian blue-based carbon paste electrodes and their assembly as oxidase enzyme sensors. *Analytical Chemistry*, 73(11):2529-2535, 2001.
- Mullaliu, A, and Giorgetti, M. Metal hexacyanoferrates: ion insertion (or exchange) capabilities. In *Applications of ion exchange materials in the environment* (pp. 109-133). Springer, Cham, 2019.
- Muñoz, E. C., Henríquez, R. G., Córdova, R. A., Schrebler, R. S., Cisternas, R., Ballesteros, L., Marotti, R. E., and Dalchiele, E. A. Photoelectrochemical and optical characterization of prussian blue onto p-Si (100). *Journal of Solid State Electrochemistry*, 16(1):165-171, 2012.
- Muthirulan, P. and Velmurugan, R. Direct electrochemistry and electrocatalysis of reduced glutathione on cnfs-pdda/pb nanocomposite film modified ito electrode for biosensors. *Colloids and Surfaces B: Biointerfaces*, 83(2):347-354, 2011.
- Narayanan, S. S. and Scholz, F. A comparative study of the electrocatalytic activities of some metal hexacyanoferrates for the oxidation of hydrazine. *Electroanalysis: An International Journal Devoted to Fundamental and Practical Aspects of Electroanalysis*. 11(7):465-469, 1999.

- 
- Neff, V. D. Electrochemical oxidation and reduction of thin films of prussian blue. *Journal of the Electrochemical Society*, 125(6):886, 1978.
- Nguyen-Boisse, T.T., Saulnier, J., Jaffrezic-Renault, N., and Lagarde, F. Miniaturised enzymatic conductometric biosensor with nafion membrane for the direct determination of formaldehyde in water samples. *Analytical and bioanalytical chemistry*, 406(4):1039-1048. 2014.
- O'Shea, K.E. and Dionysiou, D.D., Advanced oxidation processes for water treatment. *The Journal of Physical Chemistry Letters*, 3(15), pp.2112-2113, 2012.
- Oelme, F.W. Toxicity of Heavy Metals in the Environment, Dekker, New York, 5-9, 1979.
- Ohara, Ei, Soejima, T., Ito, S., Removal of low concentration Cs (I) from water using Prussian blue, *Inorganica. Chimica. Acta.*, 514, (2021), 120029.
- Pandey PC, Shukla S, Pandey G, Narayan RJ. Organotrialkoxysilane-mediated controlled synthesis of noble metal nanoparticles and their impact on selective fluorescence enhancement and quenching. *Journal of Vacuum Science & Technology B*. 2020 Sep 1;38(5).
- Pandey, P. C. and Chauhan, D. S. 3-glycidoxypropyltrimethoxysilane mediated in situ synthesis of noble metal nanoparticles: Application to hydrogen peroxide sensing. *Analyst*, 137(2):376-385, 2012.
- Pandey, P. C. and Pandey, A. K. Cyclohexanone and 3-aminopropyltrimethoxysilane mediated controlled synthesis of mixed nickel-iron hexacyanoferrate nanosol for selective sensing of glutathione and hydrogen peroxide. *Analyst*, 138(3):952-959, 2013a.

- 
- Pandey, P. C. and Pandey, A. K. Electrochemical behavior of hydrogen peroxide at nanocomposite of prussian blue with palladium of variable nanogeometry modified electrode. *Journal of The Electrochemical Society*, 159(11):G128, 2012b.
- Pandey, P. C. and Pandey, A. K. Electrochemical sensing of dopamine and pyrogallol on mixed analogue of prussian blue nanoparticles modified electrodes-role of transition metal on the electrocatalysis and peroxidase mimetic activity. *Electrochimica Acta*, 109:536-545, 2013b.
- Pandey, P. C. and Pandey, A. K. Novel synthesis of prussian blue nanoparticles and nanocomposite sol: Electro-analytical application in hydrogen peroxide sensing. *Electrochimica acta*, 87:1-8, 2013c.
- Pandey, P. C. and Pandey, A. K. Surface modification using prussian blue-gold (i)- palladium nanocomposite: towards bioelectrocatalytic probing of hydrogen peroxide. *BioNanoScience*, 2(3):127-134, 2012c.
- Pandey, P. C. and Shukla, S. 2-(3, 4-epoxycyclohexyl) ethyltrimethoxysilane intervened synthesis of functional PDNPs and heterometallic nanocrystallites; deployed into catalysis. *Advanced Science, Engineering and Medicine*, 8(4):271-283, 2016a.
- Pandey, P. C., Digvijay Panday, and Ashish Kumar Pandey. "Polyethylenimine mediated synthesis of copper-iron and nickel-iron hexacyanoferrate nanoparticles and their electroanalytical applications." *Journal of Electroanalytical Chemistry* 780 (2016c): 90-102.
- Pandey, P. C., Indian Patent 64/DEL/2012, Jan 06, 2012.
- Pandey, P.C. and Panday, D., Tetrahydrofuran and hydrogen peroxide mediated conversion of potassium hexacyanoferrate into Prussian blue nanoparticles: Application to hydrogen peroxide sensing. *Electrochimica Acta*, 190, pp.758-765, 2016b.

- 
- Pandey, P.C. and Pandey, A.K. Size-dependence enhancement in electrocatalytic activity of NiHCF-gold nanocomposite: potential application in electrochemical sensing. *Analyst*, 137(14), pp.3306-3313, 2012a.
- Pandey, P.C. and Pandey, A.K., Novel synthesis of super peroxidase mimetic polycrystalline mixed metal hexacyanoferrates nanoparticles dispersion. *Analyst*, 138(8), pp.2295-2301, 2013d.
- Pandey, P.C., Shukla, S. and Narayan, R.J. Organotrialkoxysilane-functionalized Prussian Blue nanoparticles-mediated fluorescence sensing of arsenic (III). *Nanomaterials*, 11(5), p.1145, 2021.
- Pandey, P.C., Singh, S. and Sawant, S.N., 2018. Functional alkoxy silane mediated controlled synthesis of Prussian blue nanoparticles, enabling silica alginate bead development; nanomaterial for selective electrochemical sensing. *Electrochimica Acta*, 287, pp.37-48.
- Pandey, P.C., Upadhyay, B.C., Studies of differential sensing of dopamine at the surface of chemically sensitized ormosil-modified electrodes. *Talanta* 67(5), 997-1006, 2005.
- Pandey, P.C., Upadhyay, S. and Upadhyay, A.K. Electrochemical sensors based on functionalized ormosil-modified electrodes-role of ruthenium and palladium on the electrocatalysis of NADH and ascorbic acid. *Sensors and Actuators B: Chemical*, 102(1), pp. 126-131, 2004.
- Pandey, P.C., Yadav, H.P., Shukla, S. and Narayan, R.J. Electrochemical Sensing and Removal of Cesium from Water Using Prussian Blue Nanoparticle-Modified Screen-Printed Electrodes. *Chemosensors*, 9(9), p.253, 2021a.
- Pandey, Prem C., Shubhangi Shukla, and Roger J. Narayan. "Organotrialkoxysilane-mediated synthesis of Ni–Pd nanocatalysts at lower concentrations of noble metal: Catalysts for

- 
- faster hydrogen evolution kinetics." *Journal of Vacuum Science & Technology B* 39, no. 3 (2021).
- Pandey, Prem, Govind Pandey, and Roger Narayan. "Polyethylenimine-mediated controlled synthesis of Prussian blue-gold nanohybrids for biomedical applications." *Journal of Biomaterials Applications* 36, no. 1 (2021): 26-35.
- Park, B., Lee, MY. & Choi, SJ. Selective removal of cesium by magnetic biochar functionalized with Prussian blue in aqueous solution. *J Radioanal Nucl Chem* (2023) (b).
- Park, Bumjun, Jung, Ju-Eon, Lee, Hyun Uk, Bae, Jong-Seong, Rethinasabapathy, Muruganantham, Huh, Yun Suk, Kang Sung-Min, Generation of Controllable Patterned Nano fibrous Networks by Electrospinning Lithography: Simultaneous Detection and Adsorption toward Cesium Ions. *ACS Sustainable Chemistry & Engineering* 2023(a) 11 (9), 3810-3819.
- Piermarini, S., Migliorelli, D., Volpe, G., Massoud, R., Pierantozzi, A., Cortese, C., and Palleschi, G. Uricase biosensor based on a screen-printed electrode modified with prussian blue for detection of uric acid in human blood serum. *Sensors and Actuators B: Chemical*, 179:170-174, 2013.
- Pignatello, J. J., Liu, D., and Huston, P. Evidence for an additional oxidant in the photoassisted fenton reaction. *Environmental Science & Technology*, 33(11):1832-1839,1999.
- Pignatello, J. J., Oliveros, E., and MacKay, A. Advanced oxidation processes for organic contaminant destruction based on the fenton reaction and related chemistry. *Critical reviews in environmental science and technology*, 36(1):1-84, 2006.

- 
- Pournaghi-Azar, M. and Dastango, H. Electrochemical characteristics of an aluminum electrode modified by a palladium hexacyanoferrate film, synthesized by a simple electroless procedure. *Journal of Electroanalytical Chemistry*, 523(1-2):26-33, 2002.
- Pournaghi-Azar, M.H. and Ahour, F. Palladized aluminum electrode covered by Prussian blue film as an effective transducer for electrocatalytic oxidation and hydrodynamic amperometry n-acetyl-cysteine and glutathione. *Journal of Electroanalytical Chemistry*, 622(1):22-28, 2008.
- Pyrasch, M. and Tieke, B. Electro- and photoresponsive films of prussian blue prepared upon multiple sequential adsorption. *Langmuir*, 17(24):7706-7709, 2001.
- Qian, L., Zheng, R., and Zheng, L. Fabrication of prussian blue nanocubes through reducing a single-source precursor with graphene oxide and their electrocatalytic activity for H<sub>2</sub>O<sub>2</sub>. *Journal of nanoparticle research*, 15(7):1806, 2013.
- Qiu, M., Zhou, F., Sun, P., Chen, X., Zhao, C., Mai, W., Unveiling the electrochromic mechanism of Prussian blue by electronic transition analysis, *Nano Energy*. 2020, 78, 105148.
- Qu, L., Yang, S., Li, G., Yang, R., Li, J., and Yu, L. Preparation of yttrium hexacyanoferrate/carbon nanotube/nafion nanocomposite film-modified electrode: application to the electrocatalytic oxidation of l-cysteine. *Electrochimica acta*, 56(7):2934-2940, 2011.
- Qu, R., Zhang, W., Liu, N., Zhang, Q., Liu, Y., Li, X., Wei, Y., and Feng, L. Antioil Ag<sub>3</sub>PO<sub>4</sub> nanoparticle/polydopamine/Al<sub>2</sub>O<sub>3</sub> sandwich structure for complex wastewater treatment: dynamic catalysis under natural light. *ACS Sustainable Chemistry & Engineering*, 6(6):8019-8028, 2018.

- 
- Radoi, A., Compagnone, D., Devic, E., and Palleschi, G. Low potential detection of nadh with prussian blue bulk modified screen-printed electrodes and recombinant nadh oxidase from thermus thermophilus. *Sensors and Actuators B: Chemical*, 121(2):501-506, 2007.
- Rana, P., Mohan, N. and Rajagopal, C. Electrochemical removal of chromium from wastewater by using carbon aerogel electrodes. *Water research*, 38(12), 2004, pp.2811-2820.
- Ravi Shankaran, D. and Sriman Narayanan, S. Amperometric sensor for glutathione based on a mechanically immobilized cobalt hexacyanoferrate modified electrode. *Bulletin of the Chemical Society of Japan*, 75(3):501-505, 2002.
- Rekertaitė, A.I., Valiūnienė, A., Virbickas, P. and Ramanavicius, A. Physicochemical Characteristics of Polypyrrole/(Glucose oxidase)/(Prussian Blue)-based Biosensor Modified with Ni-and Co-Hexacyanoferrates. *Electroanalysis*, 31(1), pp.50-57, 2019.
- Ricci, F. and Palleschi, G. Sensor and biosensor preparation, optimisation and applications of prussian blue modified electrodes. *Biosensors and Bioelectronics*, 21(3):389-407, 2005.
- Ricci, F., Amine, A., Tuta, C.S., Ciucu, A.A., Lucarelli, F., Palleschi, G. and Moscone, D. Prussian Blue and enzyme bulk-modified screen-printed electrodes for hydrogen peroxide and glucose determination with improved storage and operational stability. *Analytica Chimica Acta*, 485(1), pp.111-120, 2003.
- Robin, M. B. The color and electronic configurations of prussian blue. *Inorganic Chemistry*, 1(2):337-342, 1962.
- Roco, M.C. Nanoparticles and nanotechnology research. *Journal of Nanoparticle Research*, 1(1), p.1. 1999.

- 
- Rogez, G., Marvilliers, A., Rivière, E., Audière, J.P., Lloret, F., Varret, F., Goujon, A., Mendenez, N., Girerd, J.J. and Mallah, T. A Mixed-Valence Mixed-Spin Prussian-Blue-Like Heptanuclear Complex. *Angewandte Chemie International Edition*, 39(16), pp. 2885-2887, 2000.
- Rojas, D., Della Pelle, F., Del Carlo, M., d'Angelo, M., Dominguez-Benot, R., Cimini, A., Escarpa, A. and Compagnone, D. Electrodeposited Prussian Blue on carbon black modified disposable electrodes for direct enzyme-free H<sub>2</sub>O<sub>2</sub> sensing in a Parkinson's disease in vitro model. *Sensors and Actuators B: Chemical*, 275, pp.402-408, 2018.
- Ruiz, E., Rodríguez-Fortea, A., Alvarez, S., and Verdaguer, M. Is it possible to get high TC magnets with prussian blue analogues? a theoretical prospect. *Chemistry-A European Journal*, 11(7):2135-2144, 2005.
- Rykov, A.I.; Wang, J.; Zhang, T.; Nomura, K. Cs sorption by “soluble” and “insoluble” iron hexacyanocobaltates probed by Mössbauer spectroscopy. *Hyperfine Interact.* **2013**, 218, 53–58.
- Salazar, P., Martín, M., O'Neill, R., Roche, R., and González-Mora, J. Surfactant promoted prussian blue-modified carbon electrodes: Enhancement of electro-deposition step, stabilization, electrochemical properties and application to lactate microbiosensors for the neurosciences. *Colloids and Surfaces B: Biointerfaces*, 92:180-189, 2012b.
- Salazar, P., Martín, M., O'Neill, R., Roche, R., and González-Mora, J. Improvement and characterization of surfactant-modified prussian blue screen-printed carbon electrodes for selective h<sub>2</sub>o<sub>2</sub> detection at low applied potentials. *Journal of Electroanalytical Chemistry*, 674:48-56, 2012a.

- 
- Samain, L., Grandjean, F., Long, G. J., Martinetto, P., Bordet, P., and Strivay, D. Relationship between the synthesis of prussian blue pigments, their color, physical properties, and their behavior in paint layers. *The Journal of Physical Chemistry C*, 117(19):9693-9712, 2013.
- Sangvanich, T., Sukwarotwat, V., Wiacek, R. J., Grudzien, R. M., Fryxell, G. E., Addleman, R. S., Timchalk, C., and Yantasee, W. Selective capture of cesium and thallium from natural waters and simulated wastes with copper ferrocyanide functionalized mesoporous silica. *Journal of hazardous materials*, 182(1-3):225-231, 2010.
- Sato, O., Iyoda, T., Fujishima, A. and Hashimoto, K., Photoinduced magnetization of a cobalt-iron cyanide. *Science*, 272(5262), pp.704-705, 1996.
- Sattarahmady, N. and Heli, H. An electrocatalytic transducer for l-cysteine detection based on cobalt hexacyanoferrate nanoparticles with a core-shell structure. *Analytical biochemistry*, 409(1):74-80, 2011.
- Scott, K.N. Green, J.F. Do, H.D. and Mc Lean, S.J. "Arsenic Removal by Coagulation," *J. Am. Water Works Assoc.*, 87(4) (1995) 114-126.
- Seema, Humaira, Khan, Nadia, Ali Shah, Anwar ul Haq, Muhammad, Amir, fabrication of self-assembled Prussian blue graphene hydrogel for highly selective removal of radioactive cesium in water: Adsorption study, *Materials Chemistry and Physics*, 306, 2023, 128003.
- Seema, Humaira, Novel self-assembled magnetic Prussian blue graphene based aerogel for highly selective removal of radioactive cesium in water, *Arabian Journal of Chemistry*, 13, 2, 2020, 4417-4424, 1878-5352.
- Sekar, N.C., Shaegh, S.A.M., Ng, S.H., Ge, L. and Tan, S.N. A paper-based amperometric glucose biosensor developed with Prussian Blue-modified screen-printed electrodes. *Sensors and Actuators B: Chemical*, 204, pp.414-420, 2014.

- 
- Shan, X., Díez-Pérez, I., Wang, L., Wiktor, P., Gu, Y., Zhang, L., Wang, W., Lu, J., Wang, S., Gong, Q., et al. Imaging the electrocatalytic activity of single nanoparticles. *Nature nanotechnology*, 7(10):668-672, 2012.
- Shatruk, M., Dragulescu-Andrasi, A., Chambers, K.E., Stoian, S.A., Bominaar, E.L., Achim, C. and Dunbar, K.R., Properties of Prussian blue materials manifested in molecular complexes: observation of cyanide linkage isomerism and spin-crossover behavior in pentanuclear cyanide clusters. *Journal of the American Chemical Society*, 129(19), pp.6104-6116, 2007.
- Shen, X., Wu, S., Liu, Y., Wang, K., Xu, Z., and Liu, W. Morphology syntheses and properties of well-defined prussian blue nanocrystals by a facile solution approach. *Journal of colloid and interface science*, 329(1):188-195, 2009.
- Sheng, Q.-L., Yu, H., and Zheng, J.-B. Solid state electrochemical of the erbium hexacyanoferrate-modified carbon ceramic electrode and its electrocatalytic oxidation of L-cysteine. *Journal of Solid State Electrochemistry*, 12(9):1077-1084, 2008.
- Shokouhimehr, M., Soehnen, E. S., Khitrin, A., Basu, S., and Huang, S. D. Biocompatible prussian blue nanoparticles: Preparation, stability, cytotoxicity, and potential use as an m contrast agent. *Inorganic Chemistry Communications*, 13(1):58-61, 2010.
- Sitnikova, N. A., Borisova, A. V., Komkova, M. A., and Karyakin, A. A. Superstable advanced hydrogen peroxide transducer based on transition metal hexacyanoferrates. *Analytical chemistry*, 83(6):2359-2363, 2011.
- Somorjai, G.A. *Introduction to surface chemistry and catalysis*. Johan Wiley and Sons, Enc., New York, 1994.

- 
- Sun, H.-L., Shi, H., Zhao, F., Qi, L., and Gao, S. Shape-dependent magnetic properties of low dimensional nanoscale prussian blue (pb) analogue  $\text{SmFe}(\text{CN})_6 \cdot 4\text{H}_2\text{O}$ . *Chemical communications*, (34):4339-4341, 2005.
- Szacilowski, K., Macyk, W., and Stochel, G. Synthesis, structure and photoelectrochemical properties of the  $\text{TiO}_2$ -prussian blue nanocomposite. *Journal of Materials Chemistry*, 16(47):4603-4611, 2006.
- Tang, Y. and Cheng, W. Key parameters governing metallic nanoparticle electrocatalysis. *Nanoscale*, 7(39), pp.16151-16164, 2015.
- Tani, Y., Eun, H., and Umezawa, Y. A cation selective electrode based on copper (ii) and nickel (ii) hexacyanoferrates: dual response mechanisms, selective uptake or adsorption of analyte cations. *Electrochimica acta*, 43(23):3431-3441, 1998.
- Thanh, N. T., Maclean, N., and Mahiddine, S. Mechanisms of nucleation and growth of nanoparticles in solution. *Chemical reviews*, 114(15):7610-7630, 2014.
- Thomsen, K. N. and Baldwin, R. P. Amperometric detection of nonelectroactive cations in flow systems at a cupric hexacyanoferrate electrode. *Analytical Chemistry*, 61(23): 2594-2598, 1989.
- Tokoro, H. and Ohkoshi, S.I. Novel magnetic functionalities of Prussian blue analogs. *Dalton Transactions*, 40(26), pp.6825-6833, 2011.
- Uemura, T. and Kitagawa, S. Prussian blue nanoparticles protected by poly (vinylpyrrolidone). *Journal of the American Chemical Society*, 125(26):7814–7815, 2003.
- Uemura, T., Ohba, M., and Kitagawa, S. Size and surface effects of prussian blue nanoparticles protected by organic polymers. *Inorganic chemistry*, 43(23):7339–7345, 2004.

- 
- Upadhyay, D., Gomathi, H., and Rao, G. P. Photoelectrochemical properties of prussian blue modified glassy carbon. *Journal of electroanalytical chemistry and interfacial electrochemistry*, 301(1-2):199-205, 1991.
- Valiūnienė, A., Virbickas, P., Rekertaitė, A. and Ramanavičius, A. Amperometric glucose biosensor based on titanium electrode modified with Prussian Blue layer and immobilized glucose oxidase. *Journal of The Electrochemical Society*, 164(14), p.B781, 2017.
- Varshney, P., Deepa, M., Agnihotry, S.A. and Ho, K.C. Photo-polymerized films of lithium ion conducting solid polymer electrolyte for electrochromic windows (ECWs). *Solar energy materials and solar cells*, 79(4):449-458, 2003.
- Vaseashta, A. and Dimova-Malinovska, D. Nanostructured and nanoscale devices, sensors and detectors. *Science and Technology of Advanced Materials*, 6(3-4), pp. 312-318, 2005.
- Vidal, J.C., Espuelas, J., Garcia-Ruiz, E. and Castillo, J.R., 2004. Amperometric cholesterol biosensors based on the electropolymerization of pyrrole and the electrocatalytic effect of Prussian-Blue layers helped with self-assembled monolayers. *Talanta*, 64(3), pp.655-664.
- Vipin, A. K., Hu, B., and Fugetsu, B. Prussian blue caged in alginate/calcium beads as adsorbents for removal of cesium ions from contaminated water. *Journal of hazardous materials*, 258:93-101, 2013.
- Vipin, A.K.; Ling, S.; Fugetsu, B. Sodium cobalt hexacyanoferrate encapsulated in alginate vesicle with CNT for both cesium and strontium removal. *Carbohydr. Polym.* 2014, 111, 477–484.
- Vittal, R., Kim, K.J., Gomathi, H. and Yegnaraman, V. CTAB-promoted prussian blue-modified electrode and its cation transport characteristics for K<sup>+</sup>, Na<sup>+</sup>, Li<sup>+</sup>, and NH<sub>4</sub><sup>+</sup> ions. *The Journal of Physical Chemistry B*, 112(4), pp.1149-1156, 2008.
-

- 
- Vollath, D. and KGaA, W.V. V. G. C. An introduction to synthesis, properties and application. *Management*, 7(6):865-870, 2008.
- Wang Peifen, Zheng Junlan, Ma Xuli, Du Xiao, Gao Fengfeng, Hao Xiaogang, Tang Bing, Abudula Abuliti, Guan Guoqing, Electroactive magnetic microparticles for the selective elimination of cesium ions in the wastewater, *Environmental Research*, 185, (2020), 109474.
- Wang, C., Chen, S., Xiang, Y., Li, W., Zhong, X., Che, X., and Li, J. Glucose biosensor based on the highly efficient immobilization of glucose oxidase on prussian blue-gold nanocomposite films. *Journal of Molecular Catalysis B: Enzymatic*, 69(1-2):1-7, 2011a.
- Wang, L., Nemoto, Y., and Yamauchi, Y. Direct synthesis of spatially-controlled Pt- on-Pd bimetallic nanodendrites with superior electrocatalytic activity. *Journal of the American Chemical Society*, 133(25):9674-9677, 2011b.
- Wang, N., Ma, W., Du, Y., Ren, Z., Han, B., Zhang, L., Sun, B., Xu, P., and Han, X. Prussian blue microcrystals with morphology evolution as a high-performance photo-fenton catalyst for degradation of organic pollutants. *ACS applied materials & interfaces*, 11 (1):1174–1184, 2018.
- Wang, Sitan, Xiaona Li, Huimin Zhao, Xie Quan, Shuo Chen, and Hongtao Yu. "Enhanced adsorption of ionizable antibiotics on activated carbon fiber under electrochemical assistance in continuous-flow modes." *Water research* 134 (2018): 162-169.
- Wang, Y., Zhu, J., Zhu, R., Zhu, Z., Lai, Z., and Chen, Z. Chitosan/prussian blue-based biosensors. *Measurement Science and Technology*, 14(6):831, 2003.
- Ware, M. Prussian blue: artists' pigment and chemists' sponge, 2008.

- 
- Wessells, C. D., Huggins, R. A., and Cui, Y. Copper hexacyanoferrate battery electrodes with long cycle life and high power. *Nature communications*, 2(1):1-5, 2011a.
- Wessells, C. D., Peddada, S. V., Huggins, R. A., and Cui, Y. Nickel hexacyanoferrate nanoparticle electrodes for aqueous sodium and potassium ion batteries. *Nano letters*. 11(12):5421-5425, 2011b.
- Wu, P. and Cai, C. The solid state electrochemistry of dysprosium (iii) hexacyanoferrate (ii). *Electroanalysis: An International Journal Devoted to Fundamental and Practical Aspects of Electroanalysis*, 17(17):1583-1588, 2005.
- Xie, S., Ren, W., Qiao, C., Tong, K., Sun, J., Zhang, M., Liu, X. and Zhang, Z. An electrochemical adsorption method for the reuse of waste water-based drilling fluids. *Natural Gas Industry B*, 5(5), 2018, pp.508-512.
- Yamada, M., Ohnishi, N., Watanabe, M., and Hino, Y. Prussian blue nanoparticles protected by the water-soluble  $\pi$ -conjugated polymer PEDOT-S: synthesis and multiple- color pH-sensing with a redox reaction. *Chemical Communications*, (46):7203-7205, 2009.
- Yang, H., Lu, B., Guo, L., and Qi, B. Cerium hexacyanoferrate/ordered mesoporous carbon electrode and its application in electrochemical determination of hydrous hydrazine. *Journal of electroanalytical chemistry*, 650(2):171-175, 2011.
- Yang, H.; Li, H.; Zhai, J.; Sun, L.; Zhao, Y.; Yu, H. Magnetic Prussian blue/graphene oxide nanocomposites caged in calcium alginate microbeads for elimination of cesium ions from water and soil. *Chem. Eng. J.* 2014, 246, 10–19.
- Yang, H.M.; Hwang, J.R.; Lee, D.Y.; Kim, K.B.; Park, C.W.; Kim, H.R.; Lee, K.W. Eco-friendly one-pot synthesis of Prussian blue-embedded magnetic hydrogel beads for the removal of cesium from water. *Sci. Rep.* 2018, 8, 11476.
-

- 
- Yang, Hongjun, Lei Sun, Jiali Zhai, Haiyan Li, Yan Zhao, and Hongwen Yu. "In situ controllable synthesis of magnetic Prussian blue/graphene oxide nanocomposites for removal of radioactive cesium in water." *Journal of Materials Chemistry A* 2, no. 2 (2014): 326-332.
- Yang, J.H., Myoung, N. and Hong, H.G., Facile and controllable synthesis of Prussian blue on chitosan-functionalized graphene nanosheets for the electrochemical detection of hydrogen peroxide. *Electrochimica Acta*, 81, pp.37-43, 2012.
- Yang, R., Qian, Z. and Deng, J. Electrochemical deposition of Prussian blue from a single ferricyanide solution. *Journal of the Electrochemical Society*, 145(7), 1998, p.2231.
- You, Y., Wu, X.L., Yin, Y.X. and Guo, Y.G., High-quality Prussian blue crystals as superior cathode materials for room-temperature sodium-ion batteries. *Energy & Environmental Science*, 7(5), pp.1643-1647, 2014.
- Zeng, J., Wei, W., Liu, X., Wang, Y., and Luo, G. A simple method to fabricate a prussian blue nanoparticles/carbon nanotubes/poly (1, 2-diaminobenzene) based glucose biosensor. *Microchimica Acta*, 160, pp. 261-267, 2008.
- Zhai, J., Zhai, Y., Wang, L., and Dong, S. Rapid synthesis of polyethylenimine-protected prussian blue nanocubes through a thermal process. *Inorganic chemistry*, 47(16):7071-7073, 2008.
- Zhang, L., Zhang, A., Du, D. and Lin, Y., Biosensor based on Prussian blue nanocubes/reduced graphene oxide nanocomposite for detection of organophosphorus pesticides. *Nanoscale*, 4(15), pp.4674-4679, 2012.
- Zhang, N., Wang, G., Gu, A., Feng, Y., and Fang, B. Fabrication of prussian blue/multi-walled carbon nanotubes modified electrode for electrochemical sensing of hydroxylamine. *Microchimica Acta*, 168(1-2):129-134. 2010a.
-

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- Zhao, F., Zhang, J., Hou, X., Abe, T., and Kaneko, M. Quenching of photoluminescence from copolymer pendant (bpy)  $3^{2+}$  complexes by colloidal prussian blue. *Journal of the Chemical Society, Faraday Transactions*, 94(2):277-281, 1998.
- Zhao, G., Feng, J.J., Zhang, Q.L., Li, S.P., and Chen, H.Y. Synthesis and characterization of prussian blue modified magnetite nanoparticles and its application to the electrocatalytic reduction of H<sub>2</sub>O<sub>2</sub>. *Chemistry of materials*, 17(12):3154-3159, 2005.
- Zhao, Y., Luo, Y., Yang, X., Yang, Y., and Song, Q. Tunable preparation of ruthenium nanoparticles with superior size-dependent catalytic hydrogenation properties. *Journal of hazardous materials*, 332:124-131, 2017.
- Zhao, Z., Ding, J., Zhou, H., Zhu, R. and Pang, H. Concentration as a trigger to improve activity of a Prussian blue electrocatalytic analogue in glucose oxidation. *Cryst EngComm*, 21(36), pp.5455-5460, 2019.
- Zheng, Y.; Qiao, J.; Yuan, J.; Shen, J.; Wang, A.J.; Niu, L. Electrochemical removal of radioactive cesium from nuclear waste using the dendritic copper hexacyanoferrate/carbon nanotube hybrids. *Electrochim. Acta* **2017**, 257, 172–180.
- Zhiqiang, G., Xingyao, Z., Guangqing, W., Peibiao, L., and Zaofan, Z. Potassium ion- selective electrode based on a cobalt (II)-hexacyanoferrate film-modified electrode. *Analytica chimica acta*, 244, pp. 39-48, 1991.
- Zhou, Wen-Yi, Sun, Rong, Li, Shan-Shan, Guo, Yuzheng, Shen, Wei, Wang, Jun, Deepak, Francis Leonard, Li, Ying, Wang Zhong chang, Engineering surface electron and active site at electrochemical sensing interface of CN vacancy-mediated Prussian blue analogue for analysis of heavy metal ions, *Applied Surface Science*, 564, 2021, 150131 .

## List of Publications

1. Pandey, Prem. C., Hari Prakash Yadav, Shubhangi Shukla, and Roger J. Narayan. 2021. "Electrochemical Sensing and Removal of Cesium from Water Using Prussian Blue Nanoparticle-Modified Screen-Printed Electrodes" *Chemosensors* 9, no. 9: 253. <https://doi.org/10.3390/chemosensors9090253>.
2. Pandey, P.C., Yadav, H.P., Tiwari, A.K., Sawant, S.N., Sinharoy, P., Banerjee, D. and Narayan, R.J., 2023. Prussian blue nanoparticles-mediated sensing and removal of <sup>137</sup>Cs. *Frontiers in Environmental Science*. <https://doi.org/10.3389/fenvs.2023.1230983>.
3. Tiwari, A.K., Yadav, H.P., Gupta, M.K., Narayan, R.J. and Pandey, P.C., 2023. Synthesis of vancomycin functionalized fluorescent gold nanoparticles and selective sensing of mercury (II). *Frontiers in Chemistry*, 11. <https://doi.org/10.3389/fchem.2023.1238631>.

## **List of Conferences**

- Presented a paper in ICNOC-2022 (International Conference on Nanotechnology: Opportunities & Challenges) Organized by Jamia Millia Islamia, New Delhi, India November 28-30, 2022.
- Paper presentation on international conference on ‘Integrated approaches in science and technology for sustainable future’ organized by J. C. Bose University of Science & Technology, YMCA, Faridabad collaboration with American Chemical Society 28<sup>th</sup> Feb- 1<sup>st</sup> March 2022.
- Oral Presentation in ICETM-2023 (International Conference on Emerging Trends in Microbiology) Organized by the Department of Botany, M.L.K. (P.G.) College, Balrampur (UP) in association with Microbiologist Society, India 28<sup>th</sup> Feb & 1<sup>st</sup> March 2023.