

SULFAMETHOXAZOLE SPECIATION IN PHARMACEUTICALS BY COMPLEXATION WITH Ni(II) USING JOINED METHODS CPE-LIE

FARAH ABDUL ADHEEM RAZOOQI AND SAFA MAJEED HAMEED

References:

1. Ahmed, A. A.; Theia'a, N.; Al-Hyali, E. A. A Novel Spectrophotometric Determination and Kinetic Study of Sulfamethoxazole in Pure and Tablet Formulation Using 9-Chloroacridine Reagent.
2. Sulaiman, A. M.; Nejres, A. M.; Hussain, A. M. Quantitative Determination of Sulfamethoxazole Using Various Spectroscopic Methods. *Hilla Univ. Coll. J. Med. Sci.* **2024**, *2* (2), 33–36.
3. Hernández-Tenorio, R. Degradation Pathways of Sulfamethoxazole under Phototransformation Processes: A Database of the Major Transformation Products for Their Environmental Monitoring. *Environ. Res.* **2024**, 119863. <https://doi.org/10.1016/j.envres.2024.119863>.
4. Marín-García, M.; De Luca, M.; Ragno, G.; Tauler, R. Coupling of Spectrometric, Chromatographic, and Chemometric Analysis in the Investigation of the Photodegradation of Sulfamethoxazole. *Talanta* **2022**, 239, 122953. <https://doi.org/10.1016/j.talanta.2021.122953>.
5. Xue, Q.; Chen, Z.; Xie, W.; Zhang, S.; Jiang, J.; Sun, G. Impact of Condition Variations on Bioelectrochemical System Performance: An Experimental Investigation of Sulfamethoxazole Degradation. *Molecules* **2024**, *29* (10), 2276. <https://doi.org/10.3390/molecules29102276>.
6. Sá, H.; Michelin, M.; Silvério, S. C.; Maria de Lourdes, T. M.; Silva, A. R.; Pereira, L.; Silva, B. Pleurotus ostreatus and Lentinus sajor-caju Laccases for Sulfamethoxazole Biotransformation: Enzymatic Degradation, Toxicity and Cost Analysis. *J. Water Process Eng.* **2024**, *59*, 104943.
7. He, R.; Hui, K.; Zhang, X.; Yao, H. Insight into the Role of the Pore Structure and Surface Functional Groups in Biochar on the Adsorption of Sulfamethoxazole from Synthetic Urine. *Appl. Sci.* **2024**, *14* (5), 1715.
8. Divya, C.; Harika, G.; Vineela, K.; Shivaraj, M.; Sandhya, P.; Sathyanarayana, D.; Ravi, M. Sulfamethoxazole Pharmaceutical Dosage Form Quantitative Estimation Using UV-Visible Spectrophotometric Method.
9. Al-Rashidy, A. A. Development of a Spectrophotometric Technique for the Estimation of Sulfamethoxazole (SMX) in Its Pure and Pharmaceutical Formulation Using Organic Reagent (A1). *Int. Innov. J. Appl. Sci.* **2024**, *1* (1).
10. Ozkorucuklu, S. P.; Sahin, Y.; Alsancak, G. Determination of Sulfamethoxazole in Pharmaceutical Formulations by Flow Injection System/HPLC with Potentiometric Detection Using Polypyrrole Electrode. *J. Braz. Chem. Soc.* **2011**, *22*, 2171–2177.
11. Hanooan, W. A.; Qassim, B. B. A New Green Approach of CFIA Technique for Direct Assay with a High Using Condensation Throughput of Sulfamethoxazole Drugs Reaction with NQS Agent. *Baghdad Sci. J.* **2024**, *21* (2), 0369–0369.
12. Oshaghi, S. Nano-Sized Magnetic Molecularly Imprinted Polymer Solid-Phase Microextraction for Highly Selective Recognition and Enrichment of Sulfamethoxazole from Spiked Water Samples. *J. Chromatogr. A* **2024**, 1729, 465016.
13. Jasim, D. J.; Abbas, A. K. Synthesis, Identification, Antibacterial, Medical and Dying Performance Studies for Azo-Sulfamethoxazole Metal Complexes. *Eurasian Chem. Commun.* **2022**, *4* (1), 16–40.
14. Fali, M. S.; Mahdi, N. I.; Abbas, R. F.; Rahi, A. A. A. Synthesis and Characterization of New Azo Dye Derived from Sulfamethoxazole via Diazonium Reaction and Study Its Ability as an Acid-Base Indicator. *Al-Mustansiriyah J. Sci.* **2024**, *35* (2), 1–8.
15. Le, T. H.; Lee, H. J.; Kim, J. H.; Park, S. J. Highly Selective Fluorescence Sensor Based on Graphene Quantum Dots for Sulfamethoxazole Determination. *Materials* **2020**, *13* (11), 2521.
16. Zhang, S.; Zhi, S.; Wang, H.; Guo, J.; Sun, W.; Zhang, L.; Wu, D. Laser-Assisted Rapid Synthesis of Anatase/Rutile TiO₂ Heterojunction with Function-Specified Micro-Zones for the Effective Photo-Oxidation of Sulfamethoxazole. *Chem. Eng. J.* **2023**, 453, 139702.
17. Handayani, Y. Development of a Simultaneous Sulfadiazine, Sulfamethoxazole, and Tetracycline Antibiotic Level Determination Method with High-Performance Liquid Chromatography. *Nat. Sci. Eng. Technol. J.* **2023**, *3* (1), 107–114.
18. Amin, I. S.; Neysari, A. N.; Althomali, R. H.; Saleh, E. A. M.; Baymakov, S.; Alawady, A. H. R.; Juyal, A. Development of Microextraction Methods for the Determination of Sulfamethoxazole in Water and Biological Samples: Modelling, Optimization and Verification by Central Composite Design. *Front. Environ. Sci.* **2023**, *11*, 1242730.
19. Mwankuna, C. J.; Mariki, E. E.; Mabiki, F. P.; Malebo, H. M.; Stylishave, B.; Mdegela, R. H. Thin Layer Chromatographic Method for Detection of Conventional Drug Adulterants in Herbal Products. *Separations* **2022**, *10* (1), 23.

20. Metto, M.; Tesfaye, A.; Atlabachew, M.; Abebe, A. Simultaneous Determination of Sulfamethoxazole and Trimethoprim from Clinical Urine and Blood Serum Samples by the Application of Poly(Cu₂P₄BCL₄)/GCE. *ACS Omega* **2024**, 9 (42), 43272–43286.
21. Oukebdane, K.; Semmoud, R.; Didi, M. A. Cloud Point Extraction of Telon Orange Anionic Azo-Dye from Aqueous Sulphate Solutions Using Aliquat 336 Ionic Liquid/Tween 40 as Extracting System: Factorial Design Optimization Methodology. *Desalin. Water Treat.* **2022**, 247, 272–280.
22. Jamil, D.; AlSayed, R. S.; Abood, N. K. New Spectrophotometric Determination of Sulfamethoxazole Drug via Various Analytical Methods in Pharmaceutical Formulation. *J. Kufa Chem. Sci.* **2023**, 3 (1), 197–210.
23. Alwan, N. A. H.; Mohammed, I. S. Spectrophotometric Determination of Sulfamethoxazole Drug by Using Azo Coupling Reaction. *Iraqi J. Appl. Sci.* **2024**, 1 (1), 88–101.
24. Mohammed, H. A.; Hameed, S. M. Riboflavin Spectrophotometric Determination with Zn(II) as a Chloro Complex Anion Using Cloud Point Extraction and HPLC in Different Drugs. *J. Kufa Chem. Sci.* **2024**, 3 (3), 273–283.
25. Al-Hujaimi, H. S.; Al-Rufaie, M. M.; Alrufaie, Z. M. Usage of Trifluoperazine Hydrochloride as Colorimetric Reagent for Quantitative Assay of Sulfamethoxazole Drug and Applications on Different Infection Treatment Preparations. *Egypt. J. Microbiol.* **2022**, 57 (1), 89–99.
26. Azooz, E. A.; Ridha, R. K.; Abdulridha, H. A. The Fundamentals and Recent Applications of Micellar System Extraction for Nanoparticles and Bioactive Molecules: A Review. *Nano Biomed. Eng.* **2021**, 13 (3), 264–278.
27. Mohammed, R. J.; Hameed, S. M. Application of Cloud Point Extraction of Amoxicillin Determination Using Liquid Ion Exchange Method Compared with HPLC in Pharmaceuticals. *J. Kufa Chem. Sci.* **2024**, 3 (3), 165–177.
28. Mohammed, H. A.; Hameed, S. M. Aspirin Spectrophotometric Determination Using Cloud Point Extraction and HPLC in Several Pharmaceuticals Sold in Iraqi Markets. *Methods Objects Chem. Anal.* **2024**, 19 (3).