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Medicinal Inorganic Chemistry,

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Objectives

Seeking a challenging position to utilize my skills and abilities in the area of Teaching, Research and Education that offers a professional growth while being resourceful, innovative and flexible.

Education Qualifications

- Doctor of Philosophy in Chemistry from Aligarh Muslim University, (AMU), Aligarh, UP
 - Title of thesis: **Synthesis, Characterization and Biological Evaluation of Metal-Based Therapeutic Agents.**
- **M.Sc.** in Chemistry (2015) from Jiwaji University Gwalior, MP.
- **B.Sc.** (2012) with English, Zoology, Botany and Chemistry from Amar Singh College, Srinagar, J&K.
- **Intermediate in Science** (2009) with English, Biology, Physics, Chemistry, Environmental Science from Jammu & Kashmir Board of School Education (JK BOSE).
- **Matriculation** (2007) from Jammu & Kashmir Board of School Education (JK BOSE).

Awards/Achievements

- Qualified Council of Scientific & Industrial Research (CSIR) Junior Research Fellow **NET-JRF 2019 with AIR 61.**
- Awarded Council of Scientific & Industrial Research (CSIR) Senior Research Fellowship **SRF.**
- Qualified Graduate Aptitude Test in Engineering (**GATE**) for Chemistry 2019.
- Qualified **JK-SET 2023**
- Received **Prof. Abdul Aziz Khan best researcher award** of the year 2021-22 from department of Chemistry, Aligarh Muslim University.

Publications

1. **Shariq. Yousuf**, Farukh Arjmand, Sartaj Tabassum, Design, synthesis, ligand's scaffold variation and structure elucidation of Cu (II) complexes; In vitro DNA binding, morphological studies and their anticancer activity, **Polyhedron**, 209 (2021) 115450.

2. **Shariq. Yousuf**, Farukh Arjmand and Sartaj Tabassum, ROS -mediated anticancer response of potent copper(II) drug entities derived from S, O and N, N chelating donor scaffold: Single X-ray crystal diffraction and spectroscopic studies, **Journal of Molecular Structure**, 1262 (2022) 132989.
3. **Shariq. Yousuf**, Farukh Arjmand, Claudio Pettinari and Sartaj Tabassum, Structural elucidation, in vitro DNA binding and anticancer investigations of a new specific target dinuclear Zn(II) complex, **Inorganica Chimica acta** 542 (2022) 121105.
4. **Shariq. Yousuf**, Hifzur R. Siddique, Farukh Arjmand and Sartaj Tabassum Functionalized Graphene Oxide loaded GATPT as Rationally Designed Vehicle for Cancer-Targeted Drug Delivery, **Journal of Drug Delivery Science and Technology**, 71 (2022) 103281.
5. **Shariq. Yousuf**, Farukh Arjmand, H. R. Siddique, M. S. Ali, H. A. Al-Lohedan, Sartaj Tabassum, Biophysical binding profile with ct-DNA and cytotoxic studies of a modulated nanoconjugate of umbelliferone cobalt oxide loaded on graphene oxide (GO) as drug carrier, **Journal of Biomolecular Structure and Dynamics**, 40 (2020) 1-12.
6. Huzaifa Yasir Khan, Santosh K. Maurya, Hifzur R. Siddique, **Shariq Yousuf**, and Farukh Arjmand, New Tailored RNA-Targeted Organometallic Drug Candidates against Huh7 (Liver) and Du145 (Prostate) Cancer Cell Lines, **ACS Omega** 5 (2020) 15218-15228.

Teaching Experience

- Strong fundamental science background with particular expertise in Inorganic Chemistry and Organic Chemistry at **MSc, BSc, NEET level**, and now hands-on PhD experience in Medicinal inorganic Chemistry. Teaching Experience
- Worked as a contractual lecture at Govt higher Secondary School Herman Shopian.
- Worked as an online chemistry faculty at international platform Course hero for two years.
- Home tutor for medical **11th 12th** and **NEET** students.
- Working as Assistant Professor at university of Kashmir.

Research Experience

During my Ph.D work, I have designed and synthesized several metallodrug therapeutic antitumor combination agents derived from bioactive (2-pyrimidylthio)acetic acid, *N-glycoside* and various *N,N*-donor {1,10-phenanthroline, 2,2'-bipyridine/5,5-dimethyl-2,2'-bipyridine} ligands. These synthesized complexes were characterized by using a variety of spectroscopic methods *viz.*, FTIR, UV-Visible absorption, nuclear magnetic resonance spectroscopies, EPR spectroscopy, ESI-MS. The molecular structures of all the synthesized complexes were confirmed by single X-ray diffraction studies. Computational studies like DFT, Hirshfeld surface Analysis and Docking studies were performed. To validate the antitumor potential of the complexes, *In vitro* binding studies of these complexes with ct-DNA were investigated by

variety of biophysical techniques like CD Spectroscopy, cyclic voltammetry, UV-vis and fluorescence spectroscopy etc. *In vitro* cytotoxicity of complexes against various human cancer cell lines (breast, liver, cervix, oral squamous, lung prostate etc) were carried out. This research was published in several good impact research journals like *Polyhedron*, *Molecular Structure*, *Inorganica Chimica Acta*, *Journal of Drug Delivery Science and Technology*, *Journal of Biomolecular Structure and Dynamics* and *ACS Omega*.