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Objective: Seeking an Academic position.

Visa Status: Citizen USA

Publications: 18 Publications in refereed journal, and several presentations in industry/conferences.

Education:
Ph.D. (1989) (chemistry); Osmania University, Hyderabad, India
M. S (Organic Chemistry); Bhopal University, Bhopal, India
B.S (Education); Osmania University, Hyderabad, India

Work Experience

Teaching and Supervising Experience

Full time (Temporary)/Adjunct Faculty, Department of Chemistry, Houston Community College System: (2002-present),
MD. Anderson Cancer Center, Houston, TX, Teaching and supervising the summer students. (1995-July 2013),
Truman College, Chicago,, IL, and North Eastern University, Chicago, IL, (1993),
Government Degree College, Osmania University Hyderabad, India, (1975-1992),

Research Experience

Research Assist, MD. Anderson Cancer Center, Houston, TX
May 1994 -February 2000, and July 2001-July 2013

Research Associate, Division of Medicinal Chemistry and Pharmacognosy, College of Pharmacy,
The University of Texas at Austin, TX
April 2001 – June 2001

Research Associate, Formulation and Drug development, Aronex Pharmaceutical Inc,
The Woodlands, TX
February 2000- January 2001

Educational Training
Completed training program in Application of cGMP Regulation to Active Pharmaceutical Ingredient (API) Manufacturers. Sponsored by the Department of Engineering Professional Development, College of Engineering, University of Wisconsin-Madison. *11/16/00-11/17/00.*

Instrumentation
Experienced in operating and interpreting
i) IR (Perkin Elmer Spectrum 2000).
ii) ^{1}H, ^{13}C, ^{195}Pt NMR (Brukar, Advanced 300, 500, 600 MHz NMR Spectrometer).
iii) UV-visible and AA spectra (Perkin Elmer UV/visible Spectrometer Lambda 40).
iv) Optical Rotation (Perkin Elmer Polari meter 341).

(v) HPLC (Waters 2690 HPLC Separation Module, Waters 486 HPLC Pump with Waters 990 Photodiode Array Detector and Waters 486 Absorbance Detector).
(vi) Labelling tumor imaging agents by ^{99m}Tc ,iTLC, and radio TLC
(vii) Experience in interpreting mass spectra and x-ray crystallography data.

Membership
Society of Nuclear Medicine

Skills
Experienced in developing the Tumor Imaging Agent, cisplatin analogs, and Bifuntctional chelates, and Telomerase.
Skilled in multi-step organic, bio-inorganic, organo-metallic synthesis.
Significant experience in isolation, characterization and chromatographic purification.
Proficient in using a variety of PC base computer operating systems.
(Microsoft word, Word perfect, Chem. Draw, Netscape Navigator)
Experience in organizing, designing and supervising the research projects.

Goals enhancing our institutional mission
The concept of research and education to applied cancer science can lead to better patient care by offering more effective, longer-lasting treatment with a high margin of safety. It is a long process from academia to biotech and to large pharmaceutical companies. Traditionally, academia is the first one to accept the challenges of the preclinical stages and to solve them.

In order to support the Experimental Diagnostic Imaging Department, I have set up the following goals: 1) using innovative ideas and scientific knowledge to develop new agents for imaging and/or therapeutics, 2) collaborating with clinicians and other departments to check imaging and biological results, and 3) developing productive projects by making cGMP through GLP. I have the goal of developing intellectual properties and finding companies for licensing such intellectual properties. I would then work to transfer chemical synthetic technology and other theories to the licensed company, helping companies move forward to clinical market. This would ultimately bring funding to my team and the department and the institution. These goals would additionally be supported by moving forward on licensed patents, by the publication of articles.

As an experienced chemist, my major goal is to design, synthesize (multi step synthesis), and characterize several new imaging agents through the use of ^{1}H, ^{13}C, ^{195}Pt, Mass, UV, AA spectra, labeling tumor imaging agents by ^{99m}Tc, iTLC, radioTLC, Purification by column chromatography and HPLC, and other techniques such as elemental analysis.

Current Projects
MD. Anderson Cancer Center, Houston, TX
July 2001-Current, Research Assist. Department of Experimental Diagnostic Imaging
Project 1
Radio-labeled amino acids are useful tracers in oncology for L-amino acid transporter systems.
Therefore tyrosine and α-methyl tyrosine were used to label with ^{99m}Tc through a stable N4 (1,4,8,11-tetraazacyclotetradecane) chelator. These Tumor Imaging Agents were used for an assessment of tumor cell proliferation by PET, SPECT studies, which could be helpful in the evaluation of tumor growth, degree of malignancy for an early assessment of treatment response.

Project 2
2-Nitroimmidazole is known for better understanding the mechanism involved in selective radiosensitization and killing of hypoxia cells.
Hence N4–(2-Nitroimmidazole) was synthesized, then labeled with ^{99m}Tc and used as a probe for Hypoxia Tumor Imaging.

Project 3
Several Pt(II) analogues of cisplatin, carboplatin and oxaliplatin were synthesized for therapeutic testing.

Different ligands such as 1, 2-diaminohyclohexane, homopiperazine, were used for making Pt(II) compounds, then the products were covalently bonded with N_4-(α-methyl tyrosine), N_4-(methyl tyrosine), N_4-(2-nitroimmidazole), N4-(2-nitroimidazole)(tyrosine), glucosamine.

Projects Completed
1. *Division of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, The University of Texas at Austin, TX, Research Associate,*
April 2001 – June 2001
G-quadruplex DNA is a diverse family of DNA structures in which up to four separate DNA strands associate through specific hydrogen bonding interactions between four guanosine residues (G-tetrades). The ligands which bind to G-quadruplex DNA, inhibit the enzyme telomerase and responsible for the de novo synthesis of telomeric DNA. Because telomerase levels are high in the majority of tumor cells and largely absent in the normal cells these telomerase inhibiting G-quadruplex ligands have been proposed as selective anti-cancer agents.
Primary responsibilities include the design, synthesis, and characterization of N, N'-bis-(2, 4-diethoxy heptyl)sulfide-3,4,9,10-perylenedicarboxylic acid diimide (a selective G-quadruplex DNA binding ligand).

2. *Aronex Pharmaceutical Inc., The Woodlands, TX*
February 2000- January 2001, Research Associate, Formulation and Drug development
Focussed on the development of anticancer and antifungal drugs for human clinical trials in the lipid based controlled release systems. Primary responsibilities include the synthesis and characterization of NDDP, under cGMP regulation, documentation. Synthesis and characterization of active intermediates, metabolites, and bio-transformation products for drug development studies.

3. *MD. Anderson Cancer Center, Houston, TX*
May1994 -February 2000, Research Asst, Department of Experimental Therapeutics,
DNA adducts of platinum and crystals study.
Designed and developed synthetic routes for preparing platinum(II) and (IV) adducts, and complexes with (1,2-diaminocyclohexane), (cis-1,4-diaminocyclohexane) and (homopiperazine) as primary ligands with purines, pyrimidines, and nucleosides and with different leaving groups such as chloro, hydroxo, mono and dicarboxylates as secondary ligands to asses their suitability as anticancer drugs. Characterized the adducts and complexes by elemental analysis FT-IR, UV , (^{1}H, ^{13}C, ^{195}Pt) NMR spectroscopy and crystallography. Checked purity of the complexes by optical rotation, and HPLC.

4. *MD. Anderson Cancer Center, Houston, TX,*
May1994 -February 2000, Research Asst, Department of Experimental Therapeutics,
Many years of experience in multi-step bio-inorganic synthesis and characterization of **L-NDDP** (Liposomal cis-bis-neodecanoato-*trans*-1*R*, 2*R*-diaminocyclohexane platinum(II)) drug which is currently in clinical trial. Experienced in large scale synthesis of NDDP under cGMP regulations (2 Kg/batch).

5. *MD. Anderson Cancer Center, Houston, TX*
May1994 -February 2000 Project Investigator, Dept. Experimental Radiation Oncology,
Designed, Synthesized and Characterized the Maleimido derivatives of Bifunctional Chelating Agents [BFCA's] such as Diethylenetriamine Pentaacetic Acid [DTPA] and Triethylenetetraamine Hexaacetic Acid [TTHA] for 90Y and 111In radioimmunotherapy of cancer. Purified by column chromatography, and characterized by elemental analysis, 1H, 13C NMR, and Mass spectroscopy

6. *Northwestern University, Evanston, ILVisiting Scholar, Dept. of Chemistry,*
July 1993 - May 1994

Synthesised and characterized L. Oligonucleotides in order to study them as metabolically stable antisense agents in the treatment of cancer and viral diseases. Synthesized and characterized metalloporphyrenes.

References:

Dr. Zahid Siddik
Professor, Department of Experimental Therapeutics
Md. Anderson Cancer Center
Houston, TX
Phone # 713 792 7746
Email: zsiddik@mdanderson.org

Publications:

1. I-Hong Shih, Fan-Lin Kong, Mohammad S. Ali, Yinhan Zhang, Dong-Fang Yu, Xudong Duan, anf David J, Yang.
Synthesis and Biological Evaluation of O-[3-^{18}F-flouropropyl]-α-methyl Tyrosine in Mesotheleoma-Bearing Rodents.
Biomedical Research International, Volume 2013(2013), Article ID460619, 9 pages.

2. Mohammad S. Ali, Fan-Lin Kong, Rollo A, Mendez R, Kohanim S, Smith DL, Yang DJ.
Development of ^{99m}Tc-N4 –NIM for molecular imaging tumor hypoxia.
Journal of Biomedicine and Biotechnology, Volume 2012, Article ID 828139, 9 pages.

3. Mohammad S. Ali, Fan-Lin Kong, Rollo A, Smith D, Zhang YH, Yu DF, Yang DJ.
Development of ^{99m}Tc-N4 –Tyrosine for breast cancer imaging.
Journal of Biomedicine and Biotechnology, 2011, Article ID 671708, (in Press)

4. Synthesis and Evaluation of Amino Acid-Base Radiotracer 99mTc-N4-AMT for Breast Cancer Imaging.
Mohammad S. Ali, Fan-Lin Kong, Yin Han Zhang, Chanksok Oh, Dong-Fang Yu, Mithu Chanda, and David Yang
Journal of Biomedicine and Biotechnology, 2011, Article ID 276907, 7 Pages

5. Synthesis of 99m Tc-AMT as a imaging probe for amino acid transporter systems in breast cancer.
Fan-Lin Kong, Yin Han Zhang, Mohammad S. Ali, Chanksok Oh, Richard Mendez, Saady Kohanim, Ning Tsao, Mithu Chanda, Wen-Chien Huang and David Yang
Nuclear Medicine Communications, 2010, Vol 31, Issue 8, 698-707

6. Molecular Biotheranostic Approached of Cancer Using LAT Kit Probes.
Fan-Lin Kong, David J. Yang, **Mohammad Ali**, Mei Tian, Wen-Chien Haung, and E. Edmund.
Cancer Medical Imaging Reviews, 2010, 6, 46-50

7. 1-Methyl-4-(methylamino)piperidin-platinum(II) adducts with DNA bases.
Mohammad S. Ali, Jane J. Fang, Christian Burton, Brandan Glenn and Abdul R. Khokhar.
J. Coord. Chem. 2007, pp. 691-698.

8. Synthesis Characterization and X-ray crystal Structure of 1,4-diamminocyclohexane-platinum (II) nucleobase adducts.
Shaik Shamsuddin, **Mohammad S. Ali**, Kenton, H. Whitmire, Abdul. R. Khokhar
Polyhedron, 2007, 637-644.

9. Model Platinum Nucleobase Complexes, and Antitumor Activity: X-ray Crystal Structure of P^{IV}(*trans*-1*R*, 2*R*-Diamimocyclohexane)-*trans*-(acetate)$_2$(9-ethylguanine)Cl]$NO_3 \cdot H_2O$
Mohammad S. Ali, S. Rounaq Ali Khan, H. Ojima, Kenton, H. Whitmire, Zahid H. Siddik, Abdul R. Khokhar
Journal of Inorganic Biochemistry 99 (2005) 795-804

10. *cis*-1,4-Diaminocyclohexane platinum(II) and (IV) adducts with DNA bases and nucleosides.
Mohammad S. Ali., Abdul R. Khokhar.
Journal of Inorganic Biochemistry 96 (2003) 452-456

11. Complexing behavior of nucleic acid constituents toward mercutic chloride.
Badar Taqui Khan**, Mohd. Sadath Ali**, Venkat Anand Pannala, anf R madhusudhan Raju
Department of Chemistry Osmania University Hydrabad, India.
J. Indian Chem. Soc., Vol. 79 2002 pp. 183-184.

12. Synthesis and characterization of platinum(II) and (IV) complexes containing hexamethyleneimmine ligand: crystal stricture of [Pt^{II} (hexamethyleneimmine)2 (cyclobutanedicarboxylato)]·H_2O
Mohammad S. Ali, Johs Thurston, Kenton H. Whitmire, Abdul R. Khkhokjar
Polyhedron, 2002, 21 pp. 2659-2665

13. Homopiperazines Platinum(II) Complexes Containing Substituted Disulfide Groups: Crystal Structure of [Pt(homopiperazine)(diphenylsulfide)Cl]NO_3.
Mohammad S. Ali., Uday Mukhopadhyay., Shervin M. Shirvani., John Thurston., Kenton H. Whitmire., Abdul R. Khokhar.
Polyhedron. 2002, Vol. 21, pp. 125-131

14. Synthesis, and Characterization, of Novel *trans*-Mixed Diamines Platinum (II) and (IV) Complexes.
S. Shamsuddin., **Mohammad S. Ali**., and Abdul R. Khokhar
J. Coord. Chem. 2002, pp. 1-7

15. Synthesis Characterization, and Representative Crystal Structure of Lipophilic Platinum(II)(homopiperazine)carboxylate Complexes.
Mohammad S. Ali., Christopher A. Powers., Kenton H. Whitmire., Ilse Guzman-Jimenez and Khokhar, A. R.
J. Coord. Chem. 2001, Vol. 52, pp. 273-287

16. Synthesis and Characterization of a Series of Lipophilic Cisplatin Analogs with *cis*-1,4-Diaminocyclohexane as Nonleaving Amine Ligands.
S. Shamsuddin., **Mohammad S. Ali.,** and Abdul R. Khokhar
J. Coord. Chem., 2000, Vol. 49, pp. 291-299

17. Preperation, Characterization, and Antitumor Activity of New Cisplatin Analogs with Homopiperazines: Crystal Structure of [Pt(II) (1-homopiperazines)(methylmalonato)]. $2H_2O$
Mohammad S. Ali, Kenton H. Whitmire., Taisuke Toyomasu., Zahid H. Siddik., and Abdul R. Khokhar
J. Inorg. Biochem., 77 (1999) 231-238

18. Maleimido Derivatives of Diethylene Triamine Penta Acetic Acid and Triethylene Tetramine Hexaacetic Acid: Their Synthesis and Potential for Specific Conjugation with Biomolecules.
Mohammad S. Ali., and Syed M. Quadri.
Bioconjugate Chem., Vol. 7, No. 5, 1996, 576-583.

Selected Presentations

1. Synthesis of ^{99m}Tc-N4-NIM as a probe for Tumor Hypoxia. **M. Ali**, R. Mendes, S. Kohanim, F. Kong, S. Munyu, E. Kim, and D. J. Yang, SNM 2012, 59th Annual Meeting June 9-13, 2012, Abstract # 1691.
2. Synthesis of Tc-99m cyclam-2-nitroimmidazole: A probe for imaging tumor hypoxia. **M. Ali**, M. Chanda, C. Oh, S. Kohanim, R. Mendez, F. Kong, Y. S.C. Mohan, E.E. Kim, and David Yang, SNM 2011, 58th Annual Meeting June 4-11, 2011, Abstract # 1606.

3. Efficient Synthesis of N4-AMT as a Probe for the assessment of Tumor LAT System. **M. S. Ali**, C. Oh, S. Kohanim, R. Mendez, F. Kong, Y. Zhang, E.E. Kim, and David Yang SNM 2010, 57th Annual Meeting, June 5-9, 2011, Abstract # 562.

4. Synthesis and cytotoxicity studies of platinum nucleobase adducts
   A. R. Khokhar, **M. S. Ali**, Z. H. Siddik
   16th EORTC- NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics.
   Geneva, Switzerland, 28 Sept-1 Oct. **2004**.

5. Administration of Radiolabeled immunoglobin Directly into Human Malignancies.
   S. M. Quadri, P. E. Borchardt, **M. S. Ali**, G. D. Weinstein, R. S. Freedman., and H. M.Vriesendorp.
6. The sixth conference on Radioimmunodetection of Cancer. Princton, NJ, October 10-12, **1996.**

7. Intraleisional Radioimmunoconjugates for Selective Tumor Radiation.
   S. M. Quadri., P. E. Boorchardt., **M. S. Ali**., R. S. Freedman., and H. M. Vreisendorp.
   The Society of Nuclear Medicine, 43rd Annual Meeting, Colorado, June 3-6, **1996.**

8. Intraperitoneal In-111 and Y-90 Labeled Human IgM (AC6C3-2B12) in Nude Mice with Peritoneal Carcinomatosis of a Human Cancer.
   S. M. Quadri., A. B. Malik., H. B. Chu., **M. S. Ali**., R. S. Freedman., and H. M. Vreisendorp.
   Proceedings of the 42nd Annual meeting of the Society of Nuclear Medicine, Minneapolis, Minnesota, June 12-15 **1995.**