

CURRICULUM VITAE

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Date of birth : December 1, 1961
Place of birth : Lalmonirhat, Bangladesh
Religion : Islam
Nationality : Bangladeshi
Language spoken : Bengali (mother-tongue) and English (Fluent in English)
Marital Status : Married

Academic Qualifications:

- (i) 1985, B. Sc. (Hons.) chemistry, 1st class, Rajshahi University. I obtained the First Rank in this exam.
- (ii) 1988, M. Sc. Chemistry, 1st Class, Rajshahi University, I obtained the second Rank in this exam.
- (iii) 1994, Ph. D. Chemistry, St. Andrews University, UK, Supervisor Dr Christopher Glidewell.
- (iv) 2000, Post-doctoral Fellow, St. Andrews University, UK.

Past Employment:

- (i) **Magistrate** (Class I Govt. Official) from February, 1998 to October, 1989.
- (ii) **Lecturer** at Rajshahi University, Rajshahi, Bangladesh, From October, 1989 to Oct. 1992.
- (iii) **Demonstrator** in Chemistry at St. Andrews University from October to December 1993.
- (iv) **Assistant Professor** at Rajshahi University, Rajshahi, Bangladesh from Oct. 1992 to June 1997.
- (v) **Associate Professor** at Rajshahi University, Rajshahi, Bangladesh from June, 1997 to November, 2002.
- (vi) **Honorary Reader** at the University of St. Andrews, U K, From October, 2000 to October, 2001.

Present Employment:

Professor at Rajshahi University, Rajshahi, Bangladesh since November, 2002.

Awards / Scholarships obtained:

- (i) Secondary School Board Scholarship for obtaining First division.
- (ii) Special Honourable Chancellor Award for obtaining first rank in the Chemistry Department of B.Sc. Honours.
- (iii) Obtained ORS award and a University Research Scholarship for the Post-Graduate Studies in the University of St. Andrews (UK).
- (iv) BAAS award for best presentation of research paper in a conference in 1996.
- (v) Awarded Commonwealth Staff Fellowship in 2000-2001.
- (vi) Honoured with a Regular Associate membership position at the Abdus Salam International Center for Physics, Italy with effect from 2003.
- (vii) Awarded by Nagoya Institute of Tecnology, Japan a Vanture Business Laboratory(VBL) visting Fellowship, 2003

Research Experience:

- (i) **Title of the M.Sc. thesis:** "Studies on mixed ligand complexes of some transition metals". Synopsis; this thesis was concerned with transition metal complexes and the effect of solvent on them.
- (ii) **Title of the Ph.D. thesis:** Hydrogen bonding in sterically hindered ferrocenes and related systems. Synopsis; this work was mainly on the field of organometallic chemistry. The hydrogen bonding of simple molecules in host-guest arrays was investigated. Additionally new ferrocenyl- β -diketo ligands were synthesized for use in metal complexation.
- (iii) **Postdoctoral field of studies:** There are three inter-related aims;
 - (a) To synthesise the ferrocenyl compounds ferrocenyl-1,1' - diylbis(diphenylmethanol), ferrocenecarboxylic acid and ferrocene-1,1' - dicarboxylic acid, and macrocyclic nickel carboxylate complexes, all of which are desired to have intensive hydrogen-bonding capacity.
 - (b) The use of these and other pre-formed components in co-crystallization experiments with amines and salt and complex formation with metals
 - (c) To use X-ray crystallography to determine the supramolecular structure that were formed.

I am currently extending my Ph.D. work to look at hydrogen bonding of other compounds in new host-guest arrays. I have been also interested to synthesize new ferrocenyl- β -diketo ligands and their complexation with transition metals.

Presently, I am interested in determining crystal structures of carboxylic acids of ferrocenes and ferrocenediols that may be suitable donors and amines that could be suitable acceptors for use in co-crystallization syntheses.

Present research problems:

1. The goal of the present research project is to design, synthesise and characterise polyaza macrocycles for use as a molecular building blocks. It is anticipated that poliaza macrocycles will acts as large rigid molecular building blocks. It is planned to investigate the use of pairs of rigid molecular building blocks to construct supramoleclar structures.
2. Phosphonoacetic acid offers a number of potential advantages as a molecular building block for constructing supramolecular structures. Phosphonoacetic acid can be potentially acts as a triple hydrogen-bond donor, via its two hydroxyl groups and one carboxyl group, and least five hydrogen bond acceptor through its five oxygen atoms. This is therefore an immensely versatile molecular building block.
3. Carboxylic groups are the best investigated hydrogen-bond functionalities. The ferrocenyl carboxylic acid is thus an an attractive building block for adduct formation with primary and secondary aliphatic amines, heteroaromatic amines, and macrocyclic and poly-aza compounds.
4. A branch of crystal engineering that has recently received a great deal of attention, is the area, of co-ordination polymers. The emphasis is on using metal-ligand interactions to construct extended molecular frameworks rather than hydrogen bonding. The aim of the current on going research is to use the $[\text{Ni}(\text{cyclam})]^{2+}$ cation [cyclam= 1,4,8,11-tetraazacyclotetradecane] $\text{Ni}(\text{II})$ as a molecular building block for co-ordination polymers networks.

Publications:

A list of publications is attested herewith.

Conferences attended/ Academic activities:

- (1) I attended XVI International Conference on Organometallic Chemistry University of Sussex, Brighton, UK, from 10th to 15th July 1994, where presented a poster entitled "A Ferrocene-diol Host in Hydrogen-bonded Host-guest Arrays"
- (2) I attended XIX International Conference from 15th to 16th October 1996 organized by Bangladesh Association for Advancement of Science, where I presented a scientific paper.

- (3) I attended Fifth International Conference on Material Chemistry' University of Wales, Banglor, UK, from 24th to 27th July 2001, where I presented a poster entitled "Adducts of Ferrocene-1,1'-dicarboxylic acid with Nitrogenous bases in Hydrogen-bonded Acid-base Arrays".
- (4) Visited the Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, under the Associateship Program from 2nd July to 30th September, 2003.
- (5) Visited the Department of Environmental Technology and Graduate School of Engineering, Nagoya Institute of Technology, Japan under the Vanture Business Laboratories (VBL). Visiting Fellowship program from 14th October, 2003 to 13th February, 2004.
- (6) I gave talk about my on going research in a seminar in the Department of Chemistry, Tokyo University, Japan on 15th January 2004. (Invitation was offered by Professor Hiroshi Nishihara)
- (7) Visited the Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, under the Associateship Program from 23rd May to 18th August, 2008.

Additional Information:

- (1) **Administrative experience:** Served as the House tutor, Monnuzan Hall, Rajshahi University for three years (1998-2000).
- (2) **Research Supervisor:** Supervised six M. Sc thesis students and a number of research Fellows at Rajshahi University, Bangladesh.
- (3) **Oversease employment:** During my tenure of a Commonwealth Fellow at the University of St Andrews, when I held the status of **Honourary Reader**.

Referees:

Dr. Christopher Glidewell (Ph. D. and Postdoctoral Supervisor), School of Chemistry, University of St. Andrews, St Andrews, Fife, KY16 9ST Scotland, **UK**.

Professor Md. Tofazzal Hossain Tarafder, Department of Chemistry, Rajshahi, University, Rajshahi 6205, **Bangladesh** (ICTP Associate).

Dr Choudhury M Zakaria

Publications:

1. Solvent Effects on the Electronic spectra of some Mixed Ligand Complexes of Cobalt(II) and Nickel(II). **C. M. Zakaria** and M. L. Rahman, *Journal of Bangladesh Chemical Society*, 1991, **4(1)**, 111-114.
2. Studies on the Complexes of Co(II) and Cu(II) Phthalates with Heterocyclic Amines. **C. M. Zakaria**, P. Bhattacharjee, M. A. L. Kabir and M. S. Islam, *Journal of Bangladesh Chemical Society*, 1991, **4(1)**, 55-59.
3. Structures of Tribenzylmethanol and 1,2,3-Triphenyl-2-propanol. G. Ferguson, J. F. Gallagher, C. Glidewell, D. C. Liles and **C. M. Zakaria**, *Acta Cryst.*, 1993, **C49**, 820-824.
4. The Crystal and Molecular Structures of 1-Ferrocenyl-1-phenylethanol, Ferrocenyl(diphenyl) methanol and Ferrocene-1,1'-diyl-bis(dipenylmethanol). G. Ferguson, J. F. Gallagher, C. Glidewell, and **C. M. Zakaria**, *Acta Cryst.*, 1993, **C49**, 967-971.
5. Hydrogen-bonded Adducts of Ferrocene-1, 1'-diylbis(diphenylmethanol): Crystal and Molecular Structures of Adducts with Methanol (1:1) Pyridine (1:2). G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *J. Chem. Soc. Dalton Trans.*, 1993, 3499-3506.
6. Hydrogen Bonding in Ferrocene Derivatives: Crystal and Molecular Structure of Racemic Ferrocenyl (phenyl)methanol. G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *Journal of Organometallic Chemistry*, 1994, **464**, 95-101.
7. $H \cdots \pi(\text{arene})$ Intermolecular Hydrogen-bonding in the Structure of 1,1,2-Triphenylethanol. G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *Acta Cryst.*, 1994, **C50**, 70-73.
8. Hydrogen-bonding patterns in Ferrocene Derivatives: Structures of 1,1'-Diphenyl-1,1'-(1,1'-ferrocenediyl) diethanol and (1,1'-Ferrocenediyl)diethanol. G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *Acta Cryst.*, 1994, **C50**, 18-23.
9. C-H \cdots I hydrogen bonding in Ferrocene Derivatives; The Crystal and Molecular Structures of (Ferrocenylmethyl)trimethylammonium Iodide and Hexa-N-methylferrocene-1, 1'-diylbis(methyl-ammonium iodide). G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *Acta Cryst.*, 1994, **B50**, 146-150.
10. C-H \cdots I interactions in Ferrocene derivatives; the Crystal and molecular Structures of (Ferrocenylmethyl) triphenylphosphonium Iodide and Hexa-P-phenylferrocene-1, 1'-diylbis (methylphosphonium iodide) dichloromethane solvate (1/1). G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *Acta Cryst.*, 1994, **C50**, 233-238.
11. Hydrogen-bonding in Ferrocene Derivatives; the Crystal and Molecular Structures of 1-Ferrocenyl-2,2-methylpropan-1-ol and of 2,2'-(Ferrocene-1,1'-diyl) di(propan-2-ol). Y. Li, G. Ferguson, J. F. Gallagher, C. Glidewell and **C. M. Zakaria**, *Acta Cryst.*, 1994, **C50**, 857-861.

12. Hydrogen Bonding in Ferrocene Derivatives: Structure of the 1:1 Adduct of Ferrocenyl (diphenyl) methanol and Dimethylsulfoxide. C. Glidewell and **C. M. Zakaria**, G.Ferguson, *Acta Cryst.*, 1994, **C50**, 678-681.
13. Structure of 2,2,2-Triphenylethanol: a Hydrogen-bonded Tetramer based upon a Centrosymmetric R4(8) Motif. G.Ferguson, C. Glidewell and **C.M. Zakaria**, *Acta Cryst.*, 1994, **C50**, 928-931.
14. Hydrogen-bonded adducts of ferrocene-1, 1'-diylbis(diphenylmethanol): Crystal and molecular structures of 1:1 adducts with 4,4'-bipyridyl, piperazine, dimethylformamide, the 2:1:1 Hydrated Adduct with Morpholine, and Two Adducts with 1, 4-Dioxine, 1:1 at 150K, and 1:2 at 298K. Glidewell, G. Ferguson, Alan J. Lough and **C.M. Zakaria**, *J. Chem. Soc. Dalton Trans.*, 1994, 1971-1994.
15. 4-(Ferrocenylmethyl)-2,2,6,6-tetramethyl-heptanedione, a Non-Enolised 1, 3-Diketone. G. Ferguson, C. Glidewell and **C. M. Zakaria**, *Acta Cryst.*, 1994, **C50**, 1673-1676.
16. Ferrocenyl salts as synthons: New Ferrocenyl 1,3-diketons. **C. M. Zakaria**, C. A. Morrison, D. McAndrew, W. Bell and C. Glidewell, *Journal of Organometallic Chemistry*, 1995, **485**, 201-207.
17. Hydrogen-bonded Adducts of Ferrocene-1,1'-diylbis(diphenylmethanol) with Nitrogenous Bases: Crystal and Molecular Structure of the 2:1 Adduct with Hexamethylenetetramine. G. Ferguson, C.Glidewell, A. Lewis and **C.M. Zakaria**, *Journal of Organometallic Chemistry*, 1995, **492**, 229-234.
18. Hydrogen Bonding in Diphenylmethanols. RCPH2OH: Structures of Monomeric (4-Biphenyl) diphenylmethanol and Diphenyl(2-pyridyl)methanol, Dimeric 1,2,3-Triphenyl-2-propyn-1-ol, Trimeric 2-Methyl-1, 1-diphenylpropan-1-ol, Tetrameric Diphenyl(2-thienyl)methanol, Hexameric Bis(pentafluorophenyl) methanol (at 293K and 173K) and Polymeric Diphenylmethanol. G. Ferguson, C. Glidewell and **C. M. Zakaria** and A. J. Lough, *Acta Cryst.*, 1995, **B51**, 367-377.
19. The Redox Behaviour of Ferrocenyl Alcohols and Ferrocenediyl-diols: Crystal and Molecular Structure of Ferrocenyl(2-furyl) phenylmethanol. Solid State 2H and 13C NMR Studies of Hydrogen Bond Dynamics in Ferrocene-1, 1'-diylbis(diphenylmethanol). A. E. Aliev, K. D. M. Harris, I. J. Shannon, C. Glidewell, **C. M. Zakaria** and P.A. Schofield, *J. Phys. Chem.*, 1995, **99**, 12008-12015.
20. Multiple Hydrogen-Bonding Modes in the Structure of Furan-2, 5-dimethanol and Furan-2,5-diylbis (diphenylmethanol). C.Glidewell, **C.M. Zakaria** and G. Ferguson, *Acta Cryst.*, 1996, **C52**, 1305-1309.
21. Hydrogen-bonding in α -Ferrocenyl Alcohols: Structures of 1-Ferrocenylethanol, 1-Ferrocenyl-2-phenylethanol, 1-Ferrocenyl-1 phenylpropan-1-ol, 1-Ferrocenyl-1-phenyl-2-methylpropan-1-ol, 1-Ferrocenyl-1-phenyl 1-2,2-dimethylpropan-1-ol, 1-Ferrocenyl-1,2-diphenylethanol, and Diferrocenyl (phenyl) methanol. C. Glidewell, R. B. Klar, P. Lightfoot, **C. M. Zakaria** and G. Ferguson *Acta Cryst.*, 1996, **B52**, 110-121.

22. Fecemic Bis (1-ferrocenyl) Ether. G. Ferguson, J. Trotler, C. Glidewell and **C.M. Zakaria**, *Acta Cryst.*, 1996, **C52**, 775-777.
23. Host-Guest Complexes of Furan-2,5-diyl-bis (diphenylmethanol) : Structures of the 2:1 Adducts with Dimethylformamide, Dimethyl Sulfoxide and Pyridine. G. Ferguson, C. Glidewell and **C. M. Zakaria**, *Acta. Cryst.*, 1996, **C52**, 2009-2014.
24. Studies on the Mixed ligand Complexes of Cr(III) and Co(III) containing Monobasic acid and Tetrazamacrocycles. M. S. Islam, **C. M. Zakaria**, M. Y. Reza and T. Khatun, *Par. J. Sci. Ind.*, 1999, **42(2)**, 70-73.
25. Antimicrobial Screening of Ferrocene Derivative Compounds. **C. M. Zakaria**, A. Farooque, M. R. Islam, M. A. Islam and M. H. Biswas, *Oriental Journal of Chemistry*, 2000, **16(1)**, 85-90.
26. Cytotoxic Activity of Ferrocene Derivative Compounds. **C. M. Zakaria**, A. Farooque, M. R. Islam, M. A. Islam and M. H. Biswas, *Oriental Journal of Chemistry*, 2000, **17(1)**, 47-50.
27. Photochemical Reaction of $\text{cis}(\text{tn},\text{s})\text{-[Co}\{\text{S}(\text{CH}^3)\text{CH}_2\text{CH}(\text{COOH})\text{-NH}_2\text{-S},\text{N}\}(\text{tren})\text{Cl}_3$; Linkage Isomerization and Formation of A μ -Hydroxo- μ -peroxo Complex. M. A. Farooque and **C. M. Zakaria**, *Journal of Bangladesh Chemical Society*, 2000, **13(1&2)**, 81-85.
28. μ -2-1,4-Benzenedicarboxylato-bis{transaqua(1,4,8,11tetraazacyclotetradecane)nickel(II)}} perchlorate forms a three-dimensional framework. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2001, **C57**, 683-686.
29. Ferrocenecarboxylic acid-1,4-diazabicyclo[2.2.2]octane (2/1): sheesbuilt from O-H...N and C-H...O hydrogen bonds. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2001, **C57**, 687-689.
30. Sodium 2-nitroethanaloximate forms a Layered-framework Structure. G. Ferguson, A. J. Lough, D. M. Smith, **C. M. Zakaria** and C. Glidewell, *Acta Cryst.*, 2001, **C57**, 922-923.
31. Hydrogen-bonded adducts of ferrocene-1, ,1'-diylbis(diphenylmethanol): monomeric and dimeric 1:1 adducts with 1,2-bis(4-pyridyl)ethane and 1,2-diaminoethane. K. F. Bowes, G. Ferguson, A. J. Lough, **C. M. Zakaria**, and C. Glidewell, *Acta Cryst.*, 2001, **B57**, 914 -917.
32. Hydrogen bonding in C-methylated Nitroanilines: a Room-temperature Monoclinic Polymorph of 4-Methyl-3-nitroaniline with $Z' = 2$. **C. M. Zakaria**, J. N. Low, J. M. S. Skakle, S. A. McWilliam, J. L. Wardell and C. Glidewell, *Acta Cryst.*, 2001, **C57**, 1207-1208.
33. 2-Ethyl-2(hydroxymethyl)-1,3-Propanediol at 120 K: three Hydrogen-bonds Generate a three-dimensional structure. **C. M. Zakaria**, J. N. Low and C. Glidewell, *Acta Cryst.*, 2001, **E57**, 1081-1083.

34. Hydrogen-bonded Adducts of Ferrocene-1,1'-diylbis(diphenylmethanol): Monomeric and polymeric 1:1 Adducts with 1,2-bis(4-pyridyl)ethane and 1,2-Diaminoethane. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2002 **C58**, m1-m4.
35. Hydrogen-bonded Adducts of Ferrocene-1,1'-diylbis(diphenylmethanol): Monomeric and Polymeric Adducts with 1,2-bis(4-pyridyl)ethene and 1,6-Diaminohexane. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2002, **C58**, m1-m4.
36. Adducts of 1,1,1-tris(4-hydroxyphenyl)ethane with 1,2-bis(4-pyridyl)ethane and 1,2-bis(4-pyridyl)ethene: Hydrogen-bonded Framework Structures, Continuously interwoven structures in three dimensions. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell,, *Acta Cryst.*, 2002, **C58**, o1-o5.
37. Phthalimide at 120 K: Perforated Molecular Ribbons Containing three different ring motifs. **C. M. Zakaria**, J. N. Low and C. Glidewell, *Acta Cryst.*, 2002, **C58**, o9-o10.
38. Hydrogen-bonded adducts of Ferrocene-1,1'-diylbis(diphenylmethanol): a Finite cyclic 1:1 Adduct with 2,2'-Dipyridylamine. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell,, *Acta Cryst.*, 2002, **C58**, m5-m7.
39. [Ni(cyclam)(OCOR)₂]: a Finite Molecular Complex; Hydrogen-bonded Supramolecular Aggregation in one, two and three Dimensions; and Coordination Polymers in one and two Dimensions. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2002, **B58**, 78-93.
40. Polymorphs and Solvates of N,N'-dithiodiphthalimide, Pseudopolymorphs of N,N'-dithio-bisphthalimide. D. M. M. Farrell, C. Glidewell, J. N. Low, J. M. S. Skakle and **C. M. Zakaria**, *Acta Cryst.*, 2002 **B58**, 289-299.
41. Adducts of 1,1,1-tris(4-hydroxyphenyl)ethane with diamines: Three-dimensional Hydrogen-bonded Frameworks formed with 1,6-aminohexane and 2,2'-bipyridyl. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2002, **C58**, o204-o208.
42. N,N'-Dithiobisphthalimide-1,4-dioxan(1/0.6): a C2/c solvate with disordered solvent molecules localized in channels. K. F. Bowes, G. Ferguson, C. Glidewell, A. J. Lough, J. N. Low and **C. M. Zakaria**, *Acta Cryst.*, 2002, **C58**, 0347-0350.
43. In Vitro Antibacterial and Cytotoxic Activity of Benzene Sulfonic Acid Derivative Complex Compound. M. Helal U. Biswas, A. H. M. Zakaria Shaheed, A. Farooque, **C. M. Zakaria**, M. Zakir Sltan, Golam Sadik and M. Shah Alam Bhuiyan, *Bangladesh Pharmaceutical Journal*, 2002, **12**, 43-46.
44. Ferrocene-1,1'-dicarboxylic Acid as a building block in Supramolecular Chemistry: Supramolecular Structures in one, two and three Dimensions. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2002, **B58**, 786 -802.
45. (1R,3S)-Camphoric acid as a building block in supramolecular chemistry: adducts with organic polyamines. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.* 2003, **B59**, 118-131.

46. Adducts of hexamethylenetetramine with ferrocenecarboxylic acid and ferrocene-1,1'-dicarboxylic acid: multidisorder in space groups *Fmm2* and *Cmcm*. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell,, *Acta Cryst.*, 2003, **C59**, m271-m274.
47. Phosphonoacetic acid as a building block in supramolecular chemistry: salts with organic polyamines. K. F. Bowes, G. Ferguson, A. J. Lough, **C. M. Zakaria**, and C. Glidewell, *Acta Cryst.*, 2003, **B59**, 87 -99.
48. "Studies on coordination chemistry and bioactivity of metal complexes of a bidentate NN Schiff base, (2-pyridyl-methylene)(phenyl) hydrazine, produced from the condensation of Pyridine-2-carboxaldehyde with phenylhydrazine". M. T. H. Tarafder, **C. M. Zakaria**, Razmi Mohd. Idrus, Karen A. Crouse, A. M. Ali, B. M. Yamin, H.-K. Fun, *IC/2003/61*, (an ICTP publication, 2003).
49. "Studies on coordination chemistry and bioactivity of some nitrogen – sulfur donor ligands with some heavy metal ions".M. T. H. Tarafder, **C. M. Zakaria**, Wan bin Abdullah, Karen A. Crouse, A. M. Ali, B. M. Yamin, H.-K. Fun, *IC/2003/72*, (an ICTP publication, 2003).
50. Adducts of 1, 4, 8, 11-tetraazacyclotetradecane with carboxylic acids: hydrogen-bonded supramolecular structures in two or three dimensions. **C. M. Zakaria**, G. Ferguson, A. J. Lough and C. Glidewell, *Acta Cryst.*, 2004, **B60**, 65-75.
51. Synthesis, characterization, In Vitro Antimicrobial and cytotoxic Activities of ferrocene derivatives. M. Faruck Hossain, M. Abdul Alim Al-Bari, **C. M. Zakaria** and M. Anwar Ul islam, Bangladesh j. genet. biotech. 2005, **6(1&2)**, 59-64.
52. Study of the reactivity of 4-dodecyloxybenzoylhydrazine with nickel(II) and copper(II) acetate in presence of some non-conjugated and π -conjugated aldehydes. M. B. H. Howlader, **C. M. Zakaria**, C. Cheikh, *Jahangirnagar Univ. J. of Sci.* , 2007, **13**, 43-52.
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54. Studies coordination and addition compounds anti microbial activity of some mixed ligand complexes of Au(II), Co(II) and Cd(II) with dibasic acid and heterocyclic amines and addition compounds of As(III) & Sb(III) halides with bensamide and acetophenon. Md. Motahar Hossain, Chand Sultana, M. Saidul Islam and **C. M. Zakaria**, accepted for publication to *ICTP* preprint.
55. Antibacterial activity of mixed ligand transition metal complexes of some dibasic acid and amine bases. M. M. Hossain, C. Sutana, M S. Islam and **C. M. Zakaria**, accepted for publication to *ICTP* internal reports.