AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

An Analysis on Stability Constants of Complexes from Spectrophotometric Data Using Digital Computer

Ram Lakhan Meena
Research Scholar
University of Technology, Jaipur
Dr. Renu Saxena
Professor
Guide University of Technology, Jaipur

Abstract

Co (II), Ni (II), and Cu (II) arrangements were used as the apparent extraterrestrial setting for spectroscopic examinations, with sodium salts of formic, acidic, propionic, butyric, glycolic, and chloroacetic corrosive nearby. Data from spectrophotometric and potentiometric measurements were used to calculate the stability constants of cobalt (II), nickel (II), and copper (II) 2, 3-dihydroxypropionato complexes. Bjerrum's method for comparing arrangements was used to estimate the spectrum in the apparent district. By using potentiometric titration, it has been possible to measure the variation in hydrogen particle convergence in carboxyl ate cushions. Acryl CH3)2CO complexes containing the cations Cu (II), Cr (III), and Fe (III) were combined, and their apparent ranges were noted. From the range that was observed, the highest frequency of ingestion was determined. Improved pH were framed using the "proceeds with variations" (Occupation technique) strategy, and the complex and stoichiometry were characterised. The UV-Vis spectrometry has not determined the stability constants of these. Gastric corrosive discharges can be successfully inhibited with famotidine. Famotidine has been studied spectrophotometrically at an ingestion limit of 638 nm at various temperatures to determine the generation of copper (II) complex. According to the results, at pH 5.0, copper (II) and famotidine combine in a 1:1 molar ratio.

Keywords: *Stability Constants, Complexes, Spectrophotometric Data Using Digital Computer*

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

1. Introduction

Employing potentiometric or spectrophotometric data to confirm the thermodynamic bounds of complexes is a thought-provoking way to develop and suggest new methods for more precise and focused confirmation of particle follow-up measurements. Since many components contained in subsequent sums can be segregated by complexing reagents, it can be useful to predict distinct compound cycles such as separation, extraction, or preconcentration methods1, 2. The degree of specific resistance to the obstruction by various species is demonstrated by the stability's greatness. The electrocynicism, benefactor iota hardness or softness, ligand geography and ionic outspread, charge, hardness or softness of the metal particle, and its nuclear number are a few boundaries that affect the stability of a compound.

The polar realistic technique had been employed1-a in the effective analysis of metal particle complexes with the particles of unsubstituted and substituted monocarboxylic acids. We applied a variety of techniques from the polar realistic one, primarily the spectrophotometric strategy and then the potentiometric strategy for estimating the progressions of pH of the support arrangement, in order to have the option to see the value in basically the upsides of stability constants obtained by the polar realistic strategy.

Previous studies reported that several metal particle complexes with specific monohydroxy substituted monocarboxylic corrosive particles generated using various ways were stable. 1-6. These tests were carried out to gain insight into how the concept of the focal metal particle, the basicity of the ligands, and the location of the hydroxyl bunch substitution relate to the stability of monohydroxy substituted monocarboxylate complexes. This study presents the findings of an investigation of the complexes identified in the title, continuing a precise examination of metal complexes with hydroxymonocarboxylate particles. A few articles have addressed the secure properties of 2, 3-dihydroxypropionate complexes up to this point.7 8. For the 2, 3-dihydroxypropionate complexes of cobalt (II), nickel (II), and copper, there are no data accounted for in the writing (II). The findings presented in this work should shed some light on the

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

relationships between the stability of the complexes mentioned and the contributing characteristics of the 2, 3-dihydroxypr opionate particle.

Metals have an essential role in every life system. Any failure of these metals can lead to a variety of physiological abnormalities and clinical problems. The proper operation of numerous proteins depends on the presence of different metal particles. One of the minor elements that is essential to both human and animal life is copper. The average human diet contains 2 to 5 milligrammes of copper per day. The average adult's body has 100–150 mg of copper, with the bulk having 64 mg and the liver having 18 mg. Typically, copper (II) forms stable complexes with N, O, and S donor ligands. For instance, Cu (II) with 4-methyl-imidazole form a square planar complex. Famotidine can bind to many metals and function as a polydentate ligand. These bio-ligands can disturb the body's metal homeostasis when they are chelated with metallic particles. Under this study, spectrophotometric techniques were used to guarantee the association of copper (II) with famotidine in acidic conditions and stability that was not fully established at 25, 40, and 50 ° C.

2. Literature Review

Rodrigo Casasnovas, et al. (2013) One of the ongoing problems in computational science is the careful prediction of the thermodynamic constants of the substance responses in the arrangement. We present a method for calculating the free energies of ligand- and proton-exchange reactions utilising Thickness Useful Hypothesis computations mixed with a continuum dissolvable model in order to predict stability constants (log) and pKa assessments of metal complexes. This speculative approach provides direct information on the log- and pKa-assessments of major and minor species, making it useful in combination with test techniques to obtain an imprecise picture of the current equilibria. It is demonstrated that the suggested philosophy is particularly helpful for determining the actual acridity constants of those chelates where the metal-ligand coordination changes as a result of ligand deprotonation. Pyridoxamine is a useful looking through administrator of Cu (2+) at physiological pH settings, as demonstrated by the stability and acridity constants of pyridoxamine-Cu that are not inflexible with the suggested technique. This is particularly

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

important because the development of advanced glycation finished products (AGEs) and the diseases they are associated with have locked in Cu (2+) over-discomfort.

M. M. Khalil, et al. (2012) For a few typically large ligands (glycine, -alanine, DL-valine, n-valine, DL-leucine, serine, aspartic destructive, histidine, and asparagine), potentiometric balance estimations have been carried out. A step-by-step framework describes ternary compounds. Insofar as log K, log X, and %R. S. are concerned, the general trustworthy properties of the ternary complexes differ from those of the opposing paired complexes. As a component of pH, the focus dispersion bends of the various parallel and ternary species in arrangement were assessed.

The stability stable of complexes of Cu (II) metal particle with 3 - Avinash A. Ramteke and Maruti L. Narwade (2012) (4 - Chlorophenyl) 2 chlorophenyl benzoyl, position 4, position 5, (2 - hydroxy phenyl) - L3 and 3 - Pyrazole (4 - Chlorophenyl) (2) Furanoyl, (4), (5) (2 - hydroxy phenyl) Cu (II), Nd (III), and Tb (III) metal particles with 3 - pyrazole - L4 using isobestic point technique at frequency 525 nm and 500 nm solely (2 - Hydroxy - 3, 5 - dichlorophenyl) 4 anisoyl and 5 (4' methoxy phenyl) (1) Phenyl pyrazole, (2) Hydroxy, (3) Dichlorophenyl, (4) Anisoyl, (5) L1 (4 - methoxy phenyl) 1 phenyl, 2 pyrazoline, L2, and 3 (4 chlorophenyl) are present (2 - chlorophenyl benzoyl) - 5 - (2 - hydroxy phenyl) (2 - hydroxy phenyl) Occupation's plan directed the actions of - pyrazole - L3. A spectrophotometer was used to estimate absorbance. The limiting stability constants (log) determined from the deliberate absorption are not completely fixed by the harmony constant (K). In order to consider the assertion of complicated development, the log K views were applied.

Morteza Bahram and others (2011) In this study, the stability constants of copper(II) and mercury(II) complexes with the recently developed ligand 5-(2-hydroxybenzylidene)-2-thioxodihydropyrimidine-4,6(1H,5H)-dione in acetonitrile were determined using a hard model chemometric approach. Stable complexes with both metal cations are generated by the ligand. In a mixture of ethanol and water (1:1), the protonation constants of the ligands were evaluated in a similar manner.

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

A. K. Mapari* and K. V. Mangaonkar (2011) - Paired and ternary complexes of the sort M-Y and M-X-Y have been dissected pH-metrically at 270.5 oC and at constant ionic strength, =0.1 M (KCl) in 75:25 (v/v) 1,4-dioxne-water medium. M = Co(II), Ni(II), Cu(II), and Z The stability constants for ternary (M-X-Y) and paired (M-Y) systems are less certain.

According to Adedibu C. Tella et al. (2011), complexation of Cu (II) particle with dapsone in arrangement has been assembled spectrophotometrically at assimilation breaking point of 680nm at temperatures of 250C, 450C, and 600C separately. Using Occupation's nonstop variety techniques and mole proportion, the complex's stoichiometry was determined. Higher temperatures don't affect the complex, and the ligands are handled by Dapsone, a person with some chelator experience. It might be a good solution for treating copper over-burden or damage.

L. Jadumani Singh and Ak. Manihar Singh (2011) - Using Position's endless variety strategy spectrophotometrically, the stoichiometries and stability constants of copper (II) particles with 1-amidino-O-methylurea have been settled in watery arrangement at various temperatures 200C, 250C, 300C, 350C, and 400C with steady ionic strength of 0.5 M KNO3. The stability of metal ligands was seen to steadily decrease with rising temperature, demonstrating the exothermic character of the reaction. The - NH social occasion of the ligands showed up as straight bends on plots of thermodynamic stability constants versus 1/T. The G0, H0, and S0 thermodynamic limitations are still hypothetical.

Stoichiometry and harmony analysis of particle ligands driven in watery arrangements by spectrophotometry, F. Ahmadi et al., 2009. 2-Thiobarbituric destructive particle complexes' hydrodynamic arrangement with DATAN remains uncertain (Data Examination program). The results of this method demonstrate the emergence of specieML2.

In order to guarantee the protonation constants of (10-[4-aminobenzyl (hydroxyl) phosphonylmethyl)-1, 4, 7, 10-tetraazacyclo-1, 4, 7-triacetic destructive) (DOTA (NH2)) and stability constants of holmium and yttrium complexes with DOTA, techniques for static potentiometry and UV-VIS spectrophotometry were used (NH2). By utilising the severe reaction

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

of the DOTA (NH2) - metal complexes with Arsenazo III, complexes were guided by UV-VIS spectrophotometry.

The interaction of copper particle (Cu+2) with arsenazo-III has been studied using a specrophotometric approach, according to Sharmila Pokharna et al. A light-blushing, water-soluble combination of the Cu+2 particle and arsenazo-III with a metal to ligand ratio of 1:1 and the highest absorbance at 610 nm is formed. The pH range of consistently most notable absorption lies between 2.0 and 4.5. By using the mole proportion methodology, the occupation's strategy for continuing with variety, and the method developed by Dey and associates, their stability constants have been bound. Additionally, the hiding response's logical applications have been examined.

Rank obliteration factor assessment (RAFA) was used by Abbas Afkhami et al. (2009) for spectrophotometric analyses of the ambiguous development between a second Schiff base obtained from 3,6-bis((aminoethyl)thio) pyridazine and various progress metals in dimethylformamide (DMF). Using RAFA and spectrophotometric data, these complexes' development constants were determined.

F. Khan and M. S. Parihar (2008): Polar realistic method limited the stability consistent (log ') and thermodynamic limits of Cd2+ complexes with sulfonamide and cephapirin. The sulfonamides included cephapirin as an optional ligand and sulfadiazine, sulfisoxazole, sulfamethaxazole, sulfamethazine, sulfathiazole, sulfacetamide, and sulfanilamide as basic ligands. Anode architectures were conceivable but reversible and dispersion controlled. The thermodynamic limitations (G, H, and S) and stability constants were established. According to certain theories, the production of metal complexes is unrestricted, exothermic by nature, and entropic partner disastrous at higher temperatures.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

3. EXPERIMENTAL

3.1. Apparatus

Using matching 10 mm quartz cells, spectrophotometer measurements were made using a UV-1700 Shimadzu twofold bar spectrophotometer (Japan). For pH estimations, a Horiba F.8 pH metre in accordance with industry-standard support arrangements was used.

3.2. Reagents

Wilson Drugs in Pakistan provided the famotidine, while Merck in Germany provided the copper (II) sulphate contained hydrate. Any surviving synthesized substances were of a high enough quality to be used in science and were purchased from Merck in Germany. The review used double-refined water throughout.

3.3. Preparation of Standard Solutions

The arrangement used was a typical 310-2 M copper (II) sulphate confined hydrate. By mixing the correct proportions of 0.1M acidic corrosive with 0.1M sodium acetic acid derivation, a support arrangement with a pH of 5.0 0.05 was created. Dissolving 2.024 g of pure material in 200 mL of 3.5 10-2 M HCl yielded a typical arrangement of famotidine (3 10-2 M).

4. Results And Discussion

4.1. Properties of the Complex

At three different temperatures, such as 25, 40, and 50 ° C, pH 5.0 + 0.05 cushion arrangements, and copper(II) sulphate contained hydrate, the reaction of famotidine was studied. The frequency range of the ingestion spectra was 400 - 800 nm. A dark blue, water-solvent-framed combination of famotidine and copper(II) sulphate was discovered. The complex was used for the logical estimations and provided an ingestion top at 638 nm (series 2 Figure 2). Unadulterated famotidine does not ingest significantly over the studied frequency range under identical conditions. However, copper (II) sulphate confined hydrate retains at the frequency of the complex's maximum absorbance, such as 800 nm (Figure 1)

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

Copper was made available in the arrangement as copper(II) aquo-complex (max = 800 nm). Water functions as a weak field ligand, making the copper-aquo complex a labile complex that may be be replaced by famotidine to provide a constant perplexing ML (max = 638 nm). Fixation effects of copper(II) sulfate-confined hydrate on the formation of the cufamotidine complex revealed that the most extreme complex configuration requires a two-overlay mole ratio of reagent to analyte. The immediate full variety improvement was apparent, and the absorbance remained unaffected. Famotidine, which may naturally be a large component, has some structural features that metal particle restricting cannot alter.

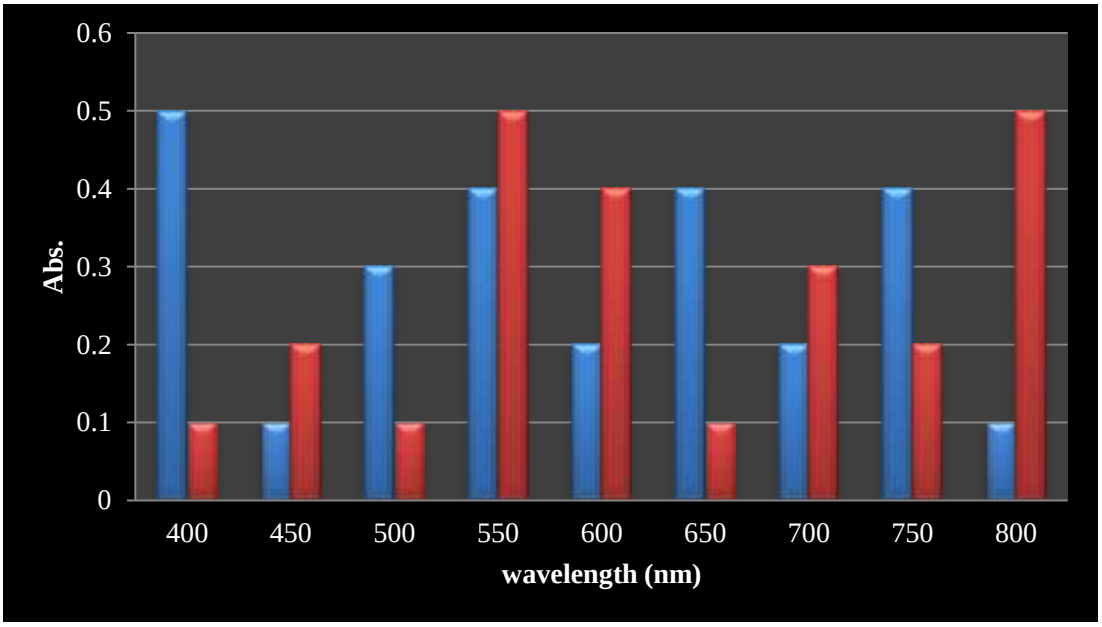

Figure: 1. Copper (II) sulphate pent hydrate absorption spectra (series 2) and combination with famotidine (series 1).

4.2. The Composition of Complex and Stability Constant

Occupation's method for equimolar arrangements has not completely resolved the stochiometric ratio of famotidine to Cu(II). The normal arrangement of 310-2 M copper(II) sulphate pentahydrate was pippetted into seven volumetric flagons (0, 1, 2, 3, - - - 6 mL), and an aliquot of 310-2 M famotidine (6, 5, 4, - - - 0 mL) was added, individually, while maintaining the mole ratio. All of

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

the calculations were performed at 638 nm and three different temperatures, such as 25, 40, and 50 ° C. (Table 1).

Table: 1. Data from an experiment using the continuous variation method with copper (II) and famotidine

Sr. No.	Metal Conc. ($\times 10^{-4}$ moles)	Ligand Conc. ($\times 10^{-4}$ moles)	X_{Cu}	Absorbance at 638 nm		
				25 ^{0}C	40 ^{0}C	50 ^{0}C
1.	0	36	0.0	0.017	0.020	0.017
2.	6	30	0.26	0.242	0.265	0.238
3.	12	24	0.22	0.168	0.172	0.166
4.	18	18	0.40	0.233	0.251	0.228
5.	24	12	0.55	0.184	0.183	0.181
6.	30	6	0.72	0.274	0.272	0.273
7.	36	0	2.0	0.063	0.087	0.087

The following are the comparison criteria used in this analysis of Occupation's strategy:

$$K_f = \frac{[ML]}{[M]\times[L]}$$

$$K_f = \frac{[A_2/A_1]}{[1-A_2/A_1]\times[C_L - C_M \times A_2/A_1]}$$

Where CM stands for centralization of the metal, CL for convergence of the ligands, A1 for absorbance at the break point, A2 for true absorbance.

At constant Cu (II) focus (1.210-3M), variable famotidine fixations (610-4 to 4.210-3M), at 638 nm, and at these three temperatures, the mole proportion approach was used (Table 2)

Table: 2. Mole Ratio Method Experimental Data on Copper (II) - Famotidine Complex

Sr. No.			Absorbance at 638 nm

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

	Metal Conc. ($\times 10^{-4}$ moles)	Ligand Conc. ($\times 10^{-4}$ moles)	25 ^{0}C	40 ^{0}C	50 ^{0}C
1.	12	0	0.0	0.0	0.0
2.	12	6	0.072	0.74	0.073
3.	12	12	0.138	0.123	0.120
4.	12	18	0.147	0.148	0.150
5.	12	24	0.152	0.176	0.176
6.	12	30	0.164	0.163	0.162
7.	12	36	0.187	0.168	0.170
8.	12	42	0.172	0.166	0.172

The following is the comparing condition for the mole proportion strategy::

$$K_f = \frac{[A/\varepsilon b]}{[C_M - A/\varepsilon b] \times [C_L - A/\varepsilon b]}$$

Where A = absorbance at the highest point and b = molar absorptive consistent

The absorbance obtained at 25 °C using the Mollard technique was 0.193 nm at 6.0 10-4 M copper(II) concentration and abundance famotidine, and 0.225 nm at 6.0 OK M copper(II) concentration and abundance famotidine. The results obtained using this method demonstrated a 1:1 mole ratio of famotidine Cu (II) in the complex.

Based on data gathered, Position's and Mole proportion strategies were applied to determine whether the stability consistent, which was not completely resolved, and the mean value of Kf obtained using two different methods were in reasonable agreement (Table 3).

Table: 3. At 25, 40, and 50 °C and a pH of 5.0+0.05, metal-ligand development constants were calculated using the nonstop variety technique, the mole proportion strategy, and the mollard strategy.

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International
ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

Sr. No.	Methods	Metal : Ligand	Formation Constant at Temp (^{0}C)		
			25 ^{0}C	40 ^{0}C	50^{0}C
1.	Continuous Variation method	1 : 1	2.44 Ø10^4	2.27 Ø 10^4	2.40 Ø 10^4
2.	Mole Ratio method	1 : 1	1.42 Ø10^4	1.42 Ø10^4	1.15 Ø10^4
3.	Mollard method	1 : 1	……..	……..	……..

5. Conclusion

Metal particles with TBA ligands have their stability constants established in the current paper utilising DATAN and spectrophotometric data. Complexes are being developed in ML2. These ligands are particularly useful in preconcentration methods for division schemes. Famotidine, a medication that fights ulcers, forms a stable combination with Cu2+. The mole proportion approach for examination's results is consistent with the investigation strategy used by Occupation. Complex growth takes place in an acidic environment at room temperature and is unaffected by temperature variations up to 50 ° C. According to high internal heat development, famotidine administration can remove copper (a crucial minor component) from the body.

References

1. *D. Myers, "H2 Receptor Antagonists", J. Exotic Pet Medicine, 15(2006), pp. 150–152.*
2. *D. U. Miodragovic, G. A. Bogdanovic, Z. M. Miodragovic, M. Đ. Radulovic, S. B. Novakovic, G. N. Kaluderovic, and H. Kozlowski, "Interesting Coordination Abilities of Antiulcer Drug Famotidine and Antimicrobial Activity of Drug and its Cobalt(III) Complex", J. Inorg. Biochem., 100(2006), pp. 1568–1574.*
3. *H. Raissi, A. Nowroozi, R. Mohammadi and M. Hakimi, Spectrochim. Acta, 65A, 605 (2006).*
4. *M. Barańska, E. G. Kontecka, H. Kozłowski, and L. M. Proniewicz, "A Study on the Nickel(II)-Famotidine Complexes", J. Inorg. Biochem., 92(2002), pp. 112–120.*
5. *M. Baranska, W. Łasocha, H. Kozłowski, and L. M. Proniewicz, "New Solid State Ni(II)-Famotidine SquarePlanar Complex: Powder Diffraction and Spectroscopic Studies", J. Inorg. Biochem., 98(2004), pp. 995–1001.*

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

6. *M. H. S. Wattoo, "Bioanalytical Investigation of Bottled Mineral Water and Soft Drinks", M. Phil Thesis, University of Sindh, Jamshoro, Pakistan, 2001.*

7. *Meloun M, Capek J, Miksik P G and Brereton R, Anal Chim Acta., 2000, 423, 51.*

8. *Moghimi A, Shokrollahi A, Shamsipur M Aghabozorg H and Shockravi A, Inorg Chem., 2003, 42, 1616.*

9. *Moghimi A, Shokrollahi A, Shamsipur M, Aghabozorg H and Ranjbar M, J Mol Struct., 2004, 701, 49.*

10. *P. D. Tzanavaras, A. Verdoukas, and T. Balloma, "Optimization and Validation of a Dissolution Test for Famotidine Tablets Using Flow Injection Analysis", J. Pharm. Biomed. Anal., 41(2006) pp. 437–441.*

11. *Patel R N, Singh N, Shrivastava R P, Shukla K K and Singh P K, Proc Indian Acad Sci (Chem Sci)., 2002, 114, 115.*

12. *Sarrafi A H M, Mirzazdeh M and Ahmadi F, Anal Chem: An Indian J., 2008, 7(9), 1.*

13. *Seleem H S, El-Shetary B A, Khalil S M E and Shebl M, Serb J Chem.Soc., 2003, 68, 729.*

14. *Wolfgang Kaim, Brigitte Schwederski, Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life, An Introduction and Guide, Chichester, England: John Wiley & Sons, 2006, pp. 187–214.*

15. *Z. Koricanac, T. Jovanovic, J. Petkovic and D. Minic, "Spectrophotometric Investigation of Famotidine-Pd(II) Complex and its Analytical Application in Drug Analysis", J. Serb. Chem. Soc., 69(2004), pp. 485–491.*

Author's Declaration

I as an author of the above research paper/article, hereby, declare that the content of this paper is prepared by me and if any person having copyright issue or patent or anything otherwise related to the content, I shall always be legally responsible for any issue. For the reason of invisibility of my research paper on the website/amendments/updates, I have resubmitted my paper for publication on the same date. If any data or information given by me is not correct I shall always be legally responsible. With my whole responsibility legally and formally I have intimated the publisher (Publisher) that my paper has been checked by my guide (if any) or expert to make it sure that paper is technically right and there is no unaccepted plagiarism and the entire content is genuinely mine. If any issue arise related to Plagiarism / Guide Name / Educational Qualification/Designation/Address of my university/college/institution/ Structure or Formatting/ Resubmission / Submission /Copyright /Patent/Submission for any higher degree or Job/ Primary Data/Secondary Data Issues, I will be

AIRO JOURNALS
Free / Unpaid
Peer Reviewed
Multidisciplinary
International

ISSN2320-3714
Volume3 Issue3
September 2021
Impact Factor: 10.2
Subject Chemistry

solely/entirely responsible for any legal issues. I have been informed that the most of the data from the website is invisible or shuffled or vanished from the database due to some technical fault or hacking and therefore the process of resubmission is there for the scholars/students who finds trouble in getting their paper on the website. At the time of resubmission of my paper I take all the legal and formal responsibilities, If I hide or do not submit the copy of my original documents (Aadhar/Driving License/Any Identity Proof and Address Proof and Photo) in spite of demand from the publisher then my paper may be rejected or removed from the website anytime and may not be consider for verification. I accept the fact that as the content of this paper and the resubmission legal responsibilities and reasons are only mine then the Publisher (Airo International Journal/Airo National Research Journal) is never responsible. I also declare that if publisher finds any complication or error or anything hidden or implemented otherwise, my paper may be removed from the website or the watermark of remark/actuality may be mentioned on my paper. Even if anything is found illegal publisher may also take legal action against me

Ram Lakhan Meena

****