



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Asian Journal of Chemical Sciences
Manuscript Number:	Ms_AJOCS_31789
Title of the Manuscript:	A study of Polarographic Characteristics, Kinetic parameter and Stability Constant of [Zn(II)-antibiotics-vitamin-BX] complexes
Type of Article:	Original research paper

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
Still some points are being described: - How the authors decided or determined or found or understand (by which methods or studies) that ligand structures are 1:1:1, 1:1:2 and 1:2:1 complexes? I understand that these are ligands but the origin of this values are not given. Which methods were used for this results or what values indicate that ligand structures are 1:1:1, 1:1:2 and 1:2:1 complexes. As a result, who says these are 1:1:1, 1:1:2 and 1:2:1 complexes. - In Figure 1: the curves straight line and increasing potentially should be concluded. I ask; what is the meaning of the curves straight line or increasing potentially. Tabulation is not a good expression because tabulation is also need an explanation. So, an explanation should be insert to the text. Curves straight line means what? increasing potentially means what? - Authors say that "The value of rate constant (k) showed that the electrode process were quasireversible". Authors say that in the previous sentence: "It is obvious from the value of α that the values varied from [Zn(II)-neomycin-vitamin-B_x] 0.42 to 0.52 (about 0.50), and value of α for other systems were also about 0.50 confirmed that 'transition state' lies midway between dropping mercury electrode and solution interface". But no explanation exists for quasireversiblity as same as given for transition state. What values or results indicates quasireversiblity. It should be given for the readers.	Ans.1) The natures of current-voltage curves of Mn(II) and Zn(II) their complexes were quasireversible. Mn(II) and Zn(II) formed 1:1:1, 1:1:2 and 1:2:1 complexes with these drugs as confirmed by Schaap and McMaster method. The sequence of stability constant of complexes was neomycin < chlortetracycline < oxytetracycline < tetracycline < penicillin-V < penicillin-G that can be explained on the basis of nature of ligands and steric hindrance between metal ligands. Ans.3) Zn(II) gave two electron quasireversible reduction wave at pH = 7.30 ± 0.01 and μ = 1.0 M NaClO₄ at 298 K. The nature of current-voltage curves for complexes is also quasireversible. The concentration of Zn(II), NaClO₄, and triton X-100 (as suppressor) in the test solution were 0.5 mM, 1.0 M and 0.001% respectively. In this system, the concentration of antibiotics varied from 0.5 mM to 30.0 mM at two fixed concentration of vitamins i.e. 0.025 M and 0.050 M. The $E_{1/2}$ values became more negative with the addition of vitamins to the [Zn(II)- antibiotics] system which showed ternary complex formation of 1:1:1, 1:1:2, and 1:2:1 stoichiometry. Gellings method^{8, 9} was used to determine the values of $E_{1/2}^{reversible}$ form $E_{1/2}^{quasireversible}$ by plotting $[E - RT/nF \log (i_d - i)/i]$ vs i for all the complexes.