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Item of interest to coordination chemists

CRITICAL SURVEYS OF STABILITY CONSTANTS OF METAL COMPLEXES — GUIDELINES FOR PROSPECTIVE AUTHORS

"Critical Surveys of Stability Constants of Metal Complexes" is a continuous series, edited by the IUPAC Commission on Equilibrium Data. Each Critical Survey will be published in the official journal of IUPAC. "Pure and Applied Chemistry", enabling the series to be bound at a later date in a more permanent, hard-cover volume. The aim of the series is to evaluate the most reliable equilibrium constants from the available and frequently conflicting data.

Each survey is prepared by an expert, working actively in the field of thermodynamics of complexes. The papers are normally written by solicited authors. Unsolicited authors should first send an outline of their intended survey to avoid parallel work. Each survey, written by either solicited or unsolicited authors, is circulated among and commented on by the Members of the Commission on Equilibrium Data. It follows from the nature of the data considered, however, that even the recommended values cannot be regarded as 'official' ones and further research may change the suggestion.

In a Critical Survey reference should be made to all published data, but the numerical values should not necessarily be mentioned. The data are handled in four categories: recommended, tentative, doubtful, rejected. It must definitely be stated why certain data are rejected and particularly why certain data are regarded as reliable.

(a) Data should be recommended if the results of at least two independent groups are available and they are in good agreement; if the surveyor has no doubt as to the adequacy of the applied experimental and calculation procedure; if the consideration of the activity-concentration relation is correct and the standard state is unambiguous. The given error of such a constant must be less than ±0.05 logarithmic unit.

(b) Data should be regarded as tentative if all the conditions mentioned in connexion with the recommended category are fulfilled, except the first, or if the surveyor observes some deviation from the necessary rigorousness, but this probably caused no serious mistakes. The given error of such a constant cannot exceed ±0.2 logarithmic unit.

(c) Data should be considered as doubtful if the surveyor found some mistake in the evaluation of the constants, which are nevertheless of semi-quantitative value. The probable error of such a constant should not exceed ±1 logarithmic unit.

(d) Data determined by an inadequate method, or obtained under undefined

conditions, or where any serious objection is found in the evaluation, should be rejected.

Only published data should be included in the surveys. Quotations such as 'unpublished data', 'personal communication', etc., should be omitted. Even the published data can be considered only if the presented experimental details permit assessment of the degree of reliability of the constants.

A Critical Survey should preferably be written on the different complexes of a certain ligand or family of ligands, although in certain cases other groupings are accepted (e.g., complexes of a certain metal ion or a family of metal ions). Besides stability constants, ΔH and ΔS data should be included where available. For these data the same rules should be applied as for the equilibrium constants.

All manuscripts should be sent in duplicate to the Chairman of the Commission on Equilibrium Data, who is at present:

Prof. G.H. Nancollas
Department of Chemistry
State University of New York
Acheson Hall
Buffalo, New York 14214
U.S.A.

or to the Project Leader, who is at present:

Prof. M.T. Beck
Institute of Physical Chemistry
Kossuth Lajos University
H-4010 Debrecen
Hungary

Surveys received

The following Critical Surveys have been compiled and are at present being prepared for publication by the Commission on Equilibrium Data:

Survey on EDTA Complexes by G. Anderegg; Survey on Cyano Complexes by M. Beck; Critical Evaluation of Some Equilibrium Constants involving Alkylammonium Extracts by A.S. Kertes.