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Instructions to Authors

1. General

Three types of paper will be published:

(a) *Normal-length papers* — Comprehensive description and discussion of original research investigations. The experimental techniques must be described in detail.

(b) *Reviews* — Timely critical reviews will be accepted on any aspect of thermochemistry. They may include theoretical, experimental, or instrumental subjects. Reviews are normally written by invitation of the Editors, who welcome suggestions for subjects.

(c) *Notes* — Short articles that are less comprehensive than normal-length papers, but are of scientific significance.

In addition *Book reviews*, *Announcements* and *Reports* are published.

Authors should submit *three* copies of the typescript including figures, plus the original figures, to one of the Editors.

Professor D.Q.M. Craig, The School of Pharmacy, The Queens University of Belfast, 97 Lisburn Rd., Belfast BT9 7BL, UK. E-mail: duncan.craig@qub.ac.uk

Professor L.D. Hansen, Department of Chemistry and Biochemistry, C100 BNSN, Brigham Young University, Provo, UT 84602-5700, USA. Tel: +1801 378 2040; Fax: +1801 378 5474. E-mail: lee_hansen@byu.edu

Dr J.N. Hay, School of Chemistry, University of Birmingham, Edgbaston, Birmingham B152TT, UK, Fax: +44 121 414 5232. E-mail: j.n.hay@bham.ac.uk

Dr W. Hemminger, Physikalisch-Technische Bundesanstalt (Bundesallee 100, D-38116 Braunschweig), Postfach 3345, D-38023 Braunschweig, Germany, Fax: +49 531 592 3015. E-mail: wolfgang.hemminger@ptb.de

Professor S. Stølen, Department of Chemistry, University of Oslo, P.O. Box 1033, Blindern N-0315, Oslo, Norway, Tel: 47 228 55 601; Fax: +47 228 55 441. E-mail: thermochim@kjemi.uio.no

In order to reach the widest possible readership, the preferred language of the journal is English, but French and German typescripts may also be accepted. Authors should remember that the journal is international, and widely read by those whose first language is not English. Clarity and precision are usually best achieved by the use of short words and simple sentences.

Communication

Authors should submit papers in double-spaced typing on pages of uniform size, with a margin of 2.5 cm. Typescripts are to be preceded by a sheet of paper bearing the name, **full postal address, fax number, and e-mail address** of the corresponding author. The number of pages in the typescript, and the numbers of tables and of illustrations should also be indicated. Words or letters in the text which are to be printed in italics should be underlined. Any handwritten characters should be labelled in the margin the first time they appear.

Papers should be headed by a concise but informative title. This should be followed by the names of the authors and by the name and address of the laboratory where the work was carried out. If the address of an

author at the time at which the paper will appear is not the laboratory in which the work was carried out, this may be stated in a footnote. Acknowledgements of financial support should not be made by a footnote to the title or name of the author, but should be included in ACKNOWLEDGEMENTS at the end of the paper.

Papers should be divided into sections, using headings (e.g. Abstract, Introduction, Experimental, Results, Discussion, Conclusions, Acknowledgements, References).

2. Compuscripts: delivery of scripts on disks

Upon acceptance of the manuscript, authors should submit their paper on computer disk in addition to the three hard copies of the text and figures, plus the original figures. The advantages are that no typographical errors will be introduced into the text, and production times may be reduced. Guidelines may be obtained from the Editors or the Publisher. If illustrations are provided on disk, hardcopy versions of them must also be included.

3. Abstract

All scientific papers (including notes) should have an ABSTRACT in English, on a separate sheet. It should consist of a brief and factual account of the contents and conclusions of the paper, in addition to an indication of any new information which it may contain and of its relevance. No references should be given in the ABSTRACT. If the paper is written in French or German, the ABSTRACT should be headed by an English translation of the title. A RÉSUMÉ or ZUSAMMENFASSUNG, in the same language as the paper itself, should also be added.

4. Keywords

Authors are requested to supply up to five keywords below the abstract. Keywords should reflect matters that receive special attention in the paper, and should guide both the specialist and non-specialist reader.

5. Introduction

All scientific papers should have a short INTRODUCTION. This should state clearly the reasons for the work and what is new in the paper, with brief reference to previous work on the subject.

6. References

The REFERENCES should be numbered in the order in which they are cited in the text. The list of references at the end of the text should be given using double spacing on a separate sheet of the typescript. Footnotes should not include bibliographic material. Authors should check whether every reference in the text appears in the list of references and vice versa. Numerals for references should be given in square brackets [] in the text. Numerals referring to equations should be put in parentheses (). Abbreviations for the titles of journals should be according to the Bibliographic Guide for Editors and Authors, American Chemical Society, 1974. Expressions such as et al., idem and ibid. should not be used in the list of references: details of each reference should be given in full.

In the list of references at the end of the article the following system should be used for:

- (a) Periodicals:
 - [1] G.A. Vaughan and J.J. Swithenbank, *Analyst* (London), 90 (1965) 594.
- (b) Books:
 - [2] W.W. Wendlandt and J.P. Smith, *The Thermal Properties of Transition Metal Ammine Complexes*, Elsevier, Amsterdam, 1967, p. 14.
- (c) Multi-author volumes:
 - [3] A.J. Banister, L.F. Moore and J.S. Padley, in G. Nickless (Ed.), *Inorganic Sulphur Chemistry*, Vol. 1, Elsevier, Amsterdam, 2nd edn., 1968, p. 137.

7. Tables

Considerable thought should be given to the layout of the tables, so that the significance of the results can be grasped readily and quickly by the

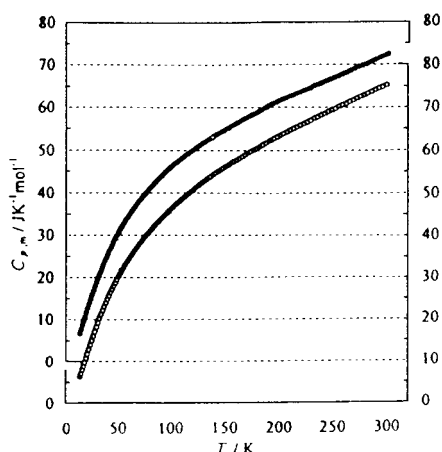


Fig. 1. Molar heat capacities of $(\text{AgBr})_x(\text{AgPO}_3)_{1-x}$ glasses: \circ , $x = 0.45$ glass; \bullet , $x = 0.55$ glass. The origin of the ordinate is shifted upward by $10 \text{ J K}^{-1} \text{ mol}^{-1}$ from $x = 0.45$ to $x = 0.55$ glasses.

busy reader. It should also be remembered that the length of a printed page is always greater than its width. Vertical lines are not used to separate the columns in tables.

Each table should be typed using double spacing on a separate sheet, and numbered with an arabic numeral. Tables should have headings which make their general meaning understandable without reference to the text.

When tabulating data, units and symbols should be used in column headings only, and not within the columns themselves.

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\circ \bigcirc \bullet \square \blacksquare \triangle ∇ \blacktriangledown \blacktriangle \diamond \blacklozenge \star \star \oplus \otimes $*$

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When labelling the axes of graphs, symbols and units must be used as follows in order to have dimensionless data on the axes.

Examples

T/K	$10^3 T/\text{K}$
m/kg	$\ln(p/\text{MPa})$
P/W	do not write $T(\text{K})$ or $T[\text{K}]$, etc.

Photographs should be black-and-white glossy prints, and should be as rich in contrast as possible. Photocopies of figures or photographs are not acceptable.

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12. Abbreviations, symbols and terms

When it is advantageous to the reader (not just to the writer), abbreviations or symbols may be used. Should there be any doubt about a particular symbol or abbreviation, the full expression followed by the abbreviation (in parentheses) should be given the first time it appears in the text. Abbreviations used in a figure should be explained in the legend; those used in a table should be explained in a footnote to the table. Care should be taken to use correct terminology. In particular, do not use the term thermogram or thermal curve, but use thermo-analytical curve or measured curve. If a particular technique is

used, incorporate this in the term: DTA curve, TG curve, etc.

13. Quantities, symbols and units

The International System of Units (SI) must be used.

Symbols for physical quantities (SI, SI derived, used together with the SI) are recommended, for example, by the International Union of Pure and Applied Chemistry (IUPAC) or by the International Organization for Standardization (ISO 31 series).

14. Brief recommendations for reporting thermal analysis data

Because thermal analysis techniques involve the measurement of some system parameter as a function of temperature [1], it is essential that all experimental details be given in the typescript. The reports of the Nomenclature Committee of the International Confederation for Thermal Analysis (ICTA) [2, 3] and the recommendations of McAdie [4, 5] should, in general, be adhered to as far as typescript space permits. Some of the recommendations are briefly summarized here; for further information the original references should be consulted.

(1) Identify all materials by a definitive name, an empirical formula, or equivalent compositional data.

(2) State the sources of all materials, their chemical purities, and other pertinent data.

(3) Give the furnace heating rate over the temperature range of interest.

(4) Identify the sample chamber atmosphere by pressure, composition and purity. The conditions of atmosphere control (static, dynamic or self-generated) should be specified.

(5) Label the abscissa in temperature units or time. In reporting TG data:

(6) Give the type of thermobalance employed, including the manufacturer's name and the instrument model number.

(7) Mass loss should be plotted as a downward type curve either in mass or percent mass units.

In reporting DTA data:

Examples

Quantity		Unit	
Name	Symbol	Name	Symbol
length	l	metre	m
mass	m	kilogram	kg
		gram	g
time	t	second	s
		minute	min
		hour	h
thermodynamic temperature	T	kelvin	K
Celcius temperature	t, θ	degree Celcius	°C
amount of substance	n	mole	mol
molar mass	M		kg mol ⁻¹
concentration (amount)	c		mol dm ⁻³ , mol l ⁻¹
molality	m		mol kg ⁻¹
pressure	p	pascal	Pa
energy	E	joule	J
heat	q, Q	joule	J
power, heat flow rate	P, ϕ	watt	W
volume	V		m ³
		litre	l, L
chemical potential (partial molar Gibbs energy)	μ		J mol ⁻¹
viscosity			
dynamic	η		Pa s
kinematic	ν		m s ⁻¹

Subscripts to denote a chemical process

combustion	c	reaction	r	transition	trs
fusion	fus	solution	sol	vaporization	vap
mixing	mix	sublimation	sub		

Superscripts for standard conditions

[⊖] or °; examples:

$$p^{\ominus} = 10^5 \text{ Pa (1 bar)}$$

$$\Delta_c H^{\ominus}$$

$$H_B^{\ominus} \text{ (standard partial molar enthalpy of substance B)}$$

Prefixes

Submultiple		Symbol	Multiple		Symbol
10 ⁻¹	deci	d	10	deca	da
10 ⁻²	centi	c	10 ²	hecto	h
10 ⁻³	milli	m	10 ³	kilo	k
10 ⁻⁶	micro	μ	10 ⁶	mega	M
10 ⁻⁹	nano	n	10 ⁹	giga	G
10 ⁻¹²	pico	p	10 ¹²	tera	T
10 ⁻¹⁵	femto	f	10 ¹⁵	peta	P
10 ⁻¹⁸	atto	a	10 ¹⁸	exa	E

Special recommendations for thermal analysis

(International Confederation for Thermal Analysis and Calorimetry, ICTAC)

differential scanning calorimetry	DSC
differential thermal analysis	DTA
dynamic mechanical analysis	DMA
thermogravimetry/thermogravimetric analysis	TG/TGA
thermomechanical analysis	TMA
average heating rate	$\beta/(\text{K min}^{-1})$
fractional extent of reaction	α

Subscripts

S, sample; R, reference sample. To denote characteristic temperatures: i, initial; e, extrapolated onset; p, peak; f, final, g, glass transition

(8) Give the type of instrument employed, including the manufacturer's name and the instrument model number.

(9) Report the sample preparation and dilution, and also the reference material employed.

(10) The ordinate scale should indicate the temperature difference between sample and reference sample $T = T_S - T_R$. Preferred plotting for endothermic reactions consists of downward deflection of the curve peaks, and exothermic reactions as upward deflections. In addition, authors must make clear the sign convention they are using.

In reporting DSC data:

(11) Give the type of instrument employed, including the manufacturer's name and the instrument model number.

(12) The ordinate scale should be described in power or units. Plotting for endothermic reactions is as upward deflection of the curve peaks, and exother-

mic reactions as downward deflections. In addition, authors must make clear the sign convention they are using.

Other thermal analysis techniques:

(13) Give the type of instrument employed, including the manufacturer's name and the instrument model number.

(14) The ordinate scale should be accurately described in the preferred units of measurement.

References

- [1] W.W. Wendlandt, *Thermal Methods of Analysis*, Wiley-Interscience, New York, 3rd edn., 1976, Chap. 1.
- [2] R.C. Mackenzie, *Talanta*, 16(1969) 1227.
- [3] R.C. Mackenzie, C.J. Keatch, D. Dollimore, J.A. Forrester, A.A. Hodgson and J.P. Redfern, *Talanta*, 19(1972) 1079.
- [4] H.G. McAdie, *Anal. Chem.*, 39(1967) 543.
- [5] H.G. McAdie, *Anal. Chem.*, 44(1972) 640.