

Summary Minutes from the Meeting of the Commission on Chemical Kinetics (I.4), Geneva, Switzerland, 24–25 August 1997

Major data evaluation projects of importance in environmental chemistry have been extended and new projects initiated in related areas of environmental science. One, concerned with the thermodynamics of free radicals, was proposed in support of the ongoing projects on atmospheric and combustion data evaluation. Others involve chemistry under extreme conditions and catalysis.

The Subcommittee on Gas Kinetic Data Evaluation for Atmospheric Chemistry has continued with its series of evaluations. The most recent supplement (number V) was completed in early 1995, but published only in early 1997 (*J. Phys. Chem. Ref. Data* 1997, **26**, 509–1011) due to problems in the journal production process. Supplement VI has been submitted for publication and should appear this year. Supplement VII is expected to be submitted to the journal by the end of this year. The most recent publication is the sixth major data evaluation published in this series, which is extensively used in mathematical models of the stratosphere and troposphere.

The Subcommittee on Aqueous Solution Kinetics Data for Atmospheric Chemistry has assembled an international panel of experts to evaluate data relevant to atmospheric chemistry taking place in the aqueous phase. The project Evaluated Chemical Kinetic Data for Combustion Chemistry has assembled a working party, tasks have been assigned, and a publication planned. The project Task Force on the Thermodynamics and

Chemical Data Base for Hazardous Waste Processing will complete its work this year and a report will be issued in early 1998.

The next meeting will be held in Berlin, Germany, in August 1999.

Dr John T. Herron
(Chairman, Commission I.4)

Summary Minutes from the Meeting of the Subcommittee on Transport Properties, Boulder, Colorado, USA, 21–22 June 1997

Nine scientific presentations were made on specific topics related to the ongoing projects of the Subcommittee.

Standard Reference Data for the Transport Properties of Fluids. New recommendations for the viscosity and thermal conductivity of methane were concluded. The resulting paper, reviewed by two members of the Subcommittee, will be published under the Subcommittee auspices.

Work that will continue refers to propositions for recommendations for the:

- a viscosity of liquid water
- b viscosity of toluene
- c viscosity and thermal conductivity of methane + ethane
- d viscosity and thermal conductivity of butane
- e viscosity of steam
- f viscosity of *n*-pentane

Standard Reference Value for the Viscosity of Water. A new proposition from ISO for a new value for the viscosity of water was considered and not agreed. A detailed case underlying the reasons for the disagreement was prepared for ISO.

Midas Databank of Transport Property Data. It is hoped that the work carried out by Prof. K. Stephan and R. Krauss in compiling all recent and unpublished results on transport property measurements will be continued normally.

Round Robin Project on R134a. The project aiming to reconcile the profound differences of the transport properties of R134a between the data obtained in different countries within IUPAC has been completed. A paper illustrating this point will soon be published under the Subcommittee's auspices. The Subcommittee is grateful for the financial contribution of IUPAC to this project.

Prof. Marc J. Assael
(Secretary, Subcommittee on Transport Properties)

Summary Minutes from the Meeting of the Commission on Biotechnology, Geneva, Switzerland, 23–24 August 1997

During two sessions, one with the Titular Members and Dr Nara, and a second with the additional presence of Dr Chorgade, Prof. Hearn and Dr Kiener, the mission statement and future activities of the recently reconstituted Commission on Biotechnology (COB) were discussed with the following results:

1. The mission of COB

- to enhance the understanding of modern biotechnology among chemists world-wide;
- to foster the integration of biochemistry and biotechnology within IUPAC;
- to serve both industrial and public interests.

2. Projects

There was consensus to concentrate on just a few but highly profiled projects.

COB Home Page. Establish a COB Home Page (linked to the IUPAC Home Page). Contains general information on COB members and projects. Will be placed on the new IUPAC server at the University of Chapel Hill, NC).

Biotechnology browser, web page. Establish a web page which informs chemists world-wide about basic

methods, trends and advances of modern biotechnology. Original graphs, in their original language, will be used from: (a) national education series on biotechnology (available from the USA, Japan, Germany, France, the UK, Switzerland, etc.), and (b) from selected monographs. Financial support will be solicited from the pertinent publishing houses. This web page further contains addresses of national organizations providing information material on modern biotechnology.

National patent regulations in biotechnology, web page. Establish a web page which provides information about national/regional regulations on patenting in biotechnology on a world-wide basis. The project addresses individual inventors, start-up companies and medium and small enterprises and is strictly limited to information; no attempts will be made to harmonize existing patent rules. The web page contains the addresses of biotechnology-related branches within the national patent offices (if available) and the addresses of national patent law firms specializing in biotechnology-related patent applications. Financial support of the latter group will be solicited.

Nomenclature rules for recombinant proteins, jointly with IUBMB. Develop nomenclature for isoforms, glycoforms, genome-derived proteins, artificial proteins obtained by gene shuffling, etc., with a particular view on patent issues.

Organize two sections or satellite meetings at the IUPAC Biotechnology Conference in Berlin 2000. The project is aimed at improving the interface among chemists and biologists. Two topics will be chosen which are relevant to either professional group but lack mutual penetration, such as 'Prediction of properties of genome-derived proteins by the use of bioinformatics, e.g. surface/charge modelling' and 'Proteomics in drug development'.

White Book or Monograph on 'Metabolic engineering and the production of chemicals'. The feasibility to produce bulk and speciality chemicals (e.g. solvents, vitamins, dyes, intermediates) through modern biotechnology at competitive economics by applying metabolic flux analysis and genetic engineering will be analyzed in view of national and regional differences in raw material prices, competitive processes, access to technology, etc.

PAC article. A chemical product will be chosen which can either be produced by organic synthesis or bio-transformation/fermentation, and the ecobalances of both processes will be compared.

3. Other discussion points

3.1. IUPAC Biotechnology Conference 2004

According to IUPAC traditions, the meeting should be held in the American hemisphere. Following a letter of the former chairman of COB to the pertinent national IUPAC organizations, interest to act as a host to this conference has been expressed by Chile and Canada. While a majority of the present COB members showed a tendency to favour Chile, the available information is too scarce to allow for any decision yet. COB Chairman will (a) collect more information, (b) contact the putative organizers in Chile and Canada on the basis of an IUPAC questionnaire and the regional potential to attract scientists with high profile.

3.2. Functions and membership

The participants agreed to propose to Dr Michelle Browner the position of COB's Vice-chairperson.

COB Chairman requests IUPAC Secretariat to assign Dr Nara as a Titular Member of COB.

The membership of COB should not exceed 15 persons, and about half of the members should work in industry. COB chairman will initiate contacts to individuals with the desired profile and nationality, followed by their nomination as national representatives through their national adhering organizations.

**Prof. Rolf Schmid
(Chairman)**

Summary Minutes from the Meeting of the Commission on Soil and Water Chemistry (VI.3), Geneva, Switzerland, 23–25 August 1997

The major topics extensively discussed during this meeting were the composition of the Commission and the progress of the current projects. The main activity to

be carried out by the Commission in the near future will be the organization of a conference on 'Degradation Processes in the Environment' to be held in Dubrovnik, Croatia, May 1998.

Since the last meeting of the Commission (Schmallenberg, Germany, September 1996), two draft contributions to *Pure and Applied Chemistry* were completed, entitled *An overview of analytical quality control and quality management in water laboratories* and *The importance of natural organic material for environmental processes in waters and soils*. Also a report was produced, containing the main findings of the workshop on *The importance of natural organic material for environmental processes in waters and soils*, which was held in Germany in September 1996. Thereupon the scientific findings of the workshop were prepared for publication.

During the meeting in Geneva several ideas for new projects and possibilities for new feasibility studies were discussed. In line with the recommendations from the Chemistry and the Environment Division it was decided to limit the number of projects, in order to warrant their successful completion.

The following areas were identified as being of potential interest to the work of the Commission.

- 1 Disinfection and disinfection products from water treatment
- 2 Pesticides appearance in drinking water resources—joint action is needed with the Agrochemicals Commission (VI.2) and Commission VI.1 (to cover analytical aspects)
- 3 Atmospheric deposition in drinking water reservoirs
- 4 Antibiotics in the environment and drinking water: effects and occurrence
- 5 Statistical performance standards of analytical methods for soil and water analysis
- 6 Chemical properties of sewage sludge

No additional action on the proposed new projects was taken. Commission members are requested to submit additional ideas before March 1998 in order to enable discussion of all proposed new projects during the next meeting.

The next meeting will be held one day before the start of the conference on 'Degradation Processes in the Environment', Dubrovnik, Croatia, 23 May 1998.

**Dr W. Peijnenburg
(Secretary)**