

Commission on Macromolecular Nomenclature (IV.1)
Minutes of the Meeting in Brisbane, Australia
29 June – 4 July, 2001

The Commission met in the Queensland University of Technology, Brisbane, Australia. Those attending where:
Titular Members: Prof. M. Hess Chairman (Germany); Prof. K. Horie (Japan); Prof. R. G. Jones (UK); Prof. P. Kubisa Poland), Prof. E. Marèchal (France); Dr. E. S. Wilks (U. S. A.), Prof. M. Barón, Secretary (Argentina);
Associate Members: Prof. J. He (China); Prof. J-II Jin (Korea); Prof. K. Kitayama (Japan); Prof. J. Vohlidal (Czech Republic);
National Representatives: Prof. W. Mormann (Germany); Dr. C. Nhlapo (South Africa); Prof. D. Tabak (Brazil);
Consultants: Prof. G. Allegra (Italy); Prof. A. D. Jenkins (UK); Dr. J. Kahovec (Czech Republic); Prof. P. Kratochvil (Czech Republic);
Observers: Prof. Choon H. Do (Korea); Prof. S. Kobayashi (Japan); Dr. M. Schubert (U.S.A);
Division Committee Members: Prof. R. Gilbert, Division President (Australia); Prof. R. F. T. Stepto, Division Vice-President (U.K.), Dr. W. J. Work, Division Secretary (USA).

Agenda

As for the Warsaw Meeting Minutes, once again the Agenda that had been previously proposed to the Membership, is used here as Table of Contents. However it should be noted that, again as in previous Minutes, the individual items were not treated in the order they are shown in the Agenda, but as they are shown in the time table (Appendix A). Therefore the numbering in the Agenda should facilitate the search of any particular item of the Minutes. It must also be noted that a few additional items were included among those indicated in the original Agenda.

1. Chairman's Remarks

- 1.1. Welcome
- 1.2. Approval of the Minutes from the Warsaw Meeting
- 1.3. Matters arising from the Warsaw Minutes
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- 1.7. Timetable for the Brisbane Meeting

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- | | | |
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| 3.2. | Purple Book | Wilks |
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| 3.6. 27/95 | Glossary of Terms Relating to Polymeric Gels and Networks. Hybrid Inorganic Polymeric Materials and the Pprocessing thereof. | Jones, Hess |
| 3.7. 28/97 | Terminology and Structure-Based Nomenclature of Dendritic and Hyperbranched Macromolecules | Kahovec |
| 3.8. .29/97 | Terminology and Nomenclature of Macromolecules with Cyclic Structures | Marèchal, Wilks |
| 3.9. 30/97 | Glossary of Polymer Chemical Class Names | Vohlidal |

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3.13. 34/99	Definitions of Terms Relating to Reactions of Polymers and Functional Polymers	Horie
3.14. X/97	Terminology in the Chromatography of Polymers and Related Separations (Separations Project)	Hess
3.15. 35/00	Nomenclature for Rotaxanes and Catenanes (Former F-20) (Threaded cyclic molecules)	Wilks

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4.4. F-19	Crystalline polymers	Allegra
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5. Proposed Feasibility Studies. New Proposals

6. Procedures to adopt for termination of Commission IV.1 activities

- 6.1. Destination of Commission files
- 6.2. Instructions to present and future Project Coordinators
- 6.3. Actions with unfinished Projects
- 6.4. Criteria to follow with present feasibility studies

7. Other Business

8. Titular Members Meeting

9. Year 2002 Meeting

MINUTES

1. Chairman's remarks

1.1. Welcome. Prof. Hess opened the Meeting by welcoming the attendees, especially Dr. Mark Schubert (USA) and Profs. Choon H. Do (Korea) and Shiro Kobayashi (Japan), who came for the first time as Observers.

1.2. Approval of the Minutes of the Warsaw Meeting

Dr. Wilks requested that in the future the complete titles of each document should be listed in its complete form in the Minutes, so as to avoid possible misunderstandings. It was so agreed.

Prof. Jones moved that the Minutes be approved, **Dr. Wilks** seconded the motion and it was approved unanimously.

1.3 Matters arising from the Warsaw Minutes

Dr. Wilks remarked that the change in name for the document numbered 33/99, from Source Based Nomenclature...to Process Based Nomenclature... as approved in Warsaw should be implemented. The Secretary will take care of this.

Dr. Wilks then commented on the difficulties he found in getting responses from the members of the Working Parties (WP) of both documents 33/99 and 35/00. His complaint for the lack of response stems from the difficulties this creates for the adequate meeting of the accepted deadlines.

Prof. Hess suggested that this may be very likely due to the excessive amount of workload of many WP members and should in no case be taken as a lack of interest.

Dr. Kahovec felt that this situation could well be the result of the large number of members in many WPs, so that in the end it is the Task Group Leader (TGL) that has to carry out most of the work, especially since in many cases comments received are somewhat marginal.

Prof. Marechal agreed with **Dr. Wilks** and suggested that some mechanism should be implemented for the future to avoid this situation.

Prof. Tabak pointed out the fact that in many cases there are e-mail problems so that the documents simply do not arrive and WP member are not aware of what is requested from them. As a possible solution he suggested that immediate confirmation should be replied upon arrival, so that failure to answer would be a clear indication that the document has not been received. This suggestion was approved without further discussion.

It is therefore resolved that confirmation of arrival should be sent immediately, with the reply function, of every document received from the Task Group Leader (TGL).

Prof. Jones expressed the view that the present situation and this very discussion may be of an historical value in view of the impending changes in the activities of IUPAC. He further considers that under these conditions work will become increasingly difficult, especially in the discussion of all matters.

Dr. Kahovec fully agreed and added that he can envision more difficulties in the case of nomenclature matters that in those relating to terminology.

Prof. Horie fully agreed with Dr. Wilks and added that: people not in the WPs do not know what is happening in general and that the amount of documents handled by the Commission has grown to such an extent that work has become difficult to keep up with.

1.4. Publications since Warsaw

Prof. Baron reported that the Liquid Crystals document in its complete form was terminated successfully and is now in press for the May issue of PAC.

Prof. He reported that a Chinese translation of Macromolecular Nomenclature Note 18 is now completed and published in the Polymer Bulletin (Chinese), 2001(2), 74-80.

Prof. Marechal reported that the Kinetics document is also in the publications process.

Dr. Wilks reported that the Purple Book is now on the Web, as the result of the work coordinated by **Prof. Gilbert**. Also a **Guide for Authors** is available that is based on a polymer nomenclature article written for a subsequently abandoned encyclopedia project, that was an adaptation of a paper by **Dr. Metanomski**. This document had been reviewed by Dr. Metanomski, was found acceptable by him and, although it is considered by **Dr. Wilks** just a “stop gap” that will not solve the problems of all authors, it should be useful in providing guidance. **Prof. Stepto** suggested that the document be named: **INTRODUCTION TO NOMENCLATURE SYSTEMS FOR POLYMERS – A GUIDE TO AUTHORS**. This was accepted.

Prof. Stepto called attention to the fact that since Dr. Work is no longer in charge of the Commission’s Web page, because it was taken over by IUPAC when he left Rohm & Haas, somebody should become responsible for checking it and that this is especially the case with the Purple book. **Dr. Wilks** indicated that he had been doing some of this work especially with the new chapters, because what is on the web is the original version and it should be changed as new chapters come out. **Prof. Hess** pointed out that **Drs. Kahovec and Meisel** are waiting for the web version to be out, so as to review and check whatever has to be corrected and send it to Dr. Senzel at the Secretariat.

At this point **Prof. Stepto** raised the question of who is looking after the Commission’s web page now, on a general basis. It was resolved that **Dr. Wilks** should take up this task, therefore in the future all matters with the web page as destination should pass through him. The present situation was then reviewed in order to know exactly what is now available, considering that the Chapter numbers of the new PURPLE BOOK Ed. should be those indicated in the Warsaw Minutes (page 11). Therefore:

Chapters 2,3 and 4 stay as they are, respectively:

Stereochemical Definitions and Notations Relating to Polymers (1980).

Definitions of Terms Relating to Individual Macromolecules, Their Assemblies, and Dilute Polymer Solutions (1988).

Definitions of Terms Relating to Crystalline Polymers (1988).

Chapter 5. This is a new Chapter:

Definitions of Basic Terms Relating to Low-Molar-Mass and Polymer Liquid Crystals (2001).

Chapter 6. A new version will be made ready by Prof. Stepto and Dr. Work:

Definitions of Terms Relating to Non-Ultimate Mechanical Properties of Polymers.

Chapters 7 and 8 are available in new forms:

Definitions Relating to Degradation, Aging and Related Chemical Transformations of Polymers (1996).

Basic classification and Definitions of Polymerization Reactions (1994).

To avoid delays at this point of the Agenda, further discussion of this matter was deferred to the discussion of the THE PURPLE BOOK (Section 3.2.).

1.5. Upcoming publications

Profs. Jin and Tabak reported that Portuguese and Korean translations of the Purple Book are now complete and in the process of publication.

Prof. Horie reported that the Japanese publication of the translation of the Non-Ultimate Properties documents is upcoming.

Prof. Vohlidal reported that the Czech translation the Graphic Representations (Chemical Formulae) of Macromolecules, by M. Benes, P. Cefelin, J. Kahovec, P. Meissner, B. Roda and J. Vohlidal, *Chemicke Listy* (2001), 95, (2) 112-122..

Prof. Horie further reported that on 27 September, 2000, there was held in Sandai (Japan), during the Autumn Polymer Symposium of the Society of Polymer Science of Japan, the 5th Symposium of Macromolecular Nomenclature. Five topics were presented, that were published in K. Horie, *Polymer Progr. Jpn.*, (2000) 49, 1101-1111.

1.5. IUPAC developments

Essentially two distinct matters were extensively discussed. Those presented respectively by **Profs. Stepto and Gilbert** and the Meeting with CCINS members. Both matters will be taken up separately.

1.6.1. Prof. Stepto concentrated especially on the status of current documents, how they should be updated because as well as the Commission, all documents will be terminated on 31 December, 2001. This problem could be solved through a brief resubmission of all documents under the new Project driven system.

The affected Projects are the following:

Second Edition of the PURPLE BOOK

New title: COMPENDIUM OF MACROMOLECULAR NOMENCLATURE AND TERMINOLOGY

Guide to Polymer Terminology and Nomenclature

Asymmetric Polymerization

Kinetics and Thermodynamics of Polymerization

Glossary of Terms Relating to Polymeric Gels and Networks, Hybrid Inorganic Polymeric Materials and the Processing thereof.

Terminology and Structure-Based Nomenclature of Dendritic and Hyperbranched Macromolecules

Terminology and Nomenclature of Macromolecules with Cyclic Structures

Glossary of Polymer Chemical Class Names (The title is under revision)

Polymerisation Processes and Polymers in Dispersed Systems

Terminology of Polymers containing Ionizable Groups and Polymers containing Ions.

Definitions of Terms Relating to Reactions of Polymers and Functional Polymers.

Terminology in the Chromatography of Polymers

At this point **Prof. Gilbert** intervened indicating that a Time Table and Milestones are essential in all submissions, because without these items he would not provide any support. Milestones should be reasonable. To this **Dr. Wilks** asked what should be done in the case of stalemates. **Prof. Gilbert** answered that it was up to the Task Group Leader (TGL) to decide.

At this point the question was raised again regarding how things would go on under the new system. To this **Prof. Gilbert** indicated that the organization is still under discussion, especially since the new Nomenclature Division under Dr. McNaught will be composed of a small number of TMs and a large group of Associates. On **Prof. Kratochvil's** initiative Terminology is important and that as far as he knows a Commission will be established. To this effect he mentioned that there existed the informal support of Dr. Becker, but that a Commission would not likely be implemented before 2003.

To avoid loss of time and effort **Prof. Gilbert** suggested the possibility to form a Nomenclature Sub-Committee within the Division, because it could be approved by its Committee. This could be done through a brief submission of not more than ten lines indicating:

- Organization
- Membership
- Funding needed

although the latter item is difficult to handle because Sub-Committees have no funding. Only TMs get funding and this under the future Project Driven System. However a Sub-Committee could request funds for meetings. To the question by **Prof. Stepto**, if there would be a General Assembly budget, the answer was. **Yes!**

Prof. Gilbert reviewed the situation as it is at present considering the forthcoming termination of Commissions and the implementation of the Project Driven System, indicating that procedures for the interim period are in progress.

Prof. Hess reported on his proposal for continuation of Commission IV.1 and **Prof. Gilbert** indicated that it was sent to the Bureau where it will be considered as the creation of a **Commission on Terminology**. However he estimated that no decision could be expected in this GA and that 2003 would be a more likely date.

This led to comments on the structure of the interim period, especially regarding funds and in particular to cover the attendance of members to Meetings. It is expected that some US\$ 14000.- would be available for 2002. On the other hand the Budget for the present Meeting came in rather late and the funds will be available only for completion tasks

Profs. Stepto and Hess indicated that this amount is not very different from previous figures. It is also stressed that the GA budget will only support Titular Members, so that any other expenses will have to come from Division funds and that these are essentially for finalization of projects.

Prof. Stepto reported on the application for a new Commission on Terminology, with the proposal that the name of Comm. IV.1 should be changed accordingly. However he suggested that we should deal with both matters and feels that we should not wait till 2003. Furthermore, he added that if the new Nomenclature Division (CCINS) is not started we should continue working in both fields (Nomenclature and Terminology), otherwise we should limit the work to Terminology.

Prof. Kratochvil raised the question of the difference between terms of reference of the two Divisions and considered that unless carefully organized CCINS would become nothing more than a filter or rubber stamp. **Prof. Stepto** also has doubts regarding the operation of CCINS.

At this point it was considered that no further progress could be made in the discussion until after the meeting with Dr. Alan McNaught that will be held in the morning of the following day (see Item 1.6.2.), when it is expected that updated information will be available.

1.6.2. Meeting with CCINS members

Dr. Alan McNaught made a short description of what the meaning of the new CCINS Commission is expected to have within IUPAC's new framework. He also indicated some tasks already completed like a *Test algorithm for the naming of compounds* and a *Set of preferred rules for organic compounds*, both were expected to be completed by the end of this year. He further anticipated the preparation of *On-line naming services* that will be available on the IUPAC Website.

Finally he mentioned the proposal to form a new Division for systematic naming, especially in a computerized way. The proposal has been sent to the Bureau and is expected to be put to Council next week.

At this point Dr. McNaught indicated that he had a number of questions he would like to ask but first he wanted to answer questions from the floor.

Dr. Wilks mentioned failed projects, like the Smiles one and asked why would there be a new one. The answer was that the failure could be attributed to the fact that it was a commercial one and this led into conflicts on one hand, but also because computing power was far inferior than it is today. He further indicated that although initially the system would be adapted to small organic molecules he could not see why it could not be adapted to macromolecules as well at a later date.

Prof. Kratochvil asked if the work would be limited to organic chemistry. The answer was that it would include also inorganic chemistry and hopefully macromolecules later on. To this **Prof. Kratochvil** indicated in the first place that polymeric structures are too complex to be handled easily and in the second that there are essentially two systems: structure based and source based. The answer was that at first only structure based nomenclature would be considered.

Prof. Kratochvíl next asked what would be the relation between CCINS and IDCNS? The answer was that it would be the same as before and that no overlap is envisioned. Furthermore, there would be a CCINS representative in IDCNS. Also, since much of the work in Organic and Inorganic chemistry is related to Terminology, it will not be handled by CCINS but by the Divisions and that this would lead to some form of cross-fertilization.

Prof. Hess asked what is expected to happen in the interregnum. The answer being that it was something that will have to be worked out. Furthermore he expressed concern regarding dissemination and usage. To this **Dr. McNaught** replied that it is a problem of top priority for a solution to be found and cited Dr. Jost's interest in dissemination in particular.

A general discussion followed regarding the lack of citations of IUPAC recommendations and the prevalent criticism of the length of the projects, that clearly indicates a lack of understanding of the complexity of the nomenclature work.

Prof. Mormann felt that unless some form of effective communication could be worked out with the so called "outside world", our work could get cut off from the chemistry end. To avoid this possibility he suggested that working scientists should be encouraged to provide input at early stages in the work on each document.

Prof. G. Moss indicated at this point that Organic Recommendations found on the Web are heavily used.

Prof. Kratochvíl asked: if the new Division would be formed with Organic, Inorganic and part of Macromolecular Chemistry, what would become of the others. Because this would actually contain three Divisions plus a relationship with IUBMB.

Prof. Hess added to this his question if a unification has already been contemplated.

Dr. McNaught answered that he had asked Dr. Jost about this and that Dr. Jost expressed the hope that the longer documents would go to the new Division that it was hoped to get started after 1 January 2002.

Prof. Stepto expressed concern about the budgetary problems this would cause.

Dr. McNaught answered that those transferred projects will go with the necessary funds and that it was also understood that some project might require joint work. He also added that disappearing commissions should put together a list of people that would provide a suitable body of expertise. This would then make up a single information store with names and fields of expertise of people that have worked on nomenclature projects.

This led **Prof. Hess** to review the state of several projects. The result being that:

1. Dendrimers and Hyperbranched and Cyclic will both finalise by 31 Dec. Next.
2. Threaded, as **Dr. Wilks** reported was somewhat simplified due to the dropping of knots since they are still at a very early stage of development. However, regarding Rotaxanes, rules and guidance are badly needed due to the explosion of information in the field.

Dr. McNaught supported these actions stressing that finalisations are necessary before "inconvenient" habits become ingrained.

Prof. Stepto pointed out that both Process based and Class Names should preferably remain within the sphere of Comm. IV.1, or its successor.

Dr. McNaught, finally stressed that if the new Division is approved he would have to discuss matters extensively with Profs. Hess and Stepto.

Round-up Discussion

This followed immediately after the departure of the CCINS group.

Prof. Mormann sees that there will be a communications problem.

Prof. Kratochvíl considered that there is a political decision behind the creation of a new Division but that he was not quite clear about the final outcome of the initiative.

Prof. Stepto considered that Structure Based funded work would go to CCINS.

Prof. Hess mentioned that he had information that the Physical Chemistry Commission had made a request in order to be able to continue.

Prof. Barón raised a number of questions relating to administrative matters in case the Commission is terminated. **Prof. Stepto** indicated that until further notice things should be continued to be handled as up to now, especially regarding Feasibility Studies, because they constitute the core of our work.

Therefore a preliminary mechanism was agreed on, through which Feasibility Studies that have proved to be of value would be submitted to the Division Committee as Project Proposals.

Prof. Stepto indicated that since a Commission on Terminology cannot be created immediately he suggested that a sub-Committee be formed and that a motion be submitted in during the Division Meeting to get the matter started. **Prof. Kratochvíl** fully agreed to this proposal feeling that it is a reasonable way out for our work to continue. Especially since the new Division will only deal with Structure Based Nomenclature.

To this followed a brief discussion regarding the need to have a representative in CCNIS

1.7. Time table

The time table was fixed. (Appendix A)

2. Projects that have been submitted for Public Review

2.1. 19/89 Revision of Single Strand

Dr. Kahovec reported that the document is essentially ready for publication because it has gone to IDCNS and returned basically approved because all the objections regarding chapter subdivision, numbering of rules, uniformity in formulas and other minor editorial details. There remains, however one notable exception by **Prof. Favre**, that objected the use of the expression "preferred CRU". It was included in the version submitted in October of 2000. This matter was discussed with **Dr. Fox** who proposed that the questioned words be replaced by "selected CRU", because it resembles expressions used in Chemical Abstracts

The matter was extensively discussed by the Commission, with the active participation of **Prof. Tabak, Stepto, Hess and Barón**, that proposed to back **Dr. Kahovec's** opinion to use the word "preferred". At this time **Prof. Kratochvíl** pointed out that a "preference" leaves open the possibility of alternatives, that is not convenient because since there are rules one is constrained by them.

Several alternatives were considered through a general discussion with the participation of **Prof. Mormann, Tabak, Stepto and Kratochvíl** and **Dr. Wilks**. The latter suggested a change in phraseology while **Prof. Stepto** read from an earlier version that supports the use of selected. At this time **Prof. Horie** brought up the Glossary that supersedes the earlier version.

It was moved by **Prof. Jones**, seconded by **Prof. Stepto**, to vote between the use of "preferred CRU" and just "CRU".

In favour: 10 votes
Against: 3 votes
Abstentions: 3 votes

As a result it was considered that some indication should be included in the document to justify the use of just CRU. To this effect **Prof. Kratochvil** proposed a short paragraph for the Introductory section reading as follows:

The recommended polymer terminology [reference to be indicated] defines the constitutional repeating unit (CRU) as:(here goes the quoted Definition). In most polymers, more than one CRU can be found which simply comply with this Definition. The present document deals with structure-based polymer nomenclature and names polymers in accordance with the rules of nomenclature of organic chemistry. Only one CRU for a given polymer is consistent with the seniority rules of polymer nomenclature. In this document, the term constitutional repeating unit means exclusively this particular CRU. Dr. Kahovec will provide a suitable example.

This proposal was discussed extensively with **Profs. Horie, Stepto and Vohlidal** and **Dr. Kahovec** contributing to polish the phrase in order to end up with an adequate definition. The document now is considered to be ready to be sent again to IDCNS for final approval.

ACTIONS

1. A final version will be prepared and sent to IDCNS by October 15 (**KAHOVEC**).
2. Copies will be sent to WP members and to **Profs. Horie, Kratochvil, Marechal, Mormann, Stepto and Tabak**.

2.2. 21/93 Generic Nomenclature

Prof. Marechal reported that the document has received approval from IDCNS, but requires some editorial corrections in a number of the formulas. This will be taken care of with the assistance of **Dr. Wilks**. This is expected to be completed soon so that the document is ready for publication by 31 December 2001. **Prof. Stepto** requests that copies of the final version be also sent to members of the WP.

2.3. 25/95 Asymmetric polymerization

Prof. Kitayama reported due to the absence of Prof. Hatada and because for this reason he has become coordinator of this project, in charge of seeing it through to completion. He informed the Commission that the document is now posted on the web and that two sets of comments have been received as a result of the IDCNS and Public Review period. Both are from the former body, one from Dr. Metanomski and the other from Prof. Hellwich. Both sets of comments were carefully and extensively reviewed and discussed by Profs. Hatada and Kitayama and either incorporated or justified for not being accepted. **Prof. Kitayama** read in detail the letters of both reviewers, indicating how and why the objections were handled as they were.

Prof. Stepto suggested a few language changes for smoother reading. **Dr. Wilks** remarked that square brackets [] have to be used consistently for the numbering of references. **Prof. Kubisa** indicated changes in the writing of the schemes in the sense that parentheses and square brackets should be used consistently in the accepted order of hierarchy. Finally some editorial mistakes were corrected through suggestions from the floor.

Prof. Kitayama will now take the necessary steps towards publication of the document.

2.4. Liquid Crystals Polymers (short version)

Prof. Baron described the present state of this problem informing that the long or main document has been finally approved, prepared for publication and is now scheduled to appear in the May issue of PAC. On the other hand the short or abridged version, that had also been sent to IDCNS was not accepted by **Dr. Metanomski**, who considered unacceptable the publication of the two documents side-by-side. This, especially because he does not see how the short document could be called a Guide when it is more an extract of the long one. Also he noticed inconsistencies in the numbering of the Definitions, because there were different numbers for the same Definitions in the two versions. He considered that *“The scientific community and IUPAC should applaud the efforts of Commission IV.1 in undertaking a difficult task of compiling basic definitions from a broader field than that directly related to polymers”*, but that he could not recommend this publication and suggested that it would be more appropriate to submit it to a journal. **Profs. Stepto and Baron** discussed this proposal and disagreed with Dr. Metanomski's opinion. Therefore they decided to submit the matter to the Commission. After a brief general discussion with the

especial participation of **Profs. Kratochvil, Hess, Stepto** and **Baron** it was agreed that this document would be of interest and use to anybody in the field of polymers that would not wish to delve into the lengthy material of Liquid Crystals in general. A vote was called with the result that:

In favour: 17 votes
Against: 1 vote
Abstention: none

Therefore the present version will be adjusted to overcome Dr. Metanomski's objections and submitted to IDCNS for approval and publication. If this failed it would then be sent to a journal, to be published as recommended nomenclature..

3. Projects in Preparation by Working Parties

3.1. 22/93 Guide to Polymer Terminology

Dr. Wilks reported the present state of the project that appears to be quite advanced as detailed below.

Chapter 1, **Basic Terms in Polymer Nomenclature**, **Profs. Barón, Kratochvil**.

Chapter 2, **Polymerization Reactions**, **Profs. Penczek and Kubisa**

Chapter 3, **(Macromolecules in Solution)** A detailed discussion was held to decide on the convenience to wait with the project until the main document is published or to have the Chapter prepared with provisional data. **Profs. Stepto, Hess, Jenkins, Kratochvil, Mormann, Vohlidal and Horie** and **Drs. Kahovec and Wilks** participated. It was finally and unanimously resolved that the Chapter will be written on the basis of the unpublished document, with the indication that they are provisional recommendations. **Profs. Hess, Kratochvil and Stepto** will undertake this task.

Prof. Stepto suggested that **Profs. Kratochvil and Jenkins** review the MSS, once it is completed, in careful detail and added that there is a need for many eyes to go through it to avoid errors.

A review of the individual Chapters resulted in the following actions:

Chapter 1: a version should go to **Prof. Stepto** who will send it to Dr. Wilks by November 15.

Chapter 2: to be prepared by **Profs. Penczek and Kubisa**.

Chapter 3: has been completed by Profs. Hess and Stepto.

Chapter 4: **(Crystalline Polymers)** Prof. Jin will complete a few minor changes.

Chapter 5: **(Polymer Liquid Crystals)** will be reviewed by **Prof. Jenkins** for editorial changes. Also **Prof. Kratochvil** indicated that compound adjectives should be hyphenated.

Chapter 6: **(Degradation and Aging in Polymers)** commas should be included in the title and the whole document should be checked for uniformity and the now existing tabulations should be eliminated. This later decision was the result of a vote:

For: 10 votes
Against: 3 votes
Abstentions: 6 votes

Chapter 7: **(Mechanical Properties of Polymers)** since the Definition numbers are not the same as in the original Document Dr. Work will provide an index with a cross-correlation, so that a tabulation can be discarded and the text will be modified accordingly.

Chapter 8: **(Nomenclature) Dr. Wilks** has introduced small changes in letters and tables.

It was also agreed that references will be cited using the PAC system and that they will indicate uniformly the reference to the original document in brackets with the definition number in parentheses: **[1]** and **(1,1)** respectively. Four alternatives were proposed and the present one was approved by unanimous vote.

ACTIONS

1. All comments regarding editorial changes, uniformity of text, referencing and underlining should be sent to Dr. Wilks by 20 September (**COMMISSION**).

3.2. Purple Book

Dr. Wilks reported on the present situation of the 2nd ed. of the book

It was unanimously agreed that the title of the 2nd edition should be: **COMPENDIUM OF MACROMOLECULAR TERMINOLOGY AND NOMENCLATURE.**

It was further agreed that:

The **Preface** to this edition will be prepared by **Profs. Hess and Stepto.**

The original Preface will also be included.

A **history** of the Commission, prepared by **Dr. Fox**, and now on the Web will be updated to 2001 by **Prof. Hess.**

Prof. Stepto agreed to write an **Introduction to Macromolecular Terminology**

Chapter names

TERMINOLOGY

Chapter 1: GLOSSARY OF BASIC TERMS IN POLYMER SCIENCE (1996)

Chapter 2: STEREOCHEMICAL DEFINITIONS AND NOTATIONS RELATING TO POLYMERS (1980)

Chapter 3: DEFINITIONS OF TERMS RELATING TO INDIVIDUAL MACROMOLECULES, THEIR ASSEMBLIES, AND DILUTE POLYMER SOLUTIONS (1988)

Chapter 4: DEFINITIONS RELATING TO CRYSTALLINE POLYMERS (1988)

Chapter 5: DEFINITIONS OF BASIC TERMS RELATING TO LOW-MOLAR-MASS AND POLYMER LIQUID CRYSTALS (2001)

Chapters 6, 7 and 8: their titles remain unchanged:

6. DEFINITIONS OF TERMS RELATING TO THE NON-ULTIMATE MECHANICAL PROPERTIES OF POLYMERS (1998)

7. DEFINITIONS OF TERMS RELATING TO DEGRADATION, AGING, AND RELATED CHEMICAL TRANSFORMATIONS OF POLYMERS (1996)

8. BASIC CLASSIFICATION AND DEFINITIONS OF POLYMERIZATION REACTIONS (1994)

NOMENCLATURE

Chapter 9: NOMENCLATURE OF REGULAR SINGLE-STRAND ORGANIC POLYMERS (2001)

Chapters 10 to 15: titles remain unchanged.

10. NOMENCLATURE FOR REGULAR SINGLE-STRAND AND QUASI-SINGLE-STRAND INORGANIC AND COORDINATION POLYMERS (1984)

11. NOMENCLATURE OF REGULAR DOUBLE-STRAND (LADDER AND SPIRO) ORGANIC POLYMERS (1994)

12. STRUCTURE-BASED NOMENCLATURE FOR IRREGULAR SINGLE-STRAND ORGANIC POLYMERS (1994)

13. SOURCE-BASED NOMENCLATURE FOR COPOLYMERS (1985)

14. SOURCE-BASED NOMENCLATURE FOR NON-LINEAR MACROMOLECULES AND MACROMOLECULAR ASSEMBLIES (1997)

15. GRAPHIC REPRESENTATIONS (CHEMICAL FORMULAE) OF MACROMOLECULES (1994)

Chapter 16: POLYMER CLASS NAMES (2002)

Chapter 17: SOURCE-BASED GENERIC NOMENCLATURE FOR POLYMERS (2001)

Appendix 1: Will contain the original Chapter 17 (of the 1st edition)

Appendix 2: Will be the present Appendix that will be checked and revised by **Dr. Kahovec and Meisel**

It was further agreed that the names of all Working Party members should be mentioned in each Chapter, with particular attention to the fact that Dr. W. V. Metanomski is the principal editor.

ACTIONS

1. All chapters should be assembled by 31 January 2002 and sent to the WP (**WILKS**)
2. Replies from the WP should be received by 1 April 2002 (**WP**)

3. A corrected version should be made available to the Commission for the Beijing meeting.

3.3. 24/93 Multi-phase Polymeric Materials

Dr. Work reported that since the Warsaw meeting comments have come from the WP, but he could not prepare a draft for the Commission due to failure of his home computer, that prevented him to send anything out till last April. The comments from the WP returned in June with not enough time to prepare a draft for the commission to see. However the WP met in Brisbane and provided enough input to prepare version 16, but the Commission did not see it and he wondered if this is at all necessary. **Prof. Baron** asked if there is anything controversial that needed a Commission decision. The answer was NO! because all points of contention had been resolved. Consequently it was agreed that **Dr. Work** should proceed without further discussions.

ACTIONS

1. Any comments on the document provided should be sent to Dr. Work by 31 August (**COMMISSION**).
2. Next version is to be prepared by 30 September, provided no further problems appear (**WORK**).
3. The final document sent to **Profs. Hess and Gilbert** for approval and support (**WORK**).
4. All the material should be sent to the Secretary for processing towards IDCNS by 30 November (**WORK**).
5. To Secretariat before 31 December (**SECRETARY**).

3.4. 26/95 Kinetics and Thermodynamics of Polymerization

In view of the absence of Prof. Penczek it was resolved not to discuss this document during the current meeting.

3.5. 27/95 Polymer – Inorganic Composites. Sol-Gel Terminology

Prof. Hess reported that there were two meetings held in the UK. One in Canterbury with **Prof. Jones** and the other in Manchester with **Prof. Stepto**. As a result there is now a draft on the way that is expected to be ready next year for finalization procedures.

ACTIONS

1. A further set of Definitions will be sent to Prof. Jones by 30 November (**HESS-STEPTO**).
2. A new draft sent to the WP by 31 December (**JONES**).
3. Comments back to Prof. Jones by 25 February, 2002 (**WP**).
4. A further draft sent to the Commission by 31 March, 2002 (**JONES**).
5. Discussion of the revised document in Beijing.

3.6. 28/97 Terminology and Nomenclature of Hyperbranched Macromolecules

Dr. Kahovec indicated that he would only report the important changes introduced into the document. The first one is a change in the title because the word Terminology is included. Therefore it has now become:

Nomenclature and Terminology for Dendrimers and Hyperbranched Oligomers and Polymers.

The **connectivity concept** was introduced, although of organic nature, it appears to be the same as the **term functionality** and **Dr. Kahovec** will reconcile the two. Since there are two approaches to CRU definitions that can cause some confusion if used both for dendrimers and hyperbranched polymers the term CRU will be used without any qualifying adjective, as in other documents.

Since the term regular is mentioned, some rules will be broadened to include irregular CRUs and end groups, although this may create a problem because the former are structure based and the latter are source based. This led to a detailed discussion with **Dr. Wilks** and **Profs. Mormann, Kratochvil** and **Barón** participating. After a reading of the pertinent sections of the Purple Book it was considered that the use is allowed so that no vote was considered to be necessary to solve the matter. A Note should be added to clarify the situation. Finally it was decided that in irregular polymers the term CRU cannot be used.

ACTIONS

1. A new draft will be sent to the WP by 31 August (**KAHOVEC**).
2. Comments are to be sent back to Dr. Kahovec by 30 September (**WP**).

3. Final draft prepared and sent to External Reviewers (**KAHOVEC**).

3.7. 29/97 Macrocyclic Macromolecules Nomenclature

Dr. Wilks reported that this is the fourth draft (actually to be called 29/97D), because it is in essence the fourth major revision and he recalled the history of the project, that was started by **Dr. Fox** and later taken up jointly by the latter and himself. They discussed extensively and were at odds especially regarding Section 6 on page 8. After some time all differences could be settled. Regarding those on Rule 7, he suggested to discuss it a little later. Before this he said that in consultation with **Dr. John Schultz** prepared this new draft that was piloted by **Prof. Maréchal**. To avoid delays, formulas are incomplete and require a mental exercise to connect the lines interrupted in them, that was done to expedite completion.

Dr. Wilks then turned to the questioned Rule 7 on page 19 and indicated that the result of these two points of view, two methods of naming were developed called A (by Drs. Wilks and Schultz) and B (by Dr. Fox). At this point **Dr. Wilks** expressed his strong desire not to be further involved in this document and requested that somebody else take the matter up.

This led to an ample and detailed discussion on the problem of the two methods of naming, that essentially revolve around the use of the word **spiro**, with the successive participation of **Profs. Maréchal, Stepto, Baron, Tabak, Hess, Mormann, Jenkins, Horie** and **Dr. Work**. This was finally resolved through a vote for yes or no on Methods A and B, with the following results:

Method A: In favour	15 votes
Against	none
Abstentions	1 vote

No vote was considered to be necessary for Method B

The matter was so considered to be settled, however a few minor points remained that were rapidly discussed and resolved. **Prof. Horie** indicated that he is not too happy with the term **scission**. It was replaced by **conceptual scission**, to avoid the idea of physical cutting implied by the use of the word **scission** alone.

To the question of **Prof. Kitayama** regarding the need of the word **locant**, **Dr. Wilks** answered that it is necessary to make absolutely clear to which atoms reference is made.

Prof. Jenkins indicated that the term **spiro** should be the very first word in the name:

[spiro][locant][locant].....

Prof. Stepto and **Dr. Wilks** agreed to this and it was finally resolved that **Prof. Mormann** would take over with the assistance of **Dr. Wilks**.

ACTIONS

1. All the material resulting from this discussion and from **Drs. Wilks and Schultz's** exchanges should be sent to **Prof. Mormann** by 1 October (**WILKS**).
2. Combine and make everything coherent with organic chemistry requirements (**MORMANN**).
3. Send a draft to the WP by 2 January, 2002 (**MORMANN**).
4. Comments back to Dr. Mormann by 2 February (**WP**).
5. Draft to be sent to External Experts by 1 April, 2002 (**MORMANN**).
6. Comments by External Experts are to be requested by 15 June, 2002 (**EXPERTS**).
7. A draft will be prepared for Beijing.

3.8. 30/97 Polymer Class Names

Prof. Vohlidal reported on the WP discussion, describing the reason for dropping the term **Topologically Similar**. **Prof. Baron** explained the reasons for this decision. It was proposed to replace this term by **Architecture**, but the term was not found very satisfactory so that no conclusion was reached and a decision was deferred for a later date..

Commercial names like alkyd, novolac and urea resins were excluded and it was decided to add an index with all names provided, including trade names.

Dr. Wilks proposed to draw reaction schemes and not equations and upon noting that some names are missing **Dr. Kahovec** offered to assist. Also two classes of polymers, polypyrroles and polythiophenes (that are source based) were proposed to be moved to structure based, because when the rings are opened something different appears.

Following **Dr. Kahovec's** recommendation source-based names are being abandoned, although this is not generally viewed favourably. This proposal was extensively discussed by **Profs. Tabak, Stepto, Vohlidal, Horie** and **Dr. Kahovec**. It was finally resolved to have both types of definitions and cross-reference them, although **Prof. Stepto** felt that the two names could be written in simultaneously.

Prof. Vohlidal, wished to discuss the structure based class names because they are in essence chemical class names. Three possibilities were considered:

- to leave them as they are
- to add a new chapter on miscellaneous
- to remove altogether

Essentially this revolved around the terms *electrolyte polymers and conjugated polymers*. The matter was submitted to vote and the result was that there were

In favour to keep them: 2 votes

Against keeping them: 10 votes

Abstentions: 1 vote

As a result the group of *conjugated polymers* can be retained as a different class.

At this point **Prof. Kubisa** requested that an index be supplied so that all compounds could be grouped together in it and **Prof. Stepto** stressed the need to have some adjective in the title. This was accordingly amended to read: *Glossary of Class Names of Polymers based on their Chemical Structure and Molecular Architecture*. He further indicated the need to reduce the Introduction and offered to do it.

ACTIONS

- New draft out to WP by 15 October (**VOHLIDAL**).
- Back to Dr. Vohlidal by 15 December (**WP**).
- New draft to experts by 15 January, 2002 (**VOHLIDAL**).
- Comments back requested by 15 April, 2002 (**External Experts**).
- Final draft to Commission by 15 June, 2002 (**VOHLIDAL**).
- Discussion in Beijing

Prof. Tabak requested to be included in the WP. This will be done.

3.9. 31/97 Polymerization Processes and Polymers in Dispersed Systems

Prof. Kubisa indicated that the Working Group, he called it so because it was not a WP in the Commission sense of the term, was composed of a very large number of participants. Most of them were not members of the Commission, however, the work was done under the coordination of **Prof. Slomkowski** and a draft was produced that Prof. Kubisa distributed in the absence of Prof. Slomkowski. He further indicated that although he and **Prof. Horie** are members of the WP their intervention was only of a formal nature.

Prof. Kubisa considered that the document is now ready to go to external experts, therefore after a brief review during the days of the meeting it was found ready for final external review.

ACTION

Prepare a final draft for external review by November 30 (**SLOMKOWSKI-KUBISA**)

3.10. 32/99 Terminology of Polymers Containing Ionizable Groups and Polymers Containing Ions

Prof. Kubisa reported that during the WP meeting not all the members could be present due to overlap of simultaneous projects being discussed. There are a few minor matters that can be easily handled but he indicated that there is one major problem regarding three groups of compounds that needs to be sorted out. It derives from the following terms: *polyelectrolytes, ionomers and ionenes*. They can be described with some differences:

polyelectrolytes: that contain up to 100% of CRUs

ionomers: that contain up to 10% CRUs. In other words they contain a small number of CRUs.

Ionomers: that contain CRUs within the main chain. Usually as quaternary ammonium salts.

The problem with these names is that the term *polyelectrolyte* is used in a very general way so that it leads to considerable confusion. The matter was extensively discussed by many participants and finally the term *polymeric electrolyte* was suggested as a general denomination for the whole class.

Something similar was found to happen with the term *polymer electrolyte*, because in the case of solids there are no ionic groups attached but are mixtures and it may even not refer to a solid. This led to a discussion of what an electrolyte is. A solution or a salt? **Prof. Tabak, Hess, Kubisa and Baron** and **Dr. Kahovec** commented on the term and it was finally understood that an electrolyte exists whenever charges are separated in any state. To Clarify the matter **Dr. Wilks** asked if sodium chloride would be one and alumina wouldn't. This was confirmed and the matter was considered to be settled.

An extensive discussion followed with the participation of most of the Commission members because the suggested term was considered to be too general and of what can be called of the umbrella type on one hand and that both alternatives mentioned could end up being used interchangeably. In this respect **Dr. Schubert** insisted on the need to have an individual term and **Prof. Kubisa** suggested *ion containing polymer*, although he did not feel very happy about it, especially because it is the general opinion that polymeric electrolyte bridges the gap and, above all because the matter had already been extensively discussed in Berlin. As some sort of conclusion **Prof. Kubisa** suggests that the existence of the two terms be indicated and that in time the resulting trend should be taken into consideration. Finally upon the suggestion of **Prof. Hess** and **Dr. Wilks** it was decided to include a clarifying note.

The next matter to be discussed was that related to the term *conducting polymer* that is also considered to be misleading, because it leaves doubts regarding composites formed by neutral and conducting polymers. This can be avoided with the term *conducting polymer composites* in particular and in the case of blends by calling them *conducting polymer blends*. To make matters clear **Dr. Work** read the definition of composite in the Multiphase document and the question seemed to be settled.

Dr. Schubert wished to be included in the WP.

ACTIONS

1. A new version will be prepared and sent to the WP by November 30 (**KUBISA**).
2. Comments back by January 31 (**WP**).
3. Next version to Commission by March 31 (**KUBISA**).
4. Comments back by May 31 (**COMMISSION**).
5. Next draft for discussion in Beijing (**KUBISA**).

3.11. 33/99 Process Based Nomenclature for Modified Polymer Molecules

Dr. Wilks explained the change in the title, from source to process, but **Prof. Mormann** and **Dr. Schubert** questioned the meaning of process based especially because of the IUPAC known rigour in maintaining structure based names. As a result **Dr. Wilks** suggested a further change in the title to *Nomenclature for Chemically Modified Polymers*. This was immediately accepted and no further discussion was felt to be needed and before indicating the Actions **Dr. Wilks** stated very clearly that he will request comments by the established dates and that he will consider silence as assent.

ACTIONS

1. Revised draft to WP by 1 November (**WILKS**).
2. Reply by 15 January, 2002 (**WP**).
3. Revised version, as needed, to Commission by 1 April 2002 (**WILKS**).
4. Replies by 15 May 2002 (**COMMISSION**).
5. Next version for Beijing (**WILKS**).

3.12. 34/99 Terms Relating to Reactions of Polymers and Functional Polymers

Prof. Horie reported on previous activities, especially regarding comments received and incorporated and of the discussions in the WP meeting that lead to a number of changes. The main results are exemplified in the following few:

In section 1.2. the word polymer was deleted from the definition and added in the text.

In 1.5. the word topology was eliminated as a consequence of what was discussed for document 30/97.

In 2.12. the second line was moved to the notes because it is an explanation and not a definition.

A number of similar changes were introduced in various parts without substantial discussion because there were found to be adequately justified by the WP. Furthermore they became quite apparent in the resulting version. On the other hand a few important decisions were.

Definition 3.20 was re-written to read: **A polymer that contains either an ionically or covalently bonded drug or pharmacologically active grouping.**

Definition 3.24 was shortened with most of it going to a Note. On the other hand Note 1 was deleted. The terms electron beam. Ion beam and X-ray should be preceded by the word **an**.

The WP agreed that a functional polymer is the result of a chemical modification and **Prof. Hess** suggested that the WP identify all those terms that could be deleted because they are already defined. Also **Prof. Stepto** indicated that all physical properties should be excluded. At this point **Prof. Horie** asked if the term **high performance** should be excluded and it was agreed to do so. As a result of these comments it was decided that there should be an indication in the **Introduction** regarding which terms are excluded and why. Also the word **Function** should be included in the title and wait for the referees opinion.

Finally **Prof. Stepto** suggested that **Prof. Jones** review this document, after the changes have been made, in regard to the sol-gel document and indicate if there is any overlap.

ACTIONS

1. Further comments are to be made to Prof. Horie during the Meeting
2. New draft to Prof. Jones for overlap review by 31 July (**HORIE**).
3. Back to Prof. Horie by 30 September (**JONES**).
4. Next draft to external experts by 30 November (**HORIE**).
5. Comments requested back by 28 February 2002 (**EXTERNAL EXPERTS**).
6. Draft to WP by 30 April, 2002 (**HORIE**).
7. Comments back by 31 May, 2002 (**WP**).
8. New draft to Commission by 15 June, 2001 (**HORIE**).
9. Discussion in Beijing.

3.13. X/97 Terminology in the Chromatography of Polymers.....

Prof. Dusan Berek reported that an attempt was made to get together a group of people to develop this project but, although initially several colleagues accepted to participate most of them declined to continue. **Prof. Berek** indicated that, unfortunately, this situation can be generalized making it very difficult for any work to be accomplished. Consequently, he considered the possibility to resubmit the project next year, if sufficient people and money can be put together.

Prof. Hess asked how many people were considered to be necessary. **Prof. Berek** indicated that five would be a desirable number with two people from the Analytical Chemistry field. He further was of the opinion that e-mail discussion does not seem to be appropriate, because in general too many conflicting views are expressed rather lightly although e-mail could be adequate for a preliminary discussion. This project appears

to be important because there are many new methods, several of which are known under different names so that some systematic criterium is needed. However, **Prof. Berek** is worried regarding the fact that many people do not follow the approved Recommendations and that it seems difficult to persuade those that would not be ready to change their attitude.

Prof. Stepto suggested that the project be carried out under the care of this Commission and should not be allowed to die. Furthermore, he considered that it should be moved out and brought into Commission IV.1 so that it can be handled through the Chairman.

ACTIONS

1. Assemble a WP and submit a proposal by 31 December 2001. (**BEREK**).
2. Send the proposal to the Commission Chairman (**HESS**).

3.14. 35/00 Nomenclature for Rotaxanes and Catenanes

Dr. Wilks reported that there have been no changes since the suggestions in the Warsaw meeting, with the exception of **Dr. Fox's**. He further indicated that he would check them carefully and may include some or most of them.

ACTIONS

1. Comments by Dr. Fox incorporated and sent to WP by 15 August (**Wilks**).
2. Back from WP by 30 September (**WP**).
3. New draft to WP by 1 November (**WILKS**).
4. Back from WP by 15 January, 2002 (**WP**).
5. Next version to WP by 1 April, 2002 (**WILKS**).
6. Back from WP by 15 May, 2002 (**WP**).
7. Copy to all Commission members by 1 June, 2002 (**WILKS**).
8. Discussion at Beijing Meeting.

It was further resolved that Dr. Wilks is free to decide on the course of action in case of non response by the people consulted.

4. Feasibility Studies

4.1. F-6 Thermal Properties

Due to the absence of **Prof. Shibaev**, the matter was not discussed and was deferred to the Beijing meeting.

4.2. F-17 Dielectric Properties

Prof. Baron indicated that inspite of his efforts no significant input could be obtained, even after presenting the basic ideas at two meetings. Therefore he considered it advisable to discontinue this study. **Prof. Stepto** added that although unpleasant this is exactly what Feasibility Studies are for, namely to prevent the interruption of a project once it has already been started as such.

4.3. F-18 Ultimate Mechanical Properties of Polymers

Prof. Hess reported that there has been some movement but that the matter is still not ready to go to the project stage, especially since experienced people are needed. **Prof. Stepto** suggested **Drs. Clive Bucknall and G. Williams** as good possible candidates. **Prof. Stepto** should contact them and obtain letters of support to be sent to **Prof. Hess**. **Prof. Tabak** requested copies of whatever material becomes available to find an appropriate Task Leader.

ACTIONS

1. All available material is to be sent to Profs. Stepto and Tabak and to Dr. Kahovec by 1 September (**HESS**).
2. A report should be sent back to Prof. Hess by 15 January.
3. Report in Beijing (**HESS**).

4.4. F-19 Crystalline Polymers

Prof. Allegra reported the history of the project and the original criteria that have changed over the years. Therefore he considers the need for a new document with reference to recently developed techniques given and others mentioned in an Appendix. Of particular importance are Dynamic and Static Disorder, Thermodynamic Properties and Biological Polymers. He wanted to start immediate revision. The proposed WP is formed by: **Profs. Hess, Stepto, Jung-II Jin, Mormann, and Drs. Work and Valdo Meille** (a colleague of **Prof. Allegra**). **Prof. Giuseppe Allegra** will be Project Leader and the study should be turned into a project as soon as possible.

4.5. F-20 Abbreviations

Prof. Hess reported that **Dr. Meisel** is preparing a new collection of terms and is updating the existing list to be revised and increased.

ACTIONS

1. Draft to the Commission by 31 May 2002 (**MEISEL**).
2. Discussion in Beijing.

4.6. F-21 Copolymers

Prof. Kitayama justified the need indicating that there are two systems, so that a simpler one is needed to cover all types of copolymers. The WP will be composed of **Profs. He, Hess, Stepto, Tabak, Vohlidal, Hess, He and Dr. Kahovec**. **Prof. Tatsuki Kitayama** being Project Leader.

ACTIONS

1. Draft to the Commission by 31 May 2002 (**KITAYAMA**).
2. Discussion in Beijing.

5. Proposed Feasibility Studies. New proposals

5.1. F-22 Controlled Radical Polymerization

Dr. Graeme Moad is proposed as Project Leader and a letter will be sent to Prof. Gilbert to start a Feasibility Study

5.2. F-23 Computerization of Polymer Nomenclature

It was proposed by **Dr. Kahovec**, that offered to get in contact with computer people and the CCINS.

5.3. F-24 Abbreviated List of Fundamental Terms in Polymer Nomenclature

This study is the result of a proposal by **Prof. Dusan Berek**, who considered the need for a list not longer than two pages, preferably one, that should be sent to journal editors for easy guidance and use. **Profs. Hess and Kubisa** and **Dr. Meisel** will take up the preliminary study.

ACTIONS

1. Draft to the Commission by 1 April, 2001 (**HESS, KUBISA, MEISEL**).
2. Discussion in Beijing.

5.4. F-25 Field Responsive Materials

Prof. Vohlidal brought up this idea that is expected to enclose all interactions matter-energy. A preliminary outline will be prepared for Beijing together with a tentative WP.

6. Procedures to adopt for termination of Commission IV.1 activities

In view of the possible creation of a Sub-Committee on Nomenclature and a Terminology Commission in the near future, it was resolved to keep all Commission IV.1 matters in their present state.

7. Other Business

7.1. Dr. Wilks proposed the introduction of combined keyboard characters ~ and > to create the ~> symbol when partial modifications are present. To this effect Profs. Jones, Hatada and Mita prepared a document. **Dr. Wilks** is asked to join since Macromolecular Nomenclature Note No. 21 will be released at the ACS Meeting to be held in Chicago.

7.2. Prof. Hess requested that a reminder of deadlines be sent to all Project Coordinators by the end of the year.

7.3. Prof. Stepto requested that copies of all drafts be sent to him.

8. Titular Members Meeting

In view of the possible creation of a Sub-Committee on Nomenclature and or Terminology, the Titular Members of present Commission IV.1 resolved:

1. To create a category of **Emeritus Member** that will be reserved for all those former Commission IV.1 Members, that after having served their terms of election have remained active in Commission matters, regardless of the fact that they may or may not have attended Commission Meetings. The following colleagues were elected to this category:

Prof. Jose ALEMAN
 PROF. Dusan BEREK
 Dr. Norbert BIKALES
 Dr. Robert FOX
 Prof. Koichi HATADA
 Prof. Aubrey D. JENKINS
 Dr. Jaroslav KAHOVEC
 Prof. Pavel KRATOCHVÍL
 Prof. Ernest MARECHAL
 Dr. W. V. METANOMSKI
 Prof. Itaru MITA
 Prof. Valery P. SHIBAEV
 Prof. R. F. T. STEPTO
 Dr. William J. WORK

2. To choose as **Titular Members** among the following:

Prof. Giuseppe ALLEGRA
 Prof. Máximo BARÓN
 Prof. Michael HESS
 Prof. Kazuyuki HORIE
 Prof. Richard G. JONES
 Prof. Przemysław KUBISA
 Dr. Ingrid MEISEL
 Prof. Werner MORMANN
 Prof. Stanisław PENCZEK
 Prof. Stanisław SŁOMKOWSKI
 Prof. David TABAK
 Prof. Jiri VOHLIDAL
 Dr. Edward S. WILKS

3. To choose as **Associate Members** among the following:

Prof. Jiason HE
 Prof. Jung-II JIN
 Prof. Tatsuki KITAYAMA

Dr. Mark SCHUBERT

4. To add to the list of present **Consultants**

Dr. Ole KRAMER

5. To up-date the list of **National Representatives** whenever new names are provided by NAO.

6. To keep the present list of **Correspondents**

7. It was suggested that Prof. Alain FRADET might be a possible candidate to replace Prof. Ernest MARECHAL after his retirement.

9. Year 2002 Meeting

It was resolved that it will be held in Beijing, before MACRO2002. Prof. He will be reporting developments and organizational details.

APPENDIX A

TIME TABLE

Brisbane, australia
29 June - 4 July 2001

HS / DAYS	FRIDAY-June 29	SATURDAY-June 30	SUNDAY-July 1	MONDAY-July 2	TUESDAY-July 3
9.00-11.00	Chaimans Remarks IUPAC Matters	Meeting with CCINS Members Round-up Discussion	Ionizable Groups Process Based	Various W P individual meetings	Dispersed Systems
11.00-12.30	Prof. Berek proposal on The Terminology in the Chromatography of Polymers	WP meetings on The Guide, Ionizable Groups, The Purple Book and Multiphase	Functional Rotaxanes Asymmetric	Multiphase Feasibility Studies Other business	Dispersed Systems Multiphase Hyperbranched
12.30-14.00	Lunch	Lunch	Lunch	Lunch	Lunch
14.00-16.00	Time Table Liquid Crystals Short Document	Inorganics Polymer Class	WP meetings on Crystalline and Hyperbranched	Division Meeting	Division Meeting
16.00-18.00	Open meeting on Projects	Process Bases Functional Rotaxanes	WP meetings on Crystalline and Hyperbranched	Division Meeting Workshop on Projects	Division Meeting Round-up and Discussion
Evening		TM Closed Session		Commission Dinner	

APPENDIX B: STATUS OF ACTIVITIES

PROJECTS

<u>Project Number</u>	<u>Complete Title</u>	<u>Coordinator(s)</u>	<u>Key Actions</u>
<u>Projects published since the Warsaw Meeting</u>			
410/18/87	Basic Definitions Relating to Low-Molar-Mass and Polymer Liquid Crystals	Baron, Stepto	The document is expected to be published in the May 2001 of PAC
<u>Projects to have been submitted for Public Review after Revision</u>			
410/21/93	Source-Based Generic Nomenclature for Polymers	Maréchal, Mita	The Document has received approval from IDCNS and is now in the final stage of publication
410/19/89	Nomenclature Revision of Regular Single-Strand Organic Polymers	Kahovec	The Document is now in its final stage of revision and will be sent to IDCNS for approval and publication.
<u>Projects in Preparation by Working Parties</u>			
Derived from 410/18/87	Definitions of Basic Terms Relating to Polymer Liquid Crystals	Baron, Stepto	Final version has received preliminary approval from IDCNS
No number	Second Edition of the PURPLE BOOK New title: COMPENDIUM OF MACROMOLECULAR TERMINOLOGY AND NOMENCLATURE	Wilks	Final version to be considered and approved in the Beijing Meeting (2002)
410/22/93	Guide to Polymer Terminology and Nomenclature	Wilks, Metanomski	The final version was discussed and approved at the Brisbane meeting.
410/24/93	Terminology Related to Multi-phase Polymeric Composites and Blends	Horie, Work	A final version will be sent to IDCNS and Public Review by December 31.
410/25/95	Asymmetric Polymerization	Kitayama, Hatada	The final revision, with IDCNS and Public Review preliminary approval will be amended and prepared for final approval.
410/26/95	Kinetics and Thermodynamics of Polymerization	Penczek	The revision was deferred to the Beijing Meeting.
410/27/95 2000-007-1-400	Glossary of Terms Relating to Polymeric Gels and Networks, Hybrid Inorganic Polymeric Materials and the Processing thereof	Jones	A further revised version will be reviewed at the Beijing Meeting.
410/28/95	Terminology and Structure-Based Nomenclature of Dendritic and Hyperbranched Macromolecules	Kahovec	A final version will be sent to external reviewers by the end of 2001.

410/29/97	Terminology and Nomenclature of Macromolecules with Cyclic Structures	Wilks	A further version with comments by external reviews will be made ready for the Beijing Meeting.
410/30/97	Polymer Chemical Class Names (The title is under revision)	Vohlidal	A finaldraft for the Commission ready for the Beijing Meeting.
410/31/97	Polymerisation Processes and Polymers in Dispersed Systems	Slomkowski/ Kubisa/Horie	A revised version is ready for external reviews.
2000-006-1-400.	Terminology of Polymers containing Ionizable Groups and Polymers containing Ions. (Prev. 410/32/99)	Kubisa	A further version will be ready for discussion at the Beijing Meeting.
1999-051-1-400	Source based nomenclature for modified polymer molecules (Prev. 410/33/99) New title.	Wilks	The next version will be discussed at the Beijing Meeting.
1999-042-1-400	Definitions of Terms Relating to Reactions of Polymers and Functional Polymers (Prev. 410/34/99)	Horie	The next version will be discussed at the Beijing Meeting.
410/35/99	Nomenclature for Rotaxanes and Catenanes	Wilks	A new draft will be ready for the Beijing Meeting.
X/97	Terminology in the Chromatography of Polymers	Hess/Stepito/ Berek	A Project proposal will be sent to Prof. Hess.

Feasibility Studies

<u>Project Number</u>	<u>Abbreviated Title</u>	<u>Coordinator(s)</u>	<u>Key Actions</u>
F-6	Thermal Properties	Shibaev	The discussion was deferred to the Beijing Meeting.
F-17	Terminology of Dielectric Properties of Polymers	Barón	Abandoned due to lack of significant input.
F-18	Ultimate mechanical properties of polymers	Hess	A further report will be prepared for the Beijing Meeting.
F-19	Crystalline Polymers	Hess, Allegra	A first draft will be made available for the Beijing Meeting
F-20	Abbreviations	Meisel	A preliminary list will be ready for the Beijing Meeting.
F-21	Copolymers	Kitayama	A preliminary list will be ready for the Beijing Meeting.
F-22	Controlled Radical Polymerization	Moad	To get started. Draft for Beijing.
F-23	Computerization of Polymer Molecules	Kahovec	To get started. Draft for Beijing
F-24	Abbreviated List of Fundamental Terms in Polymer Nomenclature	Hess	To start a preliminary study. Draft for Beijing.
F-25	Field Responsive Materials	Vohlidal	Draft for Beijing.

APPENDIX C: WORKING PARTIES

<u>PROJECTS</u>	<u>NAMES</u>
19/89	Fox, Hatada, <u>Kahovec</u> , Metanomski
21/93	Hatada, Horie, Jenkins, Kahovec, Kubisa, <u>Maréchal</u> , Metanomski, Mita, Stepto, Fox
22/93	Alemán, Baron, Fox, Hatada, Hess, Horie, Jenkins, Jin, Jones, Kahovec, Kramer, Kratochvíl, Kubisa, Maréchal, Meisel, Metanomski, Penczek, Shibaev, Sirigu, Stepto, Swift, <u>Wilks</u> , Work.
24/93	Fox, Hess, Horie, <u>Work</u> , Baron, Stepto
25/95	Baron, <u>Hatada</u> , Horie, Kahovec, Kubisa, Moss, Stepto, Wilks
26/95	Baron, Hatada, Hess, Jenkins, Kubisa, Maréchal, <u>Penczek</u> , Pepper, Schulze, Sigwalt, Stepto, Vohlidal.
27/95	Alemán, Hess, <u>Jones</u> , Meisel, Mita, Work, Horie, Stepto, He, Vohlidal
28/97	Baron, <u>Kahovec</u> , Metanomski, Fox, Horie, Kubisa, Mita, Maréchal, Stepto, Wilks.
29/97	Baron, Fox, Horie, Kahovec, Kitayama, Kubisa, Maréchal, Meisel, Metanomski, Mita, Schultz, Stepto, Swift, <u>Wilks</u> .
30/97	Baron, Fox, Hess, Horie, Jones, Kahovec, Meisel, Metanomski, Mormann, Stepto, Swift, Tabak, Vohlidal, Wilks.
31/97	Alemán, Hess, Horie, Kubisa, Meisel, Penczek, <u>Slomkowski</u> , Mormann, Gilbert
32/99	Hess, Jones, <u>Kubisa</u> , Schubert, Swift, Vohlidal
33/99	Horie, Kahovec, Maréchal, Vohlidal, <u>Wilks</u>
34/99	Baron, Fox, Hess, <u>Horie</u> , Kahovec, Kubisa, Maréchal, Swift, Work, Mormann, Vohlidal, Kitayama, Wilks.
35/00	Kahovec, Kubisa, Maréchal, Metanomski, Stepto, <u>Wilks</u>
X-97	Baron, <u>Berek</u> , <u>Hess</u> , Kitayama, Mori, Stepto, Vohlidal, Stepto, Kratochvíl, Jandera, Dabankov.

FEASIBILITY STUDIES

<u>PROJECTS</u>	<u>NAMES</u>
F-6	Alemán, Baron, Brennan, Hess, Horie, Malkin, <u>Shibaev</u>
F-18	<u>Hess</u> , Stepto, Work, Wilks, He, Nhlapo, Alemán.
F-19	<u>Allegra</u> , Hess, Jung-II Jin, Mormann, Stepto, Work, Valdo Meille.
F-20	He, Hess, Horie, Kahovec, <u>Meisel</u> , Stepto, Work
F-21	He, Hess, Kahovec, <u>Kitayama</u> , Tabak, Vohlidal

NEW FEASIBILITY STUDIES

PROJECTS**NAMES**

F-22

Moad

F-23

Kahovec

F-24

Hess, Kubisa, Meisel

F-25

Vohlidal

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