INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

Commission on Macromolecular Nomenclature (IV.1)
Minutes of the Meeting in Berlin, Germany
7 - 11 August 1999

The Commission met in the School of Humanities of the Freie Universität in Berlin (Dahlem) Germany Those attending were: Titular Members: Prof. M. Baron, Secretary (ArgentinaProf. M. Hess (Germany); Prof. K. Horie (Japan); Prof. R. G. Jones (UK); Dr. J. Kahovec (Czech Republic); Prof. E. Maréchal (France); Dr. W. V. Metanomski (USA);); Prof. R. F. T. Stepto, Chairman, (UK); Associate Members: Prof. K. Hatada (Japan); Prof. J-Il Jin (Korea); Prof. P. Kubisa (Poland); Dr. I. Meisel (Germany); Prof. S. Penczek (Poland); Dr. E. S. Wilks (USA); National Representatives: Prof. J. Alemán (Spain); Prof. J. He (China); Prof. W. Mormann (Germany); Consultants: Dr. R. B. Fox (U.S.A.); Prof. Aubrey D. Jenkins (UK); Prof. P. Kratochvìl (Czech Republic); Dr. I.Mita (Japan); Prof. S. Slomkowski (Poland); Correspondents: Prof. J. Vohlidal (Czech Republic); Observers: Prof. T. Kitayama (Japan); Prof. N. Nhlapo (South Africa); Dr. E. Reichmanis (U.S.A. part time) Prof. R. Sanderson (South Africa); Division Committee Members: Prof. R. Gilbert, Division Chairman (Australia); Dr. W. J. Work, Division Secretary (USA).

Agenda

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

1. Preliminary Business

1.1. Welcome and Chairman Remarks
1.2. Approval of the Minutes from the Sydney Meeting.
1.3. Matters arising from the Sydney Minutes
1.4. Publications since Sydney
1.5. Forthcoming publications
1.6. IUPAC developments
1.7. Timetable for the Berlin Meeting
1.8. PAC (Prof. James Bull)
1.9. The Aging Document

2. Projects that have been submitted for Public Review.

2.1. 18/87	Liquid Crystals	Baron, Shibaev
2.2. 19/89	Revision of Regular, Single Strand	Kahovec, Metanomski
2.3. 21/93	Generic Nomenclature	Marèchal

3. Projects in Preparation by Working Parties

3.1. 21/93	Generic Nomenclature	Marèchal
3.2. 22/93	Guide to Polymer Terminology	Metanomski
3.3. 24/93	Multi-Phase Polymeric Materials	Work
3.4. 25/95	Asymmetric Polymerizations	Hatada, Kahovec
3.5. 26/95	Kinetics and Thermodynamics of Polymerization	Penczek
3.6. 27/95	Polymer - Inorganic Composites	Jones
3.7. 28/97	Terminology and Nomenclature of Hyperbranched Macromolecules	Kahovec
3.8. 29/97	Macrocyclic Macromolecule Nomenclatures	Marèchal
3.9. 30/97	Polymer Class Names	Metanomski

3.10. 31/97	Polymerization Processes and Polymers in Dispersed System	Penczek/Horie
3.11. X/97	Terminology in the Chromatography of Polymers and Related Separations (Separations Project)	Hess

4. Feasibility Studies

4.1. F-6	Thermal Properties	Shibaev
4.2. F-13	Gel Terminology	Hess
4.3. F-15	Functionalization of Polymers	Horie
4.4. F-16	Terminology of Ion Containing Polymers	Hess
4.5. F-17	Terminology of Dielectric Properties of Polymers	Baron
4.6. F-18	Ultimate mechanical Properties of Polymers	Hess
4.7. F-19	Source based Nomenclature for Modified Polymer Molecules	Wilks
4.8. F-20	Nomenclature of Threaded Cyclic Molecules	Wilks

5. Proposed Feasibility Studies. New Proposals

6. Other Business

7. Titular Members Meeting

8. Year 2000 Meeting

Appendix A: Timetable

Appendix B: Status of Activities

Appendix C: Working Parties

Appendix D: Membership Lists

MINUTES

1. Preliminary Business

1.1. Welcome and Chairman's Remarks. Prof. Stepto opened the Meeting by welcoming the attendees, both new and old, and since a substantial number came for the first time he invited all Members to introduce themselves.

Prof. Stepto then informed that he had received a communication from Dr. Graham Swift (Rohm & Haas) regretting that he was unable to attend due to professional reasons and also that Prof. Valery P. Shibaev had sent an e-mail, that reached him just before leaving, saying that he could not come to Berlin due to the illness of a close family member.

1.2. Minutes of the Sydney Meeting

They were approved after a minor change on page 8. In the Actions of Project 24/93, Prof. Horie requested that in **item 1** his name be added since it had been so decided in Sydney.

1.3. Matters arising. All the matters arising are covered in the present Minutes.

1.4. Publications since Sydney. There were no recommendations published in the past year. However a substantial mount of material, related to the Commission's work was published and was reported.

1.4.1. Prof. Kubisa. Showed Nos. 8 and 9 of the 1998 volume of the Polish journal POLIMERY, that contain a translation of the "Glossary of Basic Terms". REF. *POLYMERY* 43(9,10), 559-64, 637-44 (1998).

1.4.2. Prof. Horie. Reported the Japanese translation of the following documents: GLOSSARY OF BASIC TERMS, AGING and SOURCE-BASED NOMENCLATURE FOR NON-LINEAR MACROMOLECULES...

1.4.3. Prof. Jung-Il Jin. Reported the publication of the PURPLE BOOK by the Polymer Society of Korea.

1.4.4. Prof. Stepto. Reported that in the book entitled "CHEMICAL NOMENCLATURE", edited by K. J. Thurlow and published by Kluwert Academic Publishers, it contains a chapter by Prof. A. D. Jenkins.

1.4.5. Dr. Metanomski. Requested that all notices of the translations of Commission Documents into foreign languages be reported to him as early as possible, because it is his responsibility to keep a register of them.

1.5. Forthcoming publications

There are no forthcoming publications at present.

1.6. IUPAC Developments

At this point Prof. Stepto proposed that the IUPAC restructuring project be discussed openly at the Commission and that it tries to reach some kind of majority opinion. To this effect Prof. Stepto distributed copies of a resolution that the UK delegation intends to submit at the Council Meeting. In essence it proposed that existing Commissions may continue and that those willing to restructure to a project-based scheme could chose to do so. Prof. Stepto further described briefly the discussions at a previous Division Meeting, where it was anticipated that the new structure could be generally applied and that the Division can operate under it. However the possibility of retaining the present structure was also considered so the matter was then opened to general discussion. Since many Commission Members participated, the individual comments are summarised after the name of the respective speaker.

Prof. Sanderson: In view of the extensive proposed changes, he considered them inadvisable indicating that no more than a 10% yearly change would allow for a satisfactory organisation of time limited projects.

Prof. Hess: argued that the proposed changes lead to a loss of integrity that is dangerous because it would cut off the continuity essential in nomenclature work.

Dr. Fox: expressed concern over possible funding problems for full Commission Meetings that he considered essential for satisfactory work.

Prof. Stepto: agreed with Dr. Fox because in his opinion a project funding scheme, as the one proposed, would inevitably lead to some kind of patchwork-like arrangement to collect enough funds for each individual participant. In this respect he added that this problem could be handled through the UK delegation proposal.

Prof. Kratochvìl: anticipated the Czech delegation's support of the UK delegation proposal and recalls conversations he had with members of the US NAO that confessed inexperience in IUPAC matters and that some of their proposals seemed to have been originated by a suggestion that the US NAO could withdraw it's financial support to IUPAC if the proposals were not accepted. On the other hand he mentioned that US delegation member with IUPAC experience did not seem to agree with the proposed restructuring procedure.

Prof. Kratochvìl further stressed the importance of choosing good people for Commission Membership and cited the long experience of Comm. IV.1 in this respect. Following suggestions from a variety of sources, scientists are invited as observers or National Representatives and, on the basis of their interest, contributions and efforts, are then promoted to Associate and eventually Titular Membership. He stressed the fact that in Comm. IV.1 this procedure has proved to be exceptionally successful over the years and considered that the proposed Nominating Committee cannot offer any guarantee that this effective way of selection can at least be equalled.

Dr. Metanomski: stressed the continuity in the Commission's work that the approach described by Prof. Kratchvíl has provided.

Prof. Barón: recalled that "no system is better than the people that put it into practice" and coincided with Prof. Kratochvìl on the adequacy of the present system both for selecting Commission Members and carrying out the projects. Especially since it has been handled effectively by successive Commission Members for many years. He also anticipated that the Argentine delegation will support the UK delegation's proposal.

Prof. Stepto: stressed again that there did not seem to be any serious dissent regarding the continuation of Commission VI.1 as at present. He also added that it seemed that Commission VI.2 appeared to be more in favour of a project based system.

Profs. Kratochvìl and Mormann: agreed with the diversity of situations regarding the two Commissions.

Prof. Stepto: further indicated that it is considered at Division level that IV.3 seems to be difficult to run due to the nature of the projects it handles and suggested that VI.3 be discontinued.

Dr. Metanomski: stressed the fact that many documents are in fact extensions of other original ones and that this kind of work is impossible without continuity both of work and people.

Prof. Kratochvìl: commented in this respect that Working Parties in Comm. VI.1 are in fact more or less like autonomous Commissions.

Prof. Stepto: wondered at this point to whom the Working Parties should or would report if Comm. VI.1 were discontinued.

Profs. Kratochvìl and Stepto: discussed the need for a project-based system in the case of some specific subjects. This could be the case with interdisciplinary, interdivisional matters.

Finally, it was generally agreed that, since individual Titular and Associate Members are active simultaneously in several projects, a change as proposed, would be more harmful than beneficial. It was unanimously resolved to support, at Division level, the continuation of Comm. VI.1 in its present form.

1.7. Time table

The different activities of the Commission were distributed on the previously provided TimeTable. A copy is included as Appendix A. The same system as used in Sydney was adopted with WP sessions and general Commission meetings.

1.8. PAC (Prof. James Bull participation)

At this point Prof. Bull requested the Chairman's permission to address the Commission regarding future activities of *Pure and Applied Chemistry*. The request being granted Prof. Bull described the intention to enhance the readability of the journal and through it the visibility of IUPAC. He proposed that subjects of general interest to serve a wider community be identified so that 2 or 3 issues per year could be dedicated to specific subjects. He also stressed that ***PAC*** will be open also to special feature articles.

1.9. The Aging document [PAC 68, 2313-23 (1996)]

Prof. Hatada requested time to discuss some recent developments regarding this document. It was agreed, so he reviewed the objections he received from Dr. Papisov. He commented on them reading both the agreements and disagreements and asked that the Commission to decide a course of action to overcome this situation. The review of some of the objections regarding the use of the words thermodynamics, autoxidation and intermediates. At this point **Dr. Kahovec** considered that the point raised regarding thermodynamics is not very valid, because all processes can be considered as such. The matter was then opened to discussion.

Prof. Hess stressed the fact that the processes referred to in this document can be considered as being thermodynamic and as such, since only the initial and final stages of interest, there reasoning used is valid in this case.

Prof. Kratochvìl considered that since the document in question has been published this matter should be shelved until a change is needed at a later date.

A vote is taken as to whether to leave or remove any reference to thermodynamic processes. The results were:

In favour of leaving: 8
In favour of removing: 3
Abstentions: 6

It was then resolved that changes should be contemplated when a revision becomes necessary. However the subject was evidently not exhausted because the discussion continued.

Dr. Kahovec said, regarding the term autoxidation, that there seems to be a misunderstanding in words regarding intermediate products, because it is not clear whether they influence or not the reaction.

Prof. Stepto suggests that the term intermediate could be deleted.

Prof. Volhidal indicated that there are intermediate peroxides that lead to an inhibition of reaction rates and therefore participate in the reaction.

Prof. Stepto asked again if the term could be eliminated.

Dr. Work questions whether the initial polymer reaction is accelerated or delayed by the presence of intermediates.

Prof. Stepto then asks if there should be a change in the text or if the objections should just be recorded.
Prof. Barón suggests a vote. It is accepted and the results are:

Hold the text as it is: 17
Revise the text: 0
Abstentions: 1

Actions

1. The discussion will be recorded in the minutes
2. A note will be sent to Dr. Papisov with an extract **(BARON).**

2. Projects submitted and ready for Public and IDCNS Review

2.1. 18/87 Liquid Crystals. Since the document is now under Public Review, Prof. Barón considered that no further discussion is needed this year, especially since some comments are starting to come in.

Actions

1 After the Public Review period expires on December 31, 1999, all suggested changes will be evaluated and incorporated when found pertinent.

2. If all amendments are only of a formal nature, the document will be sent for final publication, otherwise it will be sent to the Commission Members for final approval. **(BARON)**.

2.2. 19/89 Revision of Regular Single Strand Polymers

Dr. Kahovec described briefly the present state of the document indicating that it is now ready for both sending to IDCNS and for Public Review. Therefore he made a formal proposal to this effect that was approved unanimously.

In order to avoid any unnecessary loss of time Prof. Stepto gave the Commission Secretary (M.B.) a note with his approval, that was then signed and approved by Prof. Gilbert (Division President). The Secretary (M.B.) then wrote to Dr. Jost the covering document and requesting that the process be completed. Consequently the Provisional Recommendations are now under Public and IDCNS review.

2.3. 21/93 Generic Nomenclature

The WP received outside expert comments that are quite favourable in general. However Prof. Marèchal pointed out the fact that there seemed to persist the problem of the use of the terms *macromolecules* or *polymers* and that a decision by the whole Commission was needed to have the document ready for Public and IDCNS Review. It was agreed to place this matter in the Time table for discussion.

3. Projects in Preparation by Working Parties

3.1. 21/93 Generic Nomenclature

Prof. Marèchal suggested a discussion was pertinent to evaluate the scope of the project. He then asked Prof. Mita to start who requested the opinion of the WP regarding the use of the term ***macromolecule vs. Polymer*** in the document.

Prof. Mita then proposed giving five minutes each to Profs. Jenkins and Stepto to describe with him their opinions. This was immediately accepted.

Prof. Jenkins favoured ***polymer*** because it deals with substances. He claimed to see no purpose in naming ***macromolecules*** and prefered to use ***substances.***

Prof. Mita tried to discriminate in the use of molecule and compound, citing the case of benzene, because the name refers to an organic compound and not a molecule. Sodium chloride (NaCl) is another example. However he agreed that it is necessary to distinguish between molecules and compounds, although he accepted that, in the case of structure, reference is made to molecules, but that is an exception.

Profs. Jenkins, Kratochvìl and Stepto concur with the idea that the term polymer is too vague and ambiguous when used as a noun, especially considering that, as seen in the Glossary, ***polymer blend*** refers to a substance while ***polymer compound*** refers to a molecule.

Prof. Stepto further indicated that new documents refer to macromolecules, for example feasibility studies F-19 and 20 use them. Therefore since the naming is based on macromolecular structures it is suggested that a way around this problem should be found.

Prof. Penczek asked if the naming has to include the end groups. To this **Prof. Kratochvìl** responded that it is

not necessary.

Dr. Wilks stated that ***structure*** is for molecules while ***properties*** are for substances.

Prof. Penczek agreed to this opinion and said that both terms are needed.

Prof. Stepto further indicated that ***polymer*** is necessary as adjective i.e. copolymer molecule

Prof. Mormann cautioned towards the need to establish some sort of hierarchy for the words and separate the meanings of substance, molecule and polymer.

Prof. Kratochvìl stressed the need to discriminate cases where particular words needed to be used, to which **Prof. Penczek** spoke of the need to use the term ***molecule*** in specific cases.

Prof. Jenkins repeated his opinion that considers names for substances, with **Prof. Horie** supporting this idea mentioning that chemists refer to grammes of substance.

Prof. Stepto on the other hand, believed that names refer to molecules, while **Prof. Kubisa** insisted that the general usage prefers ***polymer.***

Several members favoured the use of ***polymer*** as adjective. To this **Prof. Marèchal** questioned what would happen in the case of networks. **Prof. Stepto** answered reading Rule 1.5 of the Glossary. That seemed to clarify the problem.

Prof. Hess pointed out that polymers are comprised of substances composed of many molecules and that in writing a reaction molecules are indicated. However in carrying out a reaction, substances are dealt with.

Prof. Mormann insisted that names are for substances (polymers) and the term ***macromolecules*** for the description of molecules.

Prof. Alemán indicated that in industry a polymer is considered as being a substance but is referred to as a plastic.

Prof. Barón and Dr. Work, respectively, cite the definition for reactions from the Gold Book and the Preamble of the Purple Book regarding molecules and substances.

At this point there was the general feeling that a vote was necessary to decide whether a name is given to a substance or to a molecule.

Prof. Penczek at this point was concerned that a decision could affect other documents. This prompted Prof. Kratochvìl to ask if this would imply that a vote will be called for on every document. The general feeling is that it would not.

Two Motions were then submitted to be voted in succession:

Motion 1: That this document remain as it is at present.

In favour	18 votes
Against	4 votes
Abstentions	1 vote

Motion 2: That documents related to chemical nomenclature should refer to polymers or macromolecules as may seem appropriate in each individual case

In favour	4 votes
Against	19 votes
Abstentions	none

The vote means that guidance has been established for future documents within a broad context. In general, ***macromolecular chemistry nomenclature refers to substances*** rather than to the macromolecules of which

they are composed, unless there are specific reasons for direct reference to macromolecules.

Prof. Mita explained the content of the Report prepared by him and Prof. Marèchal in Aug, 1999 for this meeting.

Dr. Kahovec found several minor organic chemistry mistakes.

Prof. Kubisa pointed out the existence of several names that are unnecessary like polyalcohol.

The following changes were further suggested:

Rule 4: delete **in general**

Rule 6: insert generic names in part 3

Actions

1. Prof. Marèchal remains as co-ordinator.
2. The suggested corrections will be incorporated and a new version will be sent to the WP by September 15 **(MARÈCHAL).**
3. Answers should be received back by October 15 **(WP).**
4. The final version will be sent to the Chairman by November 15 for Public and ADCNS review **(MARÈCHAL).**

3.2. 22/93 Guide to Polymer Terminology

Dr. Metanomski considered that it is necessary to make a reaffirmation of the scope of this project becuse in its present state it appears to be held up due to several unfinished documents that are needed to complete particular chapters. It was decided to discuss the matter at length by the full Commission.

Prof. Hess however felt that a provisional draft could be prepared.

Dr. Metanomski agreed to this but insisted that a dateline may not be kept because, for instance the document on Kinetics and Thermodynamics of Polymerisation is still being written.

Prof. Stepto on the other hand, thought that the whole document for the Guide was ready and suggests that a draft should be prepared provisionally and that Prof. Penczek should prepare his chapter. Then, if at a later date any chapter is found to be in need of major changes it could be left out altogether. This could also be the case for the one on Liquid Crystal Polymers. As a result Prof. Stepto proposed to set deadlines for chapter submissions and suggested a one-year period.

Actions

1. Drafts will be requested from all co-ordinators **(METANOMSKI).**
2. Drafts should be sent to Dr. Metanomski by December 31, 1999. Hard copies will be adequate **(CHAPTER CO-ORDINATORS).**
3. Drafts could be sent back to co-ordinators for revision if necessary **(METANOMSKI).**
4. A preliminary collection of chapters, though perhaps somewhat crude to be sent to the Commission by April 1, 2000 **(METANOMSKI).**
5. 0The preliminary document will be discussed at the Warsaw meeting **(COMMISSION).**
6. Dr. Metanomski will continue co-ordinating the work with Dr. Wilks acting as the person officially responsible.

3.3. 24/93 Multiphase Polymeric Materials

Dr. Work stated that the document had been sent to fifteen experts and that so many comments had been received till the end of June, that there had been no time to prepare a new version. As a result, he suggested to postponing any discussion until the WP completes the work by October. The document could then be ready for Public and IDCNS Review by March or April of 2000. This proposal was accepted.

Actions

1. Comments to Dr. Work by October 1**(COMMISSION).**
2. New draft to the WP by December 1, 1999 **(Dr. Work).**
3. Comments by WP back to Dr. Work by February 28, 2000 **(WP).**
4. Final draft to Commission by April 1, 2000 **(Dr. Work).**
5. Discussion at the Warsaw meeting to get the document ready for Public and IDCNS Review.

3.4. 25/95 Asymmetric Polymerisation

Prof. Hatada presented the latest version, dated June 23, 1999, indicating that, after extensive discussions with Japanese specialists and careful consideration of Prof. Stepto's objections considered that the document was now ready for review by experts prior to sending it for IDCNS and Public Review.

Prof. Penczek enquired about the relevance of using the term chirogenic for polymers, due to its use in organic chemistry.

Prof. Kitayama indicated that he saw no inconsistency because of the generality of the term.

Prof. Penczek then asked about Prof. Sigwalt's intervention and wanted to know if his contribution has been duly acknowledged and also if Prof. Wulff had been consulted. Prof. Marèchal answered both questions in the affirmative.

Prof. Stepto stressed the involvement of Prof. Sigwalt and Prof. Penczek added that the reason for bringing up the case is due to the historical involvement of Prof. Sigwalt, suggesting that a letter should be written to this effect by the WP co-ordinator.

Dr. Wilks indicated that the parentheses ( ) and the [ ] should be used consistently because he found differences in the Document.

Dr. Metanomski stated that the choice was the user's.

Dr. Kahovec mentioned the provisions for these signs in the Graphic Representations Document [PAC 66, 2469-82 (1994)].

At this point **Prof. Stepto** moved that the document be accepted as being now ready to be sent to outside experts prior to its submission to IDCNS and Public Review. The motion was seconded by Prof. Barón and carried unanimously.

Actions

1. Write to Prof. Sigwalt to acknowledge his contributions to the document **(KAHOVEC, HATADA).**
2. Update the document **(HATADA).**
3. Send a draft to outside experts within 30 days **(HATADA).**
4. Replies expected back to Prof. Hatada by the end of March 2000 **(OUTSIDE EXPERTS).**
5. Final draft to WP by end of April **(HATADA).**
6. If the WP feels that the document is then ready the Commission Chairman should be requested to approve continuation of it's processing **(HATADA).**
7. If the Document is approved by the Chairman it should be sent to the Commission Secretary for further processing **(HATADA).**
8. If Action 7 is completed, the Commission Secretary will send the Document for submission to IDCNS and Public Review **(BARON).**
9. If Action 7 fails then a new version should be prepared for the Warsaw meeting **(HATADA).**

3.5. 26/95 Kinetics and Thermodynamics of Polymerisation

Prof. Penczek reported on the remarks by experts and Prof. Jenkins on the so-called summer 99/2 version. As a result, the WP had met to discuss irregularities and agree on a way to handle the document. The WP found that ***emulsion polymerisation*** contained discrepancies and therefore proposed a number of actions.

Actions

1. Clarify the few points outstanding by the end of September 1999 **(KRATOCHVÌL AND HATADA).**
2. Send the Revised Version to Prof. Jenkins and then forward it to Dr. Wilks.
3. The version should then be sent to all Commission Members **(Penczek).**
4. Within the following ***two weeks*** comments should be returned to Prof. Penczek **(COMMISSION).**
5. The Provisional document should them be sent to journals of polymer science on a non-exclusive basis with a request for comments **(PENCZEK).**

At this point, since the 99/2 version was considered obsolete, the document was discussed and comments were requested from the membership present.

Rule 60: was discussed and a different wording was proposed.

Rule 24: Authors were urged to be specific, so that every term refers to something definite. As a result, possible alternative wordings were discussed. Especially the word "controlled" has to be qualified.

Prof. Jenkins mentioned his unhappiness with the use of the word "control" because it actually refers to compounds affecting the kinetics of reactions (inhibit, accelerate, etc.).

Prof. Jones agreed that the term is indeed used too loosely.

Prof. Kubisa considered the word useful because some term is needed for this type of process and advocated a less vague definition.

Prof. Kratochvìl did not consider it an essential factor.

Prof. Penczek agreed to the idea that in living processes, ***irreversible activation*** does exist and accepted cross referencing "controlled polymerisation" because it includes the concept of "reversible polymerisation". Many feel that it is a key feature of "controlled polymerisation". Furthermore there will also be cross-reference to term 37. It was then agreed that the matter will be discussed with emulsion polymerisation experts and a new suggestion brought forward.

Prof. Stepto agreed that Note 1 should be included in the definition so that it becomes less general.

Prof. Gilbert proposed started that emulsion polymerisation be defined as:

A heterogeneous free-radical polymerisation, usually but not always commencing with a hydrophobic monomer dispersed in an aqueous phase, that results in a hydrophobic polymer colloid dispersed in water as the continuous phase. A colloidal stabiliser is often, but not always, added to or is formed during the polymerisation.

This definition was discussed as described below.
Prof. Kratochvìl considered that the length of the definition will create problems of usage.

Prof. Slomkowski saw overlaps that must be overcome.

Prof. Stepto questioned the convenience of having polymerisation methods either in or out of the document.

Prof. Gilbert stressed the fact that there is no need for an emulsion, the only condition being that the reaction must be carried out in water.

The conclusion was that was necessary to modify the definition of emulsion polymerisation because the product is a modified colloid and since polymer colloids are not defined, this situation must be corrected by adding a Note.

Actions

1. The revised draft should be sent to the Commission by mid November **(PENCZEK).**

2. Comments back by mid January of 2000 **(COMMISSION).**
3. Send the revised draft to the Commission Chair by mid March for Public Review **(PENCZEK).**

Prof. Penczek insisted on having the provisional documents published in journals, especially since in this particular case an agreement has already been reached with two journals. However it was noted that in many cases journals might not be willing to publish provisional documents. On the other hand, it was agreed that although feedback will not be waited for, a mechanism is needed for the rapid publication of abstracts in journals.

3.6. 27/95 Polymer inorganic composites

Prof. Jones reported on what had been achieved regarding this project indicating that there was no involvement by the Inorganic Chemistry Commission. Consequently three decisions were take.

From the ensuing discussion it was recognised that this is an ever-expanding area, related to other projects, like those covered by projects 24/93, 31/97 and F-15. Therefore it was considered that an alphabetical list would have limitations, the use of categories was found preferable.

Prof. Kubisa expressed doubts about the meaning of the term ***polymeric***. This was discussed and it was accepted that it relates to substances.

Prof. Jones stressed that depending on the finally chosen terms the title may need to be qualified. This led to a change in the title to read: **Glossary of terms relating to polymeric gels and networks, inorganic polymeric materials and the processing thereof.**

-The membership of the WP was updated
-The list of terms was reduced

Actions

1. Prepare a project submission form by September 30 **(JONES).**
2. Sendl comments to Prof. Jones **(WP).**
3. Prepare a sectionalised document for the Warsaw meeting **(WP).**

3.7. 28/97 Terminology and Nomenclature of Hyperbranched Macromolecules

Dr. Kahovec indicated that a WP meeting is needed at a later date and that at the present moment he could only make general comments. This was due to the fact that traditionally the CRU is the basis to define structures while, the present molecules have been dealt using an organic chemistry criterion. Consequently, he suggested that the Commission should decide to continue or not along these lines, and described briefly the pros and cons.

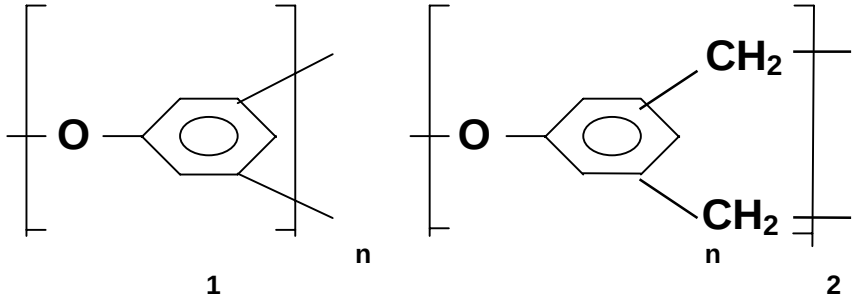
Prof. Penczek questioned the use of both dendrimers and polymers on the basis of uniformity and regularity, especially because "dendrimer" is a simple organic chemistry term.

Dr. Kahovec and Profs. Kratochvìl and Stepto successively advocated a limitation in the use *dendrons and non-dendrons.*

Dr. Metanomski added that if there is a repetition, polymer dendrimer could be used. This started and exchange of ideas between Dr. Metanomski and Prof. Penczek regarding the sequence of ideas in the draft.

Prof. Stepto then suggested that the WP evaluate what has been said and then decide on what is to be done. He also indicated that the graphics and descriptions should be improved.

Dr. Wilks pointed out the need to simplify the descriptions as is the case with



where he considered that (1) is preferable over 2 for reasons of simplicity.

Dr. Fox was not satisfied with the use of the term *polymer* in this case and preferred that other words be chosen.

Prof. Kratochvìl advocates in favour of a source-based structure as being more reasonable and because he feels that everybody will be able to use it. He further suggested the use of *dendro.*

Prof. Kitayama pointed out the difference with normal usage, especially with regular and irregular polymers.

Prof. Kratochvìl cited terms of the Glossary of Basic Terms and indicated the need to correct the connectivity.

Dr. Wilks stressed the fact that dendrimers cannot grow indefinitely and insisted on the need to consider a central core and then describe a three-legged structure.

Prof. Stepto finally suggested the incorporation of some source based terms.

Actions

1. The WP was strongly urged to develop the document using a mixture of source and structure based names.
2. A new version will be preparedy to be considered at the Warsaw meeting **(KAHOVEC).**

3.8. 29/97 Macrocyclic Macromolecular Nomenclatures

The two existing versions (by Dr. Fox and Dr. Wilks), will be blended into one and sent out to the WP, with the express indication that the lack of answer will be considered as acceptance.

Actions

1. A first draft should go to the WP by November 30 **(WILKS, FOX, SWIFT).**
2. Comments should be returned by January 31, 2000 **(WP).**
3. The amended version should go to the WP by March 1, 2000 **(WILKS, FOX, SWIFT).**
4. Comments back by May 1, 2000 **(WP).**
5. Revised version sent to the Commission by June 1, 2000 **(WILKS, FOX, SWIFT).**

3.9. 30/07 Polymer Class Names

Dr. Metanomski reported on the document, especially considering the fact that after the draft sent out at the beginning of this year two possible alternatives have come up: one with systematic names and the other with trivial ones. After a general review, Dr. Metanomski proposed to join the two versions and this opened the discussion. He also reported having invited Dr. Sylvia J. Teague (USA) as an outside member of the WP.

Prof. Stepto questioned the backbone concept. Profs. Kratochvìl and Horie and Dr. Metanomski also requested that a better alternative be looked for, especially because the term *backbone* as defined in the Glossary refers to a linear chain.

Prof. Barón suggested adding the word structure after ***backbone*** to make it more general.

Dr. Metanomski suggested that the term ***resins*** should be avoided because it sometimes means ***natural resin.*** A note has to be included to avoid the use of **resin.**

Prof. Kratochvìl stressed that examples should be separated from the definitions and that the word ***exclusively*** on pages 14 and 15should be eliminated because it is confusing.

Prof. Stepto indicated the convenience of referring to ***polymers composed of molecules containing...***

Dr. Metanomski requested that somebody else take up the task of co-ordinating the WP because of the termination of his term as TM. After a brief discussion Dr. Wilks' offer to take over was accepted, especially advantageous due to his geographical proximity to Dr. Metanomski.

Prof. Volhidal noted the absence of ionic polymers and promised to send comments to Dr. Metanomski. Furthermore the mention of ionomers was also questioned because they are not related to atomic structure and finally it was suggested to expand the group to class names with ionic moieties.

Actions

1. Enlarge the section on molecular architecture-based topological polymer classes to include other types such as block, graft, etc. to make this section complete, even though this implies including items from other documents **(METANOMSKI).**
2. Enlarge the ionomer-like classes to include polyeletrolytes **(METANOMSKI).**
3. Update the complete document and send to WP by November 30, 1999 **(WILKS, FOX, SWIFT).**
4. Comments returned by January 15, 2000 **(WP).**
5. New version to the Commission by March 1, 2000 **(METANOMSKI).**
6. General discussion at the Warsaw meeting **(COMMISSION).**

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

Prof. Slomkowski reported the present state of the document with **Prof. Gilbert** attending the discussions.
The problem of emulsion polymerisation was discussed extensively. To begin with, **Prof. Stepto** read the definition form the Gold Book because the term ***emulsion*** is defined in it.

Prof. Gilbert felt that ***emulsion polymerisation*** is a misnomer, because it is considered to be a term of broad meaning.

Prof. Mormann suggested that even so it is necessary to bring it in to differentiate from others, especially ***dispersion polymerisation***.

Prof. Slomkowski on the other had, stressed the need to define ***inverse emulsion polymerisation***, because it does not seem to be clear enough for the newcomers into the field.

Prof. Stepto suggested clarifying the notes and including in them a list of symbols. An abstract is also needed and he advocated to work in association with the so-called "Emulsion Polymerisation Club".

Prof. Penczek asked if an attempt would be made at this time to define the term emulsion polymerisation. The answer was negative.

At this point it seemed that the discussion in general had concluded and the Commission was ready to a discussion in particular. Before starting **Prof. Gilbert** indicated that if he could receive a draft within a few weeks he could circulate it among the IPCG members for comments.

Prof. Hess questioned the definition for ***gel*** that seems to him to be incomplete, regarding the existing polymer documents.

Prof. Kratochvìl cited the Glossary definition.

Prof. Stepto indicated the need for a definition of ***polymer gel*** because it is the result of physical cross-linking (network).

Prof. Kratochvìl again cited the definition for network in the Glossary of Basic Terms, that is both chemical and physical.

Prof. Horie pointed out the need for cross-reference to micelles.

Prof. Stepto read the definition of micelle from the Gold book and considered it a rather curious one.

Prof. Jones asked about the status of this project and raised the matter of the title because he did not find it clear enough.

After a short discussion the following title was agreed:

Terminology of Polymerisation processes and Polymers in Dispersed Systems.

Profs. Stepto, Slomkowski and Penczek questioned a few writing details like the abbreviation W/O (water in oil). micro/nano and others of a similar nature because they lack clarity as such. They indicated that specific definitions are needed before a symbol can be adopted. They considered also that photographic emulsions should go into a note and that the definition of droplets does not seem adequate and needs to be clarified.

Actions

1. Redraft the document and send it to Prof. Gilbert and the WP by September 1 **(SLOMKOWSKI).**
2. Comments returned to Prof. Slomkowski by November 1 **(WP).**
3. Prepare the next draft with a new version by January 15, 2000 **(SLOMKOWSKI).**
4. Send again to Prof. Gilbert and the WP.
5. Comments should be returned to Prof. Slomkowski by March 1, 2000 **(WP).**
6. The completed version should be sent to the same people as before plus the Commission Membership by June 1 **(SLOMKOWSKI).**
7. Discussion of the document at the Warsaw meeting.

3.11. (X/97). Separations Project

Prof. Dusan Berek (of Comm. IV.2) joined the meeting and described what he considers to be an interdivisional project (although it may well extend to an inter-union project due to the variety of subjects it covers). He essentially requested advice on nomenclature indicating that he has a yearly report, in the form of a circular, with an update and proposals but he had little response so far. He further pointed out the following matters that, in his opinion, require additional examination.

1. There is a very specific situation regarding chromatography because it may involve large and small molecules with different needs.
2. There is also a delicate matter related to company needs. The problem seems to be related to what to do with TM (TradeMark) term and he asked for specific advice in this respect.
3. Prof. Dusan believed that it is necessary to start from existing IUPAC nomenclature and restrict the treatment to separations of systems and objects.
4. He also indicated that a need is felt to start with terms for scientific techniques.
5. Finally he considered it to be necessary to persuade journals to use IUPAC terminology.

Prof. Hess insisted that it is necessary to crystallise what has been done up to now and for this purpose he considered it important to elect a WP with a specific name and appointed members.

Prof. Berek also hoped that the Secretary of Commission V.3 and Prof. Stepto will co-operate with the language problem and furthermore he stressed the need for direct and personal discussions.

Prof. Hess asked what kind of document will be the outcome of this project.

Prof. Berek replied that there exists a general chromatography document that needs updating and that this is

the first step. Biosystems would come later. Therefore at present the project should be limited only to synthetic polymers without any concern about either low molar mass or biomolecules.

Prof. Roger Smith (Secretary of Commission V.3) stressed the need for a proposal to the Division Presidents. For this task he proposed Profs. Berek, Hess and somebody appointed by Comm. V.3. He suggested Prof. Davankov.

Prof. Stepto recalled that, for the time being, this is a project of Division VI. To this **Prof. Smith** indicated that it actually corresponds to Commission IV.2.2. entitled: ***Molecular Characterisation of Commercial Polymers*****.**

Prof. Kratochvìl supported the interdivisional suggestion because of the present initial stages of the new procedures and mentioned that there are eight pertinent terms in the Purple Book that should be used if it was found convenient to do so.

After a short general discussion it was agreed to convert this project into an **Interdivisional** one, that Profs. Berek. Dabankov (V.3) and Hess would write the proposal, remembering that the form needs, in this case, the signatures of two Division Presidents. Finally the following ten members of the WP were nominated:
Profs. Michael Hess, Dusan Berek, Jiri Vohlidal, R. F. T. Stepto, Pavel Kratochvìl, Pavel Jandera and Vadim A. Dabankov (INEOS, Vovilov St. 28, 117813 Moscow, Russia, Tel/FAX N0 7(095)135-6471,
e-mail: davank@ineos.ac.ru
Further names can be added at a later date. The proposal should also suggest the names of referees and must be reported at the Division meeting.

Prof. Stepto asked if Comm. V.3 contemplated meeting in the future. Prof. Smith said that it was a possibility depending on the availability of funds. Prof. Stepto the stressed that Comm. IV.1 would like to continue meeting as a group. This would require that the budget be shared among all projects, so that if V.3 has something similar in mind perhaps joint meetings could be contemplated.

Prof. Smith pointed out that he still did not know how Com. V.3 will operate in the future, but he felt that the Nomenclature Commission might perhaps continue unchanged.

Prof. Stepto then suggested that money be earmarked in the two Divisions for mutual attendance.

Prof. Smith indicated that, to his knowledge, there is money now available so that an attempt should be made to take advantage of this possibility.

Finally, the following questions were asked:

1. What should be done with small projects? Abandon them or absorb them into larger ones? ***The answer was that if the interdivisional scheme of projects succeeded, then they could be absorbed***.
2. What to do with TradeMarks? ***Each case must be decided individually.***
3. How to achieve adequate dissemination in journals? **Prof. Hess suggested writing to journals to request the implementation through usage.**

4. Feasibility Studies

4.1. F-6. Thermal Properties

The unexpected absence of Prof. Shibaev, as a last minute decision prevented the Commission to dealing with this item. It was deferred to the Warsaw meeting.

4.2. F-13. Gel Terminology.

This study was merged with project 27/95

4.3. F-15. Functionalisation of Polymers

Prof. Horie reviewed briefly the list of proposed terms and indicated that some reactions, though important, are not mentioned because they are too general. In conclusion he made two proposals.

1. Revise the title
2. Make the study into a project

Prof. Hess indicated that he considers the study to be in such an advanced state that the project form could be and was duly completed and is therefore ready for submission.

Prof. Volhidal agreed with these two opinions and felt that the study is indeed ready to become a project and proposed a motion accordingly. **Prof. Alemán** seconded the motion.

However, the vote could not be taken because a number of items came up for discussion, that were handled before Actions were agreed to.

Prof. Jin indicated that some of the terms are already defined so that there is some duplication and also that more terms are necessary.

Prof. Horie clarified the question indicating that this is only a preliminary situation.

Dr. Elsa Reichmanis, stressed the need for citations.

Prof. Jones insisted on the fact that the two meanings of functional are not in the title and considered this to be a problem to solve before any vote is taken.

Prof. Vohlidal indicated that he would prefer to retain the present title with some additions to cover both possibilities.

Prof. Nhlapo pointed out the need to have a uniform criterion to convert a Feasibility Study into a Project.

Prof. Hess replied with a description of the present practice and considers it to meet this need.

Prof. Mormann after suggesting that some very basic terms be eliminated from the draft proposed the following title:

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

This alternative was then discussed because the term ***reactions*** was considered to be too broad, the limitation of the amplitude would have to be resolved by the WP and polymeric materials should be included.

The proposed title was then accepted and the following actions were agreed:

Actions

1. More terms should be proposed to the WP by the end of September **(COMMISSION).**
2. A new draft should be prepared by December 31, 1999 and sent to the WP and Comm.**(HORIE).**
3. Comments should be sent back to Prof. Horie by March 1, 2000 **(WP, COMMISSION).**
4. A further draft should be sent to the Commission by April 1, 2000 **(HORIE).**
5. Comments back to Prof. Horie by June 1 **(COMMISSION).**
6. The next draft should be prepared for the Warsaw meeting **(HORIE).**

4.4. F-16. Terminology on Ion Containing Polymers

This title corresponds to a previous attempt to work on these materials, that has now take a completely different turn because it became a **MATERIALS SCIENCE INITIATIVE.** For this reason, the Dr. Elsa Reichmanis was also present.

Prof. Kubisa reported on the meeting held in Prague thanks to the assistance of Prof. Volhidal and that the work is still not at the stage of preparing individual definitions. However he indicated that he felt it was time to discuss certain problems, such as the use of ionics and the scope of the document in general. He suggested that it should be limited to organic ion containing polymers. On the other hand polypeptides and other bioproducts were also considered but since they exhibit a different behaviour, these polymers would be included

without going into too much detail.

The next point to be discussed was to decide on whether the document, divided in chapters, should contain terms listed in an alphabetical order or in a logical order. No conclusion could be reached.

General problems were the take up, especially the one referring to the scope.

Prof. Hess suggested that only synthetics should be dealt with.

Prof. Stepto suggested that perhaps being somewhat vague would be convenient in order not to exclude any type of polymers.

Prof. Mormann proposed that everything covered by the term polymer should be included, which summed up the general opinion on the matter.

A discussion on the choice of between ***ionizable, ionic group containig, ion containing, ions and ionic*** as a term contained in the title in which **Profs. Kratochvìl, Mormann, Hess and Jenkins** participated, lead to accepting the following wording:

Terminology of Polymers with Ionizable Groups and Polymers containing Ions

Prof. Kratochvìl then cautioned regarding the difference between opinions of chemists and physicists, because the latter consider that ionomers and polyelectrolytes are in the same group of compounds.

Prof. Hess considered that at this point that there are enough elements to consider this a full project. The question was then raised as to what would be an adequate condition to justify the starting of a project.

To put a touch of lightness on this serious discussion it was proposed, somewhat in jest, that a high level of general confusion would be a good criterion to turn a study into a project.

The situation was considered to be serious enough to adopt this idea and it was unanimously agreed that this Feasibility Study becomes a Project and it receive the number 32/99.

Prof. Hess added that inorganic and biopolymers should be included in principle but that the matter could be discussed at a later date. Regarding the nature of the list he preferred to group the chapters in a logical order and the terms in an alphabetical one.

Prof. Kubisa favoured a logical order for the terms that could be combined with and alphabetical index.

Actions

1. The new WP will be formed by those now in it and Profs. Alemán and Kitayama. Also, Dr. Wilks will serve as link to DuPont experts to be consulted.
2. A revised draft should go to the WP by October 1 **(KUBISA).**
3. Comments should be sent back by December 1 **(WP).**
4. A revised draft sent to the WP and the Commission by March 1, 2000 **(KUBISA).**
5. Comments back to the Co-ordinator by June 1, 2000 **(WP and COMMISSION).**
6. Discussion at the Warsaw meeting.

4.5. F-17. Terminology of Dielectric Properties of Polymers

Prof. Barón described the present sate of the study and the results of the WP as having limited the number of terms and deciding to group together similar terms.

Prof. Hess indicates that a "pure dielectrician" (Prof. Putzer) has been incorporated and described the favourable reactions of new supporting letters.

Dr. Elsa Reichmanis asked if it would not be advisable to convert this into a joint activity with the inorganic people. This idea was considered to be an acceptable possibility and Drs. Reichmanis and Work will provide

names of specialists to be contacted.

Actions

1. Definitions should be prepared for the agreed terms **(WP).**
2. The specialists to be proposed should be contacted **(BARON, REICHMANIS, WORK).**
3. A draft will be prepared and sent to the Commission by June 1, 2000 **(BARON).**

4.6. F-18. Ultimate Mechanical Properties of Polymers

Prof. Hess presented a preliminary list and requested comments for its completion, stressing that applications are especially important, because the can introduce changes with usage. He finally indicated the need to decide how to proceed in the immediate steps.

Prof. Alemán reminded the Commission that this document is the continuation of a previous one (Non-ultimate Properties) and stressed also that it is more in the field of basic knowledge in mechanical engineering. Therefore he feels that somebody has to be found with expertise in basic mechanical science, especially since a basic document is what is actually needed and he emphasised the importance consulting with an expert to draw up the initial draft. Prof. Alemán particularly stressed the fact that it is difficult to understand mechanical properties without getting into mechanical engineering. As a suitable expert he suggested Prof. Williams of Imperial College of Science and Technology

Prof. Jones expressed concern about the fact that the Study is actually not related to polymers.
Prof. Hess raised the question whether the Commission should continue with this study.

Prof. He supported the continuation because he considered that it is closely related to standardisation methods. In particular he mentions ISO standards. Therefore he thinks that it is more a materials problem and would like to join the WP.

Prof. Nhlapo stressed the importance of the project because of its applied nature.

Actions

1. Contact Prof. Williams, Dr. Alan Kaye and Dr. Menges to determine the relevance of the project **(HESS).**
2. Prepare a draft for the Commission by June 1, 2000 **(WP).**

4.7. F-19. Source Based Nomenclature of Modified Polymer Molecules

Dr. Wilks reported and explained the rationale of both the document in general and of specific cases.

Prof. Vohlidal clarified some of the examples on page 21.

Dr. Wilks requested the opinion of the Commission regarding the way to handle names, especially when the molecules are more complicated. He also considered the need to establish basic concepts. One such case is that of styrene, with the following alternatives:

$$[\ -(-C\Phi\ -\ C-)\ /\ -(C\Phi Br\ -\ C-)]_n$$

there followed a discussion on the general criterion to name and draw polymers and it was decided to adopt graphical representations and optimise them, taking especially into consideration structure-based-nomenclature described in PAC 66, 873-889.

Prof. Jones moved to make the Study a Project.

Prof, Horie discussed some details of several sections because they do not seem to be of general use.

At this point there followed a lengthy discussion on simplicity, on what is wanted, what is needed and guidelines, but no specific conclusions were reached.

Prof. Jones insisted with his motion because he considered that the document is far beyond the work and character of a Feasibility Study, deserving to become a full Project.

Prof. Mormann seconded the motion.

The result of the vote was:

To convert the Study into a project: 11 votes
Against conversion to a Project: 1 vote
Abstentions: 3 votes

This Feasibility Study will now become Project 33/99.

Actions

1. The titles of sections 3 and 4 will be changed **(WP).**
2. The first draft will go to the WP by November 1, 1999 **(WILKS).**
3. Comments back by January 15, 2000 **(WP).**
4. The amended draft should be sent to the Commission by May 1, 2000 **(WP).**
5. Draft to be discussed at the Warsaw meeting.
6. The following colleagues join the WP: Profs. Jones, Kitayama, Vohlidal and Dr. Fox.

4.8. F-20. Nomenclature of Threaded Cyclic Molecules

Dr. Wilks reported on previous work. He had three letters of support and hoped to get more. He indicated having seen very recent publications on the subject but he has not been able to evaluate them yet because they came to his attention just before leaving for the Berlin meeting.

Actions

1. Dr, Wilks to circulate two pages with doubts and questions to the WP.
2. Profs. Mormann, Vohlidal and Barón join the WP.
3. The first draft will be sent to the WP by November 1, 1999 **(WILKS).**
4. Replies are expected back to Dr. Wilks by January 15, 2000 **(WP).**
5. The amended draft will be sent to the Commission by June 1, 2000 **(WP).**

5. Proposed Feasibility Studies. New Proposals

5.1. Proposed feasibility Studies

There were no new proposals at this time, taking into account the number of projects now in process and at various stages of development.

5.2. New Proposals

Prof. Hess announced that he had ideas that he will write down and circulate to the Commission

6. Other Business

6.1. Comprehensive List of Terms

Although the need to consult with Dr. Work was acknowledged, the matter was discussed. Dr. Metanomski pointed out the need to have this list in a book as an alphabetical list of terms. The idea behind this opinion is that the list could then go to the web and would serve as some form of dictionary. Furthermore Dr. Metanomski insisted that this list should be added to the new version of the Purple Book. The matter will be discussed with Dr. Work.

6.2. Purple Book

Dr. Metanomski summarised the decisions take in the past years and indicated the difficulties he is encountering

due to the fact that two documents (Liquid Crystals and Single Strand) are still waiting for completion. It is estimated that another year will pass before they are published. As a consequence he feels that a MSS could be ready by the year 2001.

Prof. Kratochvìl and Dr. Metanomski discussed the need to include chapter 8 (Nomenclature) in which case it should be repeated. Both Profs. Horie and Stepto considered that it is a necessary inclusion because of its usefulness to students.

Dr. Metanomski finally stated that the GLOSSARY OF BASIC TERMS document could very well replace the present chapter on definitions because it bring the subject up to date. The proposal was accepted.

Actions

1. Use only full documents in the final version.
2. Include an updated bibliography.
3. Wait for the Liquid Crystal and Single Strand documents.
4. It was accepted that the Generic Nomenclature document may not be ready by the proposed deadline.
5. Have a final draft ready for the Commission by the 2001 Meeting **(METANOMSKI).**

6.3. Publicity

In view of the new professional situation of Dr. Work the matter will be discussed with him **(STEPTO AND BARON)**.

6.4. Website

It was agreed that the matter will be discussed with Drs. G. Moss and F. Meyers. It was proposed that provisional documents should go on the web and Dr. Metanomski requested that this problem should be taken up as a matter of IUPAC policy, especially since at present public reviews are not very effective. It was considered that a request for comments placed on the web could be of assistance.

Actions

Discuss at Division level the inclusion in the Web Page of the documents under Public Review, but with the label of *PROVISIONAL DOCUMENT* **(STEPTO)**.

6.5. Project Submission System

Since all the Commission Members were present at this time it was found convenient to discuss the new Project Submission System.

Prof. Stepto recommended that Feasibility Studies be kept as they now exist, because this has the advantage that the basic information needed to prepare the Submission Form will be readily available. As for the Division Budget he suggested the following criterion:

Considering a number of ***x projects*** for the Commission as a whole; imagine 1/3 of the present Division Budget allocated to Comm. IV.1. In other words Comm. IV.1 gets **Budget/3**. Then each Project would need Budget/3x ≈ us$ 1000.- for two years

Prof. Hess expressed concern about the cases when it is not known that a certain project will be accepted and added that a sum of us$ 1.500.- for two years per project would be a reasonable amount.

Prof. Jin expressed concern regarding what would happen with an outside project.

Prof. Jones suggested increasing the amount of funds in view of the present availability.

Profs. Kubisa, Stepto, Horie and Jenkins advised Prof. Hess to put in an average figure without including possible fluctuations. They also stressed the fact that it should be remembered that there are interdivisional

funds available and that they should be applied for.

It was also recalled that only the names of Division presidents are needed in the forms and not their signatures.

The length in time of projects was then discussed and it was agreed that a 6-year period seems advisable.

It was also generally felt that the letters of support could possibly contain the names of proposed referees, so as to expedite the procedure of their selection and appointment.

It was further hoped that if a project was properly submitted and looked acceptable the whole procedure could be nothing more that a rubber stamp process.

All projects would be submitted to the Secretariat by the Chairman and the Secretary

7.Titular Members Meeting

Prof. Stepto reported the decisions of the meeting:

1. A number of errors in the Commission Membership were detected in IUPAC documents. They will be corrected.
2. The terms of office of the different categories of members was reviewed and the election of new members proposed.

Titular Members

Terms ending in 2001	Terms ending in 1999
Prof. M. Barón	Dr. J. Kahovec
Prof. M. Hess	Dr. V. M. Metanomski
Prof. M. Horie	Prof. R.F. T. Stepto
Prof. R. G. Jones	
Prof. P. Kubisa	
Prof. E. Marèchal	
Dr. I. Meisel	
Dr. E. S. Wilks	

Associated Members

Terms ending in 2001	Terms ending in 1999
Prof. J. He	Prof. K. Hatada
Prof. Jung-il Jin	Prof. V. P. Shibaev
Prof. T. Kitayama	Dr. O. Kramer
Prof. S. Penczek	
Prof. S. Slomkowski	
Prof. G. Swift	
Prof. J. Volhidal	

National Representatives

Terms ending in 2001

Prof. J. Alemán
Dr. K. Kishore
Prof. W. Mormann
Prof. N. Nhlapo
Prof. A. Sirigu
The Brazilian N. A. O. should be informed to decide between Drs. Mauler and Tabak .

IDCNS

Nominations

Prof. A. D. Jenkins, TM
Prof. K. Hatada, AM

8. Year 2000 Commission Meeting

Since MACRO2000 is scheduled to start on Sunday July 9, 2000, it was suggested that the Commission Meeting be held before that date on July 5 to 8 and Prof. Hess proposed that it be held at the same site of the Congress.

Prof. Kubisa described the facilities in general including hotels. Everything is in the Warsaw downtown area and within walking distances.

The meeting would then start at 9am of Wednesday July 5 and end at 6pm of Saturday July 8.

The proposal was accepted and will be communicated **(BARÓN).**

APPENDIX A

Commission on Macromolecular Nomenclature
Berlin - Germany

AUGUST 7 - 11

TIME TABLE

HS / DAYS	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY
9 - 11	OPENING AGENDA TIMETABLE	24/93 - BLENDS WP - MEETING- 26/95 - KINETICS	21/93-GENERIC NOMENCLATURE DISCUSSION	SEPARATIONS PROJECT 22/93-GUIDE TO POLYMER TERMINOLOGY	31/97-POLYMERISATION PROCESSES AND POLYMERS IN DISPERSED SYSTEMS
11 - 13	OTHER BUSINESS	25/95-ASYM.METRIC POLYMERIZATION . AGING DOCUMENT 28/97-HYPERBRANCHED WP-F-15-FUNCTIONAL	WP-27/95-POLYMERIC INORGANIC COMPOSITES WP-27/95-GENERAL DISCUSSION	24/93-MULTO-PHASE POLYMERIC MATERIALS F-15-WP-MEETING 26/95-KINETICS YEAR 200 MEETING	MATERIALS SC.IRNCE INITIATIVE WP-MEETINGS. F-19-SOURCE BASED F-20-THREADED CYCLIC POLYMERS
14 - 16	DIVISION MEETING	WP-29/97-MACROCYCLIC MACROMOLECULES 30/97-GLOSSARY OF POLYMER CLASS NAMES	COMMISSION EXCURSION	DIVISION MEETING	GENERAL DISCUSSION F-6-THERMAL PROPERTIES F-15-FUNCTIONAL. F-16-ION CONTGAINING POLYMERS.
16 - 18	DIVISION MEETING	29/97-MACROCYCLIC MACROMOLECULES 30/97-MACROCYCLIC POLYMERS TM CLOSED MEETING	COMMISSION EXCURSION	DIVISION MEETING	F-17-DIELECTRICS F-18-ULTIMATE. MECHANICAL. NEW PROJECTS
Evening		COMMISSION DINNER			

APPENDIX B: STATUS OF ACTIVITIES

PROJECTS

Project Number	Abbreviated Title	Coordinator(s)	Key Actions
	Projects published since the Geneva Meeting		
	NONE		
	Projects Submitted for Public and IDCNS Review		
18/87	Liquid Crystals	Baron, Stepto	The Document is under Public Review till December 31, 1999. Pertinent information can be seen in the IUPAC website.
19/89	Revision of Regular, Single-Strand Nomenclature	Kahovec, Metanomski	The Document is under Public Review till April 30, 2000 Pertinent information can be seen in the IUPAC website.
	Projects in Preparation by Working Parties		
21/93	Source-Based Generic Nomenclature	Maréchal, Mita	After a final review of an amended version by the Chairman by November 30, 1999, the Document will go to Public and IDCNS Review.
22/93	Guide to Polymer Terminology and Nomenclature	Metanomski	A preliminary Document is expected to be discussed at the Warsaw meeting.
24/93	Terminology of Polymeric Composites and Blends	Horie, Work	A final version is expected to result form the discussion at the Warsaw meeting.
25/95	Asymmetric Polymerization	Hatada	It is expected that after a final revision by outside experts the Document will be ready for the Chairman's approval and submission to IDCNS and Public Review by April 2000.
26/95	Kinetics and Thermodynamics of Polymerization	Penczek	The finally revised version could be ready for Chairman's approval and subsequent processing by March 2000.
27/95	Polymer Inorganic Composites	Jones	A sectionalised Document will be prepared for the Warsaw meeting.
28/97	Terminology and Nomenclature of Hyperbranched Macromolecules	Kahovec	A new version using a mixture of source and structure based names will be prepared for consideration at the Warsaw meeting.
29/97	Nomenclature of Macrocyclic Macromolecules	Maréchal	Revised draft to Commission by June 1, 2000.

30/97	Glossary of Polymer Class Names	Metanomski	A version updated by the WP will go to the Commission by March 1, 2000 and discussed at the Warsaw meeting.
31/97	Terminology of Polymerisation Processes and Polymers in Dispersed Systems	Kubisa/Horie/ Slomkowski	A redrafted version, under the new title, revised by Prof. Gilbert and the WP should be ready for discussion at the Warsaw meeting
X/97	Separations Project	Hess/Stepto	The Project has been converted into an interdivisional one and a WP was nominated.

Feasibility Studies

Project Number	**Abbreviated Title**	**Coordinator(s)**	**Key Actions**
F-6	Thermal Properties	Shibaev	Obtain letters of support to justify the Project.
F-13	Gel Terminology	Jones/Hess	Merged with Project 27/95
F-15	Functionalization of Polymers	Horie	A revised draft, with comments by the WP and Commission should be ready for discussion at the Warsaw meeting.
F-16	Terminology of Ion-Containing Polymers	Kubisa	To become Project 32/99. A revised draft, with comments by the WP and Commission should be ready for discussion at the Warsaw meeting.
F-17	Terminology of Dielectric Properties of Polymers	Baron	Definitions will be prepared for the agreed terms and a document sent to the Commission by June 1, 2000.
F-18	Ultimate mechanical properties of polymers	Hess	After determining the relevance of the study a draft will be prepared for the Commission by June 1, 2000.
F-19	Source based nomenclature for modified polymer molecules	Wilks	To become Project 33/99. The WP will have an amended version for the Commission by May 1, 2000 and discussion at the Warsaw meeting.
F-20	Nomenclature of threaded Cyclic Macromolecules	Wilks	A first draft should be will be sent to the Commission by June 1, 2000.

Other Activities

Abbreviated Title	Coordinator(s)	Key Actions
Comprehensive list of terms	Work	It was agreed to have the list in alphabetical order to serve as some for of dictionary and included in the next edition of the Purple book.
The Purple Book	Metanomski	A final draft should be ready for the Commission by the 2001 Meeting including only those recommendations that will have been published.
Publicity	Stepto, Barón	The dissemination of the Commission's activities will be programmed.
Website	Stepto	The inclusion of documents undergoing Public Revision, as PROVISIONAL DOCUMENTS, will be discussed at Division level.

APPENDIX C: WORKING PARTIES

PROJECTS	NAMES
18/87	Baron, Hess, Jenkins, Jin, Noël, Shibaev, Sirigu, Stepto, Work
19/89	Fox, Hatada, Kahovec, Metanomski
21/93	Hatada, Horie, Jenkins, Kahovec, Kubisa, Maréchal, 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, Wilks, Work.
24/93	Fox, Hess, Horie, Work, Baron, Stepto
25/95	Baron, Hatada, Horie, Kahovec, Kubisa, Moss, Wilks, Stepto
26/95	Baron, Hatada, Hess, Jenkins, Kubisa, Maréchal, Penczek, Pepper, Schulze, Sigwalt, Stepto, Vohlidal.
27/95	Alemán, Hess, Horie, Jones, Meisel, Mita, Stepto Work
28/97	Baron, Kahovec, Metanomski, Fox, Horie, Kubisa, Mita, Maréchal, Stepto, Wilks
29/97	Baron, Fox, Horie, Kahovec, Kubisa, Maréchal, Metanomski, Mita, Stepto, Swift, Wilks, Kitayama, Schultz, Meisel.
30/97	Baron, Fox, Hess, Horie, Jones, Kahovec, Metanomski, Stepto, Swift, Wilks, Mormann, Meisel. Teague.
31/97	Alemán, Hess, Horie, Kubisa, Meisel, Penczek, Slomkowski, Mormann, Gilbert,
X-97	Baron, Berek, Hess, Kitayama, Mori, Stepto, Vohlidal, Stepto, Kratochvìl, Jandera, Dabankov.

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FEASIBILITY STUDIES

PROJECTS	NAMES
F-6	Alemán, Baron, Brennan, Hess, Horie, Malkin, Shibaev
F-15	Baron, Fox, Hess, Horie, Kahovec, Kubisa, Maréchal, Swift, Work, Mormann, Volhidal, Kitayama, Wilks.
F-16	Hess, Jones, Kubisa, Swift, Vohlídal
F-17	Baron, Hess, Horie, Wilks.
F-18	Hess, Stepto, Work, Wilks, He, Nhlapo, Alemán.
F-19	Horie, Kahovec, Marèchal, Vohlidal, Wilks,
F-20	Kahovec, Kubisa, Marèchal, Metanomski,Stepto, Wilks

OTHER ACTIVITIES

PROJECTS	NAMES
Comprehensive List of Terms	Work
The Purple Book	Metanomski, Stepto, Work
Publication	Barón, Stepto
Website	Stepto

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