

Term Sheet for Membership in the Proposed CRP Consortium
A new consortium related to the Research Program in Controlled Radical
Polymerization (“CRP”)
at CMU’s Center for Macromolecular Engineering

April 26, 2000

All communications and discussions are tentative until execution of a written agreement by the parties concerned.

Defined Term	Definition
“CMU”	Carnegie Mellon University, Pittsburgh, PA
“CME”	The Center for Macromolecular Engineering
“ATRP”	Atom Transfer Radical Polymerization – A process for the controlled polymerization of vinyl monomers initially developed at CMU believed to bring about dramatic changes in the range of products attainable through free radical polymerization.
“ATRP Consortium”	The CMU ATRP Consortium in existence from 1/1/96 to 12/31/00
“CRP”	Controlled Radical Polymerization, a term broader than but including ATRP
“CRP Research Program”	A research program focused on expanding the understanding CRP and provision of assistance in the commercial development of materials based on Controlled Radical Polymerization processes

“CRP Consortium” “Consortium”	The new Consortium described in this Term Sheet
Purpose of the CRP Consortium	To create a vehicle for – <ol style="list-style-type: none"> 1. Conducting additional research and development in Controlled Radical Polymerization, including ATRP technology, at the CME in CMU, to expand the scope and to develop and define the limits of CRP technologies, including but not limited to polymerizable monomers, comonomers, polymer functionality and polymer topology, catalysts including metals and ligands, process conditions including catalyst recovery; 2. providing a set of exclusive rights and benefits to the Members of the CRP Consortium; 3. to train scientists in CRP for industry.
Term of the CRP Consortium (“Term”)	The CRP Consortium at CME will start January 1, 2001 and will be in effect for five years ending December 31, 2005.
“Member”	Member of the CRP Consortium The goal for Membership is to obtain commitments from 20 to 30 Members who (1) will provide input to the further development of a research program focused on CRP from the broadest possible spectrum of fields of use and (2) to the extent possible, be from complementary sectors of the chemical/polymer/materials business.
“Members Rights”	Members in Good Standing will, for the Term of the CRP Consortium at CME, have the following exclusive rights: <ol style="list-style-type: none"> 1. Access to ATRP Consortium and CRP Consortium information and participation in CRP Consortium Activities and Events, including the following: <ol style="list-style-type: none"> a. Right to participate in annual or semi-annual CRP meetings and presentations. b. Members may have one representative on the Advisory Board. c. Rights to visit and interact with the CME lab (Exception: Exploratory visits to the lab by Non-Members who are potential new Members).

- d. Access to new CRP information prior to the submission of a publication.
2. Rights to negotiate commercial licenses with CMU for the Basic Technologies, Consortium Technologies, Other Technologies and New CRP Technologies.
3. Rights to negotiate with CMU Individual Research Contracts (“Contracts”) for specific aspects and/or applications of CRP technology which are more specialized than the fundamental CRP Consortium work.
4. Rights to negotiate commercial licenses with CMU for Special Technologies which result from such Contracts, for defined fields of use.
5. Rights to negotiate individual, specific consulting agreements on CRP matters with CMU personnel (Exception: Exploratory consulting with potential new Members).
6. Members will be able to send a Researcher from their corporate laboratories to CMU for a short period of time (less than three months) to learn various CRP techniques. All intellectual property resulting from such efforts will be the property of CMU. Conversely, a researcher from CMU can be sent to a corporate research laboratory to teach CRP techniques.

“Membership Year”, “Year” Calendar year during the term of the Consortium

Consortium Fees(s) (“Fee,” “Annual Fee”) \$20,000 per year, for the Term of the CRP Consortium due September 1, prior to the start of each Year

“Member in Good Standing” Member who’s Annual Fee has been received by CMU in accordance with the Consortium Agreement

Membership Term Members are requested to commit to Membership for the entire Term of the Consortium, but withdrawal from Membership is permitted with 180 day notice

“CRP Patents”

CMU has a number of patents from prior work on several aspects of controlled radical polymerization, including the Consortium Patents that evolved from the ATRP Research Consortium, the published and issued patents are enumerated below.

“Basic Patents” shall mean Patent No. 5,763,548, entitled “Novel (Co) Polymers and A Novel Polymerization Process Based on Atom (or Group) Transfer Radical Polymerization” (ATRP Basic Patent 1), and Patent No. 5,807,937, entitled “Processes Based on Atom (or Group) Transfer Radical Polymerization and Novel (Co) Polymers Having Useful Structures and Properties” (ATRP Basic Patent 2), (Collectively referred to as the “Basic Patents,”) together with any continuation, continuation-in-part, re-examination divisional, or re-issue of such patent in the U.S or any other country.

“Consortium Patents” shall mean Patent No. 5,789,487, and 5,945,491, both entitled “Preparation of Novel Homo- and Copolymers Using Atom Transfer Radical Polymerization” (ATRP Consortium Patent 1), Patent Application No. 09/018,554 entitled “Improvements in Atom Transfer Radical Polymerization” (ATRP Patent 4) Patent Application No. 09/126,765 entitled “Controlled/Living Radical Polymerization Applied to Water-Borne Systems” (ATRP Consortium Patent 5), and Patent Application No. 09/534,827 entitled “Catalytic Processes for the Controlled Polymerization of Free Radically (Co)Polymerizable monomers and Functional Polymeric Systems Prepared Thereby” (ATRP Consortium Patent 6) together, with any continuation, continuation-in-part, re-examination divisional, or re-issue of such patent in the U.S or any other country, and any additional ATRP patents which result from the research funded by the ATRP Research Consortium and arising out of applications made prior to 01/01/01.

“Special Patents” shall mean more, specialized patents which result from Contracts with CMU by Members.

“Other Patents” shall mean controlled radical polymerization patents based on Patent No. 5,910,549 “ Method for preparation of alkoxyamines from nitroxyl radicals,” together with any continuation, continuation-in-part, re-examination divisional, or re-issue of such patent in the U.S or any other country.

“New CRP Patents”

Patents that may arise from the sponsored research during the Term of the CRP Consortium at CME.

“Technology”	<p>The technology, patent(s), know-how, trade secrets, trademarks, and copyrights, if any, and any other information related to certain defined types of ATRP and CRP patents.</p> <p>“Basic Technologies” shall mean Technologies incorporating one or both of the Basic Patents.</p> <p>“Consortium Technologies” shall mean Technologies incorporating any of the Consortium Patents.</p> <p>“Other Technologies” shall mean Technologies incorporating any of the Other Patents.</p> <p>“New CRP Technologies” shall mean Technologies incorporating any of the New CRP Patents.</p> <p>“Special Technologies” shall mean Technologies incorporating any of the Special Patents.</p>
International Patenting	<p>CMU intends to apply for international patent coverage of the Basic Patents, Consortium Patents and for appropriate additional CRP Patents in major industrial countries defined in the Agreement. CMU will apply for coverage in any additional country at the Member’s cost.</p>
Confidentiality Agreements	<p>All Members will be required to sign Confidentiality Agreements with regard to all confidential information related to the CRP Consortium.</p>
Government Sponsored Research	<p>CMU may continue to seek funding from Government-related organizations which may result in additional CRP technologies available to Members.</p>
Academic Collaboration	<p>CME will collaborate with other academic institutions when researchers at such institutions can assist the CRP Consortium. Intellectual Property will be protected, when possible, in these collaborations.</p>
Grant-Back of	<p>Improvements by Members to Licensed CRP Technologies</p>

Improvements (“Improvements”) shall be made available to CMU for research, educational and/or academic purposes.

Program
Director
Professor Dr. Krzysztof Matyjaszewski,
Department of Chemistry
Mellon Institute, Carnegie Mellon University
4400 Fifth Avenue, Pittsburgh, PA 15213-2683
Tel.: (412) 268-3209; Fax: (412) 268-6897
E-mail: km3b@andrew.cmu.edu

Program
Consultant
Dr. James Spanswick,
Consultant, Polymeric Materials
Bridges TIC
2365 Albright Lane, Wheaton, IL 60187
Tel./Fax: (630) 690-5132; E-mail: jspanswick@aol.com