POLYMERS '91

1—4 JANUARY 1991

THIRD CIRCULAR AND PROGRAMME

NATIONAL CHEMICAL LABORATORY
PUNE–411 008, INDIA

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- **Council of Scientific and Industrial Research, India**
- **Indian National Science Academy**
- **Materials Research Society of India**
- **The Society for Polymer Science, India**

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- Local transport facilities have been arranged for participants from the point of arrival to places of stay as well as to the National Chemical Laboratory. Delegates on arrival at Pune airport/railway station are requested to get in touch with the reception desks set up for transport facilites. Transport facilities for departure will also be available.
- Accommodations to delegates have been provided in various guest houses and hotels keeping in mind delegates' choice and convenience, provided intimation to this effect has been received in advance.
- Travel arrangements such as air, rail reservations have been made for those delegates who have specifically sought assistance. A travel counter manned by Travel Corporation of India Ltd., will be located in the front lobby of NCL to facilitate booking, reconfirmation, rerouting etc.
- A cultural programme is planned for 3rd January 1991 at 1830 hours followed by dinner at 2030 hours.
- Speakers (oral and poster) are requested to contact designated desk in the front lobby of NCL for necessary instructions. Slides must be handed over to this desk at least one session prior to the session in which the lecture is scheduled. Slides must also be collected back from this desk.
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GUIDE TO PROGRAMME

The following codes have been used :

Technical Sessions

Bio–Related Polymers	**BRP**
High Performance Polymers	**HPP**
Plenary Lecture	**PL**
Polymer Blends, Alloys and Composites	**BAC**
Polymerization Chemistry	**PC**
Structure and Properties	**SP**
Synthesis and Modification of Polymers	**SMP**

TECHNICAL PROGRAMME AT A GLANCE

JANUARY 1, 1991

	AUDITORIUM		LECTURE ROOM–II Floor		
	0800	**REGISTRATION**	–		
	0850	**INAUGURATION**	–		
	1000	**TEA/COFFEE BREAK**	–		
PL I.1	**1030**	Sherrington	–		
PL I.2	**1110**	Kishore	–		
	1200—1300	**POSTER SESSION I/EXHIBITION**			
	1300	**LUNCH BREAK**	–		
PC I.1	**1345**	Locatelli	HPP I.1	**1345**	Kricheldorf
PC I.2	**1415**	Zakharov	HPP I.2	**1415**	Muthukumar
PC I.3	**1445**	Zucchini	HPP I.3	**1445**	Kashyap
PC I.4	**1515**	Gupta S K	HPP I.4	**1505**	Mishra
			HPP I.5	**1525**	Desai
	1545	**TEA/COFFEE BREAK**	–		
SMP I.1	**1600**	Rajasekharan Pillai	BAC I.1	**1600**	Subramanian
SMP I.2	**1620**	Salunkhe	BAC I.2	**1630**	Bajaj
SMP I.3	**1640**	Kulkarni R A	BAC I.3	**1650**	Sengupta
SMP I.4	**1700**	Padmanabhan	BAC I.4	**1710**	Deopura
			BAC I.5	**1730**	Banthia
	1800–1900	**POSTER SESSION I/ EXHIBITION**			

TECHNICAL PROGRAMME AT A GLANCE

JANUARY 2, 1991

	AUDITORIUM		LECTURE ROOM–II Floor		
PL II.1	**0845**	Gupta V B	–		
PL II.2	**0925**	Frechet	–		
	1015	**TEA/COFFEE BREAK**	–		
PC II.1	**1030**	Ramakrishnan	BRP I.1	**1030**	Pal M K
PC II.2	**1050**	Chandrasekaran	BRP I.2	**1100**	Rathi
PC II.3	**1110**	Srivastava	BRP I.3	**1120**	Kulkarni M G
PC II.4	**1130**	Patri	BRP I.4	**1140**	Rajagopalan
	1200—1300	**POSTER SESSION II/EXHIBITION**			
	1300	**LUNCH BREAK**	–		
BRP II.1	**1345**	Uryu	HPP II.1	**1345**	Imai
BRP II.2	**1415**	Penczek (Kubisa)	HPP II.2	**1415**	Vinogradova
BRP II.3	**1445**	Pal S N	HPP II.3	**1445**	Patnaik
BRP II.4	**1505**	Nair	HPP II.4	**1515**	Abhiraman
	1545	**TEA/COFFEE BREAK**	–		
PC III.1	**1600**	Srinivasan	SMP II.1	**1600**	Lemaire
PC III.2	**1630**	Avadhani	SMP II.2	**1630**	Hamid
PC III.3	**1650**	Packirisamy	SMP II.3	**1650**	Miadonye
	1715—1800	*Prof. M. SANTAPPA SILVER JUBILEE AWARD FUNCTION*			
	1800—1900	**POSTER SESSION II/EXHIBITION**			

TECHNICAL PROGRAMME AT A GLANCE

JANUARY 3, 1991

AUDITORIUM			LECTURE ROOM–II Floor		
PL III.1	0845	De	–		
PL III.2	0925	Imai	–		
	1015	TEA/COFFEE BREAK	–		
PC IV.1	1030	Simonazzi	HPP III.1	1030	Svec
PC IV.2	1100	Dyachkovskii	HPP III.2	1100	Nema
PC IV.3	1130	Zambelli(Locatelli)	HPP III.3	1130	Gupta B
			HPP III.4	1150	Vetrivel
	1200—1300	POSTER SESSION III/EXHIBITION			
	1300	LUNCH BREAK	–		
SP I.1	1345	Wang	HPP IV.1	1345	Akkapeddi
SP I.2	1415	Fakirov	HPP IV.2	1415	Noel
SP I.3	1445	Rondelez	HPP IV.3	1445	Panda
SP I.4	1515	Khanna	HPP IV.4	1505	Radhakrishnan
			HPP IV.5	1525	Devendra Kumar
	1545	TEA/COFFEE BREAK	–		
SP II.1	1600	Patterson	PC V.1	1600	Seppala
SP II.2	1630	Tripathy	PC V.2	1630	Upadhyay
SP II.3	1650	Delmas	PC V.3	1650	Ponrathnam
SP II.4	1710	Iyer	PC V.4	1710	Babu
SP II.5	1730	Windle(Findlay)	PC V.5	1730	Manivannan
	1745—1830	POSTER SESSION III/EXHIBITION			

TECHNICAL PROGRAMME AT A GLANCE

JANUARY 4, 1991

AUDITORIUM			LECTURE ROOM–II Floor		
	0930—1015 *BEST STUDENT POSTER AWARD FUNCTION*				
	1015	**TEA/COFFEE BREAK**	–		
SP III.1	**1045**	Montaudo	BAC II.1	**1045**	Ghosh
SP III.2	**1115**	Prasad	BAC II.2	**1115**	Shingankuli
SP III.3	**1135**	Brar	BAC II.3	**1135**	Joshi
SP III.4	**1155**	Jagannathan	BAC II.4	**1155**	Singh
SP III.5	**1215**	Kanakavel	BAC II.5	**1215**	Kameswara Rao
SP III.6	**1235**	Dallas			
	1300	**LUNCH BREAK**	–		
PC VI.1	**1345**	Vlcek	PC VII.1	**1345**	Kondo
PC VI.2	**1415**	Sudesh Kumar	PC VII.2	**1415**	Terano
PC VI.3	**1435**	Munshi	PC VII.3	**1445**	Mukesh
PC VI.4	**1455**	Achary	PC VII.4	**1505**	Belov
PC VI.5	**1515**	Adhinarayanan	PC VII.5	**1525**	Kanakkanatt
PC VI.6	**1535**	Surekha Devi			
	1600	**TEA/COFFEE BREAK**	–		
	1615—1700	**VALEDICTORY FUNCTION**			

DETAILED PROGRAMME

TUESDAY – 1st JANUARY 1991

	0800–0845	□ **REGISTRATION**
	0850–1000	□ **INAUGURATION**
	1030–1200	□ **Session : Plenary Lectures I** (*Auditorium*) **Chairman : *Prof. R.D. Patel***
PL I.1	**1030**	▷ **D.C. Sherrington** (University of Strathclyde, Glasgow, UK) *Design and synthesis of novel polymer supports*
PL I.2	**1110**	▷ **K. Kishore** (Indian Institute of Science, Bangalore, India) *Physicochemical behaviour of flammable and non-flammable polymers*
	1200–1300	□ **POSTER SESSION I/EXHIBITION**
	1345–1535	□ **Session : Polymerization Chemistry I** (*Auditorium*) **Chairman : *Prof. M.V. Pandya***
PC I.1	**1345**	▷ **P. Locatelli**, M.C. Sacchi and I. Tritto (Institute di Chimica delle Macromolecole del, Milano, Italy) *Heterogeneous Ziegler–Natta catalysis: Stereochemistry of first polymerization step*
PC I.2	**1415**	▷ **V. Zhakarov**, L.G Yechevskaya, and G.D. Bukatov (Institute of catalysis, Novosibirsk, USSR) *Copolymerization of ethylene with alpha olefins over highly active titanium–magnesium catalysts*
PC I.3	**1445**	▷ **U. Zucchini** and T. Dall'occo (Himont Italia, Ferrara, Italy) *New development of Ziegler–Natta catalyst for ethylene polymerization*
PC I.4	**1515**	▷ P. Sarkar and **S.K. Gupta** (Indian Institute of Technology, Kanpur, India) *Polymeric multigrain model with multi–site catalyst – A computationally efficient algorithm*
	1345–1545	□ **Session : High Performance Polymers I** (*Lecture Room II Floor*) **Chairman : *Dr. O.P. Bahl***
HPP I.1	**1345**	▷ **H.R. Kricheldorf** (Universitat Hamburg, Hamburg, Germany) *Polycondensation of silylated monomers*

HPP I.2	**1415**	▷ **M. Muthukumar** (University of Massachusetts, Amherst, USA) *Thermodynamics and dynamics of polymer solution*
HPP I.3	**1445**	▷ S.S. Ray, **A.K. Kashyap**, A.K. Misra, N.V.R. Apparao and A.K. Bhatnagar (Indian Oil Corporation, Faridabad, India) and V.K. Upadhyay (IPCL, Baroda, India), and S. Sivaram (National Chemical Laboratory, Pune, India) *Synthesis of modified polyisoprene—based viscosity index improvers for lubricants*
HPP I.4	**1505**	▷ **M.K. Mishra**, I.D. Rubin, T.E.Nalenski and M.M. Kapuscinski (Texaco Research Centre, New York, USA) *Speciality olefin copolymers in oil additives*
HPP I.5	**1520**	▷ **N.M. Desai**, A.S. Sarma and K.L. Mallik (Lubrizol India Ltd., Bombay, India) *Application of performance polymers in petroleum products: Studies on viscosity modifiers and pour point depressants*
	1600–1720	□ **Session : Synthesis and Modification of Polymers I** (*Auditorium*) **Chairman : *Prof. F. Svec***
SMP I.1	**1600**	▷ B. Mathew and **V.N.Rajasekharan Pillai** (Mahatma Gandhi University, Kottayam, India) *Polymer metal complexes of amino and dithiocarbamate functions supported on crosslinked polyacrylamides*
SMP I.2	**1620**	▷ A.S. Kanade, R.B. Mane and **M.M. Salunkhe** (Shivaji University, Kolhapur, India) *Simple synthesis of organic phenyl sulphides from exchange resin supported thiophenoxide anion*
SMP I.3	**1640**	▷ **R.A. Kulkarni**, B.R. Joglekar and S. Gundiah (National Chemical Laboratory, Pune, India) *Polyacrylamides bearing glycolic acid functionality*
SMP I.4	**1700**	▷ **M. Padmanabhan**, J. C. Joseph and T. Mathew (Mahatma Gandhi University, Kottayam, India) *Synthesis and characterization of structurally and electronically modified metalloporphyrins supported on crosslinked poly (4-vinylpyridine)*
	1600–1750	▷ **Session : Polymer Blends, Alloys and Composites I** (*Lecture Room II Floor*) **Chairman : *Dr. V.M. Nadkarni***
BAC I.1	**1600**	▷ **P.M. Subramanian** (Du Pont Inc., Delaware, USA) *Polymer blends : Morphology and permeability barrier properties*

BAC I.2	**1630**	▷ **P. Bajaj** and R. Koul, (Indian Institute of Technology, New Delhi, India) *Antistatic and X–ray opaque polyester fibres*
BAC I.3	**1650**	▷ **P.K. Sengupta** and D. Mukhopadhyay (University College of Science and Technology, Calcutta, India) *Morphology of polymer blends*
BAC I.4	**1710**	▷ S. Mehta and **B.L. Deopura** (Indian Institute of Technology, New Delhi, India) *Molecular composites formed by thermotropic copolyester and polyethylene terephthalate*
BAC I.5	**1730**	▷ **A.K. Banthia** and V. Jha–Choudhary (Indian Institute of Technology, Kharagpur, India) *Epoxy–ferrite composites: Mechanical properties*
	1800-1900	□ **POSTER SESSION I/EXHIBITION**

WEDNESDAY – 2nd JANUARY 1991

	0845–1005	□ **Session : Plenary Lectures II** (*Auditorium*) **Chairman:** ***Prof. P. Ghosh***
PL II.1	**0845**	▷ **V.B. Gupta** (Indian Institute of Technology, New Delhi, India) *The multifaceted nature and role of crystals in poly(ethylene terephthalate) and other fibres*
PL II.2	**0925**	▷ **J.M.J. Frechet** (Cornell University, New York, USA) *Synthesis of novel hyperbranched polymers with highly controlled molecular architecture*
	1030–1150	□ **Session : Polymerization Chemistry II** (*Auditorium*) **Chairman :** ***Prof. B.M. Mandal***
PC II.1	**1030**	▷ **S. Ramakrishnan** (Indian Institute of Science, Bangalore, India) *Well defined ethylene–vinyl alcohol copolymers via hydroboration: Control of composition and distribution of the hydroxyl groups on the polymer backbone*
PC II.2	**1050**	▷ **S. Chandrasekharan** (Ausimont, New Jersey, USA) *Effect of various termonomers on the solid state properties of ethylene – chlorotrifluoroethylene copolymers*
PC II.3	**1110**	▷ P. Shukla and **A.K. Srivastava** (H.B. Technological Institute, Kanpur, India) *Synthesis and polymerization of chromium methacrylate initiated by styrene–arsenic sulfide complex*

PC II.4 **1130** ▷ **M. Patri** and P.C. Deb (Naval Chemical and Metallurgical Laboratory, Bombay, India)
Studies on aromatic polysulfide and copolysulfides

1030–1200 □ **Session : Bio–Related Polymers I**
(*Lecture Room II Floor*)
Chairman : *Dr. S.N. Pal*

BRP I.1 **1030** ▷ **M.K. Pal**, A. Roy, P.K. Pal, N. Mandal, T.K. Ghosh, and R.C. Yadav (University of Kalyani, Kalyani, India)
Induced circular dichroism in conformational studies of polymers

BRP I.2 **1100** ▷ **R.C. Rathi**, B. Rihova, P. Kopeckova and J. Kopecek (University of Utah, Utah, USA)
Bioadhesive water soluble polymeric drug carrier for site–specific drug delivery: Synthesis, characterization and bioadhesion studies

BRP I.3 **1120** ▷ V.S. Vadalkar and **M.G. Kulkarni** (National Chemical Laboratory, Pune, India)
Enzyme catalyzed hydrolysis for activated esters: Implications for controlled release drug delivery systems of pragmatic importance

BRP I.4 **1140** ▷ **N. Rajagopalan**, C. Bhaskar, V.S. Bankar, V.B. Sarawade and P.G. Shukla (National Chemical Laboratory, Pune, India) and K.C. Khilar (Indian Institute of Technology, Bombay, India)
Use of crosslinked starch–urea formaldehyde matrix for encapsulation of carbofuran: Influence of pH and double encapsulation on release rate

1200–1300 □ **POSTER SESSION II/EXHIBITION**

1345–1525 ▷ **Session : Bio–Related Polymers II**
(*Auditorium*)
Chairman : *Dr. M.H. Mehta*

BRP II.1 **1345** ▷ **T. Uryu**, T. Yoshida, N. Ikushima (University of Tokyo, Tokyo, Japan), K. Hatanaka (Tokyo Institute of Technology, Yokohama, Japan), Y. Kaneko, T. Mimura (Ajinomoto Co., Inc., Tokyo, Japan), H. Nakashima (University School of Medicine, Yamaguchi, Japan) and N. Yamamoto (Tokyo Medical and Dental University, Tokyo, Japan)
Sulfated polysaccharides as a potent and selective inhibitor of AIDS virus infection

BRP II.2 **1415** ▷ S. Penczek (**P. Kubisa**)(Polish Academy of Sciences, Lodz, Poland)
Phosphorous containing bioanalogous polymers by ring–opening polymerization

BRP II.3 **1445** ▷ M.S. Sheela, K. Tamareselvy, V. Kalliyanakrishnan and **S.N. Pal** (SCTIMST, Trivandrum, India)
Physicochemical characterization of composite materials for dental applications

BRP II.4 **1505** ▷ **P.D. Nair**,and V.N. Krishnamurthy (SCTIMST, Trivandrum, India)
Hydrophobic–hydrophilic interpenetrating polymer networks for biomedical applications

1345–1535 □ **Session : High Performance Polymers II**
(*Lecture Room II Floor*)
Chairman : *Dr. B.V. Ramani*

HPP II.1 **1345** ▷ **Y. Imai** (Tokyo Institute of Technology, Tokyo, Japan)
Recent advances in synthesis of new high–temperature aromatic polymers

HPP II.2 **1415** ▷ **S.V. Vinogradova** (A.N.N. Nesmeyanov Institute of Organo element Compounds, Moscow, USSR)
Synthesis and properties of cardo polyheteroarylenes

HPP II.3 **1445** ▷ **B.K. Patnaik** and N.P. Khasat (Hercules Inc., Delaware, USA)
New developments in RIM polymers

HPP II.4 **1515** ▷ **A.S. Abhiraman** (Georgia Institute of Technology, Atlanta, USA)
Critical issues in the formation of PAN based carbon fibers

1600–1710 □ **Session:Synthesis and Modification of Polymers II**
(*Lecture Room II Floor*)
Chairman : *Prof. H. Kothandaraman*

SMP II.1 **1600** ▷ **J. Lemaire**, C. Adam and J. Lacoste (Universite Blaise Pascal, Aubiere Cedex, France)
Mechanism of the photo–oxidation and weathering of dienic elastomers

SMP II.2 **1630** ▷ **S.H. Hamid** (King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)
Weather–induced degradation of plastics in near equatorial regions

SMP II.3 **1650** ▷ **A. Miadonye** (Rivers State University of Science and Technology, Port Harcourt, Nigeria)
Effects of process regime on morphology of poly(vinyl chloride)

1600–1710 □ **Session : Polymerization Chemistry III**
(*Auditorium*)
Chairman : *Prof. V. Zakharov*

PC III.1 **1600** ▷ **M. Srinivasan** (Shri Ram Fibres Ltd., Madras, India)
High performance engineering plastics: Recent developments

PC III.2 **1630** ▷ **C.V. Avadhani**, P.P. Wadgaonkar, and S.P. Vernekar (National Chemical Laboratory, Pune, India)
Synthesis and characterization of poly (amide–imide)s based on formal, ester, and imide group containing diisocyanates

PC III.3 **1650** ▷ **S. Packirisamy**, K. Adhinarayanan, S.R. Jameela and R. Ramaswamy (VSSC, Trivandrum, India)
Addition polyimides based on epoxy resins

1800–1900 ▷ **POSTER SESSION II/EXHIBITION**

THURSDAY – 3rd JANUARY 1991

0845–1005 □ **Session : Plenary Lectures III**
(*Auditorium*)
Chairman: ***Dr. I.S. Bhardwaj***

PL III.1 **0845** ▷ P. Ramesh and **S.K. De** (Indian Institute of Technology, Kharagpur, India)
Self-crosslinkable plastic – rubber blend system based on poly (vinyl chloride) and carboxylated nitrile rubber

PL III.2 **0925** ▷ **Y. Imai** (Tokyo Institute of Technology, Tokyo, Japan)
Recent progress in the new synthetic methods for condensation polymers

1030–1200 □ **Session : Polymerization Chemistry IV**
(*Auditorium*)
Chairman: ***Prof. M. Biswas***

PC IV.1 **1030** ▷ **T. Simonazzi** (Himont Italia, Ferrara, Italy)
Continuous development in the Ziegler–Natta catalysis: From polyolefin commodities to tailor–made polymers

PC IV.2 **1100** ▷ **F.S. Dyachkovskii** (Institute of Chemical Physics, Moscow, USSR)
Synthesis of polyolefins with catalysts supported on inorganic and organic surface

PC IV.3 **1130** ▷ A. Zambelli, A. Grassi and P. Longo (**P. Locatelli**) (University of Salerno, Baronissi, Italy)
Stereospecific polymerization of olefins : Reaction mechanism and polymer structure

1030–1210 □ **Session : High Performance Polymers III**
(*Lecture Room II Floor*)
Chairman : ***Prof. D.D. Deshpande***

HPP III.1	**1030**	▷ **F. Svec** (Institute of Macromolecular Chemistry, Prague, Czechoslovakia) *Polymeric separation media for chromatography in an innovative shape: Membrane*
HPP III.2	**1100**	▷ Sudhir K. Nema, M. Swarnkar and **S.K. Nema** (Rani Durgawati University, Jabalpur, India) *Photoenergy conversion system based on iron oxide modified perfluoro ionomer membrane*
HPP III.3	**1130**	▷ **B. Gupta** and H.F. Eicke (Institute fur Physikalische Chemie, Basel, Switzerland) *Porous membrane materials from microemulsion polymerisation of monomers*
HPP III.4	**1150**	▷ **R. Vetrivel**, S.G. Charati, S.S. Kulkarni (National Chemical Laboratory, Pune, India) and J.M. Schultz (University of Delaware, Delaware, USA) *Conformational analysis by computer simulation: A new approach to tailor polymers for gas separation*
	1200–1300	□ **POSTER SESSION III / EXHIBITION**
	1345–1535	□ **Session : Structure and Properties I** (*Auditorium*) **Chairman : *Dr. P.C. Deb***
SP I.1	**1345**	▷ **F. Wang** (National Institute of Standards and Technology, Maryland, USA) *Application of fluorescence spectroscopy in polymer science and technology*
SP I.2	**1415**	▷ **S. Fakirov** (Sofia University, Sofia, Bulgaria) *Deformation behaviour of polyetherester thermoplastic elastomers as revealed by small angle X–ray scattering*
SP I.3	**1445**	▷ **F. Rondelez** (Universite Paris, Paris, France) *Experimental investigations of polymer conformations at the air–liquid interfaces*
SP I.4	**1515**	▷ **Y.P. Khanna** (Allied Signal, Inc., New Jersey, USA) *Product and process development through analytical research*
	1345–1545	□ **Session : High Performance Polymers IV** (*Lecture Room II Floor*) **Chairman : *Dr. V.N. Krishnamurthy***
HPP IV.1	**1345**	▷ **M.K. Akkapeddi** and B. VanBurskirk (Allied – Signal Inc., New Jersey, USA) *High impact nylon RIM using new hybrid polyols as co-reactants*

HPP IV.2 **1415** ▷ **C. Noel** (Laboratoire de Structure et Macromoleculaire, Paris, France)
Side chain liquid crystalline polymers: Orientation in electric fields and non-linear optical properties

HPP IV.3 **1445** ▷ **S.P. Panda**, S.G. Kulkarni and C. Prabhakaran (Institute of Armament Technology, Pune, India)
Synergistic hypergolic ignition due to cationic copolymerization

HPP IV.4 **1505** ▷ **S. Radhakrishnan** (National Chemical Laboratory, Pune, India), V.G. Limaye, S.P. Khedkar and R.D. Bhide (Fergusson College, Pune, India)
Piezoresistivity in semiconducting poly (vinylidenefluoride) composites

HPP IV.5 **1525** ▷ **Devendra Kumar** and A.D. Gupta (University of Delhi, Delhi, India)
Novel high temperature semi-2-interpenetrating polymer matrices

1600–1750 □ **Session : Structure and Properties II**
(*Auditorium*)
Chairman : *Prof. S.N. Bhattacharyya*

SP II.1 **1600** ▷ **D. Patterson** (McGill University, Montreal, Canada)
Thermodynamics of interaction in polymer systems

SP II.2 **1630** ▷ S. Moharana, P.K. Misra and **S.S. Tripathy** (Ravenshaw College, Cuttack, India)
Study of two-phase morphology of chemically modified jute fibres by using wide angle X-ray diffraction technique

SP II.3 **1650** ▷ T.Bohossian and **G. Delmas** (Universite du Quebec a Montreal, Montreal, Canada)
New method for polymer characterization based on a turbidity at a lower critical solution temperature

SP II.4 **1710** ▷ **P. Bhama Iyer**, S. Sreenivasan, G.S. Patel, K.R.K. Iyer and N.B. Patil (Cotton Technological Research Laboratory, Bombay, India)
Structure and properties of chemically treated cellulosic fibres

SP II.5 **1730** ▷ S.Hanna, T.J.Lemmon and A.H.Windle (**R. Findlay**) (Cambridge University, Cambridge, UK)
Crystallite structure in thermotropic random copolyesters

1600-1750 □ **Session : Polymer Chemistry V**
(*Lecture Room II Floor*)
Chairman : *Prof. A.K. Srivastava*

PC V.1 **1600** ▷ **J.V. Seppala** and M. Harkonen (Helsinki University of Technology, Espoo, Finland)
Studies on alkoxy silanes as external donors in propylene polymerization

PC V.2 **1630** ▷ V.K. Gupta, **V.K. Upadhyay** and V.N. Garg (IPCL, Baroda, India)
Magnesium dichloride supported titanium catalysts for stereospecific polymerization of propylene

PC V.3 **1650** ▷ R. Bahulekar, **S. Ponrathnam** and N.R. Ayyangar (National Chemical Laboratory, Pune, India)
Polymerization of methacrylic acid on polyethyleneimine template

PC V.4 **1710** ▷ **G.N. Babu** and R.A. Newmark (3 M Company, Minessota, USA)
Silarylene–siloxane polymers: Synthesis, microstructure and properties

PC V.5 **1730** ▷ **G. Manivannan** and J.P. Fouassier (Laboratoire de Photochimie Generale, Mulhouse, France)
New photoinitiators: A laser spectroscopic investigation

1750–1830 □ **POSTER SESSION III/EXHIBITION**

FRIDAY – 4th JANUARY 1991

1045–1255 □ **Session : Structure and Properties III**
(Auditorium)
Chairman : ***Prof. P. Locatelli***

SP III.1 **1045** ▷ **G. Montaudo** (Universita Di Catania, Catania, Italy)
Recent advances in mass spectrometry of polymers

SP III.2 **1115** ▷ **J.V. Prasad**, S.F. Xavier, V.N. Garg and J.S. Anand (IPCL, Baroda, India)
Quantification of sequence distribution in propylene–ethylene copolymers by ^{13}C NMR and its correlation to crystallization behaviour

SP III.3 **1135** ▷ **A.S. Brar** and Sunita (Indian Institute of Technology, New Delhi, India)
Sequence determination of acrylonitrile–vinyl acetate copolymers prepared by emulsion polymerization using ^{13}C NMR spectroscopy

SP III.4 **1155** ▷ **N.R. Jaganathan** (University of Madras, Madras, India), J.N.Clark, and F.G. Herring (The University of British Columbia, Vancouver, Canada)
High resolution solid state NMR studies of poly (arylether – etherketone) and poly (p – phenylene sulphide)

SP III.5 **1215** ▷ **M. Kanakavel** (VSSC, Trivandrum, India)
^{13}C NMR study of butadiene – acrylonitrile – acrylic acid terpolymer

SP III.6 **1235** ▷ **G. Dallas** and C.L. Marocozzi (TA Instruments, Delaware, USA)
Dielectric analysis of thermosetting systems

1045–1235 □ **Session:Polymer Blends, Alloys and Composites II**
(*Lecture Room II Floor*)
Chairman : *Prof. A. Misra*

BAC II.1 **1045** ▷ **P. Ghosh** and P. Ray (Calcutta University, Calcutta, India)
Interpenetrating polymer networks based on polybutadiene rubber – polystyrene and polychloroprene rubber – poly styrene : A comparative study

BAC II.2 **1115** ▷ **V.L. Shingankuli**, S.R. Ayodhya, N.N. Bulakh, J.P. Jog, V.M. Nadkarni (National Chemical Laboratory, Pune, India), H. Chang and J.M. Schultz (University of Delaware, Delaware, USA)
Characterization of high density and very low density polyethylene blends

BAC II.3 **1135** ▷ N.V. Bhat and **N.V. Joshi** (University of Bombay, Bombay, India) and E. Sundaresan (Reliance Petrochemicals, Bombay, India)
Synthesis and properties of polyacrylonitrile – poly pyrrole blends

BAC II.4 **1155** ▷ **V.B. Singh** (Ester Industries, New Delhi, India)
Poly (ether sulphone) — poly (ethylene oxide) / phenoxy resin blends

BAC II.5 **1215** ▷ **A. Kameswara Rao** (Sri Krishnadevaraya University, Anantapur, India) and R.W. Lenz (University of Massachusetts, Amherst, USA)
Study of the phase behaviour of the liquid crystalline component in blends of binary and ternary systems of copolyesters

1345–1555 □ **Session : Polymerization Chemistry VI**
(*Auditorium*)
Chairman : *Prof. J.M.J. Frechet*

PC VI.1 **1345** ▷ **P. Vlcek**, L. Lochmann, M. Janata, (Institute of Macromolecular Chemistry, Prague, Czechoslovakia) and A.H.E. Muller (University of Mainz, Mainz, Germany)
New possibilities in the anionic polymerization of methacrylic esters

PC VI.2 **1415** ▷ A. Ghogare and **G. Sudesh Kumar** (Alchemie Research Centre, Thane, India)
Non–aqueous enzyme chemistry as a tool in macromolecular design

PC VI.3 **1435** ▷ V. Durgakumari and **K.N. Munshi** (Nagpur University, Nagpur, India)
Synthesis of some novel mixed – ligand coordination polymers and their structural studies

PC VI.4 **1455** ▷ **P.S. Achary**, C. Gouri, R. Rajalakshmi and R. Ramaswamy (VSSC, Trivandrum, India)
Effect of an interfacial agent in a liquid rubber modified methacrylate thermoset

PC VI.5 **1515** ▷ **K. Adhinarayanan**, S. Packirisamy, P.M. Suma and R. Ramaswamy (VSSC, Trivandrum, India)
Curing of epoxy resins with bis (carboxyphthalimide)s

PC VI.6 **1535** ▷ A.K.M. Asaduzzaman and **Surekha Devi** (M.S. University Baroda, India)
Physicochemical studies of methylmethacrylate acrylonitrile copolymers

1345–1545 □ **Session : Polymerization Chemistry VII**
(*Lecture Room II Floor*)
Chairman : *Prof. V.N. Rajasekharan Pillai*

PC VII.1 **1345** ▷ **T. Kondo** (University of Tokyo, Tokyo, Japan)
Some biophysical properties of polymer capsules

PC VII.2 **1415** ▷ **M. Terano**, T. Kataoka, (Toho Titanium Co., Chigasakishi, Japan) and T. Keii (Tokyo Institute of Technology, Tokyo, Japan)
Introduction of stopped flow polymerization with a $MgCl_2$ supported propene polymerization catalysts

PC VII.3 **1445** ▷ **D. Mukesh**, K. Srinivasan, A. Ghogre (Alchemie Research Centre, Thane, India)
A fractal approach to curing reaction on a surface

PC VII.4 **1505** ▷ **G.P. Belov** and M.L. Eritsyan (Institute of Chemical Physics, Chernogolovka, USSR)
Synthesis and properties of alternant copolymers of ethylene and carbon oxide

PC VII.5 **1525** ▷ **S.V. Kanakkanatt** (The University of Akron, Akron, USA)
Photochromic Polymers

POLYMERIZATION CHEMISTRY

PS I.1 ▷ *Synthesis and properties of polyesters containing s–triazine rings in the main chain*
B.D. Sarwade, P.P. Wadgaonkar and S.S. Mahajan (National Chemical Laboratory, Pune, India)

PS I.2 ▷ *Preparation and properties of polyesters containing quinoline units*
K. Audisesha Reddy, S.K. Athithan (ISRO, Sriharikota, India) and M. Srinivasan (Indian Institute of Technology, Madras, India)

PS I.3 ▷ *Synthesis and properties of aromatic copolyimides derived from ether ketone diamines*
V.L. Rao and J. Bijimol (VSSC, Trivandrum, India)

PS I.4 ▷ *Poly(amidoether) block copolymers: Synthesis and characterization*
A. Moulee, D.D. Deshpande (Indian Institute of Technology, Bombay, India) and S. Sivaram (National Chemical Laboratory, Pune, India)

PS I.5 ▷ *End–capped amide–imides*
T.M. Devi, S. Packirisamy, V.N. Krishnamurthy (VSSC, Trivandrum, India) and P.K. Rajan (University of Kerala, Trivandrum, India)

PS I.6 ▷ *Organic polymers with cyclophosphazene pendant groups*
I.I.S. Raj and V. Chandrasekhar (Indian Institute of Technology, Kanpur, India)

PS I.7 ▷ *Novel polyphosphoramide esters: Thermal and flammability studies*
P. Kannan and K. Kishore (Indian Institute of Science, Bangalore, India)

PS I.8 ▷ *Cure characteristics and mechanical behaviour of hydroxyl terminated polybutadiene prepolymers*
A.J. Kurian, S.S. Bhagawan, S.K. Athithan and V.N. Krishnamurthy (VSSC, Trivandrum, India)

PS I.9 ▷ *Synthesis and thermal studies of crosslinked condensation type polyimides*
M. Gupta, S.K. Tiwari, U.D.N. Bajpai and S.K. Nema (Rani Durgawati University, Jabalpur, India)

PS I.10 ▷ *Cyanoethylated polyamine based hardener systems for epoxy resin*
G.S. Mukherjee and M.N. Saraf (Defence Materials and Stores Research and Development Establishment, Kanpur, India)

PS I.11 ▷ *Evaluation of the retardation effect of phenol on the free–radical polymerization of methyl methacrylate initiated by azobisisobutyronitrile*
B.K. Misra (Indira Gandhi Institute of Technology, Talcher, India)

PS I.12 ▷ *Cyclopolymerization of non–conjugated divinyl monomer N, N' – methylene-bisacrylamide*
S. Rathnasabapathy and S.P. Manickam (APA College of Arts and Culture, Palani, India)

PS I.13 ▷ *Kinetics of polymerization of some vinyl monomers initiated by potassium peroxodiphosphate – Mn(II) redox couple in an aqueous medium*
K. Behari, R. Das and U. Agrawal (University of Allahabad, Allahabad, India)

PS I.14 ▷ *Studies on N–phenylmethacrylatoethyl carbamate homopolymer and copolymers*
P. Santana Gopala Krishnan, Veena Choudhary and I.K. Varma (Indian Institute of Technology, New Delhi, India)

PS I.15 ▷ *Kinetics of butadiene and styrene bulk and emulsion copolymerization*
S.K. Verma (Gujarat State Fertilizer Corporation, Fertilizernagar, India) and K. Wendler and M. Fedtke (Techniche Hochschule Carl Schorlemmer, Merseburg, Germany)

PS I.16 ▷ *Synthesis, characterization and physical properties of some styrenated polyesters based on hexolic anhydride*
G. Selvakumar, P. Sivasamy and N. Kannan (ANJA College, Sivakasi, India)

PS I.17 ▷ *Kinetics and mechanistic aspects of isothermal bulk polymerization of acrylates by differential scanning calorimetry*
A.K. Banthia, **A. Thakur** and V. Jha–Choudhary (Indian Institute of Technology, Kharagpur, India)

PS I.18 ▷ *Effect of molecular weight on thermal behaviour of methyl methacrylate and 2–ethylhexyl methacrylate copolymers*
M. Patnaik, V. Choudhary and I.K. Varma (Indian Institute of Technology, New Delhi, India)

PS I.19 ▷ *Copolymerisation studies of alkyl methacrylates*
A.K. Tyagi, V. Choudhary and I.K. Varma (Indian Institute of Technology New Delhi, India)

PS I.20 ▷ *Redox polymerization : Kinetics of polymerization of methacrylamide initiated by Mn^{3+}–citric acid redox system*
T. Aparna and **K. Mohana Raju** (Sri Krishnadevaraya University, Anantapur, India)

PS I.21 ▷ *The role of detergent in aqueous and emulsion polymerizations of methacrylonitrile*
S. Guchhait, R.S. Konar (Regional Engineering College, Durgapur, India)

PS I.22 ▷ *Synthesis and characterization of a sulfonated polystyrene ionomer prepared by emulsion polymerization*
A. Chande–Danait and D.D. Deshpande (Indian Institute of Technology, Bombay, India)

PS I.23 ▷ *Inverse emulsion photopolymerisation of acrylamide*
S.K. Ghosh, Md. Nazimuddin, S.N. Bhattacharyya, and B.M. Mandal (Indian Association for the Cultivation of Science, Calcutta, India)

PS I.24 ▷ *Some more observations on the magnetic field effect on photoinitiated emulsion polymerisation of styrene*
Md. Nazimuddin, S.K. Ghosh, B.M. Mandal and S.N. Bhattacharyya (Indian Association for the Cultivation of Science, Calcutta, India)

PS I.25 ▷ *Charge transfer copolymerization and characterization of ethylmethacrylate with acrylonitrile and methacrylonitrile*
B. Bixamiah, P. Raghunatha Rao and E.V. Sundaram (Kakatiya University, Warangal, India)

PS I.26 ▷ *Electropolymerisation of 4, 4' – (bismaleimidophenyl) methane on carbon fibre in acetonitrile medium*
N. Nayak and S.S. Monga (Defence Materials and Stores Research and Development Establishment, Kanpur, India)

PS I.27 ▷ *Functionality, molecular weight and sequence distributions of hydroxyl terminated polybutadiene*
S.S. Panicker, M. Kanakavel and K.N. Ninan (VSSC, Trivandrum, India) and C.G. Ramachandran Nair (Kerala University, Trivandrum, India)

PS I.28 ▷ *A comparative study of the aqueous polymerizations of vinyl acetate and methyl acrylate initiated by potassium persulfate at 50° C in an inert atmosphere of nitrogen*
S. Sarkar, S. Guchhait, **M. Banerjee** and R.S. Konar (Regional Engineering College, Durgapur, India)

PS I.29 ▷ *Polyamides with improved solubililty*
N.N. Maldar, V.V.Jadav (Shivaji University Post Graduate Centre, Solapur, India) and A.S. Patil (National Chemical Laboratory, Pune, India)

PS I.30 ▷ *Modelling of grafting in ethylene polymers*
J.V. Seppala (Helsinki University of Technology, Espoo, Finland) and K. Motha and C. Bergstrom (Neste Oy Chemicals, Porvoo, Finland)

PS I.31 ▷ *Structure–property relationship in poly(ethylene terephthalate) fibres subjected to alkaline hydrolysis*
V. Subramaniam and M. Vasantha (Alagappa College of Technology, Madras, India)

PS I.32 ▷ *Vinyl polymerization and graft copolymerization initiated by a new redox system*
A. Burkanudeen, A. Gopalan, S.S. Hariharan and K. Venkata Rao (Alagappa University, Karaikudi, India)

PS I.33 ▷ *Chemical, thermal and mechanical properties of wool–g–poly(methyl methacrylate) copolymers*
V.J. Elangovan (Anabond Pvt. Ltd., Madras, India) and S. Saccubai (University of Madras, Madras, India)

PS I.34 ▷ *Thermodynamic properties of long chain esters : Their liquid state and plasticizing behaviour*
H.K. Shobha and K. Kishore (Indian Institute of Science, Bangalore, India)

PS I.35 ▷ *A study of solution polymerization of polyphosphazenes*
A.N. Mujumdar, S.G. Young, R.L. Mercker and O.N. Magill (University of Pittsburgh, Pittsburgh, USA)

BIO–RELATED POLYMERS

PS I.36 ▷ *Wettability and surface chemical properties of extracellular glycoproteins – glycocalyx*
Ashutosh Sharma (Indian Institute of Technology, Kanpur, India)

PS I.37 ▷ *Biodeterioration of acrylic, polyester and wool fibres by anthrenus flavipes larvae*
J.P. Trivedi, A.P. Srivastava, K. Narain and R.C. Chatterjee (Defence Materials and Stores Research and Development Establishment, Kanpur, India)

PS I.38 ▷ *Bacteriocidal and fungicidal properties of resins derived from substituted aromatic compounds*
P.K. Nayak and **P.L. Nayak** (Ravenshaw College, Cuttack, India)

PS I.39 ▷ *Microspheres for constant rate delivery systems : An innovative approach*
D.V. Khare, N.B. Ghorpade and M.G. Kulkarni (National Chemical Laboratory, Pune, India)

POSTER SESSION II

WEDNESDAY – 2nd JANUARY 1991

SYNTHESIS AND MODIFICATION OF POLYMERS

PS II.1 ▷ *Synthesis and characterization of chemically modified carbon black*
P.K. Sengupta and **A.R. Pramanik** (University College of Science and Technology, Calcutta, India)

PS II.2 ▷ *Kinetics of two step c–alkylation on polymer support*
C.S.Sawarkar, V.A. Juvekar and V.M. Bhandari (Indian Institute of Technology, Bombay, India)

PS II.3 ▷ *Development of photoresponsive polymers with azo chromophores and studies on their photoinduced property changes*
G. Abraham and E. Purushothaman (Mahatma Gandhi University, Kottayam, India)

PS II.4 ▷ *Beckmann rearrangement in crosslinked polymeric matrices*
G.D. Gem Mathew and V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India)

PS II.5 ▷ *Oxazoline–modified acrylates and methacrylates for high solids coatings*
R.G. Gadkari and **K. Srinivasan** (Alchemie Research Centre, Thane, India)

PS II.6 ▷ *Production of telechelic liquid natural rubber*
K.K. Joseph and **M.R. Gopinathan Nair** (Mahatma Gandhi University, Kottayam, India)

PS II.7 ▷ *Application of phase transfer catalysis in polymeric functional group transformation*
S. Mathur, **A. Kabra**, V. Mathur, C.K. Narang and N.K. Mathur (University of Jodhpur, Jodhpur, India)

PS II.8 ▷ *Modification of properties of jute fibres through vinyl grafting for use as reinforcements*
R.K. Samal, **A. Sahu**, N.M. Pani, S. Dash and R.N. Samal (Ravenshaw College, Cuttack, India)

PS II.9 ▷ *Gamma radiation induced graft copolymerization of vinyl monomer onto rayon*
B.N. Misra, I. Kaur and B. Kapoor (Himachal Pradesh University, Simla, India)

PS II.10 ▷ *Influence of pigments on photodegradation of ethylene–propylene copolymer*
R.P.Singh (National Chemical Laboratory, Pune, India)

PS II.11 ▷ *Synthesis and studies of polymeric ultraviolet light absorbing resins*
S.R. Menon, C.G. Patel and **J.S. Parmar** (Sardar Patel University, Vallabh Vidyanagar, India)

PS II.12 ▷ *Accelerated ageing and degradation kinetics of elastomers*
C.S.Shah, M.J. Patni and M.V. Pandya (Indian Institute of Technology, Bombay, India)

PS II.13 ▷ *Polymeric chloramine–T and bromamine–T as solid – phase reagents for oxidation and halogenation of organic substrates*
K.V. Sudhakaran and V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India)

PS II.14 ▷ *Novel polymer supports based on phenyl acrylates and butane diacrylate : Synthesis and characterization*
T. Narasimhaswamy, S.C. Sumathi, B.S.R. Reddy and S. Rajadurai (Central Leather Research Institute, Madras, India)

PS II.15 ▷ *Poly(N–vinylpyrrolidone)– bromine complexes as polymeric oxidizing and brominating agents*
E.P. Koshy and V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India)

PS II.16 ▷ *Synthesis and application of new polymeric chiral stationary phases*
R. Mathur, C.K. Narang and N.K. Mathur (University of Jodhpur, Jodhpur, India)

PS II.17 ▷ *Molecular rearrangement in crosslinked polymeric matrices: The course of benzil — benzilic acid rearrangement*
S. Kuriakose and V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India)

PS II.18 ▷ *Synthesis, characterization and catalytic behaviour of a polymer bound Ru(III) complex*
J.N. Shah and R.N. Ram (M.S. University of Baroda, Baroda, India)

PS II.19 ▷ *Optimization of the structural parameters of the macromolecular matrix in polymer supported peptide synthesis*
M.C. Chandy and V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India)

PS II.20 ▷ *Silica coated polymer–anchored Pd – complexes as hydrogenation catalysts*
J.P. Mathew and M. Srinivasan (Indian Institute of Technology, Madras, India)

PS II.21 ▷ *Tetraethyleneglycol diacrylate – crosslinked polystyrene as a new hydrophilic polymer support for solid–phase peptide synthesis*
M. Renil and V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India)

PS II.22 ▷ *Metal ion separation using polystyrene bound Schiff base chelating resins*
S. Mathew, V.N. Rajasekharan Pillai (Mahatma Gandhi University, Kottayam, India) and **K. Sreekumar** (University of Kerala, Trivandrum, India)

POLYMER BLENDS, ALLOYS AND COMPOSITES

PS II.23 ▷ *Miscible blends of poly(vinylmethylether) with poly(acrylate)s*
N. Maity, **S.S. Chakraborty**, S. Dutta, B.M. Mandal and S.N. Bhattacharyya (Indian Association for the Cultivation of Science, Calcutta, India)

PS II.24 ▷ *Studies on polyurethane–polysiloxane interpenetrating polymer network systems*
J. Geetha (VSSC, Trivandrum, India)

PS II.25 ▷ *Miscibility of poly(phenylacrylate) and poly(styrene– co – acrylonitrile) blends*
D. Rana, C. Bhattacharya, S.N. Bhattacharyya and B.M. Mandal (Indian Association for the Cultivation of Science, Calcutta, India)

PS II.26 ▷ *Miscibility prediction of poly(vinylmethylether)s - poiy(vinylester)s system*
S. Dutta, N. Maity, B.M. Mandal and S.N. Bhattacharyya (Indian Association for the Cultivation of Science, Calcutta, India)

PS II.27 ▷ *Dynamic mechanical properties of bisphenol – A – polycarbonate / poly(p–t–butylphenol formaldehyde) blends*
A.K. Kalkar and N.K. Roy (University of Bombay, Bombay, India)

PS II.28 ▷ *Dispersible blends of conducting polypyrrole and poly(vinylmethylether)*
M.L. Digar, S.N. Bhattacharyya and B.M. Mandal (Indian Association for the Cultivation of Science, Calcutta, India)

PS II.29 ▷ *Rheology of high density polyethylene – polypropylene blends*
R. Rangaprasad, V.G. Naik and D.D. Kale (University of Bombay, Bombay, India)

PS II.30 ▷ *Rheological properties of starch – polyethylene blends*
V.G. Kumar, D.K. Chokappa and A.N. Gandhi (Hindustan Lever Research Centre, Bombay, India)

PS II.31 ▷ *Rheology of blends of low density polyethylene and modified starch*
R.V. Limaye, V.G. Naik and D.D. Kale (University of Bombay, Bombay, India)

PS II.32 ▷ *Effect of coupling agents on the mechanical properties of mica/epoxy and glass fibre/mica/epoxy composites*
P. Bajaj and **Anand Kumar** (Indian Institute of Technology, New Delhi, India)

PS II.33 ▷ *Studies on short glass fibre reinforced composites based on polyester/polyolefin alloys*
M. Joshi, S.N. Maiti and A. Misra (Indian Institute of Technology, New Delhi, India)

PS II.34 ▷ *Glass fibre reinforced epoxy composites of DGEBA / tetrafunctional epoxy resin*
R.H. Patel, V.S. Patel and R.G. Patel (Sardar Patel University, Vallabh Vidyanagar, India)

PS II.35 ▷ *Glass fibre reinforcement of polypropylene in presence of EPDM elastomer*
K.R. Srinivasan and A.K. Gupta (Indian Institute of Technology, New Delhi, India)

PS II.36 ▷ *Studies on hybrid composites of nylon 6/wollastonite/mica*
Y.P. Singh, D.P. Shah, B.V. Ankleshwaria and M.H. Mehta (Gujarat State Fertilizer Corporation, Fertilizernagar, India)

PS II.37 ▷ *Gas chromatographic investigation on the blends of poly (vinyl chloride) and nitrile rubber*
A.K. Sen and **G.S. Mukherjee** (Defence Materials and Stores Research and Development Establishment, Kanpur, India)

PS II.38 ▷ *Fibre/matrix interaction in carbon reinforced composites*
L.M. Manocha, O.P. Bhal and **P.K. Jain** (National Physical Laboratory, New Delhi, India)

POSTER SESSION — III

THURSDAY – 3rd JANUARY 1991

STRUCTURE AND PROPERTIES

PS III.1 ▷ *Changes in crystalline structure of rapidly cooled polypropylene*
B.K. Ratnam and A.K. Gupta (Indian Institute of Technology, New Delhi, India)

PS III.2 ▷ *A new approach to model heat flow during crystallization*
M. Erhun and **S.G. Advani** (University of Delaware, Delaware, USA)

PS III.3 ▷ *A study on the role of mobile phases in polymer crystallization*
R. Rastogi, M. Hikosaka, H. Kawabata and A. Keller (University of Bristol, Bristol, UK)

PS III.4 ▷ *Monomeric composition of acrylonitrile – methylacrylate copolymers by pyrolysis gas chromatography – mass spectrometry*
J.V. Prasad, B.D. Bhatt and R.N. Nigam (IPCL, Baroda, India)

PS III.5 ▷ *^{13}C-NMR studies of poly(alkylmethacrylate) grafted onto silk fibres*
S. Lenka, (Ravenshaw College, Cuttack, India), M. Demura and T. Asakura (Tokyo University of Agriculture and Technology, Koganei, Japan)

PS III.6 ▷ *Microstructure determination in vinyl acetate/methylmethacrylate copolymers by ^{13}C-NMR spectroscopy*
G.S. Kapur and A.S. Brar (Indian Institute of Technology, New Delhi, India)

PS III.7 ▷ *Size exclusion chromatography of sodium poly(styrenesulphonate)*
D.A. Dhoble, S.K. Menon, R.A. Kulkarni and S. Gundiah (National Chemical Laboratory, Pune, India)

PS III.8 ▷ *Estimation of polymer solubility parameter by inverse gas chromatography*
A.M. Farooque and D.D. Deshpande (Indian Institute of Technology, Bombay, India)

PS III.9 ▷ *Molecular relaxations in sodium salt of poly(styrenesulphonic acid)*
B. Sanjeeva Rao, M. Ramakrishna Murthy, P. Krishna Kumari and N. Satyanarayana (Kakatiya University, Warangal, India)

PS III.10 ▷ *Inverse relaxation in polymers*
R.P. Nachane, G.F.S. Hussain, G.S. Patel and K.R. Krishna Iyer (Cotton Technological Research Laboratory, Bombay, India)

PS III.11 ▷ *Conformational dynamics in macromolecules: Azobenzene as a probe*
S.R. Gaonkar and **G. Sudesh Kumar** (Alchemie Research Centre, Thane, India)

PS III.12 ▷ *Diffusion and sorption of hydrocarbons through polymer films*
S.B. Harogoppad, R.S. Khinnavar and T.M. Aminabhavi (Karnatak University, Dharwad, India)

HIGH PERFORMANCE POLYMERS

PS III.13 ▷ *Investigations on the problem of moisture absorption by Kevlar fibres*
K. Vijayan, H.V. Parimala and N. Shubha (National Aeronautical Laboratory, Bangalore, India)

PS III.14 ▷ *Solid state and electrochemical polymerisation of novel diacetylene monomers*
A. Sarkar, A. Kulkarni, A.Q. Contractor and S.S. Talwar (Indian Institute of Technology, Bombay, India)

PS III.15 ▷ *Permeation and conditioning effects in phenolphthalein based polysulfone*
A.Y. Houde, S.S. Kulkarni and M.G. Kulkarni (National Chemical Laboratory, Pune, India)

PS III.16 ▷ *Aromatic polyamide-hydrazides for water-desalination: Performance of reverse osmosis membranes prepared from different salts*
M.D. Satre and N.D. Ghatge (Bharati Vidyapeeth, Pune, India)

PS III.17 ▷ *Acrylic copolymers as wax crystal modifiers*
A.K. Chatterjee, P.S.N. Murthy and G.C. Joshi (Indian Institute of Petroleum, Dehra Dun, India)

PS III.18 ▷ *Drag reduction, flocculation and rheological characteristics of grafted polysaccharides*
R.P. Singh, **S.K. Jain** and N. Lan (Indian Institute of Technology, Kharagpur, India)

PS III.19 ▷ *Simulation of non-Newtonian fluid flow in assemblage of particles*
A.K. Jaiswal, T. Sundararajan and **R.P. Chhabra** (Indian Institute of Technology, Kanpur, India)

PS III.20 ▷ *Electrochemical synthesis of some conducting polymers*
S.N. Bhadani, M.K. Gupta and S.K. Sen Gupta (Ranchi University, Ranchi, India)

PS III.21 ▷ *Studies on poly(aniline)s : A novel polymeric metal*
A.A. Syed and M.K. Dinesan (University of Mysore, Mysore, India)

PS III.22 ▷ *Conductive synthetic fibres*
D.C. Trivedi and **S.K. Dhawan** (Central Electrochemical Research Institute, Karaikudi, India)

PS III.23 ▷ *Stability and electrical conductivity of substituted poly(aniline)s*
M.C. Gupta and S.V. Warhadpande (Nagpur University, Nagpur, India)

PS III.24 ▷ *On the removal of head to head structual irregularity of piezoelectric poly (vinylidine fluoride)*
A.K. Nandi and L. Mandelkern (Florida State University, Florida, USA)

PS III.25 ▷ *Electrical and optoelectronic properties of dye sensitized poly[(N – benzyldiphenylamino) methane]*
P. Pramanik, M.A. Akhtar and S. Srinivasan (Indian Institute of Technology, Kharagpur, India)

PS III.26 ▷ *Electrical conduction properties of pure and doped poly(vinyl butyral) films*
R. Gopala Krishnan, **B. Murali Krishna**, V.V.R. Narasimha Rao and B. Subba Rao (Sri Venkateswara University, Tirupathy, India)

PS III.27 ▷ *Processability of thermoplastic elastomer systems based on syndiotactic 1, 2–polybutadiene*
S.S Bhagawan (VSSC, Trivandrum, India)

PS III.28 ▷ *Synthesis and characterization of controlled rheology grades of isotactic polypropylene for thin wall injection mouldings*
A.K. Maity, M.K. Naqvi and J.S. Anand (IPCL, Baroda, India)

PS III.29 ▷ *Surface inhibition of a double-bond rocket propellant by pericyclic photocrosslinking of vinyl esters*
N.G. Navale, M.S. Mirza, D.S. Sadafule, C.G. Kumbhar and S.P. Panda (Institute of Armament Technology, Pune, India)

PS III.30 ▷ *Structural and optical properties of tetracyanoethylene doped poly(vinylchloride)*
S.V. Bhujle and T.S. Varadrajan (University of Bombay, Bombay, India)

PS III.31 ▷ *Optical properties of poly(aniline)s in solution state*
S. Ghosh and V. Kalpagam (Indian Institute of Science, Bangalore, India)

PS III.32 ▷ *Speciality polymers from renewable resources*
C.K.S. Pillai, **C. Pavithran**, A.R.R. Menon, S.C. Bera, V.S. Prasad, J.D. Sudha, M. Brahmakumar, K. Sivaraj, and A.D. Damodaran (Regional Re search Laboratory, Trivandrum, India)

PS III.33 ▷ *Role of physical parameters in preparing heat shrinkable materials*
K. Suresh Kumar and M.V. Pandya (Indian Institute of Technology, Bombay, India)

PS III.34 ▷ *Studies on sequential interpenetrating network based on nitrile rubber and poly(vinylacetate)*
M. Patri, **A.B. Samui** and P.C. Deb (Naval Chemical and Metallurgical Laboratory, Bombay, India)

PS III.35 ▷ *Mediation of electrochemical electron transfer by polyaniline doped with cobalt tetrasulphophthalocyanine*
P.S. Harikumar and V. Sivasankara Pillai (Cochin University of Science and Technology, Cochin, India)

PS III.36 ▷ *A new copolymer for pigment printing of textile*
I.K. Patel, A.M. Dave, **B.V. Ankleshwaria**, B.N. Butala, G.S. Murthy and M.H. Mehta (Gujarat State Fertilizer Corporation, Fertilizernagar, India)

PS III.37 ▷ *Characterization of deposits of gold in polystyrene*
G.M. Ganu and P.D. Prabhavalkar (Indian Institute of Technology, Bombay, India)

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POLYMERS '91

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in the NCL Auditorium

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and
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(Programme overleaf)

PROGRAMME

8.50 a.m.	WELCOME	Dr. R.A. Mashelkar Director National Chemical Laboratory Pune
9.00 a.m.	INTRODUCTION TO POLYMERS '91	Prof. (Ms.) I.K. Verma Chairperson, NOC, Polymers '91 and Head, Centre for Materials S & T, Indian Institute of Technology, New Delhi
9.15 a.m.	INAUGURATION AND INAUGURAL ADDRESS	Dr. Vasant Gowarikar Secretary to the Govt. of India, Department of Science and Technology, New Delhi
9.30 a.m.	KEYNOTE ADDRESS	Prof. M.M. Sharma, FRS Director University Department of Chemical Technology Bombay
9.50 a.m.	VOTE OF THANKS	Dr. S. Sivaram Convener, NOC, Polymers '91 and Head, Polymer Chemistry Division NCL, Pune
10.00 a.m.	TEA	