



ROMANIAN
SOCIETY OF
RHEOLOGY



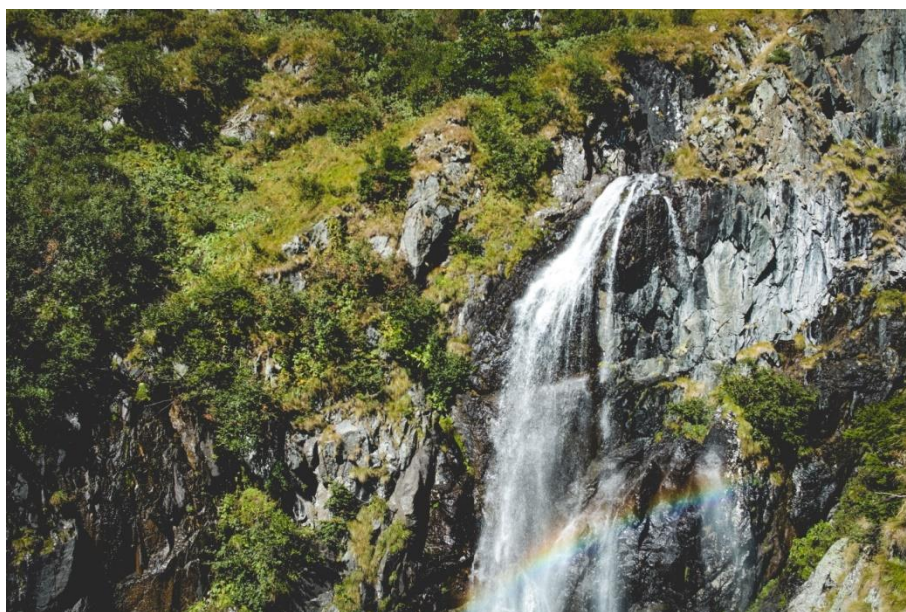
"PETRU PONI"
INSTITUTE OF
MACROMOLECULAR
CHEMISTRY

INTERNATIONAL CONFERENCE ON RHEOLOGY

*Understanding the Viscoelastic Behavior
of Materials – Progress and Challenges*

(Online scientific event)

CONFERENCE PROGRAM



IASI, ROMANIA, MAY 26th, 2022

Scientific Committee

Acad. Bogdan C. SIMIONESCU

Romanian Academy

Prof. Dr. Corneliu BALAN

REOROM Group, Polytechnica University, Bucharest

Dr. Valeria HARABAGIU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi

Prof. Dr. Maria LUNGU

"Gheorghe Asachi" Technical University of Iasi

Conf. Dr. Adina Lucretia MICLAUS

Babes-Bolyai University, Cluj-Napoca

Prof. Dr. Catalin FETECAU

Dunarea de Jos University of Galati

Prof. Dr. Constanta IBANESCU

"Gheorghe Asachi" Technical University of Iasi

Prof. Dr. Mihaela Violeta GHICA

Carol Davila University of Medicine and Pharmacy, Bucharest

Dr. Simona MORARIU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi

Prof. Dr. Cristina-Elena DINU-PIRVU

Carol Davila University of Medicine and Pharmacy, Bucharest

Prof. Dr. Ioan MAMALIGA

"Gheorghe Asachi" Technical University of Iasi

Conf. Dr. Alina-Ruxandra ORTAN

University of Agronomic Sciences and Veterinary Medicine, Bucharest

Scientific Committee Chair:

Acad. Bogdan C. SIMIONESCU

Technical Program Chair:

Dr. Mariana CRISTEA

Conference Chair:

Dr. Maria BERCEA

Organizing committee

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

Dr. Mariana CRISTEA

Dr. Cristina-Eliza BRUNCHI

Dr. Anca FILIMON

Dr. Mirela TEODORESCU

Dr. Daniela IONITA

Dr. Maricel DANU

Dr. Diana CIOLACU

Dr. Maria BERCEA

Sponsor: ROFAROM S.R.L., Miercurea Ciuc, Romania

ANTON PAAR Representative in Romania



Born to find out



Anton Paar

Solution for:

Density and Concentration Measurement
Rheometry | Viscometry | Thermometry
Refractometry | Surface Analysis
Polarimetry | Nanostructure Analysis
Microwave Sample Preparation & Synthesis

Anton Paar® GmbH
Tel.: +43 (0)316 257-0
Fax: +43 (0)316 257-257
info@anton-paar.com
www.anton-paar.com

ORAL PRESENTATIONS

8⁴⁰ – 17.00⁰⁰

PC – Plenary Conference (45 min, Q & A included)

C – Conference (30 min, Q & A included)

L – Lectures (15 min, Q & A included)

"Petru Poni" Institute of Macromolecular Chemistry is inviting you to a scheduled Zoom meeting:

Topic: **Rheology Conference**

Time: May 26th, 2022 08:30 AM Bucharest

Join Zoom Meeting:

<https://us06web.zoom.us/j/82097395470?pwd=SmlEVStYmloxV204ek5CcTZoUmhIQT09>

Meeting ID: **820 9739 5470**

Passcode: **603106**

POSTER SESSION

17⁰⁰ – 17.40⁰⁰

P – POSTER

Posters will be displayed at the following address:

<https://reologie.ro/international-conference-on-rheology-may-2022/>

and they can be seen during the entire Conference

LANGUAGE

The conference language is English.

PROGRAM AT A GLANCE

The hours represent local time: EEST, UTC + 3

8³⁰ - 8⁴⁰ **Introductory remarks**

Session 1

Chair: Prof. Dr. Corneliu BALAN

8⁴⁰ – 9²⁵ **PC1** Roland KADAR

9²⁵ – 9⁵⁵ **C1** Daniela IONITA

9⁵⁵ – 10¹⁰ **L1** Vlad SOCOLIUC

10¹⁰ – 10²⁵ **L2** Edith PEUVREL-DISDIER

10²⁵ – 10³⁵ **Break**

Session 2

Chair: Conf. Dr. Adina Lucretia MICLAUS

10³⁵ – 11⁰⁵ **C2** Marius CHERECHES

11⁰⁵ – 11²⁰ **L3** Luiza Madalina GRADINARU

11²⁰ – 11³⁵ **L4** Elena-Emilia TUDOROIU

11³⁵ – 11⁵⁰ **L5** Maria-Manuela IFTIME

11⁵⁰ – 12⁰⁰ **Break**

Session 3

Chair: Dr. Diana CIOLACU

12⁰⁰ – 12³⁰ **C3** Daniela IVANOV

12³⁰ – 12⁴⁵ **L6** Simona Luminita NICA

12⁴⁵ – 13⁰⁰ **L7** Cristina-Eliza BRUNCHI

13⁰⁰ – 13¹⁵ **L8** Magdalena AFLORI

13¹⁵ – 14⁰⁰ **Break**

Session 4

Chair: Dr. Mariana CRISTEA

14⁰⁰ – 14⁴⁵ **PC2** Corneliu BALAN

14⁴⁵ – 15⁰⁰ **L9** Ana-Maria BRATU

15⁰⁰ – 15¹⁵ **L10** Claudiu PATRASCU

15¹⁵ – 15³⁰ **L11** Nicoleta-Octavia TANASE

15³⁰ – 15⁴⁵ **Break**

Session 5

Chair: Dr. Maria BERCEA

15⁴⁵ – 16⁰⁰ **L12** Martin MASUELLI

16⁰⁰ – 16¹⁵ **L13** Fernanda TORRES

16¹⁵ – 16³⁰ **L14** Martin MASUELLI

16³⁰ – 16⁴⁵ **L15** Lismet LAZO

16⁴⁵ – 17⁰⁰ **L16** Robert GRADINARU

17⁰⁰ – 17⁴⁰ **Session POSTERS**

Chairs: Dr. Anca FILIMON, Dr. Maricel DANU

P1 Anda Mihaela CRACIUN

P2 Raluca Nicoleta DARIE-NITA

P3 Diana CIOLACU

P4 Marieta NICHIFOR

P5 Alexandra CROITORIU

P6 Alexandra CROITORIU

P7 Diana SERBEZEANU

P8 Tachita VLAD-BUBULAC

P9 Dana M. SUFLET

P10 Mihaela Dorina ONOFREI

P11 Adina Maria DOBOS

P12 Mirela TEODORESCU

P13 Ioana-Victoria PLATON

P14 Stefania-Claudia JITARU

P15 Ioana-Alexandra PLUGARU

17⁴⁰ – 18⁰⁰ **Concluding remarks**

PROGRAM

Thursday, May 26th, 2022

8³⁰ – 8⁴⁰

Introductory remarks

Session 1

Chair: Prof. Corneliu BALAN

8⁴⁰ – 9²⁵

Plenary Conference (PC1)

CELLULOSE NANOCRYSTALS IN SIMPLE AND NOT SO SIMPLE FLOWS

Roland KADAR

Chalmers University of Technology, Göteborg, Sweden

Wallenberg Wood Science Center (WWSC), Chalmers, Göteborg, Sweden

9²⁵ – 9⁵⁵

Conference (C1)

**CHALLENGES IN THE EVALUATION OF LOSS FACTOR PROBED BY DMA
VERSUS THE RELATION STRUCTURE-PROPERTY OF POLYMERS**

Daniela IONITA, Mariana CRISTEA, Constantin GAINA, Bogdan C. SIMIONESCU

“Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania

9⁵⁵ – 10¹⁰

Lecture (L1)

**FERROFLUID BASED BIDISPERSE MAGNETORHEOLOGICAL SUSPENSIONS:
THE INFLUENCE OF PARTICLE SIZE**

Daniela SUSAN-RESIGA^{1,2}, Vlad SOCOLIUC¹, Ladislau VEKAS^{1,3}

¹ Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research, Laboratory for Magnetic Fluids, Timisoara, Romania

² West University of Timisoara, Faculty of Physics, Timisoara, Romania

³ Politehnica University of Timisoara, Research Center for Complex Fluids Systems Engineering, Timisoara, Romania

10¹⁰ – 10²⁵

Lecture (L2)

**FOAMABILITY OF LINEAR AND BRANCHED POLYPROPYLENES BY PHYSICAL
EXTRUSION FOAMING - INPUT OF THE THERMOMECHANICAL ANALYSIS OF
PRESSURE DROP IN THE DIE**

**Carlos SANDINO¹, Edith PEUVREL-DISDIER¹, Jean-François AGASSANT¹,
Séverine A.E. BOYER¹, Patrice LAURE^{1,2}, Geoffrey HIBERT³, Yves TROLEZ³**

¹ MINES Paris - PSL, CEMEF – Centre de Mise en Forme des Matériaux, UMR CNRS 7635, Sophia Antipolis, France

² Laboratoire J.-A. Dieudonné, CNRS UMR 6621, Université Côte d'Azur, Nice, France

³ TotalEnergies One Tech Belgium, Zone Industrielle Feluy C, Feluy, Belgium

10²⁵ – 10³⁵

Break

Session 2

Chair: Conf. Adina Lucretia MICLAUS

10³⁵ – 11⁰⁵

Conference (C2)

PEG NANOPARTICLE ENHANCED FLUIDS WITH Al₂O₃ AND ZnO. VISCOSITY STUDIES

Marius CHERECHES¹, Constanta IBANESCU², Maricel DANU^{2,3},

Elena Ionela CHERECHES¹, Alina Adriana MINEA¹

¹ "Gheorghe Asachi" Technical University of Iasi, Faculty of Materials Science and Engineering, Iasi, Romania

² "Gheorghe Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection "Cristofor Simionescu", Iasi, Romania

³ "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

11⁰⁵ – 11²⁰

Lecture (L3)

TAILORING THE PROPERTIES OF ELECTROSPUN POLYURETHANE-BASED MAGNETIC NANOCOMPOSITES BY USING THE RHEOLOGICAL DATA

Luiza Madalina GRADINARU¹, Maria BERCEA¹, Stelian VLAD¹,

Romeo Cristian CIOBANU^{2,3}

¹ "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

² "Gheorghe Asachi" Technical University of Iasi, Electrical Engineering Faculty, Iasi, Romania

³ All Green SRL, Iasi, Romania

11²⁰ – 11³⁵

Lecture (L4)

ANALYSIS OF *IN VITRO* RELEASE PROFILES AND RHEOLOGICAL PARAMETERS FOR SOME NAPROXEN-BASED TOPICAL SEMI-SOLID SYSTEMS

Elena-Emilia TUDOROIU¹, Mihaela Violeta GHICA¹, Cristina-Elena DINU-PIRVU¹,

Lacramioara POPA¹, Madalina Georgiana ALBU KAYA², Valentina ANUȚA¹,

Razvan Mihai PRISADA¹, Bruno Stefan VELESCU³, Alina-Ruxandra ORTAN⁴

¹ Department of Physical and Colloidal Chemistry, Faculty of Pharmacy, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

² Department of Collagen, Division Leather and Footwear Research Institute, National Research and Development Institute for Textile and Leather, Bucharest, Romania

³ Department of Pharmacology and Clinical Pharmacy, Faculty of Pharmacy, Carol Davila University of Medicine and Pharmacy Bucharest, Romania

⁴ Department of Mathematics, Physics and Measurements, Faculty of Land Reclamation and Environmental Engineering, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania

11³⁵ – 11⁵⁰

Lecture (L5)

EFFECT OF CROSSLINKING DEGREE ON THE RHEOLOGY OF SALICYL-IMINE-CHITOSAN HYDROGELS

Manuela-Maria IFTIME, Simona MORARIU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

11⁵⁰ – 12⁰⁰

Break

Session 3

Chair: Dr. Diana CIOLACU

12⁰⁰ – 12³⁰

Conference (C3)

HYALURONAN IN BIOLOGICAL FLUIDS AND ITS RELATED BIOMEDICAL APPLICATIONS

Daniela IVANOV

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

12³⁰ – 12⁴⁵

Lecture (L6)

THE ROLE OF DIAMINE MOIETIES ON THE RHEOLOGICAL BEHAVIOUR OF SOME POLYIMIDES

Simona Luminita NICA, Raluca Marinica ALBU, Luminita Ioana BURUIANA, Andreea Irina BARZIC

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

12⁴⁵ – 13⁰⁰

Lecture (L7)

VISCOELASTIC PROPERTIES OF XANTHAN IN AQUEOUS SOLUTIONS

Cristina-Eliza BRUNCHI

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

13⁰⁰ – 13¹⁵

Lecture (L8)

PARTNERSHIPS FOR KNOWLEDGE TRANSFER IN THE FIELD OF POLYMER MATERIALS USED IN BIOMEDICAL ENGINEERING – POINGBIO

Magdalena AFLORI, Maria SPIRIDON

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

13¹⁵ – 14⁰⁰

Break

Session 4

Chair: Dr. Mariana CRISTEA

14⁰⁰ – 14⁴⁵

Plenary Conference (PC2)

ARTIFICIAL INTELLIGENCE AND THE CONSTITUTIVE RELATION THEORY – A HISTORICAL PERSPECTIVE

Diana BROBOANA, Corneliu BALAN

REOROM Group, Hydraulics Department, University Politehnica of Bucharest, Romania

14⁴⁵ – 15⁰⁰

Lecture (L9)

INFLUENCE OF PEO CONCENTRATION ON THE FILAMENT EVOLUTION

Ana-Maria BRATU, Corneliu BALAN

REOROM Group, Hydraulics Department, University Politehnica of Bucharest, Romania

15⁰⁰ – 15¹⁵

Lecture (L10)

EXPERIMENTAL OBSERVATIONS OF THE CAPILLARY FLOW OF A VISCOELASTIC PEO SOLUTION IN TANDEM WITH ANOTHER IMMISCIBLE LIQUID

Ioana RASUCEANU, Claudiu PATRASCU

REOROM Group, Hydraulics Department, University Politehnica of Bucharest, Romania

15¹⁵ – 15³⁰

Lecture (L11)

AIR – NON-NEWTONIAN FLUID INTERACTION IN CONFINED GEOMETRY

Nicoleta-Octavia TANASE, Eugen CHIRIAC, Ciprian MATEESCU,

Doru-Daniel CRISTEA

REOROM Group, Hydraulics Department, University Politehnica of Bucharest, Romania

15³⁰ – 15⁴⁵

Break

Session 5

Chair: Dr. Maria BERCEA

15⁴⁵ – 16⁰⁰

Lecture (L12)

INTRINSIC VISCOSITY METHODS BY ACACIA CAVEN GUM

Franco TONELLI¹, Martin MASUELLI²

¹ Laboratory of Chemical Reactions Engineering, FICA-UNSL, Argentina

² Physical Chemistry Research and Services Laboratory (LISEQF-UNSL), National University of San Luis-INFAP-CONICET, San Luis, Argentina

16⁰⁰ – 16¹⁵

Lecture (L13)

HYDRODYNAMIC PARAMETERS OF *CHAÑAR BREA* GUM

Fernanda TORRES, Karen GIL MILAC, Martin MASUELLI

Laboratorio de Investigación y Servicios, Universidad Nacional de San Luis, INFAP-CONICET, San Luis, Argentina

16¹⁵ – 16³⁰

Lecture (L14)

HYDRODYNAMIC PROPERTIES OF *ALCAYOTA* GUM

Federico BECERRA, Marisa ZANON, Martin MASUELLI

Laboratorio de Investigación y Servicios, Universidad Nacional de San Luis, INFAP-CONICET, San Luis, Argentina

16³⁰ – 16⁴⁵

Lecture (L15)

HYDRODYNAMIC PROPERTIES OF *CHAÑAR* GUM FROM *GEOFFREA DECORTICANS* FRUIT

Lismet LAZO¹, Martin A. MASUELLI^{1,2}

¹ Instituto de Física Aplicada, CONICET, Universidad Nacional de San Luis, Ejercito de los Andes 950, San Luis ZC: 5700, Argentina

² Área de Química Física, Departamento de Química, Facultad de Química, Bioquímica y Farmacia, Laboratorio de Investigación y Servicios de Química Física (LISEQF-UNSL), San Luis, Argentina

16⁴⁵ – 17⁰⁰

Lecture (L16)

A MICROPLATE ASSAY FOR TRACKING PEPTIDE-ALGINATE OR PROTEIN-ALGINATE GELATION ASSISTED BY GLUTARALDEHYDE

Stefania-Claudia JITARU, Alexandra LUPU, Vasile Robert GRADINARU

Alexandru Ioan Cuza University, Faculty of Chemistry, Iasi, Romania

17⁰⁰ – 17.40⁰⁰

Session POSTERS

Chairs: Dr. Andreea Irina BARZIC and Dr. Maricel DANU

P1. RHEOLOGICAL INVESTIGATIONS ON 5-NITROSALICYLALDEHYDE-CHITOSAN HYDROGELS

Anda Mihaela CRACIUN, Simona MORARIU, Luminita MARIN

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P2. RHEOLOGICAL AND MECHANICAL PROPERTIES OF XANTHAN-BASED CRYOGELS

Raluca Nicoleta DARIE-NITA, Irina Elena RASCHIP, Nicusor FIFERE, Maria Valentina DINU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P3. RHEOLOGICAL ASPECTS ON CELLULOSE-BASED HYDROGELS

Daniela RUSU, Raluca Nicoleta DARIE-NITA, Diana CIOLACU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P4. PHASE BEHAVIOR OF MIXTURES OF AMPHIPHILIC CATIONIC POLYSACCHARIDES AND ANIONIC SURFACTANTS

Marieta NICHIFOR¹, Margarida BASTOS², Antonio LOPES³

¹ "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

² Faculty of Science, University of Porto, Porto, Portugal

³ Instituto de Tecnologia Química e Biológica, Oeiras, Portugal

P5. HYBRID HYDROGELS BASED ON PEPTIDE

Alexandra CROITORIU, Loredana E. NITA, Alina G. RUSU, Alina GHILAN, Florica DOROFTEI, Maria BERCEA, Aurica P. CHIRIAC

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P6. INVESTIGATION OF AN INTERPENETRATED POLYMER SYSTEM CONTAINING CELLULOSE NANOFIBRILS AND A COPOLYMACROLACTONE STRUCTURE

Alexandra CROITORIU, Loredana E. NITA, Alina G. RUSU, Alina GHILAN, Florica DOROFTEI, Maria BERCEA, Aurica P. CHIRIAC

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P7. STRUCTURE AND PROPERTIES OF POLY(VINYL ALCOHOL) MODIFIED WITH PHOSPHONIC DICHLORIDES

Diana SERBEZEANU, Mihaela Dorina ONOFREI, Corneliu HAMCIUC, Ana-Lavinia VASILIU, Tachita VLAD-BUBULAC

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P8. CORRELATION BETWEEN SOLUTION RHEOLOGY AND ELECTROSPUN FIBERS FORMATION OF NEW POLYIMIDE

Tachita VLAD-BUBULAC, Maria BERCEA, Corneliu HAMCIUC, Diana SERBEZEANU, Florica DOROFTEI

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P9. POLYSACCHARIDE-BASED ELECTROSPUN NANOFIBERS. PREPARATION AND CHARACTERIZATION

Dana M. SUFLET¹, Irina POPESCU¹, Irina M. PELIN¹, Diana SERBEZEANU¹, Alexandru Alin ENACHE², Maria BERCEA¹

¹ "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

² Apel Laser S.A., Mogosoaia, Ilfov, Romania

P10. DYNAMIC PROPERTIES OF THE (HYDROXYPROPYL)METHYL CELLULOSE / POLY(VINYLPYRROLIDONE) / WATER SYSTEMS. INFLUENCE ON THE FORMATION OF FIBROUS MATERIALS

Mihaela Dorina ONOFREI, Diana SERBEZEANU, Alexandru ANISIEI, Anca FILIMON

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P11. CONFORMATIONAL RESTRUCTURATIONS IN POLYSULFONIC SYSTEMS INDUCED BY TRIETHYLPHOSPHONIUM PENDANT GROUPS

Adina Maria DOBOS¹, Adriana POPA², Dumitru POPOVICI¹, Anca FILIMON¹

¹ "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

² "Coriolan Drăgulescu" Institute of Chemistry, Timisoara, Romania

P12. VISCOSITY STUDY OF PVA, PVP AND THEIR MIXTURES IN DILUTE AQUEOUS SOLUTION

Mirela TEODORESCU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P13. TEXTURAL AND MECHANICAL FEATURES OF POROUS CHITOSAN-BASED HYDROGELS

Ioana-Victoria PLATON, Claudiu-Augustin GHIORGHITA, Maria Marinela LAZAR, Irina Elena RASCHIP, Maria Valentina DINU

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P14. A PH-TRIGGERED SELF-ASSEMBLING PEPTIDE STUDIED BY ATOMIC FORCE MICROSCOPY

Stefania-Claudia JITARU¹, Robert-Vasile GRADINARU¹, Brindusa-Alina PETRE^{1,2}, Laura ION¹, Iuliana STOICA³, Gabi DROCHIOIU¹

¹ Alexandru Ioan Cuza University, Faculty of Chemistry, Iasi, Romania

² TRANSCEND - Regional Institute of Oncology, Iasi, Romania

³ "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

P15. VISCOSITY OF BOVINE SERUM ALBUMIN SOLUTIONS IN PRESENCE OF NEUTRAL POLYMERS

Ioana-Alexandra PLUGARIU, Maria BERCEA

"Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania