

The International Society for the Advancement of Supercritical Fluids (I.S.A.S.F.)

8th Meeting on Supercritical Fluids

Chemical Reactivity and Material Processing in Supercritical Fluids

April 14 through 17, 2002

BORDEAUX

INVITED LECTURES

"THE CARBON DIOXIDE TECHNOLOGY PLATFORM : FROM SEPARATIONS TO MICROELECTRONICS"

DeSimone J., University of North Carolina, Chapel Hill (USA)

"MOLECULAR MODELING OF REVERSE MICELLES IN SUPERCRITICAL CARBON DIOXIDE"

Cummings P.T., University of Tennessee, Knoxville (USA)

"PHASE BEHAVIOR OF HYDROTHERMAL ENVIRONMENTS FOR PRODUCING INORGANIC FINE PARTICLES AND NANOCRYSTALS"

Arai K., Tohoku University, Sendai (Japan)

"SOLVATION AND ITS EFFECTS ON CHEMICAL REACTIONS IN SUPERCRITICAL FLUIDS"

Kajimoto O., Kyoto University (Japan)

"PHARMACEUTICAL APPLICATIONS OF SUPERCRITICAL FLUIDS"

Perrut M., Separex/Lavipharm, Champigneulle (France)

ORAL

SESSION 1 (S1) : SOLVATION I

Chairman : J. Yarwood

S1/01

HYDROGEN BONDING IN SUPERCRITICAL ETHANOL : A RAMAN SCATTERING AND INFRARED ABSORPTION STUDY.

Besnard M., Lalanne P., Soetens J.C., Danten Y., Tassaing T., University of Bordeaux I and Cansell F., I.C.M.C.B., Pessac (France)

S1/02

IN SITU ATR-IR SPECTROSCOPY OF POLYMERS IN NEAR-CRITICAL WATER.

Kazarian S.G. and Martirosyan G.G., Imperial College of Science, Technology and Medicine, London (United

Kindgom)

S1/03

DISSOLUTION AND SOLVATING EFFECTS IN SUB AND SUPERCRITICAL WATER.

Testemale D., Laboratoire de Cristallographie, Grenoble (France)

S1/04

STRUCTURAL STUDIES OF APOLAR GASES SOLVATION IN WATER.

Ricci M.-A., University Degli Study of Roma (Italy)

S1/05

MOLECULAR MODELING OF SUPERCRITICAL CARBON DIOXIDE MIXTURES FROM A MOLECULAR-BASED EQUATION OF STATE.

Pamies J.C., Alegre O.G. and Vega L.F., Universita Rovira I Virgili, Tarragona (Spain)

S1/06

STRUCTURE AND DYNAMICS OF SUPERCRITICAL WATER FROM NEUTRON SCATTERING AND INFRARED ABSORPTION.

Tassaing T., Danten Y. and Besnard M., University of Bordeaux I (France)

SESSION 2 (S2): PARTICLE SYNTHESIS I

Chairman : M. McHugh

S2/01

ON THE THERMODYNAMIC FUNDAMENTALS OF THE GAS PROCESS.

Shariati A. and Peters C., University of Technbology, Delft (The Netherlands)

S2/02

SYNTHESIS OF FINE PARTICLES OF TRANSITION METAL NITRIDES IN SUPERCRITICAL FLUIDS.

Desmoulins-Krawiec S., Etourneau J., Cansell F., Weill, F. and Chevalier B., I.C.M.C.B., Pessac (France)

S2/03

THE DELOS PROCESS¹ : A NEW ECO-EFFICIENT TOOL FOR PARTICLE ENGINEERING.

Ventosa N., Sala S., Veciana J., Institut de Ciencia de Materials de Barcelona, Torras J. and Llibre J., Carbuos Metalicos S.A., Barcelona (Spain)

S2/04

FULLERENE (gas) INTERCALATES : A NEW APPROACH TO GROWING SINGLE CRYSTALS USING SUPERCRITICAL ANTISOLVENTS.

O' Neil A., Webster J.M., Hyde J.R., Wilson C, Blake A.J. and Poliakoff M., University of Nottingham (United Kingdom)

S2/05

AN APPARATUS FOR HIGH-PRESSURE EMULSION FORMATION IN SUPERCRITICAL CO₂.

Fonseca J. and Nunes da Ponte M., Universidade Nova de Lisboa (Portugal)

S2/06

CAN-BD PROCESS FOR RAPIDLY FORMING AND DRYING FINE PARTICLES.

Sievers R.E., Huang E.T.S., Villa J.A and Walsh T.R, University of Colorado, Boulder (USA)

SESSION 3 (S3) : SYNTHESIS I

Chairman : A. Cooper

S3/01

POLYMERS, BIOMATERIALS AND SUPERCRITICAL FLUIDS .

Howdle S. M., University of Nottingham (United Kingdom)

S3/02

EXPANDED FLUIDS FOR HOMOGENEOUS CATALYSIS AND CATALYST RECYCLING.

Eckert C.A., Liotta C.L., Brown J., Lu J., Hallett J., Xie X., Jones R. and Maxey N., Georgia Institute of Technology, Atlanta (USA)

S3/03

SURFACE ANALYSIS OF A HETEROGENEOUS CATALYST DESIGNED FOR HYDROFORMYLATION IN SUPERCRITICAL CO₂.

Bektesevic S., Abraham M.A, Mason M.R and Davies J.A, University of Toledo (USA)

S3/04

HYDROGENATION OF PINENE IN CARBON-DIOXIDE : COMPARISON BETWEEN TWO AND THREE-PHASE SYSTEMS.

Milewska A., Gourgouillon D., Chouchi D., Silva I.F. and Nunes da Ponte M., Universidade Nova de Lisboa (Portugal)

S3/05

HYDROGENATION AT SUPERCRITICAL SINGLE-PHASE CONDITIONS.

Harrod M., Van der Hark S., Holmqvist A., Harrod Research AB, Goteborg (Sweden) and Møller P., Aarhus (Denmark)

S3/06

OPTIMISED PALLADIUM-CATALYSED CROSS-COUPPLING REACTIONS IN SUPERCRITICAL CARBON DIOXIDE.

Leeke G.A, Santos R.C, Al-Duri B., Seville J., University of Birmingham, Early T.R., Gordon R.S. and Holmes A.B., University of Cambridge (United Kingdom)

SESSION 4 (S4) : MATERIALS

Chairman : H. Weyten

S4/01

SUSTAINED RELEASE MATRICES CONTAINING THEOPHYLLINE BY ANTISOLVENT CRYSTALLIZATION.

Kikic I., Alessi P., Cortesi A., Moneghini M., Perissutti B. and Voinovich D., University of Trieste (Italy)

S4/02

CHARACTERISTICS OF POLYSTYRENE MICROCELLULAR PLASTIC STRUCTURE PROCESSED AT ELEVATED PRESSURE AND TEMPERATURE USING SUPERCRITICAL CARBON DIOXIDE.

Sumarno, Ani R ., Bernardus G.S., Ismail, Anton S. and Putu Teta P.A, Sepuluh Nopember Institute of

Technology, Surabaya (Indonesia)

S4/03

MOLECULAR STATES OF DRUGS IN FORMULATIONS PROCESSED WITH SUPERCRITICAL FLUIDS.

Kazarian S.G. and Martirosyan G.G., Imperial College of Science, Technology and Medicine, London (United Kingdom)

S4/04

A COMPARISON OF THE CHEMICAL AND PHYSICAL PROPERTIES OF SAMs FORMED BY REACTION IN A SOLVENT SOLUTION AND IN THE DENSE GAS CO₂.

Drews M.J., Luzinov I., Alavi S. and Leggett M., Clemson University (USA)

S4/05

DYEING OF FIBERS IN SUPERCRITICAL CARBON DIOXIDE ? NEW RESULTS.

Bach E., DTNW, Krefeld (Germany)

S4/06

IMPREGNATION OF POROUS MATRIX USING SUPERCRITICAL CARBON DIOXIDE.

Belhadj-Ahmed F., Badens E., Llewellyn P., Denoyel R. and Charbit G., University of Aix-Marseille (France)

SESSION 5 (S5) : SOLVATION II

Chairman : K. Nakahara

S5/01

DESCRIPTION OF THE BEHAVIOUR OF NEAR-CRITICAL SOLUTIONS ACCORDING TO THE HHNC THEORY.

Fernandez-Prini R., UAO-CNEA, Buenos-Aires (Argentina)

S5/02

SOLUTE DIFFUSION IN THE MEDIUM-DENSITY REGION OF SUPERCRITICAL FLUIDS.

Kimura Y., Ohmori, T., Yamaguchi, T., Terazima, M., Kyoto University (Japan)

S5/03

LOCAL DENSITY IN HOMOGENEITIES IN SUPERCRITICAL HEXAFLUOROBENZENE STUDIED BY RAMAN SCATTERING.

Cabaco M.I., Instituto Superior Tecnico, Lisboa (Portugal), Besnard M., Tassaing T. and Danten Y., University of Bordeaux I (France)

S5/04

AB INITIO CALCULATIONS OF VAN DER WAALS INTERACTIONS BETWEEN CO₂ AND LUORINATED COMPOUNDS : FROM ORGANIC TO TRANSITION METAL SYSTEMS.

Dedieu A., Coutouly M. A. and Strich A., University Louis Pasteur, Strasbourg (France)

S5/05

BEHAVIOR OF A POLYMER COIL IN AN SCF SOLVENT.

DiNoia T., W.R. Grace & Cy, Boston, McHugh M., Garach A., Virginia Commonwealth University, Richmond, Van Zanten J., Tanner S., North Carolina State University, Raleigh (USA) and Park II-H., Kumoh National University of Technology, Kyunbuk (Korea)

S5/06

MATHEMATICAL MODELING FOR SUPERCRITICAL EXTRACTION OF HYDROCARBONS FROM REAL SOILS.

Alonso E., Fdz-Polanco F. and Cocero M.J., University of Valladolid (Spain)

SESSION (S6) : PROCESSING

Chairman : J. Mercadier

S6/01

SOLUBILITY DATA OF AZO DISPERSE DYES : VIS ABSORPTION SPECTROPHOTOMETRY AND PHASE EQUILIBRIA VIEW OBSERVATION.

Kerdoud D., Petrissans A. and Barth D., ENSIC-Nancy (France)

S6/02

THE USE OF SUPERCRITICAL AND NEAR-CRITICAL WATER AS ALTERNATIVE MEDIA FOR ORGANIC PROCESSES.

Garcia-Verdugo E., Hamley P.A, Dudd L., Vernardou E. and Poliakoff M., University of Nottingham (United Kingdom)

S6/03

HYDROGEN FORMATION IN ALCOHOL OXIDATION BY SUPERCRITICAL WATER.

Nakahara K., Arita T., Nagami K. and Kajimoto O., Institute of Fundamental Research, Osaka (Japan)

S6/04

SCF-PROCESSING OF BIOPHARMACEUTICALS.

Mandel F. and McHugh M., Virginia Commonwealth University, Richmond (USA)

S6/05

KINETICS AND MASS TRANSFER IN SUPERCRITICAL WATER OXYDATION OF PHENOL CATALYZED BY ACTIVATED CARBON.

Nunoura T., Lee G., Matsumura Y. and Yamamoto K., University of Tokyo (Japan)

S6/06

THE DOPING OF CORUNDUM DURING FORMATION IN SUPERCRITICAL WATER.

Danchevskaya M.-N., Torbin S.N., Kreisberg V.A., Yazeva E.V., Moscow State University (Russia)

SESSION (S7) : HYDROTHERMAL OXIDATION

Chairman : F. Fdz-Polanco

S7/01

DETERMINATION OF AMMONIA OXIDATION RATE IN SUPERCRITICAL WATER.

Segond N., Matsumura Y. and Yamamoto K., University of Tokyo (Japan)

S7/02

SIMULATIONS OF A TANK REACTOR FOR SUPERCRITICAL WATER OXIDATION.

Dutournie P., Laboratoire d' Etudes Thermiques Energetiques et Environnement, Lorient, Vielcazals S., Cezac P. and Mercadier J., ENSGTI, Pau (France)

S7/03

COMPARATIVE STUDY OF AIR AND OXYGEN AS OXIDANT AGENTS FOR SUPERCRITICAL WATER OXIDATION.

Cocero M.J, Alonso E., Cantero F.J. and Fdz-Polanco F., University of Valladolid (Spain)

S7/04

HYDROTHERMAL OXIDATION : AN INDUSTRIAL RESPONSE FOR WASTE WATER TREATMENT.

Bottreau M., Hydrothermal Oxydation Option and Cansell F., I.C.M.C.B., Pessac (France)

S7/05

BIOMASS GASIFICATION IN SUPERCRITICAL WATER WITH PARTIAL OXIDATION.

Matsumura Y., Hiroshima University (Japan)

S7/06

MANAGEMENT OF ENERGETIC MATERIAL BY HYDROTHERMAL OXIDATION. Mateos D., Cansell F., ICMCB, Pessac, Giraud E. and Marraud C., SNPE Propulsion, Saint-Medard-en-Jalles (France)

S7/07

DOUBLE SHELLED AND STIRRED REACTOR FOR HYDROTHERMAL OXIDATION.

Joussot-Dubien C., Calzavara Y., Sarrade S., CEA Pierrelatte and Turc H.A, CEA Bagnols sur Ceze (France)

SESSION 8 (S8) : SEPARATION PROCESSES

Chairman : C. Guizard

S8/01

SUPERCRITICAL TRANSPORT THROUGH MESOPOROUS MATERIALS IN THE CRITICAL REGION.

De S., Shapir Y. and Chimowitz E.H., University of Rochester (USA)

S8/02

SUPERCRITICAL FLUIDS AND MEMBRANES TECHNOLOGY : CHEMICAL ENGINEERING FOR COUPLED PROCESSES.

Sarrade S., CEA Pierrelatte, Guizard C. and Rios G.M., E.N.S. Chimie of Montpellier (France)

S8/03

MEMBRANE REACTORS FOR HOMOGENEOUS CATALYSIS IN SUPERCRITICAL CARBON DIOXIDE.

Goetheer E.L.V., Verkerk A.W., Van den Broeke L.J.P. and Keurentjes J.T.F., Eindhoven University of Technology (The Netherlands)

S8/04

MODELLING SOLID SOLUBILITIES IN SC-CO AND COSOLVENT : DEVELOPMENT OF ENHANCED DENSITY-BASED MODELS.

Sauceau M., Letourneau J.-J., Fages J., Ecole des Mines d'Albi and Richon D., Ecole des Mines de Paris (France)

S8/05

INFLUENCE OF CHEMICAL AND PHYSICAL STRUCTURE ON SCF-PROCESSING OF MATERIALS CONTAINING VALUABLE NUTRACEUTICAL AND PHARMACEUTICAL COMPONENTS.

Ambrogi A. and Eggers R., Technical University Hamburg-Harburg (Germany)

S8/06

ADJUSTING SOLUTE CRITICAL PROPERTIES AND SUBLIMATION PRESSURE IN THE CORRELATION OF SOLUBILITIES OF HIGH-MOLECULAR-WEIGHT SOLIDS IN SUPERCRITICAL FLUIDS.

Monroig-Adames L., Suleiman D. and Estevez L.A, University of Puerto Rico, Mayaguez (USA)

S8/07

PREPARATIVE CHIRAL CHROMATOGRAPHY AT CRYOGENIC TEMPERATURES.

Alkio M., VTT Technical Technology (Finland)

SESSION 9 (S9) : SYNTHESIS II

Chairman : S. Howdle

S9/01

TRANSESTERIFICATION OF VEGETABLE OIL IN SUPERCRITICAL METHANOL FOR THE PRODUCTION OF BIODIESEL FUEL.

Weyten H., Willems L., Adriansens W. and Van Ginneken L., Vito Process Technology, Mol (Belgium)

S9/02

MODELING DENSITY EFFECT ON THE 2-PROPANOL HYDRATION REACTION RATE CONSTANT.

Anikeev V. and Yermakova A., Institute of Catalysis, Novosibirsk (Russia)

S9/03

RING OPENING POLYMERISATION IN SUPERCRITICAL CARBON DIOXIDE.

Bergeot V., E.N.S.C.P.B, Pessac, Mingotaud A.F, University Paul Sabatier, Toulouse, Cansell F., I.C.M.C.B., Pessac, Tassaing T. and Besnard M., University of Bordeaux I (France)

S9/04

SUPERCRITICAL CARBON DIOXIDE TECHNOLOGY : A NEW METHOD FOR THE PREPARATION OF GREEN MATERIALS.

Stassin F. and Jerome R., University of Liege (Belgium)

S9/05

SYNTHESIS AND PROCESSING OF ADVANCED POLYMERIC MATERIALS USING SUPERCRITICAL FLUIDS.

Butler R., Davies C.M., Hebb A.K., Senoo K, Wood C.D. and Cooper A.I., University of Liverpool (United Kingdom.)

S9/06

DIRECT SYNTHESIS OF PROPYLENE OXIDE FROM PROPYLENE USING CO₂ AS SOLVENT.

Danciu T. and Beckman Eric J., University of Pittsburgh (USA)

SESSION 10 (S10) : PARTICLE SYNTHESIS II

Chairman : J. Vecciana

S10/01

NOVEL LIPIDIC FORMULATIONS FOR SUSTAINED-RELEASE OF PROTEINS USING SUPERCRITICAL CO₂ COATING PROCESS : CHARACTERIZATION OF THE MICROPARTICLES AND SCALING-UP OF THE PROCESS.

Dulieu C., Richard J., Morteau S., Le Meurlay D., Mainelab S.A, Ethypharm Group, Ribeiro Dos Santos I. and Benoit J.P., Faculty of Pharmacy, Angers (France)

S10/02

MICROPARTICLES PRODUCTION FROM AQUEOUS SOLUTIONS USING GAS ANTISOLVENT PROCESS.

Del Re G., Di Giacomo G., Università di L' Aquila, Cesta M.C., Di Palma C., Putignano M. and Gentile M., Centro Ricerche Dompe' S.p.A., L' Aquila (Italy)

S10/03

SUSTAINED RELEASE SYSTEMS FORMED BY ANTISOLVENT TECHNIQUES

Badens E, Boutin O. and Charbit G, University of Aix-Marseille (France)

S10/04

FORMATION OF DRUG/POLYMER CO-PRECIPTATES USING SUPERCRITICAL FLUID TECHNOLOGY.

Stanton L.A, Warwick B., Dehghani F., Regtop H.L and Foster N.R, The University of New South Wales, Sydney (Australia)

S10/05

DEVELOPMENT OF STABILISERS FOR USE IN SPRAY COATINGS USING SUPERCRITICAL CARBON DIOXIDE.

Kamal R., Hay J.N., Lane R., Khan A., University of Surrey, Guildford and Ghadiri M., University of Leeds (United Kingdom)

S10/06

PARTICLE GENERATION BY SAS PROCESS° : EFFECT OF THE OPERATING CONDITIONS ON THE SPECIFIC SURFACE AREA OF THE POWDER.

Lochard H., Rodier E., Saucéau M., Letourneau J.J. and Fages J., Ecole des Mines d' Albi (France)

POSTER

SESSION A

SYNTHESIS (S)

S/01

SYNTHESIS OF THE CONDUCTIVE POLYMER COMPOSITE USING SUPERCRITICAL CARBON DIOXIDE.

Tz-Bang Du, Muoi Tang and Chen Y.-P., National Taiwan University, Taipei (Taiwan)

S/02

POLYETHYLENE-BASED COMPOSITE MATERIALS PRODUCTION WITH THE HELP OF SUPERCRITICAL CO₂.

Nikitin L., Said-Galiyev E., Vinokur R., Khokhlov A.R., Nesmeyanov Institute of Organoelement Compounds, Moscow, Gallyamov M., Physics Department of Lomonosov Moscow State University, El' yashevich G., Institute of Macromolecular Compounds, St. Petersburg (Russia) and Schaumburg K., University of Copenhagen (Denmark)

S/03

THE PROPERTIES OF POLYACRYLONITRILE SYNTHESIZED IN SUPERCRITICAL CO₂.

Said-Galiyev E., Dubrovina L.V, Bragina T.P., Nikitin L.N., Vinokur R.A, Khokhlov A.R., Nesmeyanov Institute of Organoelement Compounds, Moscow, Galliamov M., Physics Department of Lomonosov Moscow State University (Russia) and Schaumburg K., University of Copenhagen (Denmark)

S/04

STRUCTURAL TRANSFORMATIONS OF TEREPHTHALIC ACID IN WATER FLUIDS.

Panasyuk G.P., Voroshilov I.L., Azarova L.A and Khaddaj M., Kurnakov Institute of General and Inorganic Chemistry, Moscow (Russia)

S/05

SYNTHESIS OF METHANOL IN SUPERCRITICAL PHASE.

Zhong B. and Li W., Chinese Academy of Science, Shaxi (China)

S/06

METHANOL SYNTHESIS UNDER SUPERCRITICAL CONDITIONS USING HEXANE AS SOLVENT.

Liu J., Qin Z. and Wang J., Chinese Academy of Science, Shanxi (China)

S/07

SYNTHESIS AND CHARACTERIZATION OF FLUORINATED BLOCK COPOLYMERS AS WELL-DEFINED MACROMOLECULAR SURFACTANTS FOR CARBON DIOXIDE APPLICATIONS.

Lacroix-Desmazes P., Boutevin B., E.N.S. Chimie of Montpellier, Young J.L., Taylor D.K., DeSimone J.M., University of North Carolina, Chapel Hill (USA)

S/08

CORROSION STUDIES OF ALLOYS IN FLUIDS CONTAINING Cl⁻ ANIONS AND OXIDIZING REAGENT DURING SUPERCRITICAL WATER OXIDATION.

Botella P., Loubat F., Cansell F., Frayret C. and Delville M.H., I.C.M.C.B., Pessac and Olive J.M., University of Bordeaux I, Talence (France)

S/09

DISPERSION COPOLYMERISATION OF METHYL METHACRYLATE AND HYDROPHILIC VINYL MONOMERS IN SUPERCRITICAL CARBON DIOXIDE.

Filardo G., Giaconia A. and Galia A., University of Palermo (Italy)

S/10

ENZYMATIC SYNTHESIS OF ACYLGLYCEROLS OF OMEGA-3 POLYUNSATURATED FATTY ACIDS IN SUPERCRITICAL CARBON DIOXIDE IN A BATCH REACTOR.

Borg P., Barth D., E.N.S.I.C.-Nancy and Girardin M., E.N.S.A.I.A., Vandoeuvre-les-Nancy (France)

S/11

OXIDATION OF WINERY WASTEWATER IN SUPERCRITICAL WATER.

Portela Miguez J.R., Sanchez Oneto J., Nebot Sanz E. and Martinez de la Ossa E., University of Cadiz (Spain)

S/12

UNDERSTANDING AND FOLLOWING CHEMICAL REACTIONS IN SUPERCRITICAL HYDROFLUOROCARBON SOLVENTS.

Abbott A.P., Durling N.E., Eltringham W., Hope E.G., University of Leicester (United Kingdom)

S/13

SYNTHESIS OF BIS-BENZIMIDAZOLES.

Abboud Y., Abourriche A., Seffaj T., Berrada M., Charrouf M. and Bennamara A., Faculty of Sciences Ben M' Sik, Casablanca (Maroc)

S/14

ALDOL CONDENSATION REACTION OF ACETALDEHYDE IN SUPERCRITICAL WATER.

Ishikawa Y., Nakahara K., Arita T., Nagami K. and Kajimoto O., Institute of Fundamental research, Osaka (Japan)

S/15

SYNTHESIS AND BIOACTIVITIES OF NEW ALKALOIDS WITH 8-HYDROXYQUINOL SKELETON.

Abourriche A., Seffaj T., Abboud Y., Berrada M., Charrouf M. and Bennamara A., Faculty of Sciences Ben M' Sik, Casablanca (Maroc)

S/16

ORGANIC ACID FORMATION DURING THE HYDROLYSIS AND OXIDATION OF SEVERAL WASTEWATER IN SUB-AND SUPERCRITICAL WATER.

Calvo L., Complutense University of Madrid (Spain), Vallejo D. and Gloyna E The University of Texas at Austin (USA)

S/17

PREPARATION AND CHARACTERIZATION OF HOMOPOLYMERS USING SURFACTANTS IN SUPERCRITICAL CARBON DIOXIDE.

Vedaraman N., Schlewing A., Peretolchin M., Klapper M. and Steffen W., Max Planck Institute for Polymer Research, Mainz (Germany)

S/18

CHEMICAL REACTION OF METAL-ORGANIC PRECURSORS IN SUPERCRITICAL CO₂. APPLICATION TO CERAMIC OXIDES PREPARATION.

Guizard C., Julbe A., Institut Europeen des Membranes, Montpellier, Sarrade S., Robbe O. and Papet S.,

French Atomic Energy Commission, Pierrelatte (France)

MATERIALS (M)

M/01

COPRECIPIATION OF PHARMACEUTICALS USING GAS ANTISOLVENT TECHNIQUE.

Mamucari R., Dehghani F. and Foster N.R, The University of New South Wales, Sydney (Australia)

M/02

APPLICATION OF SUPERCRITICAL CO₂ IN THE β -CYCLODEXTRIN INCLUSION COMPLEXES.

Marongiu B., Piras A. and Porcedda S., Universita di Cagliari (Italy)

M/03

THE KINETICS OF THE EARLY STAGE OF DISPERSION POLYMERIZATION IN SUPERCRITICAL CO₂ AS MONITORED BY TURBIDIMETRY. PARTICLE FORMATION AND LOCUS OF POLYMERIZATION.

Fehrenbacher U. and Ballauff M., Universitat Karlsruhe (Germany)

M/04

THE PECULIARITY OF CORUNDUM STRUCTURE GENERATED IN SUPERCRITICAL WATER.

Ivakin Yu.D., Danchevskaya M.N., Ovchinnikova O.G., Lobanov M.V. and Kreisberg V.A., Moscow State University (Russia)

M/05

IMPROVING PHARMACEUTICAL DRUGS SOLUBILITY USING GENERATION OF PARTICLES IN SUPERCRITICAL CO₂.

Cristini F., Bataille B., Delalonde M., University of Montpellier I, Jousot-Dubien C. and Papet S., CEA Valrho, Pierrelatte (France)

M/06

PHOSPHOLIPIDS PRECIPITATION BY CONTINUOUS GAS PROCESS.

Cocero M.J., Ferrero S. and Miguel F., University of Valladolid (Spain)

M/07

DENSE GASES AS SOLVENTS FOR MATERIAL PROCESSING.

Knez Z., University of Maribor (Slovenia)

M/08

SUPERCRITICAL ANTISOLVENT PRECIPITATION : CHARACTERISATION OF HYDRODYNAMICS AND ITS INFLUENCE ON PARTICLES MORPHOLOGY AND SIZE.

Carretier E., Badens E., Guichardon P. and Charbit G., University of Aix-Marseille (France)

M/09

CORK MATERIAL TREATMENT BY SUPERCRITICAL CO₂.

Lumia G., Barth F., Sarrade S., CEA Pierrelatte and Aracil J.M., Ste Sabate-Diosos, Ceret (France)

M/10

CHARACTERISATION OF OXYGEN ION-CONDUCTING MATERIALS PREPARED IN SUPERCRITICAL CO₂ MEDIA.

Robbe O., Sarrade S., Papet S., French Atomic Energy Commission, Pierrelatte, Guizard C. and Julbe A., Institut Europeen des Membranes, Montpellier (France)

M/11

CONTINUOUS FORMATION OF PARTICLES IN SUPERCRITICAL WATER. A CHALLENGING CHEMICAL ENGINEERING PROBLEM.

Denyer J.P., Lester E., Hamley P., Azzopardi B. and Poliakoff M., University of Nottingham (United Kingdom)

M/12

EFFECT OF SUPERCRITICAL CARBON DIOXIDE TREATMENT ON THE LEACHING PERFORMANCE OF A CEMENT-STABILISED WASTE-FORM.

Van Ginneken L., Adriansens W., Weyten H. and Dutre V., Vito Process Technology, Mol (Belgium)

M/13

WEAR RESISTANCE ENHANCEMENT OF UHMWPE TREATED WITH SUPERCRITICAL CARBON DIOXIDE.

Popov V.K., Institute on Laser and Information Technologies, Moscow (Russia), Howdle S.M., Morley K.S, University of Nottingham (United Kingdom) and Tokareva N., A.N. Nesmeyanov Institute for Elementoorganic Compounds, Moscow (Russia)

M/14

STRUCTURAL TRANSFORMATIONS OF DOPED ALUMINIUM HYDROXIDE WITH Ti, Co and Ni.

Panasyuk G.P., Voroshilov I.L, Belan V.N and Boudova G.P., Kurnakov Institute of General and Inorganic Chemistry, Moscow (Russia)

M/15

PREPARATION OF METHENAMINE FINE POWDERS FROM ETHANOL/CO₂ SOLVENT MIXTURES THROUGH THE NEW DELOS CRYSTALLIZATION PROCESS.

Sala S., Ventosa N. and Veciana J., Institut de Ciència de Materials de Barcelona, (Spain)

M/16

PREPARATION OF STEARIC ACID FINE POWDERS FROM ETHYL ACETATE/CO₂ SOLVENT MIXTURES THROUGH THE NEW DELOS METHOD. STUDY OF THE POLYMORPHIC NATURE OF THE CRYSTALS PRODUCED.

Sala S., Ventosa N. and Veciana J., Institut de Ciència de Materials de Barcelona, (Spain)

M/17

ELABORATION AND CHARACTERIZATION OF NEW CARBON FIBER FROM MOROCCAN OIL SHALE.

Oumam M., Abourriche A., Adil A., Hannache H., Faculty of Sciences Ben M' Sik, Casablanca (Maroc), Pailler R. and Naslain R., University of Bordeaux I (France)

M/18

PRECIPITATION POLYMERIZATION OF POLYMETHYL METHACRYLATE IN TETRAHYDROFURAN WITH SUPERCRITICAL AND COMPRESSED CO₂ ANTISOLVENT.

Xu Q., Zhengzhou University, Han B. and Yan H., Chinese Academy of Science, Beijing (China)

M/19

PRODUCING SILICA-CARBONATE MATERIALS BY INFILTRATION WITH SUPERCRITICAL CARBON DIOXIDE.

Ocampo W., Bolanos G. and Salazar A., University del Valle, Cali (Colombia)

M/20

POLYMER - PROTEIN COMPOSITES USING SUPERCRITICAL FLUIDS.

Sproule T., Lee J.A, Lannutti J. and Tomasko D., The Ohio State University, Columbus (USA)

M/21

PMMA and PS MICROPARTICLES FORMED BY POLYMERIZATION IN SUPERCRITICAL CARBON DIOXIDE.

Shim J.J., Park J.Y. and Kim B.H, Yeugnam University (Korea)

M/22

CONSORTIUM MATERIALS FOR PROCESSES USING SUPERCRITICAL FLUIDS.

Bonnaudin N., I.C.M.C.B, Pessac (France)

M/23

EFFECT OF SOLVENT ON THE DEGREE OF GRAPHITIZATION OF TARFAYA OIL SHALE' s PITCHES (Morocco).

Abourriche A., Oumam M., Hannache H., Faculte des Sciences Ben M' sik, Casablanca (Maroc), Paillet R., Naslain R., University of Bordeaux I, Pessac, Birot M. and Pillot J.P., University of Bordeaux 1, Talence (France)

M/24

A NOVEL APPROACH TO CRYSTALLIZATION OF NANO-SCALE PARTICLES OF HIGH DENSITY ENERGETIC MATERIALS.

Stepanov V., Damavarapu R. and Krasnoperov L., TACOM-ARDEC, Picatinny Arsenal (USA)

SESSION B

PROPERTIES (P)

P/01

PHASE EQUILIBRIA : A FUNDAMENTAL NECESSITY FOR SUPERCRITICAL INTEGRATED PROCESSES ?

Wiegand G., ITC-CPV, Karlsruhe (Germany)

P/02

HIGH PRESSURE PHASE EQUILIBRIUM BEHAVIOUR OF NAPHTHALENE IN SUPERCRITICAL-CO₂ : EXPERIMENTAL RESULTS AND CALCULATION WITH THE PENG-ROBINSON EQUATION OF STATE.

Letourneau J.J., Rodier E., Lochard H., Sauceau M. and Fages J., Ecole des Mines d' Albi (France)

P/03

CHARGE-TRANSFER-SPECTRA OF TETRACYANOETHYLENE WITH BENZENE DERIVATIVES IN SUPERCRITICAL CARBON DIOXIDE.

Uosaki Y., Takagi M., University of Tokushima and Moriyoshi T., Research Institute for Solvothermal Technology, Kagawa (Japan)

P/04

PHASE BAHAVIOUR OF IONIC LIQUID+WATER+ETHANOL+CARBON DIOXIDE MIXTURES.

Najdanovic-Visak V., Esperanca J.M., Nunes da Ponte M., Rebelo L.P., Guedes H.J., Pires P.F. and Szydowski J., Universidade Nova de Lisboa (Portugal)

P/05

THERMODYNAMIC MODELLING OF SUPERCRITICAL CARBON DIOXIDE ? GLASSY POLYMERS.

Kikic I., Alessi P., Cortesi A., Vecchione F., University of Trieste and Elvassore N., University of Padova (Italy)

P/06

IMPACT OF SOLVENT STRUCTURE ON POLYMER CONFORMATION BEHAVIOR IN AN SCF SOLVENT.

Van Zanten J., North Carolina State University, Raleigh, McHugh M., Guney-Altay O. Virginia Commonwealth University, Richmond and Kermis T., Westvaco Corp., Laurel (USA)

P/07

KINETICS OF PHASE SEPARATING POLYMER-SCF SOLUTIONS.

Kirby C., Northrup Grumman Corporation, Baltimore and McHugh M., Virginia Commonwealth University, Richmond (USA)

P/08

THE LIQUID-VAPOUR AND LIQUID-LIQUID PHASE EQUILIBRIA LINES OF N-HEPTANE WATER BINARY MIXTURES.

Mirskaya V., Dagestan Science Centre, Russian Academy of Sciences, Makhachkala (Russia)

P/09

THE APPARATUS FOR MEASURE OF COMPLEX OF THERMOPHYSICAL PROPERTIES OF LIQUIDS AND LIQUIDS MIXTURES ON CRITICAL AND SUPERCRITICAL PARAMETERS.

Mirskaya V.A., Daghestan Science Center of Russian, Makhachkala (Russia)

P/10

VAPOR-LIQUID EQUILIBRIUM FOR TERNARY SYSTEM OF CARBON-DIOXIDE-METHANOL-HYDROGEN AT HIGH PRESSURES.

Bezanehtak K., Dehghani F. and Foster N.R., The University of New South Wales, Sydney (Australia)

P/11

AB-INITIO STUDY OF THE CO₂-SOLUTE INTERACTIONS.

Danten Y, Tassaing T. and Besnard M., University of Bordeaux I (France)

P/12

ADSORPTION OF m-XYLENE IN NaY ZEOLITE AND SUPERCRITICAL CARBON DIOXIDE DESORPTION.

EI Brihi T., Jaubert J.N. and Barth D., E.N.S.I.C.-Nancy (France)

P/13

PREDICTION OF SOLID-FLUID PHASE DIAGRAMS OF BINARY CARBON DIOXIDE ? PARAFFIN SYSTEMS UP TO 65 MPa USING AN EQUATION OF STATE ? GE MODEL

Pauly J., Daridon J.L., Sansot J.M., University of Pau (France) and Couthino J.A.P., Universidade de Aveiro (Portugal).

P/14

PERMEATION OF HIGH PRESSURE CARBON DIOXIDE THROUGH A MICROPOROUS CERAMIC MEMBRANE.

Verkerk A.W, Goetheer E.L.V, Van den Broeke L.J.P. and Keurentjes J.T.F., Eindhoven University of Technology (The Netherlands)

P/15

SOLID SOLUBILITY STUDIES IN SUPERCRITICAL FLUIDS.

Abbott A.P., Durling N.E., Eltringham W., Hope E.G., University of Leicester (United Kingdom)

P/16

INVESTIGATION OF SOLUBILITY DIMINUTION IN TERNARY AND QUATERNARY SYSTEMS IN

COMPARISON WITH SECONDARY SYSTEMS.

Ghaziaskar H., Isfahan University of Technology (Iran)

P/17

CO₂-INDUCED REDUCTION OF THE MELTING TEMPERATURE OF IONIC LIQUIDS.

Sakellarios N., Kazarian S.G., Imperial College of Science, Technology and Medicine, London and Gordon C.M., Strathclyde University, Glasgow (United Kingdom)

P/18

DIFFUSION CONSTANTS OF TRANSIENT RADICALS IN SUPERCRITICAL FLUIDS.

Ohmori T., Kyoto University (Japan)

P/19

A SURFACE PLASMON RESONANCE SPECTROSCOPY TECHNIQUE FOR DETERMINING REFRACTIVE INDEX OF AN SCF SOLVENT.

Conway S., Westvaco Corp., Baltimore and McHugh M., Virginia Commonwealth University, Richmond (USA)

P/20

THE CARBON DIOXIDE/WATER INTERFACE STATIC AND DYNAMIC MEASUREMENTS AT ELEVATED PRESSURES.

Dahmen N., Ederer H., Hebach A., Kogel A. and Oberhof A., Forschungszentrum Karlsruhe (Germany)

P/21

DEVELOPMENT OF AN NMR APPARATUS FOR SUPERCRITICAL WATER EXPERIMENTS.

Amita F., Oka H., Mukaide M., Kajimoto O., Takegoshi K. and Terao T., Kyoto University (Japan)

P/22

UV ABSORPTION SOLVATOCHROMIC SHIFT OF 4-NITROANILINE IN SUPERCRITICAL WATER.

Oka H., Urasaki Y. and Kajimoto O., Kyoto University (Japan)

P/23

LOW VOLATILITY LIQUIDS IN SUPERCRITICAL FLUIDS SOLUBILITY GENERALIZATION

Sabirzianov A.N., Goumerov F.M., Kazan State Technological University (Russia)

P/24

EXPERIMENTAL INVESTIGATION OF SOLUBILITY AND PHASE DISTRIBUTION COEFFICIENT OF LOW VOLATILITY ORGANIC SUBSTANCES IN " LIQUID ? SUPERCRITICAL CARBON DIOXIDE" SYSTEM

Maxoudov R.N., Sabirzianov A.N., Goumerov F.M., Gabitov F.R., Tarsimanov A.A., Kazan State Technological University (Russia) and Le Neindre B., LIMHP, Villetaneuse (France)

P/25

DETERMINATION OF THE CRITICAL PROPERTIES OF MIXTURES BY AN ACOUSTIC METHOD

Nuno Ribeiro and Ana Aguiar Ricardo, Departamento de Quimica, Centro de Quimica Fina e Biotecnologia, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, 2825-114 Caparica, (Portugal)

P/26

DIELECTRIC SPECTROSCOPY IN SUPERCRITICAL FLUIDS : A NEW APPROACH TO INVESTIGATE THE SELF-ASSEMBLY BEHAVIOUR OF AMPHIPLILIC MOLECULES IN scCO₂.

Galia A., Barrale F., Piazza S. and Filardo G., University of Palermo (Italy)

PROCESSES (Pc)

Pc/01

IMPACT OF FLUOROPOLYMER ARCHITECTURE ON SCF SOLUBILITY.

Shen Z., Li D., Garach A., McHugh M., Virginia Commonwealth University, Richmond (USA) and Park II-H., Kumoh National University of Technology, Kyunbuk (Korea)

Pc/02

A NOVEL LOW TEMPERATURE TECHNIQUE FOR INACTIVATION OF MICROORGANISMS BY PULSE ELECTRIC FIELD AND HIGH PRESSURE CO₂.

Spilimbergo Sara, Bertuccio A., University of Padova (Italy), Dehghani F. and Foster N.R., The University of New South Wales, Sydney (Australia).

Pc/03

SUPERCRITICAL CO₂ FRACTIONATION OF SHEEP MILK FAT.

Spano V., Industria Casearia Feruccio Podda S.p.A., Sestu, (Italy), Madau P., Monduzzi M., Mele S. and Solinas V., University of Cagliari (Italy)

Pc/04

SUPERCRITICAL FLUID ULTRAFINE CLEANING (SFUC) OF SEMICONDUCTOR SURFACE.

Lim G.B., Oh B.H and Lee S.Y., University of Suwon (Korea)

Pc/05

TREATMENT OF HALOGENATED WASTES BY SUPERCRITICAL WATER.

Liang M.-T., Wu C.-L., Shiau C.-L., I-Shou University, Kaohsiung and King S.-C., Center for Environment, Safety and Health Tech. Dev., Hsingchu (Taiwan)

Pc/06

GASIFICATION OF OIL AND SEWAGE SLUDGES IN SUBCRITICAL AND SUPERCRITICAL WATER.

Liang M.-T., Chern S.-M., Yu M.-Y., I-Shou University, Kaohsiung, King S.-C., Center for Environment, Safety and Health Tech. Development, Hsingchu and Lin S.-Y., Chinese Petroleum Company, Kaohsiung (Taiwan)

Pc/07

RESIDENCE TIME DISTRIBUTION OF A POROUS REACTOR FOR SUPERCRITICAL WATER OXIDATION.

Fauvel E., Jousot-Dubien C., Sarrade S., CEA Pierrelatte, Guichardon P., Charbit G. and Charbit F., University of Aix-Marseille 3 (France)

Pc/08

THE ESTIMATION OF CAPITAL COSTS OF A SUPERCRITICAL ANTISOLVENT (SAS) PARTICLE PRODUCTION PROCESS.

Rantakyla M., Aaltonen O., VTT Chemical Technology and Hurme M., Helsinki University of Technology (Finland)

Pc/09

IMPREGNATION OF PMMA-BASED POLYMERS ASSISTED BY SUPERCRITICAL FLUIDS FOR THE PRODUCTION OF DRUG DELIVERY DEVICES.

Domingo C., Fanovich A., Fraile J., Instituto Ciencia de Materiales de Barcelona (Spain) and Subra P., University Paris Nord (France)

Pc/10

BIOMOLECULES MICRO-ENCAPSULATION BY A PROCESS USING A COMPRESSED GAS.

Jung J., Leboeuf F. and Perrut M., Lavipharm-Separex, Champigneulles (France)

Pc/11

ENVIRONMENTAL BENIGN RECYCLING OF EXPLOSIVE MIXTURES LIKE COMPOSITION B USING SUPERCRITICAL FLUIDS

Bunte G., Kroeber H. and Krause H., Fraunhofer-Institut für Chemische Technologie, Pfingztal (Germany)

Pc/12

LOW TEMPERATURE PROCESS FOR THE PRODUCTION OF BIOLOGICAL-LIKE CARBONATED APATITE

Darr J.A. and Rehman I.U., University of London (United Kingdom)

EXTRACTION (E)

E/01

CHEMICAL ALTERATION OF PHOTOSYNTHETIC PIGMENTS AS A FUNCTION OF SUPERCRITICAL CARBON DIOXIDE AND SUBCRITICAL PROPANE EXTRACTION OF PLANT LEAVES.

Daood H.G., Hamdan S., Central Food Research Institute, Budapest and Illes V., University of Veszprem (Hungary)

E/02

REMOVAL OF RESIDUAL MONOMER FROM POLYMER-PRODUCTS USING SUPERCRITICAL CARBON DIOXIDE.

Kemmere M., Cleven M., Van Schilt M. and Keurentjes J., Eindhoven University of Technology (The Netherlands)

E/03

SHRINKING-CORE MODEL FOR SUPERCRITICAL FLUID EXTRACTION OF OLEORESIN FROM CURCUMA XANTHORRHIZA.

Margono, Sumarno, Farah, Sepuluh Nopember Institute of Technology, Surabaya (Indonesia)

E/04

EFFECT OF OPERATION CONDITIONS ON EUGENOL CONTENTS IN CLOVE BUD OIL EXTRACTED BY SUPERCRITICAL CARBON DIOXIDE.

Winardi S, Sumarno and Macmudah S., Sepuluh Nopember Institute of Technology, Surabaya (Indonesia)

E/05

SFE/SFC FOR THE PURIFICATION OF NATURAL ANTIOXIDANT.

Lee S.Y., Lim G.B., Oh B.-H., Kim H.S., University of Suwon and Lee E.K, Hanyang University (Korea)

E/06

MODELING OF SUPERCRITICAL CO₂ EXTRACTION OF WHEAT GERM OIL.

Molero Gomez A. and Martinez de la Ossa E., University of Cadiz (Spain)

E/07

CHARACTERIZATION AND REFINING OF BLACK CUMIN OIL. BY SUPERCRITICAL CARBON DIOXIDE EXTRACTION.

Ozmen S., Ozcelik B., Turkay S. and Ekinci E., Istanbul Technical University (Turkey)

E/08

SUPERCRITICAL DECONTAMINATION OF SOILS POLLUTED BY POLYCYCLIC AROMATIC HYDROCARBON : EXTRACTION AND PARTITION COEFFICIENTS.

Mendes Camelo P. and Barth D., E.N.S.I.C.-Nancy (France)

E/09

EXTRACTION, SEPARATION AND ISOLATION OF ESSENTIAL OILS AND DYES FROM NATURAL MATRICES BY SUPERCRITICAL CO₂

Crabas N., Marongiu B., Piras A., Pivetta T. and Porcedda S., Universita di Cagliari (Italy)

E/10

RECOVERY OF VOLATILE ESSENTIAL OILS FROM CITRUS (Citrus Junos) PEEL WITH SUPERCRITICAL CARBON DIOXIDE.

Lee S.J., Chun B.S., Pukyong National University and Wilkinson G.T., University of South Australia (Australia)

E/11

EXTRACTION OF POLYPHENOLS FROM PLANTS WITH MODIFIED SUPERCRITICAL CARBON DIOXIDE.

Sokolova M., Vaher M. and Koel M., Tallinn Technical University (Estonia)

E/12

A MATHEMATICAL MODEL OF THE SUPERCRITICAL EXTRACTION OF OIL FROM PLANT SEED.

Nevruzov I.A., Institute of Geothermy and Aliev A.M., Institute of Physics, Makhachkala (Russia)

E/13

A DETERMINATION OF OPTIMUM PARAMETERS OF THE SC CO₂ EXTRACTION AND SEPARATION OF BIOLOGICALLY VALUABLE SUBSTANCES FROM RAW MATERIALS OF HERBAL AND ANIMAL ORIGIN.

Aliev A.M., Institute of Physics, Makhachkala (Russia)

E/14

DETERMINATION ON PROPERTIES OF PETROLEUM PRODUCTS OBTAINED BY SUPERCRITICAL TOLUENE EXTRACTION OF GOYNUK OIL SHALE.

Sina? A. and Canel M., Ankara University (Turkey)

E/15

PRELIMINARY STUDY ON APPLICATION OF THE SUPERCRITICAL ANTISOLVENT (SAS) TECHNIQUE TO THE FRACTIONATION OF TOBACCO EXTRACTS.

Frongia M., Scrugli S., Muscas M., Madau P., Loi G. and Carta D., Florys SpA, Assemini (Italy)

E/16

INVESTIGATION OF ANTIOXIDANT ACTIVITY OF ROSEMARY EXTRACT OBTAINED BY SUPERCRITICAL-CO₂ EXTRACTION INSUNFLOWER OIL.

Aksu P. and Hisil Y., Ege University, Bornova-Izmir (Turkey)