

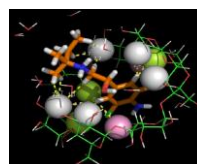
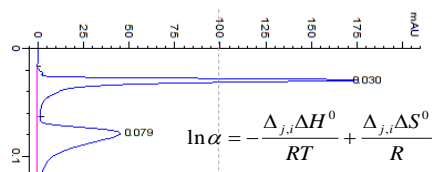


# 13-th Annual Symposium on Physical and Analytical Chemistry at Tbilisi State University



ACS  
Chemistry for Life®

December 20-22, 2024, Tbilisi, Georgia



*Co-organized by American Chemical Society Georgia International Chemical Sciences Chapter*  
TSU Building 1, No. 115

<http://aspactbilisi2024.com/>

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<b>December 20th, 2024, TSU Building 1, Auditorium No. 115</b>	
<b>10.00-12.00</b>	<b>Session 1</b> <b>Chairs:</b> Bezhan Chankvetadze, Salvatore Fanali
<b>10.00-10.15</b>	<b>Symposium Opening</b>
<b>10.15-10.30</b>	<b>PL-01-</b> Research on the Chair of Physical and Analytical Chemistry in 2024 <i>Bezhan Chankvetadze, Tbilisi State University, Tbilisi, Georgia</i>
<b>10.30-11.00</b>	<b>PL-02-</b> Effect of Cyclodextrin Type and Substitution Pattern on Capillary Electrophoresis Enantioseparations in Combination with NMR and Molecular Modelling Studies <i>Gerhard Scriba, Jena, Germany</i>
<b>11.00-11.30</b>	<b>PL-03-</b> Recent Developments on Nanomaterial Embedded Molecularly Imprinted Polymer Sensors for The Pharmaceutical and Biomedical Assay <i>Sibel A. Ozkan, Ankara University, Ankara, Türkiye</i>
<b>11.30-12.00</b>	<b>Coffee break and symposium photo</b>
<b>12.00-14.00</b>	<b>Session 2</b> <b>Chairs:</b> Sibel A. Ozkan, Alessandra Gentili
<b>12.00-12.30</b>	<b>PL-04-</b> Identification of Complex Formation and Complex Stability of Various Non-Covalent Cyclodextrin Complexes by Ion Mobility-Mass Spectrometry <i>Bekir Salih, Hacettepe University, Ankara, Türkiye</i>
<b>12.30-13.00</b>	<b>PL-05-</b> Nano-Liquid Chromatography: A Mature Analytical Technique for The Analysis of Compounds of Pharmaceutical and Nutraceutical Interest. <i>Salvatore Fanali, Tbilisi State University, Georgia</i>
<b>13.00-13.20</b>	<b>OL-01-</b> Wooden-Based Materials as Solid Phase Sorbents: Determination of Diazepam and Desmethyldiazepam <i>Ceren Bozmaoglu, Ankara University, Ankara, Türkiye</i>
<b>13.20-13.40</b>	<b>OL-02-</b> Upcycling Waste: Designing Cellulose Acetate Microbeads for Advanced Water Remediation <i>Lorenzo Antonelli, La Sapienza University, Rome, Italy</i>
<b>13.40-14.00</b>	<b>OL-03-</b> From Untargeted to Targeted Metabolomics with GC-MS Based and Electrochemical Analysis Strategies for Personalised Medicine Applications <i>Sevilay Erdogan Kablan, Hacettepe University, Ankara, Türkiye</i>
<b>14.00-15.00</b>	<b>Lunch</b>
<b>15.00-15.30</b>	<b>Poster Session-1</b>
<b>15.30-18.00</b>	<b>Session 3</b> <b>Chairs:</b> Yitzhak Mastai, Bekir Salih
<b>15.30-16.00</b>	<b>PL-06-</b> Deep Eutectic Solvents and Sustainability: A Promising Approach for Pesticide Extraction from Vegetable Samples <i>Chiara Fanali, Università Campus Bio-Medico di Roma, Rome, Italy</i>
<b>16.00-16.25</b>	<b>KN-01-</b> Impurities in Drug Substances: Sources, Challenges, and Control Strategies <i>Esen Bellur Atici, DEVA Holding A.Ş., R&amp;D Center, Tekirdag, Türkiye</i>
<b>16.25-16.50</b>	<b>KN-02-</b> Recent Achievements in 18O-Based Fluxomics Analysis <i>Emirhan Nemutlu, Hacettepe University, Ankara, Türkiye</i>
<b>16.50-17.15</b>	<b>KN-03-</b> About Challenges in Enantioselective Analysis of New Psychoactive Substances on the Example of 2-, 3- and 4-CMC. Investigation of Stereochemical Stability in Various Biological Matrices <i>Alfredo Fabrizio Lo Faro, Università Politecnica delle Marche, Ancona, Italy</i>
<b>17.15-17.40</b>	<b>KN-04-</b> Lateral Flow Assays: From Basic Principles to Challenges and Prospects <i>Erhan Zor, Necmettin Erbakan University, Konya, Türkiye</i>
<b>17.40-18.00</b>	<b>OL-04-</b> Investigation of Chiral Recognition Mechanisms of Cyclodextrins Using Capillary Electrophoresis and NMR Spectroscopy <i>Ketevan Museridze, Tbilisi State University, Tbilisi, Georgia</i>
<b>18.00-18.15</b>	<b>Coffee break</b>
<b>18.15-20.15</b>	<b>Session 4</b> <b>Chairs:</b> Francesco Paolo Busardo, Mustafa Kemal Sezgintürk

18.15-18.30	<b>SP-01-</b> Enantiomeric Separation and Quantification of Penconazole Using Polysaccharide-Based Chiral Column in HPLC with HPLC-MS/MS Detection <i>Ana Rakviashvili, Tbilisi State University, Tbilisi, Georgia</i>
18.30-18.45	<b>SP-02-</b> Separation of Enantiomers of Some Chiral Derivatives of Arylpropionic Acid in High-Performance Liquid Chromatography <i>Mariam Shanidze, Tbilisi State University, Tbilisi, Georgia</i>
18.45-19.00	<b>SP-03-</b> Evaluation of Different Sorbents for Untargeted Metabolomics Coverage in GC-MS <i>Elif Damla Gök-Toprak, Hacettepe University, Ankara, Türkiye</i>
19.00-19.15	<b>SP-04-</b> Stereochemical Stability of Methorphan. From Where Does Levomethorphan Come From? <i>Saba Jorbenadze, Tbilisi State University, Tbilisi, Georgia</i>
19.15-19.30	<b>SP-05-</b> Development of a Headspace GC-FID Method for the Analysis of Alcohol-Based Hand Sanitizers <i>Kardelen Avci, Ankara University, Ankara, Türkiye</i>
19.30-19.45	<b>SP-06-</b> Separation of Difenoconazole Stereoisomers by HPLC and Its Determination in Agricultural Products Using HPLC-MS/MS for Risk Assessment <i>Natia Chanturia, Tbilisi State University, Tbilisi, Georgia</i>
19.45-20.00	<b>SP-07-</b> Enantioselective Analysis of Clephedrone and its Phase-1 Metabolites in Human Biological Fluids <i>Vazha Tkemaladze, Tbilisi State University, Tbilisi, Georgia</i>
20.00-22.00	<b>Symposium Dinner-1</b>
	<b>December 21st, 2024, TSU Building 1, Auditorium No. 115</b>
10.00-11.40	<b>Session 5</b> <b>Chairs:</b> Paola Peluso, Lokman Uzun
10.00-10.30	<b>PL-07-</b> The Evolving Scenario of Synthetic Cathinones: Challenges in Forensic Toxicology <i>Francesco Paolo Busardo, Università Politecnica delle Marche, Ancona, Italy</i>
10.30-10.55	<b>KN-05-</b> Novel Control Line Strategies for Lateral Flow Assay Systems and Their Applications for Fabrication of Diagnostic Kits <i>Mustafa Kemal Sezgintürk, Canakkale 18 Mart University, Canakkale, Türkiye</i>
10.55-11.20	<b>KN-06-</b> Advanced Extractive Materials in Solid Phase Microextraction: Electrospun Nanofibers <i>Ezel Boyaci, Middle East Technical University, Ankara, Türkiye</i>
11.20-11.40	<b>OL-05-</b> Simultaneous Enantioselective Determination Of 2-, 3- and 4-Methylmethcathinones, Their Isomers and Major Phase-1 Metabolites in Oral Fluid of Drug Abusers Using Enantioselective High-Performance Liquid Chromatography Tandem Mass-Spectrometry <i>Giorgia Sprega, Università Politecnica delle Marche, Ancona, Italy</i>
11.40-12.00	<b>Coffee break</b>
12.00-14.30	<b>Session 6</b> <b>Chairs:</b> Alessandro Volonterio, Mehmet Gumustas
12.00-12.30	<b>PL-08-</b> The Many Facets of Eutectic Solvents, Green Alternatives in Sample Preparation <i>Alessandra Gentili, La Sapienza University, Rome, Italy</i>
12.30-13.00	<b>PL-09-</b> Olea europaea: A Compelling Source of Health Promoting Biomolecules and an Inspiration for the Semi-Synthetic Design of Bioactive Analogues <i>Leandros Skaltsounis, University of Athens, Athens, Greece</i>
13.00-13.25	<b>KN-07-</b> Advances in Electrochemical Detection of Epigenetic Modification <i>Burcu Dogan Topal, Ankara University, Ankara, Türkiye</i>
13.25-13.50	<b>KN-08-</b> Optimization of Enzymatic Hydrolysis for the Detection of Cannabis Use <i>A. Olcay Sagirli, Istanbul University, Istanbul, Türkiye</i>
13.50-14.10	<b>OL-06-</b> Do isotopologues have Always the Same Retention Time in Achiral and Chiral Chromatography? <i>Giorgi Kobidze, Università Politecnica delle Marche, Ancona, Italy</i>
14.10-14.30	<b>OL-07-</b> Comparison of Bare Glassy Carbon Electrode and ZnO/AuNPs Nanocomposite Designed Nanosensor for Highly Sensitive Electrochemical Detection of Niraparib <i>Seyda Nur Samanci, University of Health Sciences, Ankara, Türkiye</i>

<b>14.30-15.00</b>	<b>Lunch</b>
<b>15.00-15.30</b>	<b>Poster Session-2</b>
<b>15.30 – 17.15</b>	<b>Session 7</b> <b>Chairs:</b> Chiara Fanali, Emirhan Nemutlu
<b>15.30-16.00</b>	<b>PL-10-</b> PAMAM Dendrimers Functionalized with Fluorinated Guanidino-Linkers: Synthesis, Characterization and Application as Multifunctional Trackable Gene Delivery Vectors <i>Alessandro Volonterio, Politecnico di Milano, Milano, Italy</i>
<b>16.00 -16.30</b>	<b>PL-11-</b> Chiral nanostructured materials <i>Yitzhak Mastai, Bar-Ilan University, Ramat-Gan, Israel</i>
<b>16.30 -16.55</b>	<b>KN-09-</b> Tuning the Biointerface: Opportunities to Enhance Bio-compatibility/-Recognition Capability <i>Lokman Uzun, Hacettepe University, Ankara, Türkiye</i>
<b>16.55-17.15</b>	<b>OL-08-</b> Fabrication of A Molecularly Imprinted Polymer-Based Electrochemical Sensor Featuring Metal-Organic Frameworks for Anticancer Drug Determination <i>Irem Kaya, University of Health Sciences, Ankara, Türkiye</i>
<b>17.15-17.30</b>	<b>Coffee Break</b>
<b>17.30-19.50</b>	<b>Session 8</b> <b>Chairs:</b> Gerhard Scriba, Bezhan Chankvetadze
<b>17.30-18.00</b>	<b>PL-12-</b> Dispersion Forces in Separation and Enantioseparation Sciences: Reality or Theoretical Fantasy? <i>Paola Peluso Istituto di Chimica Biomolecolare, CNR, Sassari, Italy</i>
<b>18.00-18.30</b>	<b>PL-13-</b> Surprises of Mitomycin C Gel Drug Product Impurities Profile, or: Never Neglect Drug-Excipient Interactions <i>Vladimir Ioffe, Kfar Saba, Israel</i>
<b>18.30-18.55</b>	<b>KN-10-</b> Bacteriophages as Novel Gate Materials for Optical Gated Sensors <i>Mehmet Gokhan Caglayan, Ankara University, Ankara, Türkiye</i>
<b>18.55-19.20</b>	<b>KN-11-</b> Targeted HPLC Approach for Diazepam Plasma Detection in Alcohol Withdrawal Syndrome Patients <i>Mehmet Gumustas, Ankara University, Ankara, Türkiye</i>
<b>19.20-19.40</b>	<b>Closing of the Symposium</b>
<b>20.00-22.00</b>	<b>Symposium Dinner-2</b>

**Poster Presentations****December 20, 2024**

No	Information
PP-01	Organocatalytic Chiral Polymeric Nanoparticles for Asymmetric Aldol Reaction <i>Meir Abuaf, Bar-Ilan University, Ramat Gan, Israel</i>
PP-02	Synthesis of Peptides via Ugi Reaction with Piv-Aldehyde And (S)-Phenyl Ethylamine as Amine <i>Giorgi Ugrehelidze, Tbilisi State University, Tbilisi, Georgia</i>
PP-03	Advantages of Superficially Porous Silica for Pharmaceutical Analysis with High-Performance Liquid Chromatography <i>Ketevan Kharashvili, Tbilisi State University, Tbilisi, Georgia</i>
PP-04	Investigation of Lead and Cadmium Content in Biological Samples from the Bolnisi-Dmanisi Region <i>Tamar Jankhoteli, Tbilisi State University, Tbilisi, Georgia</i>
PP-05	A Comprehensive Investigation for the Effects of Surface Topography on Simultaneous Detection of Aflatoxin and Deoxynivalenol in Wheat <i>Sena Piskin, Hacettepe University, Ankara, Türkiye</i>
PP-06	Organic Crystals as a Template for the Fabrication of Chiral Nano-Surfaces by Molecular and Atomic Layer Deposition <i>Raphael Batel, Bar-Ilan University, Ramat Gan, Israel</i>
PP-07	Enantioseparation of Tolperisone and Orphenadrine with Native and Substituted Cyclodextrins in Capillary Electrophoresis <i>Nutsa Tsetskhladze, Tbilisi State University, Tbilisi, Georgia</i>
PP-08	Study of Lead Ion Adsorption: Insights into Adsorption Mechanisms and Efficiency <i>Nino Gagnishvili, Tbilisi State University, Tbilisi, Georgia</i>
PP-09	Rapid And Selective Detection of Macrolide Antibiotic in Beverage Samples by Electrochemical Sensor Based on Nanomaterial-Supported Molecularly Imprinted Polymers <i>Fatma Budak, Ankara University, Ankara, Türkiye</i>
PP-10	Enantioselective Crystallization on Chiral Hybrid Magnetic Polymeric Particles <i>Yarden Ben Moshe, Bar-Ilan University, Ramat Gan, Israel</i>
PP-11	Synthesis and Study of Cross-Linkable Twin Derivatives of 2-Phenylindole <i>Giorgi Pitiurishvili, Tbilisi State University, Tbilisi, Georgia</i>
PP-12	The Separation of Tetramisole Enantiomers by Capillary Electrophoresis and Investigation of the Separation Mechanisms <i>Ani Rurua, Tbilisi State University, Tbilisi, Georgia</i>
PP-13	Separation of Mecoprop Enantiomers Using Cyclodextrin Derivatives as Chiral Selectors <i>Lali Tchankvetadze, Tbilisi State University, Tbilisi, Georgia</i>

Poster No	Information
PP-14	Enhancing Cement Hydration with Nanosilica-Coated Polystyrene Microspheres <i>Shalit Meytal, Bar-Ilan University, Ramat Gan, Israel</i>
PP-15	HPLC-MS/MS Method Development for Enantioselective Analysis of N-ethylpentedrone and Its Phase-1 Metabolites in Human Biological Fluids <i>Aluda Chelidze, Tbilisi State University, Tbilisi, Georgia</i>
PP-16	Development of a High-Performance Liquid Chromatography-Tandem Mass Spectrometry (HPLC-MS/MS) Method for Separation of Enantiomers of N-Ethylhexedrone and its Phase-1 Metabolites <i>Gizo Dolidze, Tbilisi State University, Tbilisi, Georgia</i>
PP-17	Design of a Novel Electrochemical Sensor Based on Amplification of Electropolymerized Molecularly Imprinted Polymer and Mxene-Supported Nanomaterials for Cholesterol Detection <i>Ensar Piskin, Ankara University, Ankara, Türkiye</i>
PP-18	Bisspiropyrans Containing the Arilazo Group Based on Indoloindole and Benzopirroloindole <i>Marina Trapaidze, Tbilisi State University, Tbilisi, Georgia</i>
PP-19	LC-MS/MS Analysis of Difenconazole and Penconazole Residues in Components of "Otskhanuri" Grapes <i>Tamuna Samkharadze, Tbilisi State University, Tbilisi, Georgia</i>
PP-20	Induced Chirality in CuO Nanostructures through Amino Acid-Mediated Chemical Bath Deposition <i>Lama Jabareen, Bar-Ilan University, Ramat Gan, Israel</i>
PP-21	The Adsorption Cleaning of Thermal Water from Hydrogen Sulphide Using Zeolites <i>S. Jalaghania, Tbilisi State University, Tbilisi, Georgia</i>
PP-22	Chiral Induction in the Crystallization of KIO <sub>3</sub> and LiIO <sub>3</sub> , the Role of Amino Acids in Controlling the Chirality of Inorganic Crystals <i>Matan Oliel, Bar-Ilan University, Ramat Gan, Israel</i>
PP-23	Design of MXene-Supported MIP-Based Electrochemical Sensor for the Detection of Flumethrin <i>Asya Elay Yildiz, Ankara University, Ankara, Türkiye</i>
PP-24	Enantioselective determination of methylone and its metabolites in various matrixes in the samples from controlled clinical study and stereochemical stability of methylone enantiomers <i>Tamar Matsiashvili, Università Politecnica delle Marche, Ancona, Italy</i>
PP-25	Heavy Metals in Georgian Red Wine Saperavi from Kakhetian and Bolnisi Regions <i>Lali Akhalbedashbili, Tbilisi State University, Tbilisi, Georgia</i>
PP-26	Separation of Dichloroprop Enantiomers Using Cyclodextrin Derivatives as Chiral Selectors <i>Lali Tchankvetadze, Tbilisi State University, Tbilisi, Georgia</i>