LIÈGE université Gembloux Agro-Bio Tech

AC-G×ABT Analytical Chemistry Gembloux Agro-Bio Tech

JULY | 6-9th | 2026

BOOK OF ABSTRACTS

ExTech 2026

28th INTERNATIONAL SYMPOSIUM ON

ADVANCED IN EXTRACTION TECHNOLOGIES

Partners

Interest Group Separation Science

EuChemS European Chemical Society

Analyst

Società Chimica Italiana

ACESSS Academic Center of Excellence in Separation Science and Sensing

Springer Analytical & Bioanalytical Chemistry

ELSEVIER

2026 Evaluation SamplePrep EuChemS

afsep

The ExTech symposium series

(International Symposium on Advances in Extraction Technologies)

The ExTech symposium series (International Symposium on Advances in Extraction Technologies) is the premier international event in analytical chemistry, focusing on the areas of sampling and sample preparation. The idea of creating this worldwide conference started in 1999 by Professor Janusz Pawliszyn (University of Waterloo, Canada). Since then, the symposium has travelled annually around the world.

Its program covers all aspects of sampling and sample preparation, including fundamentals, new materials & technologies, miniaturization, automation & robotics, quality assurance, sustainability assessments, and a wide range of applications. In 2026, we anticipate a focus on hyphenated techniques and direct MS, as well as on the increased role of Artificial Intelligence in the analytical workflow.

The symposium will be held in the historical site of the Gembloux Agro-Bio Tech faculty, a beautiful old abbey that now hosts a vibrant research environment. Besides the scientific program, we will offer you plenty of possibilities to network with colleagues in a cosy atmosphere and with amusing social events.

We are excited to welcome you at EXTECH2026!

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GSAC-06: Raspberry Pomace as a Sustainable Source of Ellagic Acid: Ionic Liquid Extraction

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Abstract

The development of efficient and sustainable extraction and separation strategies remains a central challenge in the broader application of bioactive compounds. Ellagic Acid (EA), known for its antioxidant and anti-inflammatory properties, represents a particularly illustrative example. EA occurs in notable concentrations in raspberry pomace, a voluminous by-product of juice production that is discarded despite its considerable polyphenolic content. The efficient recovery of EA from such complex plant matrices remains a significant research and technological challenge. The limited solubility of EA in conventional solvents, together with the environmental drawbacks associated with classical extraction protocols, makes it a compelling candidate for the development of greener approaches. In this study, six 20% aqueous cholinium-based ionic liquids were evaluated as green extraction media for the recovery of EA and the determination of Total Phenolic Content (TPC) from lyophilized whole raspberries and raspberry pomace. Extractions were performed at a biomass-to-solvent ratio of 1:10, with water and methanol used as reference solvents. EA was quantified by high-performance liquid chromatography, while TPC was determined spectrophotometrically. All ionic liquids tested demonstrated markedly higher extraction efficiency than the reference solvents in terms of both EA yield and TPC. Among the solvents investigated, choline acetate and choline lactate emerged as the most effective extraction media. Lyophilized pomace outperformed whole raspberries under all experimental conditions and for both analytical parameters, indicating the value of processing this biowaste. Furthermore, the lyophilized pomace was treated mechanochemically and the fractions were separated. The 63–150 µm fraction consistently yielded the highest EA and TPC compared to coarser fractions, demonstrating that particle size standardization is a simple yet effective strategy for improving extraction efficiency. The results indicate that extraction performance is governed by the interplay of several sample preparation parameters, including solvent chemistry, biomass pretreatment, and particle size control. Cholinium-based ionic liquids, combined with optimized biomass preparation, offer a sustainable and environmentally responsible approach for recovering polyphenols from berry-processing residues.

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