

SERVICES

Food Technology

Laboratory for the analysis of procedures and technologies in food processing

Free University of Bolzano-Bozen
Faculty of Faculty of Agricultural, Environmental
and Food Sciences

Head of Laboratory:
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| PARTICLE SIZE ANALYSIS OF FOODS | | prices excl. VAT |
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| Determination of particle size of food products | | |
| Cost per sample for the analysis of a sample dispersed in water solvent performed with Mastersizer 3000 o Zetasizer (Malvern). | | € 200 |

| PHYSICAL STABILITY OF FOODS | | prices excl. VAT |
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| Determination of emulsion stability with kinetic indices for creaming, sedimentation or aggregation | | |
| Cost per sample for the analysis of the colloidal stability (i.e., creaming, sedimentation, aggregation kinetic of particles) of one undiluted liquid sample, performed with Turbiscan Tower (Formulation) at one constant temperature (20-40°C) for 24 h. | | € 600 |
| Cost per sample for the analysis of the transition properties (melting, crystallisation, etc.) of foods and oils by Differential Scan Calorimetry (DSC TA Instruments) at one scan rate. Temperature ranges from -80°C to 300°C. | | € 250 |

| STRUCTURE OF FOODS | | prices excl. VAT |
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| Determination of food texture and morphology | | |
| Cost per 1 h use of Scanning Electron Microscope (Phenomworld) or a total of 5 high-resolution images obtained from 1-5 samples. Basic sample preparation is included. | | € 500 |
| Cost per sample for analysis performed with Texture Analyser (Ta.XT, loading cell, resolution 0.1 g) for the determination of properties like consistency, firmness, cohesiveness, index of viscosity. | | € 200 |
| Cost per sample for analysis performed with a viscometer (Brookfield, concentric cylinders) for the determination of the apparent viscosity and flow curve behaviour. | | € 200 |
| Cost per sample for analysis performed with a viscoamlograph for the determination of the gelatinisation properties of starch containing products. | | € 200 |

LAB DESK

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ADVANCED CHEMICAL ANALYSIS OF FOODS

prices excl. VAT

Determination of chemical composition of foods

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| Cost per sample for the analysis of several chemical properties performed by Near Infrared Spectroscopy (NIR) based on external calibrations on dairy products (milk, cheese), juices, wine, cereals, flours, olive oils. | € 100 |
| Cost per sample for the analysis of fatty acid methyl esters performed with Gas Chromatography with a flame ionization detector (GC-FID), including sample preparation. | € 200 |
| Cost per sample for the analysis of phenol compounds performed with high-performance liquid chromatography (HPLC-DAD), including sample preparation. | € 200 |

ADVANCED EXTRACTION FROM FOODS

prices excl. VAT

Extraction of natural extracts from dried foods

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| Cost for the extraction of about 50 g of a dried sample with supercritical carbon dioxide at a fixed temperature (40 – 100°C) and pressure (up to 300 bar). Basic sample preparation is included. Pre-treatment of the sample with enzymes, ultrasounds or solvents is possible and should be discussed separately. | € 500 |
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ADVANCED OXIDATIVE STABILITY ANALYSIS OF FOODS

prices excl. VAT

Determination of antioxidant activity and lipid oxidation stability of foods

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| Cost for the analysis of one sample of max volume of 1 cm ³ , in glass ampoules of 4 cm ³ , performed by Isothermal Calorimetry (TA Instruments) at one fixed temperature (30 – 60°C) for 48 h. Sample preparation and possible addition of a free radical generators (like AAPH or AIBN) is included. | € 1.000 |
| Cost per sample for the analysis of antioxidant capacity or activity by electrochemical assays (cyclic voltammetry), or spectrophotometric assays (ORAC, DPPH, Folin Ciocalteu). Extraction of the sample, centrifugation, SPE purification, etc. are possible but should be discussed separately. | € 100 |