EXTRACTION PLATFORM FOR NATURAL PRODUCTS

Description

1. Soxhlet. This technique is mainly used to determine the maximum amount of extractable material with a given solvent.
2. Maceration/solvent extraction
3. Ultrasound-assisted
4. Microwave-assisted
5. Supercritical extraction
6. Pressurized Liquid Extraction

How does it work?

1. Selection of the best solvent based on thermodynamic solubility theory and considering criteria of safety, cost, environmental care, physical properties, corrosivity and, ease of recovery and reuse.

2. Comparison in performance and selectivity of different extraction techniques with the chosen solvent.

3. Quantification of the extraction yield.

4. Analysis of extracts: carotenoids, polyphenols, antioxidant capacity, chlorophylls, impurities and specific molecules by chromatography or other advanced analytical techniques.

5. Microbial analysis of both, extracts and exhausted raw materials: total count, enterobacteria, molds and yeasts, etc.

6. Preliminary technical and economic evaluation according to:
   - ✓ Energy and solvent costs
   - ✓ Installation costs

Advantages

Allows to choose the best solvent and extraction technique for each substrate or molecule of interest. It can also be used to remove impurities.

Where has it been developed?

Group MATERIAL SEPARATION AND PREPARATION PROCESSES IN SUSTAINABLE CHEMISTRY USING SUPERCRYTIC FLUIDS.

And moreover

We are experts in extraction and sterilization with supercritical CO2.

We can formulate extracts using a wide variety of encapsulation techniques in polymeric coatings, inorganic supports or liposomes with techniques based on supercritical CO2: SAS, SFEE, Impregnation.

You can see more of our capabilities and experience on our website:

https://www.ucm.es/leffs/

Researcher in charge

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Figures:

Please attach the images you want to incorporate in the email so as not to lose image quality. You can include 2 or 3 figures, which will have an explanatory function and will also serve to lighten the text and make the offer more attractive).

Insert figure captions here:

Figure 1. Soxhlet extraction equipment.

Figure 2. Ultrasound-assisted extraction equipment.

Figure 3. Supercritical extraction equipment.

Please send the completed forms in English and Spanish, along with the images, to the email comercial@ucm.es.