



Process intensification of reactive extraction

Reactive extraction is studied by using liquid membranes that allow solvent extraction and regeneration to take place in the same contactor.

We have developed this technique both for liquid effluent treatment (metal ions, phenols, etc.) and for the extraction of high-added-value solutes (active principles, antibiotics, etc.). The aim of the studies being carried out is to develop a new extraction contactor allowing extraction of the solute of raw plant materials, the separation of by-products and concentration, all in the same device.

A new study on the extraction / separation / concentration of polyphenols is under way. A second study on polyphenols extracted from the leaf sheath of red sorghum and combining extraction/membrane processes (ultrafiltration and nanofiltration) was conducted in 2009-2011. In parallel, we undertook a study on the rheological behavior and release of the active ingredients of a number of emulsions based on plant extracts of *Calendula officinalis*, *Thymus* and *Hypericum Perforatum L.*