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## Countercurrent Chromatography and Natural Products: A Marriage to Last

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Countercurrent Chromatography (CCC) is a form of liquid-liquid partition chromatography in which the stationary liquid phase is retained in the apparatus without the use of a solid support, providing advantages over conventional chromatography, including the elimination of irreversible adsorption [1]. Modern CCC equipment use a centrifugal force field to retain the stationary phase and columns can rotate in one axis (**CPC**, hydrostatic equilibrium of the two liquid immiscible phases) or in two axes (**HSCCC**, hydrodynamic equilibrium of the two phases). CCC is particularly useful for preparative separations due to the liquid nature of the stationary phase, thus allowing high sample capacity. The principle of the technique is the distribution of the analyte between two immiscible liquid phases, according to its partition coefficient. CCC is a powerful tool in the purification of natural products and many examples can be found in the literature [2, 3]. The choice of the appropriate solvent system in CCC separations is crucial and many strategies have been described [3, 4] that will guide this step in order to avoid consuming too much time. It is not unusual to hear that CCC is convenient for the purification of polar compounds. Although the majority of applications remain towards the purification of medium to high polarity compounds, the possibility of working with biphasic non-aqueous solvent systems broadens the range of applications covered by this technique, rendering it yet more versatile. Examples of the isolation of non-polar, medium polarity and high polarity natural products from plant extracts by CCC will be given, as well as an example of the targeted isolation of a benzoquinone from the leaves of *Tetradenia riparia*.

### References:

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