BIOSEPARATION STRATEGIES FOR THE RECOVERY OF VALUE ADDED PRODUCTS FROM WASTE STREAMS

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Nowadays a wide variety of biotechnological products are produced which need to be isolated and purified. Therefore a wide range of separation methods need to be employed. In addition the recovery of value added bioproducts such as, peptides and polyphenols possesses new challenges as they need to be extracted from complex waste streams at high yields and cost effectively. Moreover more strict regulations on the use of organic solvents at large scale requires the development of environmentally friendly processes. Thus, with this in mind in my group we have been developing separation strategies based on conventional unit operations (eg: membrane filtration, ion exchange) for the recovery of peptides and polyphenols following an integrative approach. The main goals being to exploit particular phyisico chemical characteristics of the target product to achieve selective separation and develop processes that are scalable, environmentally friendly and cost effective. An overview of these research activities will be presented here.

Keywords: bioseparation, peptides, polyphenols, membrane filtration, ion exchange