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### **SOLVENT RECOVERY BY MEMBRANE FILTRATION FROM EXTRACT OF RASPBERRY MARC**

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**ABSTRACT** In the solvent extraction processes the usual way for the solvent regeneration is evaporation or distillation. These operations are energy consuming. Membrane separation processes are energetically more efficient, and since they are carried out at lower temperature the loss of valuable components can be decreased. The raspberry is one of the most cultivated fruits in Hungary. This fruit is rich in polyphenols, antioxidants, anthocyanins and linked to potential health protection against several human diseases. After the press valuable components which stayed in the fruit marc were extracted and then concentrated. In this study filtration and reverse osmosis (RO) were used for concentration and separation of solvent from solutions prepared by extraction of raspberry marc with ethanol (in different average). Extraction was performed by a conventional method for 2 h at permanent temperature. Extract solutions were collected. For clarifying a laboratory scale filtration equipment was used to remove suspended solids from the extraction solution. After filtration the clarified permeate was concentrated by RO, with a polyamide flat sheet membrane. The total soluble solid content and the density were measured, the total phenol and flavonoid compounds, the total anthocyanin and the total antioxidant capacity of samples were determined after the filtration by analytical methods and HPLC. The results of analytical methods showed that the separated solvent did not contain valuable components and the solid content therefore can be reused in the extraction process. A combination of (membrane) filtration processes was appropriate for the concentration of the valuable compounds from extracted solutions without loss of compounds. The removal of solvent by membrane filtration is energetically more efficient than by evaporation.

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