







## Optimisation of the extraction of glucosinolates from *Camelina sativa* seed by-product

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*Camelina sativa* is a plant belonging to the Brassicaceae family and is cultivated mainly for its seeds which have a high content of fatty acids. The oil from the seeds of *Camelina sativa* is used both for food and for the production of animal feed or biofuels. The seed residue after oil extraction is a by-product that contains several molecules such as protein, fibre and secondary metabolites. Among the bioactive compounds, glucosinolates are particularly abundant in *Camelina sativa* seeds. Glucosinolates are sulphur-glycosides known to have interesting beneficial properties for human health indeed, these molecules are able to induce apoptosis against specific tumour lines such as colon cancer and breast cancer.

The aim of the present study was to develop and optimise an extraction process for the recovery of glucosinolates from the *Camelina sativa* by-product. The extraction of by-product was performed by ultrasound assisted solid liquid extraction (USAE) and optimized with design of experiments (DOE). The chemical composition of the extract was characterised by mass spectrometry analysis using UPLC-DAD-ESI-QTOF-MS and the main compounds glucocamelinin, glucoarabinin and homoglucocamelinin were quantified by UHPLC-UV (237 nm).

The selective recovery of glycosinolates from by-product of *Camelina sativa* can be consider interesting for obtain bioactive compounds that food, pharmaceutical and cosmetic industries could be use.