

## Extraction of secondary metabolites of *Hypericum caprifoliatum* by supercritical fluid

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Plants of the genus *Hypericum* are well known for their use in traditional medicine, being *H. perforatum* the most important species. In South Brazil, this genus is represented by approximately 20 species and among them, *H. caprifoliatum* showed in the lipophilic extract the presence of phloroglucinol derivatives and in the polar extracts the presence of phenolic compounds such as flavonoids (hyperoside, quercitrin, isoquercitrin, guaijaverin), chlorogenic acid. The development of methods to obtain concentrates of these compounds are currently a major challenge, since these chemical classes are involved in some biological activities, being the antidepressant-like effect the most important. In order to evaluate the optimal compounds extraction conditions, the aerial parts of *H. caprifoliatum* were submitted to a supercritical fluid extraction (SFE), using supercritical carbon dioxide (CO<sub>2</sub>) under pressure of 150 bar at 40 and 50 °C, and also with addition of modifiers such as water and ethanol, ranging their concentrations from 0 to 100% v/v of ethanol. The extraction yields and concentrations of secondary metabolites of *H. caprifoliatum* in the extracts were determined. The best yields of phloroglucinol derivatives were obtained with CO<sub>2</sub> at low temperature (40 °C). For the extraction of the polar compounds the best condition includes ethanol (100%) as co-solvent.