

Abstract

In this paper a kinetic study of steam distillation of *Inula viscosa* essential oil, analysis by GC-MS and antifungal activity were reported. The essential oil yields were very higher for both samples (3.321-6.540 % (w/w)). The main compounds of the two essential oils analyzed were: (1.82-22.13 %) of Eudesma-3,11(13)-dien-12-oic acid (ESA) and (73.13-88.58 %) of 1,2-Benzenedicarboxylic acid, diisooctyl ester (BAE). The results demonstrated that the first fractions recovered (30-60 min; 60-90 min; 90-120 min and 120-150 min), ESA predominates the essential oil while for the last fractions (180-210 min; 210-240 min; 240-270 min and 270-300 min) the BAE predominates. *I. viscosa* essential oil showed remarkable antifungal activity, all fractions tested present inhibition percentages varying from 62.5 to 91.25 % for concentrations varying from 762 to 6092 μ g/ml. To the best of our knowledge, this is the first report gives information on the kinetic of extraction of *I. viscosa* essential oil by steam distillation. The results showed that the *I. viscosa* essential oil can be used for green plant protection, pharmaceutical and food industries.