

LC-MS N-ALKYLAMIDE PROFILING OF AN ETHANOLIC *Anacyclus pyrethrum* ROOT EXTRACT

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Abstract

The roots of *Anacyclus pyrethrum* DC (AP) (Asteraceae) are frequently used in traditional medicine as Vajikarana Rasayana. An ethanolic extract of root of *Anacyclus pyrethrum* demonstrated its potential to enhance the sexual behaviour of male rats, with a dose dependent effect on sperm count and androgens concentration. Phytochemical analysis of ethanolic extract of *Anacyclus pyrethrum* revealed that it is rich in N-alkylamide. This study therefore sought to assess characterization of ethanolic extract of *Anacyclus pyrethrum* root. Root extract was performed using a gradient reversed phase high performance liquid chromatography/UV/electrospray ionization ion trap mass spectrometry (HPLC/ESI-MS) method on an embedded polar column. MS¹ and MS² fragmentation data were used for identification purposes, while UV was used for quantification. Thirteen N-alkylamides (five N-isobutylamides, three N-methyl isobutylamides, four tyramides and one 2-phenylethylamide) were detected. Five of them identified as undeca-2*E*,4*E*-diene-8,10-diyonic acid N-methyl isobutylamide, tetradeca-2*E*,4*E*-diene-8,10-diyonic acid tyramide, deca-2*E*,4*E*-dienoic acid N-methyl isobutylamide, tetradeca-2*E*,4*E*,*XE*/*Z*-trienoic acid tyramide and tetradeca-2*E*,4*E*,8*Z*,10*Z*-tetraenoic isobutylamide are novel compounds, which have never been identified in *Anacyclus pyrethrum*.

Key words

Anacyclus pyrethrum (Asteraceae), LC-MS plant profiling, N-alkylamides, pellitorine, anacycline