

Quantification of active ingredients in *Potentilla tormentilla* by Raman and infrared spectroscopy.

Autorzy

Sylwester Mazurek

Izabela Fecka

Magdalena Węglińska

Roman Szostak

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The most important active compounds present in *Potentilla tormentilla* rhizomes were quantitatively determined on the basis of Raman, attenuated total reflection (ATR) and diffuse reflectance mid- and near- infrared spectra (DRIFTS) collected for the untreated plant material. Partial least-squares (PLS) models were constructed utilizing vibrational spectra and the results of reference high-performance liquid chromatography analyses. Applying Raman spectroscopy, total polyphenols, tannins, ellagitannins, procyanidins, agrimoniin, 3-O-galloylquinic acid and catechin were simultaneously quantified in tormentil rhizomes, with the relative standard errors of prediction in the 2.0–4.9% range for both calibration and validation sets. These error ranges were found to be slightly higher for infrared techniques and amounted to 2.7–6.5%.

Słowa kluczowe

potentilla, polyphenols, tannins, vibrational spectroscopy, quantitative analysis, multivariate analysis

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