



Simultaneous determination of Sesquiterpenes and Curcuminoids in Three Species of *Curcumae Rhizoma* by a Two-Wavelength HPLC Method

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SUMMARY. A two-wavelength high performance liquid chromatography was developed for simultaneous quantitative determination of five active sesquiterpenes and three main curcuminoids, including curdione, curcumol, gerrmacrone, furanodiene, β -elemene, bisdemethoxycurcumin, demethoxycurcumin and curcumin, in rhizomes of three species of *Curcuma* from different regions. Results showed that all calibration curves of the eight components showed good linearity ($r > 0.9995$) with the ranges of 0.17~3.35 μg for curdione, 0.10~1.97 μg for curcumol, 0.04~0.81 μg for gerrmacrone, 0.02~0.32 μg for furanodiene, 0.11~2.25 μg for β -elemene, 0.001~0.023 μg for bisdemethoxycurcumin, 0.02~0.40 μg for demethoxycurcumin, and 0.018~0.36 μg for curcumin. The average recoveries of the 8 active components ranged from 96.76 to 103.37%. The precision, repeatability and accuracy of the analytical method was also validated and verified to be sensitive and accurate. It was applied to quantify the 5 active sesquiterpenes and 3 main curcuminoids components in twenty samples of three species of *Curcuma*, which is helpful to control their quality in clinical.

KEY WORDS: *Curcuma* species, Sesquiterpenes, Curcuminoids, Two-wavelength HPLC.

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