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Qualitative and Quantitative Analyses of Three Bioactive Compounds in Traditional Chinese Medicine Gamboge by HPLC–PDA–ESI/MS^n

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***SUMMARY*. A high performance liquid chromatography photo diode array UV detection electrospray ionization tandem mass spectrometry (HPLC–PDA–ESI/MS^n) method was developed and validated for the quality evaluation of gamboge (dryed resin exuded from the stems of *Garcinia hanburyi*). The contents of the three bioactive constituents (gambogenic acid, R-gambogic acid and S-gambogic) were determined by using HPLC–PDA, and their chemical structures were identified by HPLC–ESI-MS^n. The limits of detection and quantitation were between 0.039-0.048 μg/mL and 0.13-0.16 μg/mL. The intra- and inter- assay precisions, in terms of percent relative standard deviation, are less than 3.7 and 4.8 %, respectively. The accuracy, in terms of recovery percentage, ranged from 96.86 to 101.70 %. Good linearity (correlation coefficient > 0.9996) for each calibration curve of standards. HPLC-PDA-ESI-MS^n was use to analyze caged xanthones in gamboge. A total of 16 peaks were identified or tentatively characterized. The results indicated that the method could be considered to be a simple, rapid and reliable method for the quality evaluation of gamboge.**

KEY WORDS: Gamboge, *Garcinia hanburyi,* HPLC–PDA–ESI/MS^n, Quality control, Traditional chinese medicine.

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