

黔产宽叶缬草根挥发油提取工艺优选及其化学成分GC-MS分析

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中文摘要:目的: 确定黔产宽叶缬草根挥发油的最佳提取工艺, 分析其化学成分。方法: 用水蒸气蒸馏法提取缬草根挥发油, 以挥发油提取率为指标, 考察蒸馏时间、液料比、浸泡时间及粉碎度等影响因素, 采用单因素试验和正交试验法优选宽叶缬草根挥发油提取工艺。采用GC-MS分析挥发油中化学成分。结果: 宽叶缬草根挥发油最佳提取工艺为粉碎度为10~20目, 料液比1:10, 蒸馏时间5 h, 浸泡时间4 h; 此工艺条件下, 挥发油提取率达5.74%。缬草油中共鉴定出25种化学成分, 以萜烯类化合物为主, 分别含有烯、醇、酮、酯、醚类化合物, 其中乙酸冰片酯、香树烯和坎烯占主导地位, 其相对质量分数分别为37.94%, 18.52%, 10.26%。结论: 该优选工艺稳定可行, 可为缬草根挥发油工业化提取提供实验依据。

中文关键词: [黔产宽叶缬草](#) [挥发油](#) [提取工艺](#) [GC-MS](#)

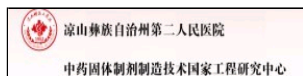
Optimization of Extraction Technology for Volatile Oil from Roots of *Valeriana officinalis* in Guizhou Province and GC-MS Analysis of Its Chemical Composition

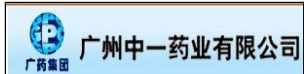
Abstract: Objective: To determine optimum extraction process of volatile oil from roots of *Valeriana officinalis* in Guizhou province and analyze its chemical composition. Method: Volatile oil from roots of *V. officinalis* was extracted by steam distillation method, distillation time, solid-liquid ratio, soaking time, degree of smash and other factors were investigated with extraction ratio of volatile oil as index, extraction technology of volatile oil from roots of *V. officinalis* was optimized by single test and orthogonal test. Chemical composition of volatile oil was analyzed by gas chromatography-mass spectrometry (GC-MS). Result: Optimal extraction process of volatile oil was as follows: grinding degree 10-20 mesh, solid-liquid ratio 1:10, soaking time 4 h, distillation time 5 h; Under these optimized extraction conditions, yield of volatile oil was 5.74%. 25 kinds of chemical composition were identified from volatile oil, there was terpene compounds mainly, and it contained olefin, alcohol, ketone, ester, ether compounds, respectively. Bornyl acetate, incense tree by and hom-ene took dominant position, their relative mass fraction were 37.94%, 18.52%, 10.26%. Conclusion: This optimized technology was stable and feasible, it could be provide scientific basis for industrialized extraction of volatile oil from *V. officinalis* produce.

keywords: [Valeriana officinalis in Guizhou province](#) [volatile oil](#) [extraction technology](#) [GC-MS](#)

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