



基于拉曼光谱技术的白芍药汤剂的光谱特性分析

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中文摘要:目的:分析测定单味白芍药汤剂中的化学成分。方法:分别采集7批次白芍药片、5批次白芍药材、5批次赤芍药片制备所得汤剂的拉曼光谱,并进行初步谱峰归属,分析白芍药汤剂与白芍药材汤剂的拉曼光谱,对比白芍药片汤剂和同属药物赤芍药片汤剂的拉曼光谱。结果:白芍药片汤剂拉曼光谱在637,783,847,981,1 091,1 128,1 336,1 458,1 636 cm⁻¹处出现9个拉曼信号。白芍药材汤剂拉曼光谱中的783,981,1 128,1 336,1 458 cm⁻¹5个拉曼峰同样存在于白芍药片汤剂的拉曼光谱中,633,1 633 cm⁻¹拉曼峰发生微小频移,而716,737,835,916,1 072,1 271,1 600 cm⁻¹等拉曼峰消失。此外白芍药片汤剂和同属药物赤芍药片汤剂的拉曼光谱存在较大差异。结论:拉曼光谱可能为白芍药或其他中药汤剂提供一种快速的化学成分检测方法。

中文关键词:单味白芍药片汤剂 拉曼光谱 成分检测

Raman spectroscopic analysis of Paeoniae Radix Alba decoction based on raman technology

Abstract: Objective: To test and analyze chemical composition of Paeoniae Radix Alba decoction at molecular level. **Method:** Raman spectra of decoctions prepared from seven batches of Paeoniae Radix Alba pieces, five batches of Paeoniae Radix Alba medicinal material and five batches of Paeoniae Radix Rubra pieces were measured respectively, and the characteristic Raman bands were tentatively assigned. Raman spectra of decoctions were compared and analysed between Paeoniae Radix Alba pieces and Paeoniae Radix Alba medicinal material, Paeoniae Radix Alba pieces and Paeoniae Radix Rubra pieces. **Result:** Nine Raman bands (637, 783, 847, 981, 1 091, 1 128, 1 336, 1 458 and 1 636 cm⁻¹) were observed in the Paeoniae Radix Alba pieces decoction. Compared with the decoction of Paeoniae Radix Alba pieces, the Raman bands of 783, 981, 1 128, 1 336 and 1 458 cm⁻¹ were also exists in Paeoniae Radix Alba medicinal material decoction, meanwhile, the Raman bands of 633 cm⁻¹ and 1 633 cm⁻¹ occurs slight frequency shift, however, the bands of 716, 737, 835, 916, 1 072, 1 271 and 1 600 cm⁻¹ were disappear. In addition, the Raman spectra are quite different between the decoctions of Paeoniae Radix Alba pieces and Paeoniae Radix Rubra pieces. **Conclusion:** The results showed that Raman spectroscopy might provide a novel method for the fast component detection of the Radix Paeoniae Alba decoction or other traditional Chinese medicine.

keywords: Paeoniae Radix Alba decoction Raman spectroscopy component detection

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