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论文

植物药中一些主要成分测定方法的研究 Ⅲ.蒽醌的测定方法

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摘要:

本文在Paris等人所报导方法的基础上,研究了蒽醌显色后的稳定性情况,以及用酸水解结合蒽醌与提取的条件,进而分析了几种植物药中游离蒽醌与结合蒽醌的含量,认为方法尚可应用.游离蒽醌系将生药样品在Soxhlet提取器内用氯仿提取,提取液用5%NaOH-2%$NH_4$0H提取后比色,以1,8-二羟蒽醌为标准;结合蒽醌则先用5N硫酸水解,回流2小时,再加氯仿回流提取数次,至提尽为止,合并氯仿液,同上以碱液提取后比色测定.

关键词:

STUDIES ON THE DETERMINATION OF CERTAIN MAJOR CONSTITUENTS OF PLANT DRUGS III. DETERMINATION OF ANTHRAQUINONES

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Abstract:

Paris' method for the determination of anthraquinone content of plant drug has been studied. Through the analysis of several drugs, including *Rheum palmatum* L., *Cassia tora* L., and *Polygonum multiflorum* Thunb., more favorable analytical conditions were established; the free and combined anthtaqiiinone contents of a plant drug could thus be determined as follows: Free anthraquinones: 0.1—l.0g finely powdered sample is accurately weighed and extracted with chloroform in a Soxhlet apparatus. The chloroform extract is shaken with successive portions of 5% sodium hydroxide-2% ammonia mixture in a separatory funnel until the alkali solution is colourless. The alkali extracts are combined and diluted to a certain volume. If the solution becomes turbid, it is filtered through a sintered glass filter and the filtrate collected for colorimetric determination in a photometer with a 490 mμ filter. The result is calculated from a calibration curve obtained with 1,8-dihydroxyanthraquinone. The extraction with the mixed alkali solution and the colorimetric measurements must be done in a shaded room to prevent the decomposition of the coloured solution by light. Combined anthraquinones: 0.05—0.1g finely powdered sample is accurately weighed and placed in a 100 ml conical flask, 30 ml of 5 N sulphuric acid are added, and the mixture is refluxed for two hours to hydrolyse the combined anthraquinones. The flask is cooled, then refluxed with 30 ml chloroform for one hour. The latter is removed with a dropper, replaced by a fresh portion of 20 ml chloroform and refluxed for 20 minutes. This extraction process is repeated until anthraquinones are exhausted. The chloroform extracts are combined, washed with small portions of distilled water, extracted with the mixed alkali solution as above, and determined colorimetrically. This gives the total anthraquinone content, from which is subtracted the amount of free anthraquinones in order to get the percentage of combined anthraquinones.

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