

论文

高效液相色谱-质谱联用法鉴定中药藤黄中桥环类化合物

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摘要:

采用液相色谱电喷雾离子阱质谱联用仪(HPLC-ESI/MS)研究新藤黄酸和藤黄酸在正离子检测方式下的一级质谱和多级质谱, 归纳其ESI碎裂规律。采用C<sub>18</sub>反相色谱柱分离并检测了藤黄中的16种化合物; 通过二极管阵列检测器与电喷雾质谱联用获得了相应化合物的最大紫外吸收和相对分子质量信息, 并利用质谱的源内碰撞诱导解离技术(CID)结合文献报道鉴定了10种化合物的结构。这种研究方法对其他天然产物特别是微量成分结构分析具有参考作用。

关键词: 藤黄 HPLC-PDA-ESI/MS 桥环类化合物 源内CID质谱技术

Analysis of xanthones in gamboge by HPLC-PDA-ESI/MS

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Abstract:

The MS and multi-MS spectra of gambogic acid and gambogenic acid in positive ion detection mode were analyzed by electrospray ion trap mass spectrometry (ESI-QITMS) and their cleavage patterns were summarized. Gamboge samples were separated by a Kromasil C<sub>18</sub> column and analyzed by HPLC-PDA and MS. Sixteen xanthones could be separated and detected, A collision induced dissociation (CID) experiment was carried out. Molecular weight and UV spectra with of these compounds were obtained.

Ten xanthone compounds in Gamboge were identified by online photodiode array detection-MS<sup>n</sup> and by comparing with data from literature. It is expected to develop a comprehensive quality control method for this kind of compounds in commonly used herbal preparation especially in structure analysis of trace substances.

Keywords: HPLC-PDA-ESI/MS xanthone collision induced dissociation gamboge

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