

PP 06

離子液體管柱在二氧化碳超臨界流體層析分離多醣類的研究

劉士維, 林森軒, 魏國廷*
國立中央大學化學系生化的學系, 嘉義, 台灣
*通訊作者, e-mail: cheptw@ccu.edu.tw

摘要

現今多醣類的分離主要仍以HPLC法應用大量乙腈(acetonitrile)為洗劑。在綠色化學成為重要的課題下, 替代分離劑使用的環保性溶劑也成為綠色分析化學探討的課題。超臨界流體層析(Supercritical fluid chromatography, SFC)使用無毒的二氧化碳作為流動相主要成分, 再添加少許的有機溶劑輔助進行層析分離, 因此相較於液相層析而言, SFC大大減少了有機溶劑的使用量。是一種具有綠色分析化學新技術的, 而且SFC高壓純化也比HPLC更具優勢。

超臨界流體層析(SFC)與液相層析(LC)的結合, 為超臨界流體層析分離多醣類, 本研究建立了SFC-ELSD (Supercritical fluid chromatography detector)系統, 並利用此系統, 對多醣類進行了UV-Vis吸收檢測。為了超越液相層析分離多醣類, 本研究建立了SFC-ELSD系統, 並利用此系統, 對多醣類進行了UV-Vis吸收檢測。

在多醣類層析中, 常用到多醣類標準品進行層析, 但多醣類標準品在SFC-ELSD系統中, 往往會出現拖尾現象, 本研究利用多醣類標準品, 在SFC-ELSD系統中, 對多醣類進行了UV-Vis吸收檢測, 並利用此系統, 對多醣類進行了UV-Vis吸收檢測。

實驗部分

(I) SFC-ELSD 儀器原理

(II) 離子液體

結果與討論

(I) 管柱篩選

(II) 離子液體管柱與商業管柱比較

結論

本研究建立了SFC-ELSD系統, 並利用此系統, 對多醣類進行了UV-Vis吸收檢測, 並利用此系統, 對多醣類進行了UV-Vis吸收檢測。

謝誌

國立中央大學, 台灣
謝國廷, 台灣

The studies on the cosmetic function of natural products

En. Shieh¹; Ru An, Cai²; You Ru, Chen¹; Miao Yi, Wu¹; Guang Zhou Liu¹

¹Department of Biotechnology of Tsinghua University, 38, Wuzhou Rd., 100084, Beijing, P.R. China; ²Department of Food Science and Technology of Tsinghua University, 38, Wuzhou Rd., 100084, Beijing, P.R. China; ³Yi Tai Corporation, Taiwan Refining & Manufacturing Research Institute, 211, Min Sheng St., Tainan, Taiwan; ⁴Medical Laboratory Research & Development Center, Natural Products Research Laboratory, 300, No. 2, Hsinchu Road, Hsinchu City, Taiwan

Introduction

with antibacterial or anti-inflammatory activity. In this study, the tested oil they were further researched on *Phytolacca asiatica* and human skin. The results showed that the essential oil and the active component of the essential oil, the thymol essential oil and the active component of the essential oil, the inhibition zone was 28.13±0.15 mm, 27.75±0.49 mm, the minimum inhibitory concentration was 1.5625 mg/ml, 1.5625 mg/ml. The experimental results showed that there was no significant difference on the antimicrobial activity of the alcohol-containing and non-alcohol-containing (28.0 pg/ml) of interleukin-6 (IL-6) than non-alcohol-containing (1.5625 pg/ml) of interleukin-6 (IL-6) on the leaves of *C. asomphlocon* extracted by SFET indeed.

Materials & Methods

Extraction of essential oils and natural medicine

Extraction by SFET

Results of Analysis

Table 2. The minimum inhibitory concentration of essential oils and natural medicine

Sample	Minimum Inhibitory Concentration (mg/ml)
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625
Essential Oil of <i>Phytolacca asiatica</i>	1.5625

Discussion & Conclusion

The results of this study showed that the essential oil and the active component of the essential oil, the inhibition zone was 28.13±0.15 mm, 27.75±0.49 mm, the minimum inhibitory concentration was 1.5625 mg/ml, 1.5625 mg/ml. The experimental results showed that there was no significant difference on the antimicrobial activity of the alcohol-containing and non-alcohol-containing (28.0 pg/ml) of interleukin-6 (IL-6) than non-alcohol-containing (1.5625 pg/ml) of interleukin-6 (IL-6) on the leaves of *C. asomphlocon* extracted by SFET indeed.

劉士維

TSCFA

第十一屆台灣超臨界流體技術研究優良論文獎

劉士維、林鼎軒、魏國佐*

國立中正大學化學暨生物化學所，嘉義，62102，台灣

『離子液體管柱在二氧化碳超臨界流體層析分離多醣類的研究』

榮獲本會2017年第十六屆超臨界流體技術應用與發展研討會
優良海報論文獎

特頒獎狀 以資鼓勵

研討會暨年會主任委員 黃月桂、包鍾鳴
副主任委員 林麗雲、李明哲

二〇一七年十月二十

