

# 原料奶在HPLC-MS负离子模式下的指纹图谱研究

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## Research of Raw Milk Fingerprint Based on HPLC-MS ESI -

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**摘要** 采用高效液相色谱质谱联用技术,在负离子扫描模式下建立了原料奶的乙腈提取成分的指纹图谱。采用乙腈和0.1%的乙酸为流动相进行二元梯度洗脱,柱温30℃,分析时间为85 min。确定了11个共有峰,以7号峰为参照物,通过相对峰面积和相对保留时间进行了方法学考察。结果表明,本方法具有良好的重现性,各指纹峰相对保留时间的RSD<0.79%,相对峰面积的RSD<2.84%。在原料奶指纹图谱基础上,选取有代表性有害物如防腐剂苯甲酸等进行了标准添加,建立了添加图谱,对沈阳地区超市的50个纯牛奶样品进行了筛查,取得初步应用结果。

**关键词:** 原料奶, 指纹图谱, HPLC-MS

**Abstract:** The HPLC-MS fingerprint of raw milk extracted by acetonitrile was established to evaluate the quality of raw milk. A total of 11 peaks had been identified. The methodology was studied by the relative peak area and relative retention time with No. 7 peak as the reference. The results showed that the fingerprint established by this method has reasonable precision, reproducibility and stability with the relative standard deviations (RSDs) less than 0.79% for the relative retention time and less than 2.84% for the relative peak area. This method has provided a feasible analytical approach to explore the overall quality characteristics of raw milk.

**Keywords:**

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