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蔬菜中41种农药的气相色谱-离子阱质谱多残留检测

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收稿日期 2005-3-28 修回日期 网络版发布日期:

摘要 建立了蔬菜中41种农药的气相色谱-离子阱质谱多残留检测方法,样品采用丙酮、二氯甲烷提取,经活性炭/celite/酸性氧化铝柱净化,用气相色谱-离子阱质谱在选择离子存储(SIS)模式下分析。以保留时间和特征离子定性,运用SIS技术定量。方法在0.1、0.5、1.0 mg/kg添加回收率为70%~110%,相对标准偏差<20%,最低检测限在0.02~0.1 mg/L,符合多残留分析要求。

关键词 [蔬菜](#) [农药](#) [多残留](#) [离子阱质谱](#)

分类号 [0657.63](#) [S482.3](#)

Multi-residue Determination of Forty-one Pesticides in Vegetable by Gas Chromatography-Ion Trap Mass Spectrometry Using Selective Ion Technique

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Abstract A method was described for determining forty-one pesticide residues in vegetable, including organophosphorus, organochlorine, carbamate, and synthetic pyrethroid pesticides. These pesticides were extracted from samples with acetone and dichloromethane, and co-extractives were removed by a charcoal/celite/aluminum column. Analysis was performed by gas chromatography coupled with ion trap mass spectrometry in selective ion storage(SIS) mode. Retention time and specific ions were used to identify the pesticides. Recoveries for 41 pesticides were obtained from cabbage, cucumber and green pepper (blank samples spiked at 0.1, 0.5, 1.0 mg/kg levels) ranging from 70% to 110%, the coefficient of variation of the method was less than 20% for every case. Limits of detection were ranging from 0.02 mg/L to 0.1 mg/L, depending on the compound.

Key words [vegetable](#) [pesticides](#) [multiresidue](#) [ion trap mass spectrometry](#)

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