عنوان مقاله:

استخراج فضای فوقانی دینامیکی جفت شده بصورت برخط با طیف سنجی تحرک یونی برای ارزیابی و سنجش اکسیداسیون در روغن کنجد

محل انتشار:

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خلاصه مقاله:

In this paper, a simple, sensitive and economical method is described for the extraction and determination of sesame oil oxidation by dynamic headspace extraction combined to ion mobility spectrometry (IMS). Hexanal as a reaction product of oxidation, is used to follow the progress of oil oxidation. The optimization of different variables for the extraction step including: extraction temperature, extraction time and flow rate of carrier gas and also for the determination step by IMS including: drift and corona voltages, flow rate of carrier and drift gases, cell and injection temperatures, and pulse width were performed. Under optimum conditions, the calibration curve was linear in the range of 0.10 to 0.50 ng g-1 and also the relative standard deviation was 3.0%. The detection and quantification limits were 0.03 and 0.12 ng g-1, respectively. The recovery results for spiked samples (90.0-104.0%) demonstrated the potential of the proposed method for determining of oxidation in sesame oil samples.

کلمات کلیدی:

Sesame Oil, Oil Oxidation, Hexanal, Ion Mobility Spectrometry