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Letter to the Editor

Estimation of peppermint oil constituents by capillary gas chromatography

Reply to the letter by R. J. Clark and R. C. Menary

Sir,

The purpose of my paper¹, as stated in the Introduction, was to show that the procedure of Clark and Menary² could be adopted for quantitative analysis of the peppermint oil components. Using a capillary column, calibration factors were determined, thereby broadening the usefulness of their procedure. In Clark and Menary's paper, results were expressed only as % total peak area without including calibration factors for each component. In this respect, the comments of one of the referees appointed by the *Journal of Chromatography* are worth noting: "Yet, they [the calibration factors] are worthy of mention as their use was neglected in Clark and Menary's former work (ref. 7, p. 1)!" Calibration factors allow the procedure to be used for quantitative measurement of compounds in peppermint oil, the amounts of which may vary markedly from sample to sample.

I am aware of the paper of Takahashi *et al.*³ and this supports the need to have columns with more effective plates. The choice of columns with high effective plates combined with differing temperature gradient programmes would allow peppermint oils to be examined in more detail. FFAP and SP-1000 are very similar in their properties (see, for example, Supelco Catalogue No. 20, 1982, p. 74).

The run time is 60 min, but it is considered that improvements in time per run could be obtained, if necessary, by altering the temperature programme. Inspection of Fig. 3 in Clark and Menary's paper² shows that no time scale was included.

Considering the above-mentioned points relative to the main objectives of my paper (*i.e.* to obtain quantitative measurement of peppermint oil compounds etc.), I believe that the method described by me is a practical and useful technique for quantitatively measuring a range of compounds in peppermint oils using appropriate calibration factors to compensate for unequal detector response.

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1 J. P. Sang, *J. Chromatogr.*, 253 (1982) 109-112.

2 R. J. Clark and R. C. Menary, *J. Amer. Soc. Hort. Sci.*, 104 (1979) 699-702.

3 K. Takahashi, T. Someya, S. Muraki and A. Yoshida, *Agr. Biol. Chem.*, 44 (1980) 1535-1543.