Autobalance Ultra-Microbalance



The Model AD-2Z is the latest and most advanced of three ultramicrobalances available from Perkin-Elmer. It offers unmatched weighing convenience and features not available on competitive models.

1. Autorange

The exclusive Autorange mode of the balance automatically selects the appropriate weighing range no matter what the sample weight and correctly positions the decimal point.

2. 5 Gram Capacity
The large 5 gram capacity is
unique. There is no need to
change the sample pan position
on the beam for heavier
samples. This means simple
weighings with no extra
manipulation of the balance.

Autozero

The Autozero switch on the Model AD-2Z can tare the full weight of any selected range, often eliminating the need for careful selection of weighing containers.

4. 0.1 Microgram Sensitivity
All Perkin-Elmer ultramicrobalances have a sensitivity
of 0.1µg but this is only part of
the story. The Model AD-2Z is
accurate to 0.01% and has a
remarkable precision of 0.05µg
or better.

Circle 183 for New Brochure Circle 184 for Demonstration or call (312) 887-0770 and have your questions answered immediately.

You can write directly to Perkin-Elmer Corporation, M/S-12, Main Ave., Norwalk Connecticut 06856, or Bodenseewerk Perkin-Elmer & Co., GmbH, Postfach 1120, 7770 Uberlingen, Federal Republic of Germany.

PERKIN-ELMER

Responsive Technology

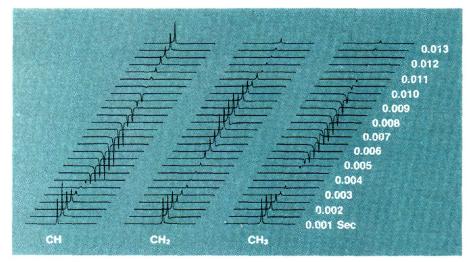


Figure 11. ¹³C SEFT NMR spectra for three of the four carbons of isobutanol Measured with the broadband ¹H decoupler gated on during one of the delay periods and during acquisition.

fairly simple multiple-pulse techniques. We have focused on the SEFT NMR experiment, hopefully giving enough background so that the reader can see first how the nuclear magnetization can be manipulated with carefully chosen rf pulses and gated decoupling techniques, and then how this control over the magnetization can be used in a variety of applications. It is important to emphasize that, although these experiments involve rather sophisticated sequencing

of the pulses and the gating on and off of the decoupler, and probably also changes in the decoupler frequency during the experiment, this can be accomplished rather easily with stateof-the-art spectrometers.

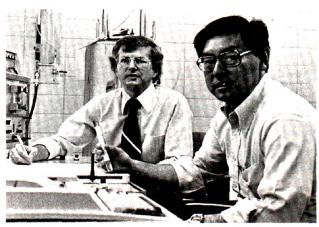
Acknowledgments

It is a pleasure to acknowledge numerous discussions of the types of experiments described in this article with Anvarhusein Isab and Glen Bigam.

References

- (1) T. C. Farrar and E. D. Becker, "Pulse and Fourier Transform NMR," Academic Press, New York, N.Y., 1971.
- (2) D. Shaw, "Fourier Transform NMR Spectroscopy," Elsevier, New York, N.V. 1976
- (3) E. L. Hahn, Phys. Rev., 80, 580 (1950).
 (4) H. Y. Carr and E. M. Purcell, Phys. Rev., 94, 630 (1954).
- (5) S. Meiboom and D. Gill. Rev. Sci. Instrum., 29, 688 (1958).
- (6) R. Freeman and H. D. W. Hill, in "Dynamic Nuclear Magnetic Resonance Spectroscopy," L. M. Jackman and F. A. Cotton, Ed., p 131, Academic Press, New York, N.Y., 1975.
- (7) D. L. Rabenstein, Anal. Chem., **50**, 1265A (1978).

- (8) F. F. Brown, I. D. Campbell, P. W. Kuchel, and D. L. Rabenstein, *FEBS Lett.*, 82, 12 (1977).
- D. L. Rabenstein, and A. Isab, unpublished results.
- (10) I. D. Campbell, C. M. Dobson, R. J. P. Williams, and P. E. Wright, FEBS Lett., 57, 96 (1975).
- (11) D. L. Rabenstein, T. Nakashima, and G. Bigam, J. Magn. Reson., 34, 669 (1979).
- (12) I. D. Campbell, C. M. Dobson, R. G. Ratcliffe, and R. J. P. Williams, *ibid.*, 31, 341 (1978).
- (13) G. Bodenhausen, R. Freeman, R. Niedermeyer, and D. L. Turner, *ibid.*, **26**, 133 (1977).



Dallas L. Rabenstein is a professor of chemistry and Thomas T. Nakashima is Manager of the NMR Laboratory in the Department of Chemistry of the University of Alberta.