• *Letters to the Editor*

A New Control System for Monitoring Countercurrent Distribution with a Recording Refractometer

OUR ORIGINAL PROCEDURE for monitoring countercurrent distribution (CCD) with a recording refractometer utilized a modified Toepler pump to transport solvent (1). Recently, a useful teflon and glass pump has become available commercially and a new control system has been developed for its use. The new pump and control system are superior to the original system because of increased chemical inertness, the elimination of mercury and improved reliability.

The teflon pump, obtained from Buchler Instruments, Inc., replaces the Toepler pump in the solvent transport system shown in Figure 4 of the original article (1). As before, solvent is pumped into the collector bulb and allowed to flow by gravity into the lower reservoir of the refractometer. All tubing to and from the pump should be teflon of small diameter to minimize mixing.

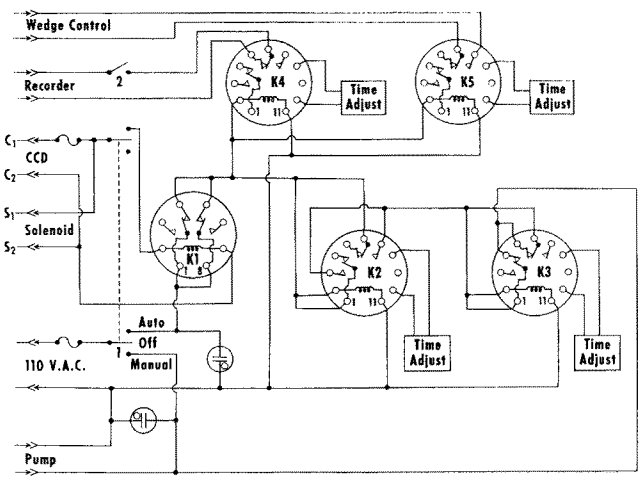

FIG. 1. Teflon pump control wiring diagram. Relay K1 is a DPDT, 110 v AC, plug-in relay (Potter & Brumfield, KRP 11 AG). Relays K2,K3,K4 and K5 are all time delay, 0.1–60 sec adjustable 110 v AC, DPDT plug-in relays (G. C. Wilson & Co., Model 591-15).

The simpler control system for the teflon pump shown in Figure 1 is more reliable than the previous control system. Plug-in relays simplify wiring and maintenance.

When switch 1 is in the manual position, the pump operates continuously; when in the auto position, the pump is controlled by the CCD apparatus and the sequencing relays K1,K2 and K3. Relay K1 is controlled by a 110 v AC signal (contacts C1 and C2) coming from switch 3 of the CCD apparatus. As previously used, this signal again controls the solvent solenoid (contacts S1 and S2). When the CCD apparatus goes into the decant stroke, the signal is interrupted and remains off until the end of the equilibration cycle. During this time relay K1 energizes relay K2 and after a delay of ca. 20 sec, to allow for the transfer stroke of the CCD apparatus, starts the pump. Relay K3 then stops the pump after enough time has elapsed so that all solvent has been transported.

Relays K4 and K5 carry out other necessary switching. Relay K4 shorts out the downscale test button on the recorder of the refractometer and is timed so that the recorder is forced downscale when there is no solvent in the refractometer cell. Switch 2 interrupts this circuit so that the refractometer can be operated separately. This same function was performed by switch 4 and relay K3 Figure 3 of the original article.

Relay K5 replaces the time gear switch (remote section C, Figure 2 of original article) and allows the wedge control to operate only when the refractometer cell is filled.

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REFERENCES
1. Butterfield, R. O., and H. J. Dutton, Anal. Chem. *36*, 903 (1964).

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• *Addendum*

JAOCS *41*, pages 418–421, June 1964, FAUROT-BOUCHET AND MICHEL; COMPOSITION OF INSECT WAXES I. WAXES OF EXOTIC COCCIDAE: *Gascardia madagascariensis, Coccus ceriferus* and *Tachardia lacca,* contains the following errors:

Crude acids of *Gascardia madagascariensis* yielded, by alumina chromatography of their methyl esters, a first fraction representing 53% of the total esters and not 58% as noted in the publication. These acids are tetratriacontanoic, dotriacontanoic and hexacosanoic acids. In the text, tetracontanoic acid is used in error. Hydroxy-acids of *Gascardia madagascariensis* are a complex mixture of C_{30}–C_{32} and C_{34} compounds of the formula:

$$CH_3-(CH_2)_n-CHOH-(CH_2)_m-COOH$$

It must be read: n = 9 to 18
m = 13 to 22

instead of n = 9 to 24
m = 15 to 24

• *Erratum*

JAOCS *41*, pages 694–695, October 1964, LUDDY et al.: PANCREATIC LIPASE HYDROLYSIS OF TRIGLYCERIDES BY A SEMIMICRO TECHNIQUE. Delete last three lines on page 694 and first line on page 695. Final sentence on page 694 and continuing on 695 should read: "The digestion and recovery of products were carried out essentially as described for 50 mg."

Insert four deleted lines after first line, right column, page 695. Column should read: "to be ca. equal to the expected wt of ester product. The internal standard was added as a 5-ml aliquot of an iso-octane solution of known concn. The solution of methyl esters was then evaporated to dryness and transferred quantitatively with min portions of ethyl ether to a tube, 65 mm x 15 mm, drawn to a sharp cone at one end. . . ."