Erratum: Ultraviolet Absorption Spectrum of Hydrogen Peroxide

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THROUGH an error a wrong cut was used for Fig. 1 in this article. The following figure should have appeared in place of the one used.

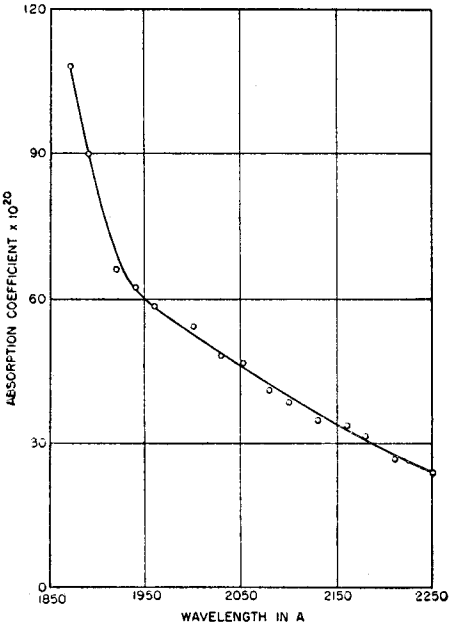

FIG. 1. Absorption coefficient for hydrogen peroxide vapor (average values).

Oscilloscope Scanning of Visible Spectra

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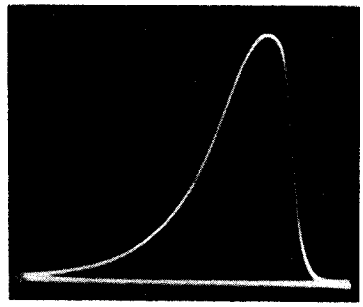
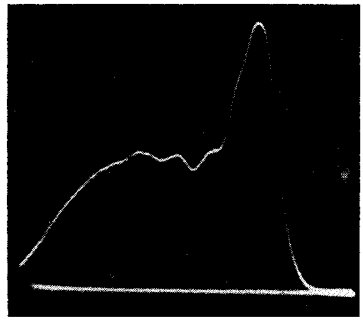
AN infra-red spectrograph with cathode-ray presentation has been developed by Daly and Sutherland and King, Temple, and Thompson.[1] On the vertical deflection system of a long-persistence tube was impressed the amplified output from a bolometer past which an infra-red spectrum was swept by means of a fourteen-second period rotation of the prism. A linear horizontal trace was employed.

In this laboratory the same principle has been applied in the visible region to obtain "instantaneous" spectra.[2] A glass prism was rotated at speeds from 1800 to 3600 r.p.m., the spectrum being detected by a photo-multiplier tube. A shutter attached to the prism table interrupts a beam of light producing a trigger pulse for a driven sweep circuit.



1a



1b

FIG. 1. Oscilloscope Trace: a—Emission spectrum of tungsten bulb; b—Dilute potassium permanganate in path. Gain for b twice that for a.

In Fig. 1a is reproduced the emission spectrum of a tungsten bulb; in Fig. 1b a cell containing dilute potassium permanganate solution has been placed in the optical path. These spectra were photographed from a P-11 phosphor tube with $\frac{1}{10}$-second exposure time on Eastman Super XX film. A movie camera will be used to study spectral sequences in rapid chemical reactions. A complete report will appear elsewhere.

Work is in progress extending the technique to the near infra-red region using photo-conductive detectors and to the ultraviolet using quartz optics.

[1] E. B. Baker and C. D. Robb, Rev. Sci. Inst. **14**, 362 (1943). E. F. Daly and G. B. B. M. Sutherland, Proc. Phys. Soc. (London) **59**, 77 (1947). See also J. King, R. B. Temple, and H. W. Thompson, Nature **158**, 196 (1946).

[2] See R. C. Herman and S. Silverman, J. Opt. Soc. Am. **38**, 209 (1948) for a photographic method involving translation of the spectrographic plate.