In several respects this fraction shows the behavior of an aliphatic hydrocarbon.

MONARDELLA OIL.

BY EMERSON R. MILLER.

Several years ago while spending a summer in California the writer observed that a species of *Monardella* grew abundantly in several localities, particularly in the Yosemite and in the Lake Tahoe region.

According to the descriptions given in Hall's "A Yosemite Flora" the species in question is probably *Monardella lanceolata* Gray, commonly known as Western Pennyroyal. The plant is of special interest on account of its odor which suggests the presence of pulegone.

A small quantity of this plant was collected and, in the air-dried condition, was steam distilled at Auburn, Aabama. The yield of oil was practically one per cent.

The physical constants of the oil were as follows:

$d^{25°}_{15°}$, 0.9392; $n_{D18°}$, 1.4908; α_D, +17.4°

For identification of pulegone a semicarbazone was prepared from the oil, m. p. 167°. The oil also yielded an oxime (isopulegone oxime) m. p. 118–120.°

A comparison of the physical constants of the oil with those of pulegone would seem to show that the oil consists principally of pulegone.

	Oil of Monardella.		Pulegone.
$d^{25°}_{15°}$	0.9392	$d_{15°}$	0.939
$n_{D18°}$	1.4908	$n_{D20°}$	1.488
α_D	+17.4°	α_D	+20° to 23°

The quantity of oil obtained was not sufficient for a further investigation.

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USE OF THE MONESS AND GIESY VISCOSIMETER TO CHECK THE SAYBOLT UNIVERSAL VISCOSIMETER.

BY W. E. HONSINGER.

We desired to check the results obtained with the Saybolt Universal Viscosimeter at 100° F. on liquid petrolatum by using the instrument designed by Moness and Giesy and described in THIS JOURNAL. (1)

The viscosimeter was made and set up as described in that article. The rate of flow of a 37% by weight alcohol-water mixture of known viscosity (2) was measured with results ranging between 73 and 74 seconds. The radius of the capillary was found by making the proper substitutions in Bingham's equation (3) and solving for R. This result was checked by weighing the mercury thread and calculating the radius from this weight, the sp. gr. of mercury and the length of the capillary tube.

Three samples of liquid petrolatum from different lots were taken and their viscosities determined by the method of Moness and Giesy at 100° F. These results were then compared with those obtained by the Saybolt Viscosimeter at the same temperature. See the accompanying table for results. The viscosities by the Moness and Giesy method were calculated using Bingham's equation and the Saybolt seconds corresponding to the absolute units were found in the U. S. P. X, p. 468.

	Moness and Giesy Viscosimeter.				Saybolt Viscosimeter.
	Time.	Poises.	Poises ÷ density.	Saybolt seconds.	Saybolt seconds.
1	566	0.524	0.596	272	276
2	576	0.535	0.607	277	277
3	652	0.539	0.611	278	277

Under 1, 2 and 3 each time of flow was checked several times and the average taken. The maximum variation observed was 4 seconds but usually the results checked within one or two seconds.

It would appear that the Moness and Giesy instrument is preferable to the Saybolt Viscosimeter because the liquid is under a constant pressure throughout the run due to a constant hydrostatic head and because it employs a capillary to which the laws of flow of liquids are applicable, making it possible to obtain absolute viscosity measurements. Another consideration is that, in the case of liquid petrolatum at 100° F., the oil does not flow out in a continuous stream but in separate drops toward the end of the run in the Saybolt instrument. This drawback is eliminated in the Moness and Giesy apparatus. The close agreement, however, of the results obtained by the Saybolt instrument and that of Moness and Giesy on liquid petrolatum shows that for this liquid the Saybolt results are correct.

REFERENCES.

(1) Jan. 1926, p. 39, Jour. A. Ph. A., 15, 39 (1926).
(2) "Fluidity and Plasticity," by Bingham, p. 341, Table IV (1922).
(3) "Fluidity and Plasticity," by Bingham, p. 18 (1922).

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THE LIVING BELLADONNA.*

BY FRED B. KILMER.

The real story of a plant lies in the living structure. In every part of every cell there is graven the history of its being, the story of its inheritance, its purpose and its destiny. If we could interpret that which is recorded in the plant itself, we would have a greater knowledge than has ever been conceived or written down.

The herbalists of old, and the botanists who came after them, gained their real knowledge through their study of plants growing in the soil. In former centuries pharmacists knew drug plants from daily contact in their own gardens. Students in pharmacognosy must now be content to study plants either from a picture, a distorted specimen, or a market fragment. Our modern way is possibly the better one, but the older method had its attractiveness.

There is no more delightful course for the study of a drug plant than to place its seeds in the soil and note its development and growth until the seeds fall again.

* Scientific Section, A. Ph. A., Philadelphia meeting, 1926.