ELLAGIC ACID FROM EUPHORBIA PETROPHILA AND E. IBERICA

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From ethanolic extracts of the flowers of E. petrophila C. A. M. and E. iberica previously treated with chloroform we have isolated a substance $C_{14}H_6O_8$ (from pyridine), with mp 360° C.

The substance gives a yellow coloration with solutions of alkali and a green one with a solution of ferric chloride, but does not give the cyanidin test for flavonoids (Mg + HCl).

The homogeneity of the substance was checked by paper chromatography in 60% aqueous formamide buffered to pH 3 with formic acid [1]; R_f 0.58.

The UV spectrum has two maxima, at 366 and 255 mμ. A bathochromic shift in the long-wave band by 17 mμ on the addition of sodium acetate and boric acid shows the presence of a free ortho-dihydroxy grouping. The IR spectrum exhibits the following bands, cm^{-1}: 3260, 3250 (—OH), 1720 (> C=O), 1615 (> C=C <).

The reduction of the substance by zinc amalgam (Clemmensen's method [2]) gave fluorene. Acetylation of the substance with acetic anhydride in pyridine [3] formed a tetraacetate with mp 342–343° C, and alkaline fusion yielded 2, 2', 3, 3'4, 4'-hexahydroxybiphenyl with mp 71° C. The results of the color reactions, the chromatographic behavior of the substances on paper, the melting point, the elementary analysis, and the physicochemical investigations have confirmed the identity of the substance as ellagic acid.

REFERENCES

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