

DRAGENDORFF-POSITIVE LIGNANS FROM BUDDLEJA DAVIDII

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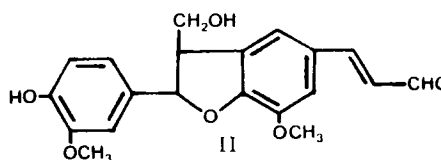
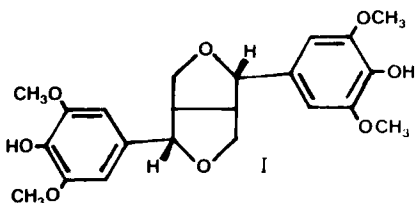
Buddleja species are used medicinally in many parts of the world particularly in China and Mexico where they have been used as diuretics and for the treatment of skin conditions. In Great Britain several species of Buddleja have been introduced as garden ornamentals and B. davidii, originally from China, has become naturalised.

Little work has been done to link the pharmacological properties with the chemical constituents of Buddleja. Chaslot and Paris (1955) isolated iridoid glycosides from Buddleja species and flavonoids have also been isolated (Bate-Smith 1962). Although alkaloids have been detected during screening programmes none have been isolated and characterised although a crude alkaloidal extract from a Mexican species has been shown to have diuretic, sedative and analgesic properties (Martinez 1959).

Column Chromatography fractions from a methanolic extract of B. davidii stem gave a Dragendorff-positive reaction on spraying. Subsequent isolation by preparative T-L.C. and characterisation of the individual components of the extract showed that they were in fact furofuran and benzofuran lignans such as syringaresinol I and dihydrodehydroconiferaldehyde II respectively although they exhibited some chromogenic and spectral similarities with Loganiaceae indole alkaloids (Table 1).

Table 1. Chromogenic and spectral data of Buddleja lignans

	<u>Furofurans</u>	<u>Benzofurans</u>
<u>Spray</u> Ceric sulphate	Brown	Yellow-brown
Ferricchloride/perchloric acid	Green-brown	Green-brown
Anisaldehyde/sulphuric acid	Red	Blue
<u>UV maxima</u>	238,272 nm	230,288,330 nm
<u>MS major peaks</u>	418(M <sup>+</sup> ),181,167,	356(M <sup>+</sup> ),338,167,137



There is increasing interest in lignans because of their occurrence in anticancer and adaptogenic drugs.

This is the first time that lignans have been isolated from Loganiaceae. In the light of the Dragendorff-positive properties of these lignans the reports of screening procedures concerning the presence of alkaloids in Buddleja must be questioned.

M. Chaslot, R. Paris (1955) Ann. Pharm.Franc. 13: 648-657

E.C. Bate-Smith (1962) J. Linn. Soc. London (Botany) 58: 95-173

Martinez M. (1959) Plantas Medicinales de Mexico Andreas Botas Madrid.

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