

Phenolics from *Cassia biflora* and their Reactions with Ferric chloride

HEMLATA and S.B. KALIDHAR

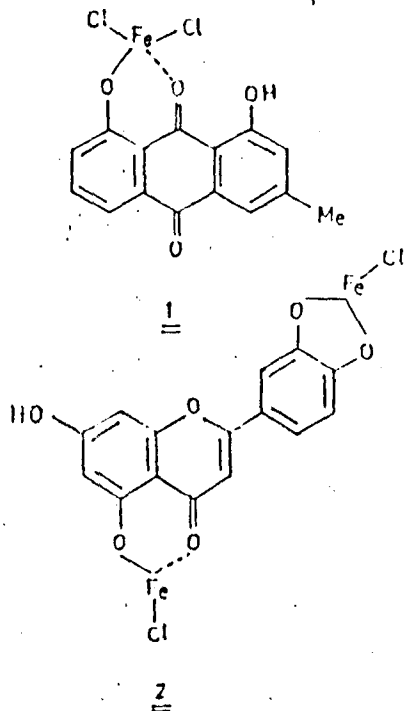
Dept. of Chemistry and Biochemistry, Haryana Agricultural University, Hisar 125 004.

Received 26 April 1995

Cassia biflora has been shown to contain chrysophanol, physcion and luteolin. It has been observed that anthraquinones lacking vicinal hydroxyls do not respond to colour reaction with alcoholic Ferric chloride.

CASSIA species. (Leguminosae) are known¹ for mucilaginous and cathartic properties. As there have been no reports on the phytochemical examination of the flowers of *Cassia biflora*, we have taken up this study.

Flowers of *C. biflora* (500 gms) were air dried. The material was extracted with hot MeOH. The extract was subjected to column chromatography. Elutions with benzene-petroleum ether (1:3), benzene-petroleum ether (1:1) and ethyl acetate-benzene (1:3) afforded chrysophanol (6 mg), physcion (6 mg) and luteolin (20 mg). These characterizations are based upon spectral data and direct comparisons.



As chrysophanol², physcion² and alatonal³ do not respond to colour reaction with alcoholic FeCl₃, it appears that anthraquinones lacking vicinal hydroxyls do not respond to this reaction. This behaviour is in contrast to those of flavones. This will be evident from the structures drawn here. Chrysophanol does not form the expected complex 1 and luteolin forms the complex 2. It is pertinent to state here that 6-O-methylalaternin² and alquinone⁴ which are anthraquinones having vicinal hydroxyls, respond to expected colour reaction with alcoholic ferric chloride. There is no mention for this colour reaction in anthraquinones earlier^{5,6}. This may prove to be useful in structural studies in anthraquinones⁷.

We wish to thank Mr. S.R. Dubey, Landscape, HAU for supplying us the plant material.

REFERENCES

1. Collett, H. in *Flora Simlensis*, Bishan Singh and Mahendra Pal Singh, Dehradun, 1971, 100 and 147.
2. Kalidhar, S.B. and Sharma, P., *J. Indian Chem. Soc.*, 1985, 62, 411.
3. Hemalata and Kalidhar, S.B., *Indian J. Chem.*, 1994, 33B, 92.
4. Yadav, S.K. and Kalidhar, S.B., *Planta Med.*, 1994, 60, 601.
5. Kalidhar, S.B., *Phytochemistry.*, 1989, 28, 2455.
6. Kalidhar, S.B., *Phytochemistry.*, 1989, 28, 3459.
7. Thomson, R.H. in *Naturally Occurring Quinones.*, Academic Press, London, 1971, 57.