A245 A systematic review of herb-drug interactions as a basis for an early warning system

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In contrast to drug-drug interactions which are at present consistently monitored and evaluated, relatively little is known about the potential interactions between drugs and herbal medicines. As a first step in the development of an early warning system which can provide clinicians with the necessary information to optimize their choice of prescription and to reduce the risk of interaction, we systematically reviewed the literature for such herb-drug interactions. For this purpose, electronic databases (PreMedline on Silver Platter, International Pharmaceutical Abstracts, Pubmed) as well as handbooks on herbal drugs were searched. In total, 2218 statements of herb-drug interactions were gathered, relating to 242 plant species. On the basis of the nature of the reports interactions were classified into four groups: 1) clinical trials and/or case reports, 2) *in vitro* and/or *in vivo* research, 3) claimed modes of action and/or chemical constituents, and 4) statements in which no background information was given. Interference with the cytochrome P450 enzyme system was marked in all groups. Clinical trials and/or case reports amounted to 96 statements (4% of total), relating to 21 plant species. The main pharmacotherapeutic classes of the synthetic drugs involved in the interaction related to the circulatory system, sleep and nervous disorders, blood (including anemia, bleeding and clotting disorders, lipid concentration), and hormones and metabolism (including corticosteroids, diabetes, thyroid disorders). These classes composed 24, 18, 15 and 12% of total, respectively. Interactions with drugs used in neurological disorders, drugs used in digestive disorders and analgetics/antirheumatics each amounted to 5% of total.

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A246 Constituents of the stigma of *Crocus sativus* L. and their tyrosinase inhibitory activity

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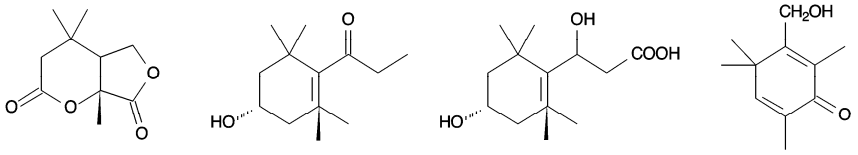
The dried stigma of *Crocus sativus* L. (1) (2.0 kg) was extracted with hot water. The extracts were concentrated to give dark brown syrup (1.1 kg). The crude extract was partitioned between water and chloroform. The chloroform soluble layer was chromatographed over silica gel and the water soluble layer was chromatographed on Diaion HP-20. Four new compounds: crocusatin-F (**1**), -G (**2**), -H (**3**), and –I (**4**), together with 21 known compounds, 2-formyl- 5-methoxyfuran (**5**), crocusatin-C (**6**), 4-hydroxy-3,5,5-trimethylcyclohex-2-enone (**7**), crocusatin-B (**8**), picrocrocin (**9**), 4-hydroxy-2,6,6-trimethyl-3-oxo-cyclohexa-1,4-dienecarbaldehyde (**10**), 2-hydroxy-3,5,5-trimethylcyclohex-2-ene-1,4-dione (**11**), 4-hydroxymethyl-3,5,5-trimethylcyclohex-3-enol (**12**), 3-hydroxy-β-ionone (**13**), methylparaben (**14**), 5-methyluracil (**15**), uracil (**16**), adenosine (**17**), pyridin-3-yl-methanol (**18**), α-crocetin (**19**), crocetin monomethyl ester (**20**), crocetin mono(β-D-glucosyl) ester (**21**), crocin-3 (**22**), crocin-4 (**23**), crocin-2 (**24**), crocin-1 (**25**) were afforded and their structures were established by means of spectral methods (UV, IR, 1D and 2D NMR, and MS). The antityrosinase activity of the isolated compounds was measured *in vitro* using mushroom tyrosinase (2), and compound **25** showed stronger tyrosinase inhibitory activity (IC_{50}=140 µM) than kojic acid (IC_{50}=235 µM).



1 **2** **3** **4**

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