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CHEMICAL EXAMINATION OF THE SEEDS OF *SISYMBRIUM IRIO*, LINN.

Sisymbrium irio commonly known as Khaksi or Khubkalan belongs to the family Cruciferae. Its seeds are reported to be expectorant, stimulant and restorative. It is externally used as a stimulating poultice, and is used in asthma also.¹

So far the plant has been investigated only for fatty oils² and carotenes.³ In the present communication the isolation and characterisation of a flavonoid from the seeds are reported.

The alcoholic extract of the defatted seeds gave a pink colour with magnesium and hydrochloric acid.⁴ The concentrate was hydrolysed with 7% H₂SO₄. A semi-solid mass thus obtained on several crystallisations from methanol melted at 304–305°. Chromatography using Whatman filter-paper No. 1 and BuOH : AcOH : H₂O (60 : 10 : 20) as solvent showed a single spot in U.V. light and ammonia vapour. Mixed m.p. with an authentic sample of isorhamnetin was undepressed. It gave an acetate m.p. and mixed m.p. 198–201°. Its identity as isorhamnetin was confirmed by U.V. spectra and co-chromatography.

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ANALYSIS OF SYNTHETIC MIXTURES OF IRON AND MANGANESE

VERY few methods are available for the extraction of manganese. In this laboratory the distribution of various metals in the two-phase system sodium formate-pyridine¹ is being studied. The extraction of manganese has been studied in detail and is applied to the separation of the synthetic mixtures of manganese and iron. The results are presented in this communication.

The distribution of manganese in the sodium formate-pyridine system is governed by the Nernst's law and maximum extraction of manganese into pyridine is obtained under the following conditions :

Volume of Pyridine = 5 ml.
Volume of Formate = 5 ml.
(3M)

pH = 6.0–6.4

and an almost complete extraction of manganese is attained by a four-stage Batch extraction process.

Preliminary experiments showed that ferric iron is completely retained in the formate layer under the conditions described above while manganese is extracted into pyridine. Therefore experiments are carried out taking synthetic mixtures containing different concentrations of manganese and iron in 5 ml. 3M sodium formate. The whole of manganese is extracted by adding additional aliquots of pyridine and the total manganese is determined polarographically² while the iron in the formate layer is also determined polarographically.³ The results of a typical set of experiments are given in Table I.

TABLE I

Amount added (mg.)		Amount found (mg.)	
Manganese	Ferric iron	Manganese	Ferric iron
5.50	6.05	5.45	6.00
4.40	4.84	4.40	4.80
2.75	2.42	2.75	2.40

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