Table I gives the activity coefficients of sodium chloride in three mixed solutions of total molality 1, 3, and 5, calculated by means of Equation (15) and also those of potassium chloride using Equation (16). For comparison, values calculated earlier[4] using the McKay-Perring method[1] are included. In most cases, the comparison is satisfactory, the average difference between the values of log γ calculated in these two ways being 0.0007; this corresponds to a difference of 0.2% in the activity coefficient. The calculations at $\underline{m} = 5$ involve an extrapolation of the two-component KCl data over a short range, and in some cases, the tabulated data refer to supersaturated solutions. Scatchard[6] has found greater differences in the activity coefficients calculated by the McKay-Perring and the Scatchard methods for mixtures of 80% p-toluene sulfonic acid and 20% 2,5-dimethylbenzenesulfonic acid and their sodium salts.

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List of Symbols

$\underline{w}_o$	molecular weight of the solvent divided by one thousand
ϕ	osmotic coefficient of a solution containing two solutes
ν	number of ions per molecule of solute
$\underline{m}_A$, $\underline{m}_B$	molality of solutes in a mixed solution
$\underline{a}_w$	water activity
ϕ°_A, ϕ°_B,	osmotic coefficients of solutions containing solute A only or solute B only, respectively
$\underline{m} = \underline{m}_A + \underline{m}_B$	total molality of mixed solution
$\underline{Y}_A = \underline{m}_A/\underline{m}$, $\underline{Y}_B = \underline{m}_B/\underline{m}$	
γ_A, γ_B	activity coefficients of solute A and solute B, respectively, in the mixed solution
γ°_A, γ°_B	activity coefficient of solute A and solute B, respectively, in its own solution

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PRESENCE OF PSORALEN IN THE ROOTS, LEAVES, AND FLOWERS OF *Psoralea Subaculis* (LEGUMINOSAE)

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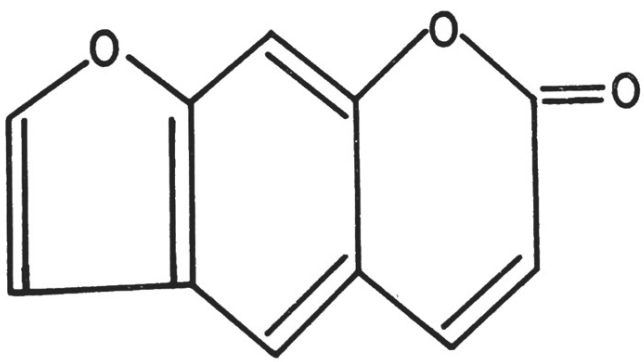
Abstract

Psoralen, a known inhibitor of germination and growth, has been identified from ethanolic extracts of the roots, leaves, and flowers of *Psoralea subacaulis*. This identification is based on comparison with an authentic sample by means of paper chromatography and thin-layer chromatography.

Introduction

In a earlier paper, Baskin et al (in press) reported on the isolation and identification of psoralen (Fig. 1) from the seeds of *Psoralea subacaulis* T. & G. They concluded that psoralen was probably the compound responsible for the inhibition of germination and root growth observed in this species, since it is known to be a powerful inhibitor of these processes (Rodighiero 1954, Fowlks 1959). Since, in those plants producing them, germination inhibitors may also occur in parts of the plant other than the seeds (Evenari 1949), it was decided to examine various tissues of *P. subacaulis* for the presence of psoralen.



PSORALEN

Fig. 1. Structural formula of psoralen.

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