SYNTHESIS OF EUCOMIN AND (±)EUCOMOL L.Farkas. A.Gottsegen and M.Nogradi

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From <u>Eucomis bicolor</u> two new compounds, eucomin (3) and (-)eucomol (7) have been isolated recently by Böhler and Tamm¹, both belonging to a new class of natural products with an unusual 3-benzyl-chromanone skeleton. Now the synthesis of eucomin and that of racemic eucomol is presented.

5,7-Dihydroxy-chroman-4-one $(\underline{1})^2$ was condensed in boiling acetic anhydride to yield directly 5,7-diacetoxy-3(4-methoxybenzal)chroman-4-one, eucomin diacetate $(\underline{2})$, m.p. 154-56°. Deacylation of $\underline{2}$ afforded eucomin $(\underline{3})$ as yellow needles (MeOH), m.p. 200-201°. (Lit. 1 m.p. 194-96°); on admixture with natural eucomin no m.p. depression was observed.

- 1. P.Böhler and Ch. Tamm, Tetrahedron Letters, No 36. p.3479(1967).
- 2. V.C.Farmer, N.F.Hayes and R.H.Thomson, J.Chem.Soc. 1956, 3600.

Benzylation of eucomin with benzyl chloride in IMF/ K_2CO_3 yielded the dibenzyl-derivative (5), m.p. $152-54^{\circ}$, that was transformed by alkaline H_2O_2 in methanol – acetone to the epoxyde $\underline{6}$, m.p. $162-63^{\circ}$. On hydrogenation with Pd/carbon catalyst $\underline{6}$ was smoothly converted to racemic 3,5,7-trihydroxy-3-(4-methoxybenzyl)-chroman-4-one, ($\frac{+}{2}$)eucomol ($\frac{7}{2}$), oblique prisms of m.p. $134-135^{\circ}$ (benzene-ethanol). Racemic $\frac{7}{2}$ and (-) eucomol gave superimposable IR-spectra in CHCl $_3$ solution, solid state spectra however differed considerably.

Correct elementary analyses were obtained for each compound. UV, IR- and NMR spectra were in complete conformity with the structures assigned, and with data published.

Details of this investigation will be soon published in Tetrahedron.

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