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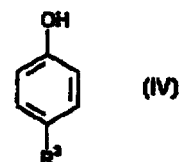
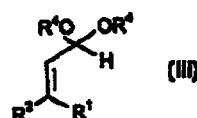
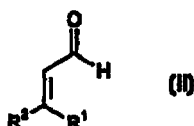
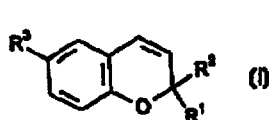
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(21) International Application Number: PCT/EP97/04569 (22) International Filing Date: 13 August 1997 (13.08.97) (30) Priority Data: 1984/96 13 August 1996 (13.08.96) CH (71) Applicant (for all designated States except US): SMITHKLINE BEECHAM PLC [GB/GB]; New Horizons Court, Brentford, Middlesex TW8 9EP (GB). (71) Applicant (for CH only): LONZA AG [CH/CH]; Münchensteinerstrasse 38, CH-4002 Basel (CH). (72) Inventors; and (75) Inventors/Applicants (for US only): BOSSARD, Pierre [CH/CH]; Lonza AG, Münchensteinerstrasse 38, CH-4002 Basel (CH). FINNEY, Frances [GB/GB]; SmithKline Beecham Pharmaceuticals, New Frontiers Science Park South, Third Avenue, Harlow, Essex CM19 5AW (GB). GOTTSPONER, Michael [CH/CH]; Lonza AG, Münchensteinerstrasse 38, CH-4002 Basel (CH). (74) Agent: RUSSELL, Brian; SmithKline Beecham plc, Corporate Intellectual Property, Two New Horizons Court, Brentford, Middlesex TW8 9EP (GB).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: **PROCESS FOR THE PRODUCTION OF 2H-1-BENZOPYRANS**



(57) Abstract

A process for the production of 2H-1-benzopyrans with general formula (I) where R^1 is hydrogen, a (C₁-C₄) alkyl group, R^2 is hydrogen, a (C₁-C₆) alkyl group and R^3 is hydrogen, a (C₁-C₄) alkyl group, a (C₁-C₄) haloalkyl group, a (C₂-C₄) alkenyl group, a (C₁-C₄) alkoxycarbonyl group, a (C₁-C₄) alkoxymethyl group, a (C₁-C₄) alkanoyl group, a (C₁-C₄) alkoxy group, a (C₁-C₄) alkylsulphonyl group, halogen, amino, alkylamino, dialkylamino, nitril, nitro or hydroxy, is characterised in that in a first stage an aliphatic aldehyde with general formula (II) where R^1 and R^2 have the above-mentioned meaning, is converted with an aliphatic alcohol with the formula R^4OH or HOR^4OH , where R^4 is a (C₁-C₄) alkyl group or a (C₂-C₄) alkylidyl group, in the presence of a dehydrating compound with the formula $HC(OR^5)_3$, where R^5 is a (C₁-C₄) alkyl group, and an aluminium oxide/silicium oxide catalyst into an aliphatic acetal with general formula (III) where R^1 and R^2 have the above-mentioned meaning and R^4 as stated above is a (C₁-C₄) alkyl group or the two R^4 together are a cyclical (C₂-C₄) alkylidyl group, and this is then condensed in a second stage with a phenol with general formula (IV) where R^3 has the above-mentioned meaning, in the presence of a base in an inert organic solvent, to the end product with general formula (I).