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(21) International Application Number: PCT/US97/08907 (22) International Filing Date: 27 May 1997 (27.05.97) (30) Priority Data: 08/653,036 24 May 1996 (24.05.96) US (71) Applicant (for all designated States except US): PHYTON, INC. [US/US]; 125 Langmuir Lab, 95 Brown Road, Ithaca, NY 14850-1257 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): BRINGI, Venkataraman [IN/US]; Apartment #3, 15 Triphammes Terrace, Ithaca, NY 14850 (US). KAKRADE, Prakash, G. [US/US]; 45 Lambert Circle, Marlboro, MA 01752 (US). PRINCE, Christopher, L. [CA/US]; D14, 615 Lansing Station Road, Lansing, NY 14882 (US). ROACH, Braden, L. [US/US]; 9205 State Route 96, Interlaken, NY 14847 (US). (74) Agents: POSORSKE, Laurence, H. et al.; Baker & Botts, L.L.P., The Warner, 1299 Pennsylvania Avenue, N.W., Washington, DC 20004 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG), 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 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.
(54) Title: ENHANCED PRODUCTION OF TAXANES BY CELL CULTURES OF TAXUS SPECIES (57) Abstract This invention provides methods whereby taxol, baccatin III, and other taxol-like compounds, or taxanes, can be produced in very high yield from all known <i>Taxus</i> species, e.g., <i>brevifolia</i>, <i>canadensis</i>, <i>cuspidata</i>, <i>baccata</i>, <i>globosa</i>, <i>floridana</i>, <i>wallichiana</i>, <i>media</i> and <i>chinensis</i>. Particular modifications of culture conditions (i.e., media composition and operating modes) have been discovered to enhance the yield of various taxanes from cell culture of all species of <i>Taxus</i>. Particularly preferred enhancement agents include silver ion or complex, jasmonic acid (especially the methyl ester), auxin-related growth regulators, and inhibitors of the phenylpropanoid pathway, such as 3,4-methylenedioxy-6-nitrocinnamic acid. These enhancement agents may be used alone or in combination with one another or other yield-enhancing conditions. While the yield of taxanes from plant cell culture of <i>T. chinensis</i> is particularly enhanced by use of one or more of these conditions, yield of taxanes for all <i>Taxus</i> species has been found to benefit from use of these conditions.		