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Example of steroidal alkaloids

Isolation and identification of pingpeimine B. 2013;89:143–8.Article CAS PubMed Google Scholar Iqbal N, Adhikari A, Kanwal N, Abdalla OM, Mesaik MA, Musharraf SG. 2011;77:1725–9.Article CAS PubMed Google Scholar Kalauni SK, Choudhary MI, Shaheen F, Manandhar MD. 2009;29:414–21.Article CAS PubMed Google Scholar Gaffield W. Structural determination of ningpeisinoside isolated from Fritillaria ningguoensis S.C. Chen et S.F. Yin. 1994;29:200–3.CAS Google Scholar Ori K, Mimaki Y, Sashida Y, Nikaido T, Ohmoto T. New cytotoxic steroidal alkaloids from the Philippine Sponge Corticium niger. 1971;172:995–1002.Article CAS PubMed Google Scholar Dumbacher JP, Beehler BM, Spande TF, Garraffo HM, Daly JW. Isolation and structure elucidation of ritterazines B and C, highly cytotoxic dimeric steroidal alkaloids, from the tunicate Ritterella tokioka. 2007;55:1397–401.Article CAS Google Scholar Sun Y, Yan YX, Chen JC, Lu L, Zhang XM, Yan L, Qiu MH. 2007;63:4074–9.Article CAS Google Scholar Aoki S, Watanabe Y, Tanabe D, Setiawan A, Arai M, Kobayashi M. 1989;30:4981–2.Article CAS Google Scholar Kitamura Y, Nishizawa M, Kaneko K, Shiro M. 2015;98:85–91.Article CAS Google Scholar Cong Y, Jia W, Chen J, Song S, Wang JH, Yang YH. 2002;59:79–84.Article CAS Google Scholar Zhao W, Tezuka Y, Kikuchi T, Chen J, Guo Y. Two new cytotoxic steroidal alkaloids from Sarcococca hookeriana. 4-dehydroxyepisarcovagine A, a new steroidal alkaloid from Sarcococca pruniformis Lindl. Antineoplastic agents 285. Induction of apoptosis in HepG2 cells by solanine and Bcl-2 protein. 1996;43:907–11.Article CAS Google Scholar Chou CX, Tanaka HK, Christopher HK, Higa T, Tan RX. 1969;72:155–61.Article CAS Google Scholar Kurosu M, Kishi Y. Nat Prod Commun. 1992;57:429–31.Article CAS Google Scholar Pettit GR, Xu JP, Chapuis JC, Melody N. 2011;72:668–73.Article CAS PubMed Google Scholar Maxwell A, Seepersaud M, Pingal R, Mootoo DR, Reynolds WF. Cytotoxic triterpenoid alkaloids from Buxus microphylla. BMC Complement Altern Med. 1996;44:2015–9.Article CAS Google Scholar Funayama S, Noshita T, Shinoda K, Haga N, Nozoe S, Hayashi M, Komiyama K. 2004;18:205–9.Article CAS PubMed Google Scholar Li QH, Wu ZH. Isolation and identification of zhebeinone. Steroidal alkaloids isolated from Veratrum grandiflorum Loes. 1994;59:6164–6.Article CAS Google Scholar Fukuzawa S, Matsunaga S, Fusetani N. 1989;37:2920–8.Article CAS Google Scholar Jiang Y, Li P. Two new cytotoxic triterpenoid alkaloids from Buxus ...

Article CAS PubMed Google Scholar Kurosu M, Kishi Y. Nat Prod Commun. ... Pettit GR, Xu JP, Chapuis JC, Melody N. ... Google Scholar Zhang JX, Lao AN, Xu RS. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation. 1960;633:127–56.Article Google Scholar Schöpf C, Braun W. The structure of cyclobuxine. 1992;267:979–83.Article CAS Google Scholar Yu S, Xiao P, Xun N. 2010;10:893–902.Article CAS PubMed PubMed Central Google Scholar Watkins DN, Berman DM, Burkholder SG, Wang B, Beachy PA, Baylin SB. 1997;44:537–43.Article CAS Google Scholar Wanyonyi AW, Chhabra SC, Mkoji G, Eilert U, Njue WM. 2007;45:2155–64.Article CAS PubMed Google Scholar Choi SH, Ahn J-B, Kozukue N, Kim H-J, Nishitani Y, Zhang L, Mizuno M, Levin CE, Friedman M. Molecules. 1998;61:955–8.Article CAS Google Scholar Kamano Y, Inoue M, Dufresne C, Boyd MR, Herald CL, Schmidt JM, Doubek DL, Christie ND. f. 153–279. Two steroidal alkaloids from a marine sponge, Plakina sp. Bioactive steroidal alkaloids from the fruits of Solanum nigrum. et Zucc. 191–213. Medicinal Plants | Alkaloids Many plants in the Solanaceae accumulate steroidal alkaloids based on a C27 cholestane skeleton, e.g. solasodine and tomatidine (Figure 126). New steroidal alkaloids from Solanum hypomalacophyllum. 2001;64:1474–6.Article CAS Google Scholar Marino S, Iorizzi M, Zollo F, Roussakis C, Debitus C. 1994;72:2260–7.Article CAS Google Scholar Fukuzawa S, Matsunaga S, Fusetani N. 11-Hydroxyepipachysamine-E, a new steroidal alkaloid from Sarcococca brevifolia. purpurea G.D.Yu et P.Li. Acta Pharm Sin. Steroidal alkaloids and stilbenoids from Veratrum taliense. 1998;48:519–28.Article CAS Google Scholar Voticky Z, Bauerová O, Paulík V, Dolejš L. Pugiedinone, a novel 5α-cevanine alkaloid from the bulbs of Fritillaria puqiensis, an antitussive traditional Chinese medicine. Can J Biochem. New pregnane-type steroidal alkaloids from Sarcococca saligna and their cholinesterase inhibitory activity. 1985;20:372–6.CAS Google Scholar Fukuzawa S, Matsunaga S, Fusetani N. 147. antidysenterica[27]1512α-Hydroxynorcona-N(18),1,4-trienin-3-oneR1 = R2 = α-OHFuntumia africana[33]1611α,12α-Dihydroxynorcona-N(18),1,4-trienin-3-oneR1 = R2 = α-OHF. 1995;31:79–82.Article CAS Google Scholar Atta-ur-Rahman, Anjum S, Farooq A, Khan MR, Parveen Z, Choudhary MI. 2013;85:130–6.Article CAS PubMed Google Scholar Zhang JX, Lao AN, Xu RS. 1980;23:95–100. Article CAS Google Scholar Attoumbré J, Giordanengo P, Baltora-Rosset S. 2002;4:313–6.Article CAS PubMed Google Scholar Yang J. J Agric Food Chem. 2011;8:2226–37.Article CAS PubMed Google Scholar Kaneko K, Nakaoka U, Tanaka M, Yoshida N, Mitsuhashi H. Google Scholar Kupchan SM, By AW. Structure–activity relationships of α-, β1-, γ-, and δ-tomatine and tomatidine against human breast (MDA-MB-231), gastric (KATO-III), and prostate (PC3) cancer cells. 1983;18:868–70.CAS Google Scholar Wu JZ, Pan XP, Lou MA, Wang XS, Ling DK. This compound is a broadspectrum agent effective at very low concentrations against Gram-positive and Gram-negative bacteria, and also fungi, protozoa, and viruses including HIV. 2016;36:119–43.Article PubMed CAS Google Scholar Dey P, Kundu A, Chakraborty HJ, Kar B, Choi WS, Lee BM, Bhakta T, Atanasov AG, Kim HS. Bioactive steroidal alkaloid glycosides from Solanum aculeastrum. 2016;6:25806.Article CAS PubMed PubMed Central Google Scholar Tokuyama T, Daly J, Witkop B, Karle IL, Karle J. The cephalostatins. 2010;5:33–4.CAS PubMed Google Scholar Borbone N, De Marino S, Iorizzi M, Zollo F, Debitus C, Esposito G, Iuvone T. Secondary metabolite profile in induced tetraploids of wild Solanum commersonii Dun. 2013;96:457–64.Article CAS Google Scholar Liang GY, Sun NJ. Three new alkaloids from bark of Holarrhena antidysenterica. (−)-Veraniqine, a new steroidal alkaloid from Veratrum nigrum L. Commersonine, a new glycoalkaloid from two Solanum species. Die alkaloide von Solanum dulcamara L. 305–426. 1995;58:625–8.Article CAS Google Scholar Maxwell A, Pingal R, Reynolds WF, McLean S. pubescens[41]36Irehline H. The bark of H. antidysenterica[29]5IsoconessimineR1 = R5 = CH3; R2 = R3 = R4 = HFuntumia elastica[30]6HolarrhetineR1 = R2 = R5 = CH3; R3 = β-(CH3)C = CHCH2COC; R4 = HF. 1994;4:1507–12.Article CAS Google Scholar Pettit GR, Kamano Y, Dufresne C, Inoue M, Christie N, Schmidt JM, Doubek DL. var. 2004;92:477–84.Article CAS PubMed Google Scholar Choudhary MI, Devkota KP, Nawaz SA, Ranjit R, Atta ur R. 1990;29:969–72.Article CAS Google Scholar Kumar A, Ali M. Phytother Res. Other Veratrum alkaloids, especially those found in V. Antineoplastic agents. Steroidal alkaloids from Holarrhena antidysenterica as acetylcholinesterase inhibitors and the investigation for structure–activity relationships. 1999;1:239–44.Article Google Scholar Atta-ur-Rahman S, Parveen S, Khalid A, Farooq A, Choudhary MI. 2019;137:104268.Article CAS PubMed Google Scholar Cuervo AC, Blunden G, Patel AV. Teratogen-mediated inhibition of target tissue response to Shh signaling. 1993;28:192–6.CAS Google Scholar Wu JZ, Tang M, Wang R. A new horizon for the steroidal alkaloid cyclovirobuxine D (huangyangning) and analogues: anticancer activities and mechanism of action. ...

JW. Hypotensive constituents from the bark of Holarrhena pubescens (Holarrhena antidysenterica). Solasodine glycosides of Solanum unguiculatum (A.) Rich. Isolation, characterization and antiplasmodial activity of steroidal alkaloids from Funtumia elastica (Preuss) Stapf. 1995;39:1475–7.Article CAS PubMed Google Scholar Murakami K, Nohara T, Nomimatsu T. Total synthesis of solamargine. Steroidal alkaloids from the bulbs of Fritillaria pallidiflora Schrenk and their anti-inflammatory activity. New isosteroidal alkaloids with tracheal relaxant effect from the bulbs of Fritillaria pallidiflora Schrenk. Two new steroidal alkaloids from the bulbs of Fritillaria thunbergii. 2016;6:225–31.Article CAS PubMed PubMed Central Google Scholar Xie TZ, Luo L, Zhao YL, Li H, Xiang ML, Qin XJ, He YJ, Zhu YY, Dai Z, Wang ZJ. Ten more ritterazines, cytotoxic steroidal alkaloids from the tunicate Ritterella tokioka. Eur J Org Chem. Bioactive steroidal alkaloids from Buxus macowanii Oliv. 2010;58:5502–8.Article CAS PubMed Google Scholar Munafo JP Jr, Ramanathan A, Jimenez LS, Gianfagna TJ. 1977;16:1860–1.Article CAS Google Scholar Atta-ur-Rahman, Alam M, Nasir H, Dagne E, Yenesew A. Pharm World Sci. Constituents of Veratrum nigrum L. 1980;19:299–302.Article CAS Google Scholar Matsuo Y, Shinoda D, Nakamaru A, Mimaki Y. Solamargine induces apoptosis and sensitizes breast cancer cells to cisplatin. Pregnane-type steroidal alkaloids of Sarcococca saligna: a new class of cholinesterase inhibitors. Can J Chem. 1999;3:697–701.Article Google Scholar Sunassee SN, Ransom T, Henrich CJ, Beutler JA, Covell DG, McMahon JB, Gustafson KR. 2020;18:3965–95.Article CAS PubMed Google Scholar Aoki S, Watanabe Y, Sanagawa M, Setiawan A, Kotoku N, Kobayashi M. 2015;51:1134–7.Article CAS Google Scholar Li D, Zhao YL, Qin XJ, Liu L, Yang XW, Chen YY, Wang B, Wei X, Liu YP, Luo XD. 2000;54:951–7.Article Google Scholar Atta-ur-Rahman, Parveen S, Khalid A, Farooq A, Ayattollahi SAM, Choudhary MI. 214. 1980;28:1345–6.Article CAS Google Scholar Kitamura Y, Nishizawa M, Kaneko K, Shiro M, Hsu HY. 2006;54:237–9.Article CAS Google Scholar Lu Y, Luo J, Kong L. Arudonine, an allelopathic steroidal glycoalkaloid from the root bark of Solanum arundo Mattei. Cholinesterase inhibitory pregnane-type steroidal alkaloids from Sarcococca hookeriana. 1981;15:791–6.Article Google Scholar Chen Q, Zhu LH, Xu YF, Fan JZ. The structural elucidation of Fritillaria alkaloids from Fritillaria ebeiensis var. 2008;115:505–21.Article PubMed PubMed Central CAS Google Scholar Feldmann G, Dhara S, Fendrich V, Bedja D, Beaty R, Mullendore M, Karikari C, Alvarez H, Iacobuzio-Donahue C, Jimeno A. 2008;115:194–202.Article CAS PubMed Google Scholar Shou QY, Tan Q, Shen ZW. Antiinflammatory activity of Solanum trilobatum. Studies in natural products chemistry. Syntheses of the eastern halves of ritterazines B, F, G, and H, leading to reassignment of the 5, 5-spiroketal stereochemistry of ritterazines B and F. This hexacyclic system is extensively oxygenated, and a novel hemiketal linkage bridges C-9 with C-4. Neoveratraline A and B, two antifungal alkaloids with a novel carbon skeleton from Veratrum taliense. Synthetic approaches towards cortistatins: evolution and progress through its ages. 2011;21:2930–3.Article CAS PubMed Google Scholar Shiu L, Chang L, Liang C, Huang Y, Sheu H, Kuo K. Tetrahedron Lett. Heterocycles. Lobelianum (BERNH) Suessenguth. 1998;12:299–306.Article CAS Google Scholar Atta-ur-Rahman, Naz S, Noor-e-ain F, Ali RA, Choudhary MI, Sener B, Turkoz S. Effect of feeding solanidine, solasodine and tomatidine to non-pregnant and pregnant mice. 2018;145:1731–44.Article CAS Google Scholar Atta-ur-Rahman, Choudhary MI. Isolation and structure of the symmetrical disteroidal alkaloids cephalostatin 12 and cephalostatin 13. VI. These medicinal alkaloids, e.g. protoveratrine A and protoveratrine B (Figure 130), which are esters of protoverine, are characterized by fusion of two more six-membered rings on to the C-nor- D-homosteroid skeleton. Two new pregnane alkaloids from Pachysandra terminalis Sieb. Yakugaku Zasshi. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . Steroidal alkaloids from Sarcococca saligna. Cycloneosamandion, ein neues nebenalkaloid aus dem feuersalamander (Salamandra maculosa Laur) Liebigs. Isodihydrocyclomicrophylline A from Buxus sempervirens. Studieson new alkaloids of Fritillaria tortifolla X. Structures of three new steroidal alkaloid glycosides, solaverines I, II and III from Solanum toxicarium and S. 2001;15:151–5.Article CAS PubMed Google Scholar Atta-ur-Rahman, Feroz F, Naeem I, Zaheer-ul-Haq, Nawaz SA, Khan N, Khan MR, Choudhary MI. Cyclovirobuxine D ameliorates acute myocardial ischemia by KATP channel opening, nitric oxide release and anti-thrombosis. New antibacterial steroidal alkaloids from Sarcococca brevifolia. Bioorg Chem. New York: Elsevier; 2000. Acta Bot Sin. Batrachotoxin alkaloids from passerine birds: a second toxic bird genus (Ifrita kowaldi) from New Guinea. 1990;38:1090–2.Article CAS Google Scholar Qian ZZ, Nohara T. New steroidal alkaloids from the bulbs of Fritillaria puqiensis. 3β-Aminospirosolane steroidal alkaloids from Solanum triste. New York: Elsevier; 1992. Antitumor efficacy of the novel chemotherapeutic agent coramsine is potentiated by cotreatment with CpG-containing oligodeoxynucleotides. 1981;20:327–9.Article CAS Google Scholar Kitajima J, Komori T, Kawasaki T, Schulten H. Biorg Med Chem. 2019;244: 112137.Article CAS PubMed Google Scholar Irsch EM, Pachaly P, Breitmaie E, Sin KS. 1996;43:913–5.Article CAS Google Scholar Schreiber K. 2019;33:782–8.Article CAS PubMed Google Scholar Phi TD, Pham VC, Mai HT, Litaudon M, Guéritte F, Nguyen VH, Chau VM. Google Scholar Colmenares AP, Alarcón L, Rojas LB, Mitaine-Offer A-C, Pouységu L, Quideau S, Paululat T, Usubillaga A, Lacaille-Dubois M-A. 2007;67:2187–96.Article CAS PubMed PubMed Central Google Scholar Chen XL, Cheng QY, She MR, Wang Q, Huang XH, Cao LQ, Fu XH, Chen JS. 2000;14:293–8.Article CAS Google Scholar Atta-ur-Rahman, Zaheer-ul-Haq, Khalid A, Anjum S, Khan MR, Choudhary MI. 2021. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. 177–237. Holaphyllamine from Holarrhena floribunda (Apocynaceae) is obtained from pregnenolone by replacement of the 3-hydroxyl with an amino group (Figure 132). 1966;99:1439–42.Article CAS Google Scholar Habermehl G, Vogel G. 1997;45:1381–2.Article CAS Google Scholar Li W, Huang X, Qi C, Liu S, Kodama O, Utaka K. 1987;9:359–64.CAS Google Scholar Li QH, Wu ZH, Zhang LL, Pan JD. 2018;96:925–34. 2020;15:1–5. Helv Chim Acta. 1988;110:2006–7.Article CAS Google Scholar Pettit GR, Inoue M, Kamano Y, Dufresne C, Christie N, Niven ML, Herald DL. Therapeutic value of steroidal alkaloids in cancer: current trends and future perspectives. Two steroidal alkaloids from Fritillaria harelinii. digyna. 1997;45:861–4.Article CAS Google Scholar Atta-ur-Rahman, Feroz F, Zaheer-ul-Haq, Nawaz SA, Khan MR, Choudhary MI. Three steroidal alkaloids from Buxus hildebrandtii. Isolation and structure of the powerful cell growth inhibitor cephalostatin 1. Figure 126 A variant on the way the cholesterol sidechain is cyclized can be found in solanidine(Figure 126), which contains a condensed ring system with nitrogen at the bridgehead. Similarly, other Solanum alkaloids* such as solanidine with nitrogen in a condensed ring system might also be exploited. The structure of a new crystalline cevane alkaloid: its identity with persicanidine B and harepermine. 1994;1994:517–20. I: the structures of ebeienine, ebeiedine and ebeiedinone. Figure 127 Figure 128 Several plants in the Liliaceae, notably the genus Veratrum (Liliaceae/Melanthiaceae), contain a remarkable group of steroidal alkaloids in which a fundamental change to the basic steroid nucleus has taken place. Steroidal alkaloids from the bulbs of Fritillaria puqiensis. 1998;61:1078–81.Article CAS PubMed Google Scholar Tang J, Li HL, Shen YH, Jin HZ, Yan SK, Liu RH, Zhang WD. Since the production of medicinal steroids from steroidal saponins requires preliminary degradation to remove the ring systems containing the original cholesterol side-chain, it is immaterial whether these rings contain oxygen or nitrogen. Liebigs Ann Chem. The use of hedgehog antagonists in cancer therapy: a comparison of clinical outcomes and gene expression analyses. 1984;104:195–8.Article CAS Google Scholar Yoshida K, Yahara S, Saijo R, Murakami K, Tomimatsu T, Nohara T. pubescens[26]33IsoconkuressineR1 = R2 = HH. Two new steroidal alkaloids from Fritillaria ussuriensis. Minor alkaloids of Veratrum Lobelianum Bernh. Comparative metabolite profiling of Solanum tuberosum against six wild Solanum species with Colorado potato beetle resistance. 2004;20:804–6.CAS Google Scholar Li Y, Yili A, Li J, Muhamat A, Aisa HA. New steroidal alkaloids from the roots of Buxus papillosa. Steroidal alkaloids from Buxus bodinieri. 2017;53:926–8.Article CAS Google Scholar Samikov K, Shakirov R, Yunusov SY. Studies on the chemical constituents of Fritillaria thunbergii Miq. Cycloneosamandaridin, ein neues Nebenalkaloid aus Salamandra maculosa. pubescens[41] Medicinal Plants | Alkaloids Many plants in the Solanaceae accumulate steroidal alkaloids based on a C27 cholestane skeleton, e.g. solasodine and tomatidine (Figure 126). antidysenterica has long been used, especially in India, as a treatment for amoebic dysentery. Four new steroidal alkaloids from the roots of Sarcococca vagans. 24. Two steroidal alkaloids, hapepunine and anrakorinine, from the mature Fritillaria camtschatcensis. Farm Obz. Yunnan Zhiwu Yanjiu. New steroidal alkaloids from Buxus longifolia. Chem Res Chin Univ. Cyclopamine-induced synophthalmia in sheep: defining a critical window and toxicokinetic evaluation. pubescens[26]13N-FormylconessimineR1 = R2 = CH3; R3 = R4 = H; R5 = CHOH. Both the jervine and protoverine skeletons are readily rationalized through additional cyclization reactions involving a piperidine ring, probably formed by processes analogous to those seen with the Solanum alkaloids (Figure 127). 1965;98:3001–5.Article CAS Google Scholar Habermehl G. antidysenterica[32]34ConkuressineR1 = CH3; R2 = HH. Studies on chemical constituents of pingpeimu (Fritilaria ussuriensis Maxim). Chlorogenone and neochlorogenone from the unripe fruits of Solanum torvum. Nat Prod Rep. and their anti-TYLCV activity. Steroidal glycosides from Solanum dulcamara. 2002;50:1013–6.Article CAS Google Scholar Pi HF, Ruan HL, Zhang YH, Wu JZ. Google Scholar Atta-ur-Rahman, Choudhary MI. J Steroid Biochem Mol Biol. Studies on the total synthesis of batrachotoxin. Steroidal alkaloids from the leaves of Sarcococca coriacea of Nepalese origin. New steroidal alkaloids from Fritillaria ussuriensis maxim. 2015;14:203–8.Article CAS Google Scholar Zou ZM, Li LJ, Yang M, Yu SS, Cong PZ, Yu DQ. Alkaloide aus Veratrum patulum. Solanum steroidal glycoalkaloids: structural diversity, biological activities, and biosynthesis. In contrast to the oxygen analogues, these compounds all have the same stereochemistry at C-25 (methyl always equatorial), but C-22 isomers do exist, as solasodine and tomatidine exemplify. pubescens[26]12Mokluangin CR1 = R2 = R3 = R5 = H; R4 = OH. Antitumor activity of extracts and compounds from the rhizomes of Veratrum dahuricum. 1995;5:2027–32.Article CAS Google Scholar Pettit GR, Inoue M, Kamano Y, Herald DL, Arm C, Dufresne C, Christie ND, Schmidt JM, Doubek DL, Krupa TS. 1995;40:979–81.Article CAS PubMed Google Scholar Yun S, Chen JX, Lin Z, Jia S, Yan L, Qiu MH. antidysenterica[40]27PubescinineR1 = α-OAc; R2 = H; R3 = CH3; △17,20H. 1995;41:267–76.Article CAS Google Scholar Cheenpracha S, Boapun P, Limtharakul T, Laphookhieo S, Pyne SG. Acetylcholinesterase inhibiting triterpenoidal alkaloids from Buxus hyrcana. Prog Biophys Mol Biol. Isolation and identification of hupehenioside. New steroidal alkaloids from Sarcococca saligna. antidysenterica[37]29FuntudienineR1 = H; R2 = O; R3 = CH3H. Two new steroidal alkaloids from the rhizomes of Veratrum nigrum L. Steroid alkaloids of fresh bulbs of Fritillaria thunbergii mig. Triterpenoid alkaloids from Buxus microphylla. Steroidal alkaloids and an androstane derivative from the bark of Holarrhena pubescens. 2012;23:361–6.Article CAS Google Scholar Rowan DD, Macdonald PE, Skipp RA. 2012;75:1305–11.Article CAS PubMed Google Scholar Badmus JA, Ekpo OE, Hussein AA, Meyer M, Hiss DC. 2008;91:244–8.Article CAS Google Scholar Tanaka N, Suto S, Kobayashi J. Steroidal alkaloid glycosides from Solanum uporo. Therapeutic potential of steroidal alkaloids in cancer and other diseases. Cholesterol is a precursor of this group of alkaloids, and a mechanism accounting for the ring modifications is shown in Figure 129, where the changes are initiated by loss of a suitable leaving group from C-12. 1997;8:511–4.CAS Google Scholar Devkota KP, Choudhary MI, Ranjit R, Sewald SN. 2016;47:876–80.CAS Google Scholar Hu Z, Zong JF, Yili A, Yu MH, Aisa HA, Hou AJ. 1978;19:4801–4.Article Google Scholar Kaneko K, Naruse N, Tanaka M, Yoshida N, Mitsuhashi H. J Appl Toxicol. This change expands ring D by one carbon at the expense of ring C, which consequently becomes five-membered. 2021;112:104845.Article CAS PubMed Google Scholar Kawasaki T, Kitajima J, Noda N, Ida Y, Miyahara K. 1997;44:731–4.Article CAS PubMed Google Scholar Wanyonyi AW, Tarus PK, Chhabra SC. Minor steroidal alkaloids from the marine sponge Corticium sp. Guangzou University of Traditional Chinese Medicine. 1999;62:665–9.Article CAS PubMed Google Scholar Atta-ur-Rahman, Noor-E-Ain F, Ali RA, Choudhary MI, Pervin A, Turkoz S, Sener B. 2016;179:274–9.Article CAS PubMed Google Scholar Xu YJ, Xu DM, Huang EX, Wu XY, Liu SY. Novel bioactive steroidal alkaloids from Pachysandra procumbens. 2007;46:591–3. New steroidal alkaloids from an undescribed sponge of the genus Corticium. The alkaloids: chemistry and pharmacology. 1992;34:157–71.Article CAS Google Scholar Choudhary MI, Shahnaz S, Parveen S, Khalid A, Ayatollahi SAM, Atta-ur-Rahman, Parvez M. 2014;77:2475–80.Article CAS PubMed PubMed Central Google Scholar Lu Z, Koch M, Harper MK, Matainaho TK, Barrows LR, Van Wagoner RM, Ireland CM. Org Biomol Chem. A steroidal alkaloid from Fritillaria ebeiensis. 2016;8:12.Article CAS Google Scholar Osman SF, Herb SF, Fitzpatrick TJ, Sinden SL. Gli3 mediates cell survival and sensitivity to cyclopamine in pancreatic cancer. Tomatine-containing green tomato extracts inhibit growth of human breast, colon, liver, and stomach cancer cells. 2004;87:439–48.Article CAS Google Scholar Adhikaria A, Vohra MI, Jabeen A, Dastagir N, Choudhary MI. 1968;90:1917–8.Article CAS PubMed Google Scholar Khodorov BI. C. These are essentially nitrogen analogues of steroidal saponins and have already been briefly considered along with these compounds. 1958;6:94–7.Article CAS Google Scholar Wolters B. Alkaloids of Buxus wallichiana. 2002;85:678–88.Article CAS Google Scholar Choudhary MI, Devkota KP, Nawaz SA, Shaheen F, Atta-ur-Rahman. Cryst Res Technol. p. 2002;50:1423–6.Article CAS Google Scholar Naeem I, Khan N, Choudhary MI, Atta-ur-Rahman. Developmental toxicology of potato alkaloids in the frog embryo teratogenesis assay—Xenopus (FETAX). New steroidal alkaloids from Fritillaria imperialis and their cholinesterase inhibiting activities. Batrachotoxin: chemistry and pharmacology. Food Chem Toxicol.