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      *      20      *      40      *      60      *      80      *      100      *      120
SbCals1 : -----MTSLSRTLNRGGPMQPPGS--RRIQRTQTAVN----FGPEPMFDSEVVPSSLV-ETAPIILRVANEVETANPRVAYILCRFYAF EKAHRLDPTSSSGRGVROQFKTATLQRI : 100
SbCals2 : -----MARAEANWERLVRAALRGER---LVGAYGQPVGTG--IAGNVPSLGNVHIEEVLRAADEIQDEDPVARILCEHAYTLAQSLDPNSEGRGVLOQFKTGIMSVI : 98
SbCals3 : -----MSSSRRRRGGGPERAAVNWERLVRAALKRDRDHLRVGGAPAAVGGQRLADAVPASLGRRTTNIDQIILQAADDIGDEDPNVARILCEQAYTMAQNIDPSSEGRGVLOQFKTGIASVI : 114
SbCals4 : -----MASGGAGPSGPVIRSTSOTRQRTMGRIPTRAYTMRPDGLSGE----DGPGFEEELVPSSLAP-IVPIILRAANEIEEENPRVAYILCRFTA EKAHRLMDPISGGRGVROQFKTYLLHRI : 111
SbCals5 : -----MEAGPS-SSAAMSAARRRRDALAQTLASRRLPEGMAEA----GEP-----VPGAVAPEVMPFLRAADEIEPYNPRVAELCRKYAFKKVQTVDPSSSTQRGVROQFKTYMSIKL : 101
SbCals6 : ----- : -
SbCals7 : ----- : -
SbCals8 : MELEIVEVGPSSRPLRYVSRPLPPPPPPPPPPPPQHQQQHGGEAGDAHAAVPPVPQFDSEKIPQTLVSEIRPFILRAANQIEAENPRVAYILCRFHAF EKAHTMDKLSAGRGVROQFKTATLQRI : 123
SbCals9 : -----MASS---SGGGGGRRLAPGGDASPASAGARRIYRTQTAGN----LGDSIFDSEVVPSSLV-ETAPIILRVANEVEASNPRVAYILCRFYAF EKAHRLDPTSSSGRGVROQFKTATLQRI : 107
SbCals10 : MTAPRGGGDEPPPPPPSSAAAGHAAGNEPVTPTSALGSGLNRRGSRGAGMATFSMEVFDNEVVPSTLN-STAPIILRVAAEIEHERPRVAYILCRFYAF EKAHRLDQNSIGRGVROQFKTATLQRI : 122
SbCals11 : -----MAAPGRRTADVSSSSPAPSPSPAAPSSTGRLLLRQTQTVGN----LGESIFDSEVVPSSLV-ETAPIILRVANEVEATNPRVAYILCRFYAF EKAHRLDPTSSSGRGVROQFKTATLQRI : 110
                                     l a p v a a d s r g v q f k t

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      *      140      *      160      *      180      *      200      *      220      *      240
SbCals1 : ERENEP-TLMGRGQKSDAREIQTFYHHYYKKYIQALQNASDQ-----VDRAQLTKAYQTAAVILFEVIKAVT-QQHAVEVDHEILEAADKVK--EKTKIYLP--FNILPLDPD : 201
SbCals2 : RQKLAKREGGPIDRSQDIAKLQEFYKLYREKHKVDELIEDMKLRESAVFSGNLGELERKTRKRKKVLATLKVLSVIEDITKEISPEDAKNLISEEMKKVMQKDAARTEDVVPYNIIPLDL : 221
SbCals3 : KQKLAKKDGA PIDRQNDIQVILWNFYLEYKSRRRVDDMQREQERLRESGTFSS---TEMGNRAREMKKVFEATLRAILLDVIENIVGQSPTDRHLRQIILEEIKKIKRSDAALRGELMPYNIIVPLDAP : 234
SbCals4 : EKDEHE-TNRRLAT-TDAKEIQRFYEQYCKKYLEEGH---DK-----RKPEEMARHYQIASVLYDVIKTVT---PGKNE--YDKYAKGVE--KEKASFSS--QYNILPLNIS : 203
SbCals5 : DQDDTQ-VLG-----NDANEIQEFYKKYCAS-MRHIS---EQ-----RNFEEMARYYQVAYALYEVLRDVT---NNKVDPQVMRCAEMVE--ENGRHEFKNYKYNILFEFNP : 192
SbCals6 : ----- : 31
SbCals7 : -----MSLIIRNR--TAAAAAAG--GGGGNPEPAAYNIIPIDHV : 36
SbCals8 : EQDESS-TKSKMTQRGDAREMKLFEE-----KKKQANAHELLPVIAEVIKATL-----SGTGLEGLVASE--DFADLER---YNILPLHPR : 198
SbCals9 : ERENDP-TLKGRVKQSDAREMQSFYQHYYKKYIQALQNAADK-----ADRAQLTKAYQTAAVILFEVIKAVN-VSQKIEVDQSILETHNQVE--EKKKLYLP--YNILPLDPD : 208
SbCals10 : EKDNSP-SLAKRVKQSDAREIESFYQQYYENYVRALD-KGEQ-----ADRAQLGKAYQTAGVILFEVICAVNKNEKVEELNPEIIRLHKDVQ--EKKDIYTP--FNILPLDAA : 223
SbCals11 : ERENDP-TLKGRVHQSDAREMQRFYREYYKKYIQALQNAADK-----ADRALLTKAYQTAAVILFEVIRAVN-VSQSVEVDQAILLDTHNKVE--EKKKLELP--CNILPLDPE : 211
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      *      260      *      280      *      300      *      320      *      340      *      360
SbCals1 : SG--NQAIMKFEPEIQAAASAIRNTRGLEWPPTYEHKVN-----EDILDWILQAMEGFGQTDVSNQREHLILILLANIHIRR---NPKTDQQSK---LDDNAINDVMMKRIEFKNYKK : 301
SbCals2 : TS-TTNAIVNFEVRRAAISTILQYHGDLERLPSTFSVPDAR-----NSDILLILQCVFEGFQEDNVKNQREHLIHLILANEQSRVG---KLSENEPK---LDEGAVHAVFSKALDNYIK : 325
SbCals3 : SS-VANIIIGFPEVRRAATAAIQNCEDLERFP--FDTPQLR-----QKDIIFILLIQYVEGFGQEDNIRNQRENVVIMLANAQSRLS---LLIGSEPK---LIDEMAVTEVFCVLDNYIK : 336
SbCals4 : TP--RQPIIMEIPEIKAAVALIRQMDDLMPRIELTQSSDGKTVPDEMCKPLVQDLILDWILWQTEGFGCKGNVENQKEHLILILLANIDMRQ---QGTSHHSGRHVHVHHSSTVIYILMDKIFQNYNS : 321
SbCals5 : GS--SEAIVELPEIRGAMDAISDIDGLEMPHMYSIQSQGGQSIR-----DVLDDWILSLAFGFGKSNVENQRENMVLLILANISTR--AGQEGHP-----LVDTVNEIWKKEFGNYKS : 294
SbCals6 : LA--EHPSIRFPEVRRAAAAIRAVGGLRPPPFSS-QWRAD-----QDILMDWILGAFGFGQRDNVRNQREHLVLLILANAQMR---LSSADFSDT---LEPRIARQIRKKILRNYTS : 130
SbCals7 : VMHGDHPSIRFPEVRRAAVEALAHAADLPPPLARAWDAFR-----ADLFDWILGATEGFGQLHNVRNQREHLVLLILANAQLRKGGTLPTDHPADV---LHHSVARDIRKKILKNYKA : 143
SbCals8 : LS--QKPIMVLPEIKVAVSAVFSVRSLEPANMKDEKNH-----TDVIRWILQSWFGFGCKGNVANQREHLILILLANAHARL---NPKSSSAQM---LDDRADVDELLAKTEFENYLT : 298
SbCals9 : SA--NQAIMRYPEIQAAFHAIRNTRGLEWPKEHDKKPD-----ADLLAWILQAMEGFGCKDNVSNQREHLILILLANVHIRQ---IPKPEQQPK---LDDRALDTVMKKIEFKNYKR : 308
SbCals10 : SA--SQSIMQLEEIKAAVAAILRNIRGLTWPSTFEPQRQ-----KGGDILLDILWILRAMFGFGQDSDVRNQREHLILIFLANVHIRL---EPKADPLSK---LDDRADVDMVKLENNYRK : 327
SbCals11 : ST--GQAIMLYPEIQAAVYAIRNTRGLEWPKDQDKKPDE-----KNTGKDILLDILWILQAMEGFGCKDNVSNQREHLILILLANVHIRK---IPKADLQPK---LDDKALDDVMKKIEFKNYKK : 316
          i pE6 aA a6 Lp D6 dwL FGfQ n6 NQ4Eh66l LAN R 6 4 NY

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      *      380      *      400      *      420      *      440      *      460      *      480      *
SbCals1 : WCKYLGRKSSILWLPT-----IQQEQQRKILLYMGLYILLIWGEAANLREMPECICFYIYHHMAFEMYGMILAGNVSALTGEYVKPAYGGEKEAFLKKVVTPIYHTIAKEAERSKREKGNHSEW : 416
SbCals2 : WCNYLPLRPVWDNTDS-----LTKEKKLLYVCLYLLMWGEAANVRFIPEGLCYIFHHLARELGEILRKQ---TVEPAESCSSGGGVSEFLDKVIYPLYEIMAAEAANNKNGRAHSEW : 434
SbCals3 : WCRYLGRKRVAVTSLEA-----VNKNRKIILVALYELIWGEAANVRFLPECICFYIFHNMAKEIDGIIIDSS---DAETAKSCTSDGSTSEFLERIITPIYDTMAAEAEENKNGKAAHSAW : 445
SbCals4 : WCRYLHLDNSIIITASD-----ASTQRPE---LLYIGLYILLIWGEASNVREMPECICFYIFHHMARDLHDIIISDRREGPFEPFPFQ--REGSDDAFLQIVIQPIYSVMQKEAARGKHGTVSHSMW : 433
SbCals5 : WCYYLHIISSSIMISHD-----VTEHKKQQLKLIHIGLYILLIWGEASNVREMPECICFYIFHHMAKQIHDMDVDENYFQP-PPGFE--EEGS---FLKNVVEPIEKVLOKEAHKGRGGTVGHSAW : 405
SbCals6 : WCGFLGRRPSVYIPDG-----DPRADLLYTGLHILLVWGEAANLRFVPECICFYIYHHMAGEIHRILEGFIIDNATGRPANPAVHGEC-AFLTRVVTPPIYDVVISAEAKSSRDGKAPHAAW : 241
SbCals7 : WCSYLGRKRPVHVPPSGGRRVAQGVGLDTRRDLLYTALYILLIWGEAANLREMPECICFYIFHYMALDLNHVIDQSIDDIETGRLSIPAVHGEC-AFLEKVVKPIYDVLKAEVKFSRDGTKEHSAW : 265
SbCals8 : WCKFLGRRSNIWLPS-----VKQEIQQHKLLYIALYILLIWGEASNLRLMPECICFYIFHHMSYELIYGVLSGAVSLITGEKVRPAYGGDDSEFLNNVVKPIYNVIFQEAQKNKNGASDHSTW : 413
SbCals9 : WCKYLGRKSSILWLPT-----IQQEVQQRKILLYMGLYILLIWGEAANLREMPECICFYIYHHMAFELYGMILAGNVSPPTGENVKPAYGGEAAFLKKRVVTPIYKVIEKEEVERSKTMKSKHSHW : 423
SbCals10 : WCKFLSRKHSIRFPQG-----AQPQEIQQRKILYLGLYILLIWGEAANIREMPECICFYIFHNMAYELHGLLAGNVSIPTGENIRPSYGGDEEAFLKKVVTPIYRVIRKEAGKSQHGKTEHSAW : 444
SbCals11 : WCKYLGRKSSILWLPT-----IQQEVQQRKILLYMGLYILLIWGEAANLREMPECICFYIYHHMAFELYGMILAGNVSPMTGENVKPAYGGDEEAFLMKVVTPIYKVIEKEAERSKTMKSKHSHW : 431
WC 5L 66y LylL6WGEA N6Rf6PEC6CYI5H 6a 6 66 g FL 66 P 5 6 Ea Hs W

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500      *      520      *      540      *      560      *      580      *      600      *
bCals1 : RNYDDINEYFWSADCFR-LGWEMRADADFFCQPD-----ERNESTRISKQKQKINFVEIRSE : 472
bCals2 : RNYDDINEYFWSHKCFH-LGWFWKLSDEFFSKPSR-----KDKGLLGRNHHYGKTSFVEHRTE : 491
bCals3 : RNYDDINEYFWSRSCFE-LGWEPAGSKFLHKPAK-----RKR-----TGKTNFVEHRTE : 494
bCals4 : RNYDDINEYFWSKKCFKKLGWPMNPTADFFADTRATNETE-----QHDHVISRRLRQHDHVISRRLRASKTNFVEVRTE : 505
bCals5 : RNYDDINEYFWSKKCFKTKLKWFDLSSDFFYQGRST-----ARKEKTNFVEVRTE : 455
bCals6 : RNYDDINEYFWRRDVEDRLGWEMEQSRQFFERTPPD-----RSRVRKTGFVEVRSE : 291
bCals7 : RNYDDVNEYFWSRRVERRLQWFLSPARSEFFIPPGN-----PGRIGKTGFVEQRSE : 315
bCals8 : RNYDDINEYFWSADCFK-LGWEMRLNNDFFFTSSATKDSQVLCGSRLSSVPHGFENCASCVPLVSQHASQHNEQLNPQLPHESSSTENYLNAAEAQEQQQATSSSSSQQRWLKTNFVEVRSE : 535
bCals9 : RNYDDINEYFWSRDCFR-LGWEMRSDADFFKTPN-----VSLHHLGDGEDRPVGNNGNMGMKVNFVEIRSE : 486
bCals10 : SNYDDINEYFWTSDCFE-LGWEMRDDGDFFKSVHD-----SRPVTMAGSSPQKDKSTKSTGKTNFVETRTE : 508
bCals11 : RNYDDINEYFWSVDCFR-LGWEMRADADFFKTPKD-----AYPNLLNGENRSAGNVHWMGMKVNFVEIRSE : 495
rNYDD NE FW cF LgWP Ff K FVE R3F

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620      *      640      *      660      *      680      *      700      *      720      *      7
bCals1 : WHIFRSFDRLWSEFFILALQVMIILAWEGG-SLASIFD-----YAVFKKVISIFITSAIILNLGCATLDIIFNWKARRTMEFAVKIRYVIKFMVAALWVLLIPVTYAYTWENPTGI-IRVIKS : 586
bCals2 : LHLYHSEHRLWMFLIMMECGITIIAFNDG-----SFD-----RKTIQLLISLGPTYVVMKFIESLLDILMMYGAYSKSRGSAITRVAVRFCWFTVASVAICYLYIKALQDG----- : 592
bCals3 : LHLYRSFHRLWIFLLIMFQLIAIIAFHHG-----KMD-----IDTIKILISAGPAFFVINFIIECOLDVILMEGAYKTARGFAISRLVIRFLWLTAVSTFVTYLYVKVLEEKNAR----- : 598
bCals4 : LHIFRSFDRMWAFFILAFQAMVILAWSSSGALSSIFE-----PEVFRNVITIFITAAFINFLCATLEIILNWKAWKSLECSQRIRYILKFAVAVAWLIIILPTTYSSSIQNPTGL-VKFVSN : 620
bCals5 : LHIFRSFNRMWMEFFILAFQAMLVSWSSSGSLSGITD-----GTVFRNVLSVFITAALLNFITVTLDIMFTVQAWGSMEWTKIARYLLKFEVVAIAWIIILPLTYSSSIKYPSPA-GKILNS : 570
bCals6 : WNIYRSFDRLWVMLVLYLQAAAIVAWEGAKWPWDDLPSGGGSKSKDTQARVISIFITWAALRFLOSLIDIGTQERRAFRDGRMLAIRMVILKAIVAAAWVIAFAVLYKRIWDQRSSN-----GO : 409
bCals7 : WNVYRSFDRVWVMLILFFCAAMIVAWDG-RTPWNSLR-----YRDIQVRVLSVFITWAALRIVCAVLDAGTQYSLVRRDTVLLAVRMVLKVLVAVGWITITFIVLYVRMWDQRWRD-----RR : 426
bCals8 : WHIFRSFDRMWTLVLVGLQVLIIMAWHGLGSPTQLLD-----PIIFEDIISIFITNAVLRVICVILDIAFSWRTKGTMRVDQIIRFTIKLSLAVAWAILIPIFYANSQNYKACS-TKRSKA : 650
bCals9 : WHIFRSFDRMWSFLIILSIQAMIIIAWNGG-TPSDIFD-----RGVFKQVISIFITAAIILKLGCAILDIIILSWKARRNMSLVVKIRYIILKLLSAAAWVILIPVTYAYTWENPTGL-ARTIKS : 600
bCals10 : WHIFRSFDRMWTFYIILALQAMIIIAWNDY-SLTEILR-----KDLLYSLSSVFVTAAFLOFLCSILDIIILNFPGSHRCKFVDIMRSILKMIVSAVWAVVLPFFYISTASKVNLLPLKDLNK : 623
bCals11 : WHIFRSFDRMWIFLIILSIQAMIIIAWNGG-TPSDIFD-----AGVFKKVISIFITAAIILKLGCAILDIVFGWKARRSMSFAVKIRYVIKLLISAAAWVILIPVTYAYTWENPTGL-ARTIKS : 609
h65rSF R6W 66 Q I6a5 613 f t a 6 Ld R 4 w Y

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40      *      760      *      780      *      800      *      820      *      840      *      860
bCals1 : WFGNGRNHPPLFVVSVVIYISPSMISATLELLPFLRRSLESSE-FKIVRFIMWWSQPRLEFVGRGMHESAFSLFMYTMEFWIALLLIKFAFSYYVEIKPLVEPTKVIMKTPIRTERWHEFFPREK : 708
bCals2 : ---TESATFKIYVFVISAYVGAKIISLITSVPCCHGLAEACYRWSAVRLVKWMHCENNYVGRGMHESPLDYIKYATFWIVILGAKESFTYFLQIKPLVSPTRTIISFRGLQYAWHDEVSKNN : 712
bCals3 : ---NSDSTYFRIYCLVIGGYAAVRIMFALMAKIPACHRLSSFSIRSQFFQFFKWIYQERYVYVGRGLYESISDYARYVIFWVVIACKETEAYFLQIKPLVEPTIIIVQLHDLKYSWHDLVSRGN : 719
bCals4 : WIN-LQNE-SIYNYAVALYMLPNIFSALFFEMFLPIRRVLSRN-SRIIRFLIWWTQPKLYVARGMYEDTCSLLKRYTTFWILLILCKLAFSYYVEIAPLVEPTRIIMSLERPPYEWHEFFPNLR : 740
bCals5 : WIGNWYNE-SVYNIAIVIYMVPDIIAALFELLBPQLQNMVERSN-SRVLVLLMWWIOPRLYVGRGMHEDILSILKYVEFWAVLLISKLAFSFYVEISPLIDPTKEILDQQVGNYEWHQIFPFLP : 691
bCals6 : WSSAADSRIIMSFLYAAAAFVIPEVLAIVLFIIVPWVRNALEKTN-WKICYALTWWFQSRSEFVGRGLREGTIDNVKYSIFWVILLAVKFAFSYFLOIRPLVKPTKEIYKLSGIIQYTWHEFFGQ-- : 529
bCals7 : WSFSANSRVLNYLEAAGVELIPQVIALVLFIVPWIRNFLEKTN-WRIYVLTWWFQTRTFVGRGVREGLIDNIKYTTFWVCLLTAKFGFSYFLOIRPMVEPTKTILSLHDIKRNWHEFFMPH-- : 546
bCals8 : FLG--MFCLSKYMVVVALYASNVVGMALFFVPAVTNYIETST-WRICNVLSWWCQPOLYVGRGMCEGLVSIKRYTTFWMIILSCKELFSYYFEIKPLVGPTKEIMKINVNKYEWHEFFPQVK : 770
bCals9 : WLGDGQNQPSLYILAVVIYIAPNLLSATLELFPVIRRALERSN-LRVVTFIMWWSQPRLEFVGRGMHEGAFSLFKYTMFWVILLATKLVVSFYVEIKPLVQPTKDIMKEPIRTERWHEFFPHAN : 722
bCals10 : YLRYVKGVPPLYILAVAVYILPNILSAAFLFPMFRRWIENS-WHIVRLLIWWSCKRIYVGRGMHESQVSLFKYTFFWILLILCSKFSFSYFVQIQPLIKPTKDVGMGVHNIKYEWHHEFFPNAS : 745
bCals11 : WLGDGQNQPSLYILAVIYIAPNIIASMLELFFPMRRFLESSE-VKVIITIMWWSQPRLEFVGRGMHEGAFSLFKYTMFWIILLAMKLIVSFYIEIKPLVQPTKDIMREPIRTERWHEFFPHGT : 731
5 5 6 f p e Ww Q 5VgRG6 E Y FW 6L K f 55 2I P66 PT 6 Wh f

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*      880      *      900      *      920      *      940      *      960      *      980
bCals1 : SNIGVVIALWAPIIIVYFMDTQIWYTIFSTILGGIYGAFQRLGEIRTLGMLRSREDSIPLAFNSCLIPVETSDAKRKKGLRSYLHNRFKEMEHA-----D-KENIAARFAQMWNIEIVTS : 821
bCals2 : HNALTIISLWAPVLSIYLLDIHVFTVLSAIYGEILGARDRLGEINNVEAVHREBEKEPREEMHRLHV-----AVPKRKQLLSSSGQE-----TELDKFDASRESPEWNEIVRN : 815
bCals3 : KNALTIISLWAPVIAIYIMDIHIWYTILSAIVGGVMGARDRLGEIRSIEMIHKRESEFEAFKNISP-----PRISNRPIAQDSE-----ITTKMYASIESPEWNEIVKS : 820
bCals4 : HNLGVVVTIWAPIVMVYFMDTQIWYAIFFSTICGGVYGAFSRLGEIRTLGMLRSREAIIPRAFGKKLVP-----NHGSRLKRDE-----EDKNPPFDKEADIWNAFINS : 838
bCals5 : RNLGVVVTIWAPIVMVYFMDTQIWYAIFFSTVFGGVSCALSHVGEIRTLGMLLRAREKSIPEAFSKCNAT-----KQ-----REQAFEHRSEFCVWNSEFINS : 781
bCals6 : SNRFAVFVLWLPVVIYIYIMDIQIWYAIFFSSLTGAFVGLFAHLGEIRDMDKQLRLRFQFFASAMSFNIMPEEQQ-VNESFLPSRLRNFWQRLQLRYGFSSRSFRKIESNQVEARREALVWNEIISK : 651
bCals7 : TERIAIIFLWAPVVIYIYIMDIQIWYAIFFSSLTGALIGLFSHLGEIRSVEQLRLRFQFFASAMQFNLMPEEHLDAVRGGLRSKLYDAINRIKRLRYGFGRPYRKIEANEVEAKREALIWNIEIQI : 669
bCals8 : SNAGAILAVWSPIIIVYFMDTQIWYSVFCTIFGGMCGIIHHLGEIRTMGMVRSRRCSLPEAFNMSLDP--PTMPIERKGMPPSFLEKKIFKKLG-----KAERHDPTKEALVWSQIIS : 882
bCals9 : NNIGVVIALWAPIIIVYFMDTQIWYAIFFSTILGGVYGCARRLGEIRTLGMLRSREESLPEAFNQCLIP---SDTSKRGRGFRAAFSKPSKTPEDT-----KEEEKIAARFAQIWNLIITS : 833
bCals10 : YNIGAIMSLWAPVLIYIYIMDIQIWYAIFFSTIFGGMTGALGRLGEIRTLGMLRSREHSLEGAENTYLVF---SDKSRNR--RFSLSKRFAEVSPN-----K--RTEAAKFAQIWNIEVICS : 852
bCals11 : NNIGVVISLWAPIIIVYFMDTQIWYAIFFSTILGGIYGAYRRLGEIRTLGMLRSREESLPEAFNERLIP---SDANKSKGLRAAFLSRPKVPGE-----REREKRAARFAQMWNVIITS : 842
n 6 6WaP66 6Y 6D q65Y 6fs 6 G G 6GEIr 6 6r rF p af p F Wn 6

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* 1000 * 1020 * 1040 * 1060 * 1080 * 1100

SbCals1 : FRDEDLIDNREKELILVVEYVSDQATGVVQWEPFLLASKIPIALVDMAKDSNGKDR-DIKKRIENDYYFKCAIEECYASFKNIINDLVQG-EPEKRVIKKIFEEVEKCI SEDKVIADINMRALPD : 942

SbCals2 : LREEDYINNEFELELLIMPKNDAGVLPVQWEPFLLASKVFLAKEIAEDCKDSQE-EIWLRIISKDEYMQYAVVECHSIYHILTSILEK--EGRLWVEKIYGGIRDSISNRTIQSDLHFKKLPN : 935

SbCals3 : LREEDYISNREMDLIMMESN-CGNIRLVQWEPFLLTSKIMIANDYASDCKDSQY-EIWDRIISKDEY MAYAVKECYSTEKIIHSLVDA--EGQRWVERLIFRDIINDSTIAQGSLLIVTINIKKIQL : 939

SbCals4 : LREEDLLSNREKNLIVVSSGG-ETSVFQWEPFLLASKIPIALDMAKS VKKKDE-EIMKRIKQDPYTEYAVIECYETLLDIYSIIVE-QSDKKVVDRI CESIKDSIHRRSLVKEFRIDELPQ : 958

SbCals5 : LREEDFISDREKDMLIAPSYSS-NTSIIQWEPFLLASKVPAAVHMA MNSKEGDEHELEIEKVKIDRDYNAVIECYESLMIIINSLLLD-SNDQNI VNDIDRKVTYSMRNKT FLEDFEMAEIGK : 902

SbCals6 : FREEDIVSDREVELLELP-PELWNVRVIRWFCFLICNEISLAIGQAKEVRGPDR-RIWRKICKNDYRRCAVIEVYDSAKHLLLEIIKEGTEEHGIVTQLFSDFDGAMKMEKFTVEYKMTEIHN : 772

SbCals7 : FREEDIIISDREVELLELP-PVVWKIRVVRWFCFLINNELLLALGOAKELVADDR-AHWTRICKNEYRRCAVIEAYDSIRHLLLEIIEDRTVEHIIIFSOLFFAFDAAMENGKFSE EYKLELLPE : 790

SbCals8 : FRSEDIISNREMDLMTPEVSLVHSSGSIRWELFLLAKKFSEAVDMAANFTGKSA-QLFRKIKKDHVMFCSINDEFYELTKNIFRELLIG-ETERRVVAALFEDEINKSTIQNSSLVTD FRI DQIPS : 1003

SbCals9 : FREEDLIDREKDLILVVEYCKDRDMDIIQWEPFLLASKIPIALDMAADSGGKDR-DIKKRMKSDPYFTYAIKECYASFKNIITYALVIS-SRERGFIQKIFDMVDEHIT EETLIKELNMSNIPT : 954

SbCals10 : FREEDLISDREMDLIVVEYSSDPSTKLMQWEPFLLASKIPIALDMAAQFRPRDS-DIWKRICADEYMKCAVLECYESFKLVINLVVVG-ENEKRIIGI I KEIEANIGKNTFLANFRMSALPV : 973

SbCals11 : FREEDLIDNREMDLILVVEYCKDREIDIFQWEPFLLASKIPIALDMAADSGGKDR-DITKRIKSDPYFSEAI RECYASFKNIINTLVFG-QREKDVIAKIIETVVVDEHIEDGTLLIKDLNMRNIPA : 963

ReED 6 1 E 66 P WP FLL k A A 1 46 1 y a6 e 5 6 66

Glucan₆ synthase (PF02364)

* 1120 * 1140 * 1160 * 1180 * 1200 * 1220 *

SbCals1 : IYSKFVEILVTYLIKENDEKD---RSAVIKIFQDMLEVVTREIFD--DQLS-ILESSHGGSYQKHDDTTAWD-KEYQLFQPSGATKEFELQVTTTDAWLEKIKRIEILLTVKESAMDVFSNI EAR : 1057

SbCals2 : VIAKLVAVIGIIRGTTESS--DLKKGLVNAIQDIYDVVHHEAFS-----VNMSGHIEDWDQINLARAEGRLFNKIKWENDPK---LKDLIKRIYSLLTIKESAATV EKNLEAR : 1038

SbCals3 : VQSRLTGITGILIR-DETA--GRAAGVTKALLEIYEVVTHEFLA-----PNLREQFDTWQLLLRARNDGRLFSKIFWPKDPE---MKEQVKRIHLLLTVKDSAA NIEKNLEAR : 1041

SbCals4 : LSVRFDKLIDLIKKYDENDPVNNNTQIANLLQDIMEIITQIMK-----NGQGILKDEGQ-KQLFAN-LNIDSLKDVA---WKEKCIRIQLLLTIKESATYVPTNLEAR : 1057

SbCals5 : VSATLAKLIQLIKSEPINDVEER--KIVNALQDFMEITTRIFMK-----DGQSILKDENERKQRFMN-LNINMIKEDS---WREKFVRIHLLLTMKDSAMDVPTNIDAR : 1000

SbCals6 : IHTRLVALIGLILKPTKDV-----TNIVNALQTIYDVVVRIFQA-----EKRSMEQLRNDGLAQSRP--TSLLFVDVAVLPEEEN--ATEYKQVRMHTILTSRDSMINV EONLEAR : 875

SbCals7 : IHSSVITLVELLLKEKKDQ---TKIVNTLQTIYVFAIHDFPK-----NKKDMEQLRQERLAPPTLEESRLLFEDVIKCPNDD--VSEYKQVRRIHTILTSRDSMN NVEKNPEAR : 895

SbCals8 : LFCRFDRILAEILFINKQEH---RYEVTILLQDIVDILLQIMIVDPQSILDVVNSSERLISDDYGAFNYEPELFAVSSITSIRYPYPDQ---QKEQVKRIYLLLTSTKEKAEI PSNLEAR : 1118

SbCals9 : LSKKFIELIDLIESNNKEE---QGQVILFQDMLEVVTREIMV--DQLSDLLESIHGPNKRSEGMMPLD-QQVQLFTK--AIDFEPVKKT--QAWNEKIKRIRLLLT VKESAMDVPTNIDAR : 1066

SbCals10 : LCKKFVELVSTLKERDASK---FDNVVLLQDMLEVITREIMMV--NEIRELAEFGHG---NKDSSVPRR-QLFAGSGTKPAIVFPPVS--AQWEEQIKRIYLLLT VKESAMDVPTNLEAR : 1083

SbCals11 : LSKKFVELLEILQKNKEED---LGQVVILFQDMLEVVTREIMEEQDQLSTLLDSIHGAHSRKHEGITPLD-QQDQLFAK--AIKFEVVEES--NAWTEKIKRIHLLLT VKESAMDVPTNIDAR : 1077

6 6 L 6 q d 6 p R6 6L3 4 sa 6P N1 AR

1240 * 1260 * 1280 * 1300 * 1320 * 1340 *

SbCals1 : RRITFFFTNSLFMDMEDAPKVRNMLSFSAITPYYNPEVIFSIKEIEEENEDGVSTLIFYLQKIYPDEWKNEKERVGLE--EELKESESEELKEELRLWAS YRGQTLARTVVRGMMYYKKAINLEA : 1178

SbCals2 : RRICFFFTNSLFMEMELAREVSEMVSFSVETPYYYSEIVLIYSMAELQKKNEDGITTLIFYLQKIYPDEWKNEFLTRINRDENTPDSELFGNPNDILELRLWAS YRGQTLARTVVRGMMYYRKALMLQS : 1161

SbCals3 : RRICFFFTNSLFMDMPTAKEVSEMIFFSVETPYYYSETVLIYSMSEICVENEDGISILIFYLQKIYPDEWANFLERIGRGESSED-DFKDSPSDTLELRFWVSYRGQTLARTVVRGMMYYRR AIMLQS : 1163

SbCals4 : RRITFFFTNSLFMKMERAPPVRSMMSFSVLTPTYFKEEVIFSPEDIRKKNEDGISILIFYLRKIYPDEFERNFLERIDFK--PKD--EELKDRMDEICPWAS YRGQTLTRTVRGMMYYRKALEIQC : 1176

SbCals5 : RRITFFFTNSLFMKMERAPCVHDMISFSVLTPTYNNEEVLIYS SHEINRKNEDGISILIFYLQKIYPDEWKNEFLERIGVE--PDN--EVSIGHMDDIRLWAS YRGQTLARTVVRGMMYYRR ADELQC : 1119

SbCals6 : RRIAFFFTNSLFMNIERATQVEKMMAFSVLTPTYRREEVLIYSKDQIYKENEDGISILYYLQKIYPDEWEYFVERMKREGMSDINELYSEKERLRDLRHWVSYRGQTL SRTVVRGMMYYEALKMLT : 998

SbCals7 : RRITFFFTNSLFMNMERAPTVEKMMAFSVLTPTYNEDVMYNKDQLHRENEEDGVSIIFYLQKIYEDDWGNFLERMOREGMTDDNEIWG--NKYQELRLWAS YRGQTLARTVVRGMMYYHRA LKMLA : 1016

SbCals8 : RRISFFFTNSLFMDMFAAPKVRSMLSFSVITPYFMEEVKFSDEELHS-NODEASILSYMCKIYPDQWKNEFLERIGSK--VTN-----DEIRCWASERGQTL SRTVVRGMMYYRKALKVOA : 1228

SbCals9 : RRISFFFTNSLFMSMEDAPKVRQMLFFSVLTPTYKEDVIFSSQATIGEONEDGVSIIFYLQKIYPDEWKNEFLERVHCE--SED-QLHETEQSEEQLRLWAS YRGQTLTRTVRGMMYYRQALV LQA : 1186

SbCals10 : RRIAFFFTNSLFMDMERAPVRKMLSFVMTPTYYYSEETVYSKSDIDLENEEDGVSIIFYLQKIYPDEWNNEMERINCK--RES-EVWGNEENVLQLRHWASLRGQTL CORTVVRGMMYYRRALKLOA : 1203

SbCals11 : RRISFFFTNSLFMDMENAPKVRNMLFSIITPYKEDVIFSLQNI EEPNEEDGVSIIFYLQKIYPDEWKNEFLERVGCK--NEE-ELREDEELEEKRLRLWAS YRGQTLTRTVRGMMYYRKALELQA : 1197

RR6 FF nSLFM 6P A V M6 FS TPY5 E v 5s L N2Dg 3i6 Y6qkIYpD 5 nF eR6 6r WaS RGQTL RTVVRGMMYY AL 6

1360 * 1380 * 1400 * 1420 * 1440 * 1460 *

SbCals1 : FLIDMAKREDIMEGYKAAESVNDEQW-----KIQQRSTFAQCEAVAD---MKETYVVSQCQYGNDRRAALAN---AQDIIQLMRNYSSLRVAYIDEVEDRVGD : 1269

SbCals2 : YLERIQSEDLSTLGLTSSADTH-----FELSPEARAQAD---LKETYVVTCCQIYGKQKGEGKPE---AADIALLMQRNEALRVAYIDEVENAK-- : 1244

SbCals3 : YLEKRYLGGIEDGNSAAEYIDTQG-----YEISPDARAQAD---IKETYVVSQCQIYGQKQMKKQE---AADIALLIQRNEALRVAFIHEEENISR : 1248

SbCals4 : LQDTKDP---AKFDQDGLIESYR-----ELQSSIEMAQAIAD---IKETYVVSQCQVYGMQKTSKDSKDSRYQNIINLMIINPSLRVAFIDEVEAPTGN : 1264

SbCals5 : YELMIND---QGYGLADLDR-----AKAVRSKAIAD---IKETYVVSQCQLYGVHASKDSREKGLYENIINLMLTYPALRIAYIDEKEVQLQN : 1201

SbCals6 : FLDSASEHDIKTGSRELATMGSSSRIGSSSRHDGVAGGSGYYSRASSSRALS RASSSVSSLFKGSEYGTVMKYTYVAVACQVYGDQAKANDPN---AFEIIELMKNYEALRVAYVDERQINGN : 1116

SbCals7 : FLDTASEVDITEGTKHLASFGSIRHENDVYP-MNGG---FRQQPQRRLDRGTSTVSQLFKGQEDGAALMKYTYVVTCCQIYGKQKIAKDQR---AEDIISLMRKNEALRVAYVDEVHHQG : 1128

SbCals8 : LLDRNTNDQDIFEALMATEQGKNKR-----NIQTISAELEALAD---MKFSYVISCKQFGECKIKGDPH---AQDIIIDLMMRYPALRVAYIEEKEVIVNN : 1316

SbCals9 : FLDMARDDIMEGFRAADLLSES-----DESQILTQCKAIAD---MKETYVVSQCQYGIQKRSQDPH---AQDIIIRLMTTYP SLRVAYIDEVEEPSKD : 1273

SbCals10 : FLDMASECEILEGYKAVADPAEEE-----KKSQRSISSQLEAVAD---MKETYVATCCQIYGNQKQSGDRR---ATDIIINLMVNYPGLRVAYIDEVEERE GD : 1293

SbCals11 : FLIDMAKDDIMEGYRATEVMPE-----DSQIMTQCKAIAD---MKETYVVSQCQYGIQKRSNEPC---AHDIIIRLMTTEYPSLRVAYIDEVEAPSQD : 1282

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	1480	*	1500	*	1520	*	1540	*	1560	*	1580	*	1600
SbCalS1	: --KMETAYYSTLVKVALTKDSEADPIQNLDQVIYRIKLPG-PAILGEGKPEQNQHAIIIFTRGEGLOITIDMNQDNYLEEATKMRNLLQEE--LTEHG-VRRPSILGVREHIFTGSSVSSLAWF	:	1386										
SbCalS2	: NGKPIT-EYYSKLVKADIHG-----KQKEIYSIKLPG-NPKLGEGKPEQNQHAIIIFTRGNAVQITIDMNQDNYLEEATKMRNLLQEE--SLKRGKH---YPSILGVREHIFTGSSVSSLASE	:	1352										
SbCalS3	: DGKATTKEYYSKLVKADVHG-----KQKEIYCIKLPG-NPKLGEGKPEQNQHAIIIFTRGDAVQITIDMNQDNYLEEAMKMRNLLQEE--RNVHGNHGIKPTILGVREHIFTGSSVSSLASE	:	1360										
SbCalS4	: --GATEKTYYSVLVKGGE-----KYDEEIYRIKLPGKPTDIGEGKPEQNQHAIIIFTRGEALQAITIDMNQDNYLEEAFKMRNVLEEE--ESRKYGKSEPTILGLREHIFTGSSVSSLAWF	:	1372										
SbCalS5	: --GKIEKQYYSVLVKGD-----DEEIYRIKLPGKPTDIGEGKPEQNQHAIIIFTRGEALQAITIDMNQDNYLEEAFKMRNLLQEE--LLT-HGKSEPTILGVREHIFTGSSVSSLAWF	:	1305										
SbCalS6	: -----EKEYFSVLVKYDQQ-----LQREVEIYRVKLPG-ELKVGEKPEQNQHAIIIFTRGDAVQITIDMNQDNYLEEATKMRNLLQEE--NRYYG-IRKEKILGVREHIFTGSSVSSLAWF	:	1221										
SbCalS7	: -----YTQYYSVLVRFQDQ-----LQREVEIYRIKLPG-ELKLGEKPEQNQHAIIIFTRGDAVQITIDMNQDNYLEEATKMRNLLQEE--NYYHG-SRKPTLLGVREHIFTGSSVSSLAWF	:	1233										
SbCalS8	: CSHTIEGKEVIVNCPHKVYSSVLIKAENNLQEIYRIKLPG-PPIIGEGKPEQNQHAIIIFTRGEALQITIDMNQDNYLEEAYKMRNVLQEE--VRRPR-DQSPITILGLREHIFTGSSVSSLAGE	:	1435										
SbCalS9	: RNKKIEKVYYSALVKAHAVTKPD---DPGQKLDQDIYRIKLPG-NAMLGEGKPEQNQHAIIIFTRGEGLOITIDMNQDNYLEEATKMRNLLQEE--LKKHDGVRYPSILGVREHIFTGSSVSSLAWF	:	1390										
SbCalS10	: ---KVQKVFYSVLVKA-----LDNHQEIYRIKLPG-PAKLGEGKPEQNQHAIIIFTRGEALQITIDMNQDNYLEEATKMRNLLQEE--NENHG-VRQPTILGVREHIFTGSSVSSLAWF	:	1398										
SbCalS11	: RNKKIEKVYYSVLVKAHAVTKPN---EPGQSLDQVIYRIKLPG-NAILGEGKPEQNQHAIIIFTRGEGLOITIDMNQDNYLEEATKMRNLLQEE--QKKHDGVRYPSILGVREHIFTGSSVSSLAWF	:	1399										
	s lvk d IY 64LPG 6GEGKPeNQHA6IFTRG 6QtIDMNQdnY EEa KMRN6L225 P 6LG6REH6FTGsVSSLA F												

	0	*	1620	*	1640	*	1660	*	1680	*	1700	*	1720
SbCalS1	: MSNQEHSEFVTIGQRILANPLKVRREHYGHDPDVFDRLEHILTRGGVSKASKSINLSEDI FAGYNSTLRGGNVTHHEYVQVGKGRDVGLNQISKEFAKVANGNGEQTLSDIYRLGHRFDFFRMLSC	:	1509										
SbCalS2	: MSNQETSEFVTIGQRVLANPLKVRMHYGHDPDVFDRIFHILTRGGISKASRSINISEDIYAGFNSTLRGGCITHHEYIQVGKGRDVGLNQIALFEGKVAGNGNGEQVLSRDYRLGQLDFDFFRMLSF	:	1475										
SbCalS3	: MSKQETSEFVTIGQRVLAY-LKVRMHYGHDPDVFDRIFHILTRGGISKASRVINISEDIYAGFNSTLRGGNITHHEYIQVGKGRDVGLNQIALFEGKVAGNGNGEQVLSRDYRLGQLDFDFFRMLTF	:	1482										
SbCalS4	: MSNQETSEFVTIGQRVLANPLKVRREHYGHDPDVFDRLEHILTRGGISKASKTINLSEDI FSGFNSTMRGGNVTHHEYMQVGKGRDVGMNQISSFEAKVANGNGEQTLSDIYRLGRRFDFYRMLSF	:	1495										
SbCalS5	: MSSQETSEFVTIGQRVLANPLKVRREHYGHDPDVFDRLEHILTRGGISKASKVINLSEDI FAGFNSTLRGGNVTHHEYIQLGKGRDVGMNQISSFEAKVANGNGEQTLSDIYRLGHRFDFYRMLSL	:	1428										
SbCalS6	: MSAQETSEFVTIGQRVLADPLKVRMHYGHDPDVFDRLEHILTRGGISKASKTINISEDI FAGFNCTLRGGNVTHHEYIQVGKGRDVGLNQVSMFEAKVASGNGEQTLSDYRLGHRLDFFRMLSF	:	1344										
SbCalS7	: MSAQETSEFVTIGQRVLANPLKVRMHYGHDPDVFDRLEHILTRGGISKASRVINISEDI FAGFNCTLRGGNVSHHEYIQVGKGRDVGLNQISMFEAKVSSGNGEQTLSDYRLGHRLDFFRMLSV	:	1356										
SbCalS8	: MSYQETSEFVTIGQRVLAELPLRVREHYGHDPDVFDRIFHILTRGGISKASKTINLSEDI FAGYNSILRRGNIIYNEYIQVGKGRDVGLNQISKEFAKVANGNSEQTISRDIHRLGRRFDFFRMLSC	:	1558										
SbCalS9	: MSNQETSEFVTIGQRVLANPLRVREHYGHDPDVFDRLEHILTRGGVSKASKIINLSEDI FAGFNSTLRGGNVTHHEYMQVGKGRDVGLNQISLFEAKIANGNGEQTLSDYRLGHRFDFFRMLSC	:	1513										
SbCalS10	: MSNQETSEFVTIGQRVLANPLKVRREHYGHDPDVFDRIFHILTRGGISKASCGINLSEDI FAGFNSTLRGGNVTHHEYIQVGKGRDVGLNQISLFEAKVACGNGEQTLSDIYRLGHRFDFFRMLSC	:	1521										
SbCalS11	: MSNQETSEFVTIGQRVLANPLRVREHYGHDPDVFDRLEHILTRGGVSKASKIINLSEDI FAGFNSTLRGGNVTHHEYMQVGKGRDVGLNQISLFEAKIANGNGEQTLSDIYRLGHRFDFFRMLSC	:	1522										
	MS QEtSFVT6GQR LA pL4VR HYGHDP6FDR65h6tRGG6SKAS IN6SED65aG5Nst6R Gn6 hhEY6Q6GKGRDV6NQ6s FEaK6a GNqEQ 6sRD6yRLG rfDF5RML3												

	*	1740	*	1760	*	1780	*	1800	*	1820	*	1840
SbCalS1	: YFTTVGIFYESTLITVVTIVYVFLYGRLYIALSGIEEGISQG--RLIHNHPIQVALASQSLVQLGFLMALPMMMEIGLERGEGCALSDLIMNLOLATVFFTFSLGKTHYYGRMLLHGGAQYRG	:	1630									
SbCalS2	: YVTTVGIFYECTMLITVLTIVYIFLYGKTYIALSGVGESIQSRA-DILHNTAIDAAINTQFLFCIGVFTAVPMILGFILESGVLTAFVQFITMQFCQICSVFFTFSLGTRTHYFGRAILHGGAQYRA	:	1597									
SbCalS3	: FFTTVGYYVCTMMITVLTIVYIFLYGRVYIALSGIDYSISRQA-RFLGNTAIDAAINAQFLVQIGIFTAVPMINGFILELGLMKATFSFITMQLOFCQSVFFTFSLGTRTHYFGRITILHGGAQYKA	:	1604									
SbCalS4	: YFTTVGIFYESSMVTIVLTIVYVFLYGRLYIVMSGIERSIMLDARNQONVKALENALASQSIQGLGLLLVLPVMVEVGLKGFRTALGEFVIMQLOQLASVFFTFQLGKTHYYGRITILHGGAQYRP	:	1618									
SbCalS5	: YFTTVGIFYENSMVAVLITVYVFLYGRLYIVLSGLEKSIQLQDP-NIQNIKPFENALATQSVFQLGMLLVLPMMMEVGLKGFGRALAEFVIMQLOQLAPVFFTFHLGKTHYYGRITILHGGAQYRA	:	1550									
SbCalS6	: FYTTVGIFYENTMMVVLITVYAFVWGRFYIALSGIEDYISKNT-SSSNNAATGAVLNQCFVILQLGLFTALPMIENSLEHGFLTAAWDFMKMQLOQFASVFYTFSMGKTHYYGRITILHGGAQYRA	:	1466									
SbCalS7	: FYTTVGIFYENTMIVVLITVYTFVWGRLYIALSGIEAGIQGSA-NSTNNKALGTVLNQCFFIQLGFFTALPMIENSLEQGFLPAIWDFFTMQMFESSVFYTFSMGKSHYYGRITILHGGAQYRA	:	1478									
SbCalS8	: YFTTVGIFYENSLISVGVYVFLYGCYIVLSGLQRAILLLEA-QTQNIKSIETALASQSFQGLGLLTGLPVMELGLEKGFRAALSDFIIMQLOQLASVFFTFSLGKTHYYGRITILHGGAQYRP	:	1680									
SbCalS9	: YYTTIGIFYESTMITVWTIVYVFLYGRLYIVLSGLIDEALATGK-RFIHNEPIQVALASQSFVQLGFLMALPMMMEIGLERGERTALSDFVIMQLOQLASVFFTFSLGKTHYYGTILLHGGAQYRA	:	1635									
SbCalS10	: YFTTVGIFYISSMMVLTIVYVFLYGRLYIALSGIEFAIMKQA-RMRGNRALQAANGSQSIVQLGLLLMALPMFMEIGLERGFSAIGDFIIMQLOQLCSVFFTFSLGKSHYFGRITILHGGAQYRA	:	1643									
SbCalS11	: YYTTIGIFYESTMITVWTIVYVFLYGRLYIVLSGLIDEALATGR-RFVRNAPIQVALASESFVQLGFLMALPMMMEIGLERGERTALSDFIIMQLOQLASVFFTFSLGKTHYYGRITILLHGGAQYRA	:	1644									
	5 TT6G5Yf 366 V tvY F65G YL 6SG6 6 1 a6 2 Q6G 6PM 6e LE Gf A f Mq q VF5TFs6GT4 HY5Grt6LHGGA Y4											

	*	1860	*	1880	*	1900	*	1920	*	1940	*	1960
SbCalS1	: TGRGFVVVFHAKFAENYRLYSRSHFVKGIELMILLIVYQLFQSYRSTIAYIFITISMWFLVLTWLFAPFLFNPSGFEWAKIVDDWSDWNKWISNRGGIGVSPDKSWESWWEVEQDHLKYSGTI	:	1753									
SbCalS2	: TGRGFVVVRHIKFAENYRIYARSHFVKGMEVALLLVIELVYGFNNGGAVGYILLSISSWFMALSWLFAPYLFNPSGFEWCKIVEDERDWTNWLFYRGGIGVKGEESWEAWWEEELQHIYS--IR	:	1718									
SbCalS3	: TGRGFVVVRHIKFAENYRLYSRSHFVKALEVALLLVYISYGYTKGGSSSFILITISSWFLVMSWLFAPYLFNPSGFEWCKTVEDEDDWTNWILYKGGVGVKGDSSWESWWDEEQEHIQT--FR	:	1725									
SbCalS4	: TGRGFVVYHAKFAENYRMYRSRSHFVKGLELLILLVYLVYGRSYRSSSLYLFVTCSMWFLVASWLFAPFLFNPSGFEWCKTVDWTDWRKWMGNRGGIGMSVEQSWEAWWLSEQDHLRKTISR	:	1741									
SbCalS5	: TGRGFVVVRHAKFAENYRMYRSRSHFVKALELLILLVYVLAYGSSYRSSSLYLYVTVSIFWFLVFCWLFAPFLFNPSGFEWHKTVDWTDWIDWKKWMGNRGGIGLAPEQSWEAWWVSEHDHLRNATIR	:	1673									
SbCalS6	: TGRGFVVVEHKKFAENYRLYARSHFIKALELGIILTLYASYGASGNTLVYILLTSSWFLVSSWILAPFLFNPSGFDWLKNFNDFEDELNWIWFRGGISVKSQSWETWWEDETGHIRTTLGLW	:	1589									
SbCalS7	: TGRGFVVQHKSFENYRLYARSHFIKALELGIILTLYAAHSVIAKNTLVYIIMNISSWFLVSSWIMAPFAFNPSGFDWLKTVDYDEDDMNWIWYFPGGLFSSKPEQSWEVWWFEEQDHLRTTLGLW	:	1601									
SbCalS8	: TGRKFVVVFHASFTENYCLYSRSHFVKGEELIELLLIVYHIERRSHVSNVHVMIITYSTWFMVAWLETPFLFNPAFAWOKIVDDWADWNRRWMKNQGGIGVQPEKSWESWWNGENAHIRHSVLS	:	1803									
SbCalS9	: TGRGFVVVFHAKFAENYRLYSRSHFVKGIELMILLIVYEIFGQSYRGAIAYIFITISMWFMVLTWLFAPFLFNPSGFEWCKIVDDWTDWNKWISNRGGIGVPPEKSWESWWEKEQEELRHSGKR	:	1758									
SbCalS10	: TGRGFVVVRHVRFAENYRMYRSRSHFVKALELMILLVYVYELYGDVATDSTAYILLTSSWFLVITWLFAPFLFNPSGFEWCKIVDDWDDWTKWISSRGGIGVPANKAWESWWEEEQEHLQSTGLL	:	1766									
SbCalS11	: TGRGFVVVFHAKFAENYRLYSRSHFVKGIELMILLVYVEIFGQSYRGAIAYIFITISMWFMVGTWLFAPFLFNPSGFEWCKIVDDWTDWKKWISNRGGIGVAPPEKSWESWWEKEQEELRYSGKR	:	1767									
	TGRqFVV H FaENYr6Y RSHF6K E6 6L 65 q 6 6 S WF6v W6faP5 FNPsgF W K v D5 D5 W6 GG6q swe WW E h6											

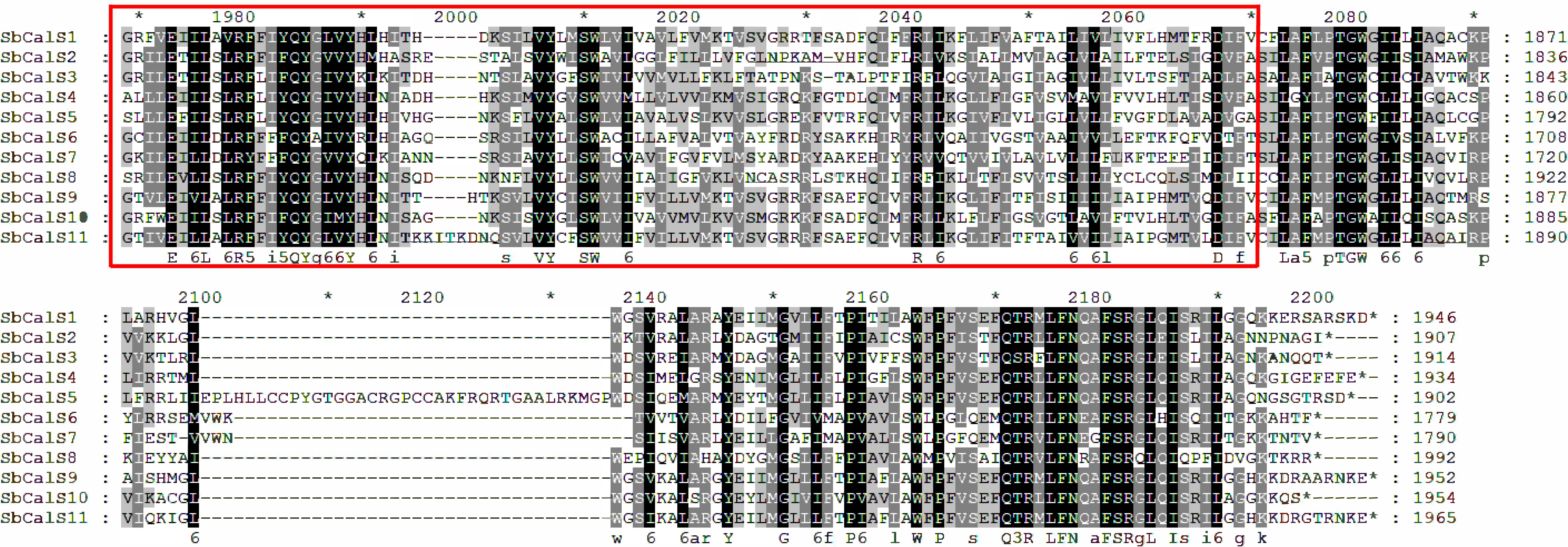


Figure S1. The multiple sequence alignment of conserved domains in SbCalS gene family.