

## Dataset S1: Concatenated amino acid sequence data of 12 respiratory chain genes

The following is an amino acid sequence alignment of 12 concatenated respiratory chain genes, whereby the program Gblocks, version 0.91b (Castresana, 2000), has removed all gaps and poorly aligned regions. Characters 1-147 belong to *atp6*, 148-476 to *cob*, 477-936 to *cox1*, 937-1116 to *cox2*, 1117-1355 to *cox3*, 1356-1602 to *nad1*, 1603-1740 to *nad2*, 1741-1805 to *nad3*, 1806-2091 to *nad4*, 2092-2143 to *nad4L*, 2144-2486 to *nad5*, and 2487-2553 correspond to *nad6*.

<b>Taxon name</b>	<b>Abbreviation</b>
<i>Monoblepharella</i>	PG01
<i>Monosiga</i>	PG02
<i>Trichoplax</i>	PG03
BZ2423	PG04
BZ10101	PG05
BZ49	PG06
<i>Axinella</i>	PG07
<i>Geodia</i>	PG08
<i>Tethya</i>	PG09
<i>Acropora</i>	PG10
<i>Aurelia</i>	PG11
<i>Briareum</i>	PG12
<i>Metridium</i>	PG13
<i>Ricordea</i>	PG14
<i>Artemia</i>	PG15
<i>Katharina</i>	PG16
<i>Saccoglossus</i>	PG17
<i>Strongylocentrotus</i>	PG18

PG01 LVPSNWFLE TYHVTLYTMVRTYIGWFPPFLYTLFTGLLFSNLFGLLPYS 50  
PG02 LVPSRWQSVMEI IYETVFGVVEDNIGYFPWILTVFMFIVLMNLFGLIIPYT 50  
PG03 LIPNRVLTGLEELIYSHFYTVLKDNLGYLAFVLSLFFILILFGNGLGLFPYV 50  
PG04 LVPNRILTGLEELIYSHFYTVLKDNLGYLAFVLSLFFVLILFGNGLGLFPYV 50  
PG05 LVPNRILVGFELIFAHFYTVLKDNLGYLAFVLSLFFILILFGNGLGLFPYV 50  
PG06 LVPNRILVGLEELIYTHFYTVLKDNLGYLAFVLSLFFILILFGNGLGLFPYV 50  
PG07 LIPNRWQSVVELIHLNIRSVDHNDLGYFPFVLSLFFIFIAILNILGLFPYV 50  
PG08 LIPNRWQFVIEFIYINIHSVVDNDLGFPPFVLCFFIFIAMLNILGLFPYV 50  
PG09 LIPNRWQSIMELIHSNMRSVAVHENLGYFPFILCLFFIFIAILNILGLFPYV 50  
PG10 LIPKRWQSLIELIYEHFHGVVKDNLGYFPPLIVSLFFFIVFLNVLGLFPYV 50  
PG11 LIPGRWQSIIEIIVYDHWIVLVKDSLGYFPFVFSLFFLLIAWLNVLGLFPYV 50  
PG12 LIPTRLOSIQEIIVYTHFLGLVKDSTAYFTLIITLFTFIAGLNLLGLFPYV 50  
PG13 LIPNRWQAVMESIYDHFHGLVKDNSGYFPFVFTLFFIFIVFLNILGLFPYV 50  
PG14 LIPDRWQSIIESIYDHFHGVVKDNLGYLAFIISLFFFIVFLNLLGLFPYV 50  
PG15 LIPSRPQFLAKSVLMGLNREMSLLMGANILVIALFFLFFILFNNFIGLFPYI 50  
PG16 FSKSRFYSMILFPKNFMGGQVMRATGFINMVISIFLLLLILVNLSSGLLPYV 50  
PG17 QFPTRFSVLWQTLTNLLPPLFLRSAGWAPLIFALFITLLSNLLGLTPHS 50  
PG18 WAPSRFQSIWLGFRSNILEMIFQNTSWAGLIAGVFLILLVNVVLGLFPYV 50

PG01 TTPTTHLIITFNLALFLMITAIAARYAIFGLFIPAGIPVALIPVISVVEV 100  
PG02 FSPTAHIAVTFGLSLSIFIGVTLHGSNYFSMFMPAGSPLILAPFMIVIEL 100  
PG03 FTPTVHMVITLGLSFAIIMGTTLFRLNFFSILMPQGAPLALAPLLTAIET 100  
PG04 FTPTVHMVITLGLSFAIIVGTTLFRLNFFSILMPQGAPLALAPLLTAIET 100  
PG05 FTPTVHMVITLGLSFAIIVGTTLFRFNFFSILMPQGAPLALAPLLTIET 100  
PG06 FTPTVHMVITLGLSLTIIGTTLFRFNFFSILMPQGAPLALAPLLTIET 100  
PG07 FTPTAHIVMTFGLSLSILIAVTLFKLNFLSILMPGGVPLMLAPFLVGIET 100  
PG08 FVPTAQIVITLGMSSVSI IIAVTLFKLNFFSILMPGGVPLVLAPFLVVIET 100  
PG09 FTPTAHIIITFGLSLSIMIVVTIFKLDFLSILMPGGIPLALAPFLVIET 100  
PG10 FTPTVHIVVTLGLSFSIIGVTLFKGDFFSVFMPSGAPLGLAPLLVLIET 100  
PG11 FTVGTTHIIVTFGLSLSILIIIVTIFKADFFSMLMPQGAPMGLAPLLVLIET 100  
PG12 FTPTAHIVVTFGLSFSILIAVTFIRWDFASMLMPSGAPLALAPLLVSIET 100  
PG13 FTVTVHIVVTLGLSFSIIVIGVTLFKWNFLSILMPAGAPLALAPLLVLIET 100  
PG14 FTPTVHIVVTLGLSFSIIGVTLFKWDFFSILMPGGAPLGLAPLLVLIET 100  
PG15 FTATSHLAVTLSLAVPLWISFILETTNALAHLVPLGTPAPLMPFVLMVEI 100  
PG16 FSLSSHLSFAFCGLPFWLSLIFYVSEVVSHLLPSGAPGILNPFVLVVIET 100  
PG17 FTPTSHFSLTSLAIPLWLAVTINFNLRLSHLLPQGTPPALIPLLVWIEL 100  
PG18 QSPTSNIISLTYSLGFPLWMAINIAFNRLSHLVPQGTPSALIPLMVWIEL 100

PG01 LAYITRISLGRITVNMVVTGHTLVKVLLELLIAYLOAYIFTFISCITVKR 150  
PG02 ISHTAKAVSLGVRLAANITAGHILFAIEMAVAVIQAYVFSLLTAIYLKT 150  
PG03 LSYISRRAISLGVRLAANISSGHLLFSILEMAVAIQAYVFTLLTIVYRLR 150  
PG04 LSYISRRAISLGVRLAANISSGHLLFSILEMAVAIQAYVFTLLTIVYRLR 150  
PG05 LSYISRRAISLGVRLAANISSGHLLFSILEMAVAIQAYVFTLLTIVYRLR 150  
PG06 LSYISRRAISLGVRLAANISSGHLLFSILEMAVAIQAYVFTLLTIVYRLR 150  
PG07 LSYMIRRAISLGVRLAANI SAGHLLFAILEMMVAVIQAYVFCLLTTIYRKE 150  
PG08 ASYLKKAISLGVRLAANI SAGHLLFAILEIMVAIQAYVFCLLTTIYRKE 150  
PG09 LSYMIRRAISLGVRLFANI TAGHLLFVILEMAVAIQAYVFSLLTTIYRKE 150  
PG10 VSFISRRAISLGVRLAANL SAGHLLFAILEVAVAVIQAYVFCLLATIYRKE 150  
PG11 ASYLSRAISLGVRLAANL SAGHLLFAILEIAVAVIQAYVFCLLTTIYRKY 150  
PG12 LSYISRRAISLGRRLAANL SAGHLLFAILEIAVALIQAYVFCMLTAIYRTQ 150  
PG13 VSYISRRAISLGVRLAANL SAGHLLFAILEAAVAVIQAYVFSLLTTIYRKE 150  
PG14 VSYVSRRAISLGRRLAANL SAGHLLFAILEVAVAVIQAYVFCLLTTIYRKY 150  
PG15 ISNMIRPITLSVRLAANMIAGHLLLTLEFSVAIQSYVFMTLMTLYPEQ 150  
PG16 VSISVRPITLSVRLAANMSAGHILGLFEIGVSLIQAYIFSLLVSLYRSS 150  
PG17 LSLLAQPLALALRLAANL TAGHLLIYLLIEIAVAVIQAYVFATLTSFYRKT 150  
PG18 LSLFAQPIALGLRLAANL TAGHLLIFLLEIGVACIQAYVFTALIHFYRKE 150

PG01 NPLLALVNDFLIDSPLPANITYFWNTGSLLGVILVIOILTGVIILAMHYTP 200  
PG02 HPFISIVNNMLIQLPAPSNLSYMWGFGSLLGLCLIIQILTGIFLAMHYCA 200  
PG03 KTGLLAPVNDIIDLPTPSNISYWWNFGSLLGLCLGIQILTGVLAMHYRS 200  
PG04 KTGLLAPVNDIIDLPTPSNISYWWNFGSLLSCLCLGIQILTGVLAMHYRS 200  
PG05 KTGLLEPVNGIIDLPTPSNISYWWNFGSLLCCLCLGIQILTGVLAMHYRS 200  
PG06 KTGLLEPVNDIIDLPTPSNISYWWNFGSLLCCLCLGIQIITGVLLAMHYRS 200  
PG07 NPVISLINSFLIDLPSPSNISYLVNFGVLLGICLVIOIITGIFLAMHYCS 200  
PG08 NPIISLVNNIFVDLPAPSNISYLVNFGSLLGVCLIIQVITGIFLAMHYCA 200  
PG09 NPIIVLVNSMFI DLPSPSNISYFWNFGSLLGACLIIQILTGIFLAMHYCS 200  
PG10 NPLLSPVNGLLV DLPSPSNISYLVNFGSLLGLCLAMQIVTGCFLSMHYCA 200  
PG11 NPLATIINDILV DLPSPSNISYLVNFGSLLGLCLAIQIITGIFLSMHYCS 200  
PG12 HPIISIVNGILV DLPAAPSNISYLVNFGSLLGACLAIQILITGIFLAMHYCP 200  
PG13 NPVLSIVNGIIDLPAANLSYMWNFGSLLGVCLVVQMATGIFLAMHYCS 200  
PG14 NPLLSLMNSVVV DLPSPSNISYLVNFGSLLGLCLVMQIVTGCFLSMHYCA 200  
PG15 QPTLKIINSALV DLVPANISIWVWFGSLLGLCLIIQIVIGLFLAMHYTA 200  
PG16 HPVFKIINGSLIDLPSPSNLSIWWNFGSLLGLCLIIQILTGLFLAMHYAT 200  
PG17 NPLISALNSTLV DLPSPSNLSGWVWFGSLLGLCLVSOIITGFLFLAMHYTA 200  
PG18 HPIFRILNSTFV DLPLPSNLSIWWNSGSLLGLCLVVQILTGIFLAMHYTA 200

PG01 NTLYAFASVEHIDVNYGWLRLRYLHANGASFFFIVVYLVHIGRGLYFGSYWI 250  
PG02 NVDLAFASVEHIDVNAAGWLRLRYIHANGASMFFIMVYMHIAARGLYYGSYWN 250  
PG03 DVSLAFSSVAHIDVNYGWILRYVHANGASLFFICVYCHIGRGLYYGSYWI 250  
PG04 DVSLAFSSVAHIDVNYGWILRYVHANGASLFFICVYCHIGRGLYYGGYWI 250  
PG05 DVSLAFSSVAHIDVNYGWILRYVHANGASLFFICVYCHIGRGLYYGGYWI 250  
PG06 DVSLAFSSVAHIDVNYGWILRYVHANGASLFFICVYCHIGRGLYYGGYWI 250  
PG07 DVNLAFTSVAHIDVNYGFILRYLHANGASMFFLCVYLVHIGRGLIYYGGYWN 250  
PG08 DVNLAFTSVVHIDVNYGYILRYLHANGASMFFFVFCVYLVHIGRGLIYYGSYWN 250  
PG09 DVNLAFTSVAHIDVNYGFILRYIHANGASLFFLCVYFVHIGRGLYYGSYWN 250  
PG10 EVGLAFASVGNQNDVNYGFLLRYFVHANGASLFFLCVYFVHIGRSLYYGGYWR 250  
PG11 DTTLAFNSVAHIDVNYGFVLKYIHANGASLFFLCVYIHIARGLYYGSYWL 250  
PG12 DVNLAFDVSHIDVNYGFMLKYIHANGASLFFLCVYIHMGRGLYYGSYWN 250  
PG13 DVSLAFASVDHIDVNYGFLLRYFVHANGASMFFLCVYFHVGRGLIYYGSYWN 250  
PG14 EVGLAFASVGHIDVNYGFLLRYFVHANGASLFFLCVYIHIGRSLYYGGYWG 250  
PG15 WVELAFSSVANIDVNYGWLRLRTVHANGASFFFICVYFVHIGRGMYYGSFWM 250  
PG16 NIELAFSSVAHIDVNYGWLIRAAHANGGSLFFICVYFVHIGRGMYYGSFVW 250  
PG17 DISLAFSSIAHIDVNYGWLRLRNHANGGSLFFICVYLVHIGRGLYYGSYWN 250  
PG18 DITLAFSSVMHIDVNYGWFRLRYVHANGVSLFFICMYCHIGRGLYYGSYWN 250

PG01 VGVFIYIAMMATAFLGYVLPWGQMSFWGATVITNFFSVIPWLGQDIIHFL 300  
PG02 IGIILIVMMATAF IGYVLPWGQMSFWGATVITNFITAIPIFKDIVEWV 300  
PG03 VGVLIYFIMMLTAF IGYVLPWGQMSFWGATVITNLVSAIPSVGGSSIVEWI 300  
PG04 VGVLIYFIMMLTAF IGYVLPWGQMSFWGATVITNLVSAIPSVGGSSIVEWI 300  
PG05 VGVLIFFIMMLTAF IGYVLPWGQMSFWAATVITNLVSAIPSVGGSSIVEWI 300  
PG06 VGVFIFFIMMLTAF IGYVLPWGQMSFWAATVITNLVSAIPSVGGSSIVEWI 300  
PG07 VGVLLFFLMIITSAF IGYVLPWGQMSFWAATVITNLLSAIPYVGDIVRWV 300  
PG08 VGVLLFLLMIITSAF IGYVLPWGQMSFWAATVITNLLSAIPYIGDDIVKWV 300  
PG09 VGVILFLLMIITSAF IGYVLPWGQMSFWAATVITNLLSAIPYIGDDIVRWV 300  
PG10 VGVIVFLLTMATAFLGYVLPWGQMSFWGATVITNLLSAIPYVGTDVVQVW 300  
PG11 SGVTIYIIMMATAF IGYVLPWGQMSFWGATVITNLVSAVPYIGNDIVQWL 300  
PG12 IGVIIYLIIMMLTAF IGYVLPWGQMSFWGATVITNFCSAIPYVGTDIVQWI 300  
PG13 VGVVLFILTMATAFLGYVLPWGQMSFWGATVITNLLSAIPYVGTDIVQVW 300  
PG14 VGVIVFLLTMATAFMGYVLPWGQMSFWGATVITNLLSAFPYVGTDIVQVW 300  
PG15 TGIALLFLVMAAAFLGYVLPWGQMSFWGATVITNLVSAVPYIGNDVVQWL 300  
PG16 VGVILLFLTMTAF IGYVLPWGQMSFWGATVITNLSAIPYIGTTMVQWI 300  
PG17 IGVTLFLATMVTAFLGYVLPWGQMSFWGATVITNLLSAIPCGLGQDLVQVW 300  
PG18 VGVILFLVTILTAFMGYVLPVWGQMSFWAATVITNLVSAIPYIGTIIVQWL 300

PG01 WGGFSVDHP TLNRF FS FHYLLPFILAALV I IHLGLH QNGS TNPLSVRGD 350  
PG02 WGGFSVSNATLNRFFSLHYLLPFALAGLAVAH LIALHEHGSNNPIGVDS D 350  
PG03 WGGFSVSNCTLNRFFSLHYLLPFV LVGLVLAHL TLHEKGAN NPLGVVSD 350  
PG04 WGGFSVSNCTLNRFFSLHYLLPFV LVGLVLAHL TLHEKGSNNPLGVVSD 350  
PG05 WGGFSVSNCTLNRFFSLHYLLPFV LVGLVLAHL TLHEKGSNEPLGLVGD 350  
PG06 WGGFSVSNCTLNRFFSLHYLLPFV LVGLVLAHL TLHEKGSNEPLGLVGD 350  
PG07 WGGFSVSNATLNRFFSLHYLLPFV LVGLALVHLIAKHEEGTNNPLGIRSD 350  
PG08 WGGFSVSNATLNRFFSLHYLLPFL LIGLALVHLIALHEDGSNNPIGIRSD 350  
PG09 WGGFSVSNATLNRFFSLHYLLPFILAGLSLVHLIALHEDGSNNPIGIRSD 350  
PG10 WGGFSVSGATL TRFFSLHFLFPFILAILV VVHLIFLHIEGSNSPVGSKTV 350  
PG11 WGGFSVSNATLNRFFSLHYLLPFL LAGLGAAHVILLHAA GSSNPVGVKSD 350  
PG12 WGGFSVSNATLNRFF YSLHYLF PFLIVGLAVLHIISLHTDGSNNPLGISSD 350  
PG13 WGGFSVSNATLNRFFSLHYLLPFV LAALGVVHLICLHVS GSNNPIGVRSD 350  
PG14 WGGFSVSSATL TRFFSLHFLFPFILAILVGVHLIYLHVEGSNSPIGVKGD 350  
PG15 WGGFAVDNPTL TRFFTFHFLIPFLVAGL TMIHLFLHQS GSNNPLGINAD 350  
PG16 WGGFAVDNATL TRFFS FHYLAPFIIAAASV LHLFLHETGSNNPLGINSE 350  
PG17 WGGFSINNATLSRFFS FHFILPFI IIVLTL LHLIFLHETGSNNPTGLNSD 350  
PG18 WGGFSVDNATL TRFFPFHFLFPFI IAAALAVIHLVFLHNS GANNPFAFNSD 350

PG01 YLRFHPYFISKDLVGLGHPDNYIPANPLVTPHHI VPEWYFLPFYAILRAI 400  
PG02 KVPFHPYYSVKDVFGLGHS DNYIPANPLVTPQH I VPEWYFLFAYCILRAI 400  
PG03 RSTFHVYFTIKDILGLQDPENFIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG04 RSPFHVYFTIKDILGLQDPENFIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG05 RTAFHVYFTIKDILGLQDPENFIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG06 RTAFHVYFTIKDILGLQDPENYIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG07 MIPFHYYFALKDLYGLSDPENFKQANPLVTPVHI KPEWYFLFAYAILRSI 400  
PG08 KVPFHYYTYTKDFFGLGDAENFKQANPLVTP EHIKPEWYFLFAYAILRSI 400  
PG09 KVAFHYYVVKDIYGLGDAENFKPANPLVTPVHI KPEWYFLFAYAILRSI 400  
PG10 DVVFHVYYTSKDWYGLGDPENFIQANS L VTPVHI QPEWYFLFAYAILRSI 400  
PG11 KIPFHSYFSFKDVYGLGDTENYIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG12 KVTFHAYTYKDLFGLGDPENFIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG13 KVPFHTYYTSKDWYGLGDPENFIQANPLVTPVHI QPEWYFLFAYAILRSI 400  
PG14 DVI FHVYYTSKDWYGLGDPENFIQANS L VTPVHI QPEWYFLFAYAILRSI 400  
PG15 KLPFHPYFTIKDITVGLGDPDNFIPANPLVTPA HI QPEWYFLFAYAILRSI 400  
PG16 KVTIHSFYTLKDLVGLAHPDNFIPANPLVTP THIQPEWYFLFAYAILRSI 400  
PG17 KTSFHSYYSYKDVFGLLDPENFIPANPMS TPVHI QPEWYFLFAYAILRSI 400  
PG18 KAPFHIYFTTKDITVGLNDPENFIPANPLVTP PHIQPEWYFLFAYAILRSI 400

PG01 PNKTLGVIA MFGSL LIL LALPWFTRLRPM MKVLFWFIVANFFILMWLGGE 450  
PG02 PNKLLGVIALFASLVVLA VLPFTHTSKPIAKVFFWFFVADFIILSYLGGQ 450  
PG03 PNKLGGLVALFASILVLLMPILDRSKPVAKFFF WFI VGDFFILTWIGSA 450  
PG04 PNKLGGLVALFASILVLLFLPILDRSAPVAKFFF WFI VGDFFILTWIGSA 450  
PG05 PNKLGGLVALFASILVLLMPILDRSKPTGKFFF WFI VGDFFILTWIGSA 450  
PG06 PNKLGGLVALFASILVLLMPILDCSKPTGKFFF WFI VGDFFILTWIGSA 450  
PG07 PNKLGGLVALVFSILIL LILPYVHINKPLSKILFWFLVGDFFILTWIGGQ 450  
PG08 PNKLGGLVIALLASILVLLFLPHLHKS RQLSKFFF WFLVGDFFLLTWIGGQ 450  
PG09 PNKLGGLVALVFSILVLLVLP LIDQSKPLSKIFFWFLVGDFFLLTWIGGQ 450  
PG10 PNKFGGVS MFLSILILFFFP LLHRSWPFGRMAFWSFV VNFVLLTWIGSL 450  
PG11 PDKLGGLVIA MAASLLILYALPFI SLGMPLAKISY WLFMGNFLLTWIGSQ 450  
PG12 PNKLGGLVALMVASILVLLLPFIHTSKPLGKLAFWFLIADFI LLTWIGAN 450  
PG13 PNKLGGLVAMFASLLILFLLPWVHTSRPLARVA FWFMTDFMLTWIGCQ 450  
PG14 PNKLGGLVSMFFSILILFFLP LLHRSWPFGR LAFWFLVVDFFLLTWIGSQ 450  
PG15 PNKLGGLVIALVSSILILVSLPFTFKPKSVAQPL FWSVSVFLLTWIGAR 450  
PG16 PNKLGGLVGLMSIVILFFVPLINLGKPVTOILY WSLVSVFLLTWIGAQ 450  
PG17 PNKLGGLVALLASV LILLVSP LLHLSKPLSQIFFWTLIANLALLTWIGGQ 450  
PG18 PNKLGGLVIALVAAILVFLMPL LNTSKPLSQA AFWLLVAHLFILLTWIGSQ 450

PG01 PIHS PYTEISQVCTFIYFAYFVVLMI RWLFSSTNAKD IGLLYIVYAI VGGM 500  
PG02 PAEDPYIIIGQLATVFFYSYFIIITPRWVFSSTNHKDIGVLYFIFGFSFSGF 500  
PG03 AGTEPYVLIGRIATIFYFGYFLVLVPRWFFSCNHKDIGSLYL VFGALS GA 500  
PG04 AGTEPYVLIGRIATIFYFGYFLVLVPRWFFSCNHKDIGSLYL VFGALS GA 500  
PG05 AGADPYVLIGRIATIFYFGYFLVLVPRWFFSCNHKDIGSLYL VFGALS GA 500  
PG06 AGADPYVLIGRIATIFYFGYFLVLVPRWFFSCNHKDIGSLYLIFGALS GA 500  
PG07 PVEDPYILIGQFAAIFYFAYFLILTPRWLFSSTNHKDIGTLYLL LGAFSGM 500  
PG08 PVEEPYILIGQLVSLFFYFAYFLIIVPRWL YSSTNHKDIGTLYLLFGAFSGM 500  
PG09 PVEEPYILIGOMASIFYFVYFLILVPRWLFSTNHKDIGTLYLLFGAFAGM 500  
PG10 VVEEPFIIIGQLVALYFFYFLILIPRWGFSSTNHKDIGTLYLVFGIGAGM 500  
PG11 PVEDPYVLVGQVSTVIYFSYFFLLLPRWLFSSTNHKDIGTLYLIFGAFSAM 500  
PG12 PVEEPYVLIGQFASMFYFCYFLLLIPRWLFSSTNHKDIGTLYLLFGAFSGM 500  
PG13 PVEEPFIIVGQLASVFFFAYFLVLSPRWVFSSTNHKDIGTLYLVFGIGSGM 500  
PG14 VVEEPFIVIGQLVSFFYFSYFFIWP RWVFSSTNHKDIGTLYLVFGVGAGM 500  
PG15 PVEDPYNFLGQILTCAYFSYFVFTPIRWVFSSTNHKDIGTLYFIFGAWAGM 500  
PG16 PVEDPFILIGQILTFVYFLFLMIPLRWVFSSTNHKDIGTLYILFGIWAGL 500  
PG17 PVEYPFIEIGQTASSIFFALFVIIIPRWLFSSTNHKDIGTLYFIFGAWAGM 500  
PG18 PVEYPYVLLGQVASVLYFSLFIFGFPRWLFSSTNHKDIGTLYLIFGAWAGM 500

PG01 VGSGISIIIMRLELAAPGNLGGNHHL YNVLITAHGLLMIFFMVMPAIIIGGF 550  
PG02 LGTAMSVIIRMELSIIPGSLAGDSHLYNVIVTAHAF LMIFFLVMPFLMGGF 550  
PG03 IGTAFSMLIRLELSSPGSMLGDDHLYNVIVTAHAFVMIFFLVMP TMIGGF 550  
PG04 IGTAFSMLIRLELSSPGSMLGDDHLYNVIVTAHAFVMIFFLVMP TMIGGF 550  
PG05 IGTAFSMLIRLELSSPGSMLGDDHLYNVIVTAHAFVMIFFLVMP TMIGGF 550  
PG06 IGTAFSMLIRLELSSPGSMLGDDHLYNVIVTAHAFVMIFFLVMP TMIGGF 550  
PG07 IGTAFSVLIRLELSAPGSMLGDDQLY NVIVTAHAFVMIFFLVMPVLIGGF 550  
PG08 IGTGFSFLIRLELSAPGSMLGDDHLYNV IITAHGLIMIFFLVMPVMIGGF 550  
PG09 IGTGFSMLIRLELSAPGSMLGDDHLYNVIVTAHAFVMIFFLVMPVMIGGF 550  
PG10 IGTAFSMLIRLELSAPGAMLGDDHLYNVIVTAHAFIMIFFLVMPVMIGGF 550  
PG11 VGTAFSMIIRLELSGPGSMLGDDQLY NVVVTAHALIMIFFLVMPVLIGGF 550  
PG12 AGTASSMLIRLELSAPGSMLGDDHLYNVIVTAHALLMIFFLVMPVMIGGF 550  
PG13 IGTALSMLIRLELSAPGTM LGDDHLYNVIVTAHAFIMIFFLVMPVMIGGF 550  
PG14 IGTAFSVLIRLELSAPGAMLGDDHLYNVIVTAHAFIMIFFLVMPVMIGGF 550  
PG15 VGTSLSMLIRAEELGQPGSLIGDEQV YNVIVTAHAFIMIFFMVMPILIGGF 550  
PG16 VGTALSLLIRAEELGQPGALLGDDQLY NVIVTAHAFVMIFFLVMPMMIGGF 550  
PG17 IGTGLSLLIRIELAQP GPFLGDDQIYNVIVTAHAFVMIFFMVMPIMIGGF 550  
PG18 VGTAMSVIIRAEELAQP GSLLNDDQIYNVVVTAHALVMIFFMVMPIMIGGF 550

PG01 GNWLLPIMIGAPDMAFPRLNNSFWLMPASLTLITLSLLVGN GPVGVWTV 600  
PG02 GNFFVPLMIGAPDMSFPRMNNISFWLLPPSLILLVASSLVEGGAGTGWTV 600  
PG03 GNWFVPLMIGAPDMAFPRLNNSFWLLPPALFLLLGS SLVEQGAGTGWTV 600  
PG04 GNWFVPLMIGAPDMAFPRLNNSFWLLPPALFLLLGS SLVEQGAGTGWTV 600  
PG05 GNWFVPLMIGAPDMAFPRLNNSFWLLPPALFLLLGS SLVEQGAGTGWTV 600  
PG06 GNWFVPLMIGAPDMAFPRLNNSFWLLPPALFLLLGS SLVEQGAGTGWTV 600  
PG07 GNWFVPLYIGAPDMAFPRLNNSFWLLPPSLTLLLGS AFVEQGAGTGWTV 600  
PG08 GNWFVPLYIGAPDMAFPRLNNSFWVLP PSLI LLLLGS AFVEQGVGAGWTV 600  
PG09 GNWFVPLYIGAPDMAFPRLNNSFWLLPPSLTLLLGS AFVEQGAGTGWTV 600  
PG10 GNWLVPPLYIGAPDMAFPRLNNSFWLLPPALI LLLLGS AFVEQGVGTGWTV 600  
PG11 GNWLVPPLYIGAPDMAFPRLNNSFWLLPPALLLLLGS SLIEQGAGTGWTI 600  
PG12 GNWFVPLMIGAPDMAFPRLNNSFWLLPPSLILLAGSMFVEQGAGTGWTI 600  
PG13 GNWLVPPLYIGAPDMAFPRLNNSFWLLPPALI LLLLGS AFVEQGVGTGWTV 600  
PG14 GNWLVPPLYIGAPDMAFPRLNNSFWLLPPALI LLLLGS AFVEQGVGTGWTV 600  
PG15 GNWLVPIMLGAPDMAFPRLNNSFWMLPPSLTLLLGS SMVESGAGTGWTV 600  
PG16 GNWLVPMLGVDPDMAFPRLNNSFWLLPPALC LLLGS GAVESGAGTGWTV 600  
PG17 GNWLIPMLGAPDMAFPRLNNSFWLLPPAFL LLLGS SAAVESGAGTGWTV 600  
PG18 GNWLIPLMIGAPDMAFPRLNNSFWLIPPSFI LLLGS SAGVENGAGTGWTI 600

PG01	Y P P L S D S L Y A S G H S V D L A I L S L H L A G V S S M V S S I N M I T T V I N M R A P G M T M	650
PG02	Y P P L S S V E F H S G G S V D L A I F S L H L A G V S S L L G A S N F I T T I L N M R A P G M T M	650
PG03	Y P P L A S I Q A H S G G S V D M A I F S L H L A G L S S I L G A M N F I T T V M N M R T P G M T M	650
PG04	Y P P L A S I Q A H S G G S V D M A I F S L H L A G L S S I L G A M N F I T T V M N M R T P G M T M	650
PG05	Y P P L A S I Q A H S G G S V D M A I F S L H L A G L S S I L G A M N F I T T V L N M R T P G M T M	650
PG06	Y P P L A S I Q A H S G G S V D M A I F S L H L A G L S S I L G A M N F I T T I L N M R T P G M T M	650
PG07	Y P P L A S I Q A H S G G S V D M V I F S L H L A G I S S I L G A M N F I T T I F N M R A P G I T M	650
PG08	Y P P L S S V Q A H S G G S V D A A I F S L H L A G I S S I L G S M N F I T T I F N M R A P G I T M	650
PG09	Y P P L A S I Q A H S G G S V D M A I F S L H L A G I S S I L S T I N F I T T I L N M R A P G I T M	650
PG10	Y P P L S S I Q A H S G G A V D M A I F S L H L A G V S S I L G A M N F I T T I L N M R A P G M T L	650
PG11	Y P P L S S I Q A H S G G S V D M A I F S L H L A G A S S I M G A I N F I T T I L N M R A P G M T M	650
PG12	Y P P L A G I Q A H S G G A V D M A I F S L H L A G V S S I L S S I N F I T T I I N M R V P G M S M	650
PG13	Y P P L S A I Q A H S G G A V D M A I F S L H L A G A S S I L G A M N F I T T I F N M R A P G M T M	650
PG14	Y P P L S N I Q A H S G G A V D M A I F S L H L A G A S S I L G A M N F I T T I L N M R A P G I T L	650
PG15	Y P P L S S A I A H A G P S V D L A I F S L H L A G V S S I L G A V N F I T T I I N M R P Q S M S I	650
PG16	Y P P L A G N V G H A G G S V D L A I F S L H L A G V S S I L G A V N F I T T I V N M R S E G M Q L	650
PG17	Y P P L S G N L A H G G S V D L A I F S L H L A G I S S I L G A I N F M T T V I N M R A A G I T W	650
PG18	Y P P L S S N I T H A G S S V D L A I F S L H L A G A S S I L G L I N F I T T I I N M R T P G M S L	650

PG01	E R V P L Y V W G A F I T S F L L V L S L P V L A G G I T M L L T D R N F N T T F Y D P T G G G D P	700
PG02	H K L P L F V W A V F I T A I L L L L S L P V L A A G I T M L L T D R N F N T S F F D P A G G G D P	700
PG03	S R I P L F V W S V F I T A I L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG04	S R I P L F V W S V L I T A I L L L L S L P V L A G A I T M L L T D R Y F N T T F F D P A G G G D P	700
PG05	S R I P L F V W S V F I T A I L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG06	S R I P L F V W S V F I T A I L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG07	D R M P L F V W S I L V T V F L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG08	D R L P L F V W S I L V T T Y L L I L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG09	D R M P L F V W S I L I T A I L L L L S L P V L A G A I T M L L T D R N F N T A F F D P A G G G D P	700
PG10	N K M P L F V W S I L I T A F L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG11	D R I P L F V W S V L V T A I L L L L S L P V L A G A I T M L L T D R N F N T S F F D P A G G G D P	700
PG12	H R L P L F V W S V L I T T I L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG13	D R L P L F V W S I L I T A F L L L L S L P V L A G A I T M L L T D R N F N T T F F D P A G G G D P	700
PG14	D R M P L F V W S I L I T A F L L L L S L P V L A G G I T M L L T D R N F N T T F F D P A G G G D P	700
PG15	D R M P L F V W A V G I T A V L L L L S L P V L A G A I T M L L T D R N L N T S F F D P A G G G D P	700
PG16	E R L P L F V W S V K I T A I L L L L S L P V L A G G I T M L L T D R N F N T S F F D P A G G G D P	700
PG17	S R L P L F V W S I F I T V I L L L L S L P V L A G G I T M L L T D R N L N T T F F D P A G G G D P	700
PG18	D R L P L F V W S V F V T A F L L L L S L P V L A G A I T M L L T D R N I N T T F F D P A G G G D P	700

PG01	V L F Q H L F W F F G H P Y I M I L P G F G I I S H V V S R F A V K P V F G S I G M I Y A M M S I G	750
PG02	I L Y Q H L F W F F G H P Y I L I I P G F G I V S H I V S T F S D K P V F G Y L G M V Y A M L S I G	750
PG03	I L Y Q H L F W F F G H Y Y I L I L P G F G I I S Q I L S L F S Y K Q I F G Y L G M V K A M L A I G	750
PG04	I L Y Q H L F W F F G E A Y I L I L P G F G I I S Q I L S L F S Y K Q I F G Y L G M V K A M L A I G	750
PG05	I L Y Q H L F W F F G K G Y I L I L P G F G I I S Q I L S L F S Y K Q I F G Y L G M V K A M L A I G	750
PG06	I L Y Q H L F W F F G K G Y I L I L P G F G I I S Q I L S L F S Y K Q I F G Y L G M V K A M L A I G	750
PG07	I L Y Q H L F W F F G H P Y I L I L P G F G I I S Q I I P T F A A K Q I F G Y L G M V Y A I V S I G	750
PG08	I L F Q H L F W F F G H P Y I L I L P G F G I V S Q I I P T F A A K Q I F G Y L G M V Y A M V S I G	750
PG09	I L Y Q H L F W F F G H P Y V L I L P G F G I I S Q I V P T F A A K Q I F G Y L G M V Y A M V S I G	750
PG10	I L F Q H L F W F F G H P Y I L I L P G F G M I S Q I I P T F V A K Q I F G Y L G M V Y A M L S I G	750
PG11	I L F Q H L F W F F G H P Y I L I L P G F G I V S Q I I P T F S S K Q I F G Y L G M V Y A M I A I G	750
PG12	I L F Q H L F W F F G H P Y I L I L P G F G I I S Q I I P T F S A K H I F G Y L G M V Y A M I S I G	750
PG13	I L F Q H L F W F F G H P Y I L I L P G F G M V S Q I I P T F S A K Q I F G Y L G M V Y A M L S I G	750
PG14	I L F Q H L F W F F G H P Y I L I L P G F G M I S Q I I P T F V A K Q I F G Y L G M V Y A M L S I G	750
PG15	I L Y Q H L F W F F G H P Y I L I L P G F G M V S H I I S Q E S G K E A F G T L G M I Y A M L A I G	750
PG16	I L Y Q H L F W F F G H P Y I L I L P G F G M I S H I V M H Y S S K E T F G T L G M I Y A M L A I G	750
PG17	I L Y Q H L F W F F G H P Y I L I L P G F G I I S H V I A F Y S G K E T F G Y L G M V Y A M L A I G	750
PG18	I L F Q H L F W L F G H P Y I L I L P G F G M I S H V I A H Y S G K E P F G Y L G L V Y A M I A I G	750

PG01	LLGFIVWSSHLYTVGLDVDTRAYFTAATMIIAVPTGIKMFWSLATLYGGI	800
PG02	LLGFIVWAHMYTVGMDVDTRAYFTAATMIIAVPTGIKIFSWLGTMYGGI	800
PG03	VLGFIVWAHMHFVVGMDVDTRAYFTAATMIIAVPTGIKIFSWLATVSGSL	800
PG04	VLGFIVWADHMYVVGMDVDTRAYFTAATMIIAVPTGIKIFSWLATVSGSL	800
PG05	ILGFIVWADHMYVVGMDVDTRAYFTAATMIIAVPTGIKIFSWLATISGSL	800
PG06	ILGFIVWADHMYVVGMDVDTRAYFTAATMIIAVPTGIKIFSWLATISGSL	800
PG07	ILGFIVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKIFSWVATMFGGL	800
PG08	ILGFIVWAHMHFTVGMVDVSRAYFSAATMIIAVPTGIKIFSWIATVVGGL	800
PG09	ILGFIVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKIFSWVATMVGGI	800
PG10	ILGFIVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKVFSWLATIFGGL	800
PG11	ILGFIVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKIFSWLATLYGGV	800
PG12	VLGFIVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKIFSWLATIYGGI	800
PG13	ILGFIVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKVFSWLATIYGGV	800
PG14	ILGFIVWAHMHFTVDMVDVTRAYFTAATMIIAVPTGIKVFSWLATVYGGI	800
PG15	ILGFVVAHMHFTVGMVDVTRAYFTAATMIIAAPTGIKIFSWIGTLHGTL	800
PG16	LLGFIVWAHMHFVVGMDVDTRAYFTAATMIIAVPTGIKIFSWLATIYGAI	800
PG17	ILGFLVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGIKIFSWLATLHGSL	800
PG18	VLGFLVWAHMHFTVGMVDVTRAYFTAATMIIAVPTGLKVFSWMAKLOGSL	800

PG01	HLYA PMLFALGFLL LFTMGGVTGVC LANASLDIAFHDTYYVVGHFHYVLS	850
PG02	RLKVPMY WALGFIFLFTLGGITGVMLANGGLDIALHDTYYVVAHFHYVLS	850
PG03	ILTPMAWALGFIFLFTIGGLTGIVLSNSSLDILLHDTYYVVAHFHFVLS	850
PG04	IFTTPMAWALGFIFLFTIGGLTGIVLSNSSLDILLHDTYYVVAHFHYVLS	850
PG05	IFTTPMAWALGFIFLFTIGGLTGIVLSNSSLDILLHDTYYVVAHFHFVLS	850
PG06	IFTTPMVWALGFIFLFTIGGLTGIVLSNSSLDILLHDTYYVVAHFHFVLS	850
PG07	KLETPMLWALGFVFLFTLGGITGIVLANSSLDIVLHDTYYVVAHFHYVLS	850
PG08	RTDTPMLWALGFVFLFTVGGITGIVLANSSLDVLLHDTYYVVAHFHYVLS	850
PG09	RLDTPMLWALGFVFLFTIGGLTGIVLANSSLDVLLHDTYYVVAHFHYVLS	850
PG10	RLDTPMLWAMGFVFLFTLGGITGVLANSSLDVLLHDTYYVVAHFHYVLS	850
PG11	RFETPMLWAMGFIFLFTLGGITGIVLANGSLDIALHDTYYVVAHFHYVLS	850
PG12	RLDTPMLWALGFVFLFTIGGLTGIVLANSSLDIMLHDTYYVVAHFHYVLS	850
PG13	RLDTPMLWALGFVFLFTIGGLTGIVLANSSLDIVLHDTYYVVAHFHYVLS	850
PG14	RLDTPMLWALGFVFLFTLGGITGVLANSSLDVLLHDTYYVVAHFHYVLS	850
PG15	TMTPSMLWALGFVFLFTVGGITGVLSNSSLIDIVLHDTYYVVAHFHYVLS	850
PG16	GSETPMMWALGFIFLFTVGGITGIVLSNSSLDIMLHDSYYVVAHFHYVLS	850
PG17	QWETPLLWALGFVFLFTLGGITGIVLSNSSLDVLLHDTYYVVAHFHYVLS	850
PG18	QWSLPLLWTLGIVFLFTLGGITGIVLANSSIDFVLLHDTYYVVAHFHYVLS	850

PG01	MGAVFAIFAAFY YWVGKMTGYNYPEY LARVHFWTFFIAVNLVFFPMHFLG	900
PG02	MGAVFALIGGVY YWIGKVTGYAYPETW GKIHFWMFIGVNLTFPPQHFLG	900
PG03	MGAVFAIFGGFY LWF GKITGYAYKDIYGLIHFWMFIGVNLTFPPQHFLG	900
PG04	MGAVFAIFGGFY LWF GKITGYAYKDIYGLIHFWMFIGVNLTFPPQHFLG	900
PG05	MGAVFAIFGGFY LWF GKITGYAYKDIYGLIHFWMFIGVNLTFPPQHFLG	900
PG06	MGAVFAIFGGFY LWF GKITGYAYKDIYGLIHFWMFIGVNLTFPPQHFLG	900
PG07	MGAVFAMFGGFY YWFGKISGYCYNEVY GKIHFWMFIGVNLTFPPQHFLG	900
PG08	MGAVFALFGGFY YWFGKITGYCYNEV L GKIHFWMFIGVNLTFPPQHFLG	900
PG09	MGAVFAIFGGFY YWFGKITGYCYNEVY GKIHFWMFIGVNLTFPPQHFLG	900
PG10	MGAVFAIFGGFY YWVGKITGYCYNELY GKAHFWMFIGVNLTFPPQHFLG	900
PG11	LGAVFAIFGGFY YWFGKITGYSYNEVY GKIHFWMFIGVNLTFPPQHFLG	900
PG12	MGAVFAIFGGY YWFGKITGFSYNEVY GKIHFWMFIGVNLTFPPQHFLG	900
PG13	MGAIFAIFAGFY FWF GKITGYCYNELY GKIHFWMFIGVNLTFPPQHFLG	900
PG14	MGAVFAIFGGFY YWVGKITGYCYNEFY GKVFHFWL MFIGVNLTFPPQHFLG	900
PG15	MGAVFAIMAGFVHWFPLMTGLSMNOFLLKVHFFIMFLGVNLTFPPQHFLG	900
PG16	MGAVFALFGAFNYWYPLMTGLSLHERWTKSHFVVMFLGVNLTFPPQHFLG	900
PG17	MGAVFAIFAGFIHWFPLFTGYGLHPVWTKVHFWT MFLGVNLTFPPQHFLG	900
PG18	MGAVFAIFAGFTHWFPLFSGYSLHPLWGVHFFIMFVGVNLTFPPQHFLG	900

PG01 INGM PRRIPDYPEAFANWNVVMSLGTVFTVFSLIVFNLSFQDVASPTMYG 950  
PG02 LAGFP RRYNDFPDAYAEWNLLSSFGSLISVVAIVFQLSFQDPASPVFEE 950  
PG03 LAGLP RRYADYPDNFEDFNQISSFSGSVISLTAVIWFQLGFQDAGSPVMEE 950  
PG04 LAGLP RRYADYPDNFEDFNQISSFSGSIISIIAVIWFQLGFQDAGSPVMEE 950  
PG05 LAGLP RRYADYPDNFEDFNQISSFSGSIISIIAVIWFQLGFQDAGSPVMEE 950  
PG06 LAGLP RRYADYPDNFEDFNQISSFSGSIISIIAVIWFQLGFQDAGSPVMEE 950  
PG07 LAGLP RRYSDYHDSFAGWNQISSLGSMISIIIGVVWFQIGFQDAASPVMEE 950  
PG08 LAGLP RRYSDYHDSFAGWNQISSLVGS LISIVSVMVFQLGFQDAASPVMEE 950  
PG09 LAGLP RRYSDYHDSFAGWNQISSLGSVISIVGVWFQLGFQDAASPVMEE 950  
PG10 LTGF P RRYSDYFADCFAGWNLVSSLGSTISIVGVVFFHLGFQEAAPVMEE 950  
PG11 LAGM P RRYSDYFSDFTGWNIVSSLGSAISIVGVVWFQLSFQDSVSPIMEE 950  
PG12 LAGLP RRYSDYFADAYQDWNLVSSCGAVIALIGIMWFQLSFQDAASPVMEE 950  
PG13 LAGFP RRYSDYFVDGFAGWNLVSSLGSTISIVGVWFQLGLQDAAHPVMEE 950  
PG14 LTGF P RRYSDYFADSFAGWNLVSSLGSAVVLVGVVWFHLGLQDAADPVMEE 950  
PG15 LAGM P RRYADYPTDYASWNVISLGSVMSMIATLMFQLGLQNGNSPLMEQ 950  
PG16 LSGM P RRYSDYPCYIKWNVVSSIGSLISFVAVLFQWGFQDGASPIMEQ 950  
PG17 LAGM P RRYSDYFPDAYTTWNVVSSVGS IISLTSVILFQISLQDAASPIMEE 950  
PG18 LAGM P RRYSDYFPDAYTLWNTISSIGSTISVVAMLFFQFGLQDASSPLMEE 950

PG01 LLEL HDHVLFYLI LILITVGHVIEFLWTLAPALILGAIALPSFRLLYLMD 1000  
PG02 IINF HNYVVFVYMTF IFFGVGT LIE LIWTVTPALVLVGIAFPSFKLLYLMD 1000  
PG03 IIML HDQILFILTI IIVGVVGS LIEVIWTLIPAFILILIAFPSLRLLYIMD 1000  
PG04 IIML HDQILFILTI IIVGVVGS LIEVIWTLIPAFILILIAFPSLRLLYIMD 1000  
PG05 IIML HDQILFILTI IIVGVVGS FIEVIWTLIPAFILILIAFPSLRLLYIMD 1000  
PG06 IIML HDQILFILTI IIGVVGS FIEVIWTLIPAFILILIAFPSLRLLYIMD 1000  
PG07 IIFFDQIMFILTI IILTTVGT LIE I IWTLPAGILVFIAFPSLRLLYIMD 1000  
PG08 IIFFDQIMFILTI IIVTVGT LIE I IWTLPACVLIFIAFPSLRLLYIMD 1000  
PG09 VIFF HDQIMFIL I IISIVGT LIE I IWTLPAGVLFIAFPSLRLLYIMD 1000  
PG10 IVFF HDQIMFLLVI IIVIVVGT LLE I VWTLPAVILVFIA SPSLRLLYIMD 1000  
PG11 IVFL HDQIMFVVPV ISVLVGT VIEVWTVIPAILIFIAFPSLRLLYIMD 1000  
PG12 ILFL HNQIMFILITI IITVGT I E I VWTIPAILVFI AFPSLRLLYIMD 1000  
PG13 IIFFDQVMFIL I I IITTVGT LLE I IWTIPAILILIAFPSLRLLYIMD 1000  
PG14 IIFFDQIMFLLI IIVIVVGT LLE I VWTLPAVILIFIA SPSLRLLYIMD 1000  
PG15 LIFFDHALLVVLITSLVGOAIE TVWTVIPAILVAIALPSIRLLYLID 1000  
PG16 LIFFDHAMLILIMI ISLLSQEIE I VWTIPAVLIFLAFPSLQLLYLID 1000  
PG17 LIYFDHTLILITL I IITVVSQOIE TAWTLPAILIFIALPSLRLLYIMD 1000  
PG18 LTYFDYALIVLTLITILVGOELE TIWTVIPAILILILIALPSLQLLYLMD 1000

PG01 EIIE PQVTVKAIGNQWYWSYEYTDYPLRQLNVDNYLVLPVDT SIRLLITA 1050  
PG02 EVIDPAITIKVVGHQWYWSYEYS DYDLRLLEVDNRVLPKNT HVRVIVTS 1050  
PG03 ECGFSAITIKVTGHQWYWSYSYEDYDLRLLEVDNRLILPVD TNVRVLITA 1050  
PG04 ECGFSAITIKVTGHQWYWSYSYEDYDLRLLEVDNRLILPVD TNVRVLITA 1050  
PG05 EGVFSAITIKVTGHQWYWSYSYEDYDLRLLEVDNRLIIPVD TNVRVLITA 1050  
PG06 EGVFSAITIKVTGHQWYWSYSYEDYDLRLLEVDNRLIIPVD TNVRVLITA 1050  
PG07 EVIDPALTIKAI GHQWYWSYEYS DYDLRLLEVDNRLIVPIQTQVRVLVTA 1050  
PG08 EVIDPALTIKAI GHQWYWSYEYS DYDLRLLEVDNRLIVPIQTQVRVLVTA 1050  
PG09 EVIDPALTIKVVGHQWYWSYEYS DYDLRLLEVDNRLVVP IQTQVRVLVTG 1050  
PG10 EVVSPALTIKAI GHQWYWSYEYS DYDFRLLEVDNRLVVP INTHVRVILVTG 1050  
PG11 ETMEPAITIKAVGHQWYWSYEYS DYDNRLLEVDNCLVLP IQAHIRVLVTG 1050  
PG12 EIVEPGVTVKAIGHQWYWSYEYS DYDLRLLEVDNRMIVPIDTHVRVLVTG 1050  
PG13 EVMDPALTIKAI GHQWYWSYEYS DYDFRLLEVDNRLVVP INTHVRVLVTG 1050  
PG14 EVVGPALTIKAI GHQWYWSYEYS DYDFRLLEVDHRLVLP INTHVRVILVTG 1050  
PG15 EIHNPAITIKVTGHQWYWSYEYS DLMYRLLDVDNRSQCPMIKAI RLMITS 1050  
PG16 ELEEPALTIKVVGHQWYWSYEYS DFDYRLLEVDHRSVVP MKTKVRVLVTA 1050  
PG17 EINDPHLTIKATGHQWYWSYEYTDYEP RLLET DARI IAPTHSPIRILVTS 1050  
PG18 EVNDPFLTIKAFGHQWYWSYEYTD FNP RLLEVDNRLVLP M QNPIRVLVSS 1050



PG01 SDVIHSFAVPSLGVKMDAIPGRNLSVGMIIISRPGVIFYGQCSELCGYLHGF 1100  
PG02 ADVIHSWAVPSLGVKIDAIPGRLNQTSFLAYRNGVIFYGQCSEICGIGHSV 1100  
PG03 ADVLHSWTVPSLAVKMDAVPGRINETGFLIKRPGIFYGQCSEICGANHSF 1100  
PG04 ADVLHSWTVPSLAVKMDAVPGRINETGFLIKRPGIFYGQCSEICGANHSF 1100  
PG05 ADVLHSWTVPSLAVKMDAVPGRINETGFLIKRPGIFYGQCSEICGANHSF 1100  
PG06 ADVLHSWTVPSLAVKMDAVPGRINETGFLIKRPGIFYGQCSEICGANHSF 1100  
PG07 ADVLHSFAVPSLSVKIDAIPGRLNQTSFFIKRPGVIFYGQCSEICGANHSF 1100  
PG08 ADVLHAFAVPSLGVKVDPAVPGRLNQTSFFIKRPGVIFYGQCSELCGANHSF 1100  
PG09 ADVLHSFALPSLSVKIDAIPGRLNQTSFFIKRPGVIFYGQCSEICGANHSF 1100  
PG10 ADVLHSFAVPALGIKTDAVPGRLNQAGIFIKRPGTFIFYGQCSEICGANHSF 1100  
PG11 ADVIHSFAIPSLGIKMDAVPGRLNQSNMFMKRSGLIFYGQCSEICGTNHSF 1100  
PG12 ADVLHSFAVPSLGIKMDAVPGRLNQTSFFLVKRPGLIFYGQCSELCGANHSF 1100  
PG13 ADVLHSFAVPALAVKMDAIPGRLNQTSFFIKRPGIFYGQCSEICGANHSF 1100  
PG14 ADVLHSFAVPALGLKIDAIPGRLNQAGLFLVKRPGLIFYGQCSELCGANHSF 1100  
PG15 DAVLHSWAVPSLGIKMDADPGRLNQSSLLVNMPGVIFYGQCSEICGSGHSF 1100  
PG16 ADVLHSWTVPSLGVKADAVPGRLNQLSFFANYPGVIFYGQCSEICGANHSF 1100  
PG17 DDVLHSWTVPALGLKMDAIPGRLNQITFYAPRSVIFYGQCSEICGANHSF 1100  
PG18 ADVLHSWAVPSLGTKMDAVPGRLNQTSFFAARTGVIFYGQCSEICGANHSF 1100

PG01 MPIGIIKAVSTENYLNWHPYHLVDPSPWPILGGFAAFVFASTGLIFSFKHIL 1150  
PG02 MPIAIEVVDLENYCTYHPYHLVEPSPFPYMASFSALGLTVGAVMYFHSLL 1150  
PG03 MPIVVESVSLSKYIDWHPYHLVDPSPWPFVGASGAFLFTSGAVILFHyla 1150  
PG04 MPIVVESVSLSSYIDWHPYHLVDPSPWPFVGASGAFLFTSGAVILFHyla 1150  
PG05 MPIVVEAVSLSKYIDWHPYHLVDPSPWPFVGASGAFLFTSGAVILFHyla 1150  
PG06 MPIVVEAVSLSKYIDWHPYHLVDPSPWPFVGASGAFLFTSGAVILFHyla 1150  
PG07 MPIVIEAVSLDKYINWHPYHLVEPSPWPYIGACGAFFFTVGSVMYFHYVL 1150  
PG08 MPIVIEGVSLKYSWHPYHLVKPSPWPYIGCGALLTVGAVIVYFHYVL 1150  
PG09 MPIVIEAVSLEKFNWHPYHLVDPSPWPYIGACGAFFFTVGGVMYFHYVL 1150  
PG10 MPIVIEAVSLDRYINWHPYHLVEPSPWPCLGAGGAFFITVGSVMYFHYIM 1150  
PG11 MPIAVRGVSLDTFINWHPYHLVDPSPWPYVSACGAFFLTLGSVIYFHYIM 1150  
PG12 MPIVIEAVSMDKYISWHPYHLVDPSPWPYTGSVGALLITVGSVLYFHYLM 1150  
PG13 MPIVIEAVSLDKYINWHPYHLVDPSPWPYVGACGALFITVGSVVYFHYVL 1150  
PG14 MPIVIEAVSLDRYINWHPYHLVEPSPWPCLGAGGAFFITMGSVVYFHYVM 1150  
PG15 MPIVIEAVGESDFLKWHPYHLVNI SPWPLATGMGAFAMTSGLVKWFHSLF 1150  
PG16 MPIVLEEVVDSSSFIKWNPFHLVEFSPWPLVGSMGAFCLTVGLAAWFHGLV 1150  
PG17 MPIVLETVPLEEFEAHPFHLVDQSPWPLTGATAALFTTVGIMVWFHFLT 1150  
PG18 MPIVIESVFPNTFENWHPYHLVDQSPWPLTGAFSGLMMTSGNVLWFHTLT 1150

PG01 VLGLISVLLVTFGWFRDITREGGKHTTKVQOSGLMLGVLLFLGSEVLLFIS 1200  
PG02 SISAILLTYVAYLWWRDIVREOQHHTIVVQKGLRGLMLLFIVSEVMFFFG 1200  
PG03 LTGLFLIIITASAWWRDIVREOQHHTQVVRGLKLGMLLFILSEVCLFFA 1200  
PG04 LTGLFLIIITASAVWRDIVREOQHHTQIVVRGLKLGMLLFILSEVCLFFA 1200  
PG05 LIGLLLIATAASAWWRDIVREOQHHTQIVVRGLKLGMLLFILSEVCLFFA 1200  
PG06 LTGLFLIIITASAWWRDIVREOQHHTQIVVRGLKLGMLLFILSEVCLFFA 1200  
PG07 ILGLITILFTMVVWWRDIVREOQHHTLIVKQGLKYGMILFILSEVCLFFS 1200  
PG08 SFGLVIVVVTMVVWWRDIVREOQHHTLIVKQGLKYGMILFILSEVCLFFS 1200  
PG09 IIGLTVIVFTMIVWWRDIVREOQHHTLIVKQGLKYGMILFILSEVCLFFS 1200  
PG10 YLGVLVVVIIMFVWQDVIREOQGFHSLVVKQGIKYGMILFILSEVLFFFS 1200  
PG11 LLGLLILGTTFVWCRDIIREOQHHTTEIVKKGLKIGMLLFIVSEICFFVS 1200  
PG12 YLGAITLILTMIVWWRDIVREOQHHTQIVKRGLRYGMILFITSEVCLFFA 1200  
PG13 LMGAITLSLTMIVWWRDIVREOGLHTMVVKQGLKYGMILFILSEVLFFFS 1200  
PG14 YVGVLVVMVIMFVWQDVIREOQGYHSLVVKQGIKYGMILFILSEVLFFFS 1200  
PG15 FTGINNNHICFDQWWRDIVSREOQGMHSTKVGFGLRWGMILFIISEVFFVS 1200  
PG16 WVGVILILLTMVQWWRDIVREOQGYHTLRVSRGLRWGMILFITSEVLFFFA 1200  
PG17 LFGVVMVILTMFQWWRDIVREEGQHTSEVGSGLRWGMILFITSEVLFFFA 1200  
PG18 LVGFLLLITNMVNWWRDIVIRKQGSHTAIVNKGMRYGMLFITSEVCLFFA 1200

PG01 FFWAYFHSSLS PDIVLGGVWPPS VDPWSI PLLGS I ILLSSGATCTVAHNA 1250  
PG02 FFWAFFHSSSLGPEI SIGAVWPPPIEAMGV PLLNTAILL TSGATVTW SHHS 1250  
PG03 FFWAFFHSSSLAPSV ELG SVWPPALDPFAV PLLNT T ILLSSGATVTWAHHA 1250  
PG04 FFWAFFHSSSLAPSV ELG SVWPPALDPFAV PLLNT T ILLSSGATVTWAHHA 1250  
PG05 FFWAFFHSSSLAPSV ELG SVWPPALDPFAV PLLNT T ILLSSGATVTWAHHA 1250  
PG06 FFWAFFHSSSLAPSV ELGGLWPPALDPFAV PLLNT T ILLSSGATVTWAHHA 1250  
PG07 FFWAFFHSSSLAPTIE IGA VWPP PLNPF SVPLLNTAV LLS SGATVTWAH HG 1250  
PG08 FFWAFFHSSSLVPTVE IGA VWPP PLNPF SVPLLNTV V LLS SGATVTWT HHA 1250  
PG09 FFWAFFHSSSLVPTIE IGA VWPP PLDPFSI PLLNTAV LLS SGATVTWAH HG 1250  
PG10 FFWAFFHSSSLAPAV ELGVVWPP PLNSF SVPLLNTAV LLS SGATVTWAHHA 1250  
PG11 FFWAFFHSSSLAPAI ELGALWPP I LNPF SVPLLNTAI LLS SGATVTWAHHA 1250  
PG12 FFWAFFHSSLSPTIE LGAVWPP VLD PFSV PLLNTAI LLS SGATVTWAHHA 1250  
PG13 FFWAFFHSSIAPNIE LGAVWPP PLNPF SVPLLNTAV LLS SGATVTWAHHA 1250  
PG14 FFWAFFHSSSLAPAV ELGVVWPP PLNPF SVPLLNTAV LLS SGATVTWAHHA 1250  
PG15 FFWGFFHSSLSPNIE VGALWPPEVESFLS ALLNTS ILLASGV TVTWAHHA 1250  
PG16 FFWAYFHSSSLAPCLE IGSCWPP PLNPFQV PLLNTAV LLASGV SVTWAHHS 1250  
PG17 FFWAFFHSSSLAPTIE LGTCWPP PINPFQV PLLNTAV LLASGV TVTWAHHS 1250  
PG18 FFWAFFHSSSLAPSV EIGVAWPP PLNPF L VPLLNTGV LLS SGV T LSW SHHS 1250

PG01 LINGAVATMFATVVLGFLFVGLQATEY YVSEFSI ADSIFGTV FYMT TGLH 1300  
PG02 I IAGTILAL I LTVVLA FIFTI ILOGMEY DEATFTI ADSVYGSV FYMLTGFH 1300  
PG03 I IGGAVIGL LMTVLLGI IFTGLQAFEY KEASF AISDSVYGSTFFMLTGTH 1300  
PG04 I IGTAVIGL LMTILLGI IFTGLQAFEY KETSFAISDSVYGSTFFMLTGTH 1300  
PG05 I IGGAVIGL LMTILLGI IFTGLQAFEY KEASF AISDSVYGSTFFMLTGTH 1300  
PG06 I IGGAVIGL LMTILLGI IFTGLQAFEY KEASF AISDSVYGSTFFMLTGTH 1300  
PG07 I ISGAIISLAL TVVLGFI FTALQAMEY YEAPFTI SDSVYGSTFFV TGAH 1300  
PG08 I ISGAIIGLVFTVFLGILFTGLQAMEY YEAPFTI SDSVYGSTFFLT TGAH 1300  
PG09 I ISGAIRGLAL TVILGLIFTGLQAMEY YEAPFTI SDSVYGSTFFV TGAH 1300  
PG10 I ISGAILGLSLTVFLGVLF TGLQIEY YEAPFTI SDSVYGSTFFMATGFH 1300  
PG11 I INGAI VGLVSTVLLGMIFTALQI VEYI EAPFAISDSVYGSTFFMATGFH 1300  
PG12 I VSGAIQSLTCTVILGI QFTALQAMEY YEAPFTI SDSVYGSTFFMATGFH 1300  
PG13 L ISGAINGLTITVVLGLIFTGLQAMEY YEAPFAISDSVYGSTFFVATGFH 1300  
PG14 I ISGAIRGLSFTIFWGILFTGLQAI EY YEAPFAISDSVYGSTFFVATGFH 1300  
PG15 L MENCLQGLLFTVLLGLYFSFLOGLEY MEASFTI ADSIY GSTFFLATGFH 1300  
PG16 L IDGANISL LTVILGAYFTFLQAGEY LETSFTI ADS CY GSTFFVATGFH 1300  
PG17 I IAAAIQALLITVLLGLYFTALQI FEY YQAPFTI ADAVY GSTFFVATGFH 1300  
PG18 I LAGSIOALFLTVALGSYFTALQAW EYI DAPFTI ADSVY GSTFFVATGFH 1300

PG01 GTHV IIGAI FLTVMLV RMV RDQ OFTHHLGLEFS L WYWHMVDVIWLFVFLTY 1350  
PG02 GFHVLVGTIFLTVCLFRI IRSHYTHHN GFEEAIWYWHFVDVFWLGLFVIV 1350  
PG03 GLHVLVGTTFLLVCFIRLLSN OFTHHLGLEAAI WYWHFVDVWVWLFVYV 1350  
PG04 GLHVLVGTTFLLVCFIRLLSN OFTHHLGLEAAI WYWHFVDVWVWLFVYV 1350  
PG05 GLHVLVGTTFLLVCFIRLLAN OFTHHLGLEAAI WYWHFVDVWVWLFVYV 1350  
PG06 GLHVLVGTTFLLVCFIRLLAN OFTHHLGLEAAI WYWHFVDVWVWLFVYV 1350  
PG07 GGHV LIGSTFLLVCLYRLINH OFTHHF GFEEAAWYWHFVDVWVWLFLETFM 1350  
PG08 GAHV LIGSSFLLVCLIRLIYY OFTHHF GFEEAVWYWHFVDVWVWLFLEIFM 1350  
PG09 GGHV LIGSSFLLVCLYRLVTHHFTHHV GFEEAAWYWHFVDVWVWLFLETFM 1350  
PG10 GFHV LIGTTFLIICLVRLKLN OFTOHV GFEEASWYWHFVDVWVWLFVYLCV 1350  
PG11 GFHV LIGTTFLLLVCLLRLV FHQYTHHF GFEEASWYWHFVDVWVWLFVYVCI 1350  
PG12 GFHV IIGTIFLTVCLTRLIGYHYTHHF GFEEASWYWHFVDVWVWLFVYVCI 1350  
PG13 GMHV IIGTTFLAVCLARLVYH OFTHHLGFEEASWYWHFVDVWVWLFVYICI 1350  
PG14 GLHV IIGTTFLTVCLVRLKSN QLT KHV GFEEASWYWHFVDVWVWLFVYLCI 1350  
PG15 GLHV LIGTIFLMICILRHAKCYFSHHF GFEEAAWYWHFVDVWVWLFVYLSI 1350  
PG16 GFHV LVGSLFLLVTLWRNFSCHFSHHF GFEEAAWYWHFVDVWVWLFVYISI 1350  
PG17 GLHV IIGTTFLLICLV RQLKFHFSHHF GFEEAAWYWHFVDVWVWLFLEISI 1350  
PG18 GLQV IIGTTFLMVCLFR TAGRHFSSHFG FEAAA WYWHFVDVWVWVFLVYWL I 1350

PG01 YWWG SVLA VAFMTLAERKLMGAIQRRIGPNSVGFLLQPPFDGVKLLILK 1400  
PG02 YWWG SLIAVAYLTLAERKVLASMQLRKGP TAVGVFGLLQPLADGKLVFK 1400  
PG03 YWWG SLLSVAYLTLAERKVLGLMQNRKGP AIVGPWGLVQPIADGVKLLTK 1400  
PG04 YWWG SLLSVAYLTLAERKVLGLMQNRKGP AIVGPWGLVQPIADGVKLLTK 1400  
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PG06 YWWG SLLSVAYLTLAERKVLGLMQNRKGP AIVGPWGLVQPIADGVKLLTK 1400  
PG07 YWWG SLVSIAYLTLAERKVLGYIQCRKGNV VGVYGLLQPLADGKLVFK 1400  
PG08 YWWG SLISIAAYLTLAERKVLGYMQARKGNV VGVYGLLQPLADGKLVFK 1400  
PG09 YWWG SLISIAAYLTLAERKVLGYIQCRKGNV VGLYGLLQPIADGKLVFK 1400  
PG10 YWWG SLITVAYLTLAERKVLGYMQARKGNV VGVSGLAQPFADGKLVFK 1400  
PG11 YWWG SLIAVAYLTLAERKVLGYMQSRKGNV VGIYGLLQPLADGVKLVFSK 1400  
PG12 YWWG SLVAIAAYLTLAERKVLGYMQARKGNV VGVYGLLQPLADGKLVFK 1400  
PG13 YWWG SLVAVAYLTLAERKVLGYMQARKGNV VGVYGLLQPLADGKLVFK 1400  
PG14 YWWG SLIAVAYLTLAERKVLGYMQARKGNV VGVAGLVQPFADGVKLVFK 1400  
PG15 YWWG ELVSVAFLLERKILGYIQLRKGNK VGFGLIQPFS DGVKLVFK 1400  
PG16 YWWG SLLAVAFFTLERKGLGYIQFRKGNK V SIFGLAQPLADALKLVFK 1400  
PG17 YWWG SLLSVAFITLGERKALGYMQARKGN VTLVGPYGLLQPIADGVKLVFK 1400  
PG18 YWWG ALLSVAFLLVERKVLGYMQFRNGPNV VGVFGLLQPFADGMKLVFK 1400

PG01 ETVLPLESNHWIFVFAFFTFY LALLNWLVI PLDKGLMDLEAS ILYLLAV 1450  
PG02 EAVLPHTANMIFVVSVAFFTALISWAVI PYNEGIADVNI GLLYIFAV 1450  
PG03 ELIIPSOANKFMYI APIISFTLAILAWAIV TMDQGLSDLDIGVLYFFAI 1450  
PG04 ELIIPSOANKFMYI APIISFTLAILAWAIV TMDQGLSDLDIGVLYFFAI 1450  
PG05 ELIIPSOANKFLYYI APIISFTLAILAWAIV TMDQGLSDLDVGVLYFLAI 1450  
PG06 ELVIPSOANKFLYYI APIISFTLAILAWAIV TMDQGLSDLDVGVLYFLAI 1450  
PG07 EIIIPNHANNLIYI LAPILSLTLALVAWGV I PYGQGLSDLGIGILYLFV 1450  
PG08 EIIIPNHANMFIYI VAPILSLTLAFIAWGV I PYGPGLSDLGIGVLYLFV 1450  
PG09 EIIIPNHANFFIYI LAPILSLTLAFIAWGV I PYNQGLSDLEVGILYLFV 1450  
PG10 EMVVPHQTNLFYI VAPVLSFTLALIVWGVV P YERGISDLKIGVLYILAV 1450  
PG11 EMTVPNHSSLIYI FISPILFLTLALVLWGVV P YTLNYSSELSLGVLFILAI 1450  
PG12 EMVIPNHANLSVYI VAPILSLTLAFLAWGV I P FSPGLADINVGILYIFAI 1450  
PG13 ELVIPHYANLFYI VAAVLSFTLALIAWGV I PYDKGISDLKIGILFTLAV 1450  
PG14 EMIIPHHTNLFYI VAPMFSFTLALVVWGVV P YERGISDLKIGILYVLAI 1450  
PG15 EVSLPLVSNFMPYLVAPVFSLFLSFFLW TLVPI SYGAKFNLSFLLVICA 1450  
PG16 EENNLVNSNKLPHYI TAPVLSLILSLCLW SLYWSDFTLWYFNFGVLFLLCT 1450  
PG17 EPIKPSAASWFLATPILAL TIALILWVPM T FPHQFSSINLSLIFILTL 1450  
PG18 EELKPVNSSPYLFFF SPLFLALALLW NFMPVHTPTL DLQLSLLLVLGL 1450

PG01 SSLGVYGI IYSGWAANSKWTL LGSLSRSTAQM VSYEVSMSLIVLTVVYAGA 1500  
PG02 SSI SVYAILMSGWASNSKYAFFG AIRAAAQMI SYEVS MGLILLSVILCVG 1500  
PG03 SSL SVYAILLSGWASNSRYPFLG AIRCAAQMI SYEVA IGLI IISVILCVG 1500  
PG04 SSL SVYAILLSGWASNSRYPFLG AIRCAAQMI SYEVA IGLI IISVILCVG 1500  
PG05 SSI SVYAILLSGWASNSRYPFLG AIRCAAQMI SYEVA IGLI IISVILCVG 1500  
PG06 SSL SVYAILLSGWASNSRYPFLG AIRCAAQMI SYEVA IGLI IISVILCVG 1500  
PG07 SSI SVYAVLMSGWSNSKYAFLG AIRAAAQMI SYEVS IGLI IISVILCVG 1500  
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PG09 SSI SVYAILMSGWSNSKYAFLG AIRAAAQMI SYEVS IGLI IISVILCVG 1500  
PG10 SSI SVYAILMSGWASNSKYAFLG AIRAAAQMI SYEVS IGLI IISVILCVG 1500  
PG11 SSV SVYAILMSGWASTSKYAYFG SLRAAAQMI SYEVS MGLILLISVVICIG 1500  
PG12 SSMGVYAILMSGWGNSKYAFLG AIRAAAQMI SYEVC IGLILLISVILCAG 1500  
PG13 SSI SVYAILMSGWASQSKY AFLG AIRAAAQMI SYEVS IGLI IITVILCVG 1500  
PG14 SSI SVYAILMSGWASNSKYAFLG AIRAAAQMI SYEVS IGLI IISVILCVG 1500  
PG15 MSV SVYSIMVAGWSSNSKYSL LGSIRAGAQT I SYEVS LI I ILSPLMLFK 1500  
PG16 SALS SVYGTMIAGWASNSKYAL LGALRAVAQT I SYEVT LFLVLLSSAALSS 1500  
PG17 SSLAVY TILGSGWASNSKYAL LGAIRAVAQT I SYEVS LGLTILCIIVLAG 1500  
PG18 SSL SVYAILGSGWASNSKYSL LGAIRAVAQT I SYEISLALILLSLIIFSS 1500

PG01 SVNMFIIWPLWPIAIIAFAIAGLAETNRAPMDLPEAESELVAGFMTHEHSAIS 1550  
PG02 DINWFIIPLFPAFIMFLVSALAETNRAPFDLTEGESELVSGYNVEYS AIF 1550  
PG03 SLNWLIIIPLFPAAIMFMVASLAETARAPFDLTEGESELVSGFNVEYSSLS 1550  
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PG05 SLNWLIIIPLFPAAIMFMVASLAETARAPFDLTEGESELVSGFNVEYSSLS 1550  
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PG07 SLNWFIIIPLFPIITIMFFVSALAETNRVVPFDLTEGESELVSGFNVEYSSMS 1550  
PG08 SLSPLIIPLFPAAIMFFVSVLAETNRVVPFDLTEGESELVSGFNVEYSSMS 1550  
PG09 TLNWFIVPLFPAGIMFFVSALAETNRVVPFDLTEGESELVSGFNVEYSSMS 1550  
PG10 SLSWFFIIPLFVITIMFFVSALAETNRAPFDLTEGESELVSGYNVEYASMS 1550  
PG11 SLNLFIFTLIPAGIMFMVSLIAETNRAPFDLTEGESELVSGYNVEYSSMS 1550  
PG12 SLNWFIIIPLFPAALMFFASALAETNRAPFDLTEGESELVSGYNVEYSSMS 1550  
PG13 SLNWFIIIPLFVAMMFFASALAETNRAPFDLTEGESELVSGYNVEYASMS 1550  
PG14 SLSWFFIIPLFVITIMFFASALAETNRAPFDLTEGESELVSGYNVEYASMS 1550  
PG15 KLDWPLYLCLPLGLCWFTTILAETNRTPFDLAEGESELVSGFNTEYMGVG 1550  
PG16 SLNWNLSILMTPLLLMWIVVCLAETNRAPFDFAEGESELVSGFNIEYGS GS 1550  
PG17 NFNWFILTCAPVSIIMWYISTLAETNRSPFDLAEGESELVSGFNVEYAGGP 1550  
PG18 SFNWFSLSCLPLLFYIWFVSTLAETNRAPFDLTEGESEIVSGYNVEYAGGP 1550

PG01 FTFLFLAEYTNIIITMSTVVISLYFFIWRASLPRIRFDQLRLRGWVYLLPI 1600  
PG02 FTLFFLAEYTHIIFMSILTSLLFFVWVRATFRFRYNTLMEMLMWSYLYPL 1600  
PG03 FALFFLAEYSNIIILMSCMMTIFFFLWSRASFPRI RYDQLMKLLWKTYLYPL 1600  
PG04 FALFFLAEYSNIIILMSCMMTIFFFLWSRASFPRI RYDQLMKLLWKTYLYPL 1600  
PG05 FALFFLAEYSNIIILMSCMMTIFFFIWSRASFPRI RYDQLMKLLWKTYLYPL 1600  
PG06 FALFFLAEYSNIIILMSCMMTIFFFIWSRASFPRI RYDQLMKLLWKTYLYPL 1600  
PG07 FALFFLAEYCHIIILMSTFGVILFFIWRASYPRI RYDQLMALLWKS YLYPL 1600  
PG08 FALFFLAEYCHIIILMSTFAVLLFFIWRATYPRI RYDQLMTLLWKS YLYPL 1600  
PG09 FALFFLAEYCHIIILMSAFGVILFFIWRASYPRI RYDQLMALLWKS YLYPL 1600  
PG10 FALFFLAEYAHIIILMSCLTIIFFFIWRASFPRI RYDQLMSLLWKAYLYPL 1600  
PG11 FALFFLAEYANIIIFMSALFSLIFFVWVRASYPRI RYDQLMMLLWKS YLYPL 1600  
PG12 FALFFLAEYGHIIILMSCLISLLFFVWVRASFPRMRYDQLMYLLWKS YLYPL 1600  
PG13 FALFFLAEYAHIIILMSCLTTILFFIWRASFPRMRYDQLMALLWKS YLYPL 1600  
PG14 FALFFLAEYAHIIILMSCLTTILFFIWRASFPRI RYDQLMALLWKAYLYPL 1600  
PG15 FALIMLSEYASILFMSLLFSVVFYLWSRGSYPRYRYDNL MHL CWKSL LPT 1600  
PG16 FALFFLAEYASILFMSMMTTILFFIWRGTFPRIRYDL LMKL TWLSFLPV 1600  
PG17 FALFFLAEYSNIIIFMNALSTILLFLWVRASYPRYRYDQLMHLAWKTFLPL 1600  
PG18 FVLFFFIAEYANIIILMNYSVVLFLVWVRAYPRFRYDQLMFLTWKSYLYPL 1600

PG01 LIGYDWLISLIGFEFLNLSSTYLILKYLLMSAFFTTLLLLSISL LLLT LSF 1650  
PG02 SLSKDLIIMYLSIETLSLSLYILLKYLLIMGGLSSGILLFGCALICIAIMF 1650  
PG03 SLSANWLTIIYLALELQTLALFILLKYWILGAMSSGFYLFGCALITVAIF 1650  
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PG06 SLSANWLTIIYLALEFQTLALFILLKYWILGAMSSGFYLFGCALITVAIF 1650  
PG07 SLSVNWLSIYLAIELOTLTLFILLKYFVLGAVSSGVFLFGCALITISLLF 1650  
PG08 SGSINWFSIYLAIELOTLTLFILLKFFVLGAVSSGLFLFGCVLVTISLLF 1650  
PG09 SLSINWLSIYLAIELOTLTLFILLKYFVLGAVSSGLFLFGCTLITISLLF 1650  
PG10 SLSNWLSVYLAIELSTLSLFFILLKYFVLGALSSGLFLFGCALIVVSLLF 1650  
PG11 SLTNTMLALYLCIELOSLSIFILLKYFVLSSISSGLLLLGSSLILVALLF 1650  
PG12 SLSTNLISIYLALEMOTLTCMFFILLKYFVLGALSSGLFLFGCALITVSLLF 1650  
PG13 SLASNWLSVYLAIELP TLSLFFILLKYFVLGALASGLFLFGCALITGALLF 1650  
PG14 SLSNWLSVYLAIELSTLSLFFILLKYFVLGALSSGLFLFGCALIVVALLF 1650  
PG15 SLSHSWLGWLMSMEMNSLSFIPILKYFLIQSVASVIFLASILNIPFALLI 1650  
PG16 SLSIHWFGVWLGLELNLMGFIPVVKYFLVQAVGSALFLFGLMLIFFGLIM 1650  
PG17 SLSHWFIIWLGLEINTLAFLPLTKYFLIQALASALLL LGLL LLLIAIAL 1650  
PG18 SISENWFIIWVGLLELSTLALVLPINKYFLVQASSAALLNGALGLSIALAF 1650

PG01 KLGLVPVHLWV PDVYDGLPEMELVLWIGTLPKLAILFFLSFLLAAISLGAQ 1700  
PG02 KLAAAPFHMWAPDVYEGSPTIITAFFAIIVPKIAILTLLSVIIGSIGAVNQ 1700  
PG03 KLAAAPFHMWT PDVYEGAPTPTTALIAIIPKFTVYIILLSLVVGAFGALNQ 1700  
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PG06 KLAAAPFHMWT PDVYEGAPTPTTALIAIIPKYVAVVLLSLIVGAFGALNQ 1700  
PG07 KLSAAPFHMWAPDVYD GAPTPTTALLAIVPKVGVFSILSIIYGAIGALNQ 1700  
PG08 KLSAVPFHMWAPDVYEGSPTIITALLTITVPKIGVFSILSIVYGAIGALNQ 1700  
PG09 KLSAAPFHMWAPDVYEGAPTPTTALLATVPKVAVFSILSIVYGSIGALNQ 1700  
PG10 KLSAAPFHMWAPDVYD GAPTPTTALLATVPKVGYFSILSMVVGAIGALNQ 1700  
PG11 KLAASPFHFHFWLPDVYQGSNNNTLLLLGTLPKISVLGIFSLIIGCIGAINQ 1700  
PG12 KVS AAPFHMWAPDVYEGAPTWVAALLSIVPKLGVLAIIISLVIGAI GALNQ 1700  
PG13 KLSAAPFHMWAPDVYD GAPTPTTALLATVPKVGVFSILSMVVGAL GALNQ 1700  
PG14 KLSVAPFHMWAPDVYD GASTTTTALLAIVPKVGVFSILSLLV GAL GALNQ 1700  
PG15 KIGAAPFHMWLVSISKSMWVLSLLMTFOKIGPLLGLSAF IGG LGGINQ 1700  
PG16 KLGAAPFHFHFWPSVAVAGLSWMSNFLLLTVQKIAPLFMVSSLF GGVGGVNO 1700  
PG17 KMAIPPCHNWL PDVLOGLLELLTGLILSTWQKLAPFYILAALVGGWGGLNQ 1700  
PG18 KIGLAPVHFHFWPDVLOGLLEFFOGLI IATWQKIAPLILMSVLI GGVGGGLNQ 1700

PG01 YRLKRFLAFSAIGHMGI MITGLTMAAVPPFSGFYAKLLVLTLEKVS VYEC 1750  
PG02 TKFKRLLAYSASISHMGFILLGFSIAGIPPLAGFISKYIILDY EKVQOYEC 1750  
PG03 TRIKRLLAYS SGIGHMGFILLIGLSLAGIPPLL GFLGKWFILDS EKSS IYEC 1750  
PG04 TRIKRLLAYS SGIGHIGFILLIGLSLAGIPPLL GFLGKWFILDS EKSS IYEC 1750  
PG05 TRVKRLLAYS SGIGHIGFILLIGLSLAGIPPLL GFLGKWFILDS EKSS IYEC 1750  
PG06 TRVKRLLAYS SGIGHIGFVLLGLSLAGIPPLL GFLGKWFILDS EKSS IYEC 1750  
PG07 TKIKRLLAYS SGIGHIGFILLFGLSTAGV PPLAGFLSKWLILDS EKVS VYEC 1750  
PG08 TKVKRLLAYS SGIGHMGFILLGLS TAGIPPLAGFLSKWLVLDS EKVS VYEC 1750  
PG09 TKIKRLLAYS SGIGHMGFILLFGLS IAGIPPLAGFLSKWLILDS EKVS VYEC 1750  
PG10 TKVKRLLAYS SGVGHMGFVLLWGLS IAGIPPLV GFWGKWLVLDR EKVSAYEC 1750  
PG11 SKTKRLLAYS SSI VGMGFILLGLSVAGIPPLG GFFSKWLVLDR EKVS VYEC 1750  
PG12 TRIKRLLAYS SGIGHIGFVLLGLS TAGIPPLIGFLT KWYIIDMEKVS VYEC 1750  
PG13 TKIKRLLAYS SGIAHMGFVLLWGLS IAGV PPLIGFFSKWWILDR EKVSAYEC 1750  
PG14 TKVKRLLAYS SGVGHMGFVLLGLS IAGIPPLV GFLGKWLVLDR EKVSAYEC 1750  
PG15 SNLRLIMAFSSVSHLSWLMVNLSLAGL PPLGFFIKWMSLDREKSSPFEC 1750  
PG16 TSVRALIAYS SSI LHMGMWMLIGLSLGGLPPLL GFFGKWLVLNR EKSSPFEC 1750  
PG17 TQIRKLLAFSSIAHIGWTIAILSLAGL PPLTGFLGKWL IINLEKLSPYEC 1750  
PG18 TQVRKILAFSSIGNMGWLVITLSLGGLPPLTG FILKFTSLDS EKSSPYEC 1750

PG01 GFDPYSDARLKF DI IYYLVAILFLIFDLEIVFLFPFFV VLTIGYLYELNS 1800  
PG02 GFNPFSDSRQPFEVRFVLVGILFIIFDLEISFLFPFLGILTI GLVYEWLK 1800  
PG03 GFDPFGKIRTPFAIKFVLVGILFMIFDIEVSFLFPFLVILSLGLAYEWLK 1800  
PG04 GFDPFGKIRTPFAIKFVLVGILFMIFDIEVSFLFPFLVILALGLAYEWLK 1800  
PG05 GFDPFGKIRTPFTIKFVLVGILFMIFDIEISFLFPFLIVLTIGLAYEWIK 1800  
PG06 GFDPFGKIRTPFTIKFVLVGILFMIFDIEISFLFPFLIVLAIGLAYEWIK 1800  
PG07 GFDPFGSSRVPFSVKFFLVGILFMIFDLEISFLFPFLIILTIGLIYEWVK 1800  
PG08 GFDPLGSSRTPFSVKFFLVGILFLVFDLEISFLFPFLVILTIGLIYEWVK 1800  
PG09 GFDPFGSSRVPFSVKFFLVGILFLIFDLEISFLFPFLIILTIGLVYEWAK 1800  
PG10 GFE PFGIPGRLEQFRFFLVGILFLIFDLEISFLFPFLGVLTGLGLIYEWIK 1800  
PG11 GFAPYDNPGNPISIRFFLIGILFLVFDLEISL LLPFVFILTWGLLYEWIK 1800  
PG12 GFD PFDNPGNPF SVRFFLIGILFLIFDLEISFLFPFLFILTGLVYEWIE 1800  
PG13 GFD PFGTPGRPF SIRFFLIGILFLIFDLEISFLFPFLAVLTGLVYEWLK 1800  
PG14 GFE PFGVGRPF SVRFFLVGILFLIFDLEISFLFPFLGILTGLIYEWIK 1800  
PG15 GFDPLNSSRTPFSIRFFVITLIFLIFDVEIYLLLPFTFILVAGVFYEWSE 1800  
PG16 GFD PKSSARLPFSMRFFLITVFLVFDVEIVLLLPILVIL IIGVLHEWSE 1800  
PG17 GFE PHTSARLPFSLRFFLIAILFLIFDLEIALLLPVLAILTLGLIYEWVQ 1800  
PG18 GFDPLNSARLPFSFRFFLVAILFLIFDLEIALLPFMVILTGLVFEWIN 1800

PG01 G S L D L S L V L I V L T T F L M P I C L I V E L V L P L L A I E A L L M A V F L V L D V M I F Y L 1850  
PG02 G G L E W S L V F I I L T T L L I P I C I L S S Y L I S F L V I E I L L I G V F T I L D I F G F Y I 1850  
PG03 G G L E W S I Y F I I L T G F I V P C S I L I S F L I C M L I L E F L L Y A V F S V L D I F M F Y I 1850  
PG04 G G L E W S I Y F I I L T G F I V P C S I L I S F L I C M L I L E F L L Y A V F S V L D I F M F Y I 1850  
PG05 G G L E W S I Y F L I L T A F I V P C S I L I S F L I C M L V L E F L L Y A V F S V L D I F W F Y I 1850  
PG06 G G L E W S I Y F L I L T A F I V P C S I L I S F L I C M L V L E F L L Y A V F S V L D I F W F Y I 1850  
PG07 G G L E W S I F F L I L T A L L T P I C I L I S F L L C L L S I E I L L M G V F T I L D L V G F Y V 1850  
PG08 G G L E W S L F F L I L T A L L T P I C V L I S F L L C L L V I E I L L M G V F T V L D L V G F Y I 1850  
PG09 G G L E W S I F F I I L T A L L T P I C I L I S F L L C L L F M E I L L M G V F T V L D L V G F Y V 1850  
PG10 G G L E W S L F F F V L T A L L I P I C I L I S F L L C L L F L E A L L V G V F L V L D L L L F Y L 1850  
PG11 G G L E W S L P F I L L T A I L T P I C I I I S F L V F L L A I H L L L I G V F T S L N I L L F Y I 1850  
PG12 G G L E W S I F F I V L S T L L T P I C I L V S F I M C L L G I E L L L I G V F S T L D L L I F Y V 1850  
PG13 G G L E W S L F F L I L T A L L T P I C I L I S F L L C L L F L E V L L M G V F S A L D L L L F Y I 1850  
PG14 G G L E W S L F F F I L T A L L I P I C V L I S F L L C L L F L E V L L I G V F L V L D L L L F Y I 1850  
PG15 G A L S W T L L T L N F S Y F L F N S Y Q I K A Y S T I L V S L F V L L W L T F T T Q S F I L F Y V 1850  
PG16 G S L E W S V P L M M L S C W I T G L M I M S S F L L N V M I L N F I I M V F T Q K S L F S L Y I 1850  
PG17 G G L E W S S P L I I L S A W L L P L S L L A S Y L T L L S S L V L S L I I T F S A L D L I L F Y I 1850  
PG18 G G L E W S A P L I I L S C W L A P I A L I A S F I I M I V I T G A L I I T F S S L E L I L F Y I 1850

PG01 C F E S V L I P L F Y L M G K Y K G R A R R L S A A L S L F L Y T L A G S L I M L I C I G L L Y L E 1900  
PG02 L F E G V L I P M Y L I I G I W G S R E Q K I T A G Y Y F F F Y T L I G S V L M L I G I L Y L Y S I 1900  
PG03 L F E G V L I P M Y L I L G I W G S R E E K M Q A A Y Y F F F Y T L I G S V L M L L C L F S L Y N I 1900  
PG04 L F E G V L I P M Y L I L G I W G S R E E K M Q A A Y Y F F F Y T L I G S V L M L L C L F S L Y N I 1900  
PG05 L F E G V L I P M Y L I L G I W G S R E E K M Q A A Y Y F F F Y T L I G S V I M L L C L F S L Y N I 1900  
PG06 L F E G V L I P M Y L I L G I W G S R E E K M Q A A Y Y F F F Y T L I G S V I M L L C L F S L Y N I 1900  
PG07 L F E G I L I P M F L I I G I W G S R E E K V Q A S Y Y F F F Y T F I G S V F M L L A M F T L Y S Y 1900  
PG08 L F E G V L I P M V L I I G I W G S R E E K V Q A A Y Y F F F Y T F I G S V F M L L A I F F L Y D Q 1900  
PG09 L F E G I L I P M F L I I G I W G S R E E K I Q A S Y Y F F F Y T F I G S V F M L L G I F T L Y S Y 1900  
PG10 L F E G I L I P M F L L I G V W G S R E E K V R A S Y Y F F F Y T F A G S V F M L L G L F Q I Y S V 1900  
PG11 M F E G I L I P M F L M I G I W G S R K E K E R A A F Y F F F F T L A G S L F M L L G I F T I Y K H 1900  
PG12 L F E S I L I P M F L I I G V W G A R A E K I K A A Y Y F F F Y T L V G S I L M L L S I A V I Y R I 1900  
PG13 L F E G I L I P M F L L I G V W G S R E E K V R A S Y Y F F F Y T F V G S V F M L L G I F Q L Y S S 1900  
PG14 L F E G I L I P M F L L I G V W G S R E E K V R A S Y Y F F F Y T F A G S V F M L L S I F Q L Y R N 1900  
PG15 F F E C S L I P T I I L I L G W G Y Q P E R L P A S Y Y F L F Y T L L S S L P L L F I I I A H T S I 1900  
PG16 F F E A S L I P T L I L I L M W G Y Q P E R L Q A G M Y M M I Y T I L G A L P F L I N I F F I Y S H 1900  
PG17 A F E A T L V P T L I V I T R W G N Q P E R L Q A G T Y F L F Y T L F G S F P L L I S L L S L S L 1900  
PG18 V V E T T L I P T L I L I T R W G A Q M E R C Q A G L Y F M F Y T L F G S L P L L I A I A I Y I S 1900

PG01 A S T K I P M I P F H L W L P E A H V E S P T G G S I L L A G I L L K L G G Y G F Y Y Q P F V A V L 1950  
PG02 S G T K I P K F P F H I W L P Q A H V E A P V A G S V I L A G I L I K L G G Y G F Y F A P L V F I L 1950  
PG03 H G T K I P I F P F H I W L P K A H V E A P V A G S V L L A G I L L K L G G Y G L N L A P A V I A M 1950  
PG04 H G T K I P I F P F H I W L P K A H V E A P V A G S V L L A G I L L K L G G Y G L N L A P A V I A M 1950  
PG05 H G T K I P I F P F H I W L P K A H V E A P V A G S V L L A G I L L K L G G Y G L N L A P A I I A M 1950  
PG06 H G T K I P I F P F H I W L P K A H V E A P V A G S V L L A G I L L K L G G Y G L N L A P A I I A M 1950  
PG07 A G T K I P K I P F H I W L P Q A H V E A P V A G S V L L A G V L L K L G G Y G F F F A P L I Q T L 1950  
PG08 V G T K I P K I P F H I W L P Q A H V E A P V A G S V I L A G I L L K L G G Y G F Y F A P F I R I L 1950  
PG09 A G T K I P K M P F H I W L P Q A H V E A P V A G S V I L A G V L L K L G G Y G F Y F G P L I Q T L 1950  
PG10 T G T K I P Q I P F H I W L P Q A H V E A P V S G S V I L A G I L L K L G G Y G F Y F A P L I I M L 1950  
PG11 T G T K I P K I P F H I W L P Q A H V E A P V A G S V L L A G V L L K L G G Y G F Y F S P V I I L L 1950  
PG12 T G T K I P M I P F H I W L P L A H V E A P L A G S V I L A G I L L K L G G Y G F Y L A P I I L T L 1950  
PG13 V G T K I P Q V P F H I W L P Q A H V E A P V S G S V I L A G I L L K L G G Y G F Y F A P F V I M L 1950  
PG14 T G T K I P Q I P F H I W L P Q A H V E A P V S G S V I L A G I L L K L G G Y G F Y L A P L I V M L 1950  
PG15 Y S S K L P V Y F A H I W L P K A H V E A P V T G S M V L A A I L L K L G G Y G L Y S E T T L M G V 1950  
PG16 N A H K L P I Y S F H L W L P K A H V E A P V A G S M I L A A L L K L G G Y G I V L N Y F I I T L 1950  
PG17 T S S K L P I Y G L H L W L P K A H V E A P I A G S M I L A A I L L K L G G Y G L F A S E P I I T F 1950  
PG18 S S S N L P V Y G F H L W L P K A H V E A P V A G S M I L A A I L L K I G G Y G L A L S L A L I V F 1950

PG01 ALIGIVYAGLTAIROIDMKKIAYSSVAHMNLAMLGIFANNLLGIEGSIH 2000  
PG02 GVLAVIYASLTLRQTDLKRRIAYSSVSHMGLVSLGIFTLTANGIMGSIF 2000  
PG03 GIVGIVYGSFATCRQIDVKRLVAYSSVAHMGLVSIITLVTHDIIIGLTGSIF 2000  
PG04 GIVGIVYGSFATCRQIDVKRLVAYSSVAHMGLVSIALVTHDIIIGLTGSIF 2000  
PG05 GIIGIVYGSFGTCRQIDVKRLVAYSSVAHMGLASITLVTHDIIIGLTGSIF 2000  
PG06 GIIGIVYGSFGTCRQIDVKRLVAYSSVAHMGLASITLVTHDIIIGLTGSIF 2000  
PG07 SLLAIIYGSALTTCRQVDLKRRIAYSSVAHMGLVTLVSLFSHTIQOGLVAAVY 2000  
PG08 SLLAIIYGSALTTCRQVDLKRRIAYSSVAHMGLVTLVSLFSHTVQOGLVAAVF 2000  
PG09 SLFAIIYGSALTTCRQIDLKRRIAYSSVAHMGLVVLGLFSHTIQOGLVAAVF 2000  
PG10 GVVAIIYGGLLTCRQVDFKRLIAYSSVAHMGLVPLGLFTHTIEGLVAAVF 2000  
PG11 GSIAVIYASLSTCRQTDAAKRLVAYSSVAHMGLVTIAIFSRTSEGLVAAII 2000  
PG12 SLIAVIYGSALTTCRQVDAKRLIAYSSVAHMGLVITIGLFTHTMEGLIASIF 2000  
PG13 SVIAIIYGSALTTCRQVDLKRRIAYSSVAHMGLVTLGLFTHTIEGLVAAVF 2000  
PG14 GVVAIIYGSALTTCRQVDLKRRIAYSSVAHMGLVPLGLFTHTIEGLVAAVF 2000  
PG15 CLMGGIFSC LICLRQSDVKSLIAYSSVAHMSFVILGMLMSCTYT NMSSIL 2000  
PG16 GLVGGVLS SLICLRQSDMKALIA YSSVGHMGLMLAGLLSSF EFG LKMALL 2000  
PG17 CIWGG LITS IICIRQTDMAKALIA YSSVGHMSLVAAAGIFSET TWGLNGALI 2000  
PG18 CTWGALITSVICVROTDLKALIA YSSVGHMSIVAAAIFSETSWGMNGALM 2000

PG01 MMVAHGLVSGALFYCVGLLYDRYHTRLVRYYRGLAIYMPNVAFPGSANFI 2050  
PG02 LQLAHGLVSSALFIIVTVLYDRHHTRLVKYYRGMTV TMPNIAVPLSCNFV 2050  
PG03 IMLAHGIVSSLLFILVTILYDRHHTRLIKYYRGLSITMPNVAVP P SGNFI 2050  
PG04 IMLAHGIVSSLLFILVTILYDRHHTRLIKYYRGLSITMPNVAVP T SGNFI 2050  
PG05 IMLAHGIVSSLLFILVTILYDRHHTRLIKYYRGLSISMPNIAA P P SSGFV 2050  
PG06 IMLAHGIVSSLLFILVTILYDRHHTRLIKYYRGLSISMPNVA A P P SGGFV 2050  
PG07 LMLAHGLVSSALFIAVTFLYERHYTRLVKYYRGMVITMPNASI P LSCNFV 2050  
PG08 LMLAHGLVSSALFIAVTFLYERHHTRLVRYYRGMVITMPNASI P LSCNFV 2050  
PG09 LMLAHGLVSSALFIIVTLLYDRFHTRLVKYYRGI VVTMPNASI P LSCNFV 2050  
PG10 MMLAHGFVSSALFIAITYLYERHHTRLIKYYRGVTLTMPNMG I P LSCNFV 2050  
PG11 LMLAHGFVSSGLFITVTNLYDRFHTRIRYYKGVVYTMPNIA F P ISMNFV 2050  
PG12 LMIAHGVVSPALFIAVTLLYERHHTRLVRYYRGVVMTMPNIA V P LSCNFV 2050  
PG13 MMLAHGLVSSALFIAVTYLYERHHTRLIKYYRGITFSMPNMAI P LSCNFV 2050  
PG14 MMLAHGFVSSALFIAITYLYERHHTRLIKYYRGVTLTMPNMG I P LSCNFV 2050  
PG15 MMVSHGICSSGLFYLSYLFYARIWSRSFLLTRSMISLFPNMGL P PSLNFF 2050  
PG16 MMIAHGLSSSGLFMSNMMEYKSGSRSLFITKGFISLVPNMAA P P SINLL 2050  
PG17 LMIAHGLISSALFCLANLSYERTFTRTSLNRRGLK LITPNLAL P P TPNFS 2050  
PG18 LMVAHGLVSSALFSLANTVYERSGTRTLAITRGLKLLLPNLGL P P SPNLI 2050

PG01 AEFLVFTGVMDINPFLAFIASLGLLLTATYSMWLYNRVCFGGVLGFILNN 2100  
PG02 GEFLCLLAIFEVNTTVAILASLGIILSACYSFLYNRVCFGGTLGIVVNR 2100  
PG03 GEYLSILSSFNWNPIIGV FVCSGVILSAVYSFYFANRVTFGGVSGMMNK 2100  
PG04 GEYLSILSSFNWNPIIGV FVCTGVILSAVYSFYFANRVTFGGVSGIIINK 2100  
PG05 GEYLSILSSFNWNPMVGV FVCSGVILSAVYSFYFANRITFGGVSGIIINK 2100  
PG06 GEYLSILSSFNWNPIVGF FVCSGVILSAVYSFYFANRITFGGVSGIIINK 2100  
PG07 GEFLSILAAFEYSFIVGALASLGMVLSAGYSIYLYNRVCFGGVLGIVLNR 2100  
PG08 GEFFSLLAAFEYSYVGVLASLGTVLSAGYSIYLYNRVCFGGGLGVVFN 2100  
PG09 GEFFSLLAAFEYSFIVGVLASLGMVLSAGYSIYLYNRVCFGGILGIVLNR 2100  
PG10 GEFFSLLAAVEYNFGLGVLATS GMVWSAAYS LYLYNRISFGGGWGVVLR 2100  
PG11 GEFMSILSALQFSLLAILCPLAGMVLSAAYS L LFY NKVSFGGILGISINR 2100  
PG12 GEFLSLVAAFSTSTSLGVL TSTSMVIAAAYS LYLYNRICFGGILGIILNR 2100  
PG13 AEFFSLLAAFEYNIVIGVLAATGMVWSAAYS LYLYNRVSFGGV LGIVLNR 2100  
PG14 GEFFSLLAAVEYNWGLGVLVTS GMVWSAAYS LYLYNRISFGGGWGVVLR 2100  
PG15 SEMYFFIGAFSLDWMVVGLSGILCFLSSCYCIYLYSSTSHGGLLIFSSSN 2100  
PG16 SEAGLMISTVSIKFLMILLALMAFVSAVYTLFLE TNTQHGALMTICLQR 2100  
PG17 GELLIVTNLISWNPWTALFLGLTALFTAIYSLYLYQSSQHSATLGLALNR 2100  
PG18 GEILILSSLISWSVWLFPIVGF AOVFGAIYSLMIFQLSQOGLMGILLNR 2100



PG01 RQLIFILLALELMIFFSLYLLVLAGAESAVALSLLVAFHRVRGDELTLISM 2150  
PG02 KNIIIVMLMSLELMLLFAFYILVVAAAESAIGLSILVAYYRVRGDSLTVTM 2150  
PG03 NNMILMLMSIELMLLFSLMVLTVAAAESAIGLAILVAYFSLTGDTL SVTM 2150  
PG04 NNIIILILMSIELILLFSLMVLTVAAAESAIGLAILIAYFRLTGDTL SVTM 2150  
PG05 NNIIILILMSIELILLFSLMVLTVAAAESAIGLAILVAYYRLTGDTL SVTM 2150  
PG06 NNIIILILMSIELILLFSLMVLTVAAAESAIGLAILVAYYRLTGDTL SVTM 2150  
PG07 SNLIIMLMSIELMLLFTIMILTVAAAESAIGLAILVAYYRIRGDSLTAIM 2150  
PG08 SNLIIMLMSIELMLLFAIMIITVAAAESAIGLAVLVAYYRVRGDSLSTIM 2150  
PG09 SNLIIMLMSIELMLLFTIMILTIAAAESAIGLAILVAYYRVRGDSLSTIM 2150  
PG10 GHFIIMIISIELILLFTIMGLTIAAAESAIGLAIMVAYYRIRGDGLVAIM 2150  
PG11 TNLIILLMSVELMLLFTIFIFTVAAAESAIGLAI IAYFRLRGDSL SASM 2150  
PG12 SNLIIMLMCVELVLLFAIMILTVAAAESAIGLAIMVNYRRLRGDVVTAVM 2150  
PG13 GHLIIMLMSIELILLFTIMVLTVAAAESSIGLAIMVAYYRIKGDSLTAVM 2150  
PG14 GHFIIMIVSIELILLFTIMGLTIAAAESAIGLAIMVAYYRIRGDSLVAIM 2150  
PG15 KHLVTLTLLSLEFLILNAFIFLSVTVCEGALGFSVLVSLVRSSGWLAKTII 2150  
PG16 KHLNLTLLALEILMVMIFVLLTLAASEASIGLAMLVILIRAHGNWTTALF 2150  
PG17 SHLLSALLCLELLLIASLLITFSACEASAGLGLLVSISRTHGDIYSIVF 2150  
PG18 LHFLSILLCLELLLIENLFVLTLVACEASIGLSLMVGLSRTHS DQYFLVF 2150

PG01 MIPICFISFLVHIYSMGYMSDDPHLQRFFSYLSLFTFFMLIMVSSDNWLL 2200  
PG02 LILVTTVSSLVHLYSISYMDGDPHLPRFMSYLSLFTFSMVMLVTADSYLL 2200  
PG03 LLVISSISTLVHIYSTSYMDDPHVPRFLCYLSLFTFLMMVLVTS DNYLQ 2200  
PG04 LLVISSISTLVHIYSTSYM TNDPHVPRFLCYLSLFTFLMMVLVTS DNYLQ 2200  
PG05 LLVISSISTLVHIYSTSYMDDPHVPRFICYLSLFTFLMMVLVTS DNYLQ 2200  
PG06 LLVISSISTLVHIYSTSYMSEDPHKTRFLCYLSLFTFLMMILVTS DNYLQ 2200  
PG07 LMVITSVSALVHIYSTGYMSGDPHIPRFMSYLSLFTFLMIVLVTS DNYIQ 2200  
PG08 LILITSVSALVHIYSTGYMSEDPHIPRFMSYLSFFTFLMIVLVTS DNYVQ 2200  
PG09 LIVITSVSALVHIYSIGYMSGDPHIPRFMSYLSLFTFLMIVLVTS DNYIQ 2200  
PG10 LLVITTIISTLVHIFSTAYMLGDPHIPRFMSYLSFFTFLMVVLVSS DNYLQ 2200  
PG11 ILAVNIVSFLVHMYSVSYMKGDPHTSRFMGYLSLFTFFMLILVSSQ NYLQ 2200  
PG12 LIVVTTISGLVHVYSTSYMREDPHLPRFMSYLSLFTFFMLVLVTS NNYVQ 2200  
PG13 LIVVTSISTLVHIFSTAYMDGDPHVPRFMSYLSLFTFFMILLVTS DNYPO 2200  
PG14 LLVITTIISTLVHIFSMAYMQGDPHIPRFMSYLSLFTFLMMVLVTS DNYPO 2200  
PG15 HLLSSLNSSQVMIYSSYMMGETFVNRFMYMLGFISSMVL LIMS SDGLS 2200  
PG16 SAIVCYISASVMIFTKNYMSQDIFIKRFTWIVMLFVLSMNL LIFIPSLAT 2200  
PG17 TSIALFITYNIVVFSYMAHDSKINTFTQQLTIFLLAMIILVSS N NIFQ 2200  
PG18 LSVALIVTWSIMEFSFYMTEDPNSSAFFRLLTIFLLNMLIL TCSNSLFL 2200

PG01 LFLGWEGVGLVSYLLIGFWFTTIKANQSALKAFLMNRIGDTGLFLVIAKSG 2250  
PG02 CVWGWESVIGICSYLLINFWYTIQANKSAIKAMVMNRVGDMTLFLAVGKSA 2250  
PG03 LFIGWEGVGVCSYLLVAFWTTIQANKAAIKAIIVNRVGDVGVILCIGKSA 2250  
PG04 LFIGWEGVGVCSYLLVAFWTTIQANKAAIKAIIVNRVGDVGVILCIGKSA 2250  
PG05 LFIGWEGVGVCSYLLVAFWTTIQANKAAIKAIIVNRVGDVGVILCIGKSA 2250  
PG06 LFIGWEGVGVCSYLLVAFWTTIQANKAAIKAIIVNRIGDVGVILCIGKSA 2250  
PG07 LFIGWEGVGLCSYLLINFWLTIKANKAAIKAMLINRVGDIGLVAVGKSA 2250  
PG08 LFIGWEGVGLCSYLLINFWLTIKANKAAMKAMLINRVGDIGLLAVGKSA 2250  
PG09 LFIGWEGVGLCSYLLINFWLTIKANKAAIKAMLINRVGDIGLVAVGKSA 2250  
PG10 LFIGWEGVGLCSYLLINFWLTIKANKAAIKAMLVNRVGDIGLILAVGKSA 2250  
PG11 LFIGWEGVGLCSYLLINFWYSIQANKAAIKAMLVNRLGDAALIAAIGKSA 2250  
PG12 LFIGWEGVGLCSYLLINFWFTIQANKAAIKAMLINRIGDIGLMLAVGKSA 2250  
PG13 LFIGWEGVGLCSYLLINFWLTIKANKAAIKAMLVNRVGDIGFVAVGKSA 2250  
PG14 LFIGWEGVGLCSYLLINFWWTVEANRAAIKAMLVNRVGDIGLILVVGKSA 2250  
PG15 LMLGWDGLGITSYLLIMFYKNYNSSSSGMITILSNRVGDVILVLSFTKSA 2250  
PG16 LLLGWDGLGLVFSCLVIYYQNYKSLGAGLMTAFMNRIGDVAILLGMTKSA 2250  
PG17 LLIGWEGVGFLLSFLIGWWTSTSDANTAALQAIYNRFGDIGILLATGKSA 2250  
PG18 IFLGWEGGGLSFLLSISWWTNDASSSALEAVITNRIGNIGLITAAGKSA 2250



PG01 QFGLHAWLPDAMEGTPVSALIIHAATMVTAGIFLLLRFSPLFGSIFLVWLG 2300  
PG02 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLLRISSPPIIELVITIVG 2300  
PG03 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLMIRSFPLFELLIITIFG 2300  
PG04 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLMIRSFPLFELLIITIFG 2300  
PG05 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLMIRSFPLFELLIITIFG 2300  
PG06 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLMIRSFPLFELLIITIFG 2300  
PG07 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLIIRSGPLFELTVVTILG 2300  
PG08 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLIIRSGPLFELTIVTSLG 2300  
PG09 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLIIRSGPLFELIIVTILG 2300  
PG10 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLLRISSPFFELMIVTIVG 2300  
PG11 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVYLIIRSSPLFELIVTALVG 2300  
PG12 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLIIRSAPLFDTIIVGLVG 2300  
PG13 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLLRISSPLEELMVVTIVG 2300  
PG14 QLGLHTWLPDAMEGTPVSALIIHAATMVTAGVFLLRISSPLFELVVVTILG 2300  
PG15 QLPFSAWLPAAMAATPVSSLVHSSTLVTAGIYLMIRLSPSFECFLLVVMG 2300  
PG16 QLPFCSWLPAAMAATPVSSALVHSSTLVTAGVFLLIQFYFPLSSTSLMIIS 2300  
PG17 QFGLHPWLPAAAMEGTPVSALLHSSTMVVAGIFLLIRVSPPIISIQALLLG 2300  
PG18 QFGLHPWLPALLEGTPVSALLHSSTMVVAGVFLLRVTSSELSHSLVLILG 2300

PG01 GITALFGAVYGYVQTDMKRRTIAYSTTSOLGYMVLACGLAHLMNHAFKAL 2350  
PG02 TLTAALFAASIGLVQNDIKKVIAYSTCSOLGYMVLACGLFHLFTHGFFKAL 2350  
PG03 ALTAFFAATVGLVQNDLKKVIAYSTCSOLGYMVLIIIGLFHLFNHAFKAL 2350  
PG04 ALTAFFAATVGLVQNDLKKVIAYSTCSOLGYMVLIIIGLFHLVNHAFKAL 2350  
PG05 ALTAFFAATVGLVQNDLKKVIAYSTCSOLGYMVLIIIGLFHLVNHAFKAL 2350  
PG06 ALTAFFAATVGLVQNDLKKVIAYSTCSOLGYMVLIIIGLFHLVNHAFKAL 2350  
PG07 ALTAFFAATVGVVQNDLKKVIAYSTCSOLGYMTMVCGLFHLMNHAFKAL 2350  
PG08 ALTAFFAATTGVVQNDLKKVIAYSTCSOLGYMVMACGLFHLLNHGFFKAL 2350  
PG09 ALTAFFAATTGVVQNDLKKVIAYSTCSOLGYMVMICGLFHLVNHAFKAL 2350  
PG10 SLTVLFAATVGVIQNDLKKVIAYSTCSOLGYMVVACGLFHLMNHAFKAL 2350  
PG11 SITALFAATIGLAQNDIKKIAYSTCSOLGFMVLSLSCGLFHLVNHAFKAL 2350  
PG12 SLTAFFAATVGLVQSDIKKVIAYSTCSOLGYMVMACGLYHLLTHAFKAL 2350  
PG13 SLTAFMAATIGLVQNDLKKVIAYSTCSOLGYMVMACGLFHLMNHAFKAL 2350  
PG14 SLTALIAATIGVVQDDLKKVVAAYSTCSOLGFMVVACGLFHLMNHAFKAL 2350  
PG15 ALTSFFSGLAAFGENDLKRVIALSTLSOLGVMFSLGYFHLFAHALFKAL 2350  
PG16 SMTMVMAGISANFETDLKKIIALSTLSOLGVMMLSVSLFHLFTHAMFKAL 2350  
PG17 SITAFFAASCAITQHDLKKIIAFSTTSOLGLMMVAIGFFHICTHGGFKAM 2350  
PG18 GTTALFAASTAIAQHDIKKIIAYSTTSOLGLMVTAGIFFHICTHAFKAM 2350

PG01 LFLSAGVVIHAVHDQDVRRMGGLIRLMPITYVTTLIGSLSLVLPFLTGFY 2400  
PG02 LFLGAGSVIHAMGDQDMRKLGGLIKRIPTYYSMMLIGSLSLMFPFLAGFY 2400  
PG03 LFLSAGAVVHSTNYQDMRKMGGLIHSIPFTYTMMLIGSFSIMLPYLTGFY 2400  
PG04 LFLSAGAVVHSTNTQDMRKMGGLIHSIPFTYTMMLIGSFSIMLPYLTGFY 2400  
PG05 LFLSAGSVIHSMTIQDMRKMGGLIHSIPFTYTMMLIGSFSIMLPYLTGFY 2400  
PG06 LFLSAGSVIHCLTVQDMRKMGGLINIPFTYTMMLIGSFSIMLPYLTGFY 2400  
PG07 LFLSAGSVIHAVSDQDMRKMGGLIKSIPLTYTMILIGSLSLMFPYLTGFY 2400  
PG08 LFLSAGSVIHAVNGQDMRKMGGLIHSIPFSYAMILIGSLSLMFPYLTGFY 2400  
PG09 LFLSAGSVIHAVSDQDMRKMGGLIKSIPLTYTMILIGSLSLMFPYLTGFY 2400  
PG10 LFLSAGSVIHALSDDQDIRKMGGLIKLIPLTYIMVVVGSLSLMFPYLTGFY 2400  
PG11 LFLGAGSIIHSMDDQDIRKMGGINITQPIISYVFIVIGSLSLAFPFMAGFY 2400  
PG12 LFLGAGSIIHALLDQDLRKMGGIIRGLPLTYILMLIGSLSLAFPYLSGFY 2400  
PG13 LFLSAGSVIHALADQDMRKMGGLIHSIPFTYTMIVIGSLSLMFPYLTGFY 2400  
PG14 LFLSAGSVIHVLFDDQDTRKMGGIGRSIPPLTYIMVVVGSWSLMFPYLTGFY 2400  
PG15 LFMCSGVVIHSLGVQDNRMRMGVSSMLPYTSYIILVCSLSLMFPYLSGFF 2400  
PG16 LFLCAGNIIHSHNNQDIRKMSHLWIQMPFSSTCFNIANLALCFPFMAGFY 2400  
PG17 LFLCSGSIIHNSLDQDLRKGGLAFSLPITSACLTLSMALAVPFLAGFY 2400  
PG18 LFLCSGSVIHSLSDDQDLRKMGGLSKLLPVTSSCLILGSLALMAPELLAGFY 2400

PG01 SKDYILQMGGLAAAYFTTFYSLKLLHRVFTITLTIASIFWGSHPWWIDFV 2450  
PG02 SKDAILELGTLAAGMTAYYSIRLIYMTFLFILSIGSIFFGKWIPVIISIS 2450  
PG03 SKDLILELGTFAAFLTAFYSIRLVYITFLLSLCFGAIFFGKVLPTLAGVF 2450  
PG04 SKDLILELGTFAAFLTAFYSIRLVYITFLLSLCFGAIFFGKVSPTLAGVF 2450  
PG05 SKDLILELGTVAALLTAFYSIRLVYITFLLSLCFGAIFFGKVMPTFMGLF 2450  
PG06 SKDLILELGTVAALLTAFYSIRLVYITFLLSLCLGAIFFGKIMPTLMGLF 2450  
PG07 SKDLILELGSFSALLTAFYSIRLIYLTFLLLLAIGSILV GKITPLFLLSLL 2450  
PG08 SKDLILELGSFSALLTAFYSVRLIYLTFLLLGFGSIFV GKITPFVLLSLL 2450  
PG09 SKDLILELGVFSALLTAFYSIRLIYLTFLLLAFGSIFFV GKVVPLLSLL 2450  
PG10 SKDLILELGGFSALLTTLYSIRLVYLTFLIILALGSLFV GKLLPVFLSLG 2450  
PG11 SKDLLELGFIFATLLTALYSFKLILRSFLLVLA MGSI TS GKLLPLLVTIA 2450  
PG12 SKDLILELASITAFLTAFYSFRLIYLSFLLV LGVGSILIGSLAPVIMSVT 2450  
PG13 SKDLILELGVFSALLTAAYSRLIYLTFLIILALGSIFFV GKLMPVIFSLF 2450  
PG14 SKDLILELVDVA AFLTTVYSIRLVHLTFLVLLALGSLFV GKLMPVFFSLG 2450  
PG15 SKDLIIEMLVSCLLTSTYSSRIAMVCLFVLYWGA VMGGSFLLLSLITV 2450  
PG16 SKDVIIE NMFLATILTASYSARLSLFI FLTMLAAGAITSGKLMATFATLT 2450  
PG17 SKDLILELAI IATTLTATYSSRIILASFIKNLAFGATLVGKTLTLLIAFI 2450  
PG18 SKDLILELSIVATMLTAVYSFRIFFCFLRLATGTIASGKGTPLIVPII 2450

PG01 PDNGFLAWFGPHGAVYFLNSFAARLDLLSSRFIPHLSVLFCLGLYLAGGG 2500  
PG02 GDRGWIEIFGPGGISKSI SYITKNFSALQSGFIYNYSVLGLVMCFANSSI 2500  
PG03 GDRGWLELFGPQGAGYLGTRVSOAISNLQSGVISRYSVFWLILAFIGSSG 2500  
PG04 GDRGWLELFGPQGAGSLGTRVSOAISNLQSGVISRYSVFWLILAFIGSSG 2500  
PG05 GDRGWLELFGPQGI STIALRVSQFISNLQSGVISRYSVFWLILTFIGSSG 2500  
PG06 GDRGWLELFGPQGI STIALRGTKFISNLQSGVISRYSVFWLILTFIGSSG 2500  
PG07 GDRGVLEIIGPRGISKILIKLTQNASNLQSGVVFNYSVLWLIVAF TSATA 2500  
PG08 GDRGLEIIGPKGAPQLLIRSTQRVSNLQSGTVFNYSVLWLIVAF IGASA 2500  
PG09 GDRGILEIIGPKGISKVLIKLTQVISNFQSGMVFNYSILWLIVAFSSAAV 2500  
PG10 GDKGTLELVGPKGVSNFLIGLTRGLSNLQAGQVFNYSIFWLIVVFIGSAV 2500  
PG11 GDTGIIETFGPRGASIKIVKFS SFISSIQSGLLFNYSIIWLVL SFIGAAI 2500  
PG12 GDRGILEILGPTGIAQFMVDRTKELSSLQSGLLFNYSVFWLVIAFVNAAV 2500  
PG13 GDKGVLELIGPKGISQFMIRLTQEISNLQSGLVNYSVFWLVVAFISSAA 2500  
PG14 GDKGTLELVGPKGVSNFLVKL TQGLSNLQSGLVFNYSIFWLIVVFIGSAV 2500  
PG15 GDCGWVEEAGPSLIHHNSLRGSSLFSFLTSSPYKVLFTLSL FVQTLICV 2500  
PG16 GDLGWMETIGGEGLLNKIMTLTTINQKNQSNL FNLFGLLLLFMSL FISI 2500  
PG17 GDQGWGEQIGAQGIGISNTTLAQKTQFLOSGLIKQYSALGLVLATCGLSG 2500  
PG18 GDRGWQENIGPQGIAPTSTALS KISOAGQIGLIKRY SALGLVVFSVPGSF 2500

PG01 IFLLLDLFLGLTLIIVYVGAI AILFLFTIFHAYPLALILVGFLLLVVMVAI 2550  
PG02 LLLMLGFLALLFLIVYVGALAAILFLFVLYTHGYIYFIVSSIVLLIAMVGA 2550  
PG03 LFIVLGFLGLIFLIVYVGAI CIIFLFVLYINYYYV FILV SFILLVAMIGA 2550  
PG04 LFIVLGFLGLIFLIVYVGAI CIIFLFVLYINYYYAFILV SFILLVAMIGA 2550  
PG05 LFIVLGFLGLIFLIVYVGAI CIIFLFVLYINYYYAFILV SFILLVAMIGA 2550  
PG06 LFIVLGFLGLIFLIVYVGAI CIIFLFVLYINYYYAFILV SFILLVAMIGA 2550  
PG07 LFILLEFIALMFLIVYVGAI AAILFLFVLYTNYYYLFI IAS FILLVAMIGV 2550  
PG08 LFILLEFLALI LLIVYVGAI AAILFLFVLYTNYCYLFI LASLILLVALIGA 2550  
PG09 LFIFLEFIAFI FLIVYVGAI AAILFLFVLYTDYYYFLLAS FVLLVAMIGA 2550  
PG10 FFLWLG FVALMFLIIVYVGAI AAILFLFVLYIACYLFI LAS FILLVAMVGA 2550  
PG11 VFIQLQFIALATLIIVYVGAI AAILFIFVLYNSYAPHLIVASLILLVAMIGA 2550  
PG12 MFISLGYIGLIFIIVYVGAI AAILFLFVLYTTYVELVL IASL VLLVAMIGA 2550  
PG13 LFILLGFIALMFI IIVYVGAI AAILFLFVLYTDCYYLFI LV SFILLVAMLGA 2550  
PG14 LFLLLGFVALMFLIIVYVGAI AAILFLFVLYIACYLFI LASLILLVAMIGG 2550  
PG15 MLKNVSWISLILFLIFLGGILVMFIYVVNSLTMLAYSFMVVYLFLLALLV 2550  
PG16 LIFFGSWFSFILFLIYIGGLVMFAYVFS PFNLLIIVSLALILFFVLI CV 2550  
PG17 VLMLGGFVGLIFFLMYLGGMLVVFAYS LYLDSWAGLLLGAFGLFVCLFVV 2550  
PG18 VLSFLGFVPIVFLVYIGGMLVVF PYSFYNSGGVLVILGVFVLLVALVGA 2550

PG01 IKI 2553LAAAYFTTFYSLKLLHRVFTITLTIASIFWGSHPWWIDFV 2450  
PG02 IVL 2553TLAAGMTAYYSIRLIYMTFLFILSIGSIFFGKWIPVIISIS 2450  
PG03 IVL 2553TFAAFLTAFYSIRLVYITFLSLLCFGAIFFGKVLPTLAGVF 2450  
PG04 IVL 2553TFAAFLTAFYSIRLVYITFLSLLCFGAIFFGKVSPTLAGVF 2450  
PG05 IVL 2553TVAAALLTAFYSIRLVYITFLSLLCFGAIFFGKVMPTFMGLF 2450  
PG06 IVL 2553TVAAALLTAFYSIRLVYITFLSLLCLGAIFFGKIMPTLMGLF 2450  
PG07 IVL 2553SFSALLTAFYSIRLIYLTFLLLLAIGSILV GKITPLFLLSLL 2450  
PG08 IVL 2553SFSALLTAFYSVRLIYLTFLLLLGFGSIFV GKITPFVLLSLL 2450  
PG09 IVL 2553VFSALLTAFYSIRLIYLTFLLLLAFGSIFFV GKVVPLLLSLL 2450  
PG10 IVL 2553GFSALLTTLYSIRLVYLTFLIILALGSLFV GKLLPVFLSLG 2450  
PG11 IIL 2553IFATLLTALYSFKLILRSFLLVLA MGSI TS GKLLPLLVTIA 2450  
PG12 ILL 2553SITAFLTAFYSFRLIYLSFLLV LGVGSILIGSLAPVIMSVT 2450  
PG13 IVL 2553VFSALLTAAYSLRLIYLTFLIILALGSIFFV GKLM PVIFSLF 2450  
PG14 IVL 2553DVAAFLT TVYSIRLVHLTFLVLLALGSLFV GKLM PVFFSLG 2450  
PG15 IDF 2553LVSCLLTSTYSSRIAMVCLFVLYWGA VMGGSFLLLSLITV 2450  
PG16 VKI 2553FLATILTASYSARLSLFI FLTMLAAGAITSGKLMATFATLT 2450  
PG17 LCL 2553IIATTLTATYSSRIILASFIKNLAFGATLV GKTLTLLIAFI 2450  
PG18 LII 2553IVATMLTAVYSFRIIFFCFLRLATGTIASGKGTPLIVPII 2450

PG01 PDNGFLAWFGPHGAVYFLNSFAARLDLLSSRFIPHL SVLFLCGLYLAGGG 2500  
PG02 GDRGWIEIFGPGISKSISYITKNFSALQSGFIYNY SVLGLVMCFANSSI 2500  
PG03 GDRGWLELFGPQGAGYLGTRVSOAISNLQSGVISRY SVFVWLILAFIGSSG 2500  
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PG05 GDRGWLELFGPQGI STIALRVSQFISNLQSGVISRY SVFVWLILTFIGSSG 2500  
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PG07 GDRGVLEIIGPRGISKILIKLTQNASNLQSGVVFNY SVLWLIVAF TSATA 2500  
PG08 GDRGLEIIGPKGAPQLLIRSTQRVSNLQSGTVFNYS SVLWLIVAF IGASA 2500  
PG09 GDRGILEIIGPKGISKVLIKLTQVISNFQSGMVFNYS I LWLIVAFSSAAV 2500  
PG10 GDKGTLELVGPKGVSNFLIGLTRGLSNLQAGQVFNYS I FWLIVVFIGSAV 2500  
PG11 GDTGIIETFGPRGASIKIVKFS SFISSIQSGLLFNYS I IWLVL SFIGAAI 2500  
PG12 GDRGILEILGPTGIAQFMVDRTKELSSLQSGLLFNYS VFWLVIAFVNAAV 2500  
PG13 GDKGVLELIGPKGISQFMIRLTQEISNLQSGLVNYS VFWLVVAFISSAA 2500  
PG14 GDKGTLELVGPKGVSNFLVKL TQGLSNLQSGLVFNYS I FWLIVVFIGSAV 2500  
PG15 GDCGWVEEAGPSLIHHNSLRGSSLSFLTSSPKVLF TLSL FVQTL LICV 2500  
PG16 GDLGWMETIGGEGLLNKIMTLTTINQKNQSNL FNLF LGLLL LFMSL FISI 2500  
PG17 GDQGWGEQIGAQGIGISNTTLAQKTQFLOSGLIKQYSALGLVLATCGLSG 2500  
PG18 GDRGWQENIGPQGIAPTSTALS KISQAGQIGLIKRY SALGLVVFSVPGSF 2500

PG01 IFLLLDLFLGLTLIIIVYVGAIAILFLFTIFHAYPLALILVGFLLLVVMVAI 2550  
PG02 LLLMLGFLALLFLIVYVGAIAILFLFVLYTHGYIYFIVSSIVLLIAMVGA 2550  
PG03 LFIVLGFLGLIFLIVYVGAICIIFLFVLYINY YV FILV SFILLVAMIGA 2550  
PG04 LFIVLGFLGLIFLIVYVGAICIIFLFVLYINY YAFILV SFILLVAMIGA 2550  
PG05 LFIVLGFLGLIFLIVYVGAICIIFLFVLYINY YAFILV SFILLVAMIGA 2550  
PG06 LFIVLGFLGLIFLIVYVGAICIIFLFVLYINY YAFILV SFILLVAMIGA 2550  
PG07 LFILLEFIALMFLIVYVGAIAILFLFVLYTNY Y YLFIIASFILLVAMIGV 2550  
PG08 LFILLEFLALILLIVYVGAIAILFLFVLYTNYCYLFI LASFILLVALIGA 2550  
PG09 LFIFLEFIAFIFLIVYVGAIAILFLFVLYTDY Y YFLLASFVLLVAMIGA 2550  
PG10 FFLWLG FVALMFLIIYVGAIAILFLFVLYIACY YLFILASFILLVAMVGA 2550  
PG11 VFIQLQFIALATLIIYVGAIAILFIFVLYNSYAPHLIVASLILLVAMIGA 2550  
PG12 MFISLGYIGLIFIIYVGAIAILFLFVLYTTY YELVLIASLVLLVAMIGA 2550  
PG13 LFILLGFIALMFIIIYVGAIAILFLFVLYTDCY YLFILV SFILLVAMLGA 2550  
PG14 LFLLLGFVALMFLIIYVGAIAILFLFVLYIACY YLFILASFILLVAMIGG 2550  
PG15 MLKNVSWISLILFLIFLGGILVMFIYV VNSLTMLAYSFMVYVYLFALLLV 2550  
PG16 LIFFGSWFSFILFLIYIGGLVMFAYVFS PFNLLIIVSLALILFFVLI CV 2550  
PG17 VLMLGGFVGLIFFLMYLGGMLVVFAYS LYLDSWAGLLLGAFGLFVCLFVV 2550  
PG18 VLSFLGFVPIVLFVLYIGGMLVVF PYSFYNSGGVLVILGVFVLLVALVGA 2550