

363988451.pir LVITGFATLQAAPKNNTWYIGSKLWSEDDHDSLSTFRLVLEIINRSHKLNKAGAFFGYQANKYLGFIEYDWLGRMTYKGLSYNGAIKQLQVQLAAKLSYPIIDNLDIYTRFGMMWVRADSKSNVYENAPYLSGGDTGVIPLTAIGVEYALTKNLAIRLDYQFIRNINMngIISTDLNMTLSIGSYHFSQKNTINPIVTPENITTI
213950522.pir .DSFYVGAAGAWTIFRNDINQIDSKYANDagISRNISVTVYGVGGYQIIDNLAVELGYDVGFRVGRKQEFRAFPKHSAHGTHLSLKPSEYVLENGLDVYGVKGAALVRNDKRYYSQTAqQKQAHNKLKLSLVLGAGVEYALPELAFRVEYQLWSNGhrATYNSYPSDHSVTVAGISYRFGQGAAPVAAPEPVTNKF
151360645.pir LVSGLLAANAQAAGQDNTWYGGAKLWSFYGVGD..ESNAITITDKDDDEVGAGAFAGYQINQNGLEVLGYDYLKGLKYSYTRNGAAFAQLAQLTLKGFPPVANDLIDYGRGGYGVWTSDDL.....ENDSRFTFVGAALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
615550405.pir LVSGLLAANAQAAGQDNTWYGGAKLWSFYGVGD..ESNAITITDKDDDEVGAGAFAGYQINQNGLEVLGYDYLKGLKYSYTRNGAAFAQLAQLTLKGFPPVANDLIDYGRGGYGVWTSDDL.....DSDRAVFPVGAALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
489543435.pir .MLVANAQAAGQDNTWYGGAKLWSFYGVGDHDAIKDAadDESNDALGAGAFAGYQINQNGLEVLGYDYLKGLKYSYTRNGAAFAQLAQLTLKGFPPVANDLIDYGRGGYGVWTSDDL.....RELDNDGAAPVGAALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
689967619.pir VINACAVTANAADAANTWYGGAKLWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQILPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....EHSNFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
320571124.pir .GFYGNDFNRIGDGGTDRNOLGAGAFYGHQANQYLFGLFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
518678632.pir .GAGAFPLGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
32057116.pir AVASLATAANAAYEDNTFYVGGKLGWSFYDANKVRAYESASIKTSDHNIAGGGPIFGQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
530712460.pir LVSGLLAANAHAAGQDNTWYGGAKLWSNFYGVDEHNTITSLND..DNDEVGAGAFAGYQINQNGLEVLGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....DNDGRENFGALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
453333715.pir .AGAFPGYQINQNGLEVLGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....DNDGRENFGALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
637111975.pir AVASLATAANAAYEDNTFYVGGKLGWSLYRLDagFDKDEBVGITKISNRNVAAGAFGLYQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
646675997.pir AVASLATAANAAYEDNTFYVGGKLGWSLYDKAKRVAFFDTSKISNRNVAAGAFGLYQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
880572252.pir MTSGFATAANQAAGQDNTWYGGAKLWSFYGVGDYDPAFTAIAITDKSDKDDVGLGALVGYQLNRVYLFGLFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
497809980.pir AVASLATAANAAYEDNTFYVGGKLGWSLYDANKLRNNSNVGVTSDSRNIGGGAFGLYQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
598570607.pir LLGLLITGASQAAPDHSWYKAGKAGWSFYDADTKRQVLEIICQRQSLrDGLGLFAGYQLNRVYLFGLFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
646678209.pir AVASLATAANAAYEDNTFYVGGKLGWSLYRLDANKKDKAGIKTISNRNVAAGAFGLYQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
550214112.pir MVNAFTAANFAAADAANTWYGGAKLWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQILPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
226344125.pir .DTGFTNNGGTHENQGGAGAFYGYQINQNGLEVLGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....VYKJHDTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
392326470.pir LANAFATTAFAAADAANTWYGGAKLWSHYSIDISTGSKASDNNNSGidHNDVGGVGYQYQNTWPLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
285459860.pir VPALLVHGMAQAQAV..ENTWYAGKMGWSNYdqPQLERESKSNNTSDDLGGVGYQILPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
457451405.pir .ATAAPQDNTFYVGGKLGWSHYSIDISTGSKASDNNNSGidHNDVGGVGYQYQNTWPLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
485941458.pir IGATCTSGLAQAQALDNSWYLGKAGWSHYFGADFEPPIDEafGAVBQGDGLGLFLVGYQINQNGLEVLGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....DNDGRENFGALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
637117075.pir .YGGAKLWSFYGVGDHNDIKDnaaISEEDKNDVGGAGAFGLYQINQNGLEVLGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....DNDGRENFGALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
539154778.pir VAIASITSAHAQAQDNTFYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
459649431.pir VAGLAAASVAQAAPQDNTFYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQANPYLAFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
320577090.pir .NPLYFELGYDYLGRILAYLKSAGNNGSFAKQGISLAAKLYPLTDDLDIYTRLGGMWRADSKAGYDNgiaaLSDHSTISPMAAVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
414970131.pir IAHAFATAAFAAATGTYVAGSKFQWSHYGDS...TDQVDDVDRNDDVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
14038137.pir .MAQLKNNLRLTSYGRNNTFTYGVGGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
541135496.pir VAGLAAASVAQAAPQDNTFYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
541135500.pir VAGLAAASVAQAAPQDNTFYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
328492295.pir LPLALLISGAVNAATNFYVAGVRRAGGVHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
15567739.pir .MFKDNTWYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
90441030.pir LPLALLISGAVNAATNFYVAGVRRAGGVHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
239950061.pir .MGVGNINRSTVTVYGVGGYQIIDNLAVELGYDVGFRVGRKQEFRAFPKHSAHGTHLSLKPSEYVLENGLDVYGVKGAALVRNDKRYYSQTAqQKQAHNKLKLSLVLGAGVEYALPELAFRVEYQLWSNGhrATYNSYPSDHSVTVAGISYRFGQGAAPVAAPEPVTNKF
904842848.pir LPLALLISGAVNAATNFYVAGVRRAGGVHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
326346124.pir .MGYDWLGRMYPKGSVNGAFAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....DNDGRENFGALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
363642983.pir VALAGFAIVAQAAPKDNWYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
903242929.pir LPLALLISGAVNAATNFYVAGVRRAGGVHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
441428083.pir LPVLLVSGVSHAADNFVAGARVGGTFFDSFDGALDQGE..GAFDRDWDGGGAFYGINXSWFAVEEGYTYLGEADQADKQ..GSGGFEVHGLDVKFTVSWAPVSLDFPKAGAGVRLYDNDVSNV.....SKDDSLGSLTIGVAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
548105420.pir LPLAVCLSDAAHAADNFVAGARVGGTFFDSFDGALDQGE..GAFDRDWDGGGAFYGINXSWFAVEEGYTYLGEADQADKQ..GSGGFEVHGLDVKFTVSWAPVSLDFPKAGAGVRLYDNDVSNV.....SKDDSLGSLTIGVAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
169451754.pir LPLALLISGAVNAATNFVAGARVGGTFFDSFDGALDQGE..GAFDRDWDGGGAFYGINXSWFAVEEGYTYLGEADQADKQ..GSGGFEVHGLDVKFTVSWAPVSLDFPKAGAGVRLYDNDVSNV.....SKDDSLGSLTIGVAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
387936435.pir LMLAAASSVWADDVAGLGGNIGQANADINDRITENLLDQSDDRDITGLKFLSFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
904410227.pir LPLALVTVSVASATNFVAGARVGGTFFDSFDGALDQGE..GAFDRDWDGGGAFYGINXSWFAVEEGYTYLGEADQADKQ..GSGGFEVHGLDVKFTVSWAPVSLDFPKAGAGVRLYDNDVSNV.....SKDDSLGSLTIGVAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
268161022.pir PLALLISGAVNAATNFVAGARVGGTFFDSFDGALDQGE..GAFDRDWDGGGAFYGINXSWFAVEEGYTYLGEADQADKQ..GSGGFEVHGLDVKFTVSWAPVSLDFPKAGAGVRLYDNDVSNV.....SKDDSLGSLTIGVAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
14331084.pir LVLAGQASMLASQVGFYVGGKAGTQFSDCE...GANSLDCEQSEGFVGYQALDVLAVVEYTLWGLRKSAdgEVAHYDATVQIGELQKADYALTRAGLFAKAGTLLQVEKSGSEPLGVSNGEDD.GSSLMLGAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
90440061.pir LPLALFVSNVSHASDNFVWVAGARAGASHITMDC...DAVTSVTKLEDNTFVAGVAGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
328490735.pir PLVTVSSSIAHASDNFVWVAGARAGASHITMDC...DAVTSVTKLEDNTFVAGVAGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
461135494.pir VAGLAAASVAQAAPQDNTFYVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
140623132.pir LALAAGATTAQA...DDWTVGAGAWYAHNLD...DVQGLDTPDKDATALPLFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
119863066.pir PLALLVSGVSHAADNFVAGARVGGTFFDSFDGALDQGE..GAFDRDWDGGGAFYGINXSWFAVEEGYTYLGEADQADKQ..GSGGFEVHGLDVKFTVSWAPVSLDFPKAGAGVRLYDNDVSNV.....SKDDSLGSLTIGVAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
89545405.pir LIALALTAGPLAALDQWYAGANVRRSSTATIDARITSGLLGSLDNRSSGKIFPGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
489491727.pir IATAAMTALGATAAHAADNFVAGVAGAAHFNGLN...IGVDDGTDEDAANAAPFVGYNFTENPGTEFYGYAGR...GNTBGRVYENQATLSGLRIARLPLGDFPSLFAEGGAYVHANGNG...GLETSDTRVPLAGLGLYDNDALDQARYRYMMDVADLMDVgYKSNQSVATLEAVYHFFRTSVAAPVAAPEPVEPV
328492298.pir LPLALLISTAASAAATNFVAGVRRAGGVHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
320577092.pir .LGRMAYKSVNGAFAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....DNDGRENFGALGEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
489569187.pir IATAAMTALGATAAHAADNFVAGVAGAAHFNGLN...IGVDDGTDEDAANAAPFVGYNFTENPGTEFYGYAGR...GNTBGRVYENQATLSGLRIARLPLGDFPSLFAEGGAYVHANGNG...GLETSDTRVPLAGLGLYDNDALDQARYRYMMDVADLMDVgYKSNQSVATLEAVYHFFRTSVAAPVAAPEPVEPV
369840496.pir TDASVMASSFAFPAYQHFLYLRAGAAWYQDAC...GSSANDLDPFGYAGGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
569548869.pir IATAAMAGATAAHAADNFVAGVAGAAHFNGLN...IGVDDGTDEDAANAAPFVGYNFTENPGTEFYGYAGR...GNTBGRVYENQATLSGLRIARLPLGDFPSLFAEGGAYVHANGNG...GLETSDTRVPLAGLGLYDNDALDQARYRYMMDVADLMDVgYKSNQSVATLEAVYHFFRTSVAAPVAAPEPVEPV
208093243.pir SLGICANASANTHEDTITFYGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
60839290.pir AAISITLTLFASAAVAEVVGGKLGWSLWDDAC...QSGQPCDKDDTTLGAFVGYQANPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
239950057.pir .ARXATSNAGYXXRNISVTVYGVGGYQIIXLAVSEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
414324245.pir AAISITLTLFASAAVAEVVGGKLGWSLWDDAC...QAGSCBDDDDVGAFLGYQANPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
569548871.pir IATAAAMGTSTAQAADDWYTGAGAWYGHDL...SFGDLADKDATAISLFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
414325259.pir IATAAALQAQAAP..DNDWYVGGVGAALAHDLG...DPGKDADKDATAISLFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
404614684.pir IATAAALGATAAHAADNFVAGVAGAAHFNGLN...IKDIDGGYAGTDEDAANAAPFVGYNFTENPGTEFYGYAGR...GNTBGRVYENQATLSGLRIARLPLGDFPSLFAEGGAYVHANGNG...GLETSDTRVPLAGLGLYDNDALDQARYRYMMDVADLMDVgYKSNQSVATLEAVYHFFRTSVAAPVAAPEPVEPV
404632560.pir AAVSASLMLASTASAMAQVXVAKVGTWHLDDAC...ISGQPCDEDDSTLGFAGFYQANPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
530714708.pir IATAAAMGTSTAQAADDWYTGAGAWYGHDL...DPGKDADKDATAISLFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
323310327.pir AAVSASLMLASTASAMAQVXVAKVGTWHLDDAC...TAATANCDDASTAGFAYGEMDFDLSIEGGYDYLKFTTDDLN...DKVBAFTMLKPLNPLTNDISLYKFGGAYVHANGNG...EDASVGAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
114335356.pir LITSMLEPFAASQAQELTFWVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
449080571.pir AAISITLTLFASAAVAEVVGGKLGWSLWDDAC...LANQCTDNDDEVGAFLGYQANPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
4920222.pir LAVLSTISMLPFAASQAQELTFWVGGKLGWSHYSIDISGNINNFNGCNDTSDSNVGGVFGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV
507220598.pir IATAAMAGATAAHAADNFVAGVAGAAHFNGLN...KIESTNVGDEDAANAAPFVGYNFTENPGTEFYGYAGR...GNTBGRVYENQATLSGLRIARLPLGDFPSLFAEGGAYVHANGNG...GLETSDTRVPLAGLGLYDNDALDQARYRYMMDVADLMDVgYKSNQSVATLEAVYHFFRTSVAAPVAAPEPVEPV
404632561.pir IATAAMAGATAAHAADNFVAGVAGAAHFNGLN...KIDIDGGYAGTDEDAANAAPFVGYNFTENPGTEFYGYAGR...GNTBGRVYENQATLSGLRIARLPLGDFPSLFAEGGAYVHANGNG...GLETSDTRVPLAGLGLYDNDALDQARYRYMMDVADLMDVgYKSNQSVATLEAVYHFFRTSVAAPVAAPEPVEPV
89050991.pir IPLAFVSNVSHASDNFVWVAGARAGASHITMDC...DAVTSVTKLEDNTFVAGVAGYQINPWLAVESEGYDYLGNMVOGNNGGKMAKQJQFSMKSAYSFNENNIDYLRAGAMVRAETDQA.....GHNFRFTGVRPLAAGVEYALNDWAARLEQYSTPYGSRDDTGLRMDNGLLSLAAVYRFGQVAPVAAPEPVEPV

24354232.pir SFSTLASEPPSYLFPQSYWYAGAGLGGHYSNGSN PQSYDSVDRDRFAGSVYLGQVNPYLAPLELSYQFLGSAYANYEQQISGDFQOVVLAARFPRITTSLSYPVKVGGAQWFGDSEGL RSGSERGFSPIVAAGVEYAFTRPRLSGRLEHQYTDLSG ADSIGYTDHLLTTLGSLWRFGHS APVTAFTPEVVTQ
169810989.pir TALALASTGALAAQ VNDWYVGGAGGWAIAHDLG DFGDKDASKDATALTFPGGYNFTENFGAELGYLSTGDNDVQGT DFSSQGATLSIAGRLPLGDVFSVFAEGGGYLVHVS INGGDDNLAPLAGLGLTAKLHDWVDIQRARYLIVLRVGGdQTRWRVSDIATLBLEVLVHFNKRsvAPAPAVPVLVAPFP
1615550345.pir LLTSMLEPFAANAQELTFPVVGGVGVNLYEPNCDKMTKTCG KDDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG TEYYSDSGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
126637318.pir TALALASTGALAAQ DDIFYVGGVGAHFNGLN KVEGVSESTQDNTGMLFNENFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG TDSRVPMAGVGLYKLANDLQDQRYRYMVDVADLTITTYKNSQSVATLBAVHYPRTSVYVFAAVPVEETAP
507219684.pir LLTSMLEPFAANAQELTFPVVGGVGVNLYEPNCDKMTKTCG EDDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGRMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG WGESEYSDGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
167352937.pir VYAAEADTNSAEEEDPFFYLGAKAGMHYQAC ESWISVCDGNYVFGGFGAGYQAWYQLGFEYALDGLAEVAVSGYsnTVGSMKGWLSAVTRFVLSLSEDFELFAKAGSFWYDQDN GPYSRNSDSGWAPMLGAGLAYQISPSVWARLEYQYDKLGSDLIGG SNGHLTTLGISYRFQKQPASVQVKEKPIITL
10039003.pir IYFALASLTPSAAEENEGVAKFGWHSFNPLKYDMNNSQVNNNDNSLAPVIGLFGYEFNFDYALAEAGLGYLSTGDNDVQGT RFEQNGGSLSLGVRPLATDLSLFAEBAGAMNLYLSNNKYG KDTKVSFLGAGLTYLTDLQDQRYRYITVDLHSDSKKPKNQMTMLTBLVHYPRTSVYVFAAVPVEETAP
157845903.pir LLTSMLEPFAASADMGSPVWVGGVGVNLYEPNCDKMTKTCG EDDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGRMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG SEYYSDSGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
268161981.pir LPLALIVASANAANDNFVYAGARGVGLN DTHKGNPNDVADLAGAFLGYLQIAPFAVEAGYHLDGRTSLTKGT DAKFRTQAGIDVIGYBYAINDLDFVGLGAYYDVHTKYL ADAKHGAGCTAGVABEYLVNLSLAVVEYQYNDVAGA IHFAGVSLAHYGA PAPVAVPVEETAP
40884556.pir NEQACASINLESNASHSEHFILGARAGWAYQDCL SSSAQBCNDIPFAYGLVAGYQFNQWIALEGGFTGKDPDKAYSNCKVSTDTYGAEVAALKSLYSINNEVFTLRGAAYQDIDKQSDWA EBSQEDNNMASALGIDYRSLNNSLRGEYQFDIGDLDVQ ADLHFTSLGILTYFGEEAvaPVALPEPRPTV
237500166.pir GFSVASMSVSASANADEAGFAFGAGFGGNNYSELG DVGTDKSDSTPAHVFPGGYTFNBYLAEAGYWLNGNRVDE RFKAGHANIALLFRYPLTDELSLLGELGAMRWADTNEG DVSDFGVSPFGLGILYRVSDELDQRYRYHFDVGDAKTG EBSDESLGDLVWYPRSTPAPVAVPVEETAP
485941725.pir LSLALIVAFASAAQANDWYVGGGWAIAHDLG DLSGDDVNDKSTPAHVFPGGYTFNBYLAEAGYWLNGNRVDE QFSSQGATLSIAGRLPLGDVFSVFAEGGGYLVHVS INGGDDNLAPLAGLGLTAKLHDWVDIQRARYYHFRVGGdQTRWRVSDIATLBLEVLVHFNKRsvAPAPAVPAAVAAVA
151364264.pir LLASLPLTPVSAAGQELTFPVVGGVGVNLYEHI ATQNGQDDPYAMDVFAGYMFNDYFAELGIFRDLGNADVTSAGISNDADVGKSTGLVGLWPLANRNSLSAEBAGAMNLYLSNNKYG GASTKYVSSDFAPYLGAGVGYITENNLKQAKYRRYENLDDYK VEADNSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
151306659.pir TALALAAAMGTTQAADDDWYVGGAGWAYGHDLG TFGDQDCKDATALSFLPGGYNFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG VDEKTKQATLSIAGRLPLMDIFSVFAEGGGYLVHVS SDNGTSLPAGLGLTAKLSDLDLQDQRYRYMVDLDDQKTKT KTDMSVATLBLEVLVHFNKRsvAPAPAVPVEETAP
342815798.pir LAVVYSSTLALASMANAAGFLYLGKVGKSWLDDAC TSTIANCDSDSMAGVGLVAGYQFMDYLSLEAGLGYLSTGDNDVQGT ADDKVKQFTIAPKLNLSLTDLSIYKFGGARVYDGNK NDNSFLGAVGFEEDSHKVNLSRLEYQRLTDVNN DYRVAANISATLGVAFKFGQELASPEVVEEKVVEEV
291067496.pir TTFYSLPEFAMVASTSDSGLYAGYQYNLPSYFSLLEAGLGYLSTGDNDVQGT DFTGRHENNDIGVGYQYNLPSYFSLLEAGLGYLSTGDNDVQGT KNSMTVIGYQYTLGSKISYYP SNTDITLRYLGGWYRSDYTRD DTDNSKVGITGLAPLISLIEYAWNYSITSRVYQWGNIKNDASTSANVNDLGSVGSFQAGQSSPSTTAVAMHQEQP
469769914.pir LAALLVSTFAFAHDDNDWYTLGRIGATYD YKISGEBSSALDANIGGGLFLGYNFDWFALBEGGYTLLEGETSE KITNHALEVWGFKTLQDNDLDFVKGAGYKTKDAD SANDDGFATAGGAEYFENNDRSLEYQYALNT LDEKADHALLVASLWYVNGSPAAAVIIVASQV
517830321.pir SVSVPFSGSTVAA EAEYGVKAGVWSEHSHS GRNAVAGHNRNNNDYGYIGYNTFSLYGLBAGYTYFNGPSFKNGKRLGHTLWELASLAIFFNDLDFVKGGLINLWHDKAF GHTEKTAPLGLGTRIAE GDFITRLEYNYAKHITD STYGYQDPLTINFGLEWFGKAGPAAVPAVPOKPTV
32316507.pir AAVISASLTPSAAEAFVYVGGVGVNLYEPNCDKMTKTCG TSTYVDCDTESSTLGAFAPYEMDFDLSLEAGYDYLSTGDEBGL DNDKVAEITLAKLNLPTDLSIYKFGGARVYDGNK EEDYSYLAGAGVFEEDSHKVNLSRLEYQRLTDVNN DLVRKAGSDATLAVYFKFGSEBAPVVEEMVVEEV
519121657.pir LAAVISASLTPSAAEAFVYVGGVGVNLYEPNCDKMTKTCG VAGQCDKDGSTLGAAGYEFNDYALAEAGLGYLSTGDNDVQGT PGHVEAITLAKFLSPLTDDIALYKGVGAYVLMN DDYSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSE EPVVVEEVVEEV
903238175.pir QANQVTKHASKVQDSDFLYLGAKAGMHYQAC EAQVDCDSDMSAWGPFAGYQFHRNVAWTEYNDGFGAGasGLMNEYITGMKWFPSLGRILPLTENDLDFGKAGTILRWDDGNS GPFSYDSDGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
494623133.pir IAIAMAALGATAAHAADDIFVYAGVGYATHFNGLN KLEBTSNGVEDAANAAPFYGNFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG RYBSQGTSLGRLPLVQDPSLFAEBAGAMNLYLSNNKYG SDTKVSPMLAGVGLYKLANDLQDQRYRYMVDLHANGERIKYKNAHLEAVHYPRTSVYVFAAVPVEETAP
651332620.pir 114551368.pir NTLMAAA DDSGFLYGVNNGVSVLHDEBSGNTNRVSGPGLAQRDRIQYKLYGQYQANKYLSLESGWDLGRFNPTTTLGNIKNVRFLNDLIRLPLDQVYVYVGRGGLTYAQTRDSFSTLALPANAASPKKWAANPKYVGGVLDLNRTRAPGRABEARY RINDA TGSKGNIDPFLSGMTRYFRTEKPAAPVAVPVEETAP
148203917.pir AVVYSASLMAAAVAAPVYVGGVGVNLYEPNCDKMTKTCG TATSGLDDBDSASAGIPGGYEFNDYALAEAGLGYLSTGDNDVQGT DSDVAFRTLAPKLSFVGTDAIDYVYKFGGARVYDGNK SDESPLGALGELFEDVMSNSRVEYQALTDVNN DWRVAFANITDLSGVYFKFGSkaEAPVAVPVEETAP
323103026.pir LAVVYSAGALLAASANAFLYLGKVGKSWLDDAC TALTSDCDSDSMAGVGLVAGYQFMDYLSLEAGYDYLSTGDEBGL ADEKVKQFTIAPKLNLSLTDLSIYKFGGARVYDGNK DDNSYLAGAAGLEFNLSQNVTRAREYQ DLVKAAVISATLGVAFKFGQELASPEVVEEKVVEEV
148330658.pir TALALATAAQAP VHDWYVGGAGGWAFAHDID DFGDQVCKDATALSFPGGYNFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG VNGDDNLAPLAGLGLTAKLSDLDLQDQRYRYMVDLDDQKTKR KTRVWSDIATLBLEVLVHFNKRsvAPAPAVPVEETAP
640349854.pir GLVASAVSALANDAEAGFAFGAGFGGNNYSELG GLGTANCSSTPAHVFPGGYTFNBYLAEAGYWLNGNRVDE QRFKANGLNISALPRLPLTDELSLLGELGAMRWADTNEG LQAKDHGYSVFGAGLAYQISPSVWARLEYQYDKLGSDLIGG GADSDNSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
260937018.pir LAVVYSATLMLASANAFLYLGKVGKSWLDDAC TSTANTCDESSITAGLFAEYDLYLLEAGYDYLSTGDNDVQGT ISGDKAHAMTALAKLIFPNDLDFVKGAGYKTKDAD DDNSYLAGAAGLEFNLSQNVTRAREYQ DLVKAAVISATLGVAFKFGQELASPEVVEEKVVEEV
119766551.pir LASALPFGVMSADEGASVWVGGVGVNLYEPNCDKMTKTCG ESDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG NNSYNSYDGLIAPFAGAGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
224604377.pir TITLTSVPAHADEMAATGWGQISVGGQAKDFASDSDFLTAQGGVDYDQWMLFAGYQFNRYFAVEAGYHLDGRTSLTKGT DAKFRTQAGIDVIGYBYAINDLDFVGLGAYYDVHTKYL ADAKHGAGCTAGVABEYLVNLSLAVVEYQYNDVAGA IHFAGVSLAHYGA PAPVAVPVEETAP
486370256.pir LIVALSVPASVTAQDSDFLYLGKAGMHYQAC EAGDCSDNSVADAGLGLYDYGNNYSLEISYDYLGRDFTAFYVAGADLTLALAKFLNIVGVDLTDIALYKGVGAYVLMN GTDQVDDYTLAALGVDHRANDLQDQRYRYMVDLDDQKTKR IPDMKQYDPAENDHILTAGVITLHFGSPEVVEEKVVEEV
91716086.pir LLTSMLEPFAASAEELTFPVVGGVGVNLYEPNCDKMTKTCG KDDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG TSTYYSDSGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
157845752.pir VYAAEADTNSAEEAFYVYLGAKAGMHYQAC ESWSVCDGNYVFGGFGAGYQAWYQLGFEYALDGLAEVAVSGYsnTVGSMKGWLSAVTRFVLSLSEDFELFAKAGSFWYDQDN GPYSRNSDSGWAPMLGAGLAYQISPSVWARLEYQYDKLGSDLIGG SNGHLTTLGISYRFQKQPASVQVKEKPIITL
132139641.pir LLTSMLEPFAANAQELTFPVVGGVGVNLYEPNCDKMTKTCG KDDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG SEYYSDSGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
335341263.pir AAVSMLVFPASSAAMA EVYKAGVKSWMDDAC AGDVCDEBSSTVAGYQAFNWSLLEAGYDYLSTGDNDVQGT DEKVTATLAPKLSFVGTDAIDYVYKFGGARVYDGNK DDYSYLAGAAGLEFNLSQNVTRAREYQ DLVKAAVISATLGVAFKFGQELASPEVVEEKVVEEV
148883598.pir FAVVLDVAGSDSPFSSHAWMLGKLGAMKYQAC EBWAVDCDGTVALGQYIGYQWHLGELYLDGFEAKALGRVYQSYGSMGSEBMSVQRISVTDLDFAPAKGIVWYQGN GPTRSLTQDWDGAPTAGVGLYFHSNHWAGVREYQYVNALGSKDLGG SNGHLTTLGISYRFSSAaQPETQTEKPVTV
349483134.pir VAAVDAGSALLTAQAEMKIGGKVMSTLDDACY LNSPDCDEBAFAAGMHVGYGNEYDLEYGVDLGRNVEANFKTAAGADLWMTLAKFLNLSLTDIALYKGVGAYVLMN DDKDFVPTGSLGAEYIYNWNSLRAREYQYQDMS DVMDMDANFSPVGYATF AAAPVAVPVEETAP
144585703.pir IAPLKSVMTSQAEBKNGWYLGKMGWHSFNPLKYDFNYYINKNDNSITNFIIGLFLGPEYFNFYFAGLENDYFVLEGRDLGRAEVDYANKNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG GPHRKBESDPLTAGLGLSYLSISQWLELWYFELGEBEVG SHGQTLTGLIAYFGKRIKPTFVYQNYMYPQL
320571016.pir NGAFKAGLISLAAKLSYPLTDDLIDYLRKGVWRADSKGYADNIGaVSDHTGVPYSLAAGLEZYAKNWRDLQWNNIGDQYTRPDMSSLGVSVGRFGQDEAV PAPAPAVPVEETAP
U3CB4.pir VATILAGVMSNVALA DTYIGKGLGYNLSDSC HLNAPCDDDAFAGLHLGYNFNBYIAAEVGYDLDGPTKAGKNVVDGDLWALTAKFLNLSLTDIALYKGVGAYVLMN DDKDFVPTGSLGAEYIYNWNSLRAREYQYQDMS DIKMDANFPGGLYKFG AEPVVEEVETRA
480569186.pir TALASIVLALSSPLVYAGLWGLGAGLWGHDKDY GSDADKDDATLDFPAGYQFNDFYALAEAGLGYLSTGDNDVQGT NGLSKDQATLSIAGRLPLDPSLFAEBAGGGYLVHVS INGGDDNLAPLAGLGLTAKLHDWVDIQRARYYHFRVGGdQTRWRVSDIATLBLEVLVHFNKRsvAPAPAVPVEETAP
404626345.pir TALALASTGALAAQ VHDWYVGGAGGWAIAHNLN DFGDQDCKDATALSFLPGGYNFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG HDNFSGKATLSIAGRLPLDPSLFAEBAGGGYLVHVS NGSDDNLAPLAGLGLTAKLHDWVDIQRARYYHFRVGGdQTRWRVSDIATLBLEVLVHFNKRsvAPAPAVPVEETAP
328579667.pir LLTSMLEPFAANAQELTFPVVGGVGVNLYEPNCDKMTKTCG EDDPYAMDVFAGYLENDYFVLEGRDLGRAEVDYANKNDVAGRMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG SEYYSDSGVPYFVGGVGYITENNLKQAKYRRYENLDDKWTMLDMSYWGLELSYFRFTGRAAPAAVAVPAAVAFD
157473467.pir LAAVISASLMAAAAEVYVGGVGVNLYEPNCDKMTKTCG VAGQCDKDGSTLGAAGYEFNDYALAEAGLGYLSTGDNDVQGT PGHVEAITLAKFLSPLTDDIALYKGVGAYVLMN DDYSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
536747537.pir AVVYSSTLMLASANAFLYLGKAGASVWDDLC TEGCDNDSWALGSFVGYEFNDYALAEAGLGLTETGSSGYDAGLV YSLAPRFLSPLTNDLDFAPAKGIVWYQGN SSSPFGVGGVLSYVLPNDIQVEYQRLTDI DITHGI SNAVITLGFYTKFGSkaEAPQEMBLVEEV
307636359.pir AMVSSPVLFAQDNKYDHWGGLNIGLTHEBNDIGAIQSBIEGGLTDDRNDGKVFVAGYQNDNVALBEGGYDYLGGPQSRVAGGrKTRTGRFNSLDEGLSPLMTEKLSAPFARAGAHYSESKRQDSDSNVITDRHrDQRYVWKGGLGYDPTQKFRNLEABEARY INDMV GNGNIMNSYGLALRYFRFTGRAAPAAVAVPVEETAP
381931547.pir CLPPTVSAEAGDPTYADHLYLGKAGVSHYNGC EBSAGDCDLDLGGWAGLYQYSPNWAELBYLDGQEAATYFYTGSQRGNWALSARLSLPTDGLYFGLKGLYAGVQKFE GPTTRDWDGAPVAFVGLGYSRQRQNLNLAQYQDGGVGSDBELG SNLWLTIIYGYRRGADRATVQPTPTPFGPV
171492849.pir LINSIGTVAESKESQHVYVGGVGVNLYEPNCDKMTKTCG SNAIBEKNTVYVGGVGYGQYSPFWALBEGSDHYGSPITFYVGGDYSATVGDVLSKLSLPTDNLIDYLAGGAMNLYLSVSGVNDV HLGMFSSDSSLGDEIWEIAGYALAPNLSRFGTSVTDIGGNKTK KSDLYTLGLYTYKF KAKPEPEVITIKVLA
88816686.pir SFFAAHSEBAQaFNFNWNSDMSVFFGYEFKSHWALBEGGYDLYGEXSYTGVNGLHTALEGPAFVFRMLPTQAGLFTGLMAYYDGEKNSIA KFDKDKSALFGLSGLYDPTQNLQCRVYENFLHLDGSEBFGADH GHLTTLGLAYFRGSKAKAPRAPVETRA
309326708.pir QAVVISASLMLASVHANVYVGGVGVNLYEPNCDKMTKTCG VAGQCDKDGSTLGAAGYEFNDYALAEAGLGYLSTGDNDVQGT VQAFPTLAKFLSPLTDDIALYKGVGAYVLMN DDYSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
106219507.pir LMLVSLPTANVFDANDWYLGKLGYSTLNDAC TNGNCGDDNDVAGLGLYDGLNGKFIESTIYDYLGRFNTPaGAMAGADLTLALAKFLNLSLTDIALYKGVGAYVLMN GTDGVDDYVMAALGVDHRANDLQDQRYRYMVDLDDQKTKR IPDMKQYDPAENDHILTAGVITLHFGSkaEAPVVEEKVVEEV
159173032.pir VATVLAGVMSNVALA DTYIGKGLGYNALNDAC HLNAPCDDDAFAGMHLYGYNFNBYIAAEVGYDLDGPTKAGLNTDGLWALTAKFLNLSLTDIALYKGVGAYVLMN DDKDFVPTGSLGAEYIYNWNSLRAREYQYQDMS DIKMDANFPGGLYKFG AEPVVEEVETRA
266611401.pir VAMISASLMAASSANVYVGGVGVNLYEPNCDKMTKTCG AGEVCDRDMTSMGAFPLNLSLWELVAEAGYDMLGKFTIGL ADDRKVAITLAKFLSPLTDDIALYKGVGAYVLMN DDYSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
190685438.pir CAISTITSIYAAAEVTSIYVIRAGVSNYEGSC SMNHLKCDKSDTYGGLYGYDINRWALIESFNIDGIDTITAYNHLDDGQSDQISLRYAIPYQNLISLWGLGAGYVADAK QNVVSPDTPGSLGAGLELHSHKCRLEYQYDRIGNIKNSKAGSNPKLGLALWNFPLRKHKPAVAVPVEETAP
418835419.pir MATGAQAAP VHDWYVGGAGGWAIAHDLG DPKSDNDSTYAFAGYNTENFGAELGYLSTGDNDVQGT HFSNQGATLSILGRPLMDIFSVFAEGGGYLVHVS INGGDDNLAPLAGLGLTAKLHDWVDIQRARYYHFRVGGdQTRWRVSDIATLBLEVLVHFNKRsvAPAPAVPVEETAP
575427746.pir VFLLASLVTSVQAEBKNGWYLGKMGWHSFNPLKYIMDDLKKDNTSSaEAPILGLFLGYEFNBYFAEIEENDNGFFPHRIFQKEKYTqNSVQLATKLSYPTDDHFHYTRLGGVFWENLVSQDLKSMSPKES KLFPSSLGAEYVFNKFIPTRLDYWKNTIRNIIDSSIKPSLGDALTSFGWFKGSDVDDIFLSDSBLLN
639601994.pir VLAAGFAVAQAAPKDNTWYLGKAGLWSYDGT FINNNGTHEQGLGAGFPGGYQYVYVGFEMGYDNLGRMVKGSVNGAAYQVQLTAKLGYITDDLDVYTRLGGVWRADTKSN DDNSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
152177.pir LAAVISASLMLASAAQAEVYVGGVGVNLYEPNCDKMTKTCG VAGQCDKDGSTLGAAGYEFNDYALAEAGLGYLSTGDNDVQGT PGHVEAITLAKFLSPLTDDIALYKGVGAYVLMN DDYSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
109173699.pir AALISASLMLASTAMAEFLYLGKAGKSWLDDAC TSTASACDDEDTLGVFGGYQFDFWLSLEAGYDHLGRDAAGL DSDSVQFTLAKLNLPTDLSIYKFGGARVYDGNK DDNSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
469769863.pir LAAVISASLMLASAAHAEVYVGGVGVNLYEPNCDKMTKTCG VAGQCDKDGSTLGAAGYEFNDYALAEAGLGYLSTGDNDVQGT GHBAITLAKFLSPLTDDIALYKGVGAYVLMN DGKDDFSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
172985970.pir AIQKNDENLSLQQAFAWYLGKAGVSNHYQAC QSWALDCCDATDAGGFYAGYQFNKYFALEAYLNKQVdanEAENKTRSMGLQIEISALIGLRLPDMNAPAKGIVWYQGN GGPIITQYGLSPTIGLGSYISKQVQRYEYFANIGSABIG ANAHLSSGYSYQFKHEIKSPAPLEIYVLETTI
1322416809.pir IAMALATGASMGVQANDWYLGKAGLYYEDIDR NNVDADNAAASFLPGGYNFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG GADTALRMLAISLGRPLGRFSYFVEGALGDVTDVA NDEGVEPFLAGLGLAYRASDLVQDQRYRYMVDLDDQKTKR VNGVEEENFVNDVNMVLEVLHFNKRsvAPAPAVPAAVAFD
432510874.pir IALGFAVAGAAQAVE TAYVGRVGGWAMNDV WASADKDAGVGYIAGYQNLISWAALEAGYDYLDFGSPAKAGVGSDFDFVEPAALRAFPLGDSYDILVGRGAAPWATKVE HGLSINLEIAPFVAGVAYVTKNFRVYGVYDFYDVID DKADPEITGLYAGLQYTFGGSkaEAPVAPHAPOETV
432510789.pir VATVLAGVMSNVALA DTYIGKGLGYNLNDACY LNEPDCDSDFAAGMHLYGYNFNBYIAAEVGYDLDGPTKAGLNTDGLWALTAKFLNLSLTDIALYKGVGAYVLMN DDKDFVPTGSLGAEYIYNWNSLRAREYQYQDMS DIKMDANFPGGLYKFG AEPVVEEVETRA
408881058.pir LAAVISASLMLASAAHAEVYVGGVGVNLYEPNCDKMTKTCG VAGQCDKDGSTLGAAGYEFNDYALAEAGLGYLSTGDNDVQGT PGHVEAITLAKFLSPLTDDIALYKGVGAYVLMN DGKDDYVLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
536747538.pir LAAVISSTLMLASAAFLYLGKAGASVWDDLC STGDCDSDMSWALGSFAGYEFNDMSLLEGLDTEGTTGYGTDAG LSSVYLPARFMTLPLDNDLDFVKGAGYVLMN DDNSYLAGAAGLEFNLSQNVTRAREYQ RLTIDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
469772046.pir ICPLLPFLQAEMNTNFYKAGKWSYQDCLY QYTKCEDSLGAGLFLVGYDPTDFAIEBGGVNNWMSYQNDYVAELNDSLSTKFGYRLTDNQLTYKVISYQHINKTMS DLGDFSSGLKSVIAMGIDYLDNNSLRGEYQFDIGD DTSLKADLHFTSVGKIRYRFSQDIIPITQKTEVTVSE
348002024.pir MQAAPANTNFYKAGKAGASVVRHLNQYQBDQTKAKKNSEAYGIFAGYQITDNFAIEAGYEFNFRKVKKEATEKRIITAGSSSLKASYPVHLNDLRYARGAALIRVYKDNFT GETHKFPSSLGVVPAAGLNMPP FLNWHYVWSING
348222254.pir QLVLVTLSSLPTASSQIYIGKAGASLNSC AVDSNCDASSAFAGYVQLLNDVALBEGGYDYGKFSVngTLDVDDGSMATLPAFRNIPILTDLDFPSKLAGASYSQE EAKDDNLNPLAGLGLTAKLHDWVDIQRARYYHFRVGGdQTRWRVSDIATLBLEVLVHFNKRsvAPAPAVPVEETAP
369849214.pir VATVLAGVMSNVALA DTYIGKGLGYNALNDACY LDTSCDSDSFAASMLGYQFNDFYALAEAGLGYLSTGDNDVQGT KAKAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG DDKDFVPTGSLGAEYIYNWNSLRAREYQYQDMS DIKMDANFPGGLYKFG AEPVVEEVETRA
148868362.pir VAFITLGTSMANA SVSDFYIGKGLYSQVSDC ASEPCDSDSAGVHLYGYNFNDFYALAEAGLGYLSTGDNDVQGT HLTDLTDLTDLVLAISLAPKFSYSLTDNALFTKIAGAYMIAE DEKDFVPTGSLGAEYIYNWNSLRAREYQYQDMS DIKMDANFPGGLYKFG AEPVVEEVETRA
1519728038.pir LLLLATAEMFLPSLQAQVWVGGALQRFDDASVSGKMGVTSLEDDKSTTASIFPGYQFNRYIALEGLTIGLADLGSVQD DMSYIATLQKFLSPLTDDIALYKGVGAYVLMN IAKVNSVAGYSgtFSDDVTGILGVEVAATDNIHRASWYLRPLDNDVYVAGVAsDINVSFLGSYHFI
149286.pir AASIIETMMLPVAADDGFLYLRGSGQLSDACN VSAAPCTDSGFASGLYGYDNDYALAEAYDNLGYSVtsgAYRRDANLSALTAPKFSYFNFDEALWALMYDM DRKSTLMDGNGVGLYEDFATWSRGEYQ RINDAKDDVNTDITWFLGISYSFGSSEAATAAASSTQBE
149286.pir LTKLGYPIETDDLIDYLRKGVWRADSKNYASTGVSRSBHTGVPYFVGGVGVNLYEPNCDKMTKTCG DDNSYLAGAAGLEFNLSQNVTRAREYQ ITDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
445964761.pir CAVIASGFAAAPSISATYVYKAGVGMGWLDSAC VDSVNCDDSVAGGLYGYNFTDIALLEADNLYDGYNGTIRYSDSIATLSLSPMYRLAIQKELDFVDFKAGPAYIMID DEDDVLVLAGLGAEKQFDDWAVRLEYQYDFDDGT KIIQNLNLSLTVGSLVSNFTGTWITASAAASAAVAT
342815799.pir VVAVSLLLIVSASANAFLYLGKAGASVWDDLC TSGSCDSDMSWALGSFAGYEFNDFALEAGLDTLTKTGTAGYTDAGLS YSLAPRFLSPLTNDLDFAPAKGIVWYQGN SDTSLMSGLSYVLPNDIQVEYQ RLADIDESHSGIAGVNLGFTTKFGSANAEPVVEEMVVEEV
469770726.pir STSHFESFSDYTRQNNAHAVYVGGVGVNLYEPNCDKMTKTCG SMSGSCDNDTSGVGLYGYQFISWALPGLYDGTDPDASYGKLNISAEVLGSEDFVGSYDLESDFDARVAGVAYVEKKNST GSEELTNSWENMGALSDYRVSQNLNLSRGEYQFDIGG LMKSDHFLSGLTYHFGKQKALIVLATVATP
U4JIA9.pir QLVLVTLSSLPTASSQIYVGGKAGVSSLKN AVGSPCEDSDSNGFVGGYQLDNDVALBEGGYDYGKDFKSNgtITDLEGLDTAVYSIAKFLNLSLTDIALYKGVGAYVLMN ANDDNLNLSLTVGSLVSNFTGTWITASAAASAAVAT
229485743.pir LTKLGYPIETDDLIDYLRKGVWRADTKAHNNVTGSESKHIDGVPYFVGGVGVNLYEPNCDKMTKTCG DDNSYLAGAAGLEFNLSQNVTRAREYQ RLTIDINNDVIRATGNLITGVSFKFGGSEBAPVVEEMVVEEV
532610063.pir AALLATCSMANAAP YIGASGKATFDDISGKISNVTYASERkNBSLSGKVPGGYTFNBYIgaITGGYDAlgSVVTV DMKFLAIQKFLTPIGDRFNLPAKAGLSYVNAEFKVSNSVLTgHTTFSETTIVTGLYGLGAEFAITKKNLALQVEWYMKPELDVAKLgVBAEISAFVSGMSYRF
540080848.pir SALTAAALLLITLPAaGNWYGLISAGLVHSDNNKBAVGVANVdNDANNVITAKLACRVDRNFPAVEAAAWWYKSEHHDGAVLEFKYGLAVDAGVLLPDTALSVYKAGVALIRIDGNKNASBPQYFSFKSRKTRAPLKGAGAEWMLERLSLRLEYEHFFNAGKSRDGTQYDVTYVGLKMNQ
K21D00.pir MGAGWAYGHDLG SFGLDNDFYDLSFLPGGYNFTENFGAELGYLAGRGNVYANRNDVAGKMTLWVGFVPLPFRNSLSAEBAGAMNLYLSNNKYG DSDNGTSLPAGLGLTAKLSDLDLQDQRYRYMVDLDDQKTKT KTDMSVATLBLEVLVHFNKRsvAPAPAVPVEETAP

R9PUI6.pir
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GPIDYRHEYKdghATRVKMGDSIGhFKGDECKFMEIDLKNGWELGLMRYHVLNDNMTWYMGPIEGRESGVTYKPOLRATYKVDsgLSLSGRYRYDMRQNTSSTEQVDNCGEIVAVDQFNENQRHRRLYDITYDNDDTYELngQWAPVVEFGDVsRrELRSRVGTYYSF
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VFLDIRHEYKdghATRVKMGDSIGhFKGDECKFMEIDLKNGWELGLMRYHVLNDNMTWYMGPIEGRESGVTYKPOLRATYKVDsgLSLSGRYRYDMRQNTSSTEQVDNCGEIVAVDQFNENQRHRRLYDITYDNDDTYELngQWAPVVEFGDVsRrELRSRVGTYYSF
...PNETNEGTEVEVASYVYKFNNTIYIEGGLSDDSTSNRYRPIRGKVAFTDFDSTSLRYPYKRNQPAQTKSEKHEPTMLFAYNLKDYSAEYeWAhDQYKIAAYKDKNWKPYMAIGN.....
WSLNYRHEPLEKsSDRLVGHFRFNGWGSFESNWTNTLNYNKIDVNRTYKLLDKWALIPGQIQWMSAGYVPLKLSYQVDFDNLNLRAGYRYDWAFAFRQDLDGNRAGGQIDGTYLIRINDDWAteEAFVLYKLSPTFPYVSDYLDkESYRVGLLVNF
VFLDIRGGYRGeSeSRKIVSQRWNGWASMEENKntkSDYNEIETNYTWRFDKWSIDPGGIIHWSGKGTOLRPIRYNYLPTADWSLGLRYRXYDNYETLNDGESHRRDYSNRLDLYFGVYKINQWsaTEHNAFTLRKYKWNWDFSPYEDYLDLdESRYRIGMTFTM
TCLDVRFGYNTdsrVKEMHTFDNGYFSAEAQLhAAQEFSEASYKFNLDNDWVSGPLVTVTSDWTEYRYPYLKGTFTVSPVSMTRGRYRWNSEANGQYKTRAGSNQFDLWIRSKNIgdyWEITMVMVYKIDTWTWPYVSDYLDkESYRVGLLVNF
ATLDIRGGYRGeSeSRKIVSQRWNGWASMEENKntkSDYNEIETNYTWRFDKWSIDPGGIIHWSGKGTOLRPIRYNYLPTADWSLGLRYRXYDNYETLNDGESHRRDYSNRLDLYFGVYKINQWsaTEHNAFTLRKYKWNWDFSPYEDYLDLdESRYRIGMTFTM
VQFDVRGGYKtGeseSRKIVSQRWNGWASMEENKntkSDYNEIETNYTWRFDKWSIDPGGIIHWSGKGTOLRPIRYNYLPTADWSLGLRYRXYDNYETLNDGESHRRDYSNRLDLYFGVYKINQWsaTEHNAFTLRKYKWNWDFSPYEDYLDLdESRYRIGMTFTM
LTLNLRGGYRGeSeSRKIVSQRWNGWASMEENKntkSDYNEIETNYTWRFDKWSIDPGGIIHWSGKGTOLRPIRYNYLPTADWSLGLRYRXYDNYETLNDGESHRRDYSNRLDLYFGVYKINQWsaTEHNAFTLRKYKWNWDFSPYEDYLDLdESRYRIGMTFTM
AYVNEIRHEYKcghATRVKMGDSIGhFKGDECKFMEIDLKNGWELGLMRYHVLNDNMTWYMGPIEGRESGVTYKPOLRATYKVDsgLSLSGRYRYDMRQNTSSTEQVDNCGEIVAVDQFNENQRHRRLYDITYDNDDTYELngQWAPVVEFGDVsRrELRSRVGTYYSF
ASVDIRHEYKcghATRVKMGDSIGhFKGDECKFMEIDLKNGWELGLMRYHVLNDNMTWYMGPIEGRESGVTYKPOLRATYKVDsgLSLSGRYRYDMRQNTSSTEQVDNCGEIVAVDQFNENQRHRRLYDITYDNDDTYELngQWAPVVEFGDVsRrELRSRVGTYYSF
DNRYAHTTASEKNOYKIGLGHFDNGAGVLAGASVLDGseQFEFEGEYKPIPLNDKWTFLPQGLDIDSGTKLAPYISLDYKISKLSLSGRYRYDMRQNTSSTEQVDNCGEIVAVDQFNENQRHRRLYDITYDNDDTYELngQWAPVVEFGDVsRrELRSRVGTYYSF
ATLDIRHEYKdghATRVKMGDSIGhFKGDECKFMEIDLKNGWELGLMRYHVLNDNMTWYMGPIEGRESGVTYKPOLRATYKVDsgLSLSGRYRYDMRQNTSSTEQVDNCGEIVAVDQFNENQRHRRLYDITYDNDDTYELngQWAPVVEFGDVsRrELRSRVGTYYSF
ASIDFRQYrEwESRFLGHLELDNGLGGTEIYTIInnSKDTEFQLYKYKLNDDITLPSVLWDSVKSseYKVGQANWAFQPGWRDLGRVRYEYNNPEPSANLNRQIDNDDWTRTDITLNRNTINKEFDnYHNIIGGYKIKTNVRLHGEFGYgDdWRFLGATYSF
BSREAFNFATDQHELLRLRGLYNWDSGAGIMASNAYNteHsNYNEIEGWYPLFKnDRLTIPGGGLINDRSAGSGGAVYLDVNYKFPFNLTALRYRHHNYESKDLNGDYAHNDTHEFATYWNFKLTDALshwEITNKFYSKIDTHMWPYFELDLRQLRTRIGVAYSF

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677870033.pir ATLDYRHEYADrnKDRIAIEKLPNGIGFYVDASVksvANAIELGVSYNKYKVTDNFVLQPGGFIESGPDTSIYKPYLRQYVNFDSGVYMACGRYRYDYARKTANYSDDEKTNRFDTYIGYVDFELKLEYNFTWMDS.....
F6CWF0.pir TSIINMRHEIVPehSDRIIEVSHRFNSNGIGFVGEAKWksGNGQQSNISYRIKLSDDLFTTPQYKVESGSSKLSHQFNFSFGYKVSDDWSVGFHRHYNYQAKVDDNDSHYNRWTFsAGYKGVEDWSLSSSIdfSDVNFKGEYtLNNSWKPpLEfGLKpwRFRYRGLGLKYSY
551321590.pir TSIIDFRHEWKAEdaSRVKMGHNyGgNIGIEMKFRSYDalTEDELdWGYTYKVNRMELKPGMPIAITDRKTFKPKQLRIVYRADMGLTALRYRYEIANYADsADGDTSMETGKINQPHRTKLTITGAYdyDIGLKAGYRMG.NWQPPTELDWVkrQMKLRAGVKYYF
L2W9Y8.pir ATLDVRCGYRSGseTRLVKvSEGwQNGWwASMEsNTWntLNDVQVEVNYAIKLDDQWTVRPGMLTHFSSNGTRYGPVYKLSWDATKDLNFGIRYRYDVKAYRQQLDLSGDMsRDNVHRWDGYVYIHNSDFtaTENAFVLQYHMTDPDITPYIEYDYLDRQGVYNGRDNLSE
655000093.pir ASVDVRGQYrdKFESRVLNHEWSNGIGAGfEYVVDNtwKENELELYKYKVSdtLTLDPVSLFQDTksGDIAKIGLRANWAFAPTWRDLARVRYEHKTRDRDLAKQWdNDdTRSELWLRKTFNKDlnLYEHNVGAAYKLNANFKPYAEIgyLpDdWRfRLGLVYSF
655481417.pir AYLDLRHEYrdzHRTRLIILGNHFDNGYIEMLTNVfHgiSMTETINYYTYAVNKNFTLNPGLTmNPLSSNTfMFPYKLNyNFdNGLfVHGRIYRyDfSNAPMqNDfGEDETVRRNRYDvWtGyNTDdyqtGREHTfKLVYKwKpDRVpYLQVdAdtEWRYgIGLNLAF
NanC.pir ATLDVRCGYRSGseTRLVKvSEGwQNGWwASMEsNTWntLNDVQVEVNYAIKLDDQWTVRPGMLTHFSSNGTRYGPVYKLSWDATKDLNFGIRYRYDVKAYRQQLDLSGDMsRDNVHRWDGYVYIHNSDFtaTENAFVLQYHMTDPDITPYIEYDYLDRQGVYNGRDNLSE
L0M8V3.pir DNRLAHTTASEKNQYKIGLGHIFDNGAGVLASAMyDlgsSFQEFEGWYPLPLNDRWTLTPGGLTDDSSGTLKAPYISLDYKISKTLFSsRYRYNHNHtkKDFYNGRMDYNDShQIDLYLNYQATDKLkHHEPSIVARyRMKNWLPYAEIawLdNqVRVRLGVRYf
515678629.pir GYVDLRAEYrdqYRSRFIVGHFDNGYGLETLTNVRhkVINTeFTHYTYAINDNFMlNPGVVMNFGQSNTEFLMPLYKLNyNFdNGLfVHGRIYRyDfSEALVNDYDNEETAkRNRYDIWtGYNtDKYmnaREHTVKAVYKwKpTVRPyAEVdAdtDWRfRVLGVNfSF
Q1Z3H2.pir TKLDVRFGNhdIKDSRVKFMHTFDsgfYfSAEAAQIhkAAQeFEATYKfQINDdWFwSPGLVMVtAPNwTEYRPLKLGtVfDNGLSVTSRYRYNWSNDANGKNKLDGSGTTRGASnQFDLWLSKsFGdyEHTVMVNYKLNtWTPYMElVSVDETYVDENgKREnd
515585635.pir TKLDVRFGNhdIKDSRVKFMHTFDsgfYfSAEAAQIhkAAQeFEATYKfQINDdWFwSPGLVMVtAPNwTEYRPLKLGtVfDNGLSVTSRYRYNWSNDANGKNYLDGSGTTRGASnQFDLWLSKsFGdyEHTVMVNYKIDdTWTfPYMElVSVDETYVDENgKREnd
A6AML5.pir TKLDVRFGNhdIRDSRVKFMHTFDsgfYfSAEAAQIhkAAQeFEATYKfDlGEdWYwAPGLVMVtAPNwTEYRPLKLGtVfDNGVSLTGRYRYNWSNDANGKNYLDGSGTTRGASnQFDLWLSKsFGdyEHTVMVNYKLNtWTPYMElVSVDETYVDENgKREnd
603142470.pir RYIRELKAYPYGCLQTSGLFPALYtNAAQLSGLTIGDSDEKRRAAVDIGsRILQMQRDNGGXGPDTSIYKPYLRQYVNFDSGVYMACGRYRYDYARKTANYSDDEKTNRFDTYIGYVDFELKLEYntNYEHNVALAWKLNKsFTPYVEVGNvArQAKYRAGIKYKF
655487076.pir AQIDFRHEWRSHdaSRVKLGtGfnaNIGIEMKfASfdeLTeTELDLGLTYKMG.KWQIKPGMPIALDRKTFKPKQLRIVVYKSDfGLTALRYRHEfANYSdPTDGTNVEtGLKVNDPtKsKVTLTGSyeYDAGIVVGYQfG.NWRPFaEiWtIdrQAKYRAGIKYKF
571190120.pir .....MRVGYNSDMGAGIMLTNTYtMkHGYNIEEGWYPLfktDKLTIQPGGLINDKsIGSGGAVYLDVNYKfTPWFNLTVNRyNHNHYSSTDLNGDLNDNYTEIGYWNFAITDKFshWEITNTfKYRINEHWLPYELRWLDqNQIRVGARyYf
R9NJI7.pir VSMdyRHEYrtHYDKLTLSTQLPANYfFAAEtKfKvLNvEMTLGKKIIG.NWTFVSPILIQPEFNSTRTEWKFgVSPWYKINNRWSVGLYRLeltDYAHDDQcRTGGIDYCDTDRHRTANRFdLYLddyEQELQFDYALdRVWVPYVTFGDIgrQLRLRGLAYf
G5P738.pir ATLDYRHEYADrnKDRIAIEKLPNGIGFYVDASVksvANAIELGVSYNKYKVTDNFVLQPGGFIESGPDTSIYKPYLRQYVNFDSGVYMACGRYRYDYARKTANYSDDEKTNRF.....DTYIGYVDFELKLEYNFTWMDSQIKFTTGWIAIK
H9YCG4.pir .....MLRVGYNFDMGAGIMLTNTYtKfHGYNIEEGWYPLfktDKLTIQPGGLINDKsIGSGGAVYLDVNYKfVfWfNLTVNRyNHNHYSSTDLNGDLNDNYTEIGYWNFKITDKFshWEITNTfRYRINEHWLPYELRWLDqNQIRIGTKY..
578244172.pir TSVDLRFGNhdVNSRIKVMHQADNGfYfSVEAAQnhtEAAQeIETRWRFDLGNGFAIAPGMVtVFTASNTHYRPFfIQGWKfDfDNGLNLSARyRYNTVNDHsDRLEDGSGYTRRESHQFDLWfAYNIgtYEHtVAFNYKLDdGWTfPYVElVSLDKTYINDdGHEND
673534431.pir TSVDLRFGNhneANDSRIVKVMHQADNGfYfSVEAAQnhtEAAQeIETRWRFDLGdGYSVAPGMVtVFTSNTHYRPFfIQGWKsFDNGLNLSARyRYNTVNDHsDRLEDGSGYTRRESHQFDLWfAYNIgtYEHtVAFNYKLDdGWTfPYVElVSLDKTYINDdGHEND
498113550.pir LELNYEHKYEdeHTDEIEISHDFESGIGIGSKLkSHpVlSEKfKINyNKDITDRFSIEPGMSFTIKDDEEKYKPSIKFKYRLfDKTKLSLRYRKEISDRDEKPTKRVDRIEGKISQIKGKFDLGYTLtyNTEHEVEVGYQTKHFSPYIGVKNearQTEYIVGMNYKF
515599487.pir .....FYFSGELKfKGADGDFMKDLKNGWELDLGyRYKvDgnWTIQPGMPIESRESGMYKPLRATYALeSGLSLSARyRYDIKTYNSNGDSTENRHRITGNVNYSVADWkFGfEayNIYDNKEENYELngDWYfVEfGDSrELRSRVGLTYSF
671631157.pir ATVDYRHEYRlthYDKLGLSTTLPDNfMFLGVEtKfKvLNvVEVTLFKSYWYG.NWTLSPfIQPEFNSTRTEWKFgVAPWYKfDRWSLGLYRLeltDYAHDDQcRTGGIDYCDTDRHRTANRFdLYLddyEQELQFDYALdRVWVPYVTFGDIgrQLRLRGLAYf
654547603.pir TSVDLRFGNhdVNSRIKVMHQADNGfYfSVEAAQnhtEAAQeIETRWRFNLGNfFAVAPGMVtVFTPSNTHYRPFfIQGWKfDfDNGLNLSARyRYNTVNDHsDKELDGSYTRRQSHQFDLWfAYNIgtYEHtVAFNYQLDdGWTfPYVElVSLDKTYINDdGHEND
668994791.pir LSVDYRHEYRvtHYDKLNMSAALPDNYfSIEtKYKvLNvVELTLKsSFTFG.NFKIAPLIQPEFNSTRTEWKFgVAPWYKfINENWAIIGMYRfELTYANDPDCGYNGDKSSTNKHRTVNRGDLyLYdyEQEwQFDYSLgkEWKPYVTFGDIgrQLRLRGLAYf
594396893.pir VTVDRHGYRlthYDKLALGASLPDNWAFNVEtKfKvLNvVEVTLKTYNWG.NWSWSPfIQPEFSSSTRTEWKFgVAPWYKfINDSWSIGLYRLelsDYAHDDQcDAGHDfCSLDKHRVTNRFDAYEdNYEQELQfNYAMgaeWGPYITfADIGrQLRLRGLAYf
515594352.pir .....SIGNFYfSGELKfKfGADGDFMKDLQNGWELDLGyRYKIDgnWTIQPGMPIEGRSgMYKPLRATYALeSGLSLSARyRYDIRTHSNGDSTQfRHRITGNVNYSVADWkFGfEannYELNLTAGRkFG.DWYfVEfGDNhELRSRVGLTYSF
A6CXP1.pir NYVDVRGAYkttyETVRVAGfDfqaAGGkLFSNSGKsvAAfEtelNYWAIINDNFTLTPGfVYwNGSDHMEYRPLKATYAEgn.FYTAARYRYQAASSSTfPGVKTNDTQVdLWVGYNLNDFALeYtKWHEHTfQVYKtGFESWAPYVDYQLdENRIRAGVTFNF

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The top layer shows the consensus sequence. Residues are coloured after their physico-chemical properties. (GPX black; positive blue; negative red; CM yellow; H dark purple; NQ light purple; all others green).

Class 4A

CONSENSUS NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 E206L8S_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 ECompG_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 D49111_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 666376500_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 KWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 V1H385_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 F8V1H4_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
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 L9HT82_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 A9M052_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 647319304_pir TWEFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 578276370_pir KWEFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
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 N22286_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
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 446481394_pirMYEFLNDEDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 607463328_pir TWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 639209387_pir PWFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
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 671535537_pir AAHFDIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
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 491210144_pirMPCTANRA...ETIALLMSSGSAFVTHA.....FSSGAGRTSDGSHSapsYTKSvSNQYHkSRPDDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 EFWKVIGAM_ETENVEG_S_DKdGATEPVTFFVNSKRGWTFYGFAYQEDVYDSDSDSDFWQVEFDARYQFVNDADHALGLMGRNYQYNDCKKKSsHYRTVYDQWSSSLPALKYNGWALYFYNMDDSGYKKEEESGLSsFFDIALVSHLRKSWHDS...QREFAQKQKAVMLKESKVTIETAYRATDITVYD...DRCEBETSTFRLGLLNQPFLSLSLAEYEQDHDWtEaKEHYTGWYSF
 449467445_pirMVRKIPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 485713378_pir KWHFRAGLLIETENVEG_SDFDKGPELPLMDFSRDRWTFYSGYQETHTGYSdgaRDWFWQYEPDARYLMVDQDLALGTFHFRNYTYIDYDNPKgVNSORWKPDPWRIFDCKFSTGWVTVYNNVNLHGLNLANKEEGGFEYRNFPTVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 657150665_pir DKWGTGFLLEIETENVEG_S_DKdGLVEPSTVFNAYGWSFLANQYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 D48462_pir KTWHTTGLLLEIETENVEG_S_DKdGKFWPELTYLAAAGWSYVGSYQEHNYVYGTGQDFWQYENLRYLASHAVDYLGMLAGRHQYQYQDQGITRYTQVTVQDWRIFLQDQSRFSQWALYQYINVRQNALDLEBETGFGYQVNDLRSKNSDRLA...EFSQELALMPLTlapLVTVPYRHSLDTPYVWQQRIDCE...TDRGLLLETLQDGLSLEAYEQHdGSKKHYHYGVLYSYAF
 485713378_pirMYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 446657896_pirMNMISYGLVTRFE...KVYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 638780718_pirGevQNOIGRQVYSLGNTWVMPYRFLSEKIR...DANVYVNETDNGLGNFYVTPKSTFWMLAYESTWtEgntTKFYLQIGWYKXW
 518442615_pir ASWHTSNTLYEIKFEGHV_DVDKQTPVQQLFLSN...PDSAWSYFLKYVAMRNPTDgTRNRQIGATRNIVKENWTFVNTATYKESNDAA...PdARGAYNLWMLPSSGSIKIDKLAFSVDAPFYNDNFVNS...TEWEABHGLIYVNETAKVYLDWTV...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 490482872_pir NdWVNTLYLEIEVYQQRdKISTVQKLLKFNQPS_AWRFALHRESLRH...GRNFTSRDSYRIRTDIDAKKpTSDLELGRYKRESNDVPE_KARSNRLVGLTPAGYRFDNDSFWNLSYFYNSYFN...DSSHEABEETGVTYSDALKAKVYLDWTV...DKHFTVSLRQVAYRFLTIKWKITVYRFLQENTY_DKNWTLTLEKNGRIGLSLVEVQVPSLTLNLSFAEYESTWtEgntTKFYLQIGWYKXW
 638780718_pir NdWVNTLYLEIEVYQQRdKISTVQKLLKFNQPS_AWRFALHRESLRH...GRNFTSRDSYRIRTDIDAKKpTSDLELGRYKRESNDVPE_KARSNRLVGLTPAGYRFDNDSFWNLSYFYNSYFN...DSSHEABEETGVTYSDALKAKVYLDWTV...DKHFTVSLRQVAYRFLTIKWKITVYRFLQENTY_DKNWTLTLEKNGRIGLSLVEVQVPSLTLNLSFAEYESTWtEgntTKFYLQIGWYKXW
 591661229_pirFAMRWKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 491045365_pir LAGNVIQTEPRDFN_EPKSDSYQVYVPSFLNPLIegQVIAIKDYRHmpQRSNMNS...RUTLAVCYQWTLG_OPTWAKVGFGRYIEGmepGLRDFSKSTSINLAGHMAPT...RSHGRFRDDQVKKL_RTSYDDYTHELELKLGHLSSSRVTVSLVHEMFKSEYEsEaKESDLSQLRLYRHRINDLLEPYTRIDLQVQO_DGVGN_ERNQ_KNRVGLMAYKLSKLSILPEAYEADVKWtHnkYMYGLSFSYF
 5730500784_pir NDWHFNIGAMYLEIENVEGYEDMDGLAEPSVYFAANGPWRISLAYOYEGPVDYSAKGRGTFWRDEPELVHYQFLEDDFSGFLTGGFRNYGYHYVDEPKDTANMRKRIAPDNDVLLDRLDFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF
 591661229_pir DWHVKNVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 493869722_pir DWHVKNVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 674722870_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 640470393_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 522210638_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 485780538_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 502623387_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 59166130_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 658549097_pir LWDVNTVYVLEIEVYQQRdKASMIKGLSLNTPS_TWSFLEHRESLRHFNFSRSYIRNRTOIGATKQKDK...ISNDLNFPYKRESNDGTFEARSNSLWMLPSSGSIYLDSDRWTFDWFAPFYNSYFANSY...EFSEVGYSLKDDIKARLSYSDKAW...DNEFTVSLRQIRLQVTVTNSISPYRFLIADLYngYTQQLASG...YRIGTVYKVTPLALNAGAYEPTWtEgntTKFYLQIGWYKXW
 485707625_pirTDLRFRNGWLSMYKFPANDLNTGYADTRVETEGLYYFNEETVALRVNYLIERGMDDSRNNGEFSTQIRAYLPLTIGNSVTVYTRIGLDRNSWDDDEREGHDFNRVGLFYGDYDQNGLSVSLYAEFQDDHDEGSDKPHYAGVGNVYAF

The top layer shows the consensus sequence. Residues are coloured after their physico-chemical properties. (GPX black; positive blue; negative red; CM yellow; H dark purple; NQ light purple; all others green).

K79270.p1f KDSFGDESVVSIKKGALVETKESGQ.NKVEKGVLYDFAILSSVp4IQKGFSSKAKLAPFISGTHGQSPYELIAYL.....DQVLTIAAGSYDG.KLKIIGQNTFPLGLELSSNDTSFVRCAPTAP...GFERSVGLSATVHLGDFPLERQIFSDHIDQLDQNSFVUGGVVYATLV.DQALHLSGSVHIDQLDQNSIDSTVRLKPLVMSVQVPIHTDITLGADELS.....VLELAUVIAGEPQHAETNNAKINRVE.LADVTFQGSSTEAQNFICQKRYK...GGVFEVApqMGTGAMVTHLRFNLDLVAGIV.....GGKDAVMASLWTFVWVFLIYSHLAYSHVRCADKRFNUNVGGKTKVLSF
 N48236.p1f PPAKAAPEVETISKQDLPFTSIDR..AFWVGRIGADAGVYSHDPSDASQFQTSKMAKILGDSKGLSDSPKYLELSDNK.....VELVDTFVPIST.KMNLVAILGQKQFPLSLEKTFSTVYVMEKAVFD.AQFPERELGISAGVSHQVINDIGALSNDGSPGSDSRSFPOGAVVPAKV.DDTVHLFGASINRLEKLAETVTRKPLFSGTSTVLYLQGLVY.....DQVYVGLAAALIGFVAVAEHNLKRNQDA.PDQSPGDAVEVQYFIKGTREYR..IGIPQALPFRVSGIGAVLLEKTYLSELDKDSAG.....VLSGRVAYLAGLQWTFIVLRLKRYQVYTSQVAYQKFLVAVATKILKLF
 Q21474.p1f DQKRFVADADSRWADVPAKADSRWVQWMLKALSTTDLHSHDFPFRSMLKLVDSGSDPQKAVAYVA.....KSHVDFVDFRHPDPLTLAGLSDKSHLNRWSTFIRKAVD.APQNTKRLGAVYKDFRSDKLFQKSHLSDKLVKSHLQADAVCTVFFVQ.GSFFHGLALVUNRFLAUNRGTALFQSDSAGLIRVAVVLTGSRPFTQSDANLQDQVLEAVVQVAFQKDAVNRRTFAKIDSPFNSPFIQVTFKQVYKSHVETVLEKQVAGVILKRLKSHHSLDQATPQSGSDVTLQVFNQVWVFLKHTVETQVFAKISTVDAVLAQVDF
 Q21475.p1f EHALMGQVWVDFQGRFTSISIDQVANGIAGLPHEDIGQFMGHSFRKQVTEKMLKIPISFRY.KWIAITVDFQSDAQSTSTSLYKALVIVGPFRTVITAGVFPVWVTKQDSRQKFLMGRKAVDIVERHIAAQDMSLGLVYKSHVIAQVVDVYTKKLVYDSLSGATVWADPQNSKQDVIHGLKAVTPEVAKASDQVYF.....SRAPVHLTTHLLEAVGVGSIHNSAGEKSPFRHRLTLKRYTHLVQVPSDQAVVSTQYCAAVYTFQGRQVYIKEGAFAGSPHYGALERTAVDVAQALQDASTALR.....GGVTVHAGLWVFRHFRPLGLSFRFIVSRVAAQRQKQVAGKIQAVF

The top layer shows the consensus sequence. Residues are coloured after their physico-chemical properties. (GPX black; positive blue; negative red; CM yellow; H dark purple; NQ light purple; all others green).

062922.pii IASGQDQKGF... 062923.pii GLNTAAEAG... 062924.pii GYCHYLAAG... 062925.pii GYCHYLAAG... 062926.pii TCVYLLAA... 062927.pii GYCHYLAAG... 062928.pii ALIFLQAD... 062929.pii SATYAAAG... 062930.pii HADDAAT... 062931.pii TVSTVLLA... 062932.pii IALCAE... 062933.pii QADDS... 062934.pii IAAQAA... 062935.pii IAAQAA... 062936.pii IAAQAA... 062937.pii IAAQAA... 062938.pii IAAQAA... 062939.pii IAAQAA... 062940.pii IAAQAA... 062941.pii IAAQAA... 062942.pii IAAQAA... 062943.pii IAAQAA... 062944.pii IAAQAA... 062945.pii IAAQAA... 062946.pii IAAQAA... 062947.pii IAAQAA... 062948.pii IAAQAA... 062949.pii IAAQAA... 062950.pii IAAQAA... 062951.pii IAAQAA... 062952.pii IAAQAA... 062953.pii IAAQAA... 062954.pii IAAQAA... 062955.pii IAAQAA... 062956.pii IAAQAA... 062957.pii IAAQAA... 062958.pii IAAQAA... 062959.pii IAAQAA... 062960.pii IAAQAA... 062961.pii IAAQAA... 062962.pii IAAQAA... 062963.pii IAAQAA... 062964.pii IAAQAA... 062965.pii IAAQAA... 062966.pii IAAQAA... 062967.pii IAAQAA... 062968.pii IAAQAA... 062969.pii IAAQAA... 062970.pii IAAQAA... 062971.pii IAAQAA... 062972.pii IAAQAA... 062973.pii IAAQAA... 062974.pii IAAQAA... 062975.pii IAAQAA... 062976.pii IAAQAA... 062977.pii IAAQAA... 062978.pii IAAQAA... 062979.pii IAAQAA... 062980.pii IAAQAA... 062981.pii IAAQAA... 062982.pii IAAQAA... 062983.pii IAAQAA... 062984.pii IAAQAA... 062985.pii IAAQAA... 062986.pii IAAQAA... 062987.pii IAAQAA... 062988.pii IAAQAA... 062989.pii IAAQAA... 062990.pii IAAQAA... 062991.pii IAAQAA... 062992.pii IAAQAA... 062993.pii IAAQAA... 062994.pii IAAQAA... 062995.pii IAAQAA... 062996.pii IAAQAA... 062997.pii IAAQAA... 062998.pii IAAQAA... 062999.pii IAAQAA... 063000.pii IAAQAA...

