

matlb MKQNTLEKIFDDWDSINWQKITQVYFSTQKEIWDASINNEKKLRLKIQTEAFNSWSEKLLAVKYVTKKFIQTLAGKYRTYIP 85
matla --MTTHQA--EKWKNPWTQFQRKHKLQYKYAAKENDESLKKWQLINLENSSRYLSVKQVTEFD SKNAGNGQSRIS 82
matlc -MQPT-LKSGVEDWETLPWKQFRKQVFRLLQHRHYKAQQENYKLVHKLQRLLFNSRAAKFLALRQVTLQHTGKVTAGIEGASKLN 83
matle -MQPT-SKSYVEDWESLPWKQFQKQVFRLLQHRHYKAQQENYKLVHKLQRLLFNSRAAKFLALRQVTLQHTGKVTAGIDGINKLN 83
matld -MQPT-LKSCVEDWKNLPWKQFQKQVFRLLQHRHYKAQQGNVYKLVHKLQRLLFSSRAAKFLALRQVTLQHTGKVTAGIDGINKLN 83
matlf -MQPT-LKSCVEDWKA LPWKQFQKQVFRLLQHRHYKAQQGNVYKLVHKLQRLLFSSRAATFLALRQVTLQHTGKVTAGIDGAKLN 83
matlg -MQPT-LKSCVEDWKA LPWKQFQKQVFRLLQHRHYKAQQGNVYKLVHKLQRLLFSSRAAKFLALRQVTLQHTGKVTAGIDGAKLN 83
matlh -MQPT-LKSCVEDWKA LPWKQFQKQVFRLLQHRHYKAQQGNVYKLVHKLQRLLFSSRAAKFLALRQVTLQHTGKVTAGIDGAKLN 83
matli -MQPT-LKSCVEDWKA LPWKQFQKQVFRLLQHRHYKAQQGNVYKLVHKLQRLLFNSRAAKFLALRQVTLQHTGKVTAGIDGAKLN 83

matlb NQYKIEFAKKL--EKKKSFNLSNLY--DYNQYNPI--IIOQSAQLVYKLIIEPEWTAKMEDYVYNDKLA-SQGNINDLVYV 161
matla AIDKILSSEIKNLSIAEYESLRDLITVKNGNKELLSVPMKDRALCELIKYALEPEYESYASSGSYAFRVGRNPWDIQKTIYD 167
matlc KREIFELFKELNNGYKHSPLKRVFIPQSNGEKRPLEPTIKDKALQCLINYLLEPEYAYASKGSLGFRPTRSKWDITQKNIFT 168
matle EKERFELFERIKSKKFKHQPLKRVFIPKSNGEKRPLEPTIKDKALQCLINYLLEPEYAYASKGSRGFRPGRSTWDVQKNIF 168
matld EKERFGLDELNTLNKYKHSPLRRVFLPKNGEKRPLEPTIKDRSQQCLVYKLSLEPEYAYASKGSRGFRPGRSAWDVQMNIF 168
matlf EKERFEMFNSLKDNNKYKHSPLRRVFLPKNGEKRPLEPTIKDRITQCLVYKLSLEPEYAYASKGSRGFRPGRSTWDVQSNIQN 168
matlg EKERLEMFNSLKGNNKYKHSPLRRVFLPKNGEKRPLEPTIKDRITVQCLVYKLSLEPEYAYASKGSRGFRPGRSTWDVQKNIFI 168
matlh EKERLNFDSIKNLKYKHSPLRRVFLPKNGEKRPLEPTIKDRITVQCLVYKLSLEPEYAYASKGSRGFRPGRSTWDVQKNIFI 168
matli EKERLEMFNSLKDNNKYKHSPLRRVFLPKNGEKRPLEPTIKDRITVQCLVYKLSLEPEYAYASKGSRGFRPGRSTWDVQKNIFY 168

matlb LCLLINSKSKRYVHGYISKINTKLNLDYFNNTHGYSGNVSKQLNSWNAACFTPNQLFTKQFPKQKSSIIIGDLFDLHIGLE 246
matla -SFKVLEINSHKRIKIDITKCLSEAHYNEELREVFIPQEAKSFLLSGKAGIFNDYLRNSDLSLYQ--DRIAPILANLLNGIE 249
matlc -NLSGHTNSNKRILKIGIEKCFEKINHEKILSLKLPKILKIRLSALKAGVLRKRAITQERTPKG--GVVSPILCNIALHGLE 250
matle -NLSHHTNPKKLELDVKKCFDKDHDKLLSLHLPITIKRIRLSALRAGVLSKRFPTSEGT PQG--GIISPLCNIALHGLE 250
matld -NLKRHSTNYKRILEDIEKCFDKDHDKLLSLHLPITIQMOKIKSALKAGVLRKRAITQERTPKG--GIISPLCNIALHGLE 250
matlf -NLGRRDNYKRILEDIEKCFDKRINHDKLLSLHLPITIQMOKIKSALKAGVLRKRAITQERTPKG--GIISPLCNIALHGLE 250
matlg -NLGQRKTNYKRILEDIEKCFDKRINHDKLLSLHLPITIQMOKIKSALKAGVLRKRAITQERTPKG--GIISPLCNIALHGLE 250
matlh -NLKLNHTNYKRILEDIEKCFDKRINHDKLLSLHLPITIQMOKIKSALKAGVLRKRAITQERTPKG--GIISPLCNIALHGLE 250
matli -NLKRHTNYKRILEDIEKCFDKRINHDKLLSLHLPITIQMOKIKSALKAGVLRKRAITQERTPKG--GIISPLCNIALHGLE 250

matlb --W--DLYRKYNYEYKCSLITKTYENCPEFKITRSDQIILVDDIQNLFKYTKTVNNFIAKANGLTHDSEMASLEKGFDFLG 327
matla DIW--NSYNSHGLGEEKS--YAS--KSNRKKQGRFRGNKAFVITESHEDPEDLNQLFQFLFKGNPNYLEFNLPVIVSGDFDLG 328
matlc DIW--NQPARYFCCKKKKEWVIR--KSEIIRQRIRYDDMFIIDNQENSNELLSKINDFLAERGNLTKETQTLVKSTEGFNFLG 331
matle DILNNTPARSFCNTHSRYLYK--KADIIQRGRYADDMMFFIDGYEDANELLKKMDDFLERGLRVKEAKTHLVKLSGDFDLG 333
matld DLW--NQFQRRWSKNNKYVSD--KRQIVQRGRYADDMMFFIEHEEDANELRKKDLFLAERGNVYKESKTHLVKSTEGDFDLG 331
matlf DLW--NQPERQWQNKNNKYVYK--KSWMRQRGRYADDMMFFIEHEEDANELRKKDLFLAERGNVYKESKTHLVKLSGDFDLG 331
matlg DIW--NKPKRYMDKRYNKRFY--KNRIQRGRYADDMMFFIEHEEDAMELRRKDSFTERGNVYKESKTHLVKSTEGDFDLG 331
matlh DLW--NQPIRYWNSRQTFENM--KNTKVQRGRYADDMMFFIEHEEDANELRKKDLFLAERGNVYKESKTHLVKSTEGDFDLG 331
matli DIW--NKPVIRWNSKKNYEFER--RTMIVQRGRYADDMMFFIEHEEDANVELRKKDLFLAERGNVYKESKTHLVKSTEGDFDLG 331

matlb FYIRQRYGYD---KISILPSKSKQMEHNLRLKLRGVIYHEYEGKVRATTNKSIDEVINEMNPIINWCLLYYKDFIHTEILRSLDW 407
matla WHFKYKAKNN---KFCYCPKSTSCVYTKATIKNLM---RNSRYKLEDRLAMVKIIEYKWFVYNQYCDMKQVKTRLW 398
matlc WQFEVKA---VITCWPSSKNNRRQMGKIKTMM---KDSRFTLDQRNKKVIRGWRKYHQYCDLSKVN--LW 398
matle WRFEVKA---VLTFCFPTKNNRRMLDKKTAM---RDARFTLEERLKKVKVIYRGWRNYHQYCDLSKVN--VW 400
matld WRFEVKE---KLTWCWPSRKNRRQMDTKATM---RNORFTLEERLKKVKVIYRGWNNYHQYCDLTKIN--LW 398
matlf WRFEVKA---ALTCWPSRKNRRQMSNRAM---KDAFTLEERLKNKVIYRGWNNYHQYCDLTKIN--LW 398
matlg WRFEVKA---ALTSWPSRKNRRMLDKKTIM---KDAFTLEERLKKVKVIYRGWRNYHQYCDLTKID--LW 398
matlh WRFEVKA---ALTCWPSHKNRRQMDKETM---KDAFTLEERLKKVKVIYRGWNNYHQYCDLSKIN--LW 398
matli WRFEVKA---ALTCWPSRKNRRQMDKIKTMM---KDAFTLEERLKKVKVIYRGWNNYHQYCDLSKIN--LW 398

matlb KISNTLYKWEKKKYSWN---TIAKWKR--NCQVIFNGKQRIL---GTSFNSVLELHSDFKPCYKQLPYGNVYVECKNLSR 481
matla YLSKWTYKYGKKQSKQKQKETRASAKEKLSKVKDFNGHKYQ---INGYIPNNLKYYPYND--- 459
matlc SIDSWTYKYVKKLNNKLNKHDRATAIKRIKIDTIFNDHKYPTL--- 443
matle SINDWTYKYAKKLNKLNKRDRAIKIKRIKTQDITGHKLS---PFGYAAVKSDKSLSDNDWLYWSKCK--- 468
matld SINDWTYNYAKKLNKLNKRDRAIKIKRIKTQDIFRGTWS---LFRYVAKSDKSPFDNDWLYWSKRKHKQYWGQLAKV 478
matlf SINDWTYNYVKKLNSKLNKRDRAIKIKRIDAKDFNGHNS---LVFNATKSAKSPFDNDWLYWSKRKHKQYWGPFPAVL 478
matlg SINEWTYQYVKKLNSKLNKRDRAIKIKRIKTQDIFNGHKFS---LVFGHAAKSEKSPFDNDWLYWSKRKHKQYWGQLAKV 478
matlh SIDSWTYKYVKKLNSKLNKRDRAIKIKRVTQDIFSSHKWS---LFRYVAKSEKSPFDNDWLYWSKRKHKQYWGQLAKV 478
matli SINDWTYKYVKKLNSKLNKRDRAIKIKRIKTQDIFNNHKWS---LFRYVAKSDKSPFDNDWLYWSKRKHKQYWGQLAKV 478

matlb EQN--- 484
matla --- 459
matlc --- 443
matle --- 468
matld TSQKFKC---GACNLKFAVDDHVEHHIDGNHKNNKYKNLEAHRSSCHQYKPIHGKRRKATA 538
matlf TLQKFKC---NACNLKFAVDDHVEHHIDGNHKNNKYKNLEAHRSSCHHYKPIHGKRRKATA 538
matlg TLQKFKC---NACNLKFAVDDHVEHHIDGNHKNNKYKNLEAHRSSCHHYKPIHGKRRKATA 538
matlh TLQNFKC---NACNLKFTVDDHVEFHHIDGNHKNNKYKNLEAHRSSCHHYKPIHGKRRKATA 538
matli TLQKFKC---NACNLKFAVDDHVEHHIDGNHKNNKYKNLEAHRSSCHHYKPIHGKRRKATA 538