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    A RLI DGTAISAQVREEVREAAQEILDATGQRPGLAVILV
    A QILDGKKIAAEVRAEVKEEVSRLKAE GIINPGLAVVLV
    
ALI I DGKAlla A SVTDEI TARAARLESETGVKPGLAVVIV
AVLLD GKALAAKKRDELKSEVTKLKER GII TP GGLAVILV
MA QI D GKAVAADTRREVAADVAALSSAHNLVPGLAVVIV
MTEI I DGKALAQKI QTNLADKVKQMKERYGIVPGLVVILV
MAELI DGKSVAEDVVRRVKALVAELAEKGGRQPGLAVVIV
A Q $\quad D \quad G K A F A A K V R G Q V G E H V A A L K A D H G D T P G L A D V V L V$
KLI DGKEDAAQI KQELADKVTQWKAEGRKVPHLAAVLV

M AV S QI| $E$ | $A$ | $A$ | $Q$ | $E$ | $V$ | $A$ | $T$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $I$ | $M$ | $V$ |  |  |  |  |  |
| $L$ | $K$ | $E$ | $T$ | $V$ | $Q$ | $H$ | $F$ |

                    GR
            GKEI A A Q IR A E L K S E V E KLLA A R
                A
    A
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GKEVAAKLRKEIA A EVEAWVASGHRAPHLVAILV

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| :---: |
| $E$ |
| $\square$ |

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M A I R
A K
$\begin{array}{ll}\text { A } & K \\ \text { A } & \text { H }\end{array}$
A HII I N G T

$T V I N G K S \square A E E I R R S V A S E V K R M K E C D G K V P G L A V I L V$



KI, DGKAI SAAVKDEVKKKTALLYYKKYGVKA CLAAV IV

M

AKLI D GKAI A A SLRQQI A KRVAERGQQGLRTPGLAVILV

MA VTTI D G K Q $\quad$ I A E D V V S K V K A S A A E L
A R I
D GKGIA A ALRKRIA GDVAERGDQGRRPPGLAVIRV
D GKKVS LELK KELKASVDRYRETTGKVPGLTVIIV
A Q



AKRID GKAFAEGLVNRITRAVAELQARHGLVKGLAVVIV

A A


A QL L D G K K T A A D D I K V


A QI I S G S ETAA K A I R E E I A A E V A R L K T A H G L V P G L V T I L V

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 G

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 GENPASRVYVRNKRKACAEVGFYSELHELPATTTQAEVI S
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 GE NP A S Q V Y V $V$ R N K E K A C E K L G DIR S F R Y H L P P E K T D F G E L L

 GND GA S L T Y V G S K V K A C E R V G F E S T L V K MP S T T S E T E L L R GED P A S H V Y V S N K H R A C E Q A G I L S F Q H A L P V D T Q Q H E L E A GERRKDS Q TY Y V N A K K K A C A E A G I D S S F GT D L P G D A T E E E V L K







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 A R I D G T L L S K QL R A DVVA Q R A A T L T T T R G H R P GL A V V L V


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## A

 A Q L L D G K A L A K K T E Q E L A Q R V A D L K A R N G Q A P IL A T I L $A T L I D G N A L S K K L R G D V A K R A A D L T A A B G H Q P G L D V L V$
 MA A Q
 D GKA A A K K E I A E E V E R V VA A G GK R P HL A A V L V

 A Q I D ATLI D | G K R | L | D |
| :--- | :--- | :--- |
| T |  |  | $K A F A$

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$\mathrm{N} V \mathrm{~T}$ G K Q A V
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A QY।DGKEI STMIK AELKEEVALLKTQ
M T
M A QLI L D G L

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A



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 GENSP A S Q T Y V V R M K L K A A E E A N
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 G G D P A S R V Y l K S K IIK A C E D A G I K S F H H N L D A N S S K E E I I A STD P A S E T Y V E MK Q R D C E EVVGID GIMVEV D S D A P E R E L F D GD DP G S H WY V G A K H R D CA E I G I R S L R H D L P A D A T Q E Q V ER
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 G D D P P G S R A Y $V$ V $A$ A G K H H R D C C A E

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 GARPDSSTYVRMKLKSCKAVGIE GELLRKYDSTDGEEELLK G E D P A S L M Y TRRS K Q R K A D K $\operatorname{L}$ G M T S
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$G N N$
$\qquad$




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 T D D E A S A WY V R S DT K A A A A V G I A GRRVEAEL GVTAATE S DI R S G D D Q A S K V Y V A H K T R A A N L V GI E S E V L K F D Q K V S K Q E L F Q





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1 - 10 20 ${ }^{20} 40$ VGILDGKKVASRRKEELTAKTSKYHNKGLRKPKLVVIMV VGTKI DGVLVSNIVKERVKKAVEELRSQ GIDPCLATVLI
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TRVDGAQDAKMRAOVKAKDDATAATTA
$A \backslash V L D V R S V R D Q 1 M D D L S K R V A Y L A T Q N G V P G L G T V I V$ MNKI I DGKMYAEKLDEEIHPLSKGFLDNFNRKPCLTVILV VLLDGQALANLREKELCQEVEKLHSR VRPALAVILV EILLDGRALANELTHAQQTAVETLKEQ
MADILDGKKLAKQIHAKTLQRVEALTD
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$\square$ ITNGRAKAAQTEEVTHTRVEALK पR GVEPALAVILA LSGTKIAKSI RDEAKREVQLIQSKVPFKPTLKILQI AMILDGKEVAAALKKELAERLAKLKAKR YEPKLAIILA MTEIIDGNAVAQSURDDLVASUDRLADAGHRTPSLATVLM AS\|! DGRATSKQTEAELTEETASMKADAGIVPGLATILV MKAAAAGDEKETGMTPGLAVIVV MKAAAAGLEKETGVKTGLAVVIV MATIMDGVAVANLILEDVKNDLADLKTKCDIVVKLVVVLV ALILDGKSVTKKSEEDLRSRVARLKESNGAVPILATILV IVLSGTELAKKIRENITKDVKALKEKDNFVPNLA IVQV PILLDGKKISSQIKEELKAKVDELKKEGGKVPHLSAILV MILDWRKVASGI YDDLKDKISKLKERGMPSLAAVLV KLLDGKSLANKVLNELKTNVCKWVEKKNPAPHLSVI LV VILDGKLVSKTRKQLVKQQIDIYLNKGYRKPKLAVILI
 VIDGTTLARSI RDGVAARIKSVQSTYPRQPQLAILQA ATIDGNALAMKIREKIHAELQATRDTNPRNPSLKIGA MAQRLDGKRAAERVQEELRRRVEEFASRGVLPKLVMLVS AKMKNAGGHVPGLAVVLV A VIDGKSTAKQTRNELAVEVSRMKDALGTVPGLAVILV MAERLMGKEVAAAI KEELSSKVAALKDK NITPKLGIVRV AKJI SGKEISQEI RNELKKEVQELKEKHGVTPGLVTILV
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ANILDGHAHAQUVDDKVASELDRL $G \| V P K V A V$
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$A R \square L A G A P A A Q A D L A Q A S Q R A V K L P D R \quad P H L V L V R A$ MGTRLDGKPVVQFLREH DKSRVGELRENY DFPTLLLIRRL



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| TVIV | MAVIIDGKKISQQTKDEDKEKVERLQAQGKKGALAVI QV KILDGKKLADKLNFELKEKISNLIKKTGDKPKLVTIIV KLLDGRAMAAEI GRGVVDDVERLREA

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ATPGGELAAARTSAADRAHLTAA MVI DGRNVAKS：REKVKSEVLEEAAK MSNVLKGKPVADKISEGLDQEVEVLKEK

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MTTLVQGHT $\square \mathrm{AKA} \square \mathrm{YQR} \square \mathrm{QKE} \square \mathrm{PT} \square \mathrm{QRR}$ MGQ LDGKAF ANLKADKLKEKVKKLKADGDPHLHVIRL
TR ELKGIDVANALNEKLIKESADM GGRVPKLAIIRV
RLDGKPVKKTRARILSEVSAYVNQVGRIGKLVS：SI MAK I DGKKIVSQEIKDELKERVAALKEKGVEVTLAVI QV MAQVIVGKP ADRTNMETKAFLDEMKKQGKRCPKVNVVLA MP VVMKGSEVAAAMKEDMVKKVSELKAKGGUVPKLALLRV MAVIDDGKELAKKDRNNLRDECEELKQKNIKSKLAVIMV MTATLSGTELAAGIRAEVAAAAADGTAAGTPPRLAVVVA MWI DCKTIARSIEERTKERVEKL

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 T D DES THWYVRS $\quad$ WERAAERAGDDCR VVDLGHDATE QVLAA

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S N D P A S A YY A Q A K RKVA E K L G i N Y E L RTVV A QV S E E EVV N GDR K A S QVV A Q A K A R RAGKLGVVREVLDLGAEATQAELDR
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 STDP A A R DY A D WT GR T C R E NGFE F QL R E V D R E E L E D A DM A GVS P A D LSSYENGAVKK K M E S L S L N T K V F E F D E S I S S D E F L I
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 NNDPAALMYAQMTEKTCQENGFRYSLREVAR DDLEQ


$K \prod D Y N Y N E D M D G \| V Q \square P \square P K H \square N P K N C \quad D P D A V D V D$ RIKKLNEDEKDGGILIFRPLPENFDEEEISLALEPKKDVD KVHELNDDPDVHGSSSRSSLFSTTSDD QELVPTEKDAD FINHLNEDKKVSGIILQMPLPSHIDGRGLQRMISSQKDAE RLRALDSDPSVHGILLQHPLPAPLDFFDLVSGLSPEKDVD A A AKLAADDSVNGILLFMPLPKHLDADRLRALIPABKDAD ALRALGADPAVDAVMLQTPLPPGVTLAAVSSEIPAVKDVD VLDRLNKDSKING| I MRPLPRQUSEDVVKYKIAPEKDVD R LAL NDDGAVLGI L QRPVPA
 VLQALSHDPDVHGVVLELPLAPGLDADAALLCLAPQKDVE AN NNDPVDGIIVYYPIIFGNRQDQYLQQIVSDDKDVE NTEKDNKDKTVDGI I QLPLPKKDDLKLI SQAIVPWKDVD A $D$ DRLNEDDEVDAILVQLPLPAGWDEGELLRRVRPDKDVD ANEE DAVDGILVYYPIFPKSQDKYVQETVDLTKDVE EDYKCNQDDAVNGIMVYFPVYNDGQDQYLQQCVSIEKDVE AN EDRRVDGVMVYYPVFGGGHDQYYQNCVSPFKDVE A N ANKK DDVHGTMVYF A IIEANRDDDVGI MVYFPVFGDNQDQYLQQLSDKDVE A A DAVNRDPAVHGCLLLRPLPRNAQDQYLQQVVAKEKDVE LSR DDSDHGILVQLPLPGDLDTDQULSHINPNKDVD Y A A IVANMDDSVDGПMVYFPVFGNAQDQYLQQVVAREKDVE AN TDESIDGMIVYYPVFDSKRDDTLQWTVSMFKDVE

 LIRVSNNDKSIHGI IIDLPI RNDLDQNQVLTUIDQKKDID AN NDDSVDGI MVYYPI FGTGQDRYI QQTVDVSKDVE EFKKDNDDKNIDGILLFRPLPKHDDEKKVDDELDEKKDLD TIIDKLNDNSVDAVIGGPFPKGITNEMVSEALDPDKDAD KIDELNDDADGI VVQLPRPGDFATQVILDSVRDEKDTD A $\| E A N N D P S V N G \mid M 1$ Y FPVFNDGQDQYLQQVVSPDKDVE AN TDNNVDGITVYYPIFGTRQDQYLQQIVDVTKDVE EIMMKAEDDNVDGTIVYYPIFNKTHDKYVQETVDLGKDVE A NEDDALDGDMVYFPVFGNRQDQYLQQVVSLEKDVE EVKEDNMDPQIHGILIQRPLPKQLNEAKIMGYVDPFKN1 E




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# 10 20 30 

MATLLKADPDSAERQS
 $\square D V T P \square A T \square F R N E \bigsqcup K E E V T G K G Q M K P R I V A F L T$
 GKGUADS $\backslash A G A F R D E \square T A T \square A Q G A R V P K L V G \| L A$
$\square V F N G K D F A N K Y Y \square M L K E F L K Q H N L R D K \square A \quad L K V V L A$

$K$ VAETFNTEDINNVEEYKKTHGQGP LLVGFLA


 MAKLLKGEETAEKKAEELKERIEKM

VAEPAR A E V K K K Y i E D
 $K$ K GGVGPRFV GI LAA QIISGKEVSAQVRERDKKEVEATLEQDNGRPGLVGLQV ADTI AAPFQAEVQHALAARPRAPKLVGILAA $A V V I D G V A V A R Q L H A V L R G A V L D L A E R G A T P G L A V V L V$ MSNVFDGKFFANEVYHLLSKKEVLSLLQEKNPFKPVLAVIQA
$\square R E R \square R N E V M Q M K E H P G F K P V G L A B I L Q A$
LA GTDAKGLLAEVQAGDKEDDRKPHLLGDLA


A AT DAEPFS LAVRQYDEQGGVGPK VGGLDA MTT TLHTSDLAEHYLGMLKTQISNHPDTGKPALAVITG
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T $\square \square D G K S \square S E D I K \square Q \square A E Q F R R M K K A V A H V P G L A I V L V$
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MAT $\square$ VS GKN $\square$ QRT $\square V T E A L A V A S D L$
PRAPRCRLI SV

$\square T$ G A A V N R P $\square$ K A L L T P A L
SQKDRPLR $\quad$ VGLLAA



[^0]

[^1]
 ANR DPEVHGULVYYPCFGSFPSFY IVDS IS S I K K DVVE

EVLK LSEDPGVHGLYL HLDPASDTSRVLTALKPEKDVD A I I E A N A DESVDGIMVYYP IF GAQQDHYLQQVVSPFKDVE
E L L K $\square$ NEDPR VHGLALQQ TSEDSLSNKVLEALKPEKDVD LI EAENVNEFTDGII IVQLPI ATEMNVNVVLNSILDTKDVD E L 1


H T
$E L L K L N D D P K V H G V F L \quad H L P P A S L T S R V L N A L K P E K D V D$ LI NEFNNDNMVDGI IVQLPLLPENLDKDKILNSICWYKDVD
 EI I KLNENPKi HGLLLRLC RESCTSKVLNAVKPEKDVN ALTLANDDPEVHGIIVYYPCFGNFPDDFLRDSIA AKKDAE EVWK $V$ AKHKTCGGVIVQQPGPRHDNPHYVMNVI P $A \mathrm{NH} D P E V H G I L V Y Y P C F G G S M D D F L R D S i S \square K K D V E$

K TNEDNNNKNDDGMDVQLPDPKQDDEQKVIESDDPEKDVD HI MSLNEDSTVHGFIVQLPLDNSINTETVINAIAPEKDVD EI LIKLNEDPKVHGLVLHLTDPN SKVLNAVRPEKDVD EI DKLNNREDIHGIL EI DKINEDTRVHGLALQ $\square$ SEASFSNK $\square$ NA $\quad$ KPEKDV
 AL RGLGEDASVVGVMVLLPL EI LDKINEDSRVHGLALQ

 EI AANAE HAILFQLPLPNGLEAPDLPASV DVD QVRKLNEDNNTHGMIVQLPLDNPVDESICIDSISPEKDVD EI EKLNEDPRIHGLLLRLC RESYTSKILNAVKPEKDV A I K ALLNDDSVDGLLVYLPLDGARRDAELRAAISPR】DVE



[^0]:    lupas 21
    lupas_14
    lupas_28
    jnet conf sol25
    sol5 sol5 jhmm jpssm

[^1]:    lupas 21
    lupas_14
    lupas_28
    jnet
    conf
    conf
    sol25
    sol5
    sol0
    jhmm
    jpssm

