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LRVA $\square A T Q D M R S L D G H F$
PKGVL
L $L$
$A$
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$M$ K V A FA T Q D L V R RV D A H F G WA K N I S I Y DVVSP D G H

NS S IR I A VA S NT DEQLD GHFGSCHR YLI YQLSAD D $\square$
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E GDMPNSDRLACASNSGEMLDGHFGSCERFLVYQVSASEA


MK I A FT T T D GS M I D Q H F GQCESSFQ WE V GP D Q A
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$P E G V I R V A D A S N N G E L L D G H F G S C E R F D V Y Q V S L D Q V$

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MKI AFTTSDHIHI NAHF GWA QEI DVVEVVSPESY
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EQAAGPA L


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P P G A V $\underset{M}{ } \mathrm{R}$ V A A A S T D L
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G S


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V N QL R P K G I Q P V K V S A G T

 A A RVTRRKIMPVKVAFGSP A A QVTKRTIMPVKVA $\quad$ MN S T QAI C GLQTEMRE GPSA WL A | $A$ | $E$ | $V$ | $L$ | $D$ | $K$ | $L$ | $V$ | $Q$ | $T$ | $L$ | $K$ | $G$ | $N$ | $P$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $P$ | $P$ | $P$ | $W$ | $R$ | $R$ |  |  |  |  |  |  |  |  |  |
| $D$ | $Y$ | $L$ | $L$ | $N$ | $R$ | $L$ | $V$ | $Q$ | $T$ | $L$ | $K$ | $G$ | $N$ | $P$ |
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 HL F E T R LLL E A A S D D E D K I E S R L A A V TNDCVI L N I G D I G G T A


 K Y V E T R F NE P S C H T E D A L S K S I E LI I S D C K A V F FVAR A G Q G A

 RFVGHRKVDNYC



| $S$ | $F$ | $V$ | $G$ | $H$ | $R$ | $K$ | $V$ | $E$ | $Q$ | $Y$ | $C$ | $L$ | $G$ | $D$ | $K$ | $S$ | $L$ | $D$ | $G$ | $V$ | $I$ | $S$ | $T$ | $L$ | $E$ | $G$ | $V$ | $D$ | $I$ | $V$ | $L$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $C$ | $A$ | $R$ | $G$ | $N$ | $C$ | $P$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $K$ | $F$ | $V$ | $G$ | $H$ | $R$ | $R$ | $V$ | $D$ | $L$ | $Y$ | $C$ | $Q$ | $G$ | $E$ | $E$ | $T$ | $L$ | $P$ | $S$ | $V$ | $V$ | $R$ | $A$ | $I$ | $N$ | $D$ | $C$ | $H$ | $A$ | $V$ | $F$ |
| $V$ | $V$ | $A$ | $K$ | $I$ | $G$ | $G$ | $C$ | $P$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |






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 $H F V$ ETRKTAA K C Q GHGGGFDHLIDSVL D D C D A I I F V LDKI G A A A

 VSSEVIDTNGSGHG A $\operatorname{V}$ I LAAGFL NQCQVLICGGIGGGA $V S S E V V D T N G S G H G G \quad A L A G F L K D V N V L I C G G \mid I G G G A$

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## A

## A

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Q T A L A A A G I K L Y G GVVS GSADEAVNA F L A GNLLN F N P
K K QL H Q A GI K TVVEAYD
K D D L T A A Gli E AVV QY VGEF $\square E$ A A L E WF N D Y
QEEL RKAGLEPYEAYD

Q NALAEMGI K LFGGVS GSADEAVEAYLAGNLNYNP

R K E L EANHMIH G G EMY E E I E K GI DKVVT QL K
WQK L E N G I E PCVEGAWQNV TVDL
RKELSDAGIEAVDKYAGEIVEVA
R Q R L L K K GI VV DE H Y G TVVE E G L S F A VQ K $\square E G$
MQALND NGIEVV A GA S G DTDEVVIA Y L N GELLEST
■E KLA A $\ G V R$ AV A D Y A WE T DE EL L D Y V R N T
QMEMERLGLDVFVTEEGPIVPTLVELGKML

QE K L R Q A D I MA DT R K G
RN AL A EA GI KLFP GA Q GDADA QVES YLA GTLLNYDP


KERLNKKEI YSVVY CDTVNNGLQYAVSQLADR

$A Q Y V L Q A G L R D F E \quad A P Y L I E P V L E K L R A$




RETLAAA GI EAVECY
R A AL NKA GVLP L VRKG G

K K KL A A A GI TASEA HAYEWI E A GI A
R NDLA K A GI E AVVTHPFEYI E S A V A A WY A E

R S ELL K A GI EVVDQYAYDF
A A ELAARGI EVVVQPGP LPAA
K K K L K E N N I R IVF TS S CER DAE D A VA $\square$ F A K E $\square$

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K Q L L E LA G I LPD DEME
$F R Q L L Q V G V R A E R V P D Q T T I L G L L Q E I Q$
$F R R Q L L Q V G V R A V R V P A D C T P$
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K SVLEEKGMKVI ATE
N T L K D A L K E F


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T N K L A R R GVVRAT GAYGGSY DE QA DD A
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 KE STKTPEPGGGLIKRWEELGALIGDCRALLVAGLGDNP KESHILSSNGVGHGA LATLLQEEDHNTLICGGI GGGA ISSQLVGTNGEGCGA GAGILNVAQVDVLICGGAGGGA NEEFKPNPGHKPGYLPVFLKEL
V ARVVETGGSGHALAGFLRGL KFBSRVIDTNGNGHGALAGFLRAAEVETLICGGI GAGA保 RHTEDRQAPPAGGGDQRWFNISRDLADCRALLVNDLGDSP DLVEKRSVTPVCQDGSHMEESVKGFKDCKYVVASR\|GAGA KTVUTKEFVDAPPHEPGLLPKFLGELNDNTIITGGMGQRA KMVGVRQVDENGQGHGALAG FELGGGKVDTLICGGIUGGGA VKTEAVSNPGHRPGFLPVFLNDVNVI। SGGMGGGA QYVEEREMPDKGGGDQRWDDVARLLDDCRAILVAGVGENP VNTEMREKEVHQHHDDEQEHMFDLLKDCQVLISGGMGTPA SGKRLVELSTEQSQGASHHQLAEPNDNV SGGMGGGA
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 QF VGIRKVQSYCHGTETMKEVIQVVQDCALLLSSGQGDAP GLIVGTRPAPAPGGGS $\square R W E G V A E V L S D C T Y L L V A S V G P K P$
 SLI E ERKVPPKACGPKRWEELALLLNDCRTVLTAAI GETP Y FVESRKTPKPGGGSKRWEDLSDMLSDCRALMVTGLLGDSP


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

 $M F L E R R T I D E Y G S G H G A L A G F L K A A K D C S G V I T G G I G A G A$ KIVSENIVDTSVCGHEKLVEFLK NNNIDILI CGGIGQGA 1 STQVVDTN GSGHGALAGFLAAQK VDSLI CGGIGPGA TASEVVSTNGQGHGA LVGFLAQHNANVVFCGGUGPGA NSKNFI ENPGYKAHQPGAVPMFLRNQNVDCVIAGGMGPNA KKVEEI KNPAETHMHAKVEEILEFLGHCKVWVGLSMGKGS TSMQ V HAGGAGHSALAGFLSEQSANILI CGSDGEGA SQGQFTANP GHRPGYLPVFLKGVNVII AGGMGETA VVAEETFSPPAECGCKSNLVNDLLAMGVTALVAGNMGQGA I KSE DTVEGHGHVGVSNALK EQNVNVVLCGGDGQGA $V \operatorname{V} V E \mathrm{ERFAPEPGTGTKRWIDLAKLLSDCRAVLDAACGETP}$ R VNSKEC DF LDERTVSQLCMDGSHMDERAGLFSDCRYVVASRFGDCA LS SQVVETN GSGHGALA GFLQA QGVDTLLCGGDGGGA RLLETRRNDPGCGADDPLDVSVDLVADCRAVVVAKUGECG VLLGTRTAPEPGSGSARWEKVAELLPDCFALLAAGAGESP $D G G H V D V K P S C N G G Q H F A A A L D A L G D V S A V V A Q R A G P G A$
$D F L D A P E F R P V A S G D G S V A A R L A C L E G C G V L F T T A L S D H T$ $T N M T T V D N P G H Q P G \quad F L P G F L K D K G V D V V 1 A G G M G P K A$ $V V N K S F V A N P G H K P G Y L P V F L K E Q K A N V I I A G G M G E A A$
$F A D V V H E D V E P G N D P L A D R V E A A D G S S V L I T C G L S D L A$
 EEDEERDVRSACGGGEDMNDVAENLKDVDFVLCARSGPHA

 Q IVQIDS ILNPGHKPGFIPDFLDDVSVIVSGDISGGA TRKNFVENPSYKSHQPGAVPMFLKNQNVDYVI AGGMGPKA LNSVVVSTMGSGHGA LAGFLQEHGADTLI CGGDGAGA RLVESRPAPPAGSGTMRWESVAAVLSDCRALLVNGVGESP VLVGERFTPKYCRGEARDAALDALLADVKAVFCVRIGHTP ELLGVRPAPPAGSGDARWEALAAVLSDCAYLLVSSAGQRP IIEEEQLTPPSGCGCKSNUVPTLAEMGVKVLLAGNMGQGA EEIVEDRQVRPACGGGECHAEDALSLK DVVDFVLCARSGPHA KFVA HRKVDHYCQEEATLDNIIKSDSDCKGVLAAK GQGA KKI EE DKNPAETHMHAKVDEILEFLGHCKVWI GNSMGKGS E ILEEETVAPAGCGCKSNDAQTLSEKGVKVMLAGNMGEGA TGSKFVQNP VASTVI GNEGLGHE $E I L S S E Q V A P A G C G C K S N L A S V L A D M G V K V M L A G N M G D G A$ | $C L Q E D R Q A P E P G S G E S R W E Q L A D T D H D C F A L L A A S A G Q R P$ |
| :--- |
| $Q Q K E F L E L S K E Q S F H Y A S V H E A H E L D R V D V L I C G G L G Q G L$ |
| $Q$ | LQKQLLELSPAQSFHDSSPDESHPLDDIQVLIAGGMGRGLL VVE EE QLAPPP GCGCKSNIDPVLVEKGVRVLLGGNMGEGA L L STSFDDANGSGHSALAVLLKQQGVDLLICGGDGQGA IVKRACIPNPGHKPGFLPNFLNEMGVNVII SGGMGGGA DFVETRKLADDKDAKHQGGDVIQECNDCDVII STKYGFKS K LTNKSIPNPGHRPGFLPNFLHEL GVNTIISGGMGGGA TF SERMDSPQGCGCKSD

 VMVDKRS LDPEPGGRNDRWMQVAEIIKDCGVLLVSGMGQAP I SANFDENP GHRPGYLPEFLKDVECII SGGMGSSA 1 NVEMRERGGCHHSESKHVTMIKKIADCDVLIAGGMGMGA TAA ALVANEAEGHGA VTRLLKELGVNIVICGNDGGCA
 TAAEILSADGRGHGE LIDILKKVSVLICGGDGSGA GLRETRETPPPGGGDKRWRTLAETLADCFALVAAAVGDTP LKSEAVQNP GHRPGFLPNFLNDVNVIIAGGMGAGA 1 NKEVIPNPGHTPG F $\square$ P KF L N EQGVDVVLVSGMGRRA ALLEIREAVKECQSSKESHPWVDS DADCRCVICKK DGFHD IVDEKRFEAPSGCGCKSGVATTLKELGDKLMLAGNMGDGA



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L D ALT S A GI EVI S GAEGBDADAAVVAYLN GELE S
$V N V L N N A G I Q V L R G C S G D V K T V A S S W L Q G A L$
REVLA GRGI RVLLTEEN DEGTVDVLYG

$V M K L R Q H G I E V V R G A S G P V S E V A A K W L A G E L A D$
ND A L A A Q GVQLI C GVS G SVV DVLAA A Y L N N T L Q P N $\square E \| F N E K G I D V I T G A A G N A K D A A N E Y G K G T L K S T$ KI K A E D A G I K L V S D E G P V E E VL Q R
$V$ D I F N E H N I E V I L G A Q G S S E E A V KA Y L A G A L T S T $L \operatorname{L}$
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YENFKAA GLQVI LT DIVSTEEVITAFNE


VD F QEKN EVIGGAGGEADTVLQALAGEL
Q NLLIE NGI QFFGGVIGEADKAVEDYLQEKLNY
R R TLLE E Q GI SVLSANDNVSVTVA

QK QLEKKAVSAFDVE GKIDEDTLEKI
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\|TEDTKDCDliviSGK\|GEGM $1 V C T E D Q S P E G C G C K S N D A S V D E E K G E L M L A G N M G E G A$ KETKDLSNDGLQHNHGGMAYMLKAENVDTVCGGDGGHM KNVRVVPNPSAPRGAGVQAAQFCINEGVDVVIAGQFGPNS T ASRVIEDEGEGHARKIDATMLGL GVTTVI CGGIGMPA RIVATAIVDTMGNGHGALTGFLKAYA VDALICGGMGAGA


## K <br> A T E N V

 TKTEVVVAPE HEHGSMPKFIAGHGCTDVICGGLGMHA EYVDEIDTGLACNGHENIEAVAEKISHCKYALSARIGPGA NGKEYKSFVENPGHKPGFLPVFLNDLGDNTVISGGMGERA LKQELMDTQGFEHQHAGIAQLLKSKGVETVICGGDGPGA AAREELPSPQGCGCKSGIAADLQRLGVTAMLAGNMGEGA VVGREDVDNPGHQPGYDPRFLHDRGVKCVI AGGMGPRA $E F V N N V Q N L E A A Q G A G I Q A A Q T V A N Q D V D A L I T G H C G P K A$ LESKIVDTSGSGHGAIAGLLKELDVDSVICGGIIGGGA DTETKRFDAPSGCGCKSGVATTLQEMGVKVMLAGNMGNGA QITASETVQPAGCGCKSNI ASTLAEDGVKVMLAGNMGEGA $\stackrel{T}{\mathrm{~T}}$ RFTEKRKTPVSGDCSNKWIELCNVLTDCQAILVSGSGKKP CLQGKRETETPPKHEPGVLPRWLKENGTDVLVSGGLGSRA CLLMARQTPGTGGGPNRWKILAECLHDCFALLATHAGDTP GVVASTNETPPTHEPGVFPKWIAGLK VDLVLAGGMGAKA EIIGQQTLASPAGCGCKSNIAQTLSGVKVLLAGNMGDGA K

## $\frac{\mathrm{R}}{\mathrm{V}}$

 ー T QL D DF S W Q Q Y C Q GS E Q C D D S L S Q L K H V D T I L C S R I GHAP
 TGKEQRPAAGACHGFNAHSQS\|HADTDCQLVIAGGMGMGA MTQEDRENPGEGHEHGQAKNDMQLLKDCDVFLARSMGMHS CKDE ERTVVQHDEGCEGSNDRVECVTDCTFVVCSKDGFHM RLIEKRDUSVILRNAPDRWNELANLLSDCFLLLTSRVGGKP VAREVRSKEDHSHSDPRHDAILDAVRDCQVVIAGGMGAGM EILSTEKIPEEGDSCAAADWIAEL GTNVVLAGGMGMRP RLI GNGDLGHEHGKCQP IKALSGVDAVIVGGDGAGA $T S V D V T E E Q E 1 P D F G P G H R T K I E A L K G M D A V I S T K F G L P A$
$R$
R ITSKATLKNTGSGH VICERRPAPARGGGDARWKELARLLDDCAYLLVGGVGERP KKVEERENPDGKHRHAETEEIMEVLKDCDVLIGKSMGKES KLV ENPHVPKRGHKALPRLLKEEGVEVVFAKHVGEGM ELLRQVRPGDLGSHKDHDEAAVTLLDDCDIIAVREIGDMP LGSRVISA RR AGROT DFINNSDVAH DNNSDVAHEHGACNPVAA AGDAVVGGMOA TFSEDREWKKENTNGEGSEEKVKLLEDCRCII CTHIGGPKM SGQERIDTADFQHQHEGDAQLLKSKGVETVICGG|GPGA QYVETFDUKEEDHDDSQLIGRISLLSKYDAVLVNKAGNKA VDIE EISAEGDQHRHEGLAGLLK NKGVEVVIVGGIIGPGA CLLGMRDLPEPGTGAQRWEDLSETLHDCFVLLAASAGESP VVSTERLDSPQGCGCKSNIDASVMQQMGITMMLAGNMGMGA $V N A E K M S S V E Q L H Q H Q G L A D L L V K N G V D V V I V G G A G A G A$
$E R S Y E E F V P P P G E P G A R P W F A Q Q G V V V I T G G U S R A$ VKQQVIENPGHKPG FGPRFLNEKGVDFILAGGMGRKA $C L L E T R H L P K P G S G D N R W E Q V A E L L K D C F V I L A A S A G Q K P$
$K S I N$ K ITDTE $\triangle L K S P D G C G C K S N T A S T L K G V K V M L A G N M G E G A$ TGAEVVSTOQGHG ALVGFLNGVNVLLCGGIGGGA KKSHELEVNPFEQHEPGETPGYVKSKGADVIITRGMGGRA PKEVERLSLHEYHGEDHPLFEL ALNG IVTQGAGNGF VLTGTKDLLGAQAHGCGATPMMLAREGVNIVLAGGMGYTP ITSRVVDTKGAGHGALAGFLTANK VDTLICGGMGGGA RLVEKRTNPSETMOHLKTLDVYELLRDCTVIUSGTVGKKG SFLEERK KEECESGCSCGSNFEVVSDCTYFLVAKMGPKP NSKKVRSLDGARSGDSQLIGKMSLLSKYDAVLVNKIGNRA
 KIVNTQVVDTNGQGHGALAGFLNS TDDDVLICGGLGGGA TTSQVVDTNGSGHGA LDGLLAEHQVDVLI CGG\|GGGA



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$K D S K V E V P F E E H G P G D L G R F V E H G G V V L A Y G M G P K A$ KQ $\mathrm{T}^{2} \mathrm{EEVPPP}$ HEPGI $\square \mathrm{PRWLSSKGVNTVLVGGTGQKA}$ INKKMLSNEGDQHDHGGIANMLKNEKGIEAII CGGLGGHM SGVTTLPNMPHEHGGCMAPVNYLAQNGVNALIAGGMGMRP RLIEKRNNPEETMQHLKTLDVYESTRDCGMVISAKIGKKG EVVSRQTHPSPEHQPGLI PQWLRGFEVDLVVAGG| GARA KNVTQELVSTDGKGHGALAGFLKEHHVDTLICGGIGQGA KN SSEVNGSNGEGHGAGAGVLEGLQGVDVLICGGVGGGA QEVDRLDLPKEMSDHEFKEDGAHPDDKVSVVIAGSAGPGF EVEVIKNPLEEHGPGDIPNYLN DKGVNMLVVRGIGGRA K S DNGDLDHEHGKCQP LKALSGVDAVVVGGIGQGA LDKQYDENNFTNHGRHGHERLIEALKGAEVLIFTSGGWRL V SRKVEKSPGHEPGLLPKLMASWGVTHVITGGLGRRA KKVINRKDAAPPAHAPGVLPKWLHENNVSIIIAGGMGQRA ENQQVILNPGHKPG FLPNYLFKLNVDCVISGGMGMKA KIVGSPEFDTPPPHEPGVLPQWLAEKQVTLIIAGGMGQRAA VPLAVHSLSKADP KEKEYREFAEECGGSDGARRKVNLIADCRSLVCKKIGFQA LDEEVVNTNGSGHGE LVTFLAKNDVSTLICGGIUGGA KTILHQEQLTPPPHEPGVLPNWLAEKEAGLVIAGGMGSRA VLKGQRPTPAPGGGDKRWEALAASLDDCVALLSDCGEKP TSSRVLGSNGVGHGA LAGLLSEGGVDLLVCGG\|GGGA ICVLPNVSEHMGGTGLPTETLFAEGVQVLIVGGLGPKA KTATPVSAAQLAHNHEGLAGLMK DNSVEVVILGGAGPYA NVAYDFSSKSHDKNSEEWEKSADADDGCDILICEK CGLVA K AKEKIDNPGHEPGFLPRFLNQEHNVDVILAGGMGRRA PYVDRLDLPKELSDHEFQGDGAHPLDAVGVVIAGSAGAGF KIVSSEVIDNGGNGHHALPPYLKSLGGVELILGNRGQGA K LLSKEE DPNPGHQPGFLPQYLS EKGVNCIIAGGMGPRA KQTKKQEVLT KQTKEVVPPP HEPGII PRWLSDEGVNVVLVGGDGOKA PVETGRLDDPREMSFHEFAGGPHPDDAVDVIIAGSAGPRF VKRVIIENPGHAPG KSiAGKSLHQPPAHEPGVLPRWLGELGADVIAGGMGRRA $\overline{V N V Q V V P N P G Y S Q G A G V T A A Q F A I D Q G A D A V I A G Q F G P N S ~}$ VNVEFVRNPFEEHMPGQDPRFLHSL GVNAILAYGMGVKA EGLQNTGTQSSGGAGVQTAQLL VNRGVNVVLVDRMGPNA SFVDVRVNDGQHMNGVDLPEFDRKNGVEVMLCGGLGYKA ATVGKDIVPSPGH EPGLLPAWLADEGVSVVVAGGMGSRA KEVSVLANKEHVQGGCMVPVQLLAQNKVHRLVVGGIGMRP EPATPVANPGHTPGALPPFVASLGASKIVAGGMGPRA TNSKVIQNGAAMAGGGAGPMAVQTLEGVEAIIAPQVGPNA GVVAT NMETPPPHEPGVLPKWIJADGVQLVLAGGMGSRA LSQKVIDTD GHGHGALAGYLKKLN VEILICGGLGGGA RGVEVVPVPFEEHGPGDLPNFIK EHGAEVVIVYGMGRRA ESVEVIQNPHGAGRGGGRASEALARRGDDAVIVGGTGPGA LDISVEENPLAQDHDAGAVPNFVKEKGAELVIVRGI GKRA KQVS LPNQEHVQGGCMVPVTLLAQAGVNALVVGGAGMRP TVHDNVENLNAKHGEHRGEVINNLLAGVGAVITLGGGYGA E VLENPNKDVAQGGGIQSAQLAAEKNASVVITGQCGPNA LGAPSRLELPPDKVLHAFDDGPHPLYDLDVVVTAGAGGHF KGSEVVEVPFEDHGPGDLDPNTK EHGGEVVLAYGMGKRA TRVATLPNVPHQQGGCMAPVNHLASSGVTVLIAGGMGMRP DEVSTTENDEHDQGGCMVPVNLLAEHKVNALVVGG|IGMRP TSTQDEPSPE HYEGSFPQWGKEKGADAVIVAGLGPKA KVV RNTSEHFGGVGYPPELDKSAGADVVLCSGMGARA LHTEEDPNPGHEPGFLPKYLSDKGVTYIIAGGMGPRA ENVTTIANQSHVQGGCMVPVNLLAQHNVNALVVGGDGDRP VNVQVVENPGYSQPRGAGVTTAQFCQGADVVISGQFGPNS EVI ENTQNRQSAQGAGIQSATHLIQQNVNAVVTGQCGPKA SIIENGGC HHPQGECSHGDVFAQHQATVLLCKGMGGRA QSSEVVTTGGQDHEGGAAAQLLATHGVDTVICGGVGGGM KNVESIPNPFANEHNAYDLPNFMRQKGVDVIIVGRMGPKA NL SIFPNPADEHAAGQDPRMLAEKNVNMIIASRMGEKA KGLEVTR DSPSLKEHKTPAQLLAEHGVEVVLAGGDGPHM KSVSTVPNQEHVQGGCMVPVNFLAGHKVNALVVGG|GMRP NVIENKGF TASGGAGIASSNQLIDEVQVIITGSLGPNA RAVPVIADEGATENNEKSGPKVELI SDCRSLVCKKIGFQA R VVEIFQNPFLTHSHGRGVGVVNELKGVNTLLSLGAGYGA $M N A Q V V P N P A A N A G A G Q Q A A Q F C D E Q G A D V V I A G R F G P N S$
$V L C E Q R S T P E P G S G N T R W E T L A N T F S D C A F A L L A N C G A T P$


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I NKL N S L GKKVVKAE

$M Q G F A E V G D D V Y$ WA D R N I I P A A A VMEK F S A G QLP
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$Y Q T L A A A G I A V V$ V $A C G G T V A D V V E Q F K A$



FNLL RS QNI KI Y TTDE
$L R L L K K \quad F V C I V A R R E T \square D D A \square Q$
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 $K L V S V K V V H C V P D D D K K K A G L L S D R G V E V V L A G R I G S C M$
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|  |  | MKI AVASNEKAQVSEVSGRAPYFLIFE DG

 SVKLADSTNGDDTVNPRFGRAPGFLIVDSQSLEF $M K L A F T T V D E S M M E A R F G R T Y Y V L I F D E Q S G Q Q$
$M K I A D C A S G E S Q V D P R F G R C P Y F L E V D D D N K T G$ $\square K V A F G M E G E E T L D A H Y G D S E F F A I Y E D C E D G V$ $M K D T V I V D S E N R V T G P G E G E Y D L I V E V N G D A V$ MKIALSSSGGKTLDSRFGRCTYFLVHNTDTNDL MK VAGKDPDSEVDPQFGRCNYFLVIDDPDAGS $M K V A V S S E G P G L V D P R F G R A G G F V I V D M D T M Q A$ RSKELSMKIAITSEGTDRVDPRFGRAAGFVVVDLETMES MK $\square$ AVTSAGADLVDPRFGRAANIIIVDSETFEF MKICIVSQGKDLIDSRFGRCRYFVFYDTETGEY MKVAVANQENVVIFPGHFAHAPKFRIYMYEGGQL
 MLIA A SASGQSGLDPRFGRAAGFVLFNSETGQF
I RFA L PVKK T S Q GL S T
HIYDLNQDTP
MK IA $\|$ PADEK ILVCMSFGRAPYFYLYETVTKMG MKLALPIDNEKVSEHFGKSEYFII YE NENGS

 MK $\square \mathrm{CD}$ VSTGNSFFEQKFGRSPYFIIYDTETKEF
 MVIAA A S $\square \mathrm{GGE}$
MIIAMPMS RERLASHFTKAVQIGFY
MIYAMPCVDNC VVNHFSRAKQVVIFNQATQQH MKI AVCCQNGREVSAHPGKCTRFVLVDSRGLAE MKI AI TT D D S A DVDPRFGRASYDLVVDSETLDV

 $M K V A V T T E G G K H I A N P F V R T G G F L V Y D V D E W Q I$



 MRIAISTGGDKFVDDRFGRCPYFVFCDSEDPQS MR AAVSANLDSEVYPRFGRSRYFLL DDPETM $M K$ TIII T S K G S E L F F E K R F G R A A Y Y C I Y D E N S E S $\square$ MKI II GSDGNTLVSKRFGRAAYYIFYHSDTNSF $M K I$ AVAARNGVYVEPVFGRADMFLLVD QNNGT K I A I A A L G E G T V


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KLI KT DKNPFR ${ }^{2}$ GGGGAGFAVAEMLSDVVMIVSGKFGPNA QFEALENTAGA KLG AVASSVAMGAGVVSGQFVAGKGVKAVITGNVGPNA KVLDNKGKSAGGGAGDSAAQQL DDEEDDAVI TKNMGPNA S QE DNGG EVI GNNENDNALKGAGIQAASTISQKGANVLLT KLLEERTNPPPAHGAGVQAAQFVASKEVQVLVTGGLGPKA DLLDLRKNPEEMSQEEQIAHKLEI I KDCQAVLVKKACKNT SYKDNTQNLNAPQGAGIGQAAMNVADAGASAVITGHVGPKA ESYQ IK ANPARDGEKKRGDKTAEFLEKVDVILGEELGEGP
 DFIENGAATSPGGAGVKAAQIVVDNHADILITPRCGENA KKL ENNPCGDGSHSGHGSTVQTLLAENPDAVLEDNMGQRS EY K RVTNTTEEHGDPKKAKGISSQDHDVQVLVSRQFGLN
 QIVENRFFNSEKKGGMKAADLIIREKANVLAVRNVGEGP KLVEEYDNPALKAMAARGVHMLRDEKGATSFLLVEI GPPG TV NEFVNNPLANHGKDNCSCRFFALHEDDVLVTGHI GDAA QLDKLVDSPA IEGDCSAKKALLELI QGTDIVIAQNI GERM QLFTLTDTGTNCGKKKQWMALLQAEQGVDAVVVRSIGKKM $P Q L L L L P A S A M L R Q A S L H G H P$ L A D CQVILAGGGGHGL $E V I D N A A N K D A F K G A G I Q A A A A V S E K G A Q V L L T G F C G P N A$
$Q T M P N P F L E T N G G A G T R T A Q W I A G Q R A E L L L T G R C G P K A$ T LLETDQNPLLEQGHGAGGAAARLLSNDD\|VIVPHVGPNA QIEMVRSMEPEIIMEA MEARLEK EF ILDNGAKTAEEGAGPAAVQUVAPHQVVKIVSGDFGVKI KFVNNTAANKSSGAGVGAAQLCADQNADAVAAYHFGPKA QRI ELRDNPKALEGGGKPRLMKQLLADCDLWVGAQ QWLDEATEEARSEHHKTLLALLKQHQVDAVVVRNIGQSM ERIVNAPAAAEGGAGLKAAQFVLDSGADTVITVRCGENA QRIDVTKTEGSCGHKKQLLALLR ENRVVDAVIVRNDGQNM
$T A E Y K N P A L S G T G G A G I A A A E Y M A K E K V E V L I T G S L G P N A$
 K LILRENPQEEQUAHKLEHNVEIIKDCQAVLVKKACKN $R A V H A N P Y R D D T E A A G R K V A Q W L D Q E G V T T V L C G D V G A K T$
$S F E S V K S A G D D P C S A G A V S A K V L A D D G V D C V I A G G F G P Q S$ ADILVAPNPLADMRGGVGDA IARWLIDVDIVVVGHDGHHA ISUANSNVNATSGAG\|QAAQE I ARQGAAALITGNVGPNA
 QLVARFANPADAGGCSAKKAMLNLDKGATVVLVEEGGQRID
 $R L I S R R Q V K L D D L G$
lupas_21
lupas_14
lupas_28
jnet
conf
sol25
sol5
sol0
jhmm
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 MDALRETSUQVLGGAKGAPKDRVEDFLNGML
 FTALEAA EVQVGQDVENMTVRQAVVEENKTVASSB RAVLAQMNTVI YVGAGEMSVAEAYKAYQE $V N V L G S S G \square K \| Y S L P Q E \square S \square A E A L E L Y Q A$
FQTDQATGVEI ITGVSGPDKEVVEKYKK
F NLAKSDNLKVYIVPEGVSADDAVVMV.
YNLMKDSNIKVYRG DNLPCELLI KRFEE
FSVLSEAGI EI YSGVRGT
Y QTLSAAGI QV TTGVSG SVKEA IE
 LKKFLHVGI DVYFDDKNDTVEDALRDF
FKTLKAAK GVANDASGSVKDAVKAYLDGKLADNP ERIIGSAKIKILEVSG
 AKVFQE Y G I K I CKVE
F LALLEKGGIKVYLGAQGSAGENLEAYKAGKLA
$F Q A L Q Q G N V A V Y L T D S P T V H D A L E A F R Q G M L R$
MTALSSSGVSVYTGVSGTVAQTLEKYKNGLM
RYALSENVVR FASPEGGTVKEIMMETKEM

 ATSSGAGKTALYRANDLDVENSLKEF $\square$

FEVLKAAGIDVY
LT RLRAQGVKVYRAVHGT

$V R Y L S G K$
SQLLSRRGVEVI
FHMLRDNFVDIVKTDEGLSVENIIKKYRN
LGKLLDAGI SVSKGSASQTVATLLA Q
L N ALGERNLRVFSAPAKADL
LRRLAERNTTLLSTSSETDPDKAVDAYDAHEL
AQRLAAAGITLAQTQEREP LLAVAAWLAGQCR FKTLDAANIKVANDVSGTVQSAVERFKA
AMVLERAGVRVVEGVSGTVAEAV $\operatorname{V}$
VKYAQKNGAKPI A $\square \mathrm{D}$ Y VGE K KTQLEQMGKEVMITASDSSPQNALRAYLSNKMQE
KSLLTDDKMQMIVMKQEKTIKEI DDLLNQ

$\square A S \square F \square S G V K V F S S P A \square H D \square$
AEVLEAGEVKMYRTFKGTAREN $\square E A F K E G K \square E E$ GNVFKAA
LAAILDKKDEVYYAPRG
LRVI NGANI PAYTASEDMTLSEAI LAWKE
H QAL A AVGVRMDTGMS G S REAVARFKA KDVLEKFDVEMIS LTD GQTIEQUIRQLK T

F EMIN


MHKFHDSEFI KLLEMPDDEEDVETML GK
L LGKLLAA GL RVYQANRRAMPEALLNAELTEL
LGKLLAA GI SVSQCSRKMTLVDLLAA
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