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60
70
80 ALLAQALLVDAKQQVGQCSIICFHLSADPVCDICRSTRRDNQT $K L A E Q L D T A M H G V A R C S S C R T L T E Q P R C S I C D N F K R D R T T$
$K F A K A M I J T K E T I H Y C D D C F N M S A T N P C E I C S A T N R D N S V$ RLARSLEQATDGVGRCQRCRTLTEQPVCGI CENPRRDGSV RLADVLTTVRDKVRFCETCGNVSEQETCSICRDPRRDQSL
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 $R \mathrm{FV}$ VEALRAVKARVRFCETCGNISESEQCVVCRDPRRDRRV EFA E A L V N A H T K V H T C A $\square$ C Q N L T E N E L C Y YI C S D P A R D K S T



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 K LLA E A
 EFAHA
RLAESI KEVKEKVRYCSICANFTEEDPCRICADGMRDKSV ELLSNALLEAK QNI HKCEKCQNFTDEEVCDI CKDNTRDMST
 A L A E A I L E V K K E R I T F C C S V C Q N V T D T N P C R I C D S A R R E R T M EF A A A V LN A KK SVVHYCK C GNFT DK DVCD D C S
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 $P L G L R I T R L A R G L P V G G D L E Y A D D V T L T R A L E G R Q E V$ $P Y G V N C S R L A Y G M P L G G E L E Y V D G G T L A R A F T G R$ PLGVKVTRLAHGDPI GGELEYADEVTISRALLDRKEL PTGI KTTRLAYGIPVGGELEYADEVTLSRALEGRRE HMGVVVSRLA S GLDVVGGDLEYADEVTISRACLEGROD P L G LLKVTRLAS GLPVGGDLEYADEVTLGRALEGRR $P A G L R V T R L A R G L S V G S D I E Y A D E M T L Y K A V E G R T E M$
 SYPI KVTRIAHGVPLGGELEYDDSGTLAHAFAGR S LGGI RVTHLARGLP












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 E L T K S L I A L R Q K T V Y C K K C H TI S D T DVVCSI CK S P K R N E S L $K L A G Q L K A A M E G I Q H C Q D C R T F T E E E K C G I C A N P R R E A G Q$


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 LLLSRALHEASSSRVQHCERCHTFTENSDCDTCDDEGRAAAAR
 PLAS AMAEAADKI STCK DCGNVDA QNDCHI CRAGGRD QT NLS S LLERAVNEI GHC Q Q CRTFTE QNLCAI CDNDKRNN GM
 QL A R A I V A A L E Gl G R C E S C R I F S E T P P
 RLA R AL GDALTTRLHNCARCNTFTEELEVVERCSSPRRDASQ
 QL LEALDAVREALVECRTCGNVDTTDPCGICADPRRAARS



 QLT K AL SKKRAEI KRCRNCYNISDTELCDI CANPSRREDV RLAD AL MTLAERVRPCARCFNLS H L T Q A L E G L V N E I K L L C K S C Y N I S D V E L C E I C A S P K R D E T T
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 K LL LHA Q E A K E K V T L C E DC G GL T E N Q P C G L C S D P S R Q K D C

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 $P$ LA EAMDDAARNVQECTVCANDDTDNPCAVCQNDRRDSKI

 E FITTSLLS S I K D GI K R C KVVCGNLS D G D K C E F C M N D T R N H NV

 E F I N A L S A L R E N IM LIC S IVC A Y S E D GVVCDI C E D S S R E R D I
 R L T Q A A L E D L V V E K T Q Y C T Q C H A I S S D T P
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FSSK
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            \(k\)
    $K$
$k$

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Y P S
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F S
Y P
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LLENAVY
N QLI D A L R C QP GVVGPK S A QR I A F
R R V A L R CQPP G
Y P
GEI ATMMMD
DEI ATMMDLLLMA
$\begin{array}{lll}P & P & A \\ P & P & 1\end{array}$
D R L
Q D
EALI DMMARLL
PRSLTRLI ESFERL

            \(\mathrm{N}_{\mathrm{L}}^{\mathrm{L}} \mathrm{l}\)
    F S
Y A
$S K L L G K A V D$
SK
L L G QLI Q S F C C L
F S S K L
EK AV E QFA S L P GI

Y IIE PLA K L I A E F T
D A L S R L V E A L R CLLP G
H Y P

| $P$ | $A$ | $V$ | $V$ | $L$ | $L$ | $H$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |



EI DR L A Q L
Y S K
P EI E R R L I E
ERLI GLLLAKLP

MP G I
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Q S L A T V I E R L A A T L
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TAF D N L N N A F R S L P
F S S K L L G N A V
F S S KLLE NAVYEMS LLP G

LD E M \E A LS S LP G


$P$ D
PD QVERLVAMLARLPGL

D L L Y Q L
K K L D D L I $\quad \mathrm{D}$ V V A K L P G I

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180
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 DTGADVTRLASGLPVGGDLEYTDRLTLSRSFRGRDKL EHKIKITTLAHGVPIGGELDYLDEGTLFTAFQARR

 PAGVQVTSLAQGVPMGGELDYLDDGTIGAALRARKR ERGVKISRAARGPVGGDVEYADDDTLGRALEGRFED AFG|LKVSPARGLGFGDDLEYADQLTLGRS:VNRQ GR VGVSRLATGVPVGGELEYVDELTLARALEGRRP EKGUVSTARGUPVGGELEYTDETTLGRSIMTR DTKIRTSRIATGVPAGSDI
 KHQVKASRIAHGVPMGGELEFDDSGTLSHAFNDRK RDELLVSTLAKGI AVGNDLEYTDELTLGRSIVNRVK
 PLGGKVTRAARGLPEGSVIEYADEMTLSTALRTRVELD LTM K KI TRI ASGIPMGGDLQYVDPLTMQKAMEKR GTD KITRLASGVPMGANMEYIDKLTLERAMMDRKVI DQGKKSRIARGVPSGSELEYVDAGTI AWALTERRT ELPVTVTRLAQGLPAGGGLEQADELTLSRALAGRTAV

GHEVEV S K L A HGVP ARNVKSLAHGVPLGADMD ARGLRVSRLARGVPV

NIKVSRISYGIPIGGELDWLDDGTIAQAMRARRP

##  <br> A

 TLPVKVTRLAHGVPVGGEL N

 | $D$ |
| :---: |
| $H$ |
| $H$ |
| $G$ | HENV E $\square$ T R L A R GI A S G SVL

 $K H N V P A T R L A H G V P M G G E L A Y D D K S T L A D A F N T R$ P F T R V T R I A F GL P M G G D L E Y A D E $\square T$ L A K A L E GRREL

 $P M G V A V T R L A Q G V P M G G A L D V M D D G T L A A A L K A R R P V$
 D K N V K I S K Y NVKVSKI A TGGP DGTE

 $\mathrm{N} S \mathrm{~N} L \mathrm{~K} T \mathrm{~S} T \mathrm{I} A R \mathrm{G} I \mathrm{~S}$ I G D E L E Y A D E I T L G R S I L Q R


 DK V EVVSRLAF GLPDGGHLD YA D DMTLMKAFEGRSKV NKELTITTIAKGISIGNDLEYTDELTLGRSILHR
 D Y QI NVSTIARGI AIG GELLE TDEVTLGRSLLHR
 $P L S V R T T R L A B G V P V G G G E L D Y D D E G T L A A A D R S R T E$



FQSPLLERAVTELSRLPGVGRKTADRDADHLLRQPSERAD YPDSLKNLIETLKYLPGVGEKTAERYAFALLNQDEEKIE KALIALAENLPGLGPKSARRVVLHLLKTKETKLL K K LVHAFSKLPSLGPSSSRRLVIHHLQNKEKVML FSSKLLEAAVAEFSKLPGVGQKTALRLVLHLLNQEKEEVE
 YHPEKLKSLMRKFMMFPGVGEKTADRFIMFLIQSPQSFVE 3 B 68 CF 4 SPTLDDLVDAKKRGP FPSK ${ }_{036 \mathrm{~B} 5676}$

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1
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 E D L D HL I A MMAK L

P

 S K DLLKLI GYLKKL S GVGGSKTAQRFAFELI KWKDHEL K
 Y P D R L L A L I Y P K DL E I L I R N Y A R

S L R R N L I

F P Q S L | D K L |
| :--- | :--- |
| L |
| $T$ |

## P P

 P L K K V I S L L YPKALKDLMDNL K K F SF P

## Y F P

$\qquad$

Y P E
K QAL E E L S

YPA

Y
PE P
P E P L K A L V
E E L I MEL
 EKLRGLIQLLSKFPGLGPRSARRIVAYLLSHRSKVLK
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I Q DLI VLVSKLLPGI GKKTASRMVYDI LYKGEEYAK
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 DAF QRLI GAL KVLPNVGPKSAQRIAYHLLQHKRKEAE


#### Abstract

DAFSRLINALKILPNVGPKSAQRMAYQLLLQNRRAEA P E P L K A L V E QL A RL P GLGGPKSAAMRAAMMTLLKWPEAAETA 

ALCRLP G DGRKTAERDALHLARARPEEAR F P K S LK E A L E GL K E P P YGEERGASR FMYNLLLKLEKE KRK  F S S K Y LE K AVDEDSNLPGI GK K T A L R L A L HL L R Q DKEAV Y P D Y I S K L I S F L K K L P G I G F K S A E K I A F E L L E WD P S Q I E  


 $P Q \square E H L K N L L S L L P G \square G S K S A L R L A F F L I D M P E E K L N$
$\square F D E L V E K L R K T E G L T K K T T E R M \quad L T K L I Q N E N A F E$
DEFENLINEDKK IKGLNKK TAERMLIDFWE NKDK L N
 PEPLKALVDRLLARLPGLGPKSALRMAMTLLLKWPESETR
$P A A Y Q A L L E Q L A K L P G V G R R S A E R \square A L H L L K K P D A E S F$ YPSYLS QLVSF L K RLP GI GFKTAEKLAFELLSWDEE QLK $K$ L L D E L S L Y



LF D K V VE K I K N T K G LT K K T S E R L L S D L M S K N K L E KEFHELIDDLISK YK GLLTKKTSERLVVDLIVNNNSKLLD

K K F Y N L VEALE TLP S $\quad$ G K K S A G R L A F H MVL H S P M D A L E K F NELV A A F E RLLPGVGKKSA QRYA Y HVVCLK DS F G GLL
$R|L| A R L L Q A A G T R|V| H P C T R C G F Y A E E E L C E L C R D P V R D P D L$






 ELA QALEEVRRHVGVCERCGNLAEGPLCPVCADPARDAGV
 $P L A N T L A Q V Y K N V V R C T I C G N L K S V S A N C T C S N K N \quad Y K Q$

 ALAS ALQQAVSHIHRCQRCQNYSQTDICHICCQQPERDKEQ ELS K A L LE L KENTGS CPQCGNITSSSDLCAICCDPMRDRET

 QFVHTLENFRHEVGLCVRCHNLADSDLCEICNDNRREKSI $P$ MANTLA QVYKNVVRCNSCGALSNSNGCLNCENTKEKYNK RIVNALKKELDRLKSCRECGLPSMTDLCDSICSDDGRNKSV

 DLGQNI HDLRDKLHLCDRCGALSDTDPCAI C DNETRATDT RLGKGIHDLRDNLRLCSRCGALTETDPCNVCSDKERDDSLL T L E H V F N E I K N N Y H Q C P DC S T L M Q N N V C L F C H N D L R D Q T K
 GVGQAILDLRRENLCLCEECACLAEASPCAICADPSRETDQ



 IL G E LI K E L P Y KVVKLCKFCRNLSEEEICSICKDEKRNSEL
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 ELVDALQTALRQVDHCSMCNTFCEGGGCSDCADPSRDVRK SRVRRLCSVCFNITDDCDPCLICCQ GKERD H S K EELVEALQNALKVHHCKRCNTECEGEDCEI CADSGRDSHR $R L G R G \| H D L R D N L H L C S R C G G L S S T D P C A V C A D A G R T R E T$ GIGQA FM E I A S S R C H C P T C F C L L K N E S P C D FCC Q E S R D P T D AL A A AVARVGAEVNTCARCRNLADRDPCAI CADPARDSGL E D D K K V L E A V E V L R P C R E C F L I T D R E V C P I C S D E K R S K K F
 NLID ALKEV DEKLD DCP DTGMVLLDKGEESPLRXDSRNSEV SLSEALLALKSKVNECQKCGNLSDHNDCEDCANPTRNDELL

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

 ELLAALDDTALK QVSNCQSCNTVCEGGTCEI CADETRDPTRR N F LT N LQ E VK Q K $\square$ T $\square$ CE $\square$ C F Y Y K V V N V C P I C S D S S R N Q K V SF $\quad$ FK LEE EQK TYGVCEDCFYYTFN GQCR

 $G L G A A L A Q L R D N L H L C R R C G S L T D V D P C A I C T A A T R G R D T$ MS A DP I C E I CRNPNRD QNV
 A LA A A L G E L L H R S I R L C S GC F A FA E T D P C GI CK D S E R D G G L ALGNVFYETAAARSFCSQCFCLKESSQCEFCSSTTDTST S I S K L L K E DS E K VK S C R L C Y N L T A N E D C D I C S D K S R D H E T RLAAV MAKAMQQI GHCQRCRTLSEQELCQI CSSKKRDSHL QF ID QL NKAK QLI STCKDCGYLSENNKCLVCSLDNRNQNT QFCNDLKS LIKQNTEKCTICFVWKENKDCSYCVSHKRNND』
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Y P T P\A K LIDD S Y S K\LP G\⿴GDK T A T RDA F Y T\G M S D D DVN PSALQMLVEALRVLPGVGPKSAQRMAYHLLQHDREGAS EKI I ESLKKIPGISKKQANKDVVFFLDNKDQNTK
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SPLLT Q LMEA LRC LIP GVGPKSAQRMAFTLLQRDRSGGM
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EFAKNDLAAKREDTYCS DCGR DT DDDPCS DCTDPSRDQST RLAEALAEAAESIRHCSRCNTFTEQDVCETCLDPRRDASV ELFEDI I ILLKNETKDCSQCDAYAKQEICDDCSDSKRNKKI


D L N S LI LNFKRSTKKCS $\square C N Y L N N Q D \square C Y \Pi C S D N T R D K K L$ GLAKAIEDVKNKVTHCSRCLNLTEDDPCSICADMKRDRSL
$R \square A Q A \square T R A M S E \square G H C A D C R T F T E Q D V C N \square C T N P R R E N G Q$
RLA QLLTRALTE G HCSQCRTFTEQERCEDCQSPKRESGLL ELAQALQSALLSIRPCERCQDYDSEDHCSVCDDDARGHEW EFSKLITTDLKKNVIKCKNCNNSTQTNTCSICSDLKKDKTK


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jhmm
jpssm




LT DDK VVERVREGNVKEVIMATNPNMAGDGTADYDSSLLR I WLDTLDYRLQRKDISEVILATNPTVEGEATAQYIAELCR $\downarrow$ NLK K
THLEPLLARATDP
EKI DHLLKVVAKNE E I I LALLNTDLNGQ\IMKYLEKRDR PKI EQLKAMI S PKTEI I LGISSSTLNGLIVSSHISQHPA


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EQPYK $\square$ SRLARGMP LGSEDEYVDAGTLAQAVYERQ
LD S HT $\square$ MQSFSD


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