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40 $M K V T D V R L R K \square Q T D G R M K A L V S I T L D E A F V I H D L R V I E G N$ MEVTDVVRLRRAQSDGRMRAI AS V TVFDQEFVVVHDIRVI DGN

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 MEVVTV V R L R R V T S D S R M K A I A S I T T L D E E F V I H D I R V I D G N
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MKVTEVKVFPVNGDRLKAYVSIT
MVVTNVKLKKIPNKNRLKAVCSLT
MQVTDIRIRQVQNETKMKAVASVTFDECFVVHDIKVINGD MKI TDVRVRKITEDGKMKAIISITFDDAFVVHDIKVIEGQ MEVTEVRVRKVKDAGKLKAYVTVTFDSSFVVHNIKVISGH
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S GLFVAMPS
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$R$$T P D G E F R D \square_{1}^{60}$
60 $\begin{array}{lll}A & H & P \\ A & H & P \\ C & H & P\end{array}$
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 N G L F I A M P S R K $\square$ G N G E F R D V A H P


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

 NGLLFVAMPSKRTPDGDFRDIAHPICSEARMKIQSAVLDEY K GMFI AMPSKKASDGEYRDIAHPIVNDTRDHMQKVILEA Y K GLFVAMP
K G L F V A A M P S
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N G L $\quad$ I A M P S R K V N D N E F R
NGLIF A MPS R
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NGIFVAMPSKKMPNGGGRD
 $K G \bigvee F V A M P S$

## N

NGFFVAAMP
N GLI I A M P S
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## K G




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 MKI T E I RIVHLM GE ERLLKAFASVVTFDDSFVVRNMKVVGGT



 ME M DVVRI F P Y R E D G P V A A I A S V T L N G C FA V R D V R I ME G K

 M R K L $\operatorname{S}$ E E G G R L L R S I IV V S V


 MK A $\square$ A S I TIID S E F VVV H DI RII I D G N $D A R \square N T D H L N G R V R A F A S I T L A A D C F V V R G V K V I D T P$







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DGLEI AMPSRQKANGEYRDIAHPINSQTRKMFEEKILEAY ESLFI AMPSRKLPNGEFRDI AHPI NAEARKADEEAVEAKY NGLFI AMP RKEKNGTFKDIVHPINQPTRDKI ANAILKAY

EGMFVAFPSKRAASGEYFDI AHPI TAEARDRVQQAVLAAY
NGLFI AMPS





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$\stackrel{\rightharpoonup}{E}$

## N

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$\mathrm{~K} G$
E S
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N GLWV S M P S

ERLFVAMPS

| A $G$ | $L$ | $F$ | $V$ | $A$ | $M$ | $P$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $E$ | $A$ |  |  |  |  |  |
| $G$ | $L$ | $F$ | $I$ | $A$ | $M$ | $P$ |

RGIFIAMPS
E K L F I A M P S
D K L F F



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[^0]
$V$ H P $\square$ T P S A R E K I E T Q V L D A F




AHPLNTETRERMERTILLA EY
A HPASKEAREKVVNAVLEAY

$V$ H P I S P E A R Q Y L E T M V L

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




K GVF C CMPSRKLP DGSHEDMV HP I S QEARDUI EKAIVVEEY







T GLLVVAMPSKKKK D G S Y K D I A H P I N S D F R N Y L E K H L L D K F
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K GKFVAMPSSKGGDGKYHDIICCPTTAEMRKAINTAVLGEY
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S GLLFV A M P S R K T K D N E Y K D I V H P I T P E F R K N M Q E T I L E V Y
KGTFVAMPSRRNHDGTYHDVAHPISHEARTVLTEAVMKAF





K GMF L SMPSYRTGNGEFRDIC
DKYF VMPSRKNPDGTFRDVVHPINSDFRHADEEEVLDA Y

Q GLLLV A M P S C C K T D D $\operatorname{L}$ G E Y E D D V



S GPFVAMPSRKTADGRYADIAAHPINSECRREMIQNRVI E E Y



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MKL DVVIVRPIEPKGNLVGFASLIKIINDSFVIDDFK|ILQGD

 M KI S D I KFR K S LDE S G NL K A I A S L T I D G C I A V H E L K V DE T D $M K V T N V K \square K K V D G D D R L R A Y V D V T L D D C L V I H G L K L T M G E$
MQVTEVRDT
 Y G S K K A $\square F S V T F D N A F V V H D V K V V E G P$ $M E \operatorname{I}$


 M D I T E V R I K L M E D N S R L Q A F C S I TVFD N M F V I T R D L K I I I E G A | $M$ | $E$ | $I$ | $T$ | $E$ | $R$ | $R$ | $K$ | $L$ | $M$ | $E$ | $S$ | $E$ | $D$ | $R$ | $L$ | $R$ | $A$ | $F$ | $C$ | $S$ | $I$ | $T$ | $D$ | $D$ | $Q$ | $S$ | $F$ | $V$ | $V$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $M$ | $D$ | $L$ | $K$ | $I$ | $I$ | $D$ | $G T$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $M$ | $I$ | $T$ | $G$ | $V$ | $R$ | $I$ | $K$ | $L$ | $N$ | $D$ | $K$ | $E$ | $P$ | $R$ | $L$ | $K$ | $A$ | $V$ | $S$ | $S$ | $V$ | $F$ | $I$ | $D$ | $D$ | $C$ | $F$ | $V$ | $I$ |
| $H$ | $G$ | $V$ | $R$ | $I$ | $I$ | $R$ | $G$ | $N$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $M R D T$ MRA V S V TF D D Q FVVVHDI KVI E G Q

 MQI NVKK Y R P S VK G P I LA DA S V N L N G C F A V R G V QV K E G K VKIEK K E N S K MRG $\square$ AKVLI D GCF LVVEDIRILE G D

 $N \vee R I Y A D H T S G P V L A E A S A N L N G C F T I R G L K V V D V G$



 KK TF TGDKLRAVCSVVLDDCFLVKNVRVVEGE

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

 MK V T D V R L R KI Q T D G R MK A L V S I T L D E A F VI H DL R V I E G N

MEIT DVQ」T RVQLDD
MVITEVRDKDCEENNRLDAFCSVTFDNAFMVMDIKVIEGG R L L
 $M N D S E P R D R I L S G N G N R L A T A S I D I D G T F V V R N L S L M N G S$ MKYT VKVNKVKNEGNLRGFATVVFGESFKVTNIAALLENS MKY T $\quad$ V K K V N K V
 $V T N V Q V F P F K E G G H M K G L A T V V L N D Q Q Q Q R G L R M V D G E$

MKVTKVSVQKEEKENRVKGYADDTFDEAFVIUGGLKLI E GE MKVTK TTFKKYES GRLKGFARVVFDDSFAIVTBRVI QSK
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 DVKDRKVICNGKDKAVASVTMNGAFAIRGVKITEGS $D V K \square R K V I E N G K L K A D A S V T V D G A F V I H N V R V I E T E$
 $E \square T V G E V K T Q N N V R G Y A S V V F G D S F K V S$













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UniRef90_E6U9K4 UniRef90_R7PKIO
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 | $K$ |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| N | G | L | Y | V | S |
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| A | M | P | S |  |  |

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 HGLVI TFPKKMSSKGVYVDIIQSLDNDFTEQVRRAVVDKY $K G Y F I$ QMPSKKSRTGEFIPVVEPLSKELYAHI RRKVLDEF KGRFI SMPQKKNGETVYNDTFHAVTAEARTALVDAVNDAY NGDELGAPSKPDPRTGYRATVRDPDRATQERINAAGVEAY NGLFVSMPSMKGKDKEYRDVYYFMDKSKDDKLNEVII AEY
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 SVTVVTPFTRENNDRGLARIVFEDSFIVNNVNLLQGK SVTVVTPFTRENNI RGLARIVYFDSFIVNNVNLLQGK MT TT KTTVYPFEPGNDLKAYAEVTLEGVLTI KGI QVYRKA MPEF MPEF | $S$ | $V$ | $T$ | $V$ | $S$ | $P$ | $Y$ | $E$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $R$ | $R$ |  |  |  |  |  |  |
| $N$ | $I$ | $R$ | $V$ | $Y$ | $K$ | $P$ | $E$ |
| $N$ | $E$ |  |  |  |  |  |  | N N $\vee \vee$

[^1]MEY
ME Y

$\square$ D R $\$ A S D S K
TKAFARLVIDDVFVVNQISVKRGN

M D $\square$
$M T V S E V Q \prod K \square K P S D G L I G F A S L V V N E Q L Y V S S \prod G D L D G S$ MEI T D L Y L P KI E P K G K L V G EA T I R V L G V TVV GI L L K Q G K IS ETQFYPVK P Q D GL L GFVL FVVLDGKFWMGSVAVFSRP VTVRPIE P Q G KL I GF A S V N F G G V V VD D F KV V D G K
 $M K I L R M S K V Q S G G K T V A F F D D Q T D D G U V I M G F R V V N G A$

 KI K A F V SV I F D D Di Eli E CRIIMQSA $\square K$ VEVVK F Y P F E R K G G L V G Y A D V V L


[^2]

[^3]| UniRef90_A5Z8W6UniRef90-B7ANF5 |  |
| :---: | :---: |
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| UniRef90-M1Z123 |  |
| UniRef90-A7VRZ0 | QES |
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| UniRef90-D3ASN0 | E Q |
| UniRef90_D3ASN0 E QUniRef90-D4JSX6 |  |
|  |  |
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| UniRef90-R9N1H0 | N |
| UniRef90-K1U1H3 | EKA |
| UniRef90-C4FKL6 | K E |
| UniRef90-X1V3W6 | E E K E |
| UniRef90-R5UB76 |  |
| UniRef90-R0BC88 | E |
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| UniRef90_UPI0003B36D6B | K E |
| UniRef90-D4KUG0 |  |
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| UniRef90-R6F869 | EQ |
| UniRef90-N9XSM4 | LQ |
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| UniRef90-R7QWN5 | R Q |
| UniRef90-R7QWN5 | R Q |
| UniRef90-U6SI89 | HQA |
| UniRef90-E6UGN9 | R A N D |
| UniRef90-E6UGN9 | R A ND |
| UniRef90-R6T2C8 | S K N D |
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| UniRef90-R4PUN2 |  |
| UniRef90-XOT4U0 | K E |
| UniRef90-K2D3K3 |  |
| UniRef90-V8C2L5 | Q E |
| UniRef90-V5RU18 Q |  |
| UniRef90-N9YC49 | NR A |
| UniRef90-E7GEE4 E D T |  |
| UniRef90-R4PMP2 |  |
| UniRef90-X1DM40 | K |
| UniRef90-16YU32 |  |
| UniRef90-K1TSC6 |  |
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| jnet |  |
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