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A

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Y Y R Q
I G G G K K V

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 S V D N Y Y K DVL N P P K M P K L QP VN SH QL L R P QL K AI Y E K E R M

 | $S$ | $D N Y$ |
| :--- | :--- |
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 $P$ K Q T P I Y D F Q F Y P P RLLT QL Y EKENE
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 YFK Q T L R P PK I PRMPQLHDF QFFNERLTELGEKEVVR ASKAPKLPKAPKFHHFHLFNKRLLELHNTEQN ID QLYREQ IGGPRMPKHPQFAEFQFFNTRLDELYAKKRD I DGYY K DVLN TPRMP KPHAFNSHQFQPPQQLVVLYEKKRM SESDYFK QAMRTPR@PRMPQLHDFQFFNHRLTELYEKEVK PKALRLPRMDEWQFYNKRLLELHEDEYG
D Y Y R S A M A GPK I AK L Q Q M H DF Q F Y N T R I QE Y Y K D K D


| UniRef90_H2ATU8 | L L S |
| :---: | :---: |
| UniRef90-G8YBK5 | LLSECF |
| UniRef90-C4YDT7 | LMQK G Y S |
| UniRef90-C3ZUG4 | L LQQ G F T |
| UniRef90-R9P7Q4 | L AQE GF |
| UniRef90-R8BVZ2 | L S S Q |
| UniRef90-Q6CA54 | S E GF T |
| UniRef90-M7NM00 |  |
| UniRef90-G8ZPB6 | LIS Q AFS |
| UniRef90-K0KE81 | L L T Q G Y |
| UniRef90-M4DW57 | L L E GF S |
| UniRef90-F4P6X8 | LTQK G F |
| UniRef90-S8DD40 | L Le D GF S |
| UniRef90-P38144 | WESEGFT |
| UniRef90-G8ZPH8 | WEKEGFT |
| UniRef90-F0XDW6 |  |
| UniRef90_Q6FWZ6 | WENEGFT |
| UniRef90-W9CMN1 | LSQQGFA |
| UniRef90-S6E3Q8 | LISQAFT |
| UniRef90_L8H567 | L L A E GF |
| UniRef90-14YIH7 | MS D G F T |
| UniRef90_H2ANC6 | WESEGFS |
| UniRef90-V4AFA3 |  |
| UniRef90-Q6FQ29 | M ${ }^{\text {d T A F T }}$ |
| UniRef90_C5DYE2 | LISQAFT |
| UniRef90_J3Q7P7 | MQSLGF |
| UniRef90-S6EFH1 | WEGEGYT |
| UniRef90-G4VIH9 | LLT Q GF T |
| UniRef90_G8JM19 | CI DESFT |
| UniRef90-J7R923 | LISLDAF T |
| UniRef90-C5E2J8 | LESEGYT |
| UniRef90_G0WFZ3 | LEAK GF S |
| UniRef90-12JTK0 | LLSQGF |
| UniRef90-12JU60 | LLQQGF |
| UniRef90-D8TP34 | L L E D F |
| UniRef90-UPIO004413793 | LEQDS F |
| UniRef90-M7YG04 | L Le A GF A |
| UniRef90-Q754V7 | WEREGF |
| UniRef90-G0VIV3 | WEKEGFT |
| UniRef90-W0T7V3 | WEKEGF |
| UniRef90_C4Y6F5 | L L T Q G F |
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| UniRef90-M7XPW9 |  |
| UniRef90-L8WLU1 |  |
| UniRef90_J7S047 | WETE GF |
| UniRef90-G8YLT1 |  |
| UniRef90-C4R1Z8 | Y L Q Q |
| UniRef90_G0WCL6 | WEVQGF T |
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| UniRef90-M5C1A3 |  |
| UniRef90_U5GZ69 | LAELLGFS |
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| UniRef90_GOVEE0 | LES E GF T |
| UniRef90_UPI0003F0EFF4 |  |
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| UniRef90_G8JPP7 | WEKEGF |
| UniRef90-A7TIF7 | LLSESFT |
| UniRef90-W4KKP4 | LI QE GF |
| UniRef90_A3LQ23 |  |
| UniRef90-F1A4L2 | L L K S G F |
| UniRef90-W5JX29 |  |
| UniRef90-G3ARE1 | LLSES F |
| UniRef90-G5BK84 | L L T Q G F |
| UniRef90-A0A016STP5 |  |
| UniRef90-D3B1P3 | LLP S GF A |
| UniRef90_Q014J0 | LL N Q GF T |
| UniRef90-M7SZC3 |  |
| UniRef90-E4X3B6 | $Y$ Y Q $\square$ G F |
| UniRef90-E1Z7Y7 | LLGEGFS |
| UniRef90-R7TR76 |  |
| UniRef90_C5E3P0 | L I H H A F T |
| UniRef90-A0A015JB70 |  |
| UniRef90_UPI0001D5E2F4 |  |
| UniRef90-V5EKW4 | LASEG |
| UniRef90_C1MZB5 | L L N G GF S |
| UniRef90-F9WYW8 | L S T S GF |
| UniRef90-K8F373 | L LAEGFT |
| UniRef90-A7TEB5 | LEAEGFS |
| UniRef90-C1E808 | KLN G G F |
| UniRef90-A0A059B4B8 | LLEEGFS |
| UniRef90_Q54Cl4 | LI K T G |
| UniRef90-H2YQX4 | L LTQGFT |
| UniRef90-G4TAT9 | L/MA Q GF |
| UniRef90-M4E4I6 |  |
| UniRef90-W6KZ83 | LLS E G F |
| UniRef90-L11477 | LLTE GF |
| UniRef90-I2H1D1 |  |
| UniRef90-D8R969 | LLQE GF |
| UniRef90-K3WIC8 | LLREGF |
| UniRef90-A4S0Q6 | L L S Q F F |
| UniRef90_K712N7 |  |

UniRef90_K7VCG8 UniRef90_S8CJJ4 UniRef90_Q8RWY3 UniRef90_B8PMU7 UniRef90_FOYAG6 UniRef90-S2JFB3
UniRef90-I1PSH7 UniRef90-D2VVJ6 UniRef90_G8BYT4 UniRef90-B7G256 UniRef90-A0A022S007 UniRef90 H2KV91 UniRef90-F0V8D1 UniRef90_H2AYE0 UniRef90_Q4JLR9 UniRef90-I2CQP0 UniRef90-MOUEY6 UniRef90_D8SI73 UniRef90 U6KE66 UniRef90-K5WUT6 UniRef90-E9BQB1 UniRef90-R1F8L4 UniRef90-U6KHRR8 UniRef90-M2WX80 UniRef90 F4QDQ1 UniRef90-A9SY70 UniRef90-K7MD21 UniRef90_A0A024GSP4 UniRef90_R7QF22 UniRef90-T0R9J7 UniRef90-K4EBE8 UniRef90-B8C4D6 UniRef90-B8C3Q3 UniRef90-J7SAP0 UniRef90_S7XH59 UniRef90_I1IJC1 UniRef90-KOSYJ3 UniRef90-F2TWH7 UniRef90 UPI0002C3E37F UniRef90_G0TRM5 UniRef90-V5G7L1 UniRef90_I1CVI8 UniRef90_17IRW4 UniRef90_L2GQP1 UniRef90-H8ZB07 UniRef90-J9FBJ2
${ }^{40}$ I T
IK DPRLPR\PQLHDFQFFNTQLTELYEDEAN
SESEYFKQTLKRQPRGPRMPQLHBDFQFFNQQRLTEELYEKEVVR
SVDSYFKETMRAPRAPTRDQMQDFQFFSSRLAELQKQELA
VDEYFRDALRQPRKRRGPPMHDFQFFNAELEVLLAKE


【D GYYKDVLQTPRMPRPHAFHSHQLLSPKLKVLYEKERM



| S |
| :---: |
| $V \operatorname{VA}$ |
| $I$ |

    DYYKNALKTGRLPKMPQLQDFQFFNPRI QELYEKE
    


A VDAYFRDA LRVSEPKVQPHDQDFQFFPPRLAELDEKELA

TTHDHQFFDARLQEABFEEE

A Y YRDAMRQTPADKEPSDPDHMLYNPRLRELLERE

VNEYFRETMNTGKMRLPRMEEWQMFDRSLNGQEVEEQ



LR LPRPPRSVRFR
A VDDYYKEA LRGSRTPKAPR
LKLPHMQDWQFYDRR
RLIMQUQFYRRILTLHNTELE
$K R L I F P E Y Q F Y P K E F Y E L Q D K E E M$
$R Q F N L P D Y Q F H P Q R L H L L Q K K E D E$
IDKYYREALNMPTQTKEKKKYEHQFFNAKLEALDTKEQT
lupas_21
lupas_14
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jnet
conf
sol25
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sol0
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|  | 50 - ${ }^{60} 80$ |
| :---: | :---: |
| UniRef90_K7VCG8 |  |
| UniRef90_H2KRK1 |  |
| UniRef90_S8CJJ4 | HHAQTRQRSRTKDEVDDPEETTKG LTAAEREKKAR |
| UniRef90-Q8RWY3 | Y LMQ THQKNQLKDTI DVEEPEGGDPLT TEE |
| UniRef90-B8PMU7 | A HKRANDTPATLREPGGPEDTPEKLEAERL |
| UniRef90-FOYAG6 | DELAGKKHEARADEMEATLETAYELPVKEAVRKER |
| UniRef90-S2JFB3 | Y LRKSLGYK L P P \ S P |
| UniRef90-I1PSH7 | YL VQANQKKDTVGEGDDE DQ |
| UniRef90-D2VVJ6 | FEQEKKKRKKNKDSDEKEDEE |
| UniRef90_G8BYT4 | WT AKKTAYTPNMDDD\EDESERKVQNAQPL |
| UniRef90_B7G256 | AFKALP E ELQKLATMKRVEQVEEAEDEPLTEERQAEKER |
| UniRef90-A0A022S007 | YLVVQQT R QKNQVKDSIEVDEPEEVGN PLTVEEQEEKEQ |
| UniRef90_H2KV91 | A F S C |
| UniRef90_F0V8D1 | YYRNQGTTRAP T DEEREEKQR |
| UniRef90-H2AYE0 | WLT KRAEYTPTLDDKEEDDENRE【ANAQ |
| UniRef90_Q4JLR9 | HNHEEHKRALTNREAALRNQGASDEAV A EALADKE |
| UniRef90-12CQP0 | A LKR Q A R WAF IKE DVARDLEEELNDGRFDLPPEEQEERKA |
| UniRef90_M0UEY6 | YLVQTNQKKD |
| UniRef90-D8SI73 | T R R Y L N N Q D G T G D DE GLA E GEPLTPEEQEEKEQ |
| UniRef90-U6KE66 | WRSSQG |
| UniRef90-K5WUT6 | VRLLNGIEPQSEDDSPEKLEDERADDTVEPLAEEEVVLKDE |
| UniRef90-E9BQB1 | WKRKYEEKSDAQKSKESNEEEKAEDEDELLTEVEQEERER |
| UniRef90_G3WKB1 | YYRKT】GYKVPDSAQAQQDEQK |
| UniRef90-R1F8L4 | HWQWKQDRVLARRAREEDEEKASAAGVPPLSDAELDEREA |
| UniRef90-U6KHR8 | WRRSLGQARAP |
| UniRef90-M2WX80 | K R AVNEY NKVAEEAVK Q G K E A P PVP ELLPPADKEQEK Q |
| UniRef90-F4QDQ1 | QKKLE WYLEDDTSAEKKEEKEEPNFGELTEDEQALKER |
| UniRef90_A9SY70 | KQLLHAK AAGTGEDVR\\|IEDVEELTEKEQEEKEQ |
| UniRef90_K7MD21 | YL M Q T HQKNQVKDSIDVVDEPED |
| UniRef90-A0A024GSP4 | NY EDAKIVSGDKPPLPPHAMYLSPKEQEEKDR |
| UniRef90-R7QF22 | VDK F NAEADAVVKEKEQPELPKDESLSEEHENERET |
| UniRef90-T0R9J7 | AY EAAKATSQDDLKEANFLSPELQEEKET |
| UniRef90-K4EBE8 | NWKRKYEPSDGVDGDQQKQEGEATDEDETLT LVEQEERER |
| UniRef90-B8C4D6 | AFRALPEQETKEGEAEEKVEPESKEMPPLLSDEQKVEKAR |
| UniRef90-B8C3Q3 | LAQSKEDHDGQ\MEE $\square$ A EMEKMLDQFV ${ }^{\text {L }}$ L T QPEQAEREQ |
| UniRef90-J7SAP0 | WLAKSNGYEP ILDDA GDSEGSQE S NAQPL |
| UniRef90_S7XH59 | YY EDLGDPI TEEERNSKDE |
| UniRef90_I1IJC1 | HLA Q MKQKKGR\GDGDDE DQLEP |
| UniRef90-K0SYJ3 | LFAKETGKVPSYEYMEQKRT\LPPNLA K K K WE |
| UniRef90-F2TWH7 | A Y R K AVGY K VPKKPVE |
| UniRef90_UPI0002C3E37F |  |
| UniRef90-G0TRM5 | WKRKYEAHKKPREEIVLDNEEEKVDNVNPLSAVELDERKR |
| UniRef90_V5G7L1 | YYRKSLGYKVPKNSKQQKEEQRKIDESEPLTEEEQQEKET |
| UniRef90-I1CVI8 | Y L R K S L G Y K VPP VTAE |
| UniRef90-17IRW4 | RHNATGSTEGL EEERKLKEQ |
| UniRef90_L2GQP1 | LFNQDEN LSEEDKARKEE |
| UniRef90_H8ZB07 | KFQATGDPEDL |
| UniRef90_J9FBJ2 | W NTYAQNPDEFLKNLEDKE KPPQFTFKDQQQREK |

lupas_21
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| UniRef90_K7VCG8 | LLE E GF A |
| :---: | :---: |
| UniRef90-H2KRK1 | L L T Q GF T |
| UniRef90_S8CJJ4 | LLEE GF |
| UniRef90 Q8RWY3 |  |
| UniRef90-B8PMU7 |  |
| UniRef90-FOYAG6 | LLK E G F |
| UniRef90_S2JFB3 |  |
| UniRef90-I1PSH7 | LLEE G F S |
| UniRef90-D2VVJ6 | LLLE GF |
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| UniRef90_H2KV91 |  |
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| UniRef90_H2AYE0 |  |
| UniRef90_Q4JLR9 |  |
| UniRef90-I2CQP0 | LM E E G F |
| UniRef90_M0UEY6 |  |
| UniRef90-D8SI73 | L L R E GF |
| UniRef90-U6KE66 | LIAEGF |
| UniRef90_K5WUT6 | YVQK G F S |
| UniRef90-E9BQB1 | LLS E GF |
| UniRef90-G3WKB1 |  |
| UniRef90-R1F8L4 | LLR D G F S |
| UniRef90_U6KHR8 | L I EQGF |
| UniRef90-M2WX80 | LLSEGF |
| UniRef90_F4QDQ1 | L I K A G Y |
| UniRef90_A9SY70 | L L S E GF |
| UniRef90-K7MD21 |  |
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| UniRef90_R7QF22 | L L D E G Y S |
| UniRef90-T0R9J7 | L L R A F A |
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| UniRef90_J7SAP0 |  |
| UniRef90_S7XH59 | LY K K G F |
| UniRef90_11JJC1 |  |
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| UniRef90_F2TWH7 |  |
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| UniRef90-G0TRM5 | LLSEGF |
| UniRef90_V5G7L1 | L L T H G F T |
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| UniRef90-17IRW4 | LISQGF |
| UniRef90-L2GQP1 | L L Le GF |
| UniRef90-H8ZB07 | LYEEGF |
| UniRef90_J9FBJ2 | L L K Q G F |
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| lupas_14 |  |
| lupas_28 |  |
| jnet |  |
| conf | 9743899 |
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| sol5 |  |
| sol0 |  |
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