

| QUERY                  | 1 | 10 | 20 | 30 | 40 |
|------------------------|---|----|----|----|----|
| UniRef90_Q0K8N3        | M | L  | L  | L  | L  |
| UniRef90_UPI0002F5B61E | L | L  | L  | L  | L  |
| UniRef90_UPI0002ED91F6 | L | L  | L  | L  | L  |
| UniRef90_A0A017HW79    | L | L  | L  | L  | L  |
| UniRef90_R6BIM6        | L | L  | L  | L  | L  |
| UniRef90_W0JKA2        | L | L  | L  | L  | L  |
| UniRef90_R5X7K0        | M | D  | Q  | L  | L  |
| UniRef90_E1SRX2        | L | L  | L  | L  | L  |
| UniRef90_K8DZP3        | L | L  | L  | L  | L  |
| UniRef90_H5SII4        | L | L  | L  | L  | L  |
| UniRef90_R5MPN4        | L | L  | L  | L  | L  |
| UniRef90_N0ADI0        | L | L  | L  | L  | L  |
| UniRef90_E6U7X1        | M | L  | L  | L  | L  |
| UniRef90_UPI00036E1B1E | L | L  | L  | L  | L  |
| UniRef90_V2U9B0        | L | L  | L  | L  | L  |
| UniRef90_F4A2R9        | L | L  | L  | L  | L  |
| UniRef90_J3D7C7        | L | L  | L  | L  | L  |
| UniRef90_UPI000470C0D4 | L | L  | L  | L  | L  |
| UniRef90_K6D700        | F | Q  | E  | L  | L  |
| UniRef90_UPI00040CCA43 | V | R  | E  | L  | L  |
| UniRef90_R6QQD7        | L | L  | L  | L  | L  |
| UniRef90_UPI00038193FD | I | E  | K  | F  | E  |
| UniRef90_S3XIC0        | M | L  | L  | L  | L  |
| UniRef90_UPI000467F6C4 | L | L  | L  | L  | L  |
| UniRef90_E3CYD0        | L | L  | L  | L  | L  |
| UniRef90_K0CDV1        | L | L  | L  | L  | L  |
| UniRef90_R7AD18        | L | L  | L  | L  | L  |
| UniRef90_R7IFH5        | L | L  | L  | L  | L  |
| UniRef90_H0PU19        | L | L  | L  | L  | L  |
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| UniRef90_R5KP41        | L | L  | L  | L  | L  |
| UniRef90_B8EBQ2        | L | L  | L  | L  | L  |
| UniRef90_W6K6L6        | L | L  | L  | L  | L  |
| UniRef90_B1XZM7        | L | L  | L  | L  | L  |
| UniRef90_G2IH10        | L | L  | L  | L  | L  |
| UniRef90_A1U2V5        | L | L  | L  | L  | L  |
| UniRef90_H7F7L9        | L | L  | L  | L  | L  |
| UniRef90_U1KWX6        | L | L  | L  | L  | L  |
| UniRef90_W7QRF2        | L | L  | L  | L  | L  |
| UniRef90_G4QG52        | L | L  | L  | L  | L  |
| UniRef90_Q0FLT5        | L | L  | L  | L  | L  |
| UniRef90_Q6N6C1        | L | L  | L  | L  | L  |
| UniRef90_UPI0003A374B9 | E | R  | L  | L  | L  |
| UniRef90_G4U2H0        | L | L  | L  | L  | L  |
| UniRef90_A0A011P3C4    | R | R  | L  | L  | L  |
| UniRef90_A4C6N0        | L | L  | L  | L  | L  |
| UniRef90_E8R1J8        | L | L  | L  | L  | L  |
| UniRef90_C5EV89        | L | L  | L  | L  | L  |
| UniRef90_B5E9M8        | L | L  | L  | L  | L  |
| UniRef90_UPI0003B3BB28 | K | R  | L  | L  | L  |
| UniRef90_UPI000379C34A | F | S  | K  | L  | L  |
| UniRef90_A3UC90        | I | K  | D  | F  | E  |
| UniRef90_U6BBE0        | F | E  | A  | L  | L  |
| UniRef90_N6XE91        | D | Q  | L  | L  | L  |
| UniRef90_S8E5P4        | L | L  | L  | L  | L  |
| UniRef90_B7RJY7        | L | L  | L  | L  | L  |
| UniRef90_R7I7L1        | L | L  | L  | L  | L  |
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| UniRef90_A6QCJ0        | L | L  | L  | L  | L  |
| UniRef90_D1AY72        | L | L  | L  | L  | L  |
| UniRef90_Q30NY3        | L | L  | L  | L  | L  |
| UniRef90_C0EHG1        | M | K  | N  | F  | E  |
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| UniRef90_B3DV16        | L | L  | L  | L  | L  |
| UniRef90_UPI000418605C | L | L  | L  | L  | L  |
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| UniRef90_Q67PF5        | L | L  | L  | L  | L  |
| UniRef90_R6T433        | L | L  | L  | L  | L  |
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| UniRef90_Q7WD32        | L | L  | L  | L  | L  |
| UniRef90_J4KSA6        | M | L  | N  | K  | I  |
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| UniRef90_E4TZF0        | L | L  | L  | L  | L  |
| UniRef90_A6TRT5        | L | L  | L  | L  | L  |
| UniRef90_G8PLN3        | A | A  | L  | L  | L  |
| UniRef90_R6NJ82        | L | L  | L  | L  | L  |
| UniRef90_R7L1N4        | L | L  | L  | L  | L  |
| UniRef90_Q3AC58        | L | L  | L  | L  | L  |
| UniRef90_R5D0Q5        | M | L  | K  | E  | L  |
| UniRef90_R5LZZ1        | I | K  | E  | F  | E  |
| UniRef90_S6CYJ1        | L | L  | L  | L  | L  |
| UniRef90_UPI0003F61B84 | V | F  | K  | S  | F  |
| UniRef90_D1KC91        | M | K  | K  | L  | E  |
| UniRef90_U4TF59        | V | S  | D  | L  | C  |
| UniRef90_B0K1V8        | L | L  | L  | L  | L  |
| UniRef90_H1HR66        | I | E  | A  | L  | E  |

QUERY  
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UniRef90\_R5MPN4  
UniRef90\_NOADI0  
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UniRef90\_A1U2V5  
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50 60 70 80  
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U n i R e f 9 0 U P I 0 0 0 2 F 5 B 6 1 E G D A I L S F V I A D E Q L Y H R R F P N E Y N E E E G D D M T K R R V R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 2 E D 9 1 F 6 G D D A V L G L V V I C A V E Q L Y R R F P P E Y N E E E G D D M T K R R V R A N T L V V S K Q Q  
U n i R e f 9 0 A 0 A 0 1 7 H W 7 9 G D D R V L G L V V I A E A L Y L E A N F P P G A D M A E E E G G E E D D R E I M T K R R A N T L V V S K Q Q  
U n i R e f 9 0 R 6 B I M 6 G D D A V L E E I I S S E Y L F Y N N F P Q D M A E E E E G G E E D D R E I M T K R R A N T L V V S K Q Q  
U n i R e f 9 0 W 0 J K A 2 G D D A V L E E L I S S E Y L I N N F P Q N Q L V R E E E G G E E D D R E I M T K R R A N T L V V S K Q Q  
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U n i R e f 9 0 K 8 D Z P 3 G D D A V L E L V V S E E L Y F Q R F P P E Y N E E E G G E E D D R E I M T K R R A N T L V V S K Q Q  
U n i R e f 9 0 H 5 S I I 4 G D D A V L G L I V C E E R L Y E K F P P E Y N E E E G G E E D D R E I M T K R R A N T L V V S K Q Q  
U n i R e f 9 0 R 5 M P N 4 G D S V L G F I T A E E Y L F Q S H H F P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 N O A D I 0 G D S V L N C A V A A L L F F S R N K L D E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 E 6 U 7 X 1 G D D A V L G I T I S A E Y L Y F H H T R E V P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 3 6 E 1 B 1 E G D S I L G F T I A G A A L Y E Q F P Y E G N E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 V 2 U 9 B 0 G D S I L L G G M M I A H A Y F H A Y P P E Y N E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 F 4 A 2 R 9 G D S V L N I T I T D Y L F V T Y P E L S D E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 J 3 D 7 C 7 G D S I L N C V I A S N A L Y F D R F S K I D E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 4 7 0 C 0 D 4 G D S I L S Y V I A N A L Y F Q R F P R V D E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 K 6 D 7 0 0 G D D A V L E L T V S H Y L F Q N N Y P S M S D E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 4 0 C C A 4 3 G D S V L G L I T V S E A L F F E K F P K I D E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 R 6 Q Q D 7 G D D A V L E L I M S D Y L F H T Y K D E P E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 3 8 1 9 3 F D G D R V L G L T V A E A I A K Q D P Q A T S P E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 S 3 X I C 0 G D D A V L M L V V A E K Y L F E K F K N T P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 4 6 7 F 6 C 4 G D D A V L D L I V G E Y L Y M K F P K H V P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 E 3 C Y D 0 G D D A V L E L C V S E R L Y R E R F P D A E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
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U n i R e f 9 0 R 7 A D 1 8 G D D A V L L E V V S I S D F F L F R T F P E M P P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 R 7 I F H 5 G D S V L G C T I G Y E L F F K L D S H F S E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 H 0 P U 1 9 G D S V L N C V I A I A L F F E R F G G E L R P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 R 7 N N S 4 G D D A V L S I S V S A D Y I F N N C P G Q L P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 R 5 K P 4 1 G D D A V L S I T S A D F L Y K K F P S M A T E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 B 8 E B Q 2 G D S I L S I V I S D A L Y H Q R F P P K A T E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 W 6 K 6 L 6 G D D R V L G L G V S A E L L Y Q R F P D D E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 B 1 X Z M 7 G D D A V L N M T V S D L L F D Q F D D D S P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 G 2 I H 1 0 G D S V L Q L C I T E Y L Y K N C G E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 A 1 U 2 V 5 G D S I V N M V I A E Y L Y L H F E K A R E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 H 7 F 7 L 9 G D D A V L E L T V S D Y L F N K Y P D M A R E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U 1 K W V 6 G D S I L S F V I A D A L Y H Q Q F P P K A R E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 W 7 Q R F 2 G D S V L S F V I A E R L Y Q Q F P P K C G E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 G 4 Q G 5 2 G D D A V L G M V V A E L L Y Q Q F P E Q S P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 Q 0 F L T 5 G D D R V L G L V M A E A L L Y A D D R N A S D E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 Q 6 N 6 C 1 G D D H V L G L I V S D M L Y R A F P P Q L T E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 3 A 3 7 4 B 9 G D S V L N A V V A R A L F V A F P P Q L T E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
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U n i R e f 9 0 A 4 C 6 N 0 G D S I L S F V I A N E L Y K R F P P K S R E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 E 8 R 1 J 8 G D S V L G M I V C D D T L F H L Y A T E A K E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 C 5 E V 8 9 G D D A V L E L I V T S D F L H K Y A T L P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 B 5 E 9 M 8 G D D A V L D F L L S D M L L V R F P D S R E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U P I 0 0 0 3 B 3 B B 2 8 G D D R V L A L V V C E M L Y Q R F P P K E S P E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
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U n i R e f 9 0 A 3 U C 9 0 G D R V L G L M A S Q R L Y E T F P N L E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 U 6 B B E 0 G D D A V L E L T V S R Y L F E H Y P E R S E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 N 6 X E 9 1 G D S I L N C V I S I A L F F E R F G G L R R E E E E G G E E D D R E I M T T S R R L R A N T L V V S K Q Q  
U n i R e f 9 0 S 8 E 5 P 4 G D D A C L S M A I S D Y L Y H R Y P E V D P G K L A T V V R S A N V S T E K L A R D  
U n i R e f 9 0 B 7 R J Y 7 G D D R V L G L V M A E A L L M L D P K A T A P R F N A L V V R K E A C I D  
U n i R e f 9 0 R 7 I 7 L 1 G D D A V L E L I M S S E Y I F R T N E Q M H E E E E G G E E D D R E I M T T K I R A S I V C E P T L A Y  
U n i R e f 9 0 R 5 I 2 7 5 G D D A V L E I V I T S D F L Y H K Y T E K P E E E G G E E D D R E I M T T K I R A S I V C E P T L A Y  
U n i R e f 9 0 A 6 Q C J 0 G D D A V L D L I V G E Y L F F K F P K S D E E E E G G E E D D R E I M T T S K I R A S I V N E S E T V F F T L  
U n i R e f 9 0 D 1 A Y 7 2 G D S V M D L I T T E Y I Y K N N K K S E E E E G G E E D D R E I M T T S K I R A S I V N E S E T V F F T L  
U n i R e f 9 0 Q 3 0 N Y 3 G D D A V L D L I V G E Y L F F K F A S S D E E E E G G E E D D R E I M T T S K I R A S I V N E S E T V F F T L  
U n i R e f 9 0 C 0 E H G 1 G D S V V S L I I A N H L F V N F P D M E E E E G G E E D D R E I M T T K L R A S I V C C D R S A L Y V  
U n i R e f 9 0 U P I 0 0 0 3 B 5 7 6 9 1 G D D A I L E L I S D Y L F K K Y P D M E E E E G G E E D D R E I M T T K L R A S I V C C D R S A L Y V  
U n i R e f 9 0 W 8 W V 3 6 G D S V L N F V V S T L L F A E H A E M D E E E E G G E E D D R E I M T T K L R A S I V C C D R S A L Y V  
U n i R e f 9 0 B 3 D V 1 6 G D D A V L G L A V T E K L F Q L F P S E E E E G G E E D D R E I M T T K L R A S I V C C D R S A L Y V  
U n i R e f 9 0 U P I 0 0 0 4 1 8 6 0 5 C G D D A V L E L G V S Q Y L Y R E Y P E M E E E E G G E E D D R E I M T T K L R A S I V C C D R S A L Y V  
U n i R e f 9 0 C 3 X A T 0 G D S L L N C V T A I N L Y E R Y V E L N E E E E G G E E D D R E I M T T K L R A S I V C C D R S A L Y V  
U n i R e f 9 0 R 9 J D 2 2 G D D A V L E L T T S D F L F R H Q L S E L V K E E E E G G E E D D R E I M T T K R R A S I V C C D R S A L Y V  
U n i R e f 9 0 U P I 0 0 0 4 7 E 1 2 B F G D S V L N L A V A G L L Y E H Q L S E L V P E E E E G G E E D D R E I M T T K R R A S I V C C D R S A L Y V  
U n i R e f 9 0 R 7 M R 4 2 G D S V L S I V V S K Y L F E H F T H I A E E E E G G E E D D R E I M T T K L R A S I V C C E K S L H I  
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U n i R e f 9 0 R 6 T 4 3 3 G D S V L S I V V S D H I F E H Y K H M P E E E E G G E E D D R E I M T T K M R A S I V C C E K A L F E  
U n i R e f 9 0 T 0 J E I 0 G D D A V L D L I V G E Y L F H K F K K S D E E E G G E E D D R E I M T T S K I R A S I V N E T G F D K  
U n i R e f 9 0 U 2 T G H 3 G D D A V L E L A A S D M L Y H R V P V I Q D V M E E E E G G E E D D R E I M T T S K L R A N L V C E P T L A E D  
U n i R e f 9 0 Q 7 W D 3 2 G D S V L N F V V A A F L F E R Y G K L D E E E E G G E E D D R E I M T T S R R L R A N L V C E P T L A E D  
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U n i R e f 9 0 E 4 T Z F 0 G D D A V L D L I V G E Y L Y K K F R G Y D E E E E G G E E D D R E I M T T S K M R A S I V N E K G A F F T S  
U n i R e f 9 0 A 6 T R T 5 G D S V L G I I I S D Y I F K K Y T H L P E E E E G G E E D D R E I M T T K V R A N V C E P A L G S E  
U n i R e f 9 0 G 8 P L N 3 G D D R V L G L A I A T M L E E N F P K A D E E E E G G E E D D R E I M T T K R R L N Q L V C K R E T C A F E  
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U n i R e f 9 0 U P I 0 0 0 3 F 6 1 B 8 4 G D D A V L E L T V S Q Y L F Q K Y A T N E M T E E E E G G E E D D R E I M T T K L R A A I V C E P S L V G  
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90 100 110 120

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

QUERY D A N F T R E L F Y K L F K E D I L S A I K E G R V K K  
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L G D Y L H M G S G E L K S G G G F R R D S S L L A D A V E A S V I I G A A M Y L D D G G Y  
L A R M L L G E G E Q R N S G D G R S R H S S I L L A D A V E A S V I I G A V I Y L D D G G I  
Y V Q K L D L E Q Y E L Q M N D G G R S D S S L L A D D A L F E S L I I G A I I Y L D D G G M  
V S E A L G L G E F L L M G K G M S P S S L L A D D A V E S L I I G A A I Y L D D G G I  
V A H V L D V A E H E A R A G V R Q M A N V L A D A V E A V I I G A M Y L D D G G L  
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UniRef90\_UPI0003339EB7 G D A I L D Y L I T K H L Y E D Y P R Q H S P G E V L L T D L L R R A S A L V V N N T T I F A S D  
UniRef90\_K1Z7W0 G D A V L N F L I A A E W L F E Y R Y P E E M K S E E E G G E L T S R L K I R A N A L V V S N G R V L  
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UniRef90\_UPI0002E7D6FB G D A V L E L S V S S Q Y L F Q K F A S M S E E E G G E L T T K L R A T I V V C E P S L V L  
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UniRef90\_Q310Z1 G D A V L E L T V S E Q L F T R N D F E A R S E E G G D L T R M R R A R L V N N P S E F A C  
UniRef90\_F4W7V0 G D A L L D F L I T C Y I F E N D V N L S P G E G D L T T D L M R R A S A L V V N N I T F A C  
UniRef90\_W2BYI0 G D G Y L D A V G T Y L F K H L E D L Q E E G G K L S K L R A S K L V V C E K S L E K  
UniRef90\_B9E1G8 G D S V L Q L C I S E Y L F L L Y K S K S E E E G L T T K K R A S L V V C C E N S S L W N G  
UniRef90\_UPI00035C46F7 G D A V L E L A V S E Y L F E K Y P E E R P E E G G E L T T K I R R A S I V V C C E S S L V G  
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UniRef90\_S7UQB1 G D A V V E L V S D E L F R R S P V E R E E E G G L T T R L R A S M V V R E N Q S S L A Y K  
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UniRef90\_R6X3D4 G D S I L E Y V I S K G Y I Y N N Y P K L K E E G E M T K V R R A E V V V C E S L V H  
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UniRef90\_A8AWC2 G D A V L Q L I S E Y L F E K Y P K R P E E G D L T K L R S T I V R C E E S L C Q  
UniRef90\_UPI00041946EC G D R V L A L V V A E M L F A A Y P R E E E G G D L A R R L N Q L V R R E T C A E S  
UniRef90\_E9D2D3 G D A L L D M A C V E H I Y H K H P D D K P E G Q W L T S H K M A M V S R E K F L G G  
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UniRef90\_R7H1S0 G D S V L S I V T A D Y L Y H T F P H L P E E G E L T T K L R A S L V C E K A L H V  
UniRef90\_C5WUJ71 G D A V L D Y I L T D Y F Y R Y P K C D E P A L L S T N L R K A S V N N W C Y A H  
UniRef90\_M4RXJ0 G D R V L G L I A A A W L Y E R F P D E P E G A L S R R I N A L V S N R E T C A E  
UniRef90\_B8E199 G D A V L N M L I T E L F Q R Y R E A S E E G F L T Q K R I Y L V R K E E T L Y K  
UniRef90\_E8KGM2 G D S I L N F A I G K A L F E K F P K A N E E G E L S R M R A T L V R N E Q T L A L  
UniRef90\_V4JP10 G D A L L G L V I A E A L V L W Q F P T A D E E G E L S R R R A S L V R N R E S L A Q  
UniRef90\_UPI00032A6473 G D A V L G L A I S E N H L F L A Y T S V H P G K L S L L R A A N V S T E K L A R  
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UniRef90\_C2KW20 G D A V L E L V S T L L Y H K K S V D I Q E E G R M T K L R A A L V C E A S L L Q  
UniRef90\_C7QYS4 G D A V L G L V S A E A L F R G H P D R P E E G D L A R M R A A T V S Q R S P L A Q Q  
UniRef90\_UPI000380B0AE G D A I L G F T I A E A L V S R F P Q A D E G A L A R M R A T L V K R E S L A Q R  
UniRef90\_A4GHU1 G D A I L N L Y V S E R L V N T Y G N L A K E E G K L T R R F K A S I V S K R E N L H H Q  
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UniRef90\_B4U7T8 G D A V L N F M T V N I L V A F P S K K E E G E L S O K K S F L I S Q E E F L A S  
UniRef90\_F4ASG0 G D A V L G L V I A K A L F E R F P K Q P E E G N L T R M R S S L V K G E D T L A S R  
UniRef90\_UPI0003B3709A G D A V L E L T V S K Y L Y N Y V D E W P E E G K L T R R A A L V C E E N L A S R G  
UniRef90\_D1AB28 G D S V L G L V V T D T L F R N H P L P E E G L A K L R A A L V N E M R A L A G  
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UniRef90\_A0A037Z7H3 G D S V L Q L V I T E Y L F M N Y K E K S E E G L S K K R A L V C E E A L F E  
UniRef90\_A3TW51 G D R V L G L V M A E A L J A S D R A S E E G Q L A P R F N A L V R K E A C A D  
UniRef90\_Q2LVR4 G D A V L E L C I S D L L M K A F P D Y S E E G Q L S K L R A S V V N E Q P L C R

|                        | 90  | 100   | 110                 | 120 |
|------------------------|---|---|---------------------|-----|
| UniRef90_D1B5N5        | S G R V L G L D R V L R V G K A I K S             | E G M V A D A M E A L I                         | G A L V Y L D G G G | L L |
| UniRef90_UPI00047C7776 | V A A A I G L G R H L V L G P A G R E N K T       | P I L A D D A C A A L I V G A L V Y R D D G G   | G L L               |     |
| UniRef90_UPI0003B57C84 | F A R E I D L G R A L R L G R G G E I L K R P     | S I L C D D A F E E A V L V G A L V S L D D A   | Q G G L L           |     |
| UniRef90_UPI00047DF5CF | T A R E I D L N M G A L L R L G R G G E I L K R P | S I L C D D A F E E A V L V G A L V S L D D A   | Q G G L L           |     |
| UniRef90_D9SFC3        | F A Q Q L N L G A Q L K L G G E G H K R P S       | I L L A D D A L V E E A L F G A G A V F L D D A | G G Y L             |     |
| UniRef90_A0A015LPT8    | F A E V L N L G K H V L L G R G G R R R P A       | L L A D D V F E E A F L G A L M Y L D D G G G   | G F L L             |     |
| UniRef90_UPI000474C2D0 | F A T D L N F D R Y V L L T G G G R R R R P A     | L L A D D V F E E A F I G A L M Y L D D G G G   | F F L L             |     |
| UniRef90_UPI0003339EB7 | L A V K Y D Y H K Y F K A V S P E L F H K A M     | G D L F E E S L A G A L Y M D D S G G M F       |                     |     |
| UniRef90_K1Z7W0        | L A S E L Y I G D H L Q F G S G G E V L R K S     | I L V A D D A M E E S V I G A L M Y L D D G G G | F F L L             |     |
| UniRef90_M5TID0        | T A T Q L G L G D E C L I V G R G G V L R K S     | L L V A D D V F E E S V I G A L Y L D D G G G   | L L                 |     |
| UniRef90_UPI0002E7D6FB | F A H E L N F G K Y V L L G K G G R E R P A S     | L L A D D V F E E S F V G A L Y L D D G G G     | L L                 |     |
| UniRef90_G9ZBZ9        | V A R R L N L G G E H L R L M G S G G E V L R A S | L L A D D A V E E A L I A A A V Y L D D S G     | G G L L             |     |
| UniRef90_A3X497        | L G E V L K L G R S E M M S G G G R R K L A J A   | L L G D G M E A L I A A A V Y K D A G F         |                     |     |
| UniRef90_I9WXP4        | V G P H L T L G Q G E V M S G G G R R N S Q T     | I L A D D V C E A I L G A I Y L D D A G F Y     |                     |     |
| UniRef90_Q310Z1        | L D T Y L L L G D K E E S G G G V R T D P K S     | V L S D A F F E S L I G A I F L D D S G G       | G L L               |     |
| UniRef90_F4W7V0        | L S V R H G L H D G E C N I T E Y V D V P K S     | V L S D A F F E S L I G A I F L D D S G G       | G K Y L             |     |
| UniRef90_W2BYI0        | V G I K L G L G E Y L L F L G K G R N R T S I     | L A D A T E A V I G A I F L D D S G G           | Y L                 |     |
| UniRef90_B9E1G8        | L G K Y I K M S G Y E E I T G G R R M T S I       | L L A N C V E A F I A A A I Y L D D S G G       | L L                 |     |
| UniRef90_UPI00035C46F7 | F A E R L E F M S G Y V L L G K G R E R P A S     | L L A D D V F E E A F I G A L Y L D L G M       |                     |     |
| UniRef90_Q5WFM6        | F A E E L Q F G K L V L L G K G R T R P A S       | L L A D D V F E E A F I G A L Y M D Q G G       | L L                 |     |
| UniRef90_S7UQB1        | V A R E L G L P A H L L L G G G G R R D A S       | L L A D D A L E A V I G A Y L D D G G G         | F F L L             |     |
| UniRef90_D7N644        | I A T N I S I G D F M Y F N K G G N L R E S T     | L L S D C L E A L I G A I Y L D D G G G         | L L                 |     |
| UniRef90_E6QV68        | I G Q Y L M M G D G E F K T G G R Q R P S T       | L L A D A F E A S L F G A I L L D D G G G       | F L L               |     |
| UniRef90_E8MY41        | F A R K L R L G K G E M T Q A S L L A C           | L L A D A F E A V I G A I Y L D D S G G         | L L                 |     |
| UniRef90_R6X3D4        | F S D F L Q V G K S E V S H H G N K K V A         | L L A D S I E A T I A A I Y F D S G G           | L L                 |     |
| UniRef90_R7LA72        | L S A D L T I P R Y L L L P H L R E M P S A A     | E D A F E A V V G A I Y L D D S G               | M                   |     |
| UniRef90_R7V2Z3        | L A V K W N F H K Y F R A L S P Q L F R Y K A     | L G D I F E E S V A G A I Y L D D S G           | G M                 |     |
| UniRef90_A6GP51        | V G R N L L D Q Y L F L G A G E L R Y D S I       | V A D D A L E A V L F G A I L L D D S           | G G F               |     |
| UniRef90_W4RJ50        | F A N E L S F G D G E F M T G G G R T R P A S     | L L A D D V F E A F I G A L Y L L D D K G       | L L                 |     |
| UniRef90_Q6MLR5        | L A L E M G L N K L M Q L G K G Q S K P S R       | L L A S S F E A V I G A L Y L L D D G G         | F F L L             |     |
| UniRef90_U2KKF7        | F A R E I H L G E F E E H T G G G R S S L         | L A D A F E A V I A A I F L L D D G G           | M                   |     |
| UniRef90_F5AW47        | A G E E L N T E D D V Q D C E D V E L P K A L     | G D M V E A V I G A V Y L L D D S N R           |                     |     |
| UniRef90_UPI00036D024B | V A E F L R M S R G E E D A G G R C N A R G L     | A D C E G V L M G A L F L D D G G               | L L                 |     |
| UniRef90_T1KIC9        | L A K K L Q L E K Y M D L C H D I E L R H A M A   | N C F E I M G A L F L D D A G W                 |                     |     |
| UniRef90_Q1JXG8        | V A R R L N L G P C L K L G R G Q D K D N L L     | A D A L E A V F G A V F L L D D A G             | W                   |     |
| UniRef90_UPI0000122EB5 | L A V K F E F Q K H F L A M C P G L H H K A L     | G D V F E A V A A A V Y L L D D S G             | R F L L             |     |
| UniRef90_A2SDH3        | L A L D L G L P A L L R L S E G E R R P S I       | L L A D A V E A L I A A V Y L L D D S           | G I L L             |     |
| UniRef90_UPI000345268B | F A T D L G L P A L L R L S D K G R H N P S       | L L A D A F E A L I G A Y F L L D D S           | G I L L             |     |
| UniRef90_M5F5T9        | V G V E M E L D D D L V R A R S R G L G G S       | Y L A D A V E A I A A Y L L D D K G             | L L                 |     |
| UniRef90_UPI00037E82D1 | F S R Q E C G F D D Y I R L R L G K G R D T       | I L G D L F E A F I G A L L L D D K G           | L L                 |     |
| UniRef90_D9S345        | L S R E I L T M G K G E E I T G G R E K A S       | L L A D T F E A L I G A M Y L L D K G           | F L L               |     |
| UniRef90_B3CMS0        | V A K E I E M N N S E R D C N G K C N L K N L     | G E N S L E A L I G A I F L E S G G             | L L                 |     |
| UniRef90_Q9Z5U2        | I P Q W L R L G K Q A R D N G A A A S D N         | V L G D V M E A M I G A I Y L L E S G           | L L                 |     |
| UniRef90_G0MFC6        | V C D D L G F L E F P P H R V P E L K V K D K     | A D L V E A F I G A L Y V L D D S G             | L L                 |     |
| UniRef90_F3J9Y4        | L A R G E D L G E Y L R L G S G E L R R E T       | L L S D A L E A L I G A I Y L D D A G           | M L L               |     |
| UniRef90_UPI00037CB4D0 | C A L E L D L G Q Y L M L G R G R E R T L L       | S D A L E A L I A A L Y L L D D Q G             | L L                 |     |
| UniRef90_UPI000287F8E3 | F A S S L S F D Q L I F L G R G Q N R P G L L     | L C D V F E A F V G A L Y L L D D Q G           | L L                 |     |
| UniRef90_D5QCS5        | L P S A L D V A E H E A R A G V R Q M A N V       | L A D A L E A I L G A I Y L L D D G G           | L L                 |     |
| UniRef90_UPI00047A7E20 | L A L D L G L P Q V L R L G E G H K R P S I       | L L A D A L E A L I G A I V H L D A G           | Y L                 |     |
| UniRef90_UPI00037CDEE3 | I A R E F E L G D Y L K L G Q G E M R E S         | I L L A D T V E A L I G A I Y L L D D           | S                   |     |
| UniRef90_UPI0004760623 | L A R E M K L G D Y L R L G S G E L R D S         | I L L A D T V E A I G A I Y L L D D             | S                   |     |
| UniRef90_R5BEE2        | C S S K L H F G N Y L L L G S G R E R A S         | I L L A D T F E A V I G A L Y V D S             | Y                   |     |
| UniRef90_W7WWP8        | I A S C L R L G D G E K R S G G H K R P S         | I L L A D A L E A I L G A V Y L L D A           | G F                 |     |
| UniRef90_R5M1V5        | Y A T N L G L N R Y I K V G H G K Y K K A I       | V A D T F E A L M G A I Y L L D L G             | L L                 |     |
| UniRef90_A8AWC2        | F D R F I K L G K G E E K S G G R E T I L         | G D L F E A F L G A L L L D D K G               | L L                 |     |
| UniRef90_UPI00041946EC | V A A E L D L G S V V R L S G G R R K E A         | L G D V A E A V I A A I Y L L D D G G           | F L L               |     |
| UniRef90_E9D2D3        | V A V R L G L H S H L N H T F S T S L Q P K       | C L P D M V E A Y I G A I F L D D S             | N F L L             |     |
| UniRef90_E3CHL1        | F E A F I K L G K G E E K F T G G R E T I         | L G D L F E A F L G A L F L D D Q G             | L L                 |     |
| UniRef90_R7H1S0        | F A Q E I H L G D F E E H T G G R T R S S         | L L A D A F E A V I A A I Y L L D D             | G M                 |     |
| UniRef90_C5WUJ71       | A A V K A G L P K H I L H S S S K Q M L K         | D L A D L F E A I L G A I Y L L D S             | G N                 |     |
| UniRef90_M4RXJ0        | V G R A L D V H S W L R L G K Q A R S D N         | V V G D A V E A I A G A L Y L L D D             | S H                 |     |
| UniRef90_B8E199        | K A K S L D V G E L L L Q G G R D K I S I         | V S D L F E A F I G A L Y L L D K G             | Y L                 |     |
| UniRef90_E8KGM2        | L A R Q F D L G E Y M K L G S G Y R R E S         | I L S D C V E A I A A I Y L L D D S             | G M                 |     |
| UniRef90_V4JP10        | V A R R L R L G D Y L K L G S G E L R D S         | I L A D A L E A V I G A I Y V D D               | S G                 |     |
| UniRef90_UPI00032A6473 | A A V R H G L H R Y F R H N T I S L A P K         | I L A D V E S I A A A V Y V D V D               | F                   |     |
| UniRef90_F5TAW4        | L G K Y L L L G K G E D H F G G R D R N S         | L L A D T F E A L F G A L Y L D D G G           | M                   |     |
| UniRef90_V6EY15        | V A G Q L L G L P C L T L S K G E E N P A         | L L A D A C E A V I G A L Y L D D A             | G F                 |     |
| UniRef90_K2B0Q8        | L A R E F D L G R Y L L L G P G H E R H S         | L L S C T M E A V I G A I Y L D D G             | G F                 |     |
| UniRef90_A0A044V1Q4    | L A V K Y N F H K H F L A M C P R L H H K         | A M G D L F E E S V A G A I Y L D D             | S G                 |     |
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| UniRef90_D7T816        | V A V R V G L Y Q Y V R H N A A L L D P K         | F L A D T V E A V A A A I Y V D C               | N F                 |     |
| UniRef90_UPI0003823674 | V A L D I D L G S W I R L S A G R R K A A         | L L G D V C E A V I G A I F V D D               | G G                 |     |
| UniRef90_E1K0L8        | M A L R L L E D H I L L Q G G R T R P S L L       | S D V F E A V I G A L F L D D G G               | Y L L               |     |
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| UniRef90_C2KW20        | L S S Y L L L G K G E E R E G L Q F R D S         | V L S D A L E A V I G A I Y L D D               | G G                 |     |
| UniRef90_C7QYS4        | A A R T L N L G S Y I L L L G K G E D K           | D S I L S D T V E A I I G A V Y V T             | H G                 |     |
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| UniRef90_UPI00036B0B71 | V A I N L E L S N H I K L G K G E T G N S         | I L L G N V L E A L I G A I F L L               | D S                 |     |
| UniRef90_C8PUU2        | L A L D L D L S G V L R L G E G Q K R P S         | I L L A D A V E A L I G A I F L D A             | G Y                 |     |
| UniRef90_UPI0003FD96AC | I A K Q L N L S D Y I L G V G R Q R A S           | L L A D S V E A L I G A I Y L L D S             | Q                   |     |
| UniRef90_GON0F3        | F A N E L D F S Y I L E M T G G R T R P A         | L L A D V F E A F I G S L Y L D                 | Q                   |     |
| UniRef90_W1TPJ7        | L G K K L G I P Q L I T A N K F D A H D S         | W L S D T V E A M I G A T Y L L C               | H G                 |     |
| UniRef90_B4U7T8        | L A K S L N L G E F I L L G R G E E K P T L       | S D T V E A F W A P Y L L D S                   | G Y                 |     |
| UniRef90_F4ASG0        | V A R E F A L G D L I L L G P G H R R D S         | I L A D A V E A I I G A I Y Q E V G             | M                   |     |
| UniRef90_UPI0003B3709A | L A L D L C H F D Q L M L L G R G R K P S         | L L A D V F E A V I G A L Y L E G G             | Y L                 |     |
| UniRef90_D1AB28        | V A R S L R G A G A Y I R L G R G E D K           | T S L L A D T L E A L I G A I Y L E             | H G                 |     |
| UniRef90_H2CEG3        | F G A Y L G M S K G E R K S G G S R R P S         | N L A D A F E A F V A A I Y I D R               | G M                 |     |
| UniRef90_A0A037Z7H3    | I A A Q K W K L G E Y M E L T G G R V R A S       | L L A D C V E A I I A A I Y L D                 | R G                 |     |
| UniRef90_A3TW51        | V A R E L K L G R S E Q L T S G G R V R Q A       | L L G D A M E A V I A A V Y L D                 | D G G               |     |
| UniRef90_Q2LVR4        | I G S F I L L G K G E E S S G G R S K P S         | I L L A N T M E A I T A A V F L                 | D G G               |     |

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L S A R I G L H R F C Y A A E S V D V P K V L G D L F E S L I A A L Y L D D C N R  
Y A R K I Y L G K Y I L L G K G E L R N S I L A D T F E S V I G A L Y L D D V I G F  
I A D E L G L Y E F V R H K S G D L K K L K I R A D L V E S L I A A L Y L L G E  
F D Q H L L L G K G E E K S G G R N R D T I L G D A F E A F L I G A L L L D K G E  
V A V R H N F E K H L Q H C Q H M K G P K A L G D M V E S I A G A L L I D T K L  
V A R G I G L G E Y L R L G R G R E K A S I L A D T V E A L I G A T Y L D D A G G Y  
L G K Y L R I G R G E E I T G G R E K N S I L A N A F E A L V G A L Y L L E K G Y  
I A E K L N L G E Y L L G K G E K N R K I A A N L F E S L V G A L Y L D R G G F  
V A R T I Q L G K F L L L S R S G E D N D A L L S D A M E A V I G A L Y L D D G G I  
V A V H Q S F H S H I L C D S S G L R P K A L G D L V E S C M G A L Y L D D T G F  
V C D D L G M A Q Y Y S N P K P E L K T K D R A D L V E A F I G A L Y L D D Q G M  
V A L E C G F K E E I Q L G V G R E K A L I E D V F E A F N G A L L F L D D Q G I  
Y A K S I N L Q N Y I F L G K G E K N K S I L A D A F E A L F G A L Y L D D L G Y  
V A V K H N L H T H L Q R C A T V L G P K A L G D V V E S I A G A L L I D T R L  
V A R R L E L G R Y I L L T R G Y D K D S I L S D T V E A L I G A L Y L D D S H G L  
V A V R R K L H G Y L R H G S D C K A P K V L G D I I E S I A G A T Y L D S S G Y  
A I Q R L G L D E Y V L Y G E G E R K N A A C E N L F E A L V A G I Y L L D E D G R  
F A K E C H F D Q Y I R L G K G R N R P G L L C D I E F E A L I G A L Y L D D C N C  
V A L K H G L H R F Y L R H K K P K I L A D D V E S T I G A L V F V D C N C  
I S E K I N L H S F I L M A E S R T N K N I E A V M E A T I G A L Y L D S  
V A R G L G I G G Y I R L G R G E D K S S I L A D T L F E A L I G A V Y L D D R G G L  
I A Y E I E L H E D J I K V V G T G L N S A V L S D A M E A L I G A M F L D D Q G L  
I A D E I G L A E L I R A G S E R K R V N L R A D A L E A S L I A V T Y L D D G G L  
I A L S L D V D K Y I L M L G R G R K K A L A D A M E A I I G A L Y L D D S G F  
L V H M I H Y F E G D N T M H H W L H M K T I A D D V E A L I G A L Y L D D S G F  
L A E E L E F G K G E E M T G G R K R P A L L A D D V F E A F V G A L Y L D D Q G M  
L A V K Y D Y H K Y F R H F S P G L D P K A L G D V F E S V I G A L Y L D D S G S  
I A S I I N Q Q F M L I K H E T S S Q K A L A D G C E A L I G A L Y L D D G G L  
I A R S L D L H R H I E L Q G G R D R D A L L A D A F E A L M G A V F L D D G G F  
I V T R C L L H R S P L L F R M M T S Y K P F G D L M E S L I G A V F I D D S N Q  
L Y K F L E H M D S N N L W T F I N L S Y K V L G D M V E A L I G A L Y V D S G G  
A A V K A G L H K H V L H S S A L H P K V L G D V V E S I A G A L Y I D A K H  
L G S L L R L S K G E E E S G G R N N P S L L A D D T F E A F I G A I F L D D Q G I  
C A R F L R L G K G E E A T G G R H R D S I V S D A M E A T I G A I F L D D Q G F  
I A R E F C L G D Y L L L G I G K N R D S L S N A M E A T I G G L F L D D S N I  
R A L E M G L E E Y I F T V E I A S V A R W R L Q D C M E A L L G A S F L Q G G I  
L A V K Y E F H K Y F E E E L E V P K A L G D I F E S V I G A L Y L D D S G M  
V P A A L R I P P A E G R T G L R G R A T V I A D A T E A L I G A L Y L D A G L  
L S V K L K E H T H L R A M G A H I N P K V L P D L L E A Y V G A L Y F V D S G F  
L A R E L K L N Q Y I L L L G G R Q R N T L A D D T M E A Y F G A L V F V D G  
A P G Q L S S R P C P C E C H R W I C S K T I S D C V E A I I G A Y V E G G L  
V G P H L R L G A G E V H G G G R N P A L L A D D V C E A L I G A L Y L D A G Y  
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UniRef90\_UPI0003667325 D E A S E L V H R L F D P L I E T S S H L G  
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UniRef90\_G4Q327 E K V R D L L T R V L I D K I P E L T A D G I D R  
UniRef90\_B9GTV4 S L D V V W K I F K D L L E P I I  
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|                        | 50    | 60          | 70         | 80     |
|------------------------|-------|-------------|------------|--------|
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| UniRef90_A7X1J9        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_J3PTE2        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_C8X2M7        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_D0BJZ8        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_W1Q5E3        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
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| UniRef90_X0V7P9        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
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| UniRef90_E9DR96        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_R6B7B6        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
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| UniRef90_K2AMD0        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
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| UniRef90_D1Y1Q3        | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_A1WMMW1       | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
| UniRef90_UPI0003C7EA79 | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
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| UniRef90_UPI000368DA4B | GDADV | ELDMWVIEHA  | YRKRFPNDNA | TPGEGN |
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G D A I E Y L V V S Y A Y V Q Y P T W Q P G A L L S D W K G A T V C N D A L G K  
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G D A V L E L I A S E Y L Y K K T N Y E E G T M T A I R S A Y V C E R D I L A Y E  
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I A E K L D L N D T G D K Y L R L G K K R G W M D R P R S T L A D D T V E E A L L L G A G Y L L Q D D R G G Y  
I G E T L H M G K G E E L L G T G G R T R P S S V L A D D V E E A L L C A G A V F L L L L Q D T S  
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V A R R L G L G K G E E L T G G H D K T S L A D D T T E A L I G A V F L L S A G  
I A R E K L L G Q Y I L N G G A D K S I L A D T V E A L L I G S V F L L S A G I  
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L A S S Y G L E L H S A Y G D R A G Q E S R L A D A F E A V L G A I Y L L S T N  
Y S L K L G L N N Y L R L G H G K Y R K A I V A D A F E A F L G A M Y L L D K G L  
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L C V N I G F H K H L R L H S H S S L L G Q P K C L P A D D S F I E S F V L G A G A M F Y L L D D S N T G E F  
L A R E Y G L E L Y L L R L V A D H I L G Q E S R L A L D S F I E S F V L G A G A M F Y L L D D S N T G E F  
T E M G L E R L I Q A A Q G T R M S H T N I G A N A F E A L M G A I Y L L D D S N T G E F  
I G A E S Y G F D R Y L I V S G S A A D K R L A D A L E A L I G A A L Y L L D D S N T G E F  
I A R R L R L G D F I L K L S G S G R D K D S L A D D T V E A L I G A T F L L T H G  
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