

| QUERY                  | 1 | 10 | 20 | 30 | 40 |
|------------------------|---|----|----|----|----|
| UniRef90_B4N8V8        | D | N  | Y  | W  | S  |
| UniRef90_W8BNH3        | D | N  | Y  | W  | G  |
| UniRef90_Q7PMM6        | D | N  | Y  | W  | S  |
| UniRef90_UPI0003D0B03F | D | N  | Y  | W  | S  |
| UniRef90_W7T801        | H | R  | A  | T  | W  |
| UniRef90_E0VRZ4        | F | W  | T  | G  | D  |
| UniRef90_UPI00045480A1 | A | F  | W  | T  | G  |
| UniRef90_X5JT20        | F | W  | T  | G  | M  |
| UniRef90_G3N4S6        | F | H  | R  | G  | S  |
| UniRef90_F1QTT0        | D | Y  | W  | T  | H  |
| UniRef90_UPI0003B6B8EE | D | Y  | W  | T  | G  |
| UniRef90_H9G8J8        | F | W  | T  | G  | G  |
| UniRef90_G3W200        | D | H  | Y  | W  | G  |
| UniRef90UPI0004438332  | F | W  | T  | G  | M  |
| UniRef90_UPI00032B1FAD | F | W  | T  | G  | S  |
| UniRef90_K7WCL6        | F | H  | R  | G  | H  |
| UniRef90_H3A005        | D | H  | Y  | W  | S  |
| UniRef90UPI0004791EAF  | Y | H  | R  | A  | T  |
| UniRef90_D1CC92        | F | H  | R  | G  | T  |
| UniRef90UPI00035D451E  | S | F  | W  | T  | G  |
| UniRef90_T1DPQ0        | D | A  | Y  | W  | T  |
| UniRef90_A0A059AIE5    | F | H  | R  | G  | C  |
| UniRef90_K9VXE9        | H | R  | G  | C  | T  |
| UniRef90_Q4RGH7        | F | H  | R  | G  | C  |
| UniRef90UPI0004094E66  | F | H  | R  | G  | C  |
| UniRef90_K9X014        | F | H  | R  | G  | C  |
| UniRef90UPI00041EC741  | F | H  | R  | G  | C  |
| UniRef90_F5UH78        | F | H  | R  | G  | C  |
| UniRef90UPI0001FFEC18  | F | H  | R  | G  | C  |
| UniRef90UPI0003C1AAD9  | F | H  | R  | G  | C  |
| UniRef90_M0X5M0        | F | H  | R  | G  | C  |
| UniRef90_U4TTZ9        | N | A  | Y  | W  | T  |
| UniRef90UPI00034DC973  | F | H  | R  | G  | C  |
| UniRef90_K1QII0        | A | Y  | W  | G  | F  |
| UniRef90_D6U6G7        | F | H  | R  | G  | C  |
| UniRef90UPI00026594A0  | D | E  | Y  | W  | G  |
| UniRef90_K9TQA3        | F | H  | R  | G  | C  |
| UniRef90_G1T6Q6        | F | W  | T  | G  | F  |
| UniRef90UPI0004548D58  | D | H  | Y  | W  | T  |
| UniRef90_K9RAS1        | F | H  | R  | G  | C  |
| UniRef90UPI0003D6DEB6  | N | A  | Y  | W  | T  |
| UniRef90_A7SFA1        | F | H  | R  | G  | C  |
| UniRef90_Q2PJ74        | D | H  | Y  | W  | T  |
| UniRef90_J7LBZ7        | F | H  | R  | G  | C  |
| UniRef90_D4TCI9        | F | H  | R  | G  | C  |
| UniRef90_H3F4C4        | D | H  | Y  | W  | T  |
| UniRef90_J0XHH0        | F | H  | R  | G  | C  |
| UniRef90_A7S628        | D | H  | Y  | W  | T  |
| UniRef90_Q9FKW9        | A | Y  | W  | G  | F  |
| UniRef90_V7AZ19        | N | A  | Y  | W  | T  |
| UniRef90_B4VZH8        | F | H  | R  | G  | C  |
| UniRef90_K1W300        | F | H  | R  | G  | C  |
| UniRef90UPI0004751D49  | F | H  | R  | G  | C  |
| UniRef90_A0A022LUR0    | F | H  | R  | G  | C  |
| UniRef90UPI00045EB3B5  | F | H  | R  | G  | C  |
| UniRef90_M0TWG0        | N | A  | Y  | W  | T  |
| UniRef90_K1QAP0        | F | H  | R  | G  | C  |
| UniRef90UPI00031DE9B0  | F | H  | R  | G  | C  |
| UniRef90_F1NKR1        | H | Y  | W  | G  | F  |
| UniRef90_T1HHY4        | N | D  | Y  | W  | S  |
| UniRef90_U1M0C0        | D | H  | Y  | W  | T  |
| UniRef90UPI000361C7A2  | F | H  | R  | G  | C  |
| UniRef90UPI00033191BD  | D | H  | Y  | W  | T  |
| UniRef90UPI00036A3895  | F | H  | R  | G  | C  |
| UniRef90_J3PRZ1        | H | Y  | W  | G  | F  |
| UniRef90UPI00046BF621  | S | F  | W  | T  | G  |
| UniRef90_A0A059AP45    | N | A  | Y  | W  | T  |
| UniRef90_A0J731        | H | Y  | W  | G  | F  |
| UniRef90UPI00040EBC6A  | F | H  | R  | G  | C  |
| UniRef90_D9WWJ7        | H | R  | A  | T  | S  |
| UniRef90_V9H2D6        | Y | H  | R  | G  | C  |
| UniRef90_A2QEN9        | H | R  | G  | C  | T  |
| UniRef90_R1GBW5        | F | H  | R  | G  | C  |
| UniRef90UPI000376BA45  | F | H  | R  | G  | C  |
| UniRef90UPI0002C36548  | N | A  | Y  | W  | T  |
| UniRef90_V8NNT9        | H | Y  | W  | G  | F  |
| UniRef90_G9P7W1        | H | R  | G  | C  | T  |
| UniRef90_D6WWY8        | S | F  | W  | T  | G  |
| UniRef90UPI0003C115BB  | D | H  | Y  | W  | T  |
| UniRef90_A0YWW3        | F | H  | R  | G  | C  |
| UniRef90_U2B182        | F | H  | R  | G  | C  |
| UniRef90UPI000206262A  | S | Y  | W  | T  | G  |
| UniRef90_G4TU14        | F | H  | R  | G  | C  |
| UniRef90UPI00032AE85E  | D | H  | Y  | W  | T  |
| UniRef90_A5UT79        | F | H  | R  | G  | C  |
| UniRef90UPI00035E1D5B  | F | H  | R  | G  | C  |
| UniRef90UPI00039564BA  | F | W  | A  | G  | F  |
| UniRef90_11JCF7        | N | A  | Y  | W  | T  |
| UniRef90_V5GPY0        | F | W  | T  | G  | F  |
| UniRef90UPI00038BC1EF  | S | F  | W  | T  | G  |
| UniRef90_R7YR98        | H | R  | G  | C  | T  |

| QUERY                  | 50  | 60 | 70 | 80 |
|------------------------|---|----|----|----|
| UniRef90_B4N8V8        | A R I E E R L E Q A R R E L S L F Q H H D G I T G T A K T H V V V D Y E Q R M Q       |    |    |    |
| UniRef90_W8BNH3        | G V F D Q K L Q Q A R R D L S L F Q H H D G I T G T A K S H V V I D Y E Q R L I       |    |    |    |
| UniRef90_Q7PMM6        | A K F D E M L Q N A R R E L S L F Q H H D G I T G T A K T H V V N D Y A R R M L       |    |    |    |
| UniRef90_UPI0003D0B03F | K P L A E R L E Y A R R Q L S L F Q H H D G I T G T A K D H V M E D Y A K R M S       |    |    |    |
| UniRef90_W7T801        | K G P Y G E G D S L R R A M A V A Q H H D A I V S G T E K Q H V A N D Y A K R L A     |    |    |    |
| UniRef90_E0VRZ4        | D Y P Y E Q L D R L L W K T V L L H Q F H D I L P G S S I A W V H R E A E A R Y A     |    |    |    |
| UniRef90_UPI00045480A1 | T K F E N K I N T L R E A M G V M Q H H D A I T G T E K Q H V A N D Y A R I L N       |    |    |    |
| UniRef90_X5JT20        | A G P Y G S G D S L R E A M A V A Q H H D A I V S G T S K Q H V A D D Y A W Q L A     |    |    |    |
| UniRef90_G3N4S6        | K Y P K T E I E S A W K Q V L F N Q F H D I L P G S S I T Q V Y E D A L P E W Q       |    |    |    |
| UniRef90_F1QTT0        | N G P F G K G D S M K K A V A V A Q H H D A I V S G T E K Q H V A D D Y A R R L A     |    |    |    |
| UniRef90_UPI0003B6B8EE | S G P F G E G D S M R R A M G V A Q H H D A I V S G T E K Q H V A D D Y A R R L A     |    |    |    |
| UniRef90_H9G8J8        | A Y P R T E L D E A W Q T V L L Q Q F H D I L P G S S I A W V H R E A E R R Y A       |    |    |    |
| UniRef90_G3W200        | M G P Y G N A N S L R Q A M G V A Q H H D A I V S G T A K Q H V T N D Y A K Q L S     |    |    |    |
| UniRef90_UPI0004438332 | K F Y Y Q L L T E A R R N L G L F Q H H D A I T G T A K D W V V V D Y G T R L F       |    |    |    |
| UniRef90_UPI00032B1FAD | Q G P Y G S S A S L N E A M A V L Q Q H H D A I V S G T S K Q H V A N D Y A R Q L A   |    |    |    |
| UniRef90_K7WCL6        | K G P Y G W G T S L E E A M A V L Q Q H H D A I S G T A R Q N V A D D Y A H K L A     |    |    |    |
| UniRef90_H3A005        | K F P Q T E I E T A W K K V L F N Q F H D I L P G S S I T Q V Y E D A L P E W E F     |    |    |    |
| UniRef90_UPI0004791EAF | Q E N Y K L L T E A R R N L G L F Q H H D A I T G T S K D W V V V D Y G T R L F       |    |    |    |
| UniRef90_D1CC92        | E Y P Y A E F D R L W K Q V L L L Q Q F H D I L P G T S I A W V H R E T A E M Y Q     |    |    |    |
| UniRef90_UPI00035D451E | T Y P K E Q F D A A W K D L L L C Q F H D I I L P G S S I H E V Y Q D S H R M L E     |    |    |    |
| UniRef90_T1DPQ0        | E Y P Y E R L D R I W K T V L L N Q F H D I I L P G S S I A W V H R D A E H A Y A     |    |    |    |
| UniRef90_A0A059AIE5    | S Y Y E D H L T A L R D A M G V M Q H H D A I T G T E K Q H V A D D Y A R M L Y       |    |    |    |
| UniRef90_K9VXE9        | G P S T Y G L G D A L G I A Q H H D A I T G T A K Q H T T N D Y E K R L A             |    |    |    |
| UniRef90_Q4RGH7        | P Y P K A E L E A A W K K M L F N Q F H D I L P G T S I P E V F V E A N K A W Q       |    |    |    |
| UniRef90_UPI0004094E66 | N G P F G K S Q T L K E A M A V A Q H H D A I V S G T E K Q H V A D D Y A K R L A     |    |    |    |
| UniRef90_K9X014        | I Y P Q Q E I E T A W K Q I L L N Q F H D I I L P G T A I T E V Y Q Q A N Q D W E     |    |    |    |
| UniRef90_UPI00041EC741 | T Y P K A E I I E A A W K Q V L F Q Q F H D I I L P G S S I T Q V Y D D A L T E W Q   |    |    |    |
| UniRef90_F5UH78        | A Y P A A E L K R L W Q L V L L Q Q F H D I I L P G S S I A W V Y Q D A E R N Y A     |    |    |    |
| UniRef90_UPI0001FFEC18 | V Y P K S E L E S A W K Q I L F N Q F H D I I L P G S S I A Q V Y A D A N I A F A F   |    |    |    |
| UniRef90_UPI0003C1AAD9 | P Y P A D D L R R L W Q L V L L Q Q F H D I I L P G S S I A W V H R D A E R N H A     |    |    |    |
| UniRef90_M0X5M0        | E G P F G K A D S L K E A M A V A Q H H D A I V S G T E K Q H V A D D Y A K R L A     |    |    |    |
| UniRef90_U4TTZ9        | G S T T D S L G D A L A L Q A H H D A I V T G T E K Q H V A N D Y A K R L S Q         |    |    |    |
| UniRef90_UPI00034DC973 | D R I D L N A L R E A M G V M Q H H D A I T G T E K Q H V A F D Y A R H L Q           |    |    |    |
| UniRef90_K1QII0        | A Y P Y E Q L E G L W H T V L L N Q F H D I I L P G S S I A W V H R E A A Q S Y A     |    |    |    |
| UniRef90_D6U6G7        | D N S T L N I V Q V L K E A M G V A Q H H D A I V S G T E K Q A V A Y D Y A M R L S   |    |    |    |
| UniRef90_UPI00026594A0 | Q T R Q E R V N E A W K V L V L L N Q F H D I I L P G S S I A E V Y E D A L R L Y Q   |    |    |    |
| UniRef90_K9TQA3        | G C I D A E L D A A R R G L S L F Q H D G I T G T A K T H V M R D Y G A K L N         |    |    |    |
| UniRef90_G1T6Q6        | E Y P K G Q I E A A W K A V L L N Q F H D I I L P G S S I P E V Y L D A N L G W Q     |    |    |    |
| UniRef90_UPI0004548D58 | V G P Y G S G D S A P K A M A V L Q N H Q A I V S G T S S Q Q V V D D Y A R Q L A     |    |    |    |
| UniRef90_K9RAS1        | R S D Y A S L T D A R R A L G L F Q H D G I T G T A K E A V A A D Y G V R L L         |    |    |    |
| UniRef90_UPI0003D6DEB6 | D Y P K A E F E A A W K K L L F N Q F H D I I L P G S S I E E V Y Q D A E P E W Q     |    |    |    |
| UniRef90_A7SFA1        | N E V G L S T D S I L A D A L A L V Q H H D A I V S G T E K Q H V A D D Y A K R L S   |    |    |    |
| UniRef90_Q2PJ74        | G S P S S D L L R R A L A V A Q H H D A I V S G T S K Q H V A D D Y A K R L A         |    |    |    |
| UniRef90_J7LBZ7        | G M V E A K I I F E A R R A L S L F Q H D G I T G T A K D H V V L D Y G Q K M I       |    |    |    |
| UniRef90_D4TCI9        | D Y P Y E R L E R I W R T V L L H Q F H D I I L P G S S I A W V H R E A A V A Y R     |    |    |    |
| UniRef90_H3F4C4        | P Y P K T E L E T A W K K V L F Q H F H D I I L P G S S I T Q V Y H D A L P E W Q     |    |    |    |
| UniRef90_J0XHH0        | E E S F E R L V R A R R A L A L F Q H H D G I V T G T G K D H V V K D Y G Q K M L     |    |    |    |
| UniRef90_A7S628        | E R L F G L L V D A R R R W M N L F Q H H D G I V A G T S K D E F V M T D Y G Q K M F |    |    |    |
| UniRef90_Q9FKW9        | D K L S Q S Q L L T N A R R N M G L F Q H H D G I V T G T A K D F V V V D Y G N R L H |    |    |    |
| UniRef90_V7AZ19        | G P N T Y S L G D A L G I A Q H H D A I V T G T A K Q H V T N D Y M K R L A           |    |    |    |
| UniRef90_B4VZH8        | G P K T D S L A E A L A I A Q H H D A I V S G T E K Q H V A D D Y A K R L S           |    |    |    |
| UniRef90_K1W300        | N Y P Q T Q L E T A W K N V L F N Q F H D I I L P G T S I P E V F I E A N Q K W Q     |    |    |    |
| UniRef90_UPI0004751D49 | E V P Q A T L E E A W K G V L F N Q F H D I I L P G S A I A E V Y E D A N R G W Q     |    |    |    |
| UniRef90_A0A022LUR0    | T Y P K A E L E E A A W K K V L F N Q F H D I I L P G S S I T Q V Y V D A L P T W Q   |    |    |    |
| UniRef90_UPI00045EB3B5 | E Y P Y A E L E D A W H T V L L Q Q F H D I I L P G S S I A W V Y E N A E E Q Y A     |    |    |    |
| UniRef90_M0TWG0        | S Y P Y D E L E S A W H T V L L Q Q F H D I I L P G S S I A W V H R E A E R R Y D     |    |    |    |
| UniRef90_K1QAP0        | G Y T T D S L A D A L A I A Q H H D A I V T G T E K Q H V A N D Y A K R L S           |    |    |    |
| UniRef90_UPI00031DE9B0 | G V N V T E D L R L Y K E A L V V Q H H D G I V S G T E K Q H V A N D Y A K R L S     |    |    |    |
| UniRef90_F1NKR1        | V Y P Y A R L E E L W K T V L L H Q F H D I I L P G S S I A W V H R E A R R T Y A     |    |    |    |
| UniRef90_T1HYH4        | K Y N K M S V T E A R R N L G L F Q H H D A I T G T S K D W V V V D Y G T R L F       |    |    |    |
| UniRef90_U1M0C0        | E Y L K E E L Y D A R S H H S L F Q H H D G I T G T A K D H V V Q D Y A K K M L       |    |    |    |
| UniRef90_UPI000361C7A2 | L S T N G A E E A R R H M S L F Q H H D G I V T G T G R N E V N D Y G Q K M L         |    |    |    |
| UniRef90_UPI00033191BD | K Y P Q V E I E Q A W K Q V L F Q Q F H D I I L P G S S I T Q V Y Q D A L P E W Q     |    |    |    |
| UniRef90_UPI00036A3895 | A G Q Y P L S N E A R R S L G L F Q H H D A I T G T A K E A V V V D Y G V R L L       |    |    |    |
| UniRef90_J3PRZ1        | D Y P Y D E L E S I W Q T V L L Q Q F H D I I L P G S A I A W V H D E A E E L Y Q     |    |    |    |
| UniRef90_UPI00046BF621 | E Y P K D E L D Y L W E I V L L C Q F H D I I L P G S S I A W V H D E A E K L Y A     |    |    |    |
| UniRef90_A0A059AP45    | D D D K N I L K L R M A M G V M Q H H D A I T G T E K Q A V T T D D Y S L Q L D       |    |    |    |
| UniRef90_A0J731        | G Q N T D L L A D A L A I A Q H H D A I V T G T E K Q H V A N D Y A K R L A           |    |    |    |
| UniRef90_UPI00040EBC6A | A Y P A A E L K R L W Q L V L L Q Q F H D I I L P G S S I I A W V H Q D A E R N Y A   |    |    |    |
| UniRef90_D9WWJ7        | D Y P Y E R L E R I W C R W T V L R N Q F H D I I L P G T C I G W V Y Q R T E A E Y A |    |    |    |
| UniRef90_V9H2D6        | A Y P Y E R L D R I W K T V L L H Q F H D I I L P G S S I A W V H R E A E A E Y A     |    |    |    |
| UniRef90_A2QEN9        | E Y P Q E N I N N S W E K V L L N Q F H D I I L P G S S I K E V Y D V T Q V E Y K     |    |    |    |
| UniRef90_R1GBW5        | K Y P K E E I D E M W E D V L L C Q F H D C L P G S S I E M C Y D D S R E L Y K       |    |    |    |
| UniRef90_UPI000376BA45 | P Y P Y E A L D R I W K T V L L H Q F H D C L P G S S I A W V H R E A E E T Y R       |    |    |    |
| UniRef90_UPI0002C36548 | G S N T F S L G D A L G I A Q H H D A A T T G T A K Q H V T T N D Y V K R L S         |    |    |    |
| UniRef90_V8NN9         | U N F D Q H L V A L R A A V G V M Q H H D A I T G T S K D W V V V D Y G T R L F       |    |    |    |
| UniRef90_G9P7W1        | K Y P T E Q I D N M W E G I L C Q F H D C L P G S S I E M C Y D D S R E L Y K         |    |    |    |
| UniRef90_D6WWY8        | N F D Q H L V A L R A A V G V M Q H H D A I T G T E K Q A V A N D Y A R I L T         |    |    |    |
| UniRef90_UPI0003C115BB | R H D Y S L L T E A R R N L G L F Q H H D A I T G T S K E V V V V D Y G I R L L       |    |    |    |
| UniRef90_A0YWW3        | A Y P K A E L E E A A W K Q V L F N Q F H D I I L P G S S A I P E V Y E D A N Q A W Q |    |    |    |
| UniRef90_U2B182        | A Y P A Q R I H D C W E T V L R D Q H D I I L P G S S I I H E Y E D T R K E Y E       |    |    |    |
| UniRef90_UPI000206262A | A K Y E P P K I T P L R E T M G V M Q H H D A I T G T E K Q H V A N D Y A R I L L S   |    |    |    |
| UniRef90_G4TU14        | E Y P P Y D R I N E C W E K V C L N Q F H D V L P G S A I G M V Y E D A E K L Y G     |    |    |    |
| UniRef90_UPI00032AE85E | K Y H Y T A L T E A R R N L G L F Q H H D A I T G T A K D W V V V D Y G T R L F       |    |    |    |
| UniRef90_A5UT79        | I N R Q A D L D A A W R T V L L N Q F H D I I L P G S S V P L V Y V E S E R Q F A     |    |    |    |
| UniRef90_UPI00035E1D5B | P Y P A A E L D E L W R E V L L L Q F H D I I L P G S A I A W V H R E A E R S H A     |    |    |    |
| UniRef90_UPI00039564BA | E G P F G P G D S L R E A V A V A Q H H D A V A G T E R Q H V A N D Y A R Q L A       |    |    |    |
| UniRef90_11JCF7        | K Y N T Y D L G D A L G I A Q H H D A V S G T A K Q H V T T N D Y A K R L A           |    |    |    |
| UniRef90_V5GPY0        | D Y N N N S L E K L R D I M G I M Q H H D A I T G T E R Q L V T T N D Y V K Q L T     |    |    |    |
| UniRef90_UPI00038BC1EF | L G S Y G T G D S L N E A M A V L Q H H D A V T G T A R Q N V A D D Y A R Q L A       |    |    |    |
| UniRef90_R7YR98        | K Y P K K E I D D M W E A V L L C Q F H D C L P G S S I E M C Y D D S D E L Y A       |    |    |    |

QUERY

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|   | 90 | 100 | 110 |
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| E A L K A C Q M V M Q Q S V Y R L T K P S I Y S P D F S F S     |    |     |     |
| E A L R G C Q F V M Q Q A V Y R L T K P S I Y S P D Y N F A     |    |     |     |
| D A V T T C Q F V M Q Q V V Y R L T K P S I Y P D Y K F         |    |     |     |
| R A I E D C K F V M Q Q S V Y R L T K P S V Y Q P D P A F       |    |     |     |
| A G W E A C Q V L V S N A L A T I S G S K E N F                 |    |     |     |
| E V A A E L E S I I S S A L S V L A G E G G S                   |    |     |     |
| N A I E N C N D V I N T A L N K L M K K E M A N E E L S F T     |    |     |     |
| R G W K S C Q V V V S N A L A G L T K M D F T F C H G L N I S   |    |     |     |
| E V E R V G T E I L Q Q S L N A I A S Q I N I P E P             |    |     |     |
| S G W Q R C Q V L V S N S L A A L S G S K R I Y C D N L N I S   |    |     |     |
| T G W A H C E V L V S N S L A V L S G S P R V F C E N L N I S   |    |     |     |
| E V A V E V L E E V I E R S V R A L A G T G D                   |    |     |     |
| A G W D A C Q V I V I S N A L A S I V G T K E I Y C T Q L N I S |    |     |     |
| H S L M S L K T I I R D S A H I L I L K D K D F N P S I P F     |    |     |     |
| E G W G P C E V L L S N A L A R L S G S K K T F C R E L N I S   |    |     |     |
| T G W R P C Q V L M S N A L A W L S G S I E D Y C P G L N I S   |    |     |     |
| A V E K M G T K I L E E S L L G I T S K I N I P Q P F           |    |     |     |
| H S I M N L K R V I S D S A H F L I L K D K N Y N P S T A F     |    |     |     |
| Q I F T N A T A I I D A A L S A L A G S G D                     |    |     |     |
| N V I S T A E A I R D E A L A F I A N V D S                     |    |     |     |
| R A A E E L E I I G S A Q R A L A G T G S                       |    |     |     |
| N A F E A C S V N T R S A L N Q L S G E R D N F Q F E W N Y     |    |     |     |
| I G A S E A E A V V D N A L S C L V S K N Q C S S P A L N F S   |    |     |     |
| E V E Q V G N E I L D N S L S A I A S Q I S L P I P             |    |     |     |
| N G W E R R C Q A L S N S L A A L S G S A S I Y C D S L N I S   |    |     |     |
| T A I K T A E E I L H Q S F D A I V A S I S V N F P S Q P       |    |     |     |
| Q V E K V G T K I L K A S L G A I V A S I T L P E P P Q P N S   |    |     |     |
| A V E R G L E A I I A S A T S A L A G N G G V V D L L F N       |    |     |     |
| E V D R T C R E I I V K S L D A I S A Q I S L P N P             |    |     |     |
| A V A A E L E T V I G D A L A R L A G D G D V                   |    |     |     |
| A G W S R C Q V L V S N A L A S I S G I K Q N F C N Y L N V S   |    |     |     |
| I G Y K K A E E L V S T S L A C L S E S G S C S S P T T K F     |    |     |     |
| K G I D E C E I I T T A A I S K L V S K T N P L F N E S         |    |     |     |
| R A A H E L T E L I E T A Q H T L A R D S A G P Q E D           |    |     |     |
| R G N Y E C Q K V V N D A Y K K L F P K Q K E V P P N Q M F     |    |     |     |
| Q A H A I A S E V R D E A I A H L A S S                         |    |     |     |
| R A I S D S M K I I H L S T E S L L G N P N S C D S D F V I N   |    |     |     |
| E A E E Q G R E V L E R A F E A I A S Q V A G V P P             |    |     |     |
| A G W R P C Q K V L L S N A L A R L S G S Q E A F C P E L N I S |    |     |     |
| R A L V S L K R V I V N A A H Y L V L A D K D F D P D V P F     |    |     |     |
| E M Q S T A S G I L K Q S L E T L A S Q I N L P Q P             |    |     |     |
| I G Y T E A E K V V V A A S L A C L T S K N G C V N P I T N F   |    |     |     |
| I G A A D C Q A L M S N V I G K K S I K S K G N A P             |    |     |     |
| D A L N A C E D I L S E A L V V V L L G I D S T N K             |    |     |     |
| E V A E E L T D V I A R A Q T A L V P E G S E A G D G V L F N   |    |     |     |
| Q V Q Q L G S T L L D R S L R A I A W N I N L P E P             |    |     |     |
| D A L R D C E E V I T V A T E V L L Q K K G                     |    |     |     |
| E A I K K S E E I I V T A A D F L L R G K A S R N S S I T       |    |     |     |
| R S L Q D M Q N V M Q E C M Q F L L S P N K A Q E P             |    |     |     |
| L G A S E A E A V V V N S A L A C L M N K G G C T K P A I A F S |    |     |     |
| I G Y T E A E K V V V A E S L A C L T T K T G C K N P Q I K F   |    |     |     |
| D V I E T V T Q D I A E S L N A I A S Q I T L P S P             |    |     |     |
| A A A T T A G D A E N R A L D A I A S S I S L P Y P             |    |     |     |
| E V E K V G N E I L Q Q S L S Y L A F Q I N L P D P P Q P N S   |    |     |     |
| R V A E V V L E G L I G S A T T A L V G A G S S P               |    |     |     |
| E L A Q R L E P L I D D A L S T L T S S P G C Y N T T T K F     |    |     |     |
| I G Y S E A E K L V G A S L A C L T P K G S V Y C P L T N I S   |    |     |     |
| A G A E K C Q K V T N A A F K L A G R G E                       |    |     |     |
| R V T G E L T E I V E E A Q R A L A G R G E                     |    |     |     |
| H S L M N V K K V I I D S A H I L I L K D K N Y D T S T P F     |    |     |     |
| E A I K K C Q N I Q M V S Y Y L L S N G K I P E S N T K Y       |    |     |     |
| S A I K N K C E I I Y K A T L A L M T E                         |    |     |     |
| Q V E T V G T K I L Q E S L L A I A S                           |    |     |     |
| H A L V G L K Q V I A N A A H F L V V A D K D F D P D T P F     |    |     |     |
| E V A A R L E V L I E A A Q R A L A G                           |    |     |     |
| E V T Q K G K D L L E A A R Q A L A S                           |    |     |     |
| G A I K E A Q K P L S N I I R D L L K K K E D V S V D L K L T   |    |     |     |
| M G Y S E A E A V V V A S S L A C L V E S T S C G N P S T K F   |    |     |     |
| A I A E G L E A I I I A D A A R A M L G E G S                   |    |     |     |
| Q V A A D D L E A V I D S S A A A L V G Q G S                   |    |     |     |
| R V A A E L A E I T S A A L A A L S V E P G G                   |    |     |     |
| E L L E N V D N L I E N S M D N I I L S E I N L E E R S V V V S |    |     |     |
| K V F E I G N K V R K E A L Q A L                               |    |     |     |
| K V F Q T G E K L L S D A L A A L G F D D S S S                 |    |     |     |
| Q V A T E L L G D L I A S A Q T A L A G P A D A D G S E V V F N |    |     |     |
| I G V S E A E A V V V S S A L L C T T N K S C K D P A V T F S   |    |     |     |
| H S L M N L K E I I T E S A H I L T L K D Q S Y N A A T P F     |    |     |     |
| E T F E T G H K L L A E I Y K A L G A S D S Q P D               |    |     |     |
| K A I L R E L E A   |    |     |     |
| Q S L V S V K K V L I N A A H Y L L L K D K                     |    |     |     |
| D A D N T A T Q L R E M A L T A I A A F I P L S P P             |    |     |     |
| A L W R E V D A M E K E A F E A L C E D G D G S                 |    |     |     |
| E A L E E C E E A S C T I L S G L A A G V E T P                 |    |     |     |
| E V A R D G K Q L F K E A V V S A L I P I A S V M E E Q L A L S |    |     |     |
| H S L M I L E K V I G S S A F L L I L R D K S Y S P D           |    |     |     |
| E V R E T V E T V R H A A I T D L T E S D G N                   |    |     |     |
| E T T D R L E R I V A D A V A A L V G E G S Q P                 |    |     |     |
| K G W D R C Q V L V A N A L S L T K G P F V F C N A L N I S     |    |     |     |
| I G A S E A E A V V V S S S L A C L T R K Q S G                 |    |     |     |
| R A I E E A E A P I G N I G E L K L K L N Q N E T L D L N L N   |    |     |     |
| A G W G P C E V L V S N A L S Q L S K Q N F S F C R E L N I S   |    |     |     |
| K V F T T G E K V L E D A L S A L                               |    |     |     |

1 10 20 30 40

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

50            60            70            80

|                         |   |
|-------------------------|---|
| UniRef90_R5QYE4         | N Y A K Q E L H D S W E C V L L H Q F H D I I P G S S I H E V Y A D S H I N Y G       |
| UniRef90_I017J9         | V Y P Q E T L H K A W E L V C L N Q F H D I I P G S S I A P V Y V E S Q A Q Y A       |
| UniRef90_V5GCU3         | D R V D L N V L R G A M G V M Q H H D A I V T G T E K E H V A Q D Y A R I L S         |
| UniRef90_D7SH72         | G P T T D S L L A D A L A I V Q H H D A I V T G T E K Q H V S D D Y A K R L S         |
| UniRef90_K9ZXP7         | P Y P T E A L E R A W K H L L F N Q F H D I I C G T S I P R A Y D D V R F E M S       |
| UniRef90_J7LSP9         | A Y P A D E L K R L W R L V L L Q Q F H D I I P G S S I A W V H Q D A E R N Y E       |
| UniRef90_D8QGJ4         | A Y P K E T L D T S W E K V L L N Q F H D V L P G S S A I G M V Y D D A E K L Y A     |
| UniRef90_Q178W0         | K H S I S R L N L L R E A M G V M Q H H D A I V T G T E K Q H V A D D Y S R M L S     |
| UniRef90_X1SL63         | P Y P H K D F E N A W R G V L F N Q F H D I I P G S S I N P V Y K D S D E M Y K       |
| UniRef90_UP1000265472B  | S E R L R E A M A I A Q H H D A I V T G T E K Q H V A D D Y A K R L S                 |
| UniRef90_W8C2M5         | S A D S N D K L R H A M G V M Q H H D A I V T G T E K Q H V A Q D Y D R L L A         |
| UniRef90_UP100032A6C75  | I Y N T F A L G D A L G I I A Q H H D A I V S G T A Q Q H T T D D Y A K R L A         |
| UniRef90_A2CED8         | G Q P Y K L L T E A R R N L L G L F Q H H D A I V A G T G K D W V V V D Y G T R L F   |
| UniRef90_D6WTA9         | P G S E K Q L S D A R K S L S L F Q H H D A I V T G T S K D H V V V D F G K K M L     |
| UniRef90_J0CX55         | A Y P K G Q I D D A W E K V L L N Q F H D V L P G S S A I G M V Y D D A E V L Y K     |
| UniRef90_Q9UT61         | S Y P K E S L Q D L W R D T L L C Q F H D V L P G S S C I E V Y K D A I P I M S       |
| UniRef90_H2YSQ4         | R E L Y P L L V Q A R R N L L G L F Q H H D G I T G T A K D H V V V D Y G N K L M     |
| UniRef90_W5KHA1         | R F N Y K K L L T G A R R N L L G L F Q H H D A I V A G T G K D W V M V D Y G T R L F |
| UniRef90_A0A022KY16     | E Y P H D Q L E E L W E D A L L N Q F H D I I P G S S I A W V H R D A E R S H A       |
| UniRef90_UP100046A7A77  | P Y P Y E R V D A L W Q R V V L L L Q F H D I I P G T S L A W V H R E A V A T Y A     |
| UniRef90_D8RSH3         | K R D H P N T D N L W R A L S V V Q H D G I V S G T R Q K V A D D Y A R L L A         |
| UniRef90_H9GC89         | K D H F R L L T E A R R N L L G L F Q H H D A I V T G T S K D W V V V D Y G T R L F   |
| UniRef90_UP1000304A622  | K Y P K A E L E A A W K K L L F N Q F H D I I P G S S I T E E V Y T D A L P E W Q     |
| UniRef90_R6N219         | A Y P S Q Q L R S L W T T L K N Q F H D I I P G S S I F E V Y E D S R R E Y A         |
| UniRef90_H2M8T5         | H T D Y S L L D A R R A V G L F Q H H D A I V T G T A K E N V V I D Y G N K L L       |
| UniRef90_B0K7M7         | K Y P Q S E I N K N W E I T L L N Q F H D I I P G S S I K E V Y E E S K K Q Y E       |
| UniRef90_V8NLC3         | H S D Y A M L T D A R R N L L G L F Q H H D A I V T G T A K E A V V V D Y G V R L L   |
| UniRef90_B9RA69         | G S N T D S L A N A L A V A Q H D A I V T G T E K Q H V A D D Y A K R L S             |
| UniRef90_W2E6P9         | N F S S Y R Q Q E L W K L L I L R N Q F H D I I P G S S I R E V Y E D S A V E Y A     |
| UniRef90_X1G520         | A Y P Q H R L A E A W E K V M F N Q F H D I I P G S S I K S V Y E D S E E D Y A       |
| UniRef90_S3DC45         | K Y P K E D I D D M W E A V L L C Q F H D C L P G S S I I E M C Y D D S D E L Y A     |
| UniRef90_UP100046232AF  | V Y P N E R I N D C Q F H D C L P G S S A I G M V Y D D A E K L Y A                   |
| UniRef90_F3ZVA6         | P Y E Q E T L L N N G W K K I L L N Q F H D I I P G S S I T P V Y E D S A R D Y A     |
| UniRef90_R7UWP9         | K L Q L A N F P E A R R S L G L F Q H H D A I V T G T A K D F V M V D Y G H K L L     |
| UniRef90_E0UFD1         | S Y P K T E L E A A W K K G L F N Q F H D I I P G T S I P E V F E D A N Q T W Q       |
| UniRef90_D6WWY7         | D K S Y F I D N L R G A M G I M Q H H D A I V T G T E R E A V A K D Y V K M L N       |
| UniRef90_N9W5M2         | E Y P Q E A L H H A W E I V L R N Q F H D I I P G S S I I H E V Y E D S E K E Y R     |
| UniRef90_F7EXE7         | H S D F T L L T E A R R T L G L F Q H H D A I V T G T A K E A V V V D Y G V R L L     |
| UniRef90_K9RRA1         | D Y P Q A E L E H L W K L M L F N Q F H D I I P G S S A I P E E V Y Q E A N Q A W T   |
| UniRef90_K9XFR5         | V Y P Q A Q L E A A W K K V L V N Q F H D I I P G S S I I P E V Y A E V N P T W E     |
| UniRef90_L8GX61         | H D N L A K Y E V L A Q A M G V A Q H D A I V A G T E K Q H V A D D Y A E R L S       |
| UniRef90_N6TVU1         | E D T A K L N T L R E A L L G V F Q H H D G I V T G T E K E N V A H D Y I H L L H     |
| UniRef90_E4ZVQ1         | K Y P K K E I D D M W E N V L L C Q F H D C L P G S S I I E M C Y D D S D K I Y A     |
| UniRef90_UP10002378EBB  | D Y P H E A L D R L W K B L V L L H Q F H D I I P G S S I A W V H R E A E A T Y A     |
| UniRef90_K9H31          | A Y P K G K I D E N W E K V L L N Q F H D V L P G S S A I G M V Y N D A E K L Y A     |
| UniRef90_U4UDM8         | R M S W D N K E S S R Q E L S L F Q H H D G I V T G T A K D H V M V D Y G K R M L     |
| UniRef90_U2DCE3         | S Y P Q G K L N K G W E N I L L N Q F H D I I P G S S I K E V Y E V T K E E Y K       |
| UniRef90_SOFTA1         | A Y P P S E E I E D C Q F H D C L P G S S I K E V Y E E S Q E Q Y E                   |
| UniRef90_B3MJ19         | E F D P H L N F M R E T L G I M Q H H D A I V T G T E K E K V A L D Y A K R L S       |
| UniRef90_J1SC32         | R Y P Y E A L D R L W K T V L L H Q F H D I I P G S S I I A W V H R E A R E T Y A     |
| UniRef90_B0RFH1         | D Y P Y A A L D R L W K Q T L L Q Q F H D I I P G S S I I T W V H R E N E E D Y A     |
| UniRef90_Q9VKV2         | Q Y S E D L D N L S Q A M G I M Q H H D A I V T G T E K Q A V A S D Y D R L L F       |
| UniRef90_E7NXB6         | S Y P Q T E I Y D N W T T V L T N Q F H D I I P G S S I K E V Y D V T K K E Y E       |
| UniRef90_D7C5X7         | R Y P Y E E L D G L W K T V L L H Q F H D I I P G S S I I A W V H R E A R E T Y A     |
| UniRef90_UP100033300C6  | A D K Y P L S D K A R Q T L G L F Q H H D A I V T G T A K E A V V I D Y G V R L L     |
| UniRef90_V5G4W7         | K Y P K E K F D D M W E G V L L C Q F H D C L P G S S I E M C Y D D S N E L Y E       |
| UniRef90_H2KRH8         | R D P K E A M D K L R Q A M G V M Q H H D A I V T G T E K Q H V A D D Y A L T L S     |
| UniRef90_UP1000258E617  | E E H L V N F R E A M G I M Q H H D A I V T G T E K Q L V A D D Y S R L L Y           |
| UniRef90_L8GEF7         | K Y P K E D I D D I W E A T L L C Q F H D C L P G S S I E M C Y D D S D E L Y D       |
| UniRef90_S8EH61         | F Y F E H S T D G L G D A L A I A Q H H D A I V S G T E R L H V A N D Y A L R L S     |
| UniRef90_B4N085         | U R K K E L D S L R S I M G I M Q H H D A I V T G T E K Q A V S D D Y D Y L M Y       |
| UniRef90_UP100033B3F2A9 | D Y P A E R L A E L W H S V V L L Q F H D I I P G S S I I A W V H R E A E S S Y E     |
| UniRef90_R7T6U8         | V Q P D Q R L L E A M G V A Q H H D A I V S G T E K Q A V A F D Y A K R L A           |
| UniRef90_A0A026WXN3     | D Q L A S R L S K A R M W H A L F Q H H D G I V T G T A R D N V V I D Y A Q K M I     |
| UniRef90_UP100036B0D44  | G Y P Y E R L E R V W R T V V L L H Q F H D I I P G T S I A W V H R E A A E A Y E     |
| UniRef90_B4MUA9         | A E F D A H L S F M R E T M G I M Q H H D A I V T G T E K Q V A L D Y A K R L S       |
| UniRef90_F8P9H8         | K Y P K K T I D D S W E K V L L N Q F H D V L P G S S I I G M V Y D D A E K L Y G     |
| UniRef90_UP100021A40D6  | N G P S S V K L L E K A M G L A L H H D A I V T G T E K Q V V A D D Y A K R L H       |
| UniRef90_UP10004657785  | A Y P Y E A L D R L W K T V V L L H Q F H D I I P G S S I I G M V Y D D A E K L Y G   |
| UniRef90_P94078         | E H L V N F R E A M G I M Q H H D A I V T G T E K Q L V A D D Y S R L L Y             |
| UniRef90_U6HUE1         | R Y K Y P S V D Q L R R M M G V M Q H H D A I V T G T E K Q H V S N D Y R Q R L T     |
| UniRef90_B4MUB1         | Q H T N P L N T L R Q I M G V M Q H H D A I V T G T E K Q T V A R D Y D R L L T       |
| UniRef90_U6NZA6         | P E D D A D D V E T I A R A A A L V Q H H D A I V T G T A K E K V T G D Y K K R L A   |
| UniRef90_B3MLZ9         | K Q T E D D D Y L R H I M G V M Q H H D A I V T G T E R Q A V S D D Y D R L T Y A     |
| UniRef90_C8VJ45         | E Y P K K D I D E M W E G V V L L C Q F H D C L P G S S I E M C Y D D S D E L Y A     |
| UniRef90_B0X971         | E A D Q E H L N I L R E A L L G V M Q H H D A I V T G T E K Q H V A D D Y H R M L H   |
| UniRef90_J9JLY2         | E R N Y E K L T K A R Q N L A L F Q H H D A I V T G T S K A F V M N D Y A L K L F     |
| UniRef90_L8LVT5         | S E W Q D E I E K A W K K V L F N Q F H D I I P G T S I I P E V F T E A N Q E W D     |
| UniRef90_H3G219         | T Y E K L T K A R R I L A L F Q H H D A I V T G T S K I H V M K D Y S K Q L F         |
| UniRef90_A0A011AXV0     | P Y D Y N N L L K A W K I V L C H Q F H D I I P G S A I K E V Y E D S H V E Y G       |
| UniRef90_B4MUB2         | Q H T N D L D I L R Q T I G L M Q H H D A I V T G T E R Q A V A S D Y D R L L T       |
| UniRef90_Q2A720         | R Y P K E E I D A L W E P L L N Q F H D C L P G S S I I R K V Y D D L E E M Y A       |
| UniRef90_R7RZM7         | E Y P K E T I D T A W E K V V L L N Q F H D V L P G S S I I G M V Y D D A E E L Y A   |
| UniRef90_C0S1S3         | K Y P K K D I D D M W E G V V L L C Q F H D C L P G S S I I E M C Y D D S D K V Y A   |
| UniRef90_M2MV04         | K Y P K K E I D F M W E A V V L L C Q F H D C L P G S S V I H M C V D D S N K L Y A   |
| UniRef90_R7JX09         | A Y P T E E L N R M W E M I L T N Q F H D I I P G S S I I H E V Y E Q T K K E Y Y A   |
| UniRef90_A8LKF7         | P Y P G D A L E E A W K V L L N Q F H D I I P G T S S T T Q V F E D A T R D Y A       |
| UniRef90_V4TIG1         | G H N T D S L A D A L A I A Q H H D A I V T G T E K Q H V A N D Y A K R L A           |
| UniRef90_R9LGL6         | T Y P K A K L D E S W K T I L R N Q F H D I I P G S S I I P E V Y R D S K E E Y A     |
| UniRef90_UP1000288093C  | W P L Y R Q D E G W K I I L R N Q F H D I I P G S S I I R E V Y E D S R L E Y E       |
| UniRef90_S9W024         | K Y P F Q E I N Q L W K T T L L C Q F H D V L P G S S C I Q M V Y D D A I P M M Q     |
| UniRef90_E8N5R7         | E F T Q D T L K N A W T K V L L N Q F H D I I P G S S I I R R V Y E E A E T M Y S     |

90                    100                    110

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| V A E E R A D K   V   R D E A L   H T   L   T K E Q D   |  |  |
| E I R R M A E G V   D E A L   A A L   T P   |  |  |
| Q G L D E C E   I   T N E A L   R Q L S S   |  |  |
| I G Y K E A E E V V A A S   S C   T G S G C G S C P   L L N I S   |  |  |
| E A I G T A R R V I T H A A Q Q V I A Q R I D T S S P E V T I   |  |  |
| A I A R D D E G I L I S H A A Q A L V G A G D   |  |  |
| E V T S D G K H M L E D A L S V L L P G S K   |  |  |
| H A I N S C V E N T K T S F Q H L V G A N A T F C P   L L N I S   |  |  |
| Q S Q Q I A N H Q I D T S I T H L S K L I N T   |  |  |
| M G R V Q C Q A L I S E A I S S D I S Q K T G F K M D A T T S   |  |  |
| A A I E S A Q T N A R L A L Q R L T N L T N V S C L Q L N I S   |  |  |
| G S T K A E A V V S S S A L C   T G K K S C S A P A S A F S   |  |  |
| H S I L N V K R V I V S S A H W L V L K D K   |  |  |
| A A L N N C H H V I Q H S A H I L F S G K D A E T P D H S   |  |  |
| E V A E S G R D I L E S A F R V L V P N S   |  |  |
| K V L K N T E A L L W Q A I E Q L G F K K A S S S D N   |  |  |
| Q S V M D S K K I M S F S A H L L S E M P S Y D P K T T   |  |  |
| H S L L N V K R V I A S S A H W L V L D D K T Y D P S   |  |  |
| A L A E R A G E I I I E Q A L A A L G G S   |  |  |
| Q V V E E L E E I I G S A L H A L A G D G D V   |  |  |
| A A S E A E K S M N L A A S C   A A G V S P S D   |  |  |
| H S L I N L K K I I T D S T H I L L I L K D Q S Y N P S E P F   |  |  |
| E V E R V G T E I L H K S L H E I A L Q A P   P   P   |  |  |
| G I L N S C E D L A E E Y L E R L A E R   |  |  |
| R S L I G L K R V I N A A H F L V M K N R D F   |  |  |
| E I N A R G K N I I I N S A L D S I C S N I N L K N I S L   |  |  |
| H S L M N A K R V I I N A A H Y V L I A D K   |  |  |
| G Y K E A E K V V G E S L S C   A E S K   |  |  |
| E A E K I G L S V I R S Q A V K S I V N   |  |  |
| R I R R I G E N I I E E N L D K S S Q V N T S   |  |  |
| K V F K T G E K I I F K D L Q S V L   |  |  |
| E V S K E G D A L I E E A F K A I E S H   D T S   |  |  |
| E V V L R T G N D I K S K A L K N L E V L Q D R T   |  |  |
| S A L Q N M K T V I T E S A H F L L V K D R T   |  |  |
| E V Q Q T G K Q I L D H S L R T I A S Q I I F P R P   |  |  |
| K A I T R E A E T P I G M I I G D L L K K N   |  |  |
| U n i R e f 9 0 _ D 6 W W Y 7 E A D R L L N E T R A V V L L A G L T D N S D N H W T L W N F S               |  |  |
| U n i R e f 9 0 _ N 9 W 5 M 2 R S L V N L K Q V I I H A A H Y L V L R D K E F D P E A P F                   |  |  |
| U n i R e f 9 0 _ F 7 E X E 7 E V I E T A T H L L E I A Q V Q I L N Q I Q P E P                             |  |  |
| U n i R e f 9 0 _ K 9 R R A 1 E V E Q V T A E I T Q S L S A I A S Q I K                                     |  |  |
| U n i R e f 9 0 _ K 9 X F R 5 I G S D N D A Q E V V S E V V G K L L A R Q S S P S P S F S Y                 |  |  |
| U n i R e f 9 0 _ L 8 G X 6 1 K G I T E C E D I T S Q A L A K L T   |  |  |
| U n i R e f 9 0 _ N 6 T V U 1 T I F A I G E R L M S E A L A E L   |  |  |
| U n i R e f 9 0 _ E 4 Z V Q 1 R I A N E L E T I T D G A L H A L A G E P T                                   |  |  |
| U n i R e f 9 0 _ U 4 U D M 8 E V K I A S G E S I L D D A L S V L   |  |  |
| U n i R e f 9 0 _ U 2 D C E 3 L A I H D C Q R I I Q H C V N V L L E G P G                                   |  |  |
| U n i R e f 9 0 _ S O F T A 1 E I I G N G N E V L N D A L N T V V S S I N I                                 |  |  |
| U n i R e f 9 0 _ B 3 M J 9 A L L T E G H R L L D K S M K H I T A K I N                                     |  |  |
| U n i R e f 9 0 _ J 1 S C 3 2 V S F K A C E A T T R N V L N Q L S   |  |  |
| U n i R e f 9 0 _ B 0 R F H 1 A V E A E L T G I I E A A I G A L T G A G S A G P P T V                       |  |  |
| U n i R e f 9 0 _ Q 9 V K 2 V R I A E L D A L V A D A I A R V T A Q   |  |  |
| U n i R e f 9 0 _ E 7 N X B 6 K A I V G A E N S A R D A L R S L T N L T S G S C L E L N I S                 |  |  |
| U n i R e f 9 0 _ D 7 C 5 X 7 Q I E K D C T A L L Q T A L E F I A D K I G G                                 |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 3 3 3 0 0 C 6 R I A L E E L G I I A D A Q R A L A G D P S G                   |  |  |
| U n i R e f 9 0 _ V 5 G 4 W 7 R S L V S L K Q V I I N A A H Y L L G D K E T Y H F D                         |  |  |
| U n i R e f 9 0 _ H 2 K R H 8 K I F K I L G A E V V K E E A L K A L   |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 2 5 8 E 6 1 7 V A S K S C Q T V I A D A M F D L I G E H P V F C D L L N I S   |  |  |
| U n i R e f 9 0 _ L 8 G E F 7 E G M Q H G A D I A S N A I R Y   |  |  |
| U n i R e f 9 0 _ S 8 E H 6 1 K A F T T G H R L L K E A H K A L G L E D                                     |  |  |
| U n i R e f 9 0 _ B 4 N 0 8 5 I G Y K E A E K V V A S S L A V L L G N N S V Y C P   L L N V S               |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 3 3 B 3 F 2 A 9 N G I I G A S N N A R D A L R Q L T N L P N G N C L Q L N I S |  |  |
| U n i R e f 9 0 _ R 7 T 6 U 8 R I A R D L E G I I A E A L S A L   |  |  |
| U n i R e f 9 0 _ A 0 A 0 2 6 W X N 3 R G V A A C Q I V I Q E A Y D Q L L P   N S G                         |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 3 6 B 0 D 4 4 M A L N N S A H V L Q Q S I A H L K T P Q I A P   D V           |  |  |
| U n i R e f 9 0 _ B 4 M U A 9 G I A H E L E E V I G G A Q A A L   |  |  |
| U n i R e f 9 0 _ F 8 P 9 H 8 V G F D A C S T N I K S V L N Q L S D G P                                     |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 2 1 A 4 0 D 6 E V R K A C C D S A L E E A F Q A L F A K S                     |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 4 6 5 7 7 8 5 I G E V E C R S V M A T V L N D L A A K G N A P K M N L S F     |  |  |
| U n i R e f 9 0 _ P 9 4 0 7 8 S V T A E L H G I V D A A Q R A L A G K G E                                   |  |  |
| U n i R e f 9 0 _ U 6 H U E 1 M G Y L Q A E K L V A S S L S F L S A A K S S K N P G T K F                   |  |  |
| U n i R e f 9 0 _ B 4 M U B 1 D A M R G C Q Q L V S S V A D S L L E R R S                                   |  |  |
| U n i R e f 9 0 _ U 6 N Z A 6 D A I V G A E T N A R D A L R I L T N L T T G S C L E L N I S                 |  |  |
| U n i R e f 9 0 _ B 3 M L Z 9 K A T K E G E I V I N D Y L K K V Y P K A D A E P P                           |  |  |
| U n i R e f 9 0 _ C 8 V J 4 5 D A I V G A A N N A R D A L R I L T N Q P D G S C L R L N I S                 |  |  |
| U n i R e f 9 0 _ B 0 X 9 7 1 Q I F E T G L R A R E A A L E A L   |  |  |
| U n i R e f 9 0 _ 9 J J L Y 2 T A I E A C G A N T N A A L N S F T   |  |  |
| U n i R e f 9 0 _ L 8 L V T 5 E G I Q N C A S I Q S F A V Q C L L S K A G D S                               |  |  |
| U n i R e f 9 0 _ H 3 G 2 1 9 E A V N I G E R V L R Q S L E A I A S F I K P D P                             |  |  |
| U n i R e f 9 0 _ A 0 A 0 1 1 A X V 0 D A G N I I A K S V I E E S I R K M                                   |  |  |
| U n i R e f 9 0 _ B 4 M U B 2 Q A L Q L I K E T M E A V N Q A L Y A P E A G C Y T V F N N S                 |  |  |
| U n i R e f 9 0 _ Q 2 A 7 2 0 D A I V G A E T N A R D A L R I L T N   |  |  |
| U n i R e f 9 0 _ R 7 R Z M 7 D M A V K G Q K L W R Q L N A L   |  |  |
| U n i R e f 9 0 _ C 0 S 1 S 3 E V R K D L N L A L E D A F K V L F P E S T T L D A A V S L                   |  |  |
| U n i R e f 9 0 _ M 2 M V 0 4 Q I F E T A S K R R E E A L Q A L   |  |  |
| U n i R e f 9 0 _ R 7 J X 0 9 Q V S E K G E K A L H G A L N A L   |  |  |
| U n i R e f 9 0 _ A 8 L K F 7 E I A E T S A K L I G E R M E A L C G T K D                                   |  |  |
| U n i R e f 9 0 _ V 4 T I G 1 I G Y T E A E E V V A T A L A C L V D S P S D N C P   L L N I S               |  |  |
| U n i R e f 9 0 _ R 9 L G L 6 E A Q S I L E S C R E Q A I Q A L T S   |  |  |
| U n i R e f 9 0 _ U P I 0 0 0 2 8 0 9 3 C E A E Q I A R D V R D A S F P L L N N R S A G E H S A S           |  |  |
| U n i R e f 9 0 _ S 9 W 0 2 4 N V F Q S S E K L I K N I L D Q L   |  |  |
| U n i R e f 9 0 _ E 8 N 5 R 7 E V L Q E C R L V T E Q A L S A M V Q P S D T                                 |  |  |

1 10 20 30 40

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

P S I N S P V T R L K E A C G L V Q H H D A V T G T A K E N V T R D Y E K Q □ A  
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50                    60                    70                    80

90                    100                    110

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|------------------------|---|--|
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| UniRef90_E9FYS4        | D S I L V D C Q K D V G N S F S Q L L P I G S Q A L P P Q E F     |  |
| UniRef90_S0JIM4        | L I E K I I A A D V V Q E A C E T L L T P E E N T Y T V F N       |  |
| UniRef90_A0A015LCK8    | E V E K T G N T L L E K A L L D K L                               |  |
| UniRef90_T2MJR0        | I G R D E C L S L M H H A I K L K Y E K S S N L N                 |  |
| UniRef90_R5MQ8         | I L K T N L N S I I D E A V S Y L S N D E N A Y                   |  |
| UniRef90_W5X5B3        | K V I E A G D R I V E E R L T Q I A G                             |  |
| UniRef90_A9SWM3        | A G E S E A E M V F N K A L A S L T S T N A T V S T S L           |  |
| UniRef90_L8LK58        | S A T A L G E K I L K D S L D T I I A Q I N L P P                 |  |
| UniRef90_B3MLZ7        | D G I L G A T E T S A F A L Q K L T N L P N G E C L N L N I S     |  |
| UniRef90_H9J6K0        | T A I K Y S Q S A I Q Q A A Y Y L L K Q P H Q D                   |  |
| UniRef90_M5E119        | E V F A S T K A T L N S S L E K I A A Q I K G                     |  |
| UniRef90_UPI0002B436D8 | N A I K S S I K V M Q S S A N F L M T N K                         |  |
| UniRef90_A0A022QU14    | I G A S E A E T V V N S A L S C L T D S K S N                     |  |
| UniRef90_W4Z0C5        | N A I N E M R K V M M T S I H Y L L S D K K S Y H P Q A S Y       |  |
| UniRef90_J3NWA8        | K V Q Q T G S R L L Q D A C S A L                                 |  |
| UniRef90_B0W928        | E S I Q E T V K L Q E K T I E L L V Q R K K N T E L N F L I       |  |
| UniRef90_D6WWZ0        | K G I K K A E P S L N V I V T N L L K K D A S S D I N L N L       |  |
| UniRef90_R9JUE5        | M V R Q I G E E V I A D   |  |
| UniRef90_M7Y135        | L G A S Q V E K G V N T A L A C L S S K G T C M S P A V K F S     |  |
| UniRef90_X0P2X0        | A V A A E S E E L I   |  |
| UniRef90_I1N814        | M G Y E E A E R L V A S A L A S L V N Q                           |  |
| UniRef90_G3JKF3        | Q V F K T G H T L L K E V Y Q S                                   |  |
| UniRef90_L2FY96        | K V F K T G E K I L K D L H N V L                                 |  |
| UniRef90_UPI0004225D33 | E A E Q I L A N R A W A D A A N T L V N                           |  |
| UniRef90_B9RGY0        | I G H I E A E K L V A S S L A F L S E                             |  |
| UniRef90_Q178W1        | V A F E A C G V N T N A A L Q A L T N N N                         |  |
| UniRef90_UPI00037DE1D9 | A V E R G L E A I I T N   |  |
| UniRef90_W4BNY2        | Q A E A I G Q S V W E Q S S K A L M S G N E A                     |  |
| UniRef90_E0S2S5        | K A I D I V T E L I N S A S D K L S E                             |  |
| UniRef90_UPI0002C2F1A5 | I G A S E A E A V V S A A L S C L T A G E S C K D L A L T F S     |  |
| UniRef90_C6LI26        | Y I E S V I A Q G V C R G A L A D L L E E K                       |  |
| UniRef90_UPI0003F88A9A | R G I H I V E E L I K R A I L V F N I S D K E S D                 |  |
| UniRef90_U5QPBP3       | A V R E Q G E K I L L S A S L Q A L S Q I D T R G P               |  |
| UniRef90_M5WR08        | I G Y L Q A E K L V A S S L A S L V A Y L                         |  |
| UniRef90_G2PG84        | A V H R G L E R I V A R A A G T P D T T E P                       |  |
| UniRef90_UPI00036DFAB1 | M A L A T A H R I E T R S L Q T L A                               |  |
| UniRef90_T0D8S1        | K A E D I L A R R V W R E A A N G L V S S G T                     |  |
| UniRef90_S3XWS9        | G I A E R G E E L V E K A L E A I A R A K D T                     |  |
| UniRef90_B4WM91        | Q V Q Q I G Q S V L D E S I L K A I A S T I I Q F P S P           |  |
| UniRef90_G7YAW4        | N A A L P C K E F I G Q A I G L L V N E I T T S S P               |  |
| UniRef90_F2U4D3        | I A V N G L L D V A S S S L A S L V G                             |  |
| UniRef90_UPI0003B6896E | D I K R R A E N I I D E A V K E L                                 |  |
| UniRef90_C6LGS8        | Q L A R K G G E L L I S E R M H L F A G E G D C                   |  |
| UniRef90_B3RW05        | D G R K E C K N V I S D A I G N L A K K S S S N K                 |  |
| UniRef90_UPI000252BB98 | U N G M E Q G T N I A Y E A L R X M I S Q I                       |  |
| UniRef90_F9VKA2        | E L L D K V T Q L I D K T I D S I S D K I N L K N Q S V           |  |
| UniRef90_V7CKS4        | I G A S R V E D V V S S S L Y C L T L G G Q C T T P T S A F S     |  |
| UniRef90_D1BFQ8        | R V I A A E A T A I I E R A Q T A L L A G D G S D                 |  |
| UniRef90_D7CS74        | E V R R L G E A A R D G A L E I A I A R Q                         |  |
| UniRef90_W6AS36        | E A M T G N T A L I T E Q L L R N L T T P E S                     |  |
| UniRef90_D8QZD8        | I G A A E S D L V V K S A L K A L T T S S S E                     |  |
| UniRef90_C1D217        | E A L L E R G E A L I R R S A L Q V L S E Q V S G                 |  |
| UniRef90_C1D479        | E A V G T A K R T L H E A V Q V I A R H I D T R S T D             |  |
| UniRef90_UPI00038324BE | Q S L T N L K R V I I N A A H Y L L G D K D T Y H H D             |  |
| UniRef90_T1EF56        | D S L N S L K K V I I I R S S E F L L S S                         |  |
| UniRef90_R9MF02        | Y I E G I A R E V I E K K A Y D G L L E K K E N T Y T V F N       |  |
| UniRef90_B4GFB4        | E S I Q N M V K M Q E S S I E Q Q L Q K G Q P R H H G F I S       |  |
| UniRef90_UPI00029B0535 | E V R A E L L A D L V A D A V T S L                               |  |
| UniRef90_H0QR35        | A V A R G L E A L I S   |  |
| UniRef90_R5NP41        | K A N E I L L D T I E E N A L K V L V R E S D                     |  |
| UniRef90_R9JD36        | H I A K K G G E L L G S A L S G I V K                             |  |
| UniRef90_I3REU8        | K V I E E A N S I V E E A L Q K I S                               |  |
| UniRef90_R5N0D8        | K I C E A G K R I K N D A E T A V A E N I N V F N P N             |  |
| UniRef90_UPI000373AA2A | E A E R I I G R K S M Q Q A A S E L L S R H D L S N S N L S       |  |
| UniRef90_UPI000444A87A | E I R K S G D A L F E D A I S I L M                               |  |
| UniRef90_UPI00047DA811 | Q L A K E L T T L I D A S L G A L A G D G D T P                   |  |
| UniRef90_Z9JNL8        | S I L L E R G E A L V A R A L E A L A S A D G                     |  |
| UniRef90_C5EKH1        | E L F E R G N A L K S A M L R K L T G R I Q A E E G S L           |  |
| UniRef90_UPI0004647294 | Q I I K S G N E I I E T C L C N R L L S E A G L K E               |  |
| UniRef90_E9C5N1        | E G L S E C E T V I N R A L G D L T T S G P S V Q C P L L N V S   |  |
| UniRef90_UPI0003825170 | E A A L E T A R G L R D S A L G A L T                             |  |
| UniRef90_C9SI75        | R V F E L L N E Q L L K D V H K V L                               |  |
| UniRef90_K9FN46        | K V E S L Q G Q E A L V N A L E T L L S G Q P E Q G Q P L F V F N |  |
| UniRef90_K7HY2         | R G I N E V E V V I N D F M K K                                   |  |
| UniRef90_R5RM91        | E I L A A S K D M T A K T L A H I A E H V D A P K H S L           |  |
| UniRef90_UPI00042A8AE7 | E A E D I G N N T W N D A V V S S I I Q S D K N                   |  |
| UniRef90_UPI000307A2C1 | Q I I S A G K A I R H R A I D Y L T A I I D T                     |  |
| UniRef90_UPI0003AF5403 | Q S I L L N L H Q V L Q S S A H W L L L D K                       |  |
| UniRef90_R3TM93        | E A W E K V R L L Y N   |  |
| UniRef90_D7C5X5        | E T H A E E L M I A D A V G H L P G A P                           |  |
| UniRef90_A0A034V617    | V A I R A C A T N T K E V L N Q L T                               |  |
| UniRef90_L7M019        | K S L Q N L R D I I T K A L Y M L L N A P S                       |  |
| UniRef90_L7MGV3        | R G L I A S D N Y T N N A F A K L F S K K                         |  |
| UniRef90_Q2HF55        | E V F K T A E S V L E D I G K V L                                 |  |



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50            60            70            80

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

90                    100                    110

|                        |   |
|------------------------|---|
| UniRef90_M7SBM3        | E   V   F   K   □   G   K   Q   I   F   D   D   I   |
| UniRef90_W5JQY8        | H   A   |
| UniRef90_C9SKL8        | N   V   K   E   T   G   V   V   L   L   Q   Q   I   F   T   V   L   |
| UniRef90_T1KWK2        | D   A   I   E   K   S   M   D   L   M   N   R   A   L   Q   F   I   S   S   K   D   K   S   S   Q   S   N                 |
| UniRef90_UPI000369CC09 | E   A   E   R   L   G   R   A   A   I   E   G   A   A   K   V   L   A   K   Q   |
| UniRef90_F8F420        | R   I   R   K   T   A   E   F   L   L   R   K   G   A   E   A   L   L   V   K   L   E   N   S   N   M   T   Y   A   L   A |
| UniRef90_T1HKR4        | E   A   L   Q   D   C   V   S   V   Q   G   Y   A   L   Q   T   L   L   T   K   P   E   A   F   E   P   S   T   R   F     |
| UniRef90_D1JI29        | E   I   K   E   I   L   S   Q   I   I   T   Q   S   L   E   Y   I   T   K   E   V   N   T   S                             |
| UniRef90_A0A022LPP4    | E   T   A   A   A   L   T   A   I   I   D   R   A   L   S   A   L   A   G   T   G   D   A                                 |
| UniRef90_S3XWT6        | A   L   R   T   D   I   E   T   L   I   D   S   L   L   A   S   R   A   G   G   G   T   G   S                             |
| UniRef90_H9K058        | E   S   I   S   D   T   T   S   L   Q   S   F   A   I   Q   S   L   A   G   S   P   S   K   P   N                         |
| UniRef90_V6L2Y7        | R   I   A   A   E   L   D   E   I   T   G   A   A   Q   R   A   L   A   G   A   G   D                                     |
| UniRef90_D9R6P1        | A   I   G   K   T   G   R   E   L   V   K   R   A   L   I   H   I   A   E   G   V   D   A   R   K   N   D   L             |
| UniRef90_R610A7        | K   L   I   S   E   G   K   A   E   I   A   D   T   L   G   K   I   V   C   T   P   D   G   S                             |
| UniRef90_C4Y94         | R   A   L   K   K   L   D   E   L   I   K   D   A   L   E   H   V   G   A   A   S   G   D   F                             |
| UniRef90_L2FW46        | N   V   F   Q   I   R   N   T   L   L   K   D   I   Y   S   T   L   S   |
| UniRef90_R5YGA6        | K   I   A   E   L   G   H   K   A   E   S   D   A   Y   N   T   V   I   S   N   I   K   T   D   G   G   T   V   V   F   N |
| UniRef90_B4JFC9        | D   S   T   Q   N   M   V   K   M   Q   E   S   C   I   E   L   L   L   K   N   G   S   S   H   E   H   G   F   L   L   S |
| UniRef90_B0C8R0        | S   A   K   Q   T   A   T   E   H   L   H   I   A   L   D   A   I   A   S   A   D   I   P   Q                             |
| UniRef90_S0FKD4        | W   L   A   E   K   A   G   N   L   I   K   E   R   L   S   A   L   A   G   K   G   T   A                                 |
| UniRef90_G0SGP6        | D   V   F   S   T   A   E   K   I   M   K   G   V   S   Q   V   L   G   L   E   P   |
| UniRef90_F9NXY7        | A   I   R   A   E   L   D   Q   L   T   D   D   A   W   Q   A   L   S   |
| UniRef90_E9GA05        | Q   G   I   R   G   C   S   G   V   F   S   E   S   F   N   H   L   L   S   N   G   S   T   □   N   Q   E   Y             |
| UniRef90_UPI000367F41A | D   A   E   Q   □   G   R   G   V   W   H   K   A   E   H   G   V   T   N   D   Q   N                                     |
| UniRef90_D3B0W9        | □   G   Q   Y   S   T   Y   D   A   L   D   S   V   V   S   Q   L   L   T   Q   S   S   A   P   T   P   S   □   L   F     |
| UniRef90_P22855        | N   V   V   K   E   C   T   S   L   I   D   K   T   V   Q   F   L   Q   S   Q   S   K   A                                 |
| UniRef90_U2ENH2        | Y   L   L   K   I   T   E   E   L   T   K   S   T   Y   R   A   L   L   E   N   S   |
| UniRef90_K9Y074        | A   A   I   E   I   G   E   T   I   L   K   Q   A   L   S   A   I   A   S   Q   I   K   □   P   A   P                     |
| UniRef90_UPI00034BC2C1 | E   V   V   A   A   E   L   E   V   V   N   E   S   Q   Y   A   L   S   D   G   F   D   P   D                             |
| UniRef90_T1FWY2        | T   G   I   K   E   C   Q   |
| UniRef90_D2VBS5        | S   V   I   Q   D   M   K   S   L   H   K   S   □   T   Q   H   V   L   E   I   D   S   N   S                             |
| UniRef90_K7J2I6        | H   S   M   R   N   G   E   H   L   Q   P   E   F   H   S   C   L   L   L   N   I   S   S   C   A   P   S                 |
| UniRef90_I1I2Y9        | □   G   A   S   Q   V   E   K   G   V   N   T   A   L   C   I   T   S   N   G   T   C   M   S   L   A   V   K   F   S     |
| UniRef90_UPI0003732F12 | R   L   F   S   A   A   D   E   L   R   A   H   L   L   A   A   L   P   G   E   G   Q   V   F   N   P   S                 |
| UniRef90_UPI000463810A | D   V   I   K   G   A   G   E   I   L   K   E   S   Q   E   T   L   V   |
| UniRef90_J3PKJ6        | K   L   F   K   T   A   D   L   V   R   K   D   I   Y   K   V   L   |
| UniRef90_D8SH82        | T   S   L   V   E   L   Q   A   F   M   A   S   V   E   A   L   L   L   Q   Q   Q   C   K   S   E   N   F                 |
| UniRef90_W8ADY7        | E   L   M   C   I   G   K   D   V   K   Q   L   A   L   Q   S   L   A   Q   E   I   E   T                                 |
| UniRef90_A0A022QA98    | I   G   Y   K   E   C   |
| UniRef90_W7Z9B0        | Q   V   L   A   I   G   E   K   I   K   Q   A   A   I   D   R   L   I   E   E   A   N                                     |
| UniRef90_UPI0002A4B494 | H   A   I   L   H   L   R   Q   V   Q   Q   S   S   A   H   W   L   L   L   D   K   N                                     |
| UniRef90_U5GVA8        | T   S   L   Q   D   L   Q   I   F   M   S   K   S   I   E   V   L   L   G   E   K   S   D   H   S   P   S                 |
| UniRef90_W01ZV4        | K   S   L   A   E   A   T   A   V   A   N   T   A   M   A   V   L   S   E   |
| UniRef90_G3AH19        | S   L   L   K   K   A   A   G   L   I   Q   D   A   L   R   Y   L   R   K   P   K   S   V   K   E   V   Q   L             |
| UniRef90_E3Q4P7        | N   V   Y   R   I   G   S   N   L   L   E   G   I   Y   K   A   L   S   I   S   K   I   N   S   K                         |
| UniRef90_UPI00032A511B | T   S   L   Q   D   L   Q   I   F   M   S   K   G   I   E   A   L   L   G   N   P   S   Q   F   E   P   A   I             |
| UniRef90_R6VXV6        | E   I   F   A   A   D   E   E   M   M   K   T   A   |
| UniRef90_A0A023F2H0    | N   A   L   K   T   V   E   L   A   A   S   F   G   □   G   K   L   L   M   R   K   G                                     |
| UniRef90_UPI000298D283 | H   S   I   L   N   L   R   Q   V   L   Q   S   S   A   H   W   L   L   L   M   D   K                                     |
| UniRef90_A5AHH3        | □   G   Y   K   E   C   |
| UniRef90_W1SEB0        | E   A   I   A   A   D   R   A   L   N   N   A   V   Q   S   I   S   W   K   I   D   □   E   Q   D   E                     |
| UniRef90_X1CBT6        | E   V   K   E   S   T   E   R   I   I   E   N   S   L   T   S   L   S   S   H   I   K   T                                 |
| UniRef90_W3XMR6        | R   I   F   E   □   G   Q   G   V   L   K   D   I   Y   K   L   Y   G   F   P   E   V   Q   P   T   S   □   T             |
| UniRef90_R5TU93        | Q   I   A   E   E   G   S   A   L   L   K   |
| UniRef90_Q4DCW2        | E   A   Y   K   E   D   L   S   V   R   E   N   A   Q   H   C   L   L   S   N   V   S   V   C   S                         |
| UniRef90_V9GKF9        | A   L   L   E   Q   T   E   T   L   I   K   R   T   Y   E   A   L   S   Q   Q   I   A   A   V   Q   P   S   T             |
| UniRef90_E9C445        | S   S   I   G   V   M   Q   T   L   M   R   D   L   S   E   F   F   L   A   T   D   K                                     |
| UniRef90_B9K1C7        | R   L   F   T   E   A   E   A   L   R   A   E   L   M   A   L   L   |
| UniRef90_A3LT17        | A   L   L   E   K   A   D   K   L   I   D   E   A   I   T   F   L   T   D   S   S   Y   E   K   N   V                     |
| UniRef90_B9RUH3        | T   S   L   Q   D   L   Q   I   F   M   S   K   A   V   E   V   L   L   G   E   K   S   D   H   N   P   S                 |
| UniRef90_N1JJC1        | K   V   F   E   T   G   Y   K   I   L   K   E   I   Y   G   V   L   G   I   Q   P   |
| UniRef90_G1X1F5        | V   F   F   S   K   G   K   K   L   L   K   D   G   L   K   A   L   |
| UniRef90_UPI0003814023 | K   A   A   S   L   L   R   E   V   N   K   A   S   G   A   A   L   V   |
| UniRef90_UPI0003F49A3E | A   I   Q   K   S   I   T   A   V   L   H   E   A   Y   E   I   L   Y   K   G   S   K   E   L   S   F   D   Q   K         |
| UniRef90_I1GZC6        | T   S   L   Q   D   L   Q   I   F   M   S   R   A   V   E   V   L   L   G   |
| UniRef90_P34098        | I   G   N   C   A   S   L   E   T   I   N   T   V   V   G   T   L   L   T   A   N   G   N   S   K   P   T   □   S   F     |
| UniRef90_F0LMN0        | K   V   I   R   A   E   E   I   I   H   S   V   L   E   R   I   A   E   R   E   G   N   D   L   V   F   N                 |
| UniRef90_T1ZI9         | K   S   I   Y   N   M   E   E   I   I   S   Y   C   S   D   F   I   L   T   K   N   S   S   V   E                         |
| UniRef90_UPI0002C32FBB | T   S   L   Q   D   L   Q   I   F   M   S   K   A   I   E   V   L   L   G   N   P   S   Q   F   E   P   E                 |
| UniRef90_H2Y8R6        | K   V   I   G   T   T   T   R   L   T   T   T   A   M   E   A   L   G   L   R   G   G   G   C   D   V   T   I   N         |
| UniRef90_UPI000479E855 | Q   A   E   N   I   Q   N   Q   I   S   Q   K   Q   V   E   S   L   V   E   T   N   S                                     |
| UniRef90_A4IPC6        | T   A   E   K   |
| UniRef90_A0EGD6        | T   A   Y   Q   N   M   N   K   Q   I   S   A   L   L   N   T   L   S   N   T   K   S   V   A   H   S   T   C   N   F   N |
| UniRef90_T1JDF3        | D   G   I   R   M   A   F   S   V   M   T   H   A   A   Q   Y   L   L   T   E   K   |
| UniRef90_UPI00037B2A9D | G   L   K   E   E   L   E   |
| UniRef90_W6MH23        | K   A   L   A   N   L   R   G   L   I   N   E   A   L   E   A   L   G   L   K   E   K   G   L   E                         |
| UniRef90_UPI000472818F | E   A   F   G   I   G   C   E   A   W   M   R   A   T   G   G   I   P   S   G   |
| UniRef90_E0VA20        | E   S   L   Q   D   L   Q   I   F   M   S   K   A   I   E   V   L   L   G   N   P   S   Q   F   E   P   E                 |
| UniRef90_W4D494        | E   I   F   R   L   R   G   G   Q   V   L   D   T   A   L   H   T   L   A   G   R   V   N   T   S                         |
| UniRef90_B8CY22        | K   V   E   A   I   G   E   E   V   V   T   D   S   L   Q   G   I   F   E   N   V   N   T                                 |
| UniRef90_UPI0003C37A42 | E   S   I   Q   D   V   V   R   M   Q   Q   S   A   I   E   L   L   I   Q   N   G   T   E   R   H   N   F   L   L   S     |
| UniRef90_V2XQM6        | R   A   L   S   Y   I   D   N   V   K   E   T   S   T   S   A   F   V   T   N   K   N   N                                 |
| UniRef90_T0VJ39        | A   C   Q   K   Q   L   H   A   L   |
| UniRef90_S2KHB5        | K   V   D   V   L   G   R   Q   M   R   S   D   L   L   T   T   L   |
| UniRef90_A5IL93        | Q   V   I   E   K   S   K   G   I   I   V   E   S   L   K   V   L   S   S   E   N   E   E   V   L   T   L   L   N   V   S |
| UniRef90_UPI00033419C  | A   G   W   |
| UniRef90_T5KDA3        | D   V   L   S   D   A   R   D   I   A   D   A   A   R   R   S   L   A   G   D   G   D                                     |
| UniRef90_B5Y3K7        | T   G   L   D   L   Q   I   F   M   S   K   A   V   E   A   L   L   G   |
| UniRef90_W2T1W8        | K   A   V   E   E   G   G   E   E   |
| UniRef90_V3SYH9        | Q   A   T   H   I   A   E   T   I   L   T   D   C   Q   H   E   L   L   |
| UniRef90_G6DP13        | T   S   L   Y   H   C   I   R   L   Q   E   T   A   L   T   T   L   M   L   P   D   E                                     |
| UniRef90_I1N5Z3        | T   S   L   L   D   L   Q   I   F   M   S   K   A   V   E   A   L   L   G   |

UniRef90\_UPI0003780C65  
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 UniRef90\_Q3AUQ8

1 10 20 30 40  
 Y H R G T Y T S M A R N K K Y N R R S E F A Y Q N M E L Y G I L E R L L H E  
 Y H R G I F T T Q A A H K R N M R T S E V A T L D A E K L A S L A W L N G R  
 F H R G T Y T Q A R M M K K L M R T S E I K l H D V E W V A T L L H P D Q Y  
 H H A S G C Y A A H S G I K Q W N R R A E N K l A A E K F S A L A W L T G Q  
 D E F W N G Y Y T S R P S H K A M S R V V E A E V R N A D I L F S M A R H W A P  
 H R G T Y T S Q A R T K R G N R R S E H L R E A E L W L T T A A V R G L  
 Y H R G T Y T S Q A Y N K K M N R K l E L L Y R E A E C L Q M L W A A E S G  
 D N Y W S G F Y T T R P Y F K R L D R I L E S Y V R G A E I L F S I G S M L S D  
 H Q G T L T S Q A R S K R Y N R K M E K A L R E L E F A S V L A A R L G R  
 F H R G C Y T S H A D Q K R W N R R C E G L L Y E A E L L A A L A T L S A G  
 H N G T Y T T W A Q V K K Y N R R C E V W L K D L E I V A T L A R Q R N P  
 H R G T Y T T H A R N K R F N K R A E E I L Y R E A E L W S S V A F P S M G  
 H R G Y Y T S H A D Q K Y Y N R R S E E L L Y Q A E L W S C L A A I I E N  
 H N G T Y T T Q A K T K A Y Y N R Q C E L L R S A E A L S C L A L L K S E  
 H N G T Y T S Q A Q I K K G N R E C E R L L H D V E L L S S L A L A R S A  
 H R G T Y T S Q S N I K K l H K D A E D A L Y F S E V V S V F C K H N  
 D Y W S G Y Y V S R P F F K A V D R V L E E T L R S S E I M M A L L G Y C Q  
 H Q G T F T T Q A M I K K Y N R K l E I I l H D L E L T A S M A M L A N Y  
 Y H R G T Y T S Q A Y V K K M N R Q M E L T R E L E M L Y T S Q H I S G K  
 H R A T Y T A Q A K T K A G N R S E A L L R E V E W W A L A A G S P G D  
 F H R G T Y T T Q A D V K K W V R L L E V K V H D L E W I A T L V S I L N A Y  
 Y H R G T Y T S Q A E N K K S N R K l E L A Y R E V E W L S V M D S L L K S  
 H R G T Y T T Q A R T K R Y N R K L E F A L R N I E W L Y S I V S Q E G L  
 N S V W S G Y F T S R P T S K R L E R F A N N L H Q I S K Q I L A L Q N D E  
 N T Y W T G Y Y T S R P L L K G Y E R H V S S K L R S A E I L S A L Q  
 F W T G Y F T S R P G L K G Y V R E S N K Y l Q V C N Q L E T V A H L R S S  
 W S G Y Y S T R P F Y K S Q E R R L H W L L R A A D L L S A Q V A G E Q I  
 H R G T Y T T H A R N K R S N R K A E V L Y R E A E I W G Q F A G A Y G  
 D A Y W T G Y Y T S R G R T K G l N R R T M N E L A V A E I L Y L S L A R V Y N A  
 F H R G T Y T S Q S K V K K l H K D A E D S L R K A E I I I N A L S E  
 H R G Y Y T S H A D Q K Y Y N R R S E E L L Y E A E L W S C L A A I I E G  
 H R G Y Y T V H R D Q K I F N N R C E T T L R Q I E I W S A I A N N L P H  
 H R G T F T S Q Y E V K K G N R R E H l L R D A E L W C T T A A V R G M  
 Y H R G T Y T S R A E T K R N N R K A E I G M l Q T E F L S V L A L L N G F  
 Y H R G T Y T S Q A H N K K M N R K l E L L R D A E W F Q V L A A R T G E  
 Y W T G Y Y T S R P T L K Y L A H K V N Q l l M V C S S L V T F L K L  
 H R G T F T N Q A R V K A A N R R N E H l L R E A E L W C A T A A V R G M  
 H H S S G C Y S A H S E V K R l N R l A E N R L I M A E K l S V A K H W A G G  
 H R G T Y T S Q A A V K K W N R R A E F A M R D L E L W A S A A A S S G Y  
 H Q G T L T Q A R N K W N R K l E K A L R E L E F A A S L Q I A L G A  
 H Q G T Y T T Q G Q S S K R F N R V M E I A L R E L E M G A V F A N F T G L  
 A Y W S G Y Y T T R P Y L K I L T R Q L E H Q L R T A E I L F T L V S N K K L  
 F H R G T Y T S M A K N K K N N R K S E Y R M M E L E L L S V L A M N E K  
 W T G F Y T S R S R G L K G l L A R R A S A L L Y A G E S M F T R C M W P A P  
 H Q G T Y T T Q A R N K R F N K l E L A R D L E L F V A T I A R A E A Y  
 H N G T Y T T H A K V K K M N R F C E F R L H D V E F L A S M A H I Q A Y  
 Y H R G V Y T T Q A G H K A Y M R E S E E A L L N S E K Y A S L A W L K G V  
 D H Y W S G Y Y T T S R P F H K R F D R V L Q H Y I R T A E I L Y S F M G I K G F  
 N Y W T G F Y T S R P F L K W F D R R L E H l M Q A A D T M L S I G L L S G A  
 Y H R G T Y T T Q A A L K R N l R Q G E K W M L A E K S A S L A W L A G D  
 Y H R G T Y T T Q A E T K R l N R A C E A G L Q A L E F V T T V A A A C R Q  
 H R G V H T T K A A L K K A N R Y C E N l F R E A E M Y A V I A E S Y G Y  
 Y H R G T L T S M G K N K R Y N R K S E Q M Y E Q L E T L G V M A E L K G L  
 Y H R G T Y T T Q A A L K R N l R Q G E K W M L A E K S A S L A W L A G D  
 H R G T L T Q A R T K R N N R M l E Q S L R A T E Y l L S L G S L K  
 H N G T Y T T H A Q I K K G N R E C E R I l H D A E L L S L S L A L A R S S  
 D Y W T G F Y T T R P F Y K R Q E R L H S F I R A A D L L S T T T F M Y N R  
 H R G T Y T T A A K N K K N N R K S E F l F R D A E I V S V F Q Y L E N G  
 H R G C Y T V H R D Q K V F N S Q C E I l L R Q V E I I W S A I A Q N L S R  
 S A H R G T Y T S Q A K V K N N N R R A E L L A L R D M E L W G A A A L V K G A  
 M L H A W H S W D P A  
 H R G T A T S H G S I K R H N R K T E V L L H D L E F F A T L A S G K T Y  
 H R G T Y T S Q A R N K K Y N R R L E L L L R D A E W L H T L N G V R E T  
 H R G T L T H A L T K K l N R K l E L M L R E V E Y l Y S I Y D L E N Y  
 H H A P G C Y S S H G S I K A W Q R R A Q H A V L A A R W A V V A L D G I  
 H R G T Y T T H G R N K R S N R K A E I I L Y R E A E I W S A L S A P S V S  
 F H R G T Y T V Q A Q I K R l M R Q G E I K l H D L E L V A G L V S L K N Y  
 H R G T Y T S Q A A I K K W N R R A E E L T M R D L E L W A S A A A G S A Y  
 F H R G T Y T S H G S I K K G N R K S E F l F M R D V E L V A T L A S L T N Y  
 W T G F Y T S R S A L K G l L A R Q A S A L L S A G E S M F T R T M W P A P  
 H R G T L T S Q S V V K R l H R K A E R A L I T A E T T A S L A H L L G A  
 F H R G T Y T S Q A R T K Q G N R R S E H l L R E A E W L A T A A V R D L V  
 W T G F Y T S R S R L L K R l A R R A S A L L Y A G E S M F T R S V W P A P  
 Y H R G T Y T T H A D V K K F M R F G E I K l H D L E L I A G L V S L K S Y  
 H R G T F T S Q A R V K K A N R Q l E F K l R l A E M l A C C l P l Q  
 Y W T G Y F T S R P G L K R l E R V T S G Y l Q A A R Q l l A G A A G S  
 H R G T Y T T Q A K L K R l N R K T E I G F R E Y E l W A A A A Q L F Q M  
 N Y F A N G C Y T T Q S Q R l K R G N R l E A A F Y D A E A M S A L A G Q K G F  
 H R G T Y T T S Q A R T K R G N R R S E A L L R E A E L W A A T A A R T G A  
 Y W S G F F T S R P A L K R F A R V S N V V L Q Q V R Q L D A L Y Q  
 H R G T Y T T H A R N K R N N R K A E G V Y R E A E L W S T L A L P K Q V  
 H N G T Y T T Q A Q I K R G N R l E Q l L H D I E I A S S L A L C R N F  
 W T G F Y T S R P I A K R Q l E R S S L I R S T D E I Y S I A S A K A A  
 H N G T Y T T Q A Q I K K G N R E C E Q I l H D V E V L S A L A R D S S F  
 H R A T L T S Q H K T K Q G N R R N E Q l L E A E A W A A T A S A R T G A  
 H N G T Y T T H G Q I K K G N R E C E R I l H D V E I L S S L A L V Q K R  
 D Y W S G Y Y D S Y P Y Q K F l S R l L E S E L R T A E I L Y S Y T R M P l  
 F H R G T Y T S Q A L V K R G N R K G E V I R D V E I L A T T A K L L S D Y  
 H R G T F T S Q A D I K l G N K Q A A S L F A A E L W A T N A A V A G V  
 H R G C A T S R P D Q K R H N K T L E R L L R E A D T A S A L L A L T G E

50            60            70            80

|                        |   |
|------------------------|---|
| UniRef90_UPI0003780C65 | A Y P D H E I   H E G W E V I   L R N Q F H D   I L P G S S   K E V Y D D S K E E Y E               |
| UniRef90_UPI0003762C36 | P Y P A D Q L   T D N W K K I   T F N Q F H D   L A A G S S G I   G V I Y K D A Q K D Y T           |
| UniRef90_S6E709        | K Y P A R K I   N D L W E N V L L C   Q F H D   V L P G S S C   I E I V Y Y E S   I P M L E         |
| UniRef90_L0E9P6        | P Y P A A E L   K Q A W K N V L F N Q F H D   I L A G T S   E P A Y E D A L Y L Y G                 |
| UniRef90_U6IRT0        | A T L Y E K L   T E A R R H   A L F Q H H D G I   V G T S K A Y V   M Q D F R R R L A               |
| UniRef90_D7CBT1        | A Y P Y D E L   A A V W K Q V   L L N Q F H D   I L P G S S I   A W V H   R E A E A A Y A           |
| UniRef90_W4CT74        | G F G Q Y P A D A L W Q   I L R N Q F H D   I L P G S S I   H E V   Y Q D S R V E Y A               |
| UniRef90_T1K631        | D R L S N A L N V A R T N L   A I F Q H H D G I   T G T A K D P   V V N D Y G F R M I               |
| UniRef90_W4BAK8        | S Y P S E P L   E T I W K E V   L L Y Q F H D   I L P G S S I   Q R V Y D E S   L I R Y E           |
| UniRef90_UPI00036A4465 | L Y P K V I E L   E T A W K Q V   L F N Q F H D   I L P G S S I   G E V Y A E A N Q G W A           |
| UniRef90_UPI000359B634 | Q Y P K A E L   D R M W K L   L L L N Q F H D   V L P G T S   T M V F E E T M S H Y R               |
| UniRef90_W4BFC4        | G G Q K Q E I V   H E G W K L   L L L N Q F H D   I I P G G S A I   T E S Y V T S E K E Y Y A       |
| UniRef90_B1WUV2        | K I D N E V E   L A W K K V   F N Q F H D   I I P G T A I   T D V F V Q A N K D W E                 |
| UniRef90_R7VB16        | T Y P A E E L   E R I W K L T   L L N Q F H D   V L P G S S I   N M V Y K D A   I K Y Y K           |
| UniRef90_UPI000328C3F7 | Q F L Y P A E T   L Q K L W R L   L N Q F H D   V V P G S S C   I Q L V A E D A M C H Y Q           |
| UniRef90_A8F3F3        | Y S D E   D E L W K V   L R N E F H D   I I L P G S S I   G E V Y Q D A E R E   L S                 |
| UniRef90_U5D7B5        | R L P C H K F   T A A R R N L   A I F Q H H D G I   V T G T A K D H   V V V D Y G G R M H           |
| UniRef90_UPI0001CBB86B | K Y P Q E E L   S E M W K K L   L L N Q F H D   V L P G S S C   I A L V E D A   Q L Y K             |
| UniRef90_UPI0003B6E8A8 | D Y P T D E L   T A I W E V   V L R N Q F H D   I I I P G S S I   K E V Y Q D H R E E M S           |
| UniRef90_R4YVY4        | A Y P A A E L   D E L W K E T   T L Q F H D   I I I P G S S I   A W V H   R E A E A G Y E           |
| UniRef90_G3BAZ5        | K Y P S R E I   R D V W E D L   C L C Q F H D   V I P G S S C   I G M V Y Y E E V K M L T           |
| UniRef90_UPI0004014C2A | D W P Q Q Y L   N E G W K I   V L R N Q F H D   I I I P G S S I   A E V Y E D S K E D Y A           |
| UniRef90_F5YA34        | A Y P K N E L   L K N W K V   L L T N Q F H D   I I I P G S S I   G R V Y A E A E A A Y K           |
| UniRef90_V5GIA6        | Q K P Y N G D N L L S Q A M G V   M Q H H D A I   T G T E K T M V   E R D Y H K R I A               |
| UniRef90_Q54KN4        | K Y P P N Q L   L N A S K Q V S I   L Q H H D A I   S G T S K K H   V Q D Y F S R L Q               |
| UniRef90_H2Z3Z0        | N L R T S K S   N V L R A A M G V   A Q H H D A I   V S G T S K Q H   V A N D Y A K R L Y           |
| UniRef90_U6NTJ8        | V N T T F M   L D K A R R A L L   L F Q H H D A I   T G T S R K H   V H R D Y S E Q L H             |
| UniRef90_W4BJ17        | A H T K N D L   D E G W K L   I M L N Q F H D   I I I P G T S   I P E V Y V T S T E E Y T           |
| UniRef90_D8MB36        | E E V F E K V   M K L R K A Q G E   F Q H H D A I   T G T E K Q A V   A N D Y N V Q M E             |
| UniRef90_F7YUW7        | K D Y Q E K I   D E L W K I   L L R N E F H D   I I I P G S S I   I R K V Y K T T E K E   L S       |
| UniRef90_A3ILF2        | K G I D N E V   K S A W K K V   L F N Q F H D   I I I P G T A I   K D V F V Q A N E E W K           |
| UniRef90_B1XKZ5        | P D P F R Q L   K D L W K V K   F N Q F H D   I I I P G T S   I P E V F T E A N Q Q W Q             |
| UniRef90_F3NY63        | D Y P G E R L   A E I W R T I   C L Y Q F H D   I I I P G S S A I   A W V Y R E V I A D H H         |
| UniRef90_R5CA98        | A Y P K A Q L   D Q S W L   L L R N Q F H D   I I I P G S S I   H E V Y E Q S D R E Y A             |
| UniRef90_W7CGB3        | A Y P N D L   L Q E S W R I   V L R N Q F H D   I I I P G S S I   Q E V Y E D C V V E Y E           |
| UniRef90_A0A023F025    | E H A N S G L   F F L K R V   V A L V Q H H D A I   T G T E K Q H   V V A D D Y T V Y   L Q         |
| UniRef90_K7SNW6        | P Y P G Q R L   A E I W R E   V C L Y Q F H D   I I I P G T A I   A W V Y R E V I A A H A           |
| UniRef90_U2B322        | K Y P L E K Y   T E S W K K V   L F N Q F H D   I I I I M A G T S   I E P A Y E D A R E S Y G G     |
| UniRef90_D3AJX7        | R Y P A E E T E R L   W K E T   T L L N Q F H D   I I I I L P G S S I   H R V Y E E A E S S L G     |
| UniRef90_C6J130        | E Y P A A R L   L E K I K W E   V L L Y Q F H D   I I I I L P G S S I   T R V Y D E S L E R Y A     |
| UniRef90_H1XSQ5        | T Y P Q E K I   E K L W K E   V L L Y Q F H D   I I I I L P G S S I   T R V Y S E S L P R Y E       |
| UniRef90_H9JRV7        | E K S Y E N L   I T A R R N L   G L F Q H H D A I   T G T S K S A V   M Q D Y G T K L F             |
| UniRef90_UPI00040ABA0D | A Y P A E E L   D A M W K T I   L M N Q F H D   I I I I L P G S A I   K E A Y D V T D V E Y A       |
| UniRef90_UPI0003C8738C | A W A L K R   Q Q L R W A V   S E V Q H H D G I   T G T H T P N   V T D M L V E H L S               |
| UniRef90_D6TWS4        | T Y P T S E I   E A I W K E   V L L Y Q F H D   I I I I L P G S S I   T R V Y D E S L T R Y Q       |
| UniRef90_K1QJL8        | K F P T E E L   H R L W K   L L L N Q F H D   I I I I V L P G T S   I G L V Y E D A H Q Y Y D       |
| UniRef90_E8V415        | T Y P T S D F E   E D S W K K V   T F N Q F H D   I I I I D L G A G S G I   G V I Y K E A A E D Y K |
| UniRef90_J9AU0M0       | K R L F G L   L V E A R R W M N   L F Q H H D G I   T G T S K N E V M A D Y G Q K F                 |
| UniRef90_E4Y0C3        | E E I Y K K I   R A G R R E   V D L F Q H H D A I   T G T E K D F V H R D Y A D H L L               |
| UniRef90_B9WFT5        | K Y P G A K I   Q S L W E D L   C L C Q F H D   I I I I V L P G S S C   I G M V Y Y D E A Y M L R   |
| UniRef90_UPI00036A4191 | P A P S Q E I   E A L W R T   L L V N Q F H D   I I I I I P G S S I   R E V Y E R A E V E L A       |
| UniRef90_R5YD1Y        | E Y P T E E L   A L A W R K I   L T N Q F H D S I   I P G T H   T E V F G K L M S I Y D             |
| UniRef90_R5F0T0        | E Y P A G V I   K R G W D I   I L L N Q F H D   I I I I I P G S A I   G P V Y E Q T D R E Y E       |
| UniRef90_UPI0003B72127 | P Y P A G Q L   N E A W K K V   L F N Q F H D   I I I I V A A G S S G V   G T I Y R D S A K D F E   |
| UniRef90_UPI0002625B1E | D Y P Q E E L   D R L W K T   L L I N Q F H D   I I I I I L P G S S I   H W V Y E V T E R E H L     |
| UniRef90_UPI0003F09316 | Q F L Y P K L   Q D L W R L   L L L N Q F H D   I I I I V V P G S S C   I Q L V I E D A M R Y Y E   |
| UniRef90_A0A044S8G4    | Q I I Q Q K O L   T I A R R S L   A L F Q H H D A I   T G T S K N H   V M K D Y S Q R L F           |
| UniRef90_UPI00045E9BC0 | R F Q G T D L   E K G W K   L I L N Q F H D   I I I I V L P G T C   I G E V Y E E C D R D Y E       |
| UniRef90_UPI00040E41DF | E N F Q A Q I   T H L W K K V   L F N Q F H D   I I I I I L P G T S   I P E V T E A N Q Q W Q       |
| UniRef90_UPI00040CD242 | S Y D T K E A E   I F W R E   L L L H   F Q H F D   I I I I I L P G S G I   Q R I Y I E S N E R M E |
| UniRef90_A0A034VR0     | A K F D E M L   Q N A R R E   L S L F Q H H D G I   T G T A K T H   V V N D Y A R R M L             |
| UniRef90_M7X7W6        | A Y P K D E I   D A L W E D M   L L C Q F H D   I I I I V L P G S A I   G M V Y E D A E K I Y A     |
| UniRef90_UPI000378A2DF | G Y P A E E L   R G I W E   I L L R N Q F H D   I I I I I P G S S I   K E V Y E D S D L E Y A       |
| UniRef90_UPI00037D7C44 | P Q E D L   D R L W K   V V L L N Q F H D   I I I I I P G T S   I S Q V H V E C I A E Y K           |
| UniRef90_UPI0003B2EDCD | E Y P R A D L   E R A W K   Q I I F N Q F H D   I I I I I L P G S A I   E P S Y D D A R D Q L G     |
| UniRef90_UPI00037A422C | A D R Q R E V   Q E G W K   I I L L N Q F H D   I I I I I L P G S S A I   T E S Y V T S L K E Y E   |
| UniRef90_H8WZA2        | H Y P T K Q I   N D L W E D L   C L C Q F H D   I I I I V L P G S S C   I G M V Y E E V F P M L T   |
| UniRef90_N9VMR4        | Q Y P A E Q T   E R L W K E T   L L N Q F H D   I I I I I L P G S S I   H R V Y E E A E R S L G     |
| UniRef90_S8DQ91        | V Y P N D K I   N D C   Q F H K V   L L N Q F H D   I I I I I L P G S S I   H R V Y E E A E R S L G |
| UniRef90_UPI00032AFE5F | A W A L Q Q L   Q Q L R W A V   S E V Q H H D A I   T G T E S P A V R D M Y V E H L T               |
| UniRef90_UPI0004140C5D | P K P E S L   E P A W R T   V L K N E F H D   I I I I I L P G S S I   H E V Y E D A A K E L G       |
| UniRef90_M5B839        | A Y P H D E L   D A L W R T   V L L L Q F H D   I I I I I L P G T S   I A W V                       |
| UniRef90_UPI0002C5769F | D W A L K Q L   Q Q L R W A V   S E V Q H H D A I   T G T E T P K   V R D M Y V K N L R             |
| UniRef90_M3JZE4        | T Y P G K E I   L D L W E D L   L L C Q F H D   I I I I V L P G S S C   I G M V Y Y D E V Y M M K   |
| UniRef90_H1XQS7        | A Y P A D F F   E E N W K R   L L L N Q F H D   I I I I I I P G S S I   N E V Y Q T V F K E Y E     |
| UniRef90_D7JFT1        | G G G G D D A A G F E R A   Q A L V Q H H D G I   V S G T S K Q H V A D D Y A Q R L L D             |
| UniRef90_C6D723        | K Y P Y E K M D G L W K Q   L L L H   F Q H F D   I I I I I L P G T S   I H R V H E E A Q A E L L A |
| UniRef90_R5H0S5        | P Y A K E K   T K A W E D L   F T H F D   I I I I I L T G S C   I V Q D S R E H A M G L F Q         |
| UniRef90_V6JL42        | P Y P Y E R L   E S L W R R   V L L N Q F H D   I I I I I L P G S S I   S A W V                     |
| UniRef90_K3X179        | S H H S A R L   E K L Q R A   V G L T Q H H D G I   S G T E K Q S V A D D Y A L R M N               |
| UniRef90_G7VT37        | Q D I R T T L   H E G W K   L I L L N Q F H D   I I I I I I P G S A I   T E V Y G T S D K E Y Q     |
| UniRef90_G3NLC8        | Q Y P V E K L   Q E L W R   L L L N Q F H D   I I I I I I P G S C   I E M V V E D A L R Y Y E       |
| UniRef90_F4Q441        | T M S Q P S I   Q F A R R M L A   T Q H H D A I   T G T A R S Y V M Y D Y L L K L T                 |
| UniRef90_U3IXQ9        | Q Y P G S Q L   Q R L W R   L L L N Q F H D   I I I I I I P G S C   I Q L V V E D A L Q Y Y A       |
| UniRef90_UPI00035D50DA | D Y P Y E E L   D A L W Q Q   V L L L Q F H D   I I I I I I P G T S   I A W V H E E A V A Q H A     |
| UniRef90_V8NWL2        | S F Q Y P S A Q L   Q H L W R   L L L N Q F H D   I I I I I I P G S C   I Q L V V E D A M Q Y Y S   |
| UniRef90_G4M0J4        | T N L Y Q N   L T T V R   R N L G L F Q H H D A I   T G T A R P E V M L D Y S E K L L               |
| UniRef90_F7B602        | R G P L A Q P   Q Q L R W A V   S E V Q H H D G I   T G T E S P K V R D M Y M N N L M               |
| UniRef90_G0QPY6        | S K F Q S K L   D S L E Q N M A   L Q H H D A I   T G T E K Q K V A D D Y Q Y R L Y                 |
| UniRef90_S2K107        | S Y P T D D I   N R L W K   L L C Q F H D   I I I I I I P G S A I   I N L A Y V D V H K F H R       |
| UniRef90_UPI00040F462C | M E Y P T R L   A E L W K D T   L L C Q F H D   I I I I I I P G S S I   A W A C K D A V I A S L K   |
| UniRef90_Q3AUQ8        | P S P S S D   W R P L F Q Q F H D   I I I I I I P G T S   I P E V F D H A E T L W R                 |

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|                        |   |
|------------------------|---|
| UniRef90_UPI0003780C65 | A I L R A G R E Y T D G K L A G L A K C I N A P T H S L         |
| UniRef90_UPI0003762C36 | E V F H V D H E V S A S A L N T L A D T I D T S S K S           |
| UniRef90_S6E709        | N V L K E C D K L L Q G A Q K V L S N                           |
| UniRef90_L0E9P6        | E A M A I G D R A L N Y A I Q S L S W R I G I E Q D E           |
| UniRef90_U6IRT0        | L A L S H A Q N I S S L S T A F L L G G D                       |
| UniRef90_D7CBT1        | D V D K R L N A L I E G A Q A V L G G T G D P                   |
| UniRef90_W4CT74        | E A E Q L G L A A R T A A V E G L V G P A S A S                 |
| UniRef90_T1K631        | T S L Q N C Q A I I S T M S F Y L L                             |
| UniRef90_W4BAK8        | E L L Q Q T E A M I T D T Y S F L A                             |
| UniRef90_UPI00036A4465 | E V E R V G E E I L T A A M D A I I A S Q I T                   |
| UniRef90_UPI000359B634 | D I E K T T S A L I N E A A R A G V Q K Q T T P A E G T P       |
| UniRef90_W4BFBC4       | E V F R K G N R S L S Q G L Q V L A G Q A D T                   |
| UniRef90_B1WUV2        | A V K T I G N R I I L Q S A F K K V L K F P T I P K P E         |
| UniRef90_R7VB16        | D V V R S A D K I I K T A L P A I                               |
| UniRef90_UPI000328C3F7 | D I R S H G N R L L S T A A A G L                               |
| UniRef90_A8F3F3        | Y V K E K A T E I F E K A I I N S I T K K N K S I I S I L N L S |
| UniRef90_U5D7B5        | T S L H D L Q I F M A K A V E A L L N Q P S L F E P             |
| UniRef90_UPI0001CBB86B | E V E K V A L T A L T K A R N S L S A K                         |
| UniRef90_UPI0003B6E8A8 | S I V T S S Q N L   |
| UniRef90_R4YVV4        | R I I G R C E A L I I A D S L G T I A                           |
| UniRef90_G3BAZ5        | R N L E A I V D K L L K R A L G E L                             |
| UniRef90_UPI0004014C2A | K A N D I I R E V R   |
| UniRef90_F5YA34        | K M E E E L A V L A V S A R K K I I L S K                       |
| UniRef90_V5GIA6        | K G M E T A I S D I S T S L T S I L G                           |
| UniRef90_Q54KN4        | K A S E Q S E K L L A S A L S                                   |
| UniRef90_H2Z3Z0        | S G G R H C K D V I S S V I                                     |
| UniRef90_U6NTJ8        | N A T L L A S S V I E S S F G A I                               |
| UniRef90_W4BJ17        | K V F A L G T S A L R E T L D T L A E N I A T D E V D           |
| UniRef90_D8MB36        | D G S F F A N E A T S T I L G A M L                             |
| UniRef90_F7YUW7        | Q V I E E C E K I I K N C V N Q S E A K I T T L F N P S         |
| UniRef90_A3ILF2        | A V Q S I G N T L L K S A L E K I I I S Y I I Q V P             |
| UniRef90_B1XKZ5        | E V I N A G E A M L S Q N L Q A I A T Q I T Y D C P             |
| UniRef90_F3NY63        | R I S N E L T E L I H H A Q Q L A G D G N                       |
| UniRef90_R5CA98        | Q I M E S N E K   |
| UniRef90_W7CGB3        | E A E N L A   |
| UniRef90_A0A023F0Z5    | E A I T T A E H I F T K A F R K F F G E H                       |
| UniRef90_K7SNW6        | A I S T E L E T M I D E A Q R L L A R S G D A                   |
| UniRef90_U2B322        | A A L D T A A R G L N A A V Q S I I S W H I D I P               |
| UniRef90_D3AJX7        | R V C E E A A G K F C R D A V T S L I Q E G E G                 |
| UniRef90_C6J130        | Q L L E E V Q T M I A E A Y G R I A G R S G A                   |
| UniRef90_H1XSQ5        | K M L S Q A Q E M T D D V I K S V A S V C D S S N F E Q P I     |
| UniRef90_H9JRV7        | T S I N H C I R L Q E T A L T T I M V P D E T                   |
| UniRef90_UPI00040ABA0D | E I M E K S G K L L D E R M D A I T P S G D G I S               |
| UniRef90_UPI0003C8738C | A G V Q G V H K L M A S I I Q D R T P A H S G P E P G G L F A   |
| UniRef90_D6TWS4        | Q L F A Q V Q D L L Q A A F I H L P Q Q A K V E R P V T V F N   |
| UniRef90_K1QJL8        | D I V A S C Q K L L S S D A L A S I I A D S A Q S N P           |
| UniRef90_E8V415        | H V F Q Q A R D A D M A S L P A L L A                           |
| UniRef90_J9AUM0        |   |
| UniRef90_E4YOC3        | N G Y K N L K E A F S Q T L S S I                               |
| UniRef90_B9WFT5        | K L L K K A D E L I F E A L K I V                               |
| UniRef90_UPI00036A4191 | G V A E E A G R R T Q A V L E T L                               |
| UniRef90_R5YDY1        | E V I E T G E R V R N E A L A V I A E                           |
| UniRef90_R5F0T0        | E I L L K S G A E   |
| UniRef90_UPI0003B72127 | Q V H L S T D Q V R D Q A M R T V M S                           |
| UniRef90_UPI0002625B1E | D A L A T C E R L R N E S V K Q L F D Q D R D                   |
| UniRef90_UPI0003F09316 | D I R S C G N E L L S A A A T A L                               |
| UniRef90_A0A044S8G4    | D S A K I V E N V L K   |
| UniRef90_UPI00045E9BC0 | E I S R I G Q Q S I R Q N L D S M A                             |
| UniRef90_UPI00040E41DF | A V L S A G E A M L T E S L E A I A Q Q I N Y E N P             |
| UniRef90_UPI00040CD242 | K L I E K V R S N T E N F A A A                                 |
| UniRef90_A0A034VRRO    | S A V T T C Q F V M Q Q S V Y R L L T K P S I Y I P D Y K F     |
| UniRef90_M7X7W6        | N V T E K G   |
| UniRef90_UPI000378A2DF | E G E A R S L A L I N   |
| UniRef90_UPI00037D7C44 | A A M L E L K D F L Q K A H E K M S A N I S N P T F E           |
| UniRef90_UPI0003B2EDCD | E A V A L A K R I V A R A H N V I A R Q V D V P F E D           |
| UniRef90_UPI00037A422C | D I F E K G H A G L Q H G L E A L S G Q I A T K G E G V P Y     |
| UniRef90_H8WZA2        | S L L E K A D K L I F K A F E A S G K P K                       |
| UniRef90_N9VMR4        | R V C E E A A E K L C G E A V S S L I K E G D G                 |
| UniRef90_S8DQ91        | E V R T D G T Q L L A D A W A A L F P E S                       |
| UniRef90_UPI00032AFE5F | A G M R G V H K L M A S I I S                                   |
| UniRef90_UPI0004140C5D | D V I D T G L K   |
| UniRef90_M5B839        |   |
| UniRef90_UPI0002C5769F | S G M Q G V R E L M A S I V Q                                   |
| UniRef90_M3JZE4        | E L F K K A D A L I L K A L K A G G N K S N V P                 |
| UniRef90_H1XQS7        | Q M F R S L D E M I K R T A R Q L F T E N T N S                 |
| UniRef90_D7JFT1        | R S R V Q V E T L V S S A L S R L A                             |
| UniRef90_C6D723        | K L H E T I Y E M A D D A K A M L V K S E T V F N P             |
| UniRef90_R5H0S5        | T S M A T A N T Q I T N A M R V I A E K I D T S S               |
| UniRef90_V6JL42        |   |
| UniRef90_K3X179        | G G I I E A A E K E F N E V F F V I G E K E K                   |
| UniRef90_G7VT37        | Q I F K W G H E G L Q Q G I T T L A T Q V N T                   |
| UniRef90_G3NLC8        | D I R S K G A A L L H D A L G A L G S K G                       |
| UniRef90_F4Q441        | S A R Q M C N D I M S K S M E L L L S N                         |
| UniRef90_U3IXQ9        | E I R R A G A Q L Q E E A V Q S L                               |
| UniRef90_UPI00035D50DA | A I T E G V Q A I I D R S L R A L V G E G D V                   |
| UniRef90_V8NWL2        | E I R S S G A Q L L R E A T H S L                               |
| UniRef90_G4M0J4        | R A V D A A R K V I T I S S A Y L L L P S M L K S D I E F S     |
| UniRef90_F7B602        | E G M L A V E K L M A S I I I D I F W A E K K E E P Q T T       |
| UniRef90_G0QPY6        | N S T Q K L N E V L H K V V Q E Y V L K D I Q E D I R F S       |
| UniRef90_S2K107        | Q V I S E S S L R H K S Q S F L I A K R S T                     |
| UniRef90_UPI00040F462C | A V K E A A D Q I A A T A R K R L L A G                         |
| UniRef90_Q3AUQ8        | D A R R K G K Q Q R D L S L A K L L Q V P N                     |

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|-------------------------|---|--|--|--|
| UniRef90_UPI000363539A  | H R A T L T T Q S H T K R L H R H A E R A L I T A E T V A S I L A N M L G A       |  |  |  |
| UniRef90_D2RBR7         | H R K T L T S Q Q D M K R Y C R M E E S L L R V A E Y L V V L A R V Y A P         |  |  |  |
| UniRef90_N2A7V1         | Y H R G T L T S M A R N K R S S N R K S E L G L M D L E L L G V L A A D S V       |  |  |  |
| UniRef90_M1LX80         | Y H R G T Y T S S M A R N K R S S N R K S E F A L M D L E M L S V W A E K Y G M   |  |  |  |
| UniRef90_Q8DM33         | F H R G C Y T S H G D Q K A A H D R A Q R Q L Q E A E R W C A L A A I T S F       |  |  |  |
| UniRef90_UPI0003B5D7F2  | G C Y T S V A R V K E G N R H C E S A L F T G E F L L S S L N R F L G D           |  |  |  |
| UniRef90_G4HED8         | H R G T Y T T H A R N K R H N R K A E I L Y R E A E L W G T M A F P A E R         |  |  |  |
| UniRef90_A0A024KHL8     | Y H R G T L T S V A R V K E G N R H C E S A L F T G E F L L S S L N R F L G D     |  |  |  |
| UniRef90_H2Z3Y8         | F W T G Y F T S R P G L K G Y V R E S N K Y L Q V C N Q L E T V A H L R S G       |  |  |  |
| UniRef90_S0EX37         | G C Y T T H A D I K K A V R S T E N A L Y A A E A F S S L A A M S G L             |  |  |  |
| UniRef90_U2C3M6         | H R G T L T A Q D M K R G C R Q E E S M L R V V E Y L C A V A S I K N P           |  |  |  |
| UniRef90_G8YH76         | Y H R G C Y T S Q A L V K K L N R Q N E V A L H D L E W I A S L V S V A A A       |  |  |  |
| UniRef90_UPI000402B96C  | H R G T L T S Q G R T K R L N R Q A E R A L I A A E V S G S L S A L L G G         |  |  |  |
| UniRef90_E5S4X5         | H N G T Y T T Q A E V K R K N R K G E F L L R D C E M L A A M R F V L D S         |  |  |  |
| UniRef90_X6NIG1         | H R G T Y T T H A A I K K G N R R G E C L L Q Q C E F L H S L L D P K G H         |  |  |  |
| UniRef90_I1BJY6         | H R G C Y T T Q S L C K K L N R S C E F L L R D I E M L A T L T L L K F P         |  |  |  |
| UniRef90_C7MBG9         | H R G T Y S S Q I L G K Q G N R T E A L L H D V E L W S A T A A R D G F           |  |  |  |
| UniRef90_D6W115         | G Y F T S S R P A S K R F V R E A N T M L Q V A K Q L A A V A N L                 |  |  |  |
| UniRef90_A0JPA7         | H N G T Y T T Q A Q I K K G N R Q C E Q L L H N V E A L S A F A L A E D T         |  |  |  |
| UniRef90_W4FN45         | N G Y W S G Y F S S R P A L K R Y V R V A N S L Q S V R Q L E V W A G A K S       |  |  |  |
| UniRef90_R5XKB7         | H R G T F T T K S N L K R T N R R L E F K F R S A E M L S V L R G                 |  |  |  |
| UniRef90_W9ACZ6         | F H R G T Y T S Q A Y N K K S N R K L E L L Y K E V E V L S S A I T D N W E       |  |  |  |
| UniRef90_T1GTD2         | Y W V G Y F S S R P N L K R F E R D A K L S S K D                                 |  |  |  |
| UniRef90_UPI000161D5AF  | S Y W T G F F T S R P T F K A F R Q S S A L L Q L V K Q L K S A A M Q M A N       |  |  |  |
| UniRef90_M4AND4         | H N G T Y T T Q A Q I K R E N R Q C E T L L H D V E V A S S L A L C R S E         |  |  |  |
| UniRef90_F0Z8X6         | Y W T G Y Y S T R P V L K R Q C R E T S D L L R N S E S L Y T F A Q Y S S N       |  |  |  |
| UniRef90_E8N9Y8         | H R G T L T S Q V I K T K Q G N R R T E R L L H E T E L W A A T A A L R G A       |  |  |  |
| UniRef90_D2PXD2         | G C Y A A H S E V K R Q N R L A E Q R L L A A E K W T T I A G L S G T             |  |  |  |
| UniRef90_UPI00045EA445  | W H R G T Y T S Q A W I K K E N R L T E R R L R E A E L L N S I A C F T E N       |  |  |  |
| UniRef90_K7E872         | H N G T Y T T Q A Q L K K R N R E S E Q I L H D V E V L S A L A R D N S F         |  |  |  |
| UniRef90_UPI0003592723  | D Q Y W T G F Y T S R P L Y K H M A R W L H A K L R I T D I L L T L L C A G D T   |  |  |  |
| UniRef90_C7QF3          | H R A T L T S Q A K T K Q G N R N S E Q W L H L A E T T A A A A V R A G A         |  |  |  |
| UniRef90_UPI0003631B73  | H H S S G C Y S A E S Q V K R Y Y N R K A E N A L L R A E K F S V L S E L V T G   |  |  |  |
| UniRef90_UPI00034BF9AC  | F H R G T Y T S K A D R K R Q N R Q L E V V W L T N V E K L R A I A A I A N I     |  |  |  |
| UniRef90_A0A024UMW7     | N G Y W S G Y F S S R P A L K R Y V R V A N S V L Q S V R Q L E V W A G A S A S   |  |  |  |
| UniRef90_F7KCQ1         | H H A S G C Y S V L S R V K R E N R R A E D K L M E A E G W S S I A K A V E G     |  |  |  |
| UniRef90_B8E0L0         | H H R G T F T T Q G R I K R L H R I A E N H L I T I E S L A T L N A L E N T       |  |  |  |
| UniRef90_I6SZN2         | Y H R G T Y T S I Q G K N K R N N R F G E T T L L Q T V E K L Y S I F A R E       |  |  |  |
| UniRef90_A0A024UL77     | Y W S G Y F S S R P A L K K Y V R T A N G L L Q F V R H L E V W A R V S           |  |  |  |
| UniRef90_G8NVN1         | F H R G C V F T T Q A Q H K A N M R N S E V A T L D A E K L A S F A W L D G K     |  |  |  |
| UniRef90_J9IEK3         | S Y W T G Y F T S R S A N D K E Y M R R G S A N L H A S S K L Y S F Q A I D K Y   |  |  |  |
| UniRef90_I0YWI4         | S Y W T G Y F T S R P T S K G Y V R T C T S F L Q A A R Q M E V L S D V A D A     |  |  |  |
| UniRef90_UPI00034F379F  | W T G F Y T S R S A L K G L A R Q T S A L L Y A G E S M F T R Y M W P A P         |  |  |  |
| UniRef90_H2Z3Z5         | F W T G Y F T S R P G L K G Y V R E S N K Y L Q V C N Q L E T L T D L P G A       |  |  |  |
| UniRef90_D8RZF2         | D D Y W S G Y Y V T R P F Y K A L L D R L L E E T L R A A N I L F F F T Q L K C N |  |  |  |
| UniRef90_K9ZY41         | H H A R G C Y A A V S D I K R L N R Q A E H A L L R A E K L A V M A R S A N F     |  |  |  |
| UniRef90_F7CM69         | W T G F Y S S H S G L K G L A R R A S A L L Y A G E S M F T R F M W P A P         |  |  |  |
| UniRef90_L0LWJ5         | H R A T L T S Q S G V V K R K H R Q A E R A L I T A E T L L A S L A H M L G A     |  |  |  |
| UniRef90_R2PSK5         | Y H R G T Y T S I Q G K N K R N N R L G E N L L Q T V E K L Y S V L D R M         |  |  |  |
| UniRef90_UPI0003B6B5B9  | H R A T L T S Q S A V K R L H R K A E R S L V T A E T L L A G L A Y L L G G       |  |  |  |
| UniRef90_H4ZF14         | H Q G C F T S E S A T K A H N R I M E N K L H D A E F F T I T T N N M T           |  |  |  |
| UniRef90_UPI0003B3B22C  | F H R G M Q T T Q S D H K R N M R E A E E Q V L D A E K Y A S L A W L D G Q       |  |  |  |
| UniRef90_UPI00046BFDF8F | H H G T Y T T Q T Q I K K G N R E C E R I L H D A E V L V L S S F A L T Q K N     |  |  |  |
| UniRef90_L7M1G2         | H N A T Y T T H A R T Q K L N R M C P E Q A L R D A E M I L Y S V V F A L A P     |  |  |  |
| UniRef90_UPI00037AC813  | H H A S G C Y T S Q A Q I K K H R K L E N E L Y Y M A E K M A A N A F I N G I     |  |  |  |
| UniRef90_S0FI62         | Y W S G Y F T S R P G F K G Y V W D T N P V L Q M C H H M N L R G G N A L E       |  |  |  |
| UniRef90_E4XSB7         | H R G T L T S Q V I A M K R H N R A C E S L L R A A E Y L S A A A T L R G A       |  |  |  |
| UniRef90_D7C4D2         | H Q G C F T S E S T T K A H N R N M E N K L H D A E F F T S I A N N M T           |  |  |  |
| UniRef90_V1GQ21         | H R G T Y T S H S A M K A L H F D A E R W M R E L E A W S A L A N Q               |  |  |  |
| UniRef90_D9PYY5         | Y H R G T Y T S Q A F M K Q M N R K L E L L Y R R A E F L T S W L S E N G Q       |  |  |  |
| UniRef90_UPI00047EBE1F  | Y H R G T L T S I Q G K N K K A N R Q G E F F L Q T I E K L Y S I C G M N         |  |  |  |
| UniRef90_C9ABB6         | Y W T G Y F T S R V A I K G N V R D S G R Y L Q H L R N I F S V A K M T N Y       |  |  |  |
| UniRef90_Q23BN3         | Y W S G Y F S S R P T F K K Y V R V A N G L L Q S V R H L E V W T H A S H S       |  |  |  |
| UniRef90_W4FPL0         | Y H R G T Y T T Q A K V K D L M R T S E K L V R D I E V L A S A A S I K T Y       |  |  |  |
| UniRef90_I2JUJ2         | H H A T Y T T T Q A K T Q K G N R N R E H L L R E A E L W A A T A A L T G L       |  |  |  |
| UniRef90_N0D1D1         | H H A T Y T T T Q A K T Q K G N R N R E H L L R E A E L W A A T A A L T G L       |  |  |  |
| UniRef90_D3BPQ7         | D W W T G Y F T T R P G V K G L A R S A Q T D Y R V A Q M L S V Y N N N           |  |  |  |
| UniRef90_F4PTP7         | H R G T Y T T T Q A N C C K K G N R K C E Q L L H D V E A L S T I L D L H K E     |  |  |  |
| UniRef90_R5MG20         | H R G T F T T K A D Q K R K H R R A E I L I T E A K I A I A A I A Q Q A           |  |  |  |
| UniRef90_UPI00034C59F4  | F H R G T Y T T T Q A D Q K R K H R R A E I L I T E A K I A I A A I A Q Q A       |  |  |  |
| UniRef90_O01574         | D Y W T G Y Y T T R P F F K R Q G R L L H S L I R N G D I M L S M L R V N K I     |  |  |  |
| UniRef90_M7NLA5         | H R A T L T S Q H L T K A G N R R T E Q O L L V E A E L W A T T A A R T S Y       |  |  |  |
| UniRef90_F4B5D2         | H R G V Y T S H S K M K Y L H R R A E C T L R D A E I W S T I A G R               |  |  |  |
| UniRef90_UPI000380F2E5  | Y S S Y M P I K Q A N E R C E N L L I N V E P T A S L A W L L G R                 |  |  |  |
| UniRef90_T4VXM2         | Y H R G T Y T S Q A Y T K M M N R K L E L L Y R E T E W L S T V A C L T N N       |  |  |  |
| UniRef90_S0FEZ3         | Y H Q G T Y T T Q S R N K R Y N R K L E L A L R E L E F A S V L S V V K Q G       |  |  |  |
| UniRef90_F4A260         | H H A S G C Y S V N A W V K A M N R R C E Q L L T A E K F S L I A H M F N T       |  |  |  |
| UniRef90_R6NMR9         | H H A S G C Y S A T S M V K Q L N R R A E F W L R S A E K W N T L A A L T D L     |  |  |  |
| UniRef90_O54782         | W T G Y F T S R S T L K G L A R Q A S A L L Y A G E S M F T R Y M W P D P         |  |  |  |
| UniRef90_Q01DD0         | H R G C A T S R P D Q K R H N R S L E R L L R E A E L S A A L L G T R A D         |  |  |  |
| UniRef90_F4PYP9         | N Y W A G Y Y T T S Y P L L K Q T L R Q S D Y L L R S A E V V L F S I H N I I D E |  |  |  |
| UniRef90_W5PM86         | H A W T G Y F Y A S R S G L K G L A R A S S L L Y A G E S M F T R Y V L L N P     |  |  |  |
| UniRef90_UPI00047A6C04  | F H R G T Y T S S G K N K K N N R K A E F V M S E L E T R K V F D F L K G A       |  |  |  |
| UniRef90_A1A2T6         | H R A T L T S Q Q E M K R G C R R E E N L L R T T E Y L C A A A S V F N P         |  |  |  |
| UniRef90_A0A024G3G2     | D F W V G Y F T S R P A L K R F V R V S N T L L Q Q F R Q I D A V Y Q             |  |  |  |
| UniRef90_E9BYD6         | H R G T Y T S Q A N N K G N R K G E L R N V E M L V S I V N L P G P               |  |  |  |
| UniRef90_D3UPW4         | T A S S R Y I Y L K Q A N E K M E R L L E R A E P I S V M A S D A G V             |  |  |  |
| UniRef90_D9W7S5         | H R G T L T S Q V A M K R H N R A C E S L R A A E Y L A A A A T L R G A           |  |  |  |
| UniRef90_R5A9B6         | H H A S G C Y A A N S A V K R A N R L A E N A L L K A E K F H L L A Q L T G C     |  |  |  |
| UniRef90_X1YFM2         | H S W T G F Y A S R S R G L K G L A W X A S A L L Y A G E S M F T R H R F L D R   |  |  |  |
| UniRef90_UPI0003AF719B  | H H N G T Y T T Q A V Q V K K Y N R K C E V W L R D L E L L A T L A C Q R N P     |  |  |  |
| UniRef90_UPI00035A1500  |   |  |  |  |

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UniRef90\_Q8DM33 T Y P A E D L R E A W E T L L F N Q F H D I L P G S S A I H E S N M D A V I A D Y K  
UniRef90\_UP10003B5D7F2 K G M □ R A L H E G W K L I L L N Q F H D I L P G S S A I T E S Y V T S E K E Y K  
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UniRef90\_H2Z3Y8 P Y P V Q G F E E A W K P T A F A Q F H D I M C G S A I H S T Y P W M E S Y □ L T  
UniRef90\_S0EX37 G Y V Y P R E D R I W K T L L L N Q F H D I L P G S S A I A W V H R Q A R E E Y A  
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UniRef90\_D9W7S5 UniRef90\_R5A9B6 UniRef90\_X1YFM2 UniRef90\_UP10003AF719B UniRef90\_UP100035A1500  
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| UniRef90_UPI000363539A  | E A L D T G L D A Q R D G L K A L A G                           |  |
| UniRef90_D2RBR7         | R D I S C L R K I S D I A H V I V K A N S A                     |  |
| UniRef90_N2A7V1         | Q L A A Q L A E L I G Q R T K A L S G T G E A                   |  |
| UniRef90_M1LX80         |   |  |
| UniRef90_Q8DM33         | Q L L K T T E T L L A A A Q T A L C A S I D Y G T P             |  |
| UniRef90_UPI0003B5D7F2  | W I L S R A E K A R D F A L R K L A D E V R I P P               |  |
| UniRef90_G4HED8         | E V F K L G Q T S L H T A V K A V A E Q I N T E G E G I P Y     |  |
| UniRef90_A0A024KHL8     | T L F S T L   |  |
| UniRef90_H2Z3Y8         | P A R Q W A D Q Q T A K A L Q T L T S                           |  |
| UniRef90_S0EX37         | R D I A H L R D I A A A A G Q A                                 |  |
| UniRef90_U2C3M6         | R V Q S K T K E L I K A A V D A L S S K E V G S K H S F         |  |
| UniRef90_G8YH76         | A A R D A G   |  |
| UniRef90_UPI000402B96C  | Q L T S E C E N Y L D E S A                                     |  |
| UniRef90_E5S4X5         | H I D E S I S K L I H E G Q V L L A K                           |  |
| UniRef90_X6NIG1         | K I D I L G K Q M R N E Y L T K L L G                           |  |
| UniRef90_I1BJY6         | Y I T E R G   |  |
| UniRef90_C7MBG9         | K G I S D A V N A I N P I L S N L I S G S D                     |  |
| UniRef90_D6W115         | E I S T E G L K L L K E S I H A L L K                           |  |
| UniRef90_A0JPA7         | E G V G N G H W R L N E L L D C F L A N V S I C N R S T T       |  |
| UniRef90_W4FN45         | E V E A G L D E I I   |  |
| UniRef90_R5XKB7         | E A E D I A L S I K N   |  |
| UniRef90_W9ACZ6         | D G F V A C E Q N V R A A L R E F T K L E N A S C L N L N I S   |  |
| UniRef90_T1GTD2         | R G W D E A E I N K A F Y                                       |  |
| UniRef90_UPI000161D5AF  | D I R N D G G V L L R E A L E A L E P K G T S P                 |  |
| UniRef90_M4AND4         | N S R V K T Y N V I S N S I E Y L L N K N Q I P                 |  |
| UniRef90_F0Z8X6         | A L A V E L E E A I G A S L T V L A G                           |  |
| UniRef90_E8N9Y8         | E A K A I A A R L A N R S I Q S I A R Q I D V P                 |  |
| UniRef90_D2PXD2         | S T G E K A L G F Y E E A R K Q I T G S                         |  |
| UniRef90_UPI00045EA445  | E I R Q S S S G L L G A A V Q S L                               |  |
| UniRef90_K7E872         | G A S I V I D D I L K K L M                                     |  |
| UniRef90_UPI0003592723  | E V A E T L M G L T V T A M Q T L L A G                         |  |
| UniRef90_C7QJF3         | E A L S I A A R N E N N S L Q A V S                             |  |
| UniRef90_UPI0003631B73  | A D G E V R R V C R E A I A A L A                               |  |
| UniRef90_UPI00034BF9AC  | E G V G N G N W R V V N D L L A A                               |  |
| UniRef90_A0A024UMW7     | Q A M A V G Q O E N L N Y A I Q A I S W D I D I E E             |  |
| UniRef90_F7KCQ1         | E I L D F N I N L T S K D K G D F L L N P T S F P Q E L N F     |  |
| UniRef90_B8E0L0         | E L F T E M N Q L I D T V L                                     |  |
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| UniRef90_UPI00034F379F  | I G W P L K H F I I W L K I A C F C R A A D I A K T N L T F     |  |
| UniRef90_H2Z3Z5         | S S L V G L Q K S M L V S V E L L S N Q K K Q N A N             |  |
| UniRef90_D8RZF2         | E V L S I A G R V T F A A S Q A I A                             |  |
| UniRef90_K9ZY41         | A G M Q G V Q K L M A S I A                                     |  |
| UniRef90_F7CM69         | G V I D N A K A E Q V R S V T T L L A                           |  |
| UniRef90_L0LWJ5         | E M F H E M Q K L I T N   |  |
| UniRef90_R2PSK5         | A V V A E A R S T Q M A A M K S I I A A Q                       |  |
| UniRef90_UPI0003B6B5B9  | K L E A K T E K I I S D A Q S T L L S K I D T S S P H I L F N   |  |
| UniRef90_H4ZF14         | Q V I R R V T D E A D A K S L H T L E S R I D T                 |  |
| UniRef90_UPI0003B3B22C  | E I R S M G G L L I K D A V W S L F G E                         |  |
| UniRef90_UPI00046BFDF8F | Q V L N R V R Q L I S D G A L E K L F G                         |  |
| UniRef90_L7M1G2         | A V A A E L T E L I D T A Q R A L L S G                         |  |
| UniRef90_UPI00037AC813  | H G L E L A S R I Q A R A F F A L A G G Q E                     |  |
| UniRef90_S0FI62         | R G R T A C R D I T N E V L E K                                 |  |
| UniRef90_E4XSB7         | K L A G K V D E V I H D A R S L L I N N I D T S                 |  |
| UniRef90_D7C4D2         | D V I D K A R A E A A K A M S L L A G G S G N                   |  |
| UniRef90_V1GQ21         | Q L F D K G C E L I H A L L                                     |  |
| UniRef90_D9PYY5         | N S T D R I N E V L H P V L E E Y A S K                         |  |
| UniRef90_UPI00047EBE1F  | E G V E S G T A R L S Q L F H C L L A N V S V C A P S A T L     |  |
| UniRef90_C9ABB6         | K V I E K E R S X I K E I F                                     |  |
| UniRef90_Q23BN3         | D A T I K K I G I A S S G S I R S L A K I S D T Y K             |  |
| UniRef90_W4FPL0         | H I Q Q Q V Y D I I K K T M A H L V G                           |  |
| UniRef90_I2JUJ2         | V Y V D K T L S G I I G Y G E A Y F N S L N F                   |  |
| UniRef90_N0D1D1         | E V A R L C Q S I I A Q V L                                     |  |
| UniRef90_D3BPQ7         | A S I V S T N I V L E N   |  |
| UniRef90_F4PTP7         | R I   |  |
| UniRef90_R5MG20         | G I I S K A N K I I D E S I K A I T A G E G D                   |  |
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| UniRef90_UPI000380F2E5  |   |  |
| UniRef90_T4VXM2         | S M L G Q V E A   |  |
| UniRef90_S0FEZ3         | E S L K L A D E S L N Y A V N S I I R H I N T E G E G I P L     |  |
| UniRef90_F4A260         | G A M T V A A K E E N K A L L K L S N I D T                     |  |
| UniRef90_R6NMR9         | M G M L G V R K L M   |  |
| UniRef90_O54782         | E A R R R A A R C R D Q L L G H L L A S N                       |  |
| UniRef90_Q01DD0         | Q A Q N D T Y S I L P Q I V G Q I M A N T S V                   |  |
| UniRef90_F4PYP9         | T G M E G V H N L M S Y I I Q                                   |  |
| UniRef90_W5PM86         | E L F S K A K A L L   |  |
| UniRef90_UPI00047A6C04  | R D I T R L R D I A A E A G A S I A S                           |  |
| UniRef90_A1A2T6         | D A I V I T E K S I N E V L                                     |  |
| UniRef90_A0A024G3G2     | D I T A S G N S L L Q T A                                       |  |
| UniRef90_E9BYD6         | K V E Q V T M S L I S N A A R K L T E Q I T I A E T G I P I T   |  |
| UniRef90_D3UPW4         | A M E S R L R G L I E R A T E A L A A E                         |  |
| UniRef90_D9W7S5         | A A Q D T A W E I T Q E A L H R I S W K V R T                   |  |
| UniRef90_R5A9B6         | R A I E E C K F V M Q Q A T Y R L L T K A S V Y E A D P S F     |  |
| UniRef90_X1YFM2         | T G M Q G V R K L M A S I Q D R S L A L S G P E P G G H F A     |  |
| UniRef90_UPI0003AF719B  | D I E Q V V N R E I H R A A N A C V L N S G G P S               |  |
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 T A S S R M Y L K Q A N Q R V Q Q L L K Q V E P I A V M A S R V G T  
 N T V W A G Y F S S R P T S K R L E R V A N N L L Q V S K Q V T A F  
 W T G Y Y A S H S G L K A L A R R A S T L L Y D T A V N T S W A  
 N Y W T G Y F A S R P E L K R N Q Y A A V R A L M S A E V I S A L Y A T S S L  
 D V H A T G C Y T S Q A A M K L F N R R N E L L A D A A E R A S V V A E W L G A  
 H R G V L T G N G W I K A N R K A E V L L H D T E L A M S L A M I L T G Q Q  
 H R A T L T T Q S H V K R S H R H A E R A L I T A E T L G S L A A L L G G  
 N P I Y T G K D V S Y I D T K Q A Q R Y G E T L L A D A E A W A T L A S L V A Q  
 F W T G F Y N H R A Y F K C F E R I I Q R E L R L V D L L S V T I G  
 H R G T Y T S H A A N K S H N R S C E L L R E A E A A G A L A A A A V L P  
 D V H A S G C Y T S Q S A M K R F N R R N E Q L A D A A E R A S V M A E W L G A  
 H N A T Y T T Q A R I K K M N R L L E S I L K D H E F L Q S M S L L E F N  
 G V Y S A R V Y L K Q A N Q R C E T L L C H A E P L E A I A A K A K P  
 N W W S G Y T T S Y P L L K Q T A R D S D S L L R V G E M L Y S L S C F Y S N K  
 T A S N R I D L K Q L N R K G E T A L R K A E P A A V L A G L E G K  
 E S F W T G F F T S Y P I L K Q S I R K G E A Q Y R N V K T L L I A L S A P L S I  
 W T G F Y A S R N V L K G V A R Q A S S R L H A A E S L F A R Y R V G F P  
 H R G T Y T T H A A N K N D N R T C E L L R E A E A A G M L G D V G G Y  
 G C Y T S Q G A M K Y Y N R R N E E L L G A A E R A A V A A D W L G A  
 T A S A R V Y L K Q M N Q T G Q M L L E K A E P L A T F A D L L G R  
 G I L S S R M Y L K I Q N D I C Q N E L K Y A E P L Q T I L W C N G G  
 G V L S T R M W I K Q R N H A C E N L L E K A E P F S L F A S L V S T  
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 UniRef90\_W4URM5  
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 UniRef90\_W7YV60  
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 UniRef90\_U5Q9T4  
 UniRef90\_A7SSJ0  
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 UniRef90\_Q28QN8  
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50            60            70            80

|                        |   |   |
|------------------------|---|---|
| UniRef90_U2BBW2        | E Y P H H L F D Y G W K T L M Q N H P H D S I C G C S V D E V H R E M T A R F E         |   |
| UniRef90_F2UEV3        | A D A D L V V T T A R N T S G L M Q H H D A L P G T S F N Y C T I D Y N K R I A         |   |
| UniRef90_W4URM5        | T Y P K S T L T E A W Q R F I W H Q F H D D L T G T S I P K A Y T Y S W N D E L         |   |
| UniRef90_A8MA26        | G D H L S E I N E L W M R L L F N Q F H D I V P G S A I K E V Y D E A Y S E L R         |   |
| UniRef90_Q241T6        | T Q H F E S Y Q Y F E E Q M A A L M H H D A I V S G T E K Q H V V N D Y I Y R I C       |   |
| UniRef90_X1LHL7        | D Y P T S E L H E A W E N L F I A F H D I V T G C G V D E I Y E E V K E I C S           |   |
| UniRef90_UPI00047838F1 | G Y P H T A L D K V W R Q L A Y G A H H D A I T G S E S D Q V Y I D L L T G W R         |   |
| UniRef90_R6TUB6        | A N R Q S E L D A P W R N I L F N H F H D I P G S G T I E T R E Y A M G R F Q           |   |
| UniRef90_W7SNN3        | R F P D E A L D K A W R Q L V Y G A H H D A I T G T E S D Q V Y L D L V A G W R         |   |
| UniRef90_A8NSC6        | Y L N S D V E I A R R N L A L S I H H D A I T G T S K R H V M D D Y M L R L R           |   |
| UniRef90_F6RP43        | K F H Y K L L T E A R R N L G L F Q H H D A I T G T A K D W V V V D Y G T R L F         |   |
| UniRef90_W7YV60        | E Y P H H L L T Y A W K T L M K N H P H D S I C G C S V D E V H R E M V T R F E         |   |
| UniRef90_UPI00042125A5 | D Y P A E R L R R I L W R T V L L Q Q F H D I P G S S I A W V H R E A E R N Y E         |   |
| UniRef90_U5Q9T4        | A Y P S A K I A G A W K R F I W H Q F H D D L T G T S I P Q A Y                         |   |
| UniRef90_A7SSJ0        | K Y P S Q K L K V W K L F L L N Q F H D I P G T C I R E V                               |   |
| UniRef90_W7CUL7        | A Y P E E Y L K F T W K M L M E N Q I H D S I T G C S L D V V H R E M E T R F M         |   |
| UniRef90_V5GTT1        | G Q F Y G S I S R L S H A M G V L Q H H D A I T G T E K E A V K R D Y H K T V V         |   |
| UniRef90_UPI000331927A | L Q Q L Q Q L R W A V S E V Q H H N A I T G T E T P K V V R D I Y V D H L T             |   |
| UniRef90_H8MLR5        | D A F D S T V W N G W E V L A P S S H H D F V T G T S P D N V Y E E Q L P L S R         |   |
| UniRef90_R5M8X5        | A Y P E E P L R E S W Q R F I W H Q F H D D L T G T S I P V A Y N D A Q S E F A         |   |
| UniRef90_Q28QN8        | G P D D L T E V W R R L C T M Q F H D I L T G T S V P E V F E D A R E D F A             |   |
| UniRef90_A0A024KHR3    | A Q P Q S L E K L W H P V L K N E F H D I L P G S G I R E I V N A E A K A E L E         |   |
| UniRef90_UPI000366F77E | P Y P D A A L D K A W R Q L I Y G A H H D A I T G S S E S D Q V Y I D L M T G W R       |   |
| UniRef90_J9F1G0        | N Y L N S D M E I A R R N L A L G H H D A I T G T S K R H V M D D Y M L R L H           |   |
| UniRef90_D8TJC1        | A D V Y C E I D A I L W K D V L L F Q F H D V L P G S S I Q G Q V Y D Y T A E R Y P     |   |
| UniRef90_R7DIQ7        | L P Y Q S K T T E S W Q R F I W H Q F H D D L T G T S I R E A Y                         |   |
| UniRef90_A8PNV8        | E S K S L T S Q W Q R F I L L N Q F H D V L P G S C I K E V V A D A V E I Y N           |   |
| UniRef90_UPI0003745980 | A R M N E R M D Y A W R E L L K C H P H D D I C G C S V D P V H R D M M N R F E         |   |
| UniRef90_Q54YF7        | G F D F Y A L S M H R N V S G I L T H H D A I T G T A K E Y V R V N Y F Q M L N         |   |
| UniRef90_R6N813        | K Y P K E L L E Y S W K V L M Q N H P H D S I C S C N V D E V N D E V A I R F V         |   |
| UniRef90_D2VGC3        | G E D L K I L D E L S V T I A D L T H H D A I T G T S R S F V V N V E Y L R L L E       |   |
| UniRef90_G3Q6J2        | D G P V P R D W A L R W A V S E V Q H H D G I T G T E S P K V A D M Y L Q H L S         |   |
| UniRef90_A8IG58        | C Y P R A E L E S I W K D V L L Y Q F H D V L P G S S I I G R V Y D V T K T R Y P       |   |
| UniRef90_UPI0003083E89 | K P Y D R A K N E V W Q R V L W H Q F H D D L T G T S I A D A Y R Y S W N D E L         |   |
| UniRef90_UPI00037733B9 | P Y P H D L L T Y A W K T L M Q N H P H D S I C G C S V D E V H R E M V T R F D         |   |
| UniRef90_SOFN34        | E Y Q A A K L D K S W K V L L K N H P H D S I C G V S I I D D V H T D M E T R F D       |   |
| UniRef90_F8GGV1        | D N P A F I V R Q A W Q L L M E C H P H D S I C G C S I D Q V H E E M K V R F D         |   |
| UniRef90_UPI000388CAC3 | K D H Y K L L T E A R R N L G L F Q H D A I T G T S K D W V V V D Y G T R L F           |   |
| UniRef90_W4YGB9        | T S A L E K I K K L R W A T A E V Q H H D G V T G T E A P V V R D M Y I S H L R         |   |
| UniRef90_A0CY16        | Q D I L D L K Q P L L K A L G V S H Q H D A V T G T S K D H V T K D Y V K I L H         |   |
| UniRef90_H7F7K1        | D Y P S D Q L D Y A W K T L M Q N H P H D S I C G C S V D A V H R G M M T R F E         |   |
| UniRef90_S6C2G2        | E A Q S G I V E T I W K S I A R G Q A H D S S S G G C C S V D E T N R D I A Q R G T     |   |
| UniRef90_D7UW16        | A Y P H D P L R Y A W K K L M Q N H P H D S I C G C S V D E V H R T M V I E R F A       |   |
| UniRef90_V4K4A9        | G R A Q S Y W K V V M R D E F H D V L P G S A I K E V Y D E V V Y R E L S               |   |
| UniRef90_N6TP39        | UniRef90_G5IN86   | H E L E L N S L R E A M G V M Q H D A I T G T E K E N V A N D Y E K Q L H |
| UniRef90_F5X2P8        | S R S E A L L E H M W K K L L V N Q A H D S I C G C S I D E V H S D M E S R F R         |   |
| UniRef90_W4C180        | Q Y P H D Q L T Y A W K T L L Q N H P H D S I C G C S V D A V H R E M M T R F E         |   |
| UniRef90_S5ZFC4        | A Y P H A L L T Y A W K T L M Q N H P H D S I C G C S V D E V H R E M I S R F E         |   |
| UniRef90_F7BW43        | E D Y A R R L E R I W K T V L L N Q F H D V L P G S S I I M E V                         |   |
| UniRef90_R5KU47        | T G P F A S P W D K A M A V L Q H H D A V S G T S R Q H V A D D Y A R Q L A             |   |
| UniRef90_Q1AZX7        | A D Y N R T V N R A W K R A I A H Q F H D D M P G T S V Q R V Y R R S W N D L A         |   |
| UniRef90_R5Y6E6        | P D Y S P F L R Y A W K E L L K N H A H D S I G G C S A D A V H R Q M L G R Y D         |   |
| UniRef90_J9EV56        | K Y P K E N L S R A W K R V I Q H Q F H D D I T G T G N M D I Y I D G Q S D Y Y         |   |
| UniRef90_A4X461        | N A T Q T K F Q S L L Q I Q A T S L A M H D T I T G T S Q I R V N D Q N Q R F Q         |   |
| UniRef90_UPI0001D54996 | G Y P D A A L D K V W R Q L A Y G A H H D A I T G S E S D Q V Y I D L L S G W R         |   |
| UniRef90_W2E406        | UniRef90_KAMAVL   | K A M A V L Q H H D A V S G T S R Q H V A D D Y A R Q L A                 |
| UniRef90_J9FYL8        | D Y P H H L F T Y G W K L L M K N H P H D S I C G C S V D E V H R E M V T R F E         |   |
| UniRef90_J9IMK1        | A D Q A I L A Q K Q Q A S M Y I N Q H D T I T G T S Q K Y V I D Y D T S K F Q           |   |
| UniRef90_R7FMM0        | N Q D T L N T D K M F D A M G L L Q H H D A V T G T N P P H V N E N Y A W K L S         |   |
| UniRef90_R5Q3U6        | N R F E D E I N E L Y R R V L L L E F H D I L P G S S I I K R V Y E E S K I E Y E       |   |
| UniRef90_W0RNZ2        | D Y P A E K I K V A T K D L M L I E F H D I L P G S A I A A V E E Y S L G V A G         |   |
| UniRef90_D9PFZ4        | V V G D G A D D A A W R T L L L C H P H D T L C G C S T D V A R A A D A R F D           |   |
| UniRef90_UPI00031F6943 | A Y P R V F L D A A W K A L C Q N Q Q H D G V G G C H V D R V T L A T E E R Y R         |   |
| UniRef90_R6BF06        | H Y D H D L F S Y A W K T L M Q N H P H D S I C G C S S V D E V H D E M V T R F K       |   |
| UniRef90_R2SJE2        | E Y P Q D L F T Y G W K L L M Q N H P H D S I C G G C S S V D D S V H R E M I T R F E   |   |
| UniRef90_T5JSX6        | E Y P H D Q F D Y A W K T L M Q N H P H D S I C G G C S S V D S V H R E M I T R F E     |   |
| UniRef90_R5H162        | D Y P H D R L R Y A W K L L Q N H P H D S I C G G C S S V D E V H R E M I L T R F A     |   |
| UniRef90_R6MXW1        | K Y P K E E I H E A V V R A L L F S E F H D A L P G S S G T Q Q V E E D T I L R L L D   |   |
| UniRef90_G8GCS4        | N Y P S D E L E Y S W K K L M Q N H P H D S I C C C S V D E V Q D E M A T R F N         |   |
| UniRef90_J9IEC5        | T Y D D K E V F T K L W K V V L K D Q F H D V L P G S S A I K D V Y                     |   |
| UniRef90_K9ZVM1        | K L F Q N I S N D I Q N K L G M F Q H H D T I T G T S R N Y V T T S E I V T S E         |   |
| UniRef90_UPI00037F9885 | A Y E H Q Y L W N A W E R L I E N H P H D S I C G G C S I D Q V H R E M L T R F D       |   |
| UniRef90_G9RWV4        | A Y P H H L F T Y A W K T L M Q N H P H D S I C G G C S S V D E V H R E M V A R F D     |   |
| UniRef90_X1G7C1        | P A C G A A C R P L W E T L L V N Q F H D I P G S S C I P E A H D E S L R Q T T         |   |
| UniRef90_UPI00037F81C5 | P Y P A D E L R D A W K E I S Y I A F H D V I T G C G V D E I Y E D V R E I F           |   |
| UniRef90_S0K6G3        | Y P P Y Q D L D R L W K T V L L H Q F H D I L P G S S I I A W V H R E A E A T Y A       |   |
| UniRef90_B9K7M9        | S Y P F D E L D Y A W K T L M Q N H P H D S I C G G C S S V D E V H R E M M P R F E     |   |
| UniRef90_S0FFE1        | F S E E I I D D L W K A V L R N E F H D I L P G S S I I R E V H Q E C I K E V G         |   |
| UniRef90_R2SUT6        | E K P D R E I A L L M K R L L V N Q F H D I L P G T G I P R V H Q E C I K E V G         |   |
| UniRef90_S3IV20        | Q Y P H D Q L D Y A W K L L L Q N H P H D S I C G G C S S V D E V H R E M I P R F E     |   |
| UniRef90_B5QPJ6        | P Y P Q H A V E T L W R E A M K S H A H D S I G G C C N S D R V N Q M V K G R L Q       |   |
| UniRef90_M2Q7B8        | K A Q S G L V E Q V W K T I A R G Q A H D S I S S S G G C C N S D V T N R D I Y Q R G N |   |
| UniRef90_F0YW70        | N Y P N E R I I N D C W E K V V L L N Q L L P G S S A I G M V                           |   |
| UniRef90_R6I4J4        | S Y E S G Y L A K A W D Y M L K S H P H D S I N G V T Q D K T A D D V E Y R L N         |   |
| UniRef90_M4ZWN4        | K T D S A D I A P L Y E K L L V N Q F H D I L P G T C I P R A H E E S R A M T T         |   |
| UniRef90_R5GV39        | D Y P A N E L D E A W R L L V Y G A H H D A I T G T E S D Q V A Y L E L L A G W R       |   |
| UniRef90_S1RRD4        | E Y P H D R F N Y A W K L L M Q N H P H D S I C G G C S S V D Q V N K E I E V R F D     |   |
| UniRef90_A9WJ63        | K Y P T D Q T H A W K T F M Q N H P H D S I C G G C S S V D E V C R E M I P R F E       |   |
| UniRef90_UPI00047EB4F5 | A P D E A A F D E G W R W L L L N H P H D S I G G C C S I V D L V H R D M R Y R Y S     |   |
| UniRef90_UPI0002ADB135 | D Y P R D Y L R Y A W K T L M E N H P H D S I C G G C S S V D E V H R E M V T R F E     |   |
| UniRef90_G5E3C2        | Q F L Y P P A A Q L Q H W R L L N Q F H D V V T G S C I Q M V A E E A M C H Y E         |   |

K A E Q **V**A **L****H** I I E E **C** L A Y F S A  
A A A Q S S D N L I G N I E A K L L G V P G N V S  
I S Q T Q F N D I I H T G V G S L A S  
N L L R S S E L M S E A V S A  
D G Y S K I R D Y L N P L L R E Y T L Q D I S E S D V N Y  
S L K A K L T H S L N Q S L S Y I A G K V D T  
E A Y D L A A T A R D N A L D A L T G Q V G L A E P S V  
E T M A A V T T S A T R A M R E I A D S I D T S  
E A D E L G R E V L A G A V D H L A S R V D T S G P  
S A L E R L L S I S D E T F T T L F V N N S V Y L P R I T F S  
H S L M N L K R V I I D A A H V L V L K D K D Y N P S S P F  
K S R H V A E A I I Q D Q V K V I T D R I D T T C F S  
A V R A E L E A L I A E S L R A L A G D G D L P  
UniRef90\_U2BBW2  
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UniRef90\_A8MA26  
UniRef90\_Q241T6  
UniRef90\_X1LHL7  
UniRef90\_UPI00047838F1  
UniRef90\_R6TUB6  
UniRef90\_W7SNN3  
UniRef90\_A8NSC6  
UniRef90\_F6RP43  
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UniRef90\_U5Q9T4  
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UniRef90\_Q54YF7  
UniRef90\_R6N813  
UniRef90\_D2VGC3  
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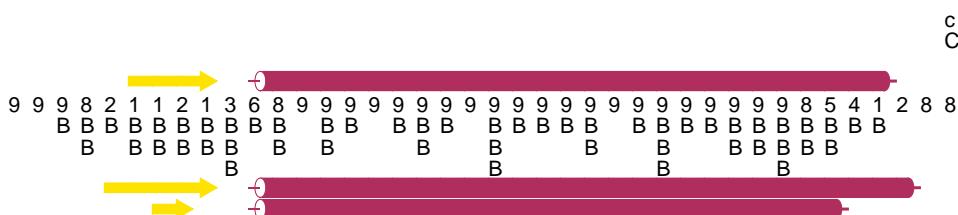




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| UniRef90_T0LW05       | R A I R N T E S F I N E N L K A                                   |  |
| UniRef90_Q1Z3L8       | A V R E N A E R L K D I T L K Q L A                               |  |
| UniRef90_C5CE97       | N A L E I G L E T L G S Y L K K L S D E D T S E N                 |  |
| UniRef90_F5YD57       | W G Q E T V V N H M T A I L F Q R L T S R I A T F K               |  |
| UniRef90_R6RF03       | Q F T N E L E A F V S   |  |
| UniRef90_R5L3Y8       | L S L S E F K S E Y C A A A G A L A N E L D T                     |  |
| UniRef90_X1DFD3       | L A Q N A F A S V T Q D A V G A V T S                             |  |
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| UniRef90UPI0003B56DAA | G A I S L L E K E K T R A F M H L C R Q T E K L E P               |  |
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| UniRef90W0J228        | Q A L E I S G V I N N T A C A E I V K N I N T D C F D             |  |
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| UniRef90L8WLU3        | A A I E D S T L I A R Q A F N K I A Q G D S T K L P L F A Y       |  |
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| UniRef90C9S178        | D G L E S A N Q L F D L N M K M L A                               |  |
| UniRef90D4BW82        | K I E N R N V E F M A Q S L I S L A Q N Q G I                     |  |
| UniRef90J9HV69        | V A L E L G R S L R D Y L L R K L S                               |  |
| UniRef90X0PP74        | E A M K K S E E I I T A A D F L L R G K T S R N L S I P S S       |  |
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| UniRef90N9XMZ8        | Q A E E I A D T V Y N R S L Q Q I L R S I D F S D                 |  |
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Sequence logo showing the conservation of amino acids at each position of the protein sequence. The x-axis represents positions 1, 10, 20, 30, 40, and D. The y-axis lists UniProt IDs. Positions 1, 10, 20, 30, and 40 show high conservation of specific amino acids (e.g., S, G, V, F, I). Position D shows high conservation of D and V. Colored boxes highlight specific motifs or mutations.



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| UniRef90_K8E316        | P F K R E L M D Y T W K L L I L K N H A H D S I I G G C N T D K T N E M I M A R Y K       |    |    |
| UniRef90_K8E6M6        | D Y P V E T I K E V W K L M F E N A A H D S I I G S C V S D T T N E D V Y M R Y K         |    |    |
| UniRef90_V5XCQ2        | V L S N R L L V M K A W K K L F E C Q A H D S I I A G C C S V S D S V I A Q D I A H R L K |    |    |
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| UniRef90_F7K5W9        | E W M T E E M E N L W K T L L F E N F H D T M G G T T I K Q A R E E A I M Q M S T         |    |    |
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| UniRef90_D1AHT4        | I Y S N G L L I N K S W K Y L F E N Q A H D S I I C T C C T D E S H H D D I M N R F K     |    |    |
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| UniRef90_D2ZLS9        | P V N L G L V W D T L W K K L L R C H A H D S M G G C N S D A T N R D I I L H R L E       |    |    |
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| UniRef90_C2KED5        | Q V S N G L L I K L W K Q L F D S Q P H D T L G G S V T D N V A V D I D H R F K           |    |    |
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| Q A E E I   | C H G L Y N L V V K E I | A S N A C D D N E V M L F N |     |
| L A H D K A D K L I D   |                         |                             |     |
| E A D E L C D S I E N T I V K K I A D D L S L A S N E I       |                         |                             |     |
| L A E D M A D N L I R F Y L R K I T D N M A H S E E D         |                         |                             |     |
| Q A E Q I C H G L Y N L I I K N I A A Q                       |                         |                             |     |
| I A Q D M S E N L L D L N M R L I S R K D H N S D F S F N     |                         |                             |     |
| K V I Q Q V G N F L C Q R L L E                               |                         |                             |     |
| E A D Q L S A C D Y I I R K I S E S I E G K E E N             |                         |                             |     |
| E A K E I A E G I K N I L I K R L A D N I E L N D N E V       |                         |                             |     |
| L A Q D M A D N L L T F Y M R K I A                           |                         |                             |     |
| D G L S N I S D T L Q N A V N A                               |                         |                             |     |
| K A R D L A E N L M R E I V M H L N C N E T I T A T A F N L S |                         |                             |     |
| L G Y K K C   |                         |                             |     |
| Q S R E L S N C V Y E R A F M D V A G D I K                   |                         |                             |     |
| E V M D S L T E Y E N L T H R L V A N Q P Q E P               |                         |                             |     |
| R A N Q I I D E L I   |                         |                             |     |
| L T T N K E I F S K I N F                                     |                         |                             |     |
| R A L A A M R Q F E Q T Q L D K                               |                         |                             |     |
| H G L E I V S R L K A K A F F A L A K                         |                         |                             |     |
| E A Y E I A A G L E N L I A K R L A                           |                         |                             |     |
| K V E A G A T T F I A E Q G K E I I A A Q I N T               |                         |                             |     |
| K V N Q V G E F I K G N L L E                                 |                         |                             |     |
| L V A E Q G K G L R E A A L Q E V V G Y D A V S               |                         |                             |     |
| E T G V V L L Q Q I V T V L                                   |                         |                             |     |
| E A D Q L S Y S T V D Y L V R K I A E S I E G I Q E N         |                         |                             |     |
| Q A R D I A M N L S E L T M R E I A T Q I                     |                         |                             |     |
| K V S E I C D S I E N L V L K R I S E G L Q L T D Q Q F L I   |                         |                             |     |
| R V M E L G D Q L V R R A L                                   |                         |                             |     |
| K M Y F L L K R S V E E K L K E L S G K A R L K S G L Y V F S |                         |                             |     |
| E A D Q L S Y S V V D Y L T R K I T E S D V N Y G E N T       |                         |                             |     |
| G V C A G A G K I K A L A I Q K I V N G L S T L G E G F P L   |                         |                             |     |
| Q V D Q L S Y S I V D Y L T R K I S S R H K V Q E N D L T I   |                         |                             |     |
| E A N E I C D S L E N I V L K R I S E S L A L S E N E F       |                         |                             |     |
| Q A R D I S I N L A E L H E R L M A I S I K N                 |                         |                             |     |
| W A E Q I G N E V I K N S L I S M S K H I K                   |                         |                             |     |
| Y S G Q I N K E L   |                         |                             |     |
| N V Y F L V K S S V E S R L R H L V E R S G L E K G T Y A L S |                         |                             |     |
| V G L C N T G T N K Q E A L R N L A R Q I D T                 |                         |                             |     |
| E A N E I A E N M I E K K L A E Y L K L G S D                 |                         |                             |     |
| E A A Q T A R A V R D A A L A                                 |                         |                             |     |
| Q A R D L A V N L L E L H T R L I S I R I P E H D Y T F T     |                         |                             |     |
| Q T W Q L C H S L W N L V V K G L A                           |                         |                             |     |
| I A T D F A Q N L L E K T M R D I S S N I A Q D N S Y S F T   |                         |                             |     |
| E A K G L A Q N L L E L H T R L I T Q R I P R Q H D F T F T   |                         |                             |     |
| Q A F E I A D G L   |                         |                             |     |
| L A D D M A T N L I N   |                         |                             |     |
| D I R S H G N   |                         |                             |     |

lupas\_21  
 lupas\_14  
 lupas\_28  
 jnet  
 conf  
 sol25  
 sol5  
 solo  
 jhmm  
 jpssm

