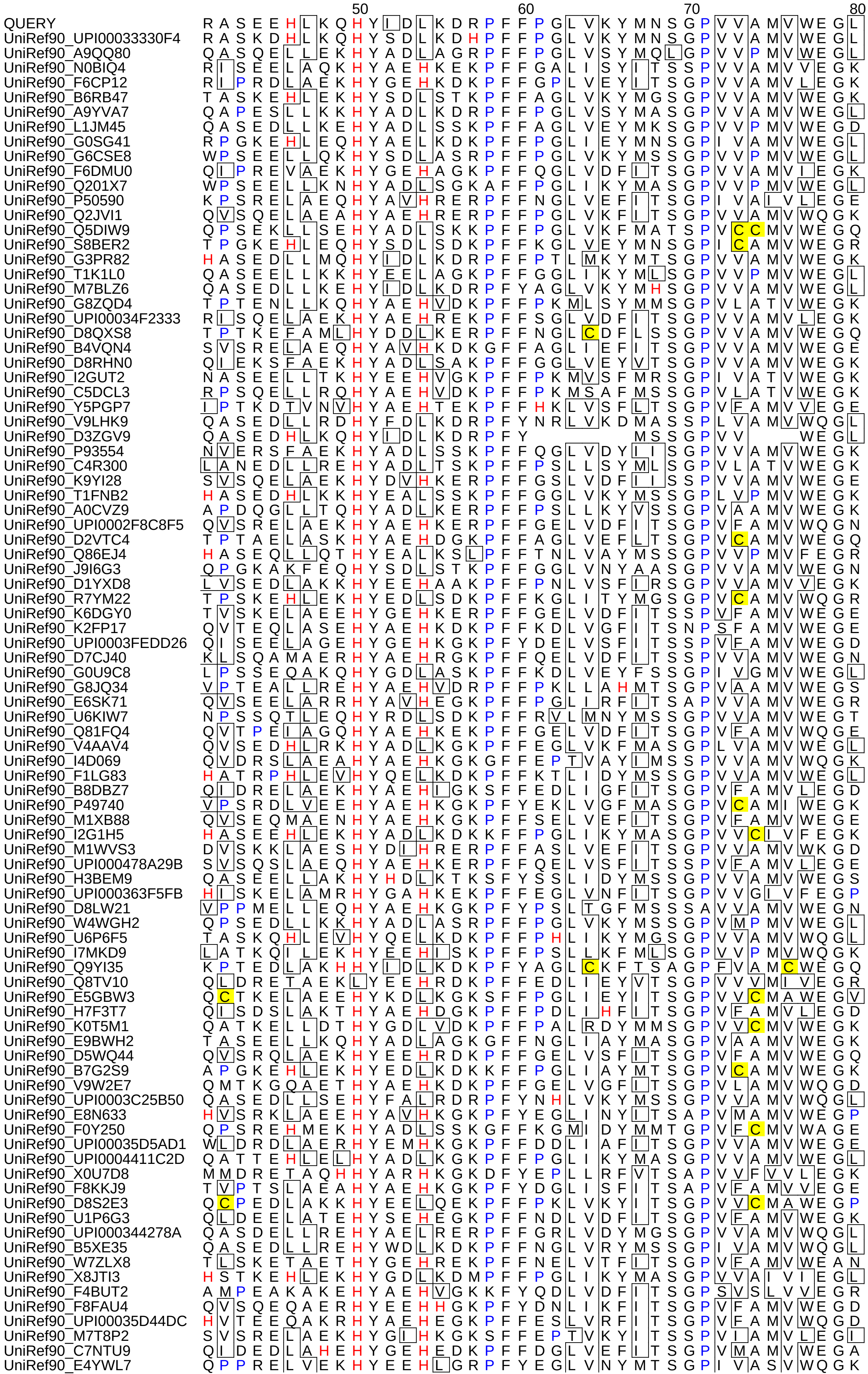
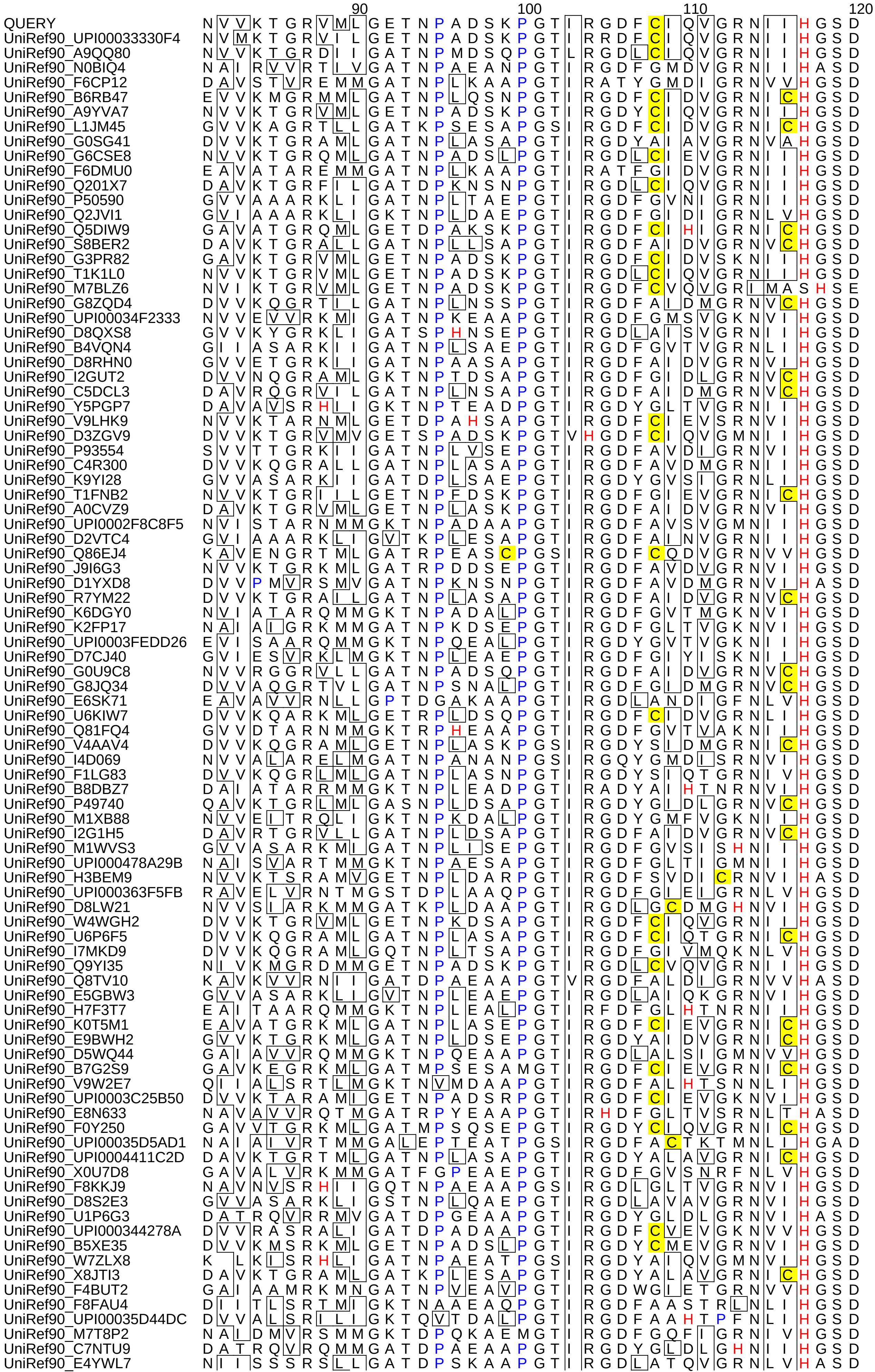
```
                        1                 10                  20                  30                  40
QUERY                   A N L E R T F I A I K P D G V Q R G L V G E I I K R F E Q K G F R L V A M K F L
UniRef90_UPI00033330F4  A N L E R T F I A I K P D G V Q R G L V G E I I K R F K Q T G F R L V A L K F L
UniRef90_A9QQ80         A N R E R T F I M V K P D G V Q R G L V G K I I S R F E K K G F K L V A M K F M
UniRef90_N0BIQ4             M E R T F V M I K P D G V E R G V I G E V I S R I E R K G L K I V A M K M M
UniRef90_F6CP12             M E R T F V M I K P D G V Q R N L V G N I I A C F E K K G L K I V G L K M M
UniRef90_B6RB47               E R T F I A V K P D G V Q R G L V G E I M K R F E N R G Y K L V A C K M M
UniRef90_A9YVA7         S N E E R T F I A I K P D G V Q R R L V G D I I K R F E L K G F K L V G M K F I
UniRef90_L1JM45               E R T F I M I K P D G V Q R G L V A K I I E R F E Q K G F K L V G L K F M
UniRef90_G0SG41             I E R T F I A V K P D G V Q R G L V G N I I A R F E A R G F R L V A L K L V
UniRef90_G6CSE8               E R T F I M V K P D G V Q R G L V G Q I M E R F E K K G F K L V G L K F V
UniRef90_F6DMU0             M E R T Y L M V K P D G V Q R G Q V G Q I I S R F E Q R G Y K I V G L K M M
UniRef90_Q201X7           N A E R T F I M I K P D G V Q R G L V G K I I K R F E T K G F K L V A M K F L
UniRef90_P50590             M E R T F I A I K P D G V Q R G L V G T I I G R F E Q K G F K L V G L K Q L
UniRef90_Q2JVI1             M E R T F I A I K P D G V Q R G L V G S I I Q R L E S R G Y Q L V G L K L V
UniRef90_Q5DIW9           T T E R T Y I M I K P D G V Q R G L M G D I I K R F E Q K G F K M V A M K F M
UniRef90_S8BER2               E Q T F I A I K P D G V Q R G L V G P I I S R F E Q R G Y K L V A I K L V
UniRef90_G3PR82               E R T F I A I K P D G V Q R G I I G E V I K R F E T K G F K L V G M R M V
UniRef90_T1K1L0           N K E R T F I M V K P D G V Q R G L V G E I I K R F E A K G F K L V G I K M K
UniRef90_M7BLZ6             C E R T F I A I K P D G V Q R G L V G E I I K R F E Q K G F K L V A M K F M
UniRef90_G8ZQD4         S N N E R T F I A I K P D G V Q R G L I S K I I G R F E D R G F K L V G I K L V
UniRef90_UPI00034F2333      M E R T F V M I K P D G V Q R G L I G E I I S R F E R K G F K I V A M K L M
UniRef90_D8QXS8         A E I E R T F I A I K P D G V Q R G L I S E I I S R F E R K G Y K L V A I K I L
UniRef90_B4VQN4             M E R T F L M I K P D G V Q R N L V G E I I Q R L E T K G F T L V G L K L M
UniRef90_D8RHN0         A T M E Q S F I M I K P D G V Q R G L V G E I I A R F E K K G F T L K G L R L M
UniRef90_I2GUT2             M E R T F I A V K P D G V Q R G L V M E I M S R F E K R G F K L V G I K I L
UniRef90_C5DCL3         S Q T E R T F I A I K P D G V Q R G L V A K I L A R F E D R G F K L V A V K L L
UniRef90_Y5PGP7             M E R T F L M I K P D A V Q R N L I G E I I S R I E R K G L K I V G G K F I
UniRef90_V9LHK9               E R T F I A I K P D G V Q R R L V G E I I R R F E Q K G F K L I G M K L M
UniRef90_D3ZGV9         A N L E R T F I A I K P D G V Q R G L V G E I I K R F K Q K G F R L V A M K F L
UniRef90_P93554             M E S T F I M I K P D G V Q R G L I G E I I S R F E K K G F Y L K A L K L V
UniRef90_C4R300         S Q N E R T F I A V K P D G V Q R G L V P E I L S R F W N K G Y K L V A I K L T
UniRef90_K9YI28             M E R T F L M I K P D G V Q R N L I G E V I K R L E N K G F T L V G L K L M
UniRef90_T1FNB2               E R T F I M V K P D G V H R G L V G E I I K R F E Q K G F K L V A L K F V
UniRef90_A0CVZ9           N Q E R T F I M V K P D G V Q R R L V G K I I Q R F E D R G F K L V A L K F V
UniRef90_UPI0002F8C8F5      M E K T F I M V K P D G V Q R N L I G E I V S R F E A K G F T L V G A K L M
UniRef90_D2VTC4               E R T F I A L K P D A V Q R G L I G P I I T R F E Q K G F K L V A M K L I
UniRef90_Q86EJ4             M E R T F I M V K P D G V Q R G L V G E I I Q R F E R R G Y K L I A V K M I
UniRef90_J9I6G3               E R T F I M V K P D G V Q R G L V G E I I S R F E R K G F K L V S L K M E
UniRef90_D1YXD8                 R T F V M I K P D G V Q R G L V G D I V A R F E H R G L K I A A M K M L
UniRef90_R7YM22           T T E Q T F I A V K P D G V Q R G L I G P I I S R F E N R G F K L V A I K L V
UniRef90_K6DGY0             M E R S F I M V K P D G V Q R N L V G E I V S R F E N K G F K L V G A K L M
UniRef90_K2FP17             M E R T F I M V K P D G V Q R N L V G E I V S R F E K K G L K L V Y A E M T
UniRef90_UPI0003FEDD26      M E K T F V M V K P D G V Q R N L I G A I V E R F E K K G Y Q L K A A K L M
UniRef90_D7CJ40             M E R T F V M V K P D G V E R G L V G E I I G R I E A K G F K L V G L K M L
UniRef90_G0U9C8               E R T F I A V K P D G V Q R G L V G A I I S R F E N K G Y K L V G L K M L
UniRef90_G8JQ34           Q T Q R T F I A V K P D G V Q R G L I S Q I L A R F E N R G Y K L V G I K M I
UniRef90_E6SK71             M E R T F V M V K P D G V Q R G L V G E I I A R L E R K G L K L V G L K M L
UniRef90_U6KIW7               Q R T Y I M L K P D G L Q R G L L G E V L R R F E Q R G F K L V A L K L V
UniRef90_Q81FQ4             M E K T F L M V K P D G V Q R A F I G E I V A R F E K K G F Q L V G A K L M
UniRef90_V4AAV4               E R T F L A V K P D G V Q R G L V G D I I S R F E K R G Y K L V A L K L Q
UniRef90_I4D069             M E R T F L M L K P D A V Q R G L V G K I I A K L E D K G F K L V G L K L I
UniRef90_F1LG83         S K N E R T F I A I K P D A V Q R G L I G K V I A R F E E R G Y K L V G M K M V
UniRef90_B8DBZ7             M E Q T Y V M V K P D G V E R G L I G E I V T R I E K K G L K I V A G K L M
UniRef90_P49740           S T E Q T F I A V K P D A V Q R G L I G Y I I S K F E L K G Y K L R A L K F L
UniRef90_M1XB88             M E K T F I M V K P D G V Q R Q L I G E I L S R F E R K G L Q L A G A K L M
UniRef90_I2G1H5               E Q T Y I M I K P D G V Q R N L V G T I I A R F E A R G Y K I A A L K M V
UniRef90_M1WVS3             M E L T F L A I K P D G V Q R G L V G K I I H R F E T K G F T L V G L K F M
UniRef90_UPI000478A29B      M E R T F V M V K P D G V Q R G L V G E I V S R F E K K G L K I V G A K L L
UniRef90_H3BEM9               E R T L I A V K P D G V Q K R L V G E I I K R F E Q R G F K L V G M K L L
UniRef90_UPI000363F5FB    S L E R T L V L V K P D G V Q R G I S G T I I S R L E S R G L K I V G M K L F
UniRef90_D8LW21               E R T F L A I K P D G V Q R G H V G E I I S R F E R K G F K L V G M K M M
UniRef90_W4WGH2           N K E R T F I M V K P D G V Q R G L V G K I I Q R F E Q K G F K L V A M K M L
UniRef90_U6P6F5         S T K E R T F I A V K P D G V H R N L V G K I I Q R F E E R G Y K L V A L K M M
UniRef90_I7MKD9               E R T F I M I K P D G V Q R G L V G N I I S R F E S R G Y Q L I A M K F Q
UniRef90_Q9YI35             M E R T L I A V K S D G V Q R G L I G E I I K R F E H R G F K L I G L K M V
UniRef90_Q8TV10         A E V Q R E F V M I K P D G V V R G L V G E V I R R L E R K G L K I V A L E M R
UniRef90_E5GBW3         A S L E R T Y I M V K P D G V Q R G L V G E I I S R F E K K G F K L T G L K L F
UniRef90_H7F3T7             M E K T F V M V K P D G V Q R G L I G Q L I S R F E Q K G L R I K A A K L M
UniRef90_K0T5M1                           I K P D G V Q R G I I G N I I S R F E T K G Y K L G A M K T K
UniRef90_E9BWH2           S T E R T F I A V K P D G V Q R G L V G E I I A R F E K K G F R L V A L K L V
UniRef90_D5WQ44             L E Q T F V M I K P D G V Q R G L I G D I V S R L E R R G L R L V A A K L M
UniRef90_B7G2S9             M E R T Y I M I K P D G V Q R G L I G E I I K R F E A K G F K L V A M K L T
UniRef90_V9W2E7           N M E K T F L M V K P D G V Q R G L I G E I V K R L E Q K G F Q M I G C K L F
UniRef90_UPI0003C25B50        E R T F V A V K P D A L Q R R L L G D I V R R F E R K G F R L V A M K L V
UniRef90_E8N633             M E Q T F V L V K P D G V Q R G L I G E V I A R L E R R G L K L V G A K F L
UniRef90_F0Y250           T L E R T Y I M I K P D G V Q R G L I G D I T K R F E Q K G F K L C A A K L Y
UniRef90_UPI00035D5AD1        Q R T F V M I K P D G V Q R G L V G E I I S R L E R K G L K L V G M K M L
UniRef90_UPI0004411C2D  S K T E R T Y I M V K P D G V Q R G L V G A I I S R F E Q R G F K L I A L K L V
UniRef90_X0U7D8           Q V Q R T L V M L K P D A V H R G L A G R I L A R F E A K G L K I L A L K M A
UniRef90_F8KKJ9           T V E R T F L M L K P D A V Q R N L I G N I I S R I E N K G L K L V G A K L M
UniRef90_D8S2E3             L E Q T Y V M V K P D G V Q R G L V G E I I S R F E K K G F R L A G L K M F
UniRef90_U1P6G3               E R T F V M V K P D G V Q R G L I G E I T A R F E H R G L K L V A A K A L
UniRef90_UPI000344278A        E R T F L A V K P D G V Q R R L V G E I V R R F E R X X X X X X X X X X X
UniRef90_B5XE35               E H S F I A V K P D G V H R R L V G E I I R R F E K K G F R L V G M K L V
UniRef90_W7ZLX8             L E R T Y V M I K P D G V Q R N L I G Q I V S R F E Q K G F K L V A G K L V
UniRef90_X8JTI3           N Q E R S Y I M I K P D G V Q R A L V G E I L S R F E K R G F K I V A L K L V
UniRef90_F4BUT2                         M V K P D G V Q R G L V G K I L Q R I E E K G F K I V A M K L A
UniRef90_F8FAU4             M E K T F L M V K P D G V Q R G L V A E I M G R F E R R G F Q L V A A K L L
UniRef90_UPI00035D44DC      M E R T F L M V K P D G V Q R G L I G R I V S R F E D K G L K L I A G K L I
UniRef90_M7T8P2               E R T F V M I K P D A V Q R G L A G E I I N R F E K K G I K I V A M K L V
UniRef90_C7NTU9               E R T F V M A K P D A V Q R G L I G E I V S R L E E R G L K L V G A K F M
UniRef90_E4YWL7             M E R T F I A L K P D T L Q R G L V G D I I N R F E K K G F Q L L G L K L V
```

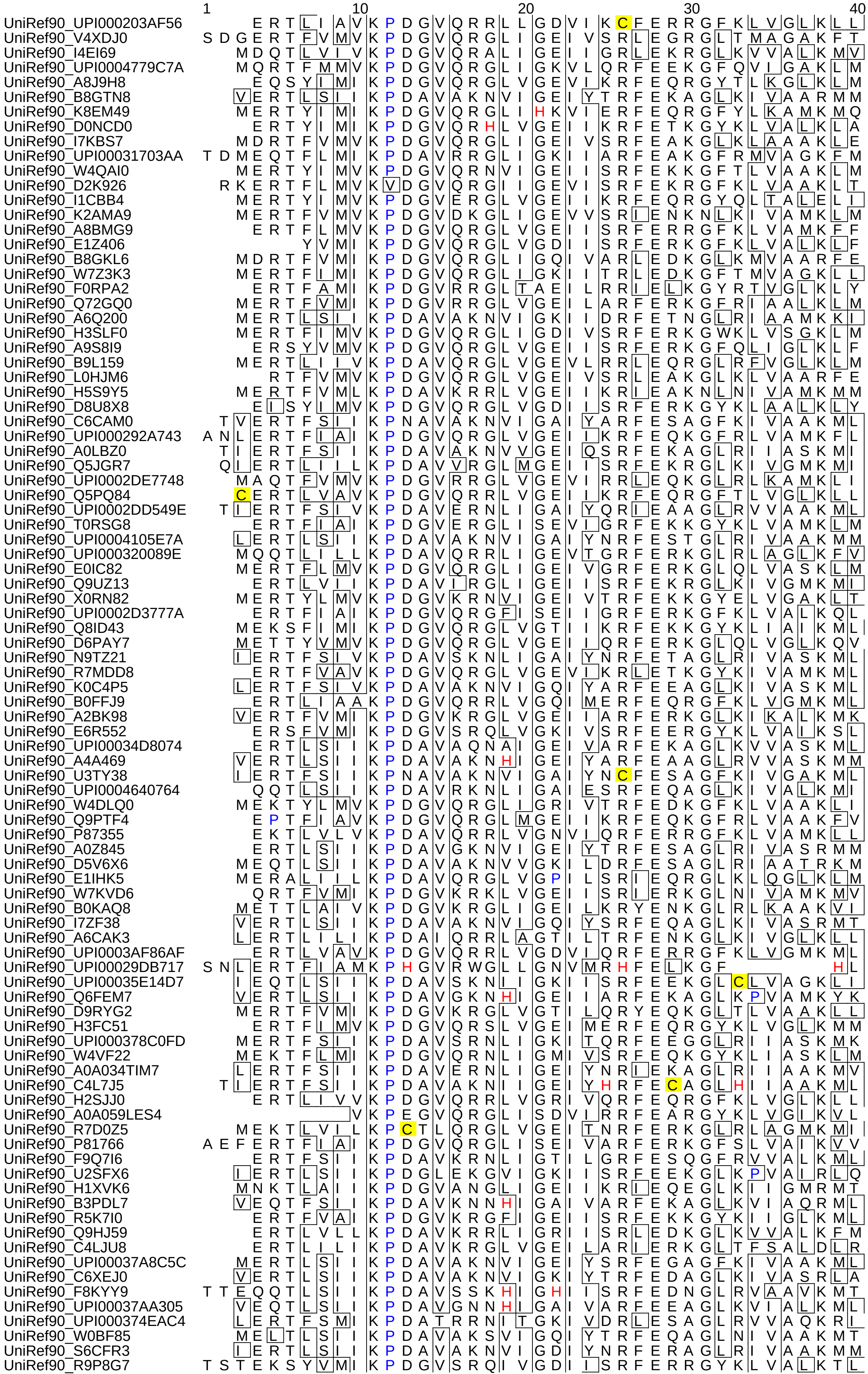


```
                                          50                  60                  70                  80
QUERY                   R A S E E H L K Q H Y I D L K D R P F F P G L V K Y M N S G P V V A M V W E G L
UniRef90_UPI00033330F4  R A S K D H L K Q H Y S D L K D H P F F P G L V K Y M N S G P V V A M V W E G L
UniRef90_A9QQ80         Q A S Q E L L E K H Y A D L A G R P F F P G L V S Y M Q L G P V V P M V W E G L
UniRef90_N0BIQ4         R I S E E L A Q K H Y A E H K E K P F F G A L I S Y I T S S P V V A M V V E G K
UniRef90_F6CP12         R I P R D L A E K H Y G E H K D K P F F G P L V E Y I T S G P V V A M V L E G K
UniRef90_B6RB47         T A S K E H L E K H Y S D L S T K P F F A G L V K Y M G S G P V V A M V W E G K
UniRef90_A9YVA7         Q A P E S L L K K H Y A D L K D R P F F P G L V S Y M A S G P V V A M V W E G L
UniRef90_L1JM45         Q A S E D L L K E H Y A D L S S K P F F A G L V E Y M K S G P V V P M V W E G D
UniRef90_G0SG41         R P G K E H L E Q H Y A E L K D K P F F P G L I E Y M N S G P I V A M V W E G L
UniRef90_G6CSE8         W P S E E L L Q K H Y S D L A S R P F F P G L V K Y M S S G P V V P M V W E G L
UniRef90_F6DMU0         Q I P R E V A E K H Y G E H A G K P F F Q G L V D F I T S G P V V A M V I E G K
UniRef90_Q201X7         W P S E E L L K N H Y A D L S G K A F F P G L I K Y M A S G P V V P M V W E G L
UniRef90_P50590         K P S R E L A E Q H Y A V H R E R P F F N G L V E F I T S G P I V A I V L E G E
UniRef90_Q2JVI1         Q V S Q E L A E A H Y A E H R E R P F F P G L V K F I T S G P V V A M V W Q G K
UniRef90_Q5DIW9         Q P S E K L L S E H Y A D L S K K P F F P G L V K F M A T S P V C C M V W E G Q
UniRef90_S8BER2         T P G K E H L E Q H Y S D L S D K P F F K G L V E Y M N S G P I C A M V W E G R
UniRef90_G3PR82         H A S E D L L M Q H Y I D L K D R P F F P T L M K Y M T S G P V V A M V W E G K
UniRef90_T1K1L0         Q A S E E L L K K H Y E E L A G K P F F G G L I K Y M L S G P V V P M V W E G L
UniRef90_M7BLZ6         Q A S E D L L K E H Y I D L K D R P F Y A G L V K Y M H S G P V V A M V W E G L
UniRef90_G8ZQD4         T P T E N L L K Q H Y A E H V D K P F F P K M L S Y M M S G P V L A T V W E G K
UniRef90_UPI00034F2333  R I S Q E L A E K H Y A E H R E K P F F S G L V D F I T S G P V V A M V L E G K
UniRef90_D8QXS8         T P T K E F A M L H Y D D L K E R P F F N G L C D F L S S G P V V A M V W E G Q
UniRef90_B4VQN4         S V S R E L A E Q H Y A V H K D K G F F A G L I E F I T S G P V V A M V W E G E
UniRef90_D8RHN0         Q I E K S F A E K H Y A D L S A K P F F G G L V E Y V T S G P V V A M V W E G K
UniRef90_I2GUT2         N A S E E L L T K H Y E E H V G K P F F P K M V S F M R S G P I V A T V W E G K
UniRef90_C5DCL3         R P S Q E L L R Q H Y A E H V D K P F F P K M S A F M S S G P V L A T V W E G K
UniRef90_Y5PGP7         I P T K D T V N V H Y A E H T E K P F F H K L V S F L T S G P V F A M V V E G E
UniRef90_V9LHK9         Q A S E D L L R D H Y F D L K D R P F Y N R L V K D M A S S P L V A M V W Q G L
UniRef90_D3ZGV9         Q A S E D H L K Q H Y I D L K D R P F Y             M S S G P V V       W E G L
UniRef90_P93554         N V E R S F A E K H Y A D L S S K P F F Q G L V D Y I I S G P V V A M V W E G K
UniRef90_C4R300         L A N E D L L R E H Y A D L T S K P F F P S L L S Y M L S G P V L A T V W E G K
UniRef90_K9YI28         S V S Q E L A E K H Y D V H K E R P F F G S L V D F I I S S P V V A M V W E G E
UniRef90_T1FNB2         H A S E D H L K K H Y E A L S S K P F F G G L V K Y M S S G P L V P M V W E G K
UniRef90_A0CVZ9         A P D Q G L L T Q H Y A D L K E R P F F P S L L K Y V S S G P V A A M V W E G K
UniRef90_UPI0002F8C8F5  Q V S R E L A E K H Y A E H K E R P F F G E L V D F I T S G P V F A M V W Q G N
UniRef90_D2VTC4         T P T A E L A S K H Y A E H D G K P F F A G L V E F L T S G P V C A M V W E G Q
UniRef90_Q86EJ4         H A S E Q L L Q T H Y E A L K S L P F F T N L V A Y M S S G P V V P M V F E G R
UniRef90_J9I6G3         Q P G K A K F E Q H Y S D L S T K P F F G G L V N Y A A S G P V V A M V W E G N
UniRef90_D1YXD8         L V S E D L A K K H Y E E H A A K P F F P N L V S F I R S G P V V A M V V E G K
UniRef90_R7YM22         T P S K E H L E K H Y E D L S D K P F F K G L I T Y M G S G P V C A M V W Q G R
UniRef90_K6DGY0         T V S K E L A E E H Y G E H K E R P F F G E L V D F I T S S P V F A M V W E G E
UniRef90_K2FP17         Q V T E Q L A S E H Y A E H K D K P F F K D L V G F I T S N P S F A M V W E G E
UniRef90_UPI0003FEDD26  Q I S E E L A G E H Y G E H K G K P F Y D E L V S F I T S S P V F A M V W E G D
UniRef90_D7CJ40         K L S Q A M A E R H Y A E H R G K P F F Q E L V D F I T S S P V V A M V W E G N
UniRef90_G0U9C8         L P S S E Q A K Q H Y G D L A S K P F F K D L V E Y F S S G P I V G M V W E G L
UniRef90_G8JQ34         V P T E A L L R E H Y A E H V D R P F F P K L L A H M T S G P V A A M V W E G S
UniRef90_E6SK71         Q V S E E L A R R H Y A V H E G K P F F P G L I R F I T S A P V V A M V W E G R
UniRef90_U6KIW7         N P S S Q T L E Q H Y R D L S D K P F F R V L M N Y M S S G P V V A M V W E G T
UniRef90_Q81FQ4         Q V T P E I A G Q H Y A E H K E K P F F G E L V D F I T S G P V F A M V W Q G E
UniRef90_V4AAV4         Q V S E D H L R K H Y A D L K G K P F F E G L V K F M A S G P L V A M V W E G L
UniRef90_I4D069         Q V D R S L A E A H Y A E H K G K G F F E P T V A Y I M S S P V V A M V W Q G K
UniRef90_F1LG83         H A T R P H L E V H Y Q E L K D K P F F K T L I D Y M S S G P V V A M V W E G L
UniRef90_B8DBZ7         Q I D R E L A E K H Y A E H I G K S F F E D L I G F I T S G P V F A M V L E G D
UniRef90_P49740         V P S R D L V E E H Y A E H K G K P F Y E K L V G F M A S G P V C A M I W E G K
UniRef90_M1XB88         Q V S E Q M A E N H Y A E H K G K P F F S E L V E F I T S G P V F A M V W E G E
UniRef90_I2G1H5         H A S E E H L E K H Y A D L K D K K F F P G L I K Y M A S G P V V C I V F E G K
UniRef90_M1WVS3         D V S K K L A E S H Y D I H R E R P F F A S L V E F I T S G P V V A M V W K G D
UniRef90_UPI000478A29B  S V S Q S L A E Q H Y A E H K E R P F F Q E L V S F I T S S P V F A M V L E G E
UniRef90_H3BEM9         Q A S E E L L A K H Y H D L K T K S F Y S S L I D Y M S S G P V V A M V W E G S
UniRef90_UPI000363F5FB  H I S K E L A M R H Y G A H K E K P F F E G L V N F I T S G P V V G I V F E G P
UniRef90_D8LW21         V P P M E L L E Q H Y A E H K G K P F Y P S L T G F M S S S A V V A M V W E G N
UniRef90_W4WGH2         Q P S E D L L K K H Y A D L A S R P F F P G L V K Y M S S G P V M P M V W E G L
UniRef90_U6P6F5         T A S K Q H L E V H Y Q E L K D K P F F P H L I K Y M G S G P V V A M V W Q G L
UniRef90_I7MKD9         L A T K Q I L E K H Y E E H I S K P F F P S L L K F M L S G P V V P M V W Q G K
UniRef90_Q9YI35         K P T E D L A K H H Y I D L K D K P F Y A G L C K F T S A G P F V A M C W E G Q
UniRef90_Q8TV10         Q L D R E T A E K L Y E E H R D K P F F E D L I E Y V T S G P V V V M I V E G R
UniRef90_E5GBW3         Q C T K E L A E E H Y K D L K G K S F F P G L I E Y I T S G P V V C M A W E G V
UniRef90_H7F3T7         Q I S D S L A K T H Y A E H D G K P F F P D L I H F I T S G P V F A M V L E G D
UniRef90_K0T5M1         Q A T K E L L D T H Y G D L V D K P F F P A L R D Y M M S G P V V C M V W E G K
UniRef90_E9BWH2         T A S E E L L K Q H Y A D L A G K G F F N G L I A Y M A S G P V A A M V W E G K
UniRef90_D5WQ44         Q V S R Q L A E K H Y E E H R D K P F F G E L V S F I T S G P V F A M V W E G Q
UniRef90_B7G2S9         A P G K E H L E K H Y E D L K D K K F F P G L I A Y M T S G P V C A M V W E G K
UniRef90_V9W2E7         Q M T K G Q A E T H Y A E H K D K P F F G E L V G F I T S G P V L A M V W Q G D
UniRef90_UPI0003C25B50  Q A S E D L L S E H Y F A L R D R P F Y N H L V K Y M S S G P V V A M V W Q G L
UniRef90_E8N633         H V S R K L A E E H Y A V H K G K P F Y E G L I N Y I T S A P V M A M V W E G P
UniRef90_F0Y250         Q P S R E H M E K H Y A D L S S K G F F K G M I D Y M M T G P V F C M V W A G E
UniRef90_UPI00035D5AD1  W L D R D L A E R H Y E M H K G K P F F D D L I A F I T S G P V V A M V W E G E
UniRef90_UPI0004411C2D  Q A T T E H L E L H Y A D L K G K P F F P G L I K Y M A S G P V V A M V W E G L
UniRef90_X0U7D8         M M D R E T A Q H H Y A R H K G K D F Y E P L L R F V T S A P V V F V V L E G K
UniRef90_F8KKJ9         T V P T S L A E A H Y A E H K G K P F Y D G L I S F I T S A P V F A M V V E G E
UniRef90_D8S2E3         Q C P E D L A K K H Y E E L Q E K P F F P K L V K Y I T S G P V V C M A W E G P
UniRef90_U1P6G3         Q L D E E L A T E H Y S E H E G K P F F N D L V D F I T S G P V F A M V W E G K
UniRef90_UPI000344278A  Q A S D E L L R E H Y A E L R E R P F F G R L V D Y M G S G P V V A M V W Q G L
UniRef90_B5XE35         Q A S E D L L R E H Y W D L K D K P F F N G L V R Y M S S G P I V A M V W Q G L
UniRef90_W7ZLX8         T L S K E T A E T H Y G E H R E K P F F N E L V T F I T S G P V F A M V W E A N
UniRef90_X8JTI3         H S T K E H L E K H Y G D L K D M P F F P G L I K Y M A S G P V V A I V I E G L
UniRef90_F4BUT2         A M P E A K A K E H Y A E H V G K K F Y Q D L V D F I T S G P S V S L V V E G R
UniRef90_F8FAU4         Q V S Q E Q A E R H Y E E H H G K P F Y D N L I K F I T S G P V F A M V W E G D
UniRef90_UPI00035D44DC  H V T E E Q A K R H Y A E H E G K P F F E S L V R F I T S G P V F A M V W Q G D
UniRef90_M7T8P2         S V S R E L A E K H Y G I H K G K S F F E P T V K Y I T S S P V I A M V L E G I
UniRef90_C7NTU9         Q I D E D L A H E H Y G E H E D K P F F D G L V E F I T S G P V M A M V W E G A
UniRef90_E4YWL7         Q P P R E L V E K H Y E E H L G R P F Y E G L V N Y M T S G P I V A S V W Q G K
```

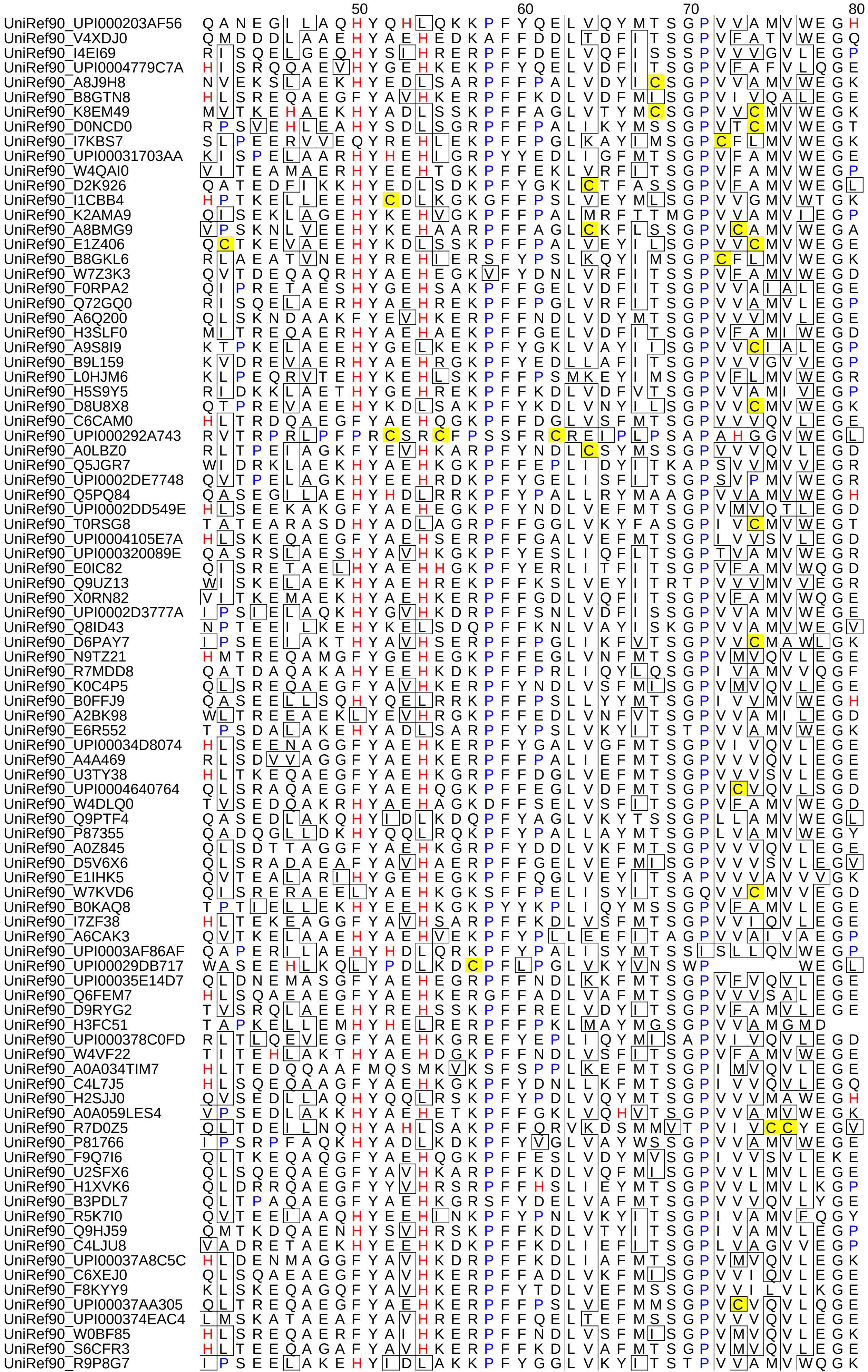


```
                                90       100       110       120
QUERY                   NVVKTGRVMLGETNPADSKPGTIRGDFCIQVGRNIIHGSD
UniRef90_UPI00033330F4  NVMKTGRVILGETNPADSKPGTIRRDFCIQVGRNIIHGSD
UniRef90_A9QQ80         NVVKTGRDIIGATNPMDSQPGTLRGDLCIQVGRNIIHGSD
UniRef90_N0BIQ4         NAIRVVRTIVGATNPAEANPGTIRGDFGMDVGRNIIHASD
UniRef90_F6CP12         DAVSTVREMMGATNPLKAAPGTIRATYGMDIGRNVVHGSD
UniRef90_B6RB47         EVVKMGRMMLGATNPLQSNPGTIRGDFCIDVGRNICHGSD
UniRef90_A9YVA7         NVVKTGRVMLGETNPADSKPGTIRGDYCIQVGRNIIHGSD
UniRef90_L1JM45         GVVKAGRTLLGATKPSESAPGSIRGDFCIDVGRNICHGSD
UniRef90_G0SG41         DVVKTGRAMLGATNPLASAPGTIRGDYAIAVGRNVAHGSD
UniRef90_G6CSE8         NVVKTGRQMLGATNPADSLPGTIRGDLCIEVGRNIIHGSD
UniRef90_F6DMU0         EAVATAREMMGATNPLKAAPGTIRATFGIDVGRNIIHGSD
UniRef90_Q201X7         DAVKTGRFILGATDPKNSNPGTIRGDLCIQVGRNIIHGSD
UniRef90_P50590         GVVAAARKLIGATNPLTAEPGTIRGDFGVNIGRNIIHGSD
UniRef90_Q2JVI1         GVIAAARKLIGKTNPLDAEPGTIRGDFGIDIGRNLVHGSD
UniRef90_Q5DIW9         GAVATGRQMLGETDPAKSKPGTIRGDFCIHIGRNICHGSD
UniRef90_S8BER2         DAVKTGRALLGATNPLLSAPGTIRGDFAIDVGRNVCHGSD
UniRef90_G3PR82         GAVKTGRVMLGETNPADSKPGTIRGDFCIDVSKNIIHGSD
UniRef90_T1K1L0         NVVKTGRVMLGETNPADSKPGTIRGDLCIQVGRNIIHGSD
UniRef90_M7BLZ6         NVIKTGRVMLGETNPADSKPGTIRGDFCVQVGRIMASHSE
UniRef90_G8ZQD4         DVVKQGRTILGATNPLNSSPGTIRGDFAIDMGRNVCHGSD
UniRef90_UPI00034F2333  NVVEVVRKMIGATNPKEAAPGTIRGDFGMSVGKNVIHGSD
UniRef90_D8QXS8         GVVKYGRKLIGATSPHNSEPGTIRGDLAISVGRNIIHGSD
UniRef90_B4VQN4         GIIASARKIIGATNPLSAEPGTIRGDFGVTVGRNLIHGSD
UniRef90_D8RHN0         GVVETGRKLIGATNPAASAPGTIRGDFAIDVGRNVIHGSD
UniRef90_I2GUT2         DVVNQGRAMLGKTNPTDSAPGTIRGDFGIDLGRNVCHGSD
UniRef90_C5DCL3         DAVRQGRVILGATNPLNSAPGTIRGDFAIDMGRNVCHGSD
UniRef90_Y5PGP7         DAVAVSRHLIGKTNPTEADPGTIRGDYGLTVGRNIIHGSD
UniRef90_V9LHK9         NVVKTARNMLGETDPAHSAPGTIRGDFCIEVSRNVIHGSD
UniRef90_D3ZGV9         DVVKTGRVMVGETSPADSKPGTVHGDFCIQVGMNIIHGSD
UniRef90_P93554         SVVTTGRKIIGATNPLVSEPGTIRGDFAVDIGRNVIHGSD
UniRef90_C4R300         DVVKQGRALLGATNPLASAPGTIRGDFAVDMGRNIIHGSD
UniRef90_K9YI28         GVVASARKIIGATDPLSAEPGTIRGDYGVSIGRNLIHGSD
UniRef90_T1FNB2         NVVKTGRIILGETNPFDSKPGTIRGDFGIEVGRNICHGSD
UniRef90_A0CVZ9         DAVKTGRVMLGETNPLASKPGTIRGDFAIDVGRNVIHGSD
UniRef90_UPI0002F8C8F5  NVISTARNMMGKTNPADAAPGTIRGDFAVSVGMNIIHGSD
UniRef90_D2VTC4         GVIAAARKLIGVTKPLESAPGTIRGDFAINVGRNIIHGSD
UniRef90_Q86EJ4         KAVENGRTMLGATRPEASCPGSIRGDFCQDVGRNVVHGSD
UniRef90_J9I6G3         NVVKTGRKMLGATRPDDSEPGTIRGDFAVDVGRNVIHGSD
UniRef90_D1YXD8         DVVPMVRSMVGATNPKNSNPGTIRGDFAVDMGRNVIHASD
UniRef90_R7YM22         DVVKTGRAILGATNPLASAPGTIRGDFAIDVGRNVCHGSD
UniRef90_K6DGY0         NVIATARQMMGKTNPADALPGTIRGDFGVTMGKNVIHGSD
UniRef90_K2FP17         NAIAIGRKMMGATNPKDSEPGTIRGDFGLTVGKNVIHGSD
UniRef90_UPI0003FEDD26  EVISAARQMMGKTNPQEALPGTIRGDYGVTVGKNIIHGSD
UniRef90_D7CJ40         GVIESVRKLMGKTNPLEAEPGTIRGDFGIYISKNIIHGSD
UniRef90_G0U9C8         NVVRGGRVLLGATNPADSQPGTIRGDFAIDVGRNVCHGSD
UniRef90_G8JQ34         DVVAQGRTVLGATNPSNALPGTIRGDFGIDMGRNVCHGSD
UniRef90_E6SK71         EAVAVVRNLLGPTDGAKAAPGTIRGDLANDIGFNLVHGSD
UniRef90_U6KIW7         DVVKQARKMLGETRPLDSQPGTIRGDFCIDVGRNLIHGSD
UniRef90_Q81FQ4         GVVDTARNMMGKTRPHEAAPGTIRGDFGVTVAKNIIHGSD
UniRef90_V4AAV4         DVVKQGRAMLGETNPLASKPGSIRGDYSIDMGRNICHGSD
UniRef90_I4D069         NVVALARELMGATNPANANPGSIRGQYGMDISRNVIHGSD
UniRef90_F1LG83         DVVKQGRLMLGATNPLASNPGTIRGDYSIQTGRNIVHGSD
UniRef90_B8DBZ7         DAIATARRMMGKTNPLEADPGTIRADYAIHTNRNVIHGSD
UniRef90_P49740         QAVKTGRLMLGASNPLDSAPGTIRGDYGIDLGRNVCHGSD
UniRef90_M1XB88         NVVEITRQLIGKTNPKDALPGTIRGDYGMFVGKNIIHGSD
UniRef90_I2G1H5         DAVRTGRVLLGATNPLDSAPGTIRGDFAIDVGRNVCHGSD
UniRef90_M1WVS3         GVVASARKMIGATNPLISEPGTIRGDFGVSISHNIIHGSD
UniRef90_UPI000478A29B  NAISVARTMMGKTNPAESAPGTIRGDFGLTIGMNIIHGSD
UniRef90_H3BEM9         NVVKTSRAMVGETNPLDARPGTIRGDFSVDICRNVIHASD
UniRef90_UPI000363F5FB  RAVELVRNTMGSTDPLAAQPGTIRGDFGIEIGRNLVHGSD
UniRef90_D8LW21         NVVSIARKMMGATKPLDAAPGTIRGDLGCDMGHNVIHGSD
UniRef90_W4WGH2         DVVKTGRVMLGETNPKDSAPGTIRGDFCIQVGRNIIHGSD
UniRef90_U6P6F5         DVVKQGRAMLGATNPLASAPGTIRGDFCIQTGRNICHGSD
UniRef90_I7MKD9         DVVKQGRAMLGQTNPLTSAPGTIRGDFGIVMQKNLVHGSD
UniRef90_Q9YI35         NIVKMGRDMMGETNPADSKPGTIRGDLCVQVGRNIIHGSD
UniRef90_Q8TV10         KAVKVVRNIIGATDPAEAAPGTVRGDFALDIGRNVVHASD
UniRef90_E5GBW3         GVVASARKLIGVTNPLEAEPGTIRGDLAIQKGRNVIHGSD
UniRef90_H7F3T7         EAITAARQMMGKTNPLEALPGTIRFDFGLHTNRNIIHGSD
UniRef90_K0T5M1         EAVATGRKMLGATNPLASEPGTIRGDFCIEVGRNICHGSD
UniRef90_E9BWH2         GVVKTGRKMLGATNPLDSEPGTIRGDYAIDVGRNICHGSD
UniRef90_D5WQ44         GAIAVVRQMMGKTNPQEAAPGTIRGDLALSIGMNVVHGSD
UniRef90_B7G2S9         GAVKEGRKMLGATMPSESAMGTIRGDFCIEVGRNICHGSD
UniRef90_V9W2E7         QIIALSRTLMGKTNVMDAAPGTIRGDFALHTSNNLIHGSD
UniRef90_UPI0003C25B50  DVVKTARAMIGETNPADSRPGTIRGDFCIEVGKNVIHGSD
UniRef90_E8N633         NAVAVVRQTMGATRPYEAAPGTIRHDFGLTVSRNLTHASD
UniRef90_F0Y250         GAVVTGRKMLGATMPSQSEPGTIRGDYCIQVGRNICHGSD
UniRef90_UPI00035D5AD1  NAIAIVRTMMGALEPTEATPGSIRGDFACTKTMNLIHGAD
UniRef90_UPI0004411C2D  DAVKTGRTMLGATNPLASAPGTIRGDYALAVGRNICHGSD
UniRef90_X0U7D8         GAVALVRKMMGATFGPEAEPGTIRGDFGVSNRFNLVHGSD
UniRef90_F8KKJ9         NAVNVSRHIIGQTNPAEAAPGSIRGDLGLTVGRNVIHGSD
UniRef90_D8S2E3         GVVASARKLIGSTNPLQAEPGTIRGDLAVAVGRNVIHGSD
UniRef90_U1P6G3         DATRQVRRMVGATDPGEAAPGTIRGDYGLDLGRNVIHASD
UniRef90_UPI000344278A  DVVRASRALIGATDPADAAPGTIRGDFCVEVGKNVVHGSD
UniRef90_B5XE35         DVVKMSRKMLGETNPADSLPGTIRGDYCMEVGRNVIHGSD
UniRef90_W7ZLX8         K LKISRHLIGATNPAEATPGSIRGDYAIQVGMNVIHGSD
UniRef90_X8JTI3         DAVKTGRAMLGATKPLESAPGTIRGDYALAVGRNICHGSD
UniRef90_F4BUT2         GAIAAMRKMNGATNPVEAVPGTIRGDWGIETGRNVVHGSD
UniRef90_F8FAU4         DIITLSRTMIGKTNAAEAQPGTIRGDFAASTRLNLIHGSD
UniRef90_UPI00035D44DC  DVVALSRILIGKTQVTDALPGTIRGDFAAHTPFNLIHGSD
UniRef90_M7T8P2         NAIDMVRSMMGKTDPQKAEMGTIRGDFGQFIGRNIVHGSD
UniRef90_C7NTU9         DATRQVRQMMGATDPAEAAPGTIRGDYGLDLGHNIIHGSD
UniRef90_E4YWL7         NIISSSRSLLGATDPSKAAPGTIRGDLATQVGRNLVHASD
```

```
                                          130                 140                 150
QUERY                   S V K S A E K E I S L W F K P E E L V D Y K S C A H D W V Y E
UniRef90_UPI00033330F4  S V K S A E K E I S L W F K P E E L V D Y K S C A H D W V Y E
UniRef90_A9QQ80         S C P S A E K E I A L W F K E E E L C N Y K L A L D S W V Y E
UniRef90_N0BIQ4         S P E S A K R E I N L F F S P E E I L D Y E R A I D K W I Y E
UniRef90_F6CP12         S P A S A E R E I N L F F S P E E L V D Y R R D V D R W I Y E
UniRef90_B6RB47         A V E S A Q K E I A L W F T P E E L C N Y N S C Q S S W V Y E
UniRef90_A9YVA7         S V E S A N T E I N L W F K P E E L C S Y T S C S S S W L Y
UniRef90_L1JM45         A V E S A N K E I A L W F K P E E L V D W K S H S E S W V Y E
UniRef90_G0SG41         S V E N A E R E I A L W F K P E E L V D W E Q S Q K A W I Y E
UniRef90_G6CSE8         S V D S A N K E I N L W F T E K E L V G W T P A A E K W V Y E
UniRef90_F6DMU0         S V E S A Q R E I A I F F R P E E L V D Y G R A V D S W I Y E
UniRef90_Q201X7         A V E S A N K E I A L W F S E K E V V P W T K D I D S W V Y E
UniRef90_P50590         A I E T A Q Q E I A L W F S P A E L S D W T P T I Q P W L Y E
UniRef90_Q2JVI1         G P E T A Q R E I A L W F Q E S E L V N W T P A T Q S W I Y E
UniRef90_Q5DIW9         S V E S A N K E I A L W F K P E E L V D W T P T E Q Q W I Y E
UniRef90_S8BER2         S V E N A K K E I A L W F K E G E V A S Y K S A Q F D W I Y E
UniRef90_G3PR82         S V E S A N K E I S L W F K D D E L V S Y T S C A F S W L Y
UniRef90_T1K1L0         S V E T A K R E I G L W F E D K E L S D W A P A Q Q S W V Y E
UniRef90_M7BLZ6         R T F I A V K
UniRef90_G8ZQD4         S V E S A E R E I N L W F K K E E L V D W K L N Q L G W I Y E
UniRef90_UPI00034F2333  S L E S A E R E I S L F F K D E E L V E W
UniRef90_D8QXS8         G P E T A K N E I N L W F K P E E L V D Y G L D S E K W L Y E
UniRef90_B4VQN4         G S D T A K E E I K L W F K D E E L V S W Q P T I N P W I Y E
UniRef90_D8RHN0         S V D N A K K E I A L W F   P D G V V D W Q K S V H P W I Y E
UniRef90_I2GUT2         S V E S A N R E I K L W F K D E E L A N W E S N Q T K W L Y E
UniRef90_C5DCL3         S V E S A Q R E I A L W F Q P E E L V E W T P A Q A A W V Y E
UniRef90_Y5PGP7         S V E S A E R E I N L W F N D D E I Y S Y E A I R E N W L Y E
UniRef90_V9LHK9         S V E S A I R E V S L W F H S D E L V C W D D C A E T W L Y E
UniRef90_D3ZGV9         S V E S A E K E M G L W F K P E E L I D Y K S C A H D W V Y E
UniRef90_P93554         S I E S A N K E I A L W F   P E G L A D W Q S S Q H P W I Y E
UniRef90_C4R300         S V E S A E K E I G L W F K K E E L V D Y K P T L T S W I Y E
UniRef90_K9YI28         A I E T A Q R E I S L W F K E E E L C H W Q T T I T P W L Y E
UniRef90_T1FNB2         S V E S A K I E V A L W F H D A E L L N W T P V A T P W I Y E
UniRef90_A0CVZ9         S V E S A N K E I S L W F Q P Q E L V A W N T N D H G W V Y E
UniRef90_UPI0002F8C8F5  S P E S A A R E I G L W F S E S E V V S F E K T I Q R W V
UniRef90_D2VTC4         S T T S A E A E I A L W F K P E E I S N W T P V A N K W I Y E
UniRef90_Q86EJ4         S V E S A N R E I N L W F S P Q E L C R Y E Q G I N T W I H E
UniRef90_J9I6G3         S V D S A N K E I D L W F G H D N V V N W Q S H S N S W V Y E
UniRef90_D1YXD8         S P E S A K R E I S L Y F N T S E I A T Y K R I D E Q W L Y E
UniRef90_R7YM22         G V E S A K K E I A L W F K E G E V Q E Y K Q A Q F D W I Y E
UniRef90_K6DGY0         S P E S A G R E I S L W F K E D E V S E Y N K Q V D E W V Y
UniRef90_K2FP17         S Q E S A E R E I A L F A G G K P F V D Y E K D E D K W I Y
UniRef90_UPI0003FEDD26  S P E S A E R E I N L F F E E R E L L Q Y E K I N K S W L Y
UniRef90_D7CJ40         S P E S A A R E I E I F F R P D E L V E Y Q R S L D K W I F
UniRef90_G0U9C8         S V E N A K R E I E F W F K P E E L M N W T S H S A K Q I Y E
UniRef90_G8JQ34         S V A S A E R E I N L W F K K E E L A D W T L S Q H K W I Y E
UniRef90_E6SK71         S P E S A R Q E I A L W F R Q D E L L D W E N H R E A W L Y D
UniRef90_U6KIW7         S V E A A E R E I K L W F K E E E I C N W T P A Q K P W I Y E
UniRef90_Q81FQ4         S L E S A E R E I A I F F K E E E L V D Y S K L M N E W I Y
UniRef90_V4AAV4         S V E S A K K E I E L W F D A K D L C D Y K K A N D V W V Y E
UniRef90_I4D069         S V A S A E R E I A L Y F K S E E L V D Y T K A G E D W L S E
UniRef90_F1LG83         S L E S A K R E I A H W F K N E E L I E W T P A N V N W V Y E
UniRef90_B8DBZ7         S L E S A K R E I Q L F F A P Q E I L S Y Q K A I D T W I
UniRef90_P49740         S I E S A N R E I K L W F Q P S E I Q V Y D R T I E P W I Y E
UniRef90_M1XB88         S L E S A E R E I D I F F K Q E E L V P Y Q K L M A D W V Y
UniRef90_I2G1H5         S V E S A K K E I A L W F G E Q K T I S Y Q R A V D A W I Y E
UniRef90_M1WVS3         A I E T A Q R E I S L W F K D E E L V D W Q P Q I S T W L Y E
UniRef90_UPI000478A29B  S P E S A E R E I S L W F S   E G V V S Y E K A V D A W L
UniRef90_H3BEM9         S V D G A Q R E I G L W F Q S N E L V D W E S C L H S N T Y
UniRef90_UPI000363F5FB  S T E S A Q Q E I G I F F S E D E L V D Y S R D L D T W I I E
UniRef90_D8LW21         S V E S A Q R E I S L W F   P E G L V E W T K D D E K W V Y E
UniRef90_W4WGH2         S V E S A I K E I D L W F G E K E V I D W M Y A S E K W I Y E
UniRef90_U6P6F5         S L E S A Q R E I A H W F K P D E I N D Y E S P I D S W V Y E
UniRef90_I7MKD9         S V E S A K R E I A I W F Q D S E L T H W K P A Q N A W I Y E
UniRef90_Q9YI35         S L E T A K K E V A L W F K P E E L I E W K S C A E V Y T Y E
UniRef90_Q8TV10         S P E S A E R E I E I V F G K D S T I D Y E R C D E E W L Y E
UniRef90_E5GBW3         S P E S G K R E V A L W F K E G E L V E W E P A L V P W L I E
UniRef90_H7F3T7         S A A S A E R E I G L F F Q K E E L L D Y E K A T D S W L
UniRef90_K0T5M1         S V E N A E K E I S L W F E E D E V L D W E S H S K D W I Y E
UniRef90_E9BWH2         S V E S A T K E I A L W F K A E E L N A Y T Q T I R P Q V Y E
UniRef90_D5WQ44         S P E S A A R E I A L W F G G E T P L K Y E R S M D R W I
UniRef90_B7G2S9         A V E S A N A E I A L W F   P E G V C D W E S A S Q P W V Y E
UniRef90_V9W2E7         S P E S A E R E I N H F F K P E E L V T Y S R E L Q A W L
UniRef90_UPI0003C25B50  S I E S A R R E I S L W F R E D E L I C W E D H A E H W I H E
UniRef90_E8N633         S V E N A I A E I T L W F K P E E L V S W G R D T D R W I F E
UniRef90_F0Y250         S V E N A E K E I A L W F   P E G V C T W T S H S Q P W I Y E
UniRef90_UPI00035D5AD1  S E E N A E R E V R L F F S D D E I F N Y R R C D E E W V
UniRef90_UPI0004411C2D  A V E S A E K E I K L W F   P E G L A Q Y S L N Q E N W I F E
UniRef90_X0U7D8         S P E S A A E E I A L F F K P D E L I D W Q P V A W P W T Y D
UniRef90_F8KKJ9         S L A S A E R E I H L W F D E N E I S N Y S A P R D K W L Y E
UniRef90_D8S2E3         S V A N G E R E I G L W F G E A E L C K W Q P E L T P W L L E
UniRef90_U1P6G3         H E D E G E R E I A V F F D D E E L L D Y E Q A T D E W R Y E
UniRef90_UPI000344278A  S V E S A R R E I A L W F R G D E L L C W E D S A A H W L Y E
UniRef90_B5XE35         S V E S A Q R E I S L W F R Q N E L Q C W E D S S G H W I Y E
UniRef90_W7ZLX8         S T E S A D R E I G I F F S E E E L S T Y E K N T N V W V
UniRef90_X8JTI3         S V E N A Q K E I D L W F   P E G I V Q Y T D D K A T W I F E
UniRef90_F4BUT2         S P A S A S R E I A L H F D P S E L V T Y K R I D E E W L Y E
UniRef90_F8FAU4         S P E S A E R E I A N Y F S P D E L V V Y T K T I Q N W I Y
UniRef90_UPI00035D44DC  G P E S A E R E I A N F F E P E E I L S Y S R S I D P W I
UniRef90_M7T8P2         G E E T A E F E I N L W F K P E E I A D Y K R I D E E W L T E
UniRef90_C7NTU9         N E D A N E R E I E L F F D D E E L V D Y E R A D A E W V Y E
UniRef90_E4YWL7         S P V N A E R E I S L W F A A K E I E N W S R S L E P W I N E
```



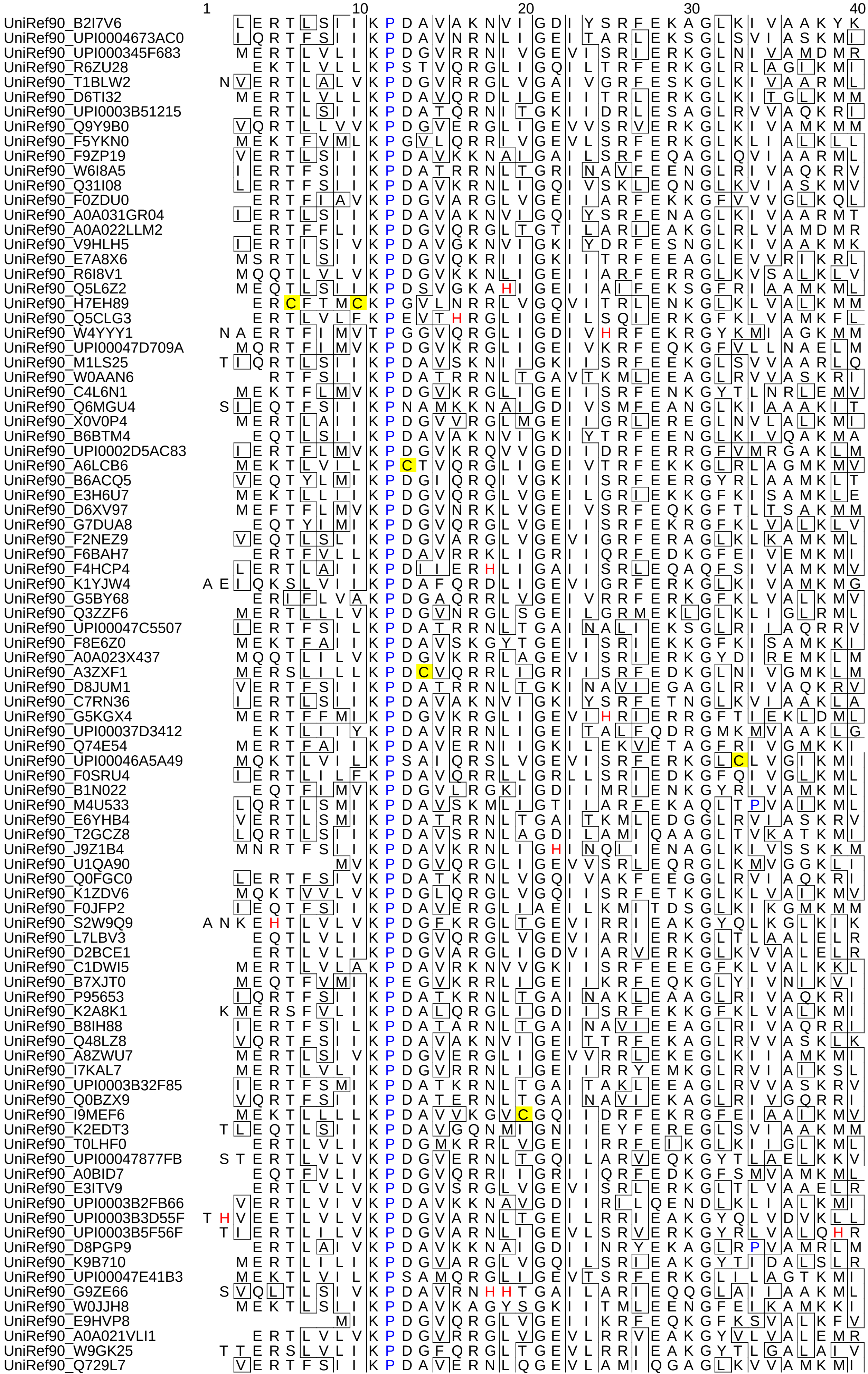
```
                     1        10        20        30        40
UniRef90_UPI000203AF56  ERTLIAVKPDGVQRRLLGDVIKCFERRGFKLVGLKLL
UniRef90_V4XDJ0      SDGERTFVMVKPDGVQRGLIGEIVSRLEGRGLTMAGAKFT
UniRef90_I4EI69        MDQTLVIVKPDGVQRALIGEIIGRLEKRGLKVVALKMV
UniRef90_UPI0004779C7A  MQRTFMMVKPDGVQRGLIGKVLQRFEEKGFQVIGAKLM
UniRef90_A8J9H8         EQSYIMIKPDGVQRGLVGEVIKRFEQRGYTLKGLKLM
UniRef90_B8GTN8        VERTLSIIKPDAVAKNVIGEIYTRFEKAGLKIVAARMM
UniRef90_K8EM49        MERTYIMIKPDGVQRGLIHKVIERFEQRGFYLKAMKMQ
UniRef90_D0NCD0         ERTYIMIKPDGVQRHLVGEIIKRFETKGYKLVALKLA
UniRef90_I7KBS7        MDRTFVMVKPDGVQRGLIGEIVSRFEAKGLKLAAAKLE
UniRef90_UPI00031703AA TDMEQTFLMIKPDAVRRGLIGKIIARFEAKGFRMVAGKFM
UniRef90_W4QAI0        MERTYIMVKPDGVQRNVIGEIISRFEKKGFTLVAAKLM
UniRef90_D2K926       RKERTFLMVKVDGVQRGIIGEVISRFEKRGFKLVAAKLT
UniRef90_I1CBB4        MERTYIMVKPDGVERGLVGEIIKRFEQRGYQLTALELI
UniRef90_K2AMA9        MERTFVMVKPDGVDKGLIGEVVSRIENKNLKIVAMKLM
UniRef90_A8BMG9         ERTFLMVKPDGVQRGLVGEIISRFERRGFKLVAMKFF
UniRef90_E1Z406            YVMIKPDGVQRGLVGDIISRFERKGFKLVALKLF
UniRef90_B8GKL6        MDRTFVMIKPDGVQRGLIGQIVARLEDKGLKMVAARFE
UniRef90_W7Z3K3        MERTFIMIKPDGVQRGLIGKIITRLEDKGFTMVAGKLL
UniRef90_F0RPA2         ERTFAMIKPDGVRRGLTAEILRRIELKGYRTVGLKLY
UniRef90_Q72GQ0        MERTFVMIKPDGVRRGLVGEILARFERKGFRIAALKLM
UniRef90_A6Q200        MERTLSIIKPDAVAKNVIGKIIDRFETNGLRIAAMKKI
UniRef90_H3SLF0        MERTFIMVKPDGVQRGLIGDIVSRFERKGWKLVSGKLM
UniRef90_A9S8I9         ERSYVMVKPDGVQRGLVGEIISRFERKGFQLIGLKLF
UniRef90_B9L159        MERTLIIVKPDAVQRGLVGEVLRRLEQRGLRFVGLKLM
UniRef90_L0HJM6          RTFVMVKPDGVQRGLVGEIVSRLEAKGLKLVAARFE
UniRef90_H5S9Y5        MERTFVMLKPDAVKRRLVGEIIKRIEAKNLNIVAMKMM
UniRef90_D8U8X8         EISYIMVKPDGVQRGLVGDIISRFERKGYKLAALKLY
UniRef90_C6CAM0       TVERTFSIIKPNAVAKNVIGAIYARFESAGFKIVAAKML
UniRef90_UPI000292A743 ANLERTFIAIKPDGVQRGLVGEIIKRFEQKGFRLVAMKFL
UniRef90_A0LBZ0       TIERTFSIIKPDAVAKNVVGEIQSRFEKAGLRIIASKMI
UniRef90_Q5JGR7       QIERTLIILKPDAVVRGLMGEIISRFEKRGLKIVGMKMI
UniRef90_UPI0002DE7748  MAQTFVMVKPDGVRRGLVGEVIRRLEQKGLRLKAMKLI
UniRef90_Q5PQ84        CERTLVAVKPDGVQRRLVGEIIKRFEQRGFTLVGLKLL
UniRef90_UPI0002DD549E TIERTFSIVKPDAVERNLIGAIYQRIEAAGLRVVAAKML
UniRef90_T0RSG8         ERTFIAIKPDGVERGLISEVIGRFEKKGYKLVAMKLM
UniRef90_UPI0004105E7A  LERTLSIIKPDAVAKNVIGAIYNRFESTGLRIVAAKMM
UniRef90_UPI000320089E  MQQTLILLKPDAVQRRLIGEVTGRFERKGLRLAGLKFV
UniRef90_E0IC82        MERTFLMVKPDGVQRGLIGEIVGRFERKGLQLVASKLM
UniRef90_Q9UZ13         ERTLVIIKPDAVIRGLIGEIISRFEKRGLKIVGMKMI
UniRef90_X0RN82        MERTYLMVKPDGVKRNVIGEIVTRFEKKGYELVGAKLT
UniRef90_UPI0002D3777A   ERTFIAIKPDGVQRGFISEIIGRFERKGFKLVALKQL
UniRef90_Q8ID43        MEKSFIMIKPDGVQRGLVGTIIKRFEKKGYKLIAIKML
UniRef90_D6PAY7        METTYVMVKPDGVQRGLVGEIIQRFERKGLQLVGLKQV
UniRef90_N9TZ21        IERTFSIVKPDAVSKNLIGAIYNRFETAGLRIVASKML
UniRef90_R7MDD8         ERTFVAVKPDGVQRGLVGEVIKRLETKGYKIVAMKML
UniRef90_K0C4P5        LERTFSIVKPDAVAKNVIGQIYARFEEAGLKIVASKML
UniRef90_B0FFJ9         ERTLIAAKPDGVQRRLVGQIMERFEQRGFKLVGMKML
UniRef90_A2BK98        VERTFVMIKPDGVKRGLVGEIIARFERKGLKIKALKMK
UniRef90_E6R552         ERSFVMIKPDGVSRQLVGKIVSRFEERGYKLVAIKSL
UniRef90_UPI00034D8074   ERTLSIIKPDAVAQNAIGEIVARFEKAGLKVVASKML
UniRef90_A4A469        VERTLSIIKPDAVAKNHIGEIYARFEAAGLRVVASKMM
UniRef90_U3TY38        IERTFSIIKPNAVAKNVIGAIYNCFESAGFKIVGAKML
UniRef90_UPI0004640764   QQTLSIIKPDAVRKNLIGAIESRFEQAGLKIVALKMI
UniRef90_W4DLQ0        MEKTYLMVKPDGVQRGLIGRIVTRFEDKGFKLVAAKLI
UniRef90_Q9PTF4         EPTFIAVKPDGVQRGLMGEIIKRFEQKGFRLVAAKFV
UniRef90_P87355         EKTLVLVKPDAVQRRLVGNVIQRFERRGFKLVAMKLL
UniRef90_A0Z845         ERTLSIIKPDAVGKNVIGEIYTRFESAGLRIVASRMM
UniRef90_D5V6X6        MEQTLSIIKPDAVAKNVVGKILDRFESAGLRIAATRKM
UniRef90_E1IHK5        MERALIILKPDAVQRGLVGPILSRIEQRGLKLQGLKLM
UniRef90_W7KVD6         QRTFVMIKPDGVKRKLVGEIISRIERKGLNIVAMKMV
UniRef90_B0KAQ8        METTLAIVKPDGVKRGLIGEILKRYENKGLRLKAAKVI
UniRef90_I7ZF38        VERTLSIIKPDAVAKNVIGQIYSRFEQAGLKIVASRMT
UniRef90_A6CAK3        LERTLILIKPDAIQRRLAGTILTRFENKGLKIVGLKLL
UniRef90_UPI0003AF86AF   ERTLVAVKPDGVQRRLVGDVIQRFERRGFKLVGMKML
UniRef90_UPI00029DB717 SNLERTFIAMKPHGVRWGLLGNVMRHFELKGF      HL
UniRef90_UPI00035E14D7  IEQTLSIIKPDAVSKNIIGKIISRFEEKGLCLVAGKLI
UniRef90_Q6FEM7        VERTLSIIKPDAVGKNHIGEIIARFEKAGLKPVAMKYK
UniRef90_D9RYG2        MERTFVMIKPDGVKRGLVGTILQRYEQKGLTLVAAKLL
UniRef90_H3FC51         ERTFIMVKPDGVQRSLVGEIMERFEQRGYKLVGLKMM
UniRef90_UPI000378C0FD  MERTFSIIKPDAVSRNLIGKITQRFEEGGLRIIASKMK
UniRef90_W4VF22        MEKTFLMIKPDGVQRNLIGMIVSRFEQKGYKLIASKLM
UniRef90_A0A034TIM7    LERTFSIIKPDAVERNLIGEIYNRIEKAGLRIIAAKMV
UniRef90_C4L7J5       TIERTFSIIKPDAVAKNIIGEIYHRFECAGLHIIAAKML
UniRef90_H2SJJ0         ERTLIVVKPDGVQRRLVGRIVQRFEQRGFKLVGLKLL
UniRef90_A0A059LES4            VKPEGVQRGLISDVIRRFEARGYKLVGIKVL
UniRef90_R7D0Z5        MEKTLVILKPCTLQRGLVGEITNRFERKGLRLAGMKMI
UniRef90_P81766      AEFERTFIAIKPDGVQRGLISEIVARFERKGFSLVAIKVV
UniRef90_F9Q7I6         ERTFSIIKPDAVKRNLIGTILGRFESQGFRVVALKML
UniRef90_U2SFX6        IERTLSIIKPDGLEKGVIGKIISRFEEKGLKPVAIRLQ
UniRef90_H1XVK6        MNKTLAIIKPDGVANGLIGEIIKRIEQEGLKIIGMRMT
UniRef90_B3PDL7        VEQTFSIIKPDAVKNNHIGAIVARFEKAGLKVIAQRML
UniRef90_R5K7I0         ERTFVAIKPDGVKRGFIGEIISRFEKKGYKIIGLKML
UniRef90_Q9HJ59         ERTLVLLKPDAVKRRLIGRIISRLEDKGLKVVALKFM
UniRef90_C4LJU8         ERTLILIKPDAVKRGLVGEILARIERKGLTFSALDLR
UniRef90_UPI00037A8C5C  MERTLSIIKPDAVAKNVIGEIYSRFEGAGFKIVAAKML
UniRef90_C6XEJ0        VERTLSIIKPDAVAKNVIGKIYTRFEDAGLKIVASRLA
UniRef90_F8KYY9      TTEQQTLSIIKPDAVSSKHIGHIISRFEDNGLRVAAVKMT
UniRef90_UPI00037AA305  VEQTLSIIKPDAVGNNHIGAIVARFEEAGLKVIALKML
UniRef90_UPI000374EAC4  LERTFSMIKPDATRRNITGKIVDRLESAGLRVVAQKRI
UniRef90_W0BF85        MELTLSIIKPDAVAKSVIGQIYTRFEQAGLNIVAAKMT
UniRef90_S6CFR3        IERTLSIIKPDAVAKNVIGDIYNRFERAGLRIVAAKMM
UniRef90_R9P8G7      TSTEKSYVMIKPDGVSRQIVGDIISRFERRGYKLVALKTL
```



```
                                50        60        70        80
UniRef90_UPI000203AF56  QANEGILAQHYQHLQKKPFYQELVQYMTSGPVVAMVWEGH
UniRef90_V4XDJ0         QMDDDLAAEHYAEHEDKAFFDDLTDFITSGPVFATVWEGQ
UniRef90_I4EI69         RISQELGEQHYSIHRERPFFDELVQFISSSPVVVGVLEGP
UniRef90_UPI0004779C7A  HISRQQAEVHYGEHKEKPFYQELVDFITSGPVFAFVLQGE
UniRef90_A8J9H8         NVEKSLAEKHYEDLSARPFFPALVDYICSGPVVAMVWEGK
UniRef90_B8GTN8         HLSREQAEGFYAVHKERPFFKDLVDFMISGPVIVQALEGE
UniRef90_K8EM49         MVTKEHAEKHYADLSSKPFFAGLVTYMCSGPVVCMVWEGK
UniRef90_D0NCD0         RPSVEHLEAHYSDLSGRPFFPALIKYMSSGPVTCMVWEGT
UniRef90_I7KBS7         SLPEERVVEQYREHLEKPFFPGLKAYIMSGPCFLMVWEGK
UniRef90_UPI00031703AA  KISPELAARHYHEHIGRPYYEDLIGFMTSGPVFAMVWEGE
UniRef90_W4QAI0         VITEAMAERHYEEHTGKPFFEKLVRFITSGPVFAMVWEGP
UniRef90_D2K926         QATEDFIKKHYEDLSDKPFYGKLCTFASSGPVFAMVWEGL
UniRef90_I1CBB4         HPTKELLEEHYCDLKGKGFFPSLVEYMLSGPVVGMVWTGK
UniRef90_K2AMA9         QISEKLAGEHYKEHVGKPFFPALMRFTTMGPVVAMVIEGP
UniRef90_A8BMG9         VPSKNLVEEHYKEHAARPFFAGLCKFLSSGPVCAMVWEGA
UniRef90_E1Z406         QCTKEVAEEHYKDLSSKPFFPALVEYILSGPVVCMVWEGE
UniRef90_B8GKL6         RLAEATVNEHYREHIERSFYPSLKQYIMSGPCFLMVWEGK
UniRef90_W7Z3K3         QVTDEQAQRHYAEHEGKVFYDNLVRFITSSPVFAMVWEGD
UniRef90_F0RPA2         QIPRETAESHYGEHSAKPFFGELVDFITSGPVVAIALEGE
UniRef90_Q72GQ0         RISQELAERHYAEHREKPFFPGLVRFITSGPVVAMVLEGP
UniRef90_A6Q200         QLSKNDAAKFYEVHKERPFFNDLVDYMTSGPVVVMVLEGE
UniRef90_H3SLF0         MITREQAERHYAEHAEKPFFGELVDFITSGPVFAMIWEGD
UniRef90_A9S8I9         KTPKELAEEHYGELKEKPFYGKLVAYIISGPVVCIALEGP
UniRef90_B9L159         KVDREVAERHYAEHRGKPFYEDLLAFITSGPVVVGVVEGP
UniRef90_L0HJM6         KLPEQRVTEHYKEHLSKPFFPSMKEYIMSGPVFLMVWEGR
UniRef90_H5S9Y5         RIDKKLAETHYGEHREKPFFKDLVDFVTSGPVVAMIVEGP
UniRef90_D8U8X8         QTPREVAEEHYKDLSAKPFYKDLVNYILSGPVVCMVWEGK
UniRef90_C6CAM0         HLTRDQAEGFYAEHQGKPFFDGLVSFMTSGPVVVQVLEGE
UniRef90_UPI000292A743  RVTRPRLPFPRCSRCFPSSFRCREIPLPSAPAHGGVWEGL
UniRef90_A0LBZ0         RLTPEIAGKFYEVHKARPFYNDLCSYMSSGPVVVQVLEGD
UniRef90_Q5JGR7         WIDRKLAEKHYAEHKGKPFFEPLIDYITKAPSVVMVVEGR
UniRef90_UPI0002DE7748  QVTPELAGKHYEEHRDKPFYGELISFITSGPSVPMVWEGR
UniRef90_Q5PQ84         QASEGILAEHYHDLRRKPFYPALLRYMAAGPVVAMVWEGH
UniRef90_UPI0002DD549E  HLSEEKAKGFYAEHEGKPFYNDLVEFMTSGPVMVQTLEGD
UniRef90_T0RSG8         TATEARASDHYADLAGRPFFGGLVKYFASGPIVCMVWEGT
UniRef90_UPI0004105E7A  HLSKEQAEGFYAEHSERPFFGALVEFMTSGPIVVSVLEGD
UniRef90_UPI000320089E  QASRSLAESHYAVHKGKPFYESLIQFLTSGPTVAMVWEGR
UniRef90_E0IC82         QISRETAELHYAEHHGKPFYERLITFITSGPVFAMVWQGD
UniRef90_Q9UZ13         WISKELAEKHYAEHREKPFFKSLVEYITRTPVVVMVVEGR
UniRef90_X0RN82         VITKEMAEKHYAEHKERPFFGDLVQFITSGPVFAMVWQGE
UniRef90_UPI0002D3777A  IPSIELAQKHYGVHKDRPFFSNLVDFISSGPVVAMVWEGE
UniRef90_Q8ID43         NPTEEILKEHYKELSDQPFFKNLVAYISKGPVVAMVWEGV
UniRef90_D6PAY7         IPSEEIAKTHYAVHSERPFFPGLIKFVTSGPVVCMAWLGK
UniRef90_N9TZ21         HMTREQAMGFYGEHEGKPFFEGLVNFMTSGPVMVQVLEGE
UniRef90_R7MDD8         QATDAQAKAHYEEHKDKPFFPRLIQYLQSGPIVAMVVQGF
UniRef90_K0C4P5         QLSREQAEGFYAVHKERPFYNDLVSFMISGPVMVQVLEGE
UniRef90_B0FFJ9         QASEELLSQHYQELRRKPFFPSLLYYMTSGPIVVMVWEGH
UniRef90_A2BK98         WLTREEAEKLYEVHRGKPFFEDLVNFVTSGPVVAMILEGD
UniRef90_E6R552         TPSDALAKEHYADLSARPFYPSLVKYITSTPVVAMVWEGK
UniRef90_UPI00034D8074  HLSEENAGGFYAEHKERPFYGALVGFMTSGPVIVQVLEGE
UniRef90_A4A469         RLSDVVAGGFYAEHKERPFFPALIEFMTSGPVVVQVLEGE
UniRef90_U3TY38         HLTKEQAEGFYAEHKGRPFFDGLVEFMTSGPVVVSVLEGE
UniRef90_UPI0004640764  QLSRAQAEGFYAEHQGKPFFEGLVDFMTSGPVCVQVLSGD
UniRef90_W4DLQ0         TVSEDQAKRHYAEHAGKDFFSELVSFITSGPVFAMVWEGD
UniRef90_Q9PTF4         QASEDLAKQHYIDLKDQPFYAGLVKYTSSGPLLAMVWEGL
UniRef90_P87355         QADQGLLDKHYQQLRQKPFYPALLAYMTSGPLVAMVWEGY
UniRef90_A0Z845         QLSDTTAGGFYAEHKGRPFYDDLVKFMTSGPVVVQVLEGE
UniRef90_D5V6X6         QLSRADAEAFYAVHAERPFFGELVEFMISGPVVVSVLEGV
UniRef90_E1IHK5         QVTEALARIHYGEHEGKPFFQGLVEYITSAPVVVAVVVGK
UniRef90_W7KVD6         QISRERAEELYAEHKGKSFFPELISYITSGQVVCMVVEGD
UniRef90_B0KAQ8         TPTIELLEKHYEEHKGKPYYKPLIQYMSSGPVFAMVLEGE
UniRef90_I7ZF38         HLTEKEAGGFYAVHSARPFFKDLVSFMTSGPVVIQVLEGE
UniRef90_A6CAK3         QVTKELAAEHYAEHVEKPFYPLLEEFITAGPVVAIVAEGP
UniRef90_UPI0003AF86AF  QAPERILAEHYHDLQRKPFYPALISYMTSSISLLQVWEGP
UniRef90_UPI00029DB717  WASEEHLKQLYPDLKDCPFLPGLVKYVNSWP     WEGL
UniRef90_UPI00035E14D7  QLDNEMASGFYAEHEGRPFFNDLKKFMTSGPVFVQVLEGE
UniRef90_Q6FEM7         HLSQAEAEGFYAEHKERGFFADLVAFMTSGPVVVSALEGE
UniRef90_D9RYG2         TVSRQLAEEHYREHSSKPFFRELVDYITSGPVFAMVLEGE
UniRef90_H3FC51         TAPKELLEMHYHELRERPFFPKLMAYMGSGPVVAMGMD
UniRef90_UPI000378C0FD  RLTLQEVEGFYAEHKGREFYEPLIQYMISAPVIVQVLEGD
UniRef90_W4VF22         TITEHLAKTHYAEHDGKPFFNDLVSFITSGPVFAMVWEGE
UniRef90_A0A034TIM7     HLTEDQQAAFMQSMKVKSFSPPLKEFMTSGPIMVQVLEGE
UniRef90_C4L7J5         HLSQEQAAGFYAEHKGKPFYDNLLKFMTSGPIVVQVLEGQ
UniRef90_H2SJJ0         QVSEDLLAQHYQQLRSKPFYPDLVQYMTSGPVVVMAWEGH
UniRef90_A0A059LES4     VPSEDLAKKHYAEHETKPFFGKLVQHVTSGPVVAMVWEGK
UniRef90_R7D0Z5         QLTDEILNQHYAHLSAKPFFQRVKDSMMVTPVIVCCYEGV
UniRef90_P81766         IPSRPFAQKHYADLKDKPFYVGLVAYWSSGPVVAMVWEGE
UniRef90_F9Q7I6         QLTKEQAQGFYAEHQGKPFFESLVDYMVSGPIVVSVLEKE
UniRef90_U2SFX6         QLSQEQAEGFYAVHKARPFFKDLVQFMISGPVVLMVLEGE
UniRef90_H1XVK6         QLDRRQAEGFYYVHRSRPFFHSLIEYMTSGPVVLMVLKGP
UniRef90_B3PDL7         QLTPAQAEGFYAEHKGRSFYDELVAFMTSGPVVVQVLYGE
UniRef90_R5K7I0         QVTEEIAAQHYEEHINKPFYPNLVKYITSGPIVAMVFQGY
UniRef90_Q9HJ59         QMTKDQAENHYSVHRSKPFFKDLVTYITSGPIVAMVLEGP
UniRef90_C4LJU8         VADRETAEKHYEEHKDKPFFKDLIEFITSGPLVAGVVEGP
UniRef90_UPI00037A8C5C  HLDENMAGGFYAVHKDRPFFKDLIAFMTSGPVMVQVLEGK
UniRef90_C6XEJ0         QLSQAEAEGFYAVHKERPFFADLVKFMISGPVVIQVLEGE
UniRef90_F8KYY9         KLSKEQAGQFYAVHKERPFYTDLVEFMSSGPVVILVLKGE
UniRef90_UPI00037AA305  QLTREQAEGFYAEHKERPFFPSLVEFMMSGPVCVQVLQGE
UniRef90_UPI000374EAC4  LMSKATAEAFYAVHRERPFFQELTEFMSSGPVVVQVLEGE
UniRef90_W0BF85         HLSREQAERFYAIHKERPFFNDLVSFMISGPVMVQVLEGK
UniRef90_S6CFR3         HLTEEQAGAFYAVHKERPFFKDLVAFMTSGPVMVQVLEGE
UniRef90_R9P8G7         IPSEELAKEHYIDLAKKPFYGGLVKYITSTPVVAMVWQGK
```

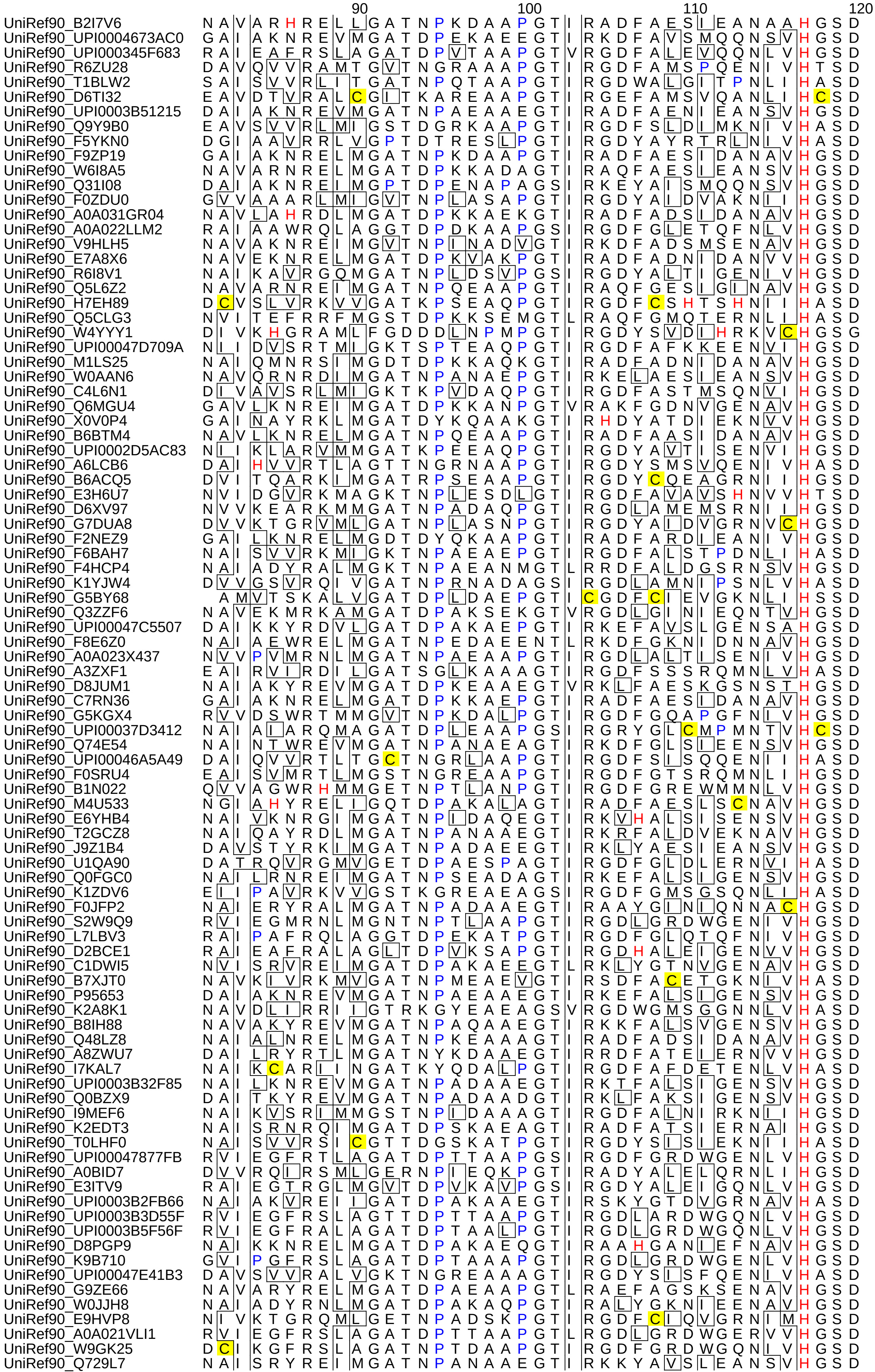
```
                                          90                  100                 110                 120
UniRef90_UPI000203AF56  E V V K A S R A M V G E T N P A E A R P G T L R G D F S V H V S R N V V H A S D
UniRef90_V4XDJ0         D A T R Q V R Q M M G A T D P A E A A P G T I R G D F G L D L G R N V V H G S D
UniRef90_I4EI69         K A V E V T R N T V G A T N P V D A A P G S I R G T Y G L T I G Q N L I H A S D
UniRef90_UPI0004779C7A  D V V A I S R L M M G K T K P W D A A P G T I R G D Y A L H P G N N V I H G S D
UniRef90_A8J9H8         G V V A T G R K M I G A T N P L A S E P G T I R G D F A I E V G R N V I H G S D
UniRef90_B8GTN8         N A V A L H R D I M G A T N P K D A A P G T I R A D F A E S I D E N A V H G S D
UniRef90_K8EM49         D V V K T G R K I I G A T N P L A S E P G S L R G D F C I E V G R N V I H G S D
UniRef90_D0NCD0         N V V L E G R K M L G A T K P S E S A L G T I R G D F C V D V G R N V C H G S D
UniRef90_I7KBS7         G A A A V V R T M I G A T N P A E A A P G S I R G D F G L D I G R N V I H A S D
UniRef90_UPI00031703AA  D V V K L S R W M M G S T D P E K A L P G T I R G D Y A T R M N R N V I H G S D
UniRef90_W4QAI0         E V I E T A R L M I G K T N P Q E A L P G T I R G D L A A Q M P N N I I H G S D
UniRef90_D2K926         K A V S T G R K M L G E T D P L K S A P G T I R G D L C I E I G R N I V H G S D
UniRef90_I1CBB4         D A V K T G R K M L G E T N P L A S A P G T I R G D F C I E V G R N I C H G S D
UniRef90_K2AMA9         N V I E V M R K L A G A T N P M E A A P G T I R K E F A M Y V T Y N I V H C S D
UniRef90_A8BMG9         N V V S I S R T M M G V T K P A E S A P G T I R G D F G I D V G R N I I H G S A
UniRef90_E1Z406         G V V K S A R K L I G A T N P L E A E P G T I R G D F A     V G R N V V H G S D
UniRef90_B8GKL6         N A A A V V R T L T G A T N P S E A A P G T I R G D Y G L D I G R N V I H A S D
UniRef90_W7Z3K3         D V I A L S R I L M G K T E V K D A Q P G T I R G D Y A S H T P H N L I H G S D
UniRef90_F0RPA2         N A I A G W R S M M G A T N P A N A A P G T I R G D F A T S V G E N V T H G S D
UniRef90_Q72GQ0         G V V A E V R K M M G A T H P K D A L P G T I R G D F A T T I D E N V I H G S A
UniRef90_A6Q200         N A V A K N R E L M G A T D P K E A K P G T I R A D F A E S I E A N A V H G S D
UniRef90_H3SLF0         E I I S L S R L M I G K T K V G E A Q P G T I R G D Y A S H T P L N L V H G S D
UniRef90_A9S8I9         G I V A S A R K L I G A T N P L N A E P G T I R G D L G I D V G R N V V H G S D
UniRef90_B9L159         R A I E I T R K T M G K T D P A Q A E P G T I R G D L A L T I G Q N V I H G S D
UniRef90_L0HJM6         N V A A I V R K V V G S T N P Q E A A P G T I R G D F G I D I G R N V I H A A D
UniRef90_H5S9Y5         N A I S V M R T M M G A T N P F N A A P G T I R G D F G L D L T Q N L I H G S D
UniRef90_D8U8X8         G V V A T A R K M I G A T N P L A S E P G T I R G D F A I E V G R N V I H G S D
UniRef90_C6CAM0         N A V Q R H R D I M G A T N P A N A L A G T L R A D Y A D S F T E N A V H G S D
UniRef90_UPI000292A743  N V V K T G R V M L G E T N P A D S K P G T I R G D F C I Q V G R N V I H G S D
UniRef90_A0LBZ0         G A V L K N R D I M G A T N P K D A A P G T I R A D F A E S I D A N A V H G S D
UniRef90_Q5JGR7         Y A I S V V R K M A G A T D P K D A E P G S I R G D Y G L D V G Y N V I H A S D
UniRef90_UPI0002DE7748  E A V Q V A R T L M G T T D P V K A Q P G T I R G D F A L A I T E N I V H G S D
UniRef90_Q5PQ84         N V V Q T S R A M V G D T D S S Q A K P G T I R G D L S V H I S R N V I H A S D
UniRef90_UPI0002DD549E  N A I S R Y R E L M G K T N P E E A A C G T L R A D F A V S M R L N S V H G S D
UniRef90_T0RSG8         D V I L T G R K I L G A T N P N Q A A P G T L R G D N C I S T G R N L V H G S D
UniRef90_UPI0004105E7A  D A V K R H R E I M G A T N P T E A L A G T L R A D Y A E T I D E N A V H G S D
UniRef90_UPI000320089E  E A V A V C R L M M G A T D G A K S P P G T I R G D F S L S V Q N N L I H G S D
UniRef90_E0IC82         N V I A L T R A L I G K T D A L E A L P G T I R S D Y A I H T N F N L I H G S D
UniRef90_Q9UZ13         C A I E V V R K M A G A T D P K N A E P G T I R G D F A L E V I C N V V H A S D
UniRef90_X0RN82         N V I K T A R L M M G A T N P I D A A P G T I R G D Y A T V M A Q N I I H G S D
UniRef90_UPI0002D3777A  G V I S S A R K M I G A T K P L E A E P G T I R G D L A V N I G R N I I H G S D
UniRef90_Q8ID43         D M V K Q G R K L I G E T N P L T S N T G T I R G D F C L E V S K N V I H G S D
UniRef90_D6PAY7         D A I S V A R N L I G P T N G R E A A P G T I R G D F G M D I G Y N M I H G S D
UniRef90_N9TZ21         D A I R R N R E I M G A T N P K E A L A G T L R A C F A D S I D R N A V H G S D
UniRef90_R7MDD8         N A V A G V R H L M G S T N P D E A E V G T I R A D Y A Q V K E Y N I V H G S D
UniRef90_K0C4P5         N A I L K N R E V M G A T N P A E A E A G T I R K D F A D S I D E N A V H G S D
UniRef90_B0FFJ9         N V V R T S R I M V G D T N P S E A Q A G T V R G D F S I H I S R N V V H A S D
UniRef90_A2BK98         S A I E V V R L M I G P T D G R K A P P G T I R G D Y A L D I G A N V I H A S D
UniRef90_E6R552         D V I R Q G R R I V G A T N P L E A D A G S V R G Q Y A V S V G R N L I H A S D
UniRef90_UPI00034D8074  D A I A K N R D L M G A T N P K D A E A G T I R A D F A E T I D A N A V H G S D
UniRef90_A4A469         N A V A T N R E L M G A T N P Q E A E A G T I R A D F A S S I D A N A V H G S D
UniRef90_U3TY38         N A I Q R H R D L M G A T N P D N A L A G T L R A D Y A D S F T E N A T H G S D
UniRef90_UPI0004640764  N A I A R N R E L M G A T N P E E A E P G T I R A D Y A E S V S I N A A H G S D
UniRef90_W4DLQ0         D V V T L S R T L I G K T K V G E A L P G T I R G D F A S H T P L N L I H G S D
UniRef90_Q9PTF4         N V I K T G R V M L G E T D P F A S K P G T I R G D F C I E V G R N L T H G S D
UniRef90_P87355         N V V R S T R A M V G D T D S A V A A A G T I R G D F S M H V S R N V V H A S D
UniRef90_A0Z845         G A I A K N R D L M G A T N P Q E A A A G T I R A D F A T T I D A N A V H G S D
UniRef90_D5V6X6         N A M S I N R D L M G A T N P K E A A A G T I R A D F A D S I D A N A V H G S D
UniRef90_E1IHK5         G T V E M I R T M V G A T N P A K A A P G T I R G D F G V E I G R N L I H A S D
UniRef90_W7KVD6         E A V A V M R K M I G A T D P K E A S P G T I R G D F A L S K G E N V I H A S D
UniRef90_B0KAQ8         N A V K I V R L L N G A T K V E E A L P G T I R G D F A I S T T F N I I H G S D
UniRef90_I7ZF38         D A I A K H R D I M G A T N P K N A A P G T I R A D F A D S I D E N A V H G S D
UniRef90_A6CAK3         E A I T V V R S M M G S T N G R E S A P G T I R G D Y G I S R Q M N L V H G S D
UniRef90_UPI0003AF86AF  N V V C T S R A M I G H T N S A K A A P G T I R G D F S T H V S R N V I H A S D
UniRef90_UPI00029DB717  S V V E T G R V M L G X T N P T D S K P G T S G G D F C I Q V G R D I I H G S D
UniRef90_UPI00035E14D7  G A I L K N R E L M G N T N P Q E A A P G T I R A D F A N S I D A N A V H G S D
UniRef90_Q6FEM7         N A V L A H R E I L G A T N P K E A A P G T I R A D F A T S I D E N A A H G S D
UniRef90_D9RYG2         N A I K L V R L L N G A T K V E E A L P G T I R G D F A T S T T H N L V H A S D
UniRef90_H3FC51           I V A Q G R A M L G A T D P L K S A P G T I R G D Y C Q A T G R N V C H G S D
UniRef90_UPI000378C0FD  N A I L K N R E I M G A T D P T K A A K G T L R A D F A I S V R E N S A H G S D
UniRef90_W4VF22         N V I D M S R K M M G G K N P Q E A E I G T I R G D Y G V V M H R N I I H G S D
UniRef90_A0A034TIM7     N A I A R Y R E L M G K T N P E D A A C G T L R A D Y A L S M R H N S V H G S D
UniRef90_C4L7J5         D A I R R H R E L L G S T D P E K A Q A G T I R A D H A I S V T Q N A V H G S D
UniRef90_H2SJJ0         Q V I Q S S R K M V G H T N P A E A Q A G T V R G D F S L H V S R N V V H A S D
UniRef90_A0A059LES4     G V V K T A R D M I G A T D P L K S A P G T I R G D F A V D M G R N V V H G S D
UniRef90_R7D0Z5         D A V Q T V R A M A G V T N G R L A A P G T I R G D Y S M S F Q E N I V H T S D
UniRef90_P81766         G V I K Y G R K L I G A T D P Q K S E P G T I R G D L A V V N G R N I I H G S D
UniRef90_F9Q7I6         N A V K D Y R A L I G A T N P A N A A E G T I R K D F A L S Q Q E N S V H G S D
UniRef90_U2SFX6         N A V L G N R D I M G A T N P A Q A A E G T I R K D F A T S I D K N T V H G S D
UniRef90_H1XVK6         N A I D R W R T L M G A T D P R K A D P G T I R A E M G L N I E R N V V H G S D
UniRef90_B3PDL7         N A I A L N R E L M G A T D P T K A A P G T I R A D F S M S M P A N A V H G S D
UniRef90_R5K7I0         K A V Q G V R H L L G V T D P C E A D V G S I R A D Y A Q L K E Y N T V H G S D
UniRef90_Q9HJ59         K A I E V V R I L A G S T D G S K A Q P G T I R G D F S M G I E K N I I H A S D
UniRef90_C4LJU8         H A I E A W R Q L A G G T D P K K A T P G S I R G D F A L D V D A N V V H G S D
UniRef90_UPI00037A8C5C  N A V V K H R E I M G A T N P K E A A S G T V R A D F A E S L D E N A V H G S D
UniRef90_C6XEJ0         N A V L A H R D L M G A T D P K K A A P G T I R A D F A E S I D A N A V H G S D
UniRef90_F8KYY9         D A V A K N R A L M G A T D P S K A E K N T L R A D F A Q S V T K N A V H G S D
UniRef90_UPI00037AA305  A A I S R N R E L M G A T N P E E A A P G T I R A D F A T A V S A N A V H G S D
UniRef90_UPI000374EAC4  N A V L K N R E V M G A T D P S K A D P G T I R A D F A E S I G E N S V H G S D
UniRef90_W0BF85         N A V A K N R E I M G A T N P K E A A P G T I R A D F A D S I D A N A V H G S D
UniRef90_S6CFR3         N A I A K N R E L M G A T N P Q E A A P G T I R A D H A Q T V D E N A V H G S D
UniRef90_R9P8G7         D V I R Q G R R L V G A T N P L D A A P G S I R G D F C V S V G R N I I H A S D
```

```
                                         130                 140                 150
UniRef90_UPI000203AF56  S V E T A Q R E I G L W F Q S D E L V N W E C W D H K L L Y E
UniRef90_V4XDJ0         D P G A N E R E I A L F F D D D E L V G W E Q I D E D W L Y E
UniRef90_I4EI69         S P E S A R R E I D L F F S P E E I V S Y E R N V D R W I
UniRef90_UPI0004779C7A  S P E S A E R E I A N F F R P E E L L D Y S M T M E P W I
UniRef90_A8J9H8         S V E S A T R E I G L W F   P E G V A Q W T P V A K P W I Y E
UniRef90_B8GTN8         S L E N A G K E I A F F F K P E E I C
UniRef90_K8EM49         A V E S A Q H E I G L W F   P E G V C E Y E H A L Q K W I Y E
UniRef90_D0NCD0         S V D S A E K E I S L W F   P E G L V E W S A M D D E W V Y E
UniRef90_I7KBS7         S P A S A V R E I G I H F A P A E L I E Y S K V D E P V L Y E
UniRef90_UPI00031703AA  S L E N A E R E I H L F F K D E E L V N
UniRef90_W4QAI0         S T E S A E R E I A I F F Q D S E L I D Y K K A T A D W
UniRef90_D2K926         S V E S A E K E I A L W F K D E E L C D W N P T S Q A W I Y E
UniRef90_I1CBB4         S V E S A E R E I G L W F P R G T T V A R S H S I H S L V Y E
UniRef90_K2AMA9         C V E S A N R E I S I F F N E G E I V S Y S K S L E K W
UniRef90_A8BMG9         N L D D A A R E I A L W F K P E E V A S W S C S L E S H I Y E
UniRef90_E1Z406         S T E N G E R E T A L W F G K D A L V A W E P A L K P W L L E
UniRef90_B8GKL6         A P E S A A R E I A L H F P G T G Q V T Y T R I D E P V L Y E
UniRef90_W7Z3K3         S P E S S A R E I A N Y F D E S E L V N Y E K S I T P W M
UniRef90_F0RPA2         S P E S A Q R E L A L F F A E G E L L
UniRef90_Q72GQ0         T L E D A Q R E I A L F F R P E E L L
UniRef90_A6Q200         S L E N A Q K E I A F F F A Q R E I L
UniRef90_H3SLF0         S Q E S A A R E I A N L F A D S D I I S Y D R A I E S W I
UniRef90_A9S8I9         S P E N G L R E L G L W F D D D E L I Q W D Q H M T P W L K E
UniRef90_B9L159         S P E K A S Y E I G L F F R E D E L V S Y E R A I D R W I
UniRef90_L0HJM6         S P E S A A R E I G I H F K T T E V F D Y K R I D E S V L Y E
UniRef90_H5S9Y5         S P Q S A Q R E L T L F F P E E N
UniRef90_D8U8X8         S P E N G E R E A G L W F K   E G L V S W E Q T M T P W L K E
UniRef90_C6CAM0         S V A S A E R E I A Y F F S A D E I C
UniRef90_UPI000292A743  S V K S A E K E I S L W F K P E E L V D Y K S C A H D W V Y E
UniRef90_A0LBZ0         A P E T A A Q E I A F F F S G T E L C D
UniRef90_Q5JGR7         S P E S A E R E I N L Y F K P E E L F E Y C K A A   D W F Y
UniRef90_UPI0002DE7748  S E E S A E R E I S I Y F S P E E L V
UniRef90_Q5PQ84         S V E G A E R E I S L W F H S G E L I S W E T S D Q S H L F
UniRef90_UPI0002DD549E  S P E S A E R E I A Y F F A S D E I C P R K D
UniRef90_T0RSG8         G P D S A K H E I G M W F T Q A E I Q D Y T R S I D E W V
UniRef90_UPI0004105E7A  A P E S A A R E I A Y F F A D E E I C
UniRef90_UPI000320089E  S P E N A A A E I A L W F E S K E L V S H T T T D S K W I
UniRef90_E0IC82         S A A N A E R E I G I F F E S D Q I I T Y E H T I Q R W I
UniRef90_Q9UZ13         S K E S A E R E I K L Y F R D D E I F D Y   P R A E D W F Y
UniRef90_X0RN82         S P E S A E R E I A I F F K E D E L V
UniRef90_UPI0002D3777A  G P D T A S F E I N L W F N N E E I C D W N P S D S I W R I E
UniRef90_Q8ID43         S V A S A N K E I N I W F K A E E L T Q W K H H M K E W I
UniRef90_D6PAY7         A A D T A E F E L G L W F   P E G V N D W N Q D S Q S W V Y E
UniRef90_N9TZ21         A P A S A A R E I A Y F F G D N E I C
UniRef90_R7MDD8         S I A S A E R E I K I Y F K E E E L C S T S K S M S E L V I E
UniRef90_K0C4P5         A P E T A A E E I K F F F N D D E L C E
UniRef90_B0FFJ9         S V E G A Q R E I Q L W F H R K G L M D W D C Y D H N S T Y E
UniRef90_A2BK98         S K E S Y E R E Y K V F F S D D E I V
UniRef90_E6R552         A F E S A T K E I G L W F A P E E L S E Y E P I A W P W V
UniRef90_UPI00034D8074  S V E S A E R E I A Y F F G N D E I C
UniRef90_A4A469         S T T S A A R E I A Y F F A S S D I C D
UniRef90_U3TY38         S A E S A A R E I A Y F F A E N E V C
UniRef90_UPI0004640764  S P E S A A R E I A Y F F E P G E I F
UniRef90_W4DLQ0         S P E S A E R E I A N F F A P D E L N Q Y N K D I A V W M
UniRef90_Q9PTF4         S V K S A P P E V S L W F N P E N L V S Y G S
UniRef90_P87355         S V E T A Q R E I G F W F Q R N E L V A W E S G D R D Y T W
UniRef90_A0Z845         S P E S A A R E I A Y F F A A N E V C E
UniRef90_D5V6X6         S V E N A A N E I K F F F S D R E I C
UniRef90_E1IHK5         S P E S G E R E T S I F F D D A E L I Q W D R A T D A W I Y E
UniRef90_W7KVD6         S E E K A R R E M S I F F R E E E I L E L K
UniRef90_B0KAQ8         S I E S A K R E I A L W F P E
UniRef90_I7ZF38         S A E N A A V E I A Y F F R T I E L
UniRef90_A6CAK3         G P E A A T R E I K I Y F K P E E L I E Y G T A L G D W V
UniRef90_UPI0003AF86AF  S V E R A Q R E I Q L W F Q S S E L V D W A D E G H
UniRef90_UPI00029DB717  S V K S A E K X I S L W F K P E E L V D Y K S C A Y D W A Y E
UniRef90_UPI00035E14D7  S E T S A V R E I N Y F F K N E E I V S
UniRef90_Q6FEM7         S V A S A E R E I A Y F F A A D E I F
UniRef90_D9RYG2         S P E N A R R E I N L W F P E
UniRef90_H3FC51         S K A S A A R E I S L W F K D S E L S H Y T N E Q H K W V Y E
UniRef90_UPI000378C0FD  S A E S A E R E I S Y F F T P N E L C D
UniRef90_W4VF22         S S E S A D R E I N L F F D H A E L Q Q Y N K N I D N W L
UniRef90_A0A034TIM7     S P E S A A R E I E F F F P E S E V F S
UniRef90_C4L7J5         S S E S A A R E I E F F F T E D E I C
UniRef90_H2SJJ0         S P E G A L R E L Q L W F Q G Q E L L N W
UniRef90_A0A059LES4     S L D S A Q R E I A L W F G A G E V T E Y V P S M S R W L Y E
UniRef90_R7D0Z5         S P E N A E I E L N R F F K P E E I F E Y K Q A T F G Y L Y
UniRef90_P81766         G P E T A K D E I K L W F K P E E L V N Y T H N A E K W I Y
UniRef90_F9Q7I6         G I E S A Q R E I A Y F F V A N E I
UniRef90_U2SFX6         S L E N A K I E I A Y F F R E T E I H A Y
UniRef90_H1XVK6         S G D S A M Y E I N Y F F K G S D L V E
UniRef90_B3PDL7         S P I S A A R E I A Y F F P T H E V V
UniRef90_R5K7I0         S V E S A E R E I N I Y F K P E E L C N Y K N M M E
UniRef90_Q9HJ59         S P E A Y S H E M P I F F N E S E I V E W S Y G D E
UniRef90_C4LJU8         S P E S A E R E I G I W F P
UniRef90_UPI00037A8C5C  S I E N A A I E I A Y F F D E G G V C
UniRef90_C6XEJ0         S V E N A A I E I A Y F F P A S Q V H S
UniRef90_F8KYY9         S V E N A E K E I T F F F N P S E I
UniRef90_UPI00037AA305  S A V S A A R E I D Y F F N A Q E I
UniRef90_UPI000374EAC4  A P E T A A E E I A F F F S G S E I
UniRef90_W0BF85         S H E T A T Q E I A F F F E P H E L
UniRef90_S6CFR3         A P E T A A V E I D F F F P E
UniRef90_R9P8G7         S H E S A T K E I G L W F H E K E L A E Y K P I A W D M I
```

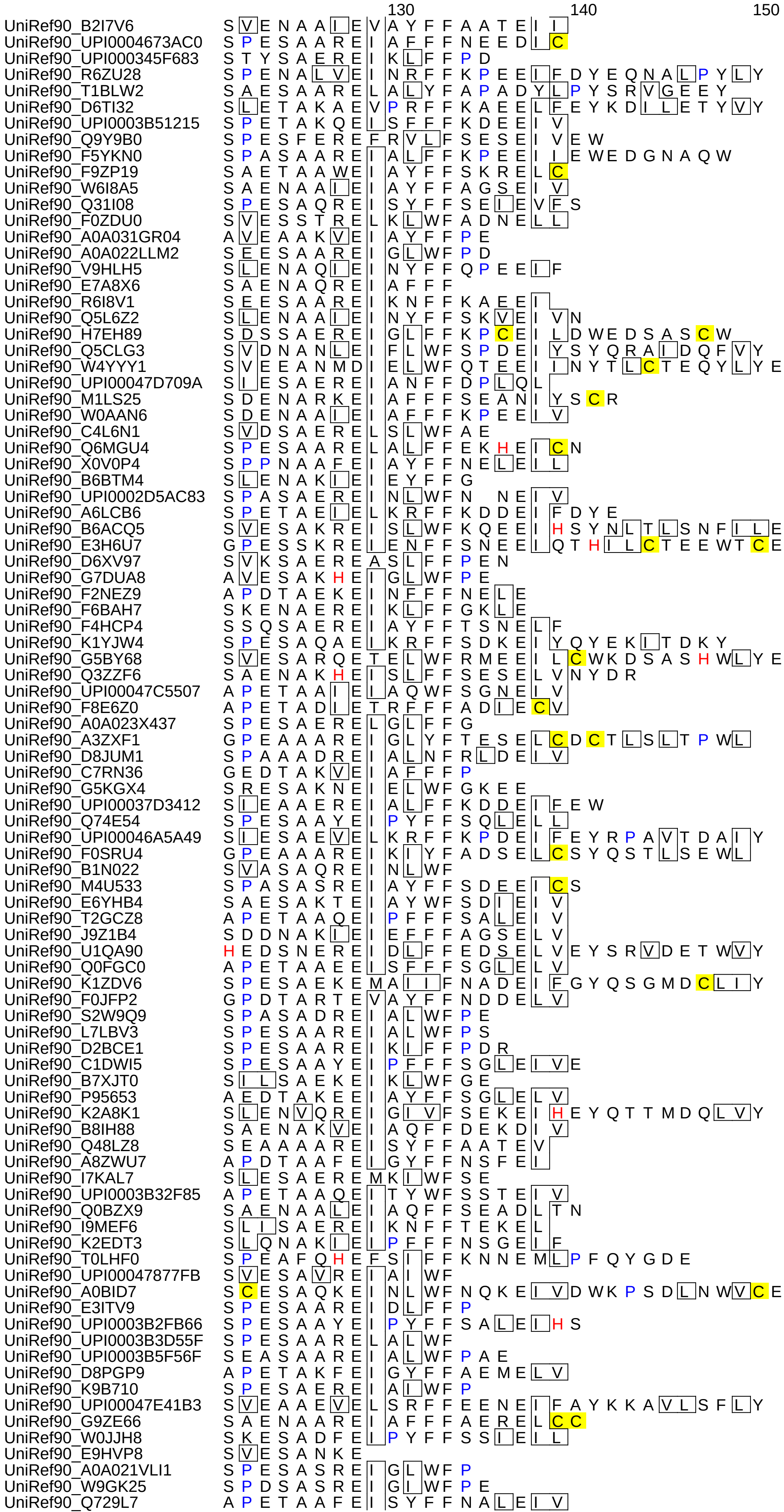


```
                       1        10        20        30        40
UniRef90_B2I7V6          LERTLSIIKPDAVAKNVIGDIYSRFEKAGLKIVAAKYK
UniRef90_UPI0004673AC0   IQRTFSIIKPDAVNRNLIGEITARLEKSGLSVIASKMI
UniRef90_UPI000345F683   MERTLVLIKPDGVRRNIVGEVISRIERKGLNIVAMDMR
UniRef90_R6ZU28           EKTLVLLKPSTVQRGLIGQILTRFERKGLRLAGIKMI
UniRef90_T1BLW2         NVERTLALVKPDGVRRGLVGAIVGRFESKGLKIVAARML
UniRef90_D6TI32          MERTLVLLKPDAVQRDLIGEIITRLERKGLKITGLKMM
UniRef90_UPI0003B51215    ERTLSIIKPDATQRNITGKIIDRLESAGLRVVAQKRI
UniRef90_Q9Y9B0          VQRTLLVVKPDGVERGLIGEVVSRVERKGLKIVAMKMM
UniRef90_F5YKN0          MEKTFVMLKPGVLQRRIVGEVLSRFERKGLKLIALKLL
UniRef90_F9ZP19          VERTLSIIKPDAVKKNAIGAILSRFEQAGLQVIAARML
UniRef90_W6I8A5          IERTFSIIKPDATRRNLTGRINAVFEENGLRIVAQKRV
UniRef90_Q31I08          LERTFSIIKPDAVKRNLIGQIVSKLEQNGLKVIASKMV
UniRef90_F0ZDU0           ERTFIAVKPDGVARGLVGEIIARFEKKGFVVVGLKQL
UniRef90_A0A031GR04      IERTLSIIKPDAVAKNVIGQIYSRFENAGLKIVAARMT
UniRef90_A0A022LLM2       ERTFFLIKPDGVQRGLTGTILARIEAKGLRLVAMDMR
UniRef90_V9HLH5          IERTISIVKPDAVGKNVIGKIYDRFESNGLKIVAAKMK
UniRef90_E7A8X6          MSRTLSIIKPDGVQKRIIGKIITRFEEAGLEVVRIKRL
UniRef90_R6I8V1          MQQTLVLVKPDGVKKNLIGEIIARFERRGLKVSALKLV
UniRef90_Q5L6Z2          MEQTLSIIKPDSVGKAHIGEIIAIFEKSGFRIAAMKML
UniRef90_H7EH89           ERCFTMCKPGVLNRRLVGQVITRLENKGLKLVALKMM
UniRef90_Q5CLG3           ERTLVLFKPEVTHRGLIGEILSQIERKGFKIVAMKFL
UniRef90_W4YYY1         NAERTFIMVTPGGVQRGLIGDIVHRFEKRGYKMIAGKMM
UniRef90_UPI00047D709A   MQRTFIMVKPDGVKRGLIGEIVKRFEQKGFVLLNAELM
UniRef90_M1LS25         TIQRTFSIIKPDAVSKNIIGKIISRFEEKGLSVVAARLQ
UniRef90_W0AAN6             RTFSIIKPDATRRNLTGAVTKMLEEAGLRVVASKRI
UniRef90_C4L6N1          MEKTFLMVKPDGVKRGLIGEIISRFENKGYTLNRLEMV
UniRef90_Q6MGU4         SIEQTFSIIKPNAMKKNAIGDIVSMFEANGLKIAAAKIT
UniRef90_X0V0P4          MERTLAIIKPDGVVRGLMGEIIGRLEREGLNVLALKMI
UniRef90_B6BTM4           EQTLSIIKPDAVAKNVIGKIYTRFEENGLKIVQAKMA
UniRef90_UPI0002D5AC83   IERTFLMVKPDGVKRQVVGDIIDRFERRGFVMRGAKLM
UniRef90_A6LCB6          MEKTLVILKPCTVQRGLIGEIVTRFEKKGLRLAGMKMV
UniRef90_B6ACQ5          VEQTYLMIKPDGIQRQIVGKIISRFEERGYRLAAMKLT
UniRef90_E3H6U7          MEKTLLIIKPDGVQRGLVGEILGRIEKKGFKISAMKLE
UniRef90_D6XV97          MEFTFLMVKPDGVNRKLVGEIVSRFEQKGFTLTSAKMM
UniRef90_G7DUA8           EQTYIMIKPDGVQRGLVGEIISRFEKRGFKLVALKLV
UniRef90_F2NEZ9          VEQTLSLIKPDGVARGLVGEVIGRFERAGLKLKAMKML
UniRef90_F6BAH7           ERTFVLLKPDAVRRKLIGRIIQRFEDKGFEIVEMKMI
UniRef90_F4HCP4          LERTLAIIKPDIIERHLIGAIISRLEQAQFSIVAMKMV
UniRef90_K1YJW4        AEIQKSLVIIKPDAFQRDLIGEVIGRFERKGLKIVAMKMG
UniRef90_G5BY68           ERIFLVAKPDGAQRRLVGEIVRRFERKGFKLVALKMV
UniRef90_Q3ZZF6          MERTLLLVKPDGVNRGLSGEILGRMEKLGLKLIGLRML
UniRef90_UPI00047C5507   IERTFSILKPDATRRNLTGAINALIEKSGLRIIAQRRV
UniRef90_F8E6Z0          MEKTFAIIKPDAVSKGYTGEIISRIEKKGFKISAMKKI
UniRef90_A0A023X437      MQQTLILVKPDGVKRRLAGEVISRIERKGYDIREMKLM
UniRef90_A3ZXF1          MERSLILLKPDCVQRRLIGRIISRFEDKGLNIVGMKLM
UniRef90_D8JUM1          VERTFSIIKPDATRRNLTGKINAVIEGAGLRIVAQKRV
UniRef90_C7RN36          IERTLSIIKPDAVAKNVIGKIYSRFETNGLKVIAAKLA
UniRef90_G5KGX4          MERTFFMIKPDGVKRGLIGEVIHRIERRGFTIEKLDML
UniRef90_UPI00037D3412    EKTLIIYKPDAVRRNLIGEITALFQDRGMKMVAAKLG
UniRef90_Q74E54          MERTFAIIKPDAVERNIIGKILEKVETAGFRIVGMKKI
UniRef90_UPI00046A5A49   MQKTLVILKPSAIQRSLVGEVISRFERKGLCLVGIKMI
UniRef90_F0SRU4          IERTLILFKPDAVQRRLLGRLLSRIEDKGFQIVGLKML
UniRef90_B1N022           EQTFIMVKPDGVLRGKIGDIIMRIENKGYRIVAMKML
UniRef90_M4U533          LQRTLSMIKPDAVSKMLIGTIIARFEKAQLTPVAIKML
UniRef90_E6YHB4          VERTLSMIKPDATRRNLTGAITKMLEDGGLRVIASKRV
UniRef90_T2GCZ8          LQRTLSIIKPDAVSRNLAGDILAMIQAAGLTVKATKMI
UniRef90_J9Z1B4          MNRTFSIIKPDAVKRNLIGHINQIIENAGLKIVSSKKM
UniRef90_U1QA90                  MVKPDGVQRGLIGEVVSRLEQRGLKMVGGKLI
UniRef90_Q0FGC0          LERTFSIVKPDATKRNLVGQIVAKFEEGGLRVIAQKRI
UniRef90_K1ZDV6          MQKTVVLVKPDGLQRGLVGQIISRFETKGLKLVAIKMV
UniRef90_F0JFP2          IEQTFSIIKPDAVERGLIAEILKMITDSGLKIKGMKMM
UniRef90_S2W9Q9        ANKEHTLVLVKPDGFKRGLTGEVIRRIEAKGYQLKGLKIK
UniRef90_L7LBV3           EQTLVLIKPDGVQRGLVGEVIARIERKGLTLAALELR
UniRef90_D2BCE1           ERTLVLIKPDGVARGLIGDVIARVERKGLKVVALELR
UniRef90_C1DWI5          MERTLVLAKPDAVRKNVVGKIISRFEEEGFKLVALKKL
UniRef90_B7XJT0          MEQTFVMIKPEGVKRRLIGEIIKRFEQKGLYIVNIKVI
UniRef90_P95653          IQRTFSIIKPDATKRNLTGAINAKLEAAGLRIVAQKRI
UniRef90_K2A8K1         KMERSFVLIKPDALQRGLIGDIISRFEKKGFKLVALKMI
UniRef90_B8IH88          IERTFSILKPDATARNLTGAINAVIEEAGLRIVAQRRI
UniRef90_Q48LZ8          VQRTFSIIKPDAVAKNVIGEITTRFEKAGLRVVASKLK
UniRef90_A8ZWU7          MERTLSIVKPDGVERGLIGEVVRRLEKEGLKIIAMKMI
UniRef90_I7KAL7          MERTLVLIKPDGVRRNLIGTIIRRYEMKGLRVIAIKSL
UniRef90_UPI0003B32F85   IERTFSMIKPDATKRNLTGAITAKLEEAGLRVVASKRV
UniRef90_Q0BZX9          VQRTFSIIKPDATERNLTGAINAVIEKAGLRIVGQRRI
UniRef90_I9MEF6          MEKTLLLLKPDAVVKGVCGQIIDRFEKRGFEIAAIKMV
UniRef90_K2EDT3         TLEQTLSIIKPDAVGQNMIGNIIEYFEREGLSVIAAKMM
UniRef90_T0LHF0           ERTLVLIKPDGMKRRLVGEIIRRFEIKGLKIIGLKML
UniRef90_UPI00047877FB  STERTLVLVKPDGVERNLTGQILARVEQKGYTLAELKKV
UniRef90_A0BID7           EQTFVLIKPDGVQRRIIGRIIQRFEDKGFSMVAMKML
UniRef90_E3ITV9           ERTLVLVKPDGVSRGLVGEVISRLERKGLTLVAAELR
UniRef90_UPI0003B2FB66   VERTLVIVKPDAVKKNAVGDIIRILQENDLKLIALKMI
UniRef90_UPI0003B3D55F THVEETLVLVKPDGVARNLTGEILRRIEAKGYQLVDVKLL
UniRef90_UPI0003B5F56F  TIERTLILVKPDGVARNLIGEVLSRVERKGYRLVALQHR
UniRef90_D8PGP9           ERTLAIVKPDAVKKNAIGDIINRYEKAGLRPVAMRLM
UniRef90_K9B710          MERTLILIKPDGVARGLVGQILSRIEAKGYTIDALSLR
UniRef90_UPI00047E41B3   MEKTLVILKPSAMQRGLIGEVTSRFERKGLILAGTKMI
UniRef90_G9ZE66         SVQLTLSIVKPDAVRNHHTGAILARIEQQGLAIIAAKML
UniRef90_W0JJH8          MEKTLSIIKPDAVKAGYSGKIITMLEENGFEIKAMKKI
UniRef90_E9HVP8                  MIKPDGVQRGLVGEIIKRFEQKGFKSVALKFV
UniRef90_A0A021VLI1       ERTLVLVKPDGVRRGLVGEVLRRVEAKGYVLVALEMR
UniRef90_W9GK25         TTERSLVLIKPDGFQRGLTGEVLRRIEAKGYTLGALAIV
UniRef90_Q729L7          VERTFSIIKPDAVERNLQGEVLAMIQGAGLKVVAMKMI
```

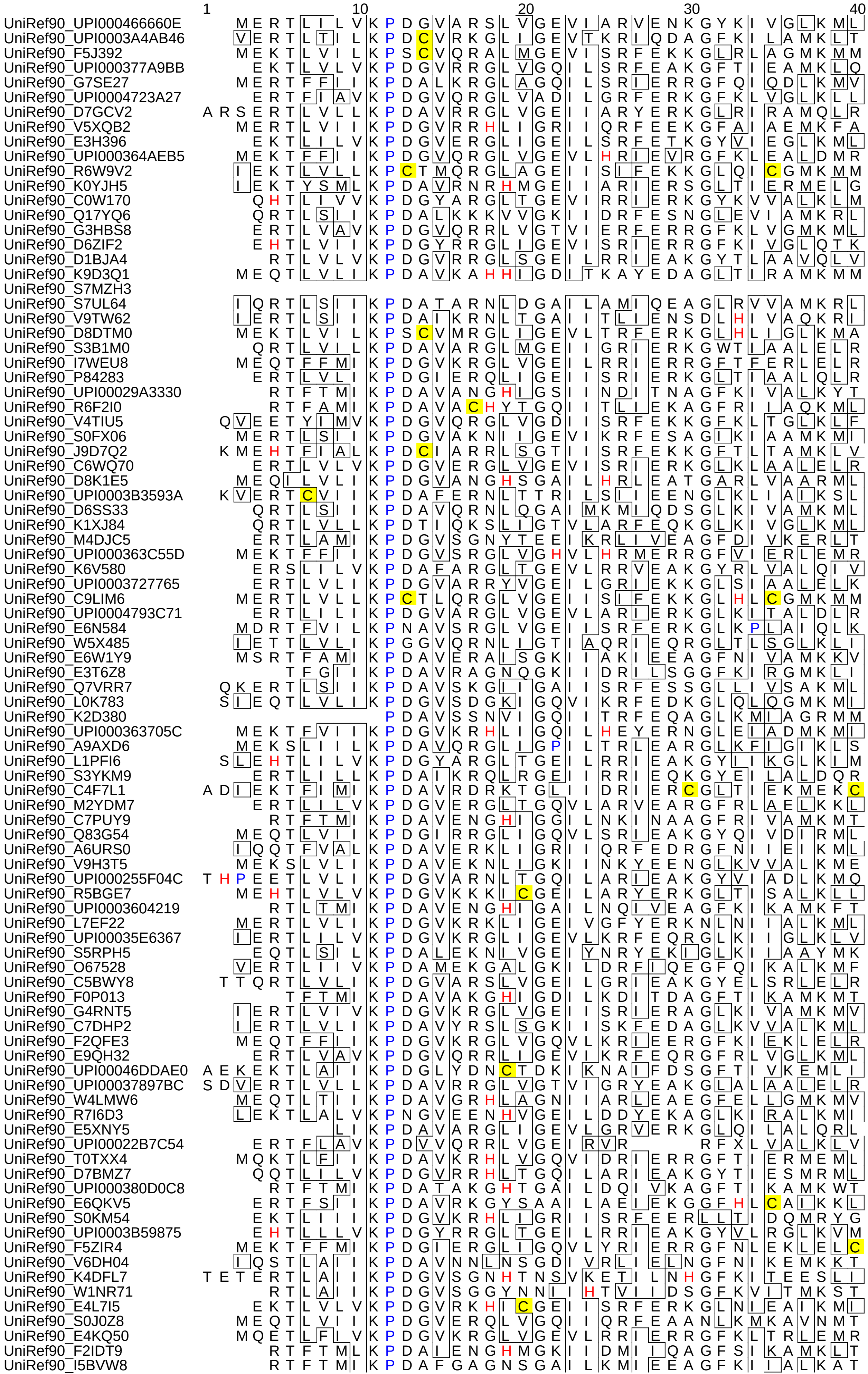
```
                                          50                  60                  70                  80
UniRef90_B2I7V6         Q L S R R E A E G F Y A V H R D R P F F N A L V E F M I S G P V M I Q V L E S E
UniRef90_UPI0004673AC0  H L T R E Q A A G F Y A E H E G K P F Y E T L M T N M T A G P I V V Q V L Q G E
UniRef90_UPI000345F683  T L D G D T A K S H Y E E H S S R P F F G S L V E F I T G G P L V A M V V E G E
UniRef90_R6ZU28         Q L T D E I L N E H Y A H L S T I P A F Q R I K N S M M A A P V I A C C Y E G V
UniRef90_T1BLW2         R V T P E L A Q R H Y A E H E G K P F Y P G L I Q H I T S G P I V A L A L E G R
UniRef90_D6TI32         R L S D E L L N E H Y S H L V G R S F F P E V K S F M Q L T P V V A L C L E G V
UniRef90_UPI0003B51215  K L S K D Q A E G F Y A V H K E R P F F N D L V S F M T S G S V V V Q V L E G D
UniRef90_Q9Y9B0         R L T R E K A E E F Y S V H R D K P F F G E L V E F I T S G P V V A M V V E G D
UniRef90_F5YKN0         Q M D T A M V E A H Y A E H K G K D F Y E K L L A Y T L S G P V V A M I L E G E
UniRef90_F9ZP19         Q L S A A D A G G F Y A V H K D R P F Y G E L C A F M S S G P V L V S V L E G E
UniRef90_W6I8A5         Q L S Q A Q A E A F Y G V H R E R P F F N D L V S F M I S G P V V V Q V L E G E
UniRef90_Q31I08         F L T V Q E A K G F Y A E H D G K P F F D T L I K N M T A G P I V V Q V L E G D
UniRef90_F0ZDU0         T P T K E L A E A H Y A E H K E R P F F G G L V S F I T S G P V V A I C L E G K
UniRef90_A0A031GR04     Q L S R E Q A E G F Y A A H K E R G F F K D L V D F M V S G P V M I Q A L E G E
UniRef90_A0A022LLM2     H V P Q E T A A E H Y A E H A E R P F Y G D L L E F I T S G P V V A G V V E G P
UniRef90_V9HLH5         H L T R D E A E G F Y A I H K E R P F F G E L V E F M M S G P V M I Q V L E G E
UniRef90_E7A8X6         K L T P E Q A H D F Y A V H K E R P F F K D L M A F M T S G E V V V M V L E G E
UniRef90_R6I8V1         K I T E E Q A K Y H Y A E H E G K P F F G E L V E F I T S G P V A A M V I S G E
UniRef90_Q5L6Z2         H L S V K E A E G F Y A V H K S R P F F Q E L V D F M I S G P V V V M V L E G N
UniRef90_H7EH89         Q I T P E L A A Q H Y A E H K G K P F Y D E L V S Y I T S A P V V A M V W Q G D
UniRef90_Q5CLG3         V A T A Q Q I E A H Y S D H A G K P F F E S L V S R T T N Q P I V A M V L E G L
UniRef90_W4YYY1         T T T E D L F R V H Y V S H Q T T P F F D D L L K L F S S V P V F A M V W E G K
UniRef90_UPI00047D709A  T I D Q S K A E Y H Y E E H K E K P F F G E L V D F I T S S P V F A M V W E G E
UniRef90_M1LS25         L L S R S E A E S F Y S I H K S R P F F N D L V N F M I S G P V F I Q V L E G E
UniRef90_W0AAN6         Q L T K D Q A E G F Y G V H K E R P F F N D L V A F M T S G P V V V Q V L E G E
UniRef90_C4L6N1         T P S V E V A E A H Y A E H K E K P F F G E L V E F L T S G P V V A M E W E G E
UniRef90_Q6MGU4         V L T T A K A E E F Y A E H K A R P F F G E L V S F M T S G P V M L M C L Q G E
UniRef90_X0V0P4         R M T K E Q A K G F Y K V H A G K P F Y E G V T D F M C S G P C V V M V L E G E
UniRef90_B6BTM4         H L S K E E A E G F Y A V H K E R P F F N D L V T F M T S G P V M I Q A L E G D
UniRef90_UPI0002D5AC83  N V P R E L A E K H Y E E H K D K P F F G E L V D F I T S G P V F A M V W E G E
UniRef90_A6LCB6         W L T D E I L S E H Y A H L K E K P F F Q R I K D A M S V C P V I V C C W E G V
UniRef90_B6ACQ5         V A T P Q I L E Q H Y A E H I G K P F L P G L I K K M T G   P V I C M V F E G V
UniRef90_E3H6U7         K I S K E K A G I H Y A E H A G K G F Y S E L L E F I T S S P S V L A V I E G K
UniRef90_D6XV97         T I T E E L A R E H Y E E H K D K P F F P E L V S F I T S G P V F A M I W E G E
UniRef90_G7DUA8         Q A T K E H L E K H Y E D L K E K K F F P G L V N Y M A S G P V I C M V W E G K
UniRef90_F2NEZ9         H L T K Q Q A Q K F Y E V H Q E K K F F D S L T D F M S S G P I V A M I L E G Q
UniRef90_F6BAH7         T L S K E M A E E F Y K M H K G K D F Y E R L I E F M T S G R V V A M I I E G E
UniRef90_F4HCP4         H L N Q Q Q A A G F Y A E H E G K P F F A N L I A F M T S T P V V V L V L E K E
UniRef90_K1YJW4         V L D D T T L D V H Y E H H K D K P F F K D L K Q Y M M S T P V V F M V L E G I
UniRef90_G5BY68         Q V S E E L Q G E H L A D L R R C P F Y G C L L K Y M G S G P V V
UniRef90_Q3ZZF6         Q M D A V L A D K H Y A P H R A R P F F K D L V T Y I T S G P I T A A V F E G E
UniRef90_UPI00047C5507  R F T R E Q A E T F Y A V H K A R P F F G E L V D T M I S G P V V V Q V L E G E
UniRef90_F8E6Z0         K M D K K T A E S F Y A V H K E K P F F E A L T T F M S S G P A V V M V L E K E
UniRef90_A0A023X437     Q V S R E L A E E H Y G E H R E K S F F G E L V D F I T S G P V V A M R V E G E
UniRef90_A3ZXF1         Q V T P D L A K Q H Y A E H V A K P F Y P G L E A F I T A S P V V A L V L E G L
UniRef90_D8JUM1         R W T R A Q A E K F Y E E H K A R P F Y G E L V D F M T S G P I V L Q V L E G E
UniRef90_C7RN36         W L S P Q E A G A F Y A V H K E R P F F K D L V S F M I S G P V M I Q V L E G E
UniRef90_G5KGX4         E A T P E Q L K K H Y S A L V K K S F F P E L V A Y M T S G P V V I G I I K G N
UniRef90_UPI00037D3412  W Y P S E F W E E F Y A E H K G K D F F E R L V N Y M S S G P I F I T V W S G D
UniRef90_Q74E54         L L S K C E A E G F Y Y V H K E R P F F N D L C S F M S R S P V V V M V L E R E
UniRef90_UPI00046A5A49  Q L D D K I L N E H Y A H L L S K P F F K R I K D S M M A T P V I V C C W E G V
UniRef90_F0SRU4         Q V T P E L A K Q H Y A E H V E K P F Y P H L E A F I T A A P V V A L V V E G V
UniRef90_B1N022         T P T A E L L A Q H Y A E H V N K P F Y P A L V D Y M T S G P V V A I I A E G E
UniRef90_M4U533         H L T K A Q A E G F Y A E H Q G K G F F E N L V E F M S S G P I L V L V L E G E
UniRef90_E6YHB4         W M S Q Q Q A E G F Y A I H K G R P F F E E L V T F M S S G P T V V Q V L E G D
UniRef90_T2GCZ8         Q L T R A Q A E A F Y A V H K E R P F Y G S L C D F M T S G P V V V S A L E G E
UniRef90_J9Z1B4         Y L T K Q Q A E I F Y S V H K E R P F F N S L V E Y M T S G P V Q V Q V L E G S
UniRef90_U1QA90         H I D E E L A Q E H Y A E H Q D K P F F D D L V G F I T A G P A F A M V W Q G A
UniRef90_Q0FGC0         Q L T L A Q A Q E F Y G V H S E R P F F G E L C E F M I S E P I V V Q V L E G E
UniRef90_K1ZDV6         Q M T D E M I D N W Y A H H K E K S F F K D L K T F M S W T P I V A M V W E G L
UniRef90_F0JFP2         R M D R A K A E G F Y A V H K E R P F F G E L V D Y M I S G P V V V S C L E G D
UniRef90_S2W9Q9         H A S E E L L Q D H Y F E H K E K H F F K D L L E Y M Q S D L V V A M V V E G D
UniRef90_L7LBV3         Q V S T E L A S E H Y A E H A E R P F F G E L L E F I T S G P V V A M V V A G D
UniRef90_D2BCE1         T L D V D T A K A H Y A E H S E R P F F G E L V E F I T S G P L V A L V L E G P
UniRef90_C1DWI5         K L T K E Q A G K F Y I V H K E R P F Y D Q L C E F M S S G P I V A M V W E G E
UniRef90_B7XJT0         K P S L E L L K E H Y S E L Q T K P F F Q G L I E W M S S G E V I P M I L E G K
UniRef90_P95653         H L S K A Q A A V F Y A V H K E R P F Y D E L C E F M A S E P I V V Q V L E G E
UniRef90_K2A8K1         Q M D D E I L K K W Y H Q Y A E A P F F P K I A K F M K W T P I V A M I W E G Y
UniRef90_B8IH88         R M S E A Q A K T F Y E V H A E R P F Y G E L V S F M T S G P V V V Q V L E G E
UniRef90_Q48LZ8         Q L S K A E A E G F Y A E H S A R G F F G D L V A F M I S G P V V V Q V L E G E
UniRef90_A8ZWU7         H M T R A Q A E G F Y A V H R E R P F F E S L T T F M S S G P V V V M V L E G E
UniRef90_I7KAL7         Y P S E E L V M E H Y K E H E G K D F Y E R L I N F L T S G M V I A I V L E G K
UniRef90_UPI0003B32F85  W M S K R E A E G F Y A V H A A R P F F G E L V E T M T S G P T I V Q V L E G E
UniRef90_Q0BZX9         Q M T R A Q A E R F Y S V H S A R P F F G E L V D F M I S G P V V V Q V L E A E
UniRef90_I9MEF6         Q L T R K Q A E I H Y Y E H T D K P F F Q E L V D F I T S S P L I A M V I A G E
UniRef90_K2EDT3         C L S E S Q A Q L F Y T M H K D K P F F S E L V E F M T S G P I L V M V L E G E
UniRef90_T0LHF0         Q L S R D E A E R H Y S V H K G K P F F A D L V N Y I T S S P I V A I I F E G N
UniRef90_UPI00047877FB  N A T R E M L A A H Y A E H E G K P F Y E P L V E F M M S G P V V A A I F E G E
UniRef90_A0BID7         I P N Q E L L Q K H Y E E L M F K P F F P C L I C Y M L S G P V I A M I W Q G K
UniRef90_E3ITV9         T L E K A T A E T H Y G E H A S K P F F G E L V E F I T S G P L V A L V V E G P
UniRef90_UPI0003B2FB66  H M S K E E A K G F Y I V H K D R P F Y D E L T D F M S S G P C V P M V F E G E
UniRef90_UPI0003B3D55F  Q P D R E L L A Q H Y E E H Q G K P F Y E P L V E F M E S G P V V A L R I A G N
UniRef90_UPI0003B5F56F  L A D A D L L S Q H Y A E H V G K P F Y E P L V E F M S S G P V V A L V A E G H
UniRef90_D8PGP9         H M S K A T A Q G F Y A V H K A R P F F D S L C T F M S S G P C V V L V L Q G D
UniRef90_K9B710         T A T A E E L A A H Y A E H E G K P F Y Q P L V D F M S E G P I V S I I A S G Q
UniRef90_UPI00047E41B3  Q L D D A I L N E H Y A H L K D K P F F Q R V K N S M M A S P V I V Q C W E G I
UniRef90_G9ZE66         R L S H D D A A R F Y D V H R E R P F F A E L V A F M T S G P V L V Q V L R G D
UniRef90_W0JJH8         R L T K K Q A E G F Y I V H K N R P F Y D S L T T F M S S G N I I V M V L E K E
UniRef90_E9HVP8         Q P T E E M L Q K H Y A D L S G R P F F A G L V K Y M A S G P V V A M V W E G L
UniRef90_A0A021VLI1     T A D R D L L G A H Y T E H A G K P F F E P L V D F M A S G P V V A A V V E G H
UniRef90_W9GK25         T P T R E L L A K H Y A E H E G K P F Y E P L L E F M S S G P V T A A V I E G Q
UniRef90_Q729L7         H L T K A Q A E G F Y A V H R E R P F F D S L T T Y M C S G P V V C S V L E G E
```



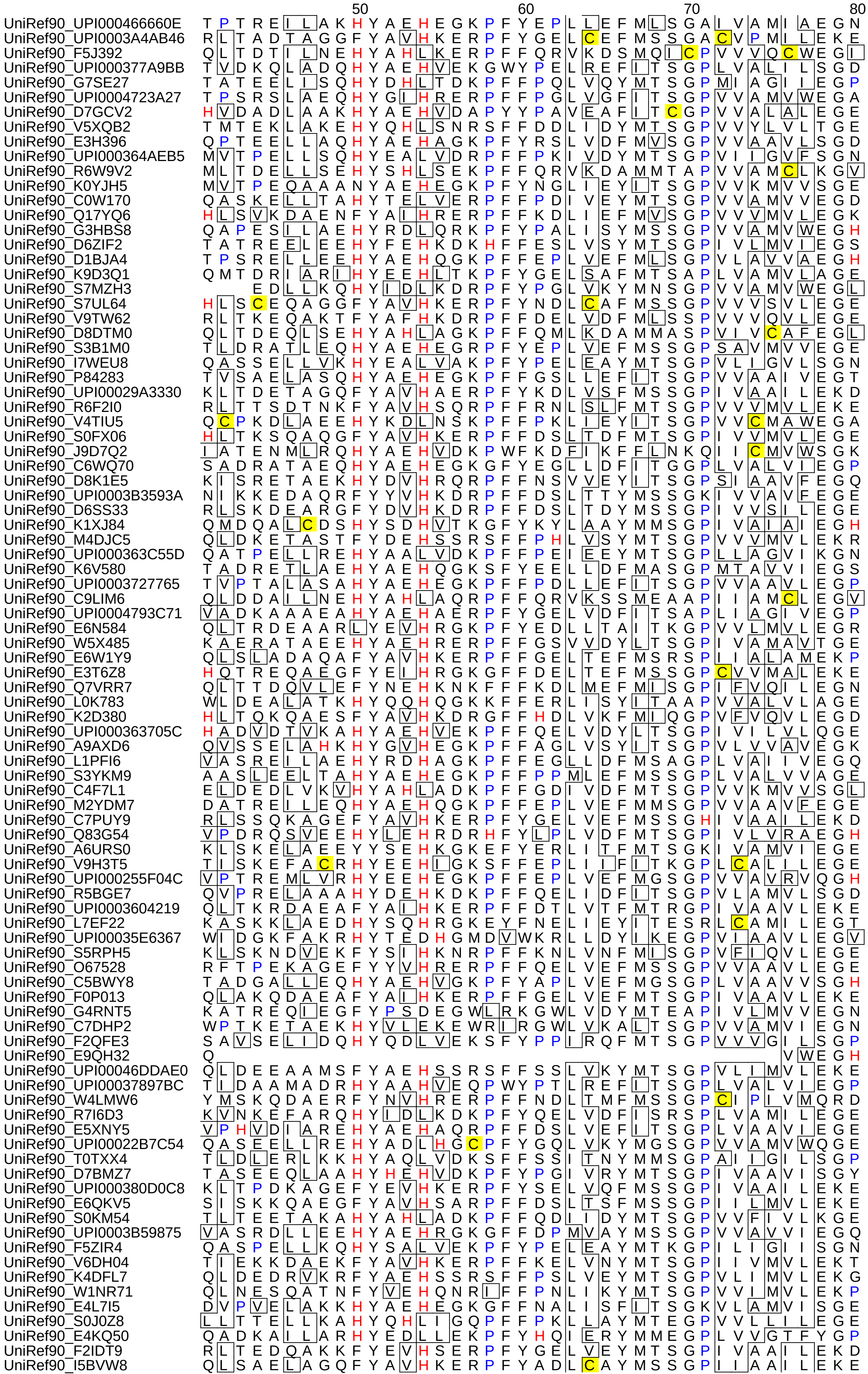
```
                                              90                  100                 110                 120
UniRef90_B2I7V6         N A V A R H R E L L G A T N P K D A A P G T I R A D F A E S I E A N A A H G S D
UniRef90_UPI0004673AC0  G A I A K N R E V M G A T D P E K A E E G T I R K D F A V S M Q Q N S V H G S D
UniRef90_UPI000345F683  R A I E A F R S L A G A T D P V T A A P G T V R G D F A L E V Q Q N L V H G S D
UniRef90_R6ZU28         D A V Q V V R A M T G V T N G R A A A P G T I R G D F A M S P Q E N I V H T S D
UniRef90_T1BLW2         S A I S V V R L I T G A T N P Q T A A P G T I R G D W A L G I T P N L I H A S D
UniRef90_D6TI32         E A V D T V R A L C G I T K A R E A A P G T I R G E F A M S V Q A N L I H C S D
UniRef90_UPI0003B51215  D A I A K N R E V M G A T N P A E A A E G T I R A D F A E N I E A N S V H G S D
UniRef90_Q9Y9B0         E A V S V V R L M I G S T D G R K A A P G T I R G D F S L D I M K N I V H A S D
UniRef90_F5YKN0         D G I A A V R R L V G P T D T R E S L P G T I R G D Y A Y R T R L N I V H A S D
UniRef90_F9ZP19         G A I A K N R E L M G A T N P K D A A P G T I R A D F A E S I D A N A V H G S D
UniRef90_W6I8A5         N A V A R N R E L M G A T D P K K A D A G T I R A Q F A E S I E A N S V H G S D
UniRef90_Q31I08         D A I A K N R E I M G P T D P E N A P A G S I R K E Y A I S M Q Q N S V H G S D
UniRef90_F0ZDU0         G V V A A A R L M I G V T N P L A S A P G T I R G D Y A I D V A K N I I H G S D
UniRef90_A0A031GR04     N A V L A H R D L M G A T D P K K A E K G T I R A D F A D S I D A N A V H G S D
UniRef90_A0A022LLM2     R A I A A W R Q L A G G T D P D K A A P G S I R G D F G L E T Q F N L V H G S D
UniRef90_V9HLH5         N A V A K N R E I M G V T N P I N A D V G T I R K D F A D S M S E N A V H G S D
UniRef90_E7A8X6         N A V E K N R E L M G A T D P K V A K P G T I R A D F A D N I D A N V V H G S D
UniRef90_R6I8V1         N A I K A V R G Q M G A T N P L D S V P G S I R G D Y A L T I G E N I V H G S D
UniRef90_Q5L6Z2         N A V A R N R E I M G A T N P Q E A A P G T I R A Q F G E S I G I N A V H G S D
UniRef90_H7EH89         D C V S L V R K V V G A T K P S E A Q P G T I R G D F C S H T S H N I I H A S D
UniRef90_Q5CLG3         N V I T E F R R F M G S T D P K K S E M G T L R A Q F G M Q T E R N L I H A S D
UniRef90_W4YYY1         D I V K H G R A M L F G D D D L N P M P G T I R G D Y S V D I H R K V C H G S G
UniRef90_UPI00047D709A  N I I D V S R T M I G K T S P T E A Q P G T I R G D F A F K K E E N V I H G S D
UniRef90_M1LS25         N A I Q M N R S I M G D T D P K K A Q K G T I R A D F A D N I D A N A V H G S D
UniRef90_W0AAN6         N A V Q R N R D I M G A T N P A N A E P G T I R K E L A E S I E A N S V H G S D
UniRef90_C4L6N1         D I V A V S R L M I G K T K P V D A Q P G T I R G D F A S T M S Q N V I H G S D
UniRef90_Q6MGU4         G A V L K N R E I M G A T D P K K A N P G T V R A K F G D N V G E N A V H G S D
UniRef90_X0V0P4         G A I N A Y R K L M G A T D Y K Q A A K G T I R H D Y A T D I E K N V V H G S D
UniRef90_B6BTM4         N A V L K N R E L M G A T N P Q E A A P G T I R A D F A A S I D A N A V H G S D
UniRef90_UPI0002D5AC83  N I I K L A R V M M G A T K P E E A Q P G T I R G D Y A V T I S E N V I H G S D
UniRef90_A6LCB6         D A I H V V R T L A G T T N G R N A A P G T I R G D Y S M S V Q E N I V H A S D
UniRef90_B6ACQ5         D V I T Q A R K I M G A T R P S E A A P G T I R G D Y C Q E A G R N I I H G S D
UniRef90_E3H6U7         N V I D G V R K M A G K T N P L E S D L G T I R G D F A V A V S H N V V H T S D
UniRef90_D6XV97         N V V K E A R K M M G A T N P A D A Q P G T I R G D L A M E M S R N I I H G S D
UniRef90_G7DUA8         D V V K T G R V M L G A T N P L A S N P G T I R G D Y A I D V G R N V C H G S D
UniRef90_F2NEZ9         G A I L K N R E L M G D T D Y Q K A A P G T I R A D F A R D I E A N I V H G S D
UniRef90_F6BAH7         N A I S V V R K M I G K T N P A E A E P G T I R G D F A L S T P D N L I H A S D
UniRef90_F4HCP4         N A I A D Y R A L M G K T N P A E A N M G T L R R D F A L D G S R N S V H G S D
UniRef90_K1YJW4         D V V G S V R Q I V G A T N P R N A D A G S I R G D L A M N I P S N L V H A S D
UniRef90_G5BY68           A M V T S K A L V G A T D P L D A E P G T I C G D F C I E V G K N L I H S S D
UniRef90_Q3ZZF6         N A V E K M R K A M G A T D P A K S E K G T V R G D L G I N I E Q N T V H G S D
UniRef90_UPI00047C5507  D A I K K Y R D V L G A T D P A K A E P G T I R K E F A V S L G E N S A H G S D
UniRef90_F8E6Z0         N A I A E W R E L M G A T N P E D A E E N T L R K D F G K N I D N N A V H G S D
UniRef90_A0A023X437     N V V P V M R N L M G A T N P A E A A P G T I R G D L A L T I S E N I V H G S D
UniRef90_A3ZXF1         E A I R V I R D I L G A T S G L K A A A G T I R G D F S S S R Q M N L V H A S D
UniRef90_D8JUM1         N A I A K Y R E V M G A T D P K E A A E G T V R K L F A E S K G S N S T H G S D
UniRef90_C7RN36         G A I A K N R E L M G A T D P K K A E P G T I R A D F A E S I D A N A V H G S D
UniRef90_G5KGX4         R V V D S W R T M M G V T N P K D A L P G T I R G D F G Q A P G F N I V H G S D
UniRef90_UPI00037D3412  N A I A I A R Q M A G A T D P L E A A P G S I R G R Y G L C M P M N T V H C S D
UniRef90_Q74E54         N A I N T W R E V M G A T N P A N A E A G T I R K D F G L S I E E N S V H G S D
UniRef90_UPI00046A5A49  D A I Q V V R T L T G C T N G R L A A P G T I R G D F S I S Q Q E N I I H A S D
UniRef90_F0SRU4         E A I S V M R T L M G S T N G R E A A P G T I R G D F G T S R Q M N L I H G S D
UniRef90_B1N022         Q V V A G W R H M M G E T N P T L A N P G T I R G D F G R E W M M N L V H G S D
UniRef90_M4U533         N G I A H Y R E L I G Q T D P A K A L A G T I R A D F A E S L S C N A V H G S D
UniRef90_E6YHB4         N A I V K N R G I M G A T N P I D A Q E G T I R K V H A L S I S E N S V H G S D
UniRef90_T2GCZ8         N A I Q A Y R D L M G A T N P A N A A E G T I R K R F A L D V E K N A V H G S D
UniRef90_J9Z1B4         D A V S T Y R K I M G A T N P A D A E E G T I R K L Y A E S I E A N S V H G S D
UniRef90_U1QA90         D A T R Q V R G M V G E T D P A E S P A G T I R G D F G L D L E R N V I H A S D
UniRef90_Q0FGC0         N A I L R N R E I M G A T N P S E A D A G T I R K E F A L S I G E N S V H G S D
UniRef90_K1ZDV6         E I I P A V R K V V G S T K G R E A E A G S I R G D F G M S G S Q N L I H A S D
UniRef90_F0JFP2         N A I E R Y R A L M G A T N P A D A A E G T I R A A Y G I N I Q N N A C H G S D
UniRef90_S2W9Q9         R V I E G M R N L M G N T N P T L A A P G T I R G D L G R D W G E N I V H G S D
UniRef90_L7LBV3         R A I P A F R Q L A G G T D P E K A T P G T I R G D F G L Q T Q F N I V H G S D
UniRef90_D2BCE1         R A I E A F R A L A G L T D P V K S A P G T I R G D H A L E I G E N V V H G S D
UniRef90_C1DWI5         N V I S R V R E I M G A T D P A K A E E G T L R K L Y G T N V G E N A V H G S D
UniRef90_B7XJT0         N A V K I V R K M V G A T N P M E A E V G T I R S D F A C E T G K N I V H A S D
UniRef90_P95653         D A I A K N R E V M G A T N P A E A A E G T I R K E F A L S I G E N S V H G S D
UniRef90_K2A8K1         N A V D L I R R I I G T R K G Y E A E A G S V R G D W G M S G G N N L V H A S D
UniRef90_B8IH88         N A V A K Y R E V M G A T N P A Q A A E G T I R K K F A L S V G E N S V H G S D
UniRef90_Q48LZ8         N A I A L N R E L M G A T N P K E A A A G T I R A D F A D S I D A N A V H G S D
UniRef90_A8ZWU7         D A I L R Y R T L M G A T N Y K D A A E G T I R R D F A T E I E R N V V H G S D
UniRef90_I7KAL7         N A I K C A R I I N G A T K Y Q D A L P G T I R G D F A F D E T E N L V H A S D
UniRef90_UPI0003B32F85  N A I L K N R E V M G A T N P A D A A E G T I R K T F A L S I G E N S V H G S D
UniRef90_Q0BZX9         D A I T K Y R E V M G A T N P A D A A D G T I R K L F A K S I G E N S V H G S D
UniRef90_I9MEF6         N A I K V S R I M M G S T N P I D A A A G T I R G D F A L N I R K N I I H G S D
UniRef90_K2EDT3         N A I S R N R Q I M G A T D P S K A E A G T I R A D F A T S I E R N A I H G S D
UniRef90_T0LHF0         N A I S V V R S I C G T T D G S K A T P G T I R G D Y S I S I E K N I I H A S D
UniRef90_UPI00047877FB  R V I E G F R T L A G A T D P T T A A P G S I R G D F G R D W G E N L V H G S D
UniRef90_A0BID7         D V V R Q I R S M L G E R N P I E Q K P G T I R A D Y A L E L Q R N L I H G S D
UniRef90_E3ITV9         R A I E G T R G L M G V T D P V K A V P G S I R G D Y A L E I G Q N L V H G S D
UniRef90_UPI0003B2FB66  N A I A K V R E I I G A T D P A K A A E G T I R S K Y G T D V G R N A V H A S D
UniRef90_UPI0003B3D55F  R V I E G F R S L A G T T D P T T A A P G T I R G D L A R D W G Q N L V H G S D
UniRef90_UPI0003B5F56F  R V I E G F R A L A G A T D P T A A L P G T I R G D L G R D W G Q N L V H G S D
UniRef90_D8PGP9         N A I K K N R E L M G A T D P A K A E Q G T I R A A H G A N I E F N A V H G S D
UniRef90_K9B710         G V I P G F R S L A G A T D P T A A A P G T I R G D L G R D W G E N L V H G S D
UniRef90_UPI00047E41B3  D A V S V V R A L V G K T N G R E A A A G T I R G D Y S I S F Q E N I V H A S D
UniRef90_G9ZE66         N A V A R Y R E L M G A T D P A E A A P G T L R A E F A G S K S E N A V H G S D
UniRef90_W0JJH8         N A I A D Y R N L M G A T D P A K A Q P G T I R A L Y G K N I E E N A V H G S D
UniRef90_E9HVP8         N I V K T G R Q M L G E T N P A D S K P G T I R G D F C I Q V G R N I M H G S D
UniRef90_A0A021VLI1     R V I E G F R S L A G A T D P T T A A P G T L R G D L G R D W G E R V V H G S D
UniRef90_W9GK25         D C I K G F R S L A G A T N P T D A A P G T I R G D F G R D W G Q N I V H G S D
UniRef90_Q729L7         N A I S R Y R E I M G A T N P A N A A E G T I R K K Y A V S L E A N S V H G S D
```



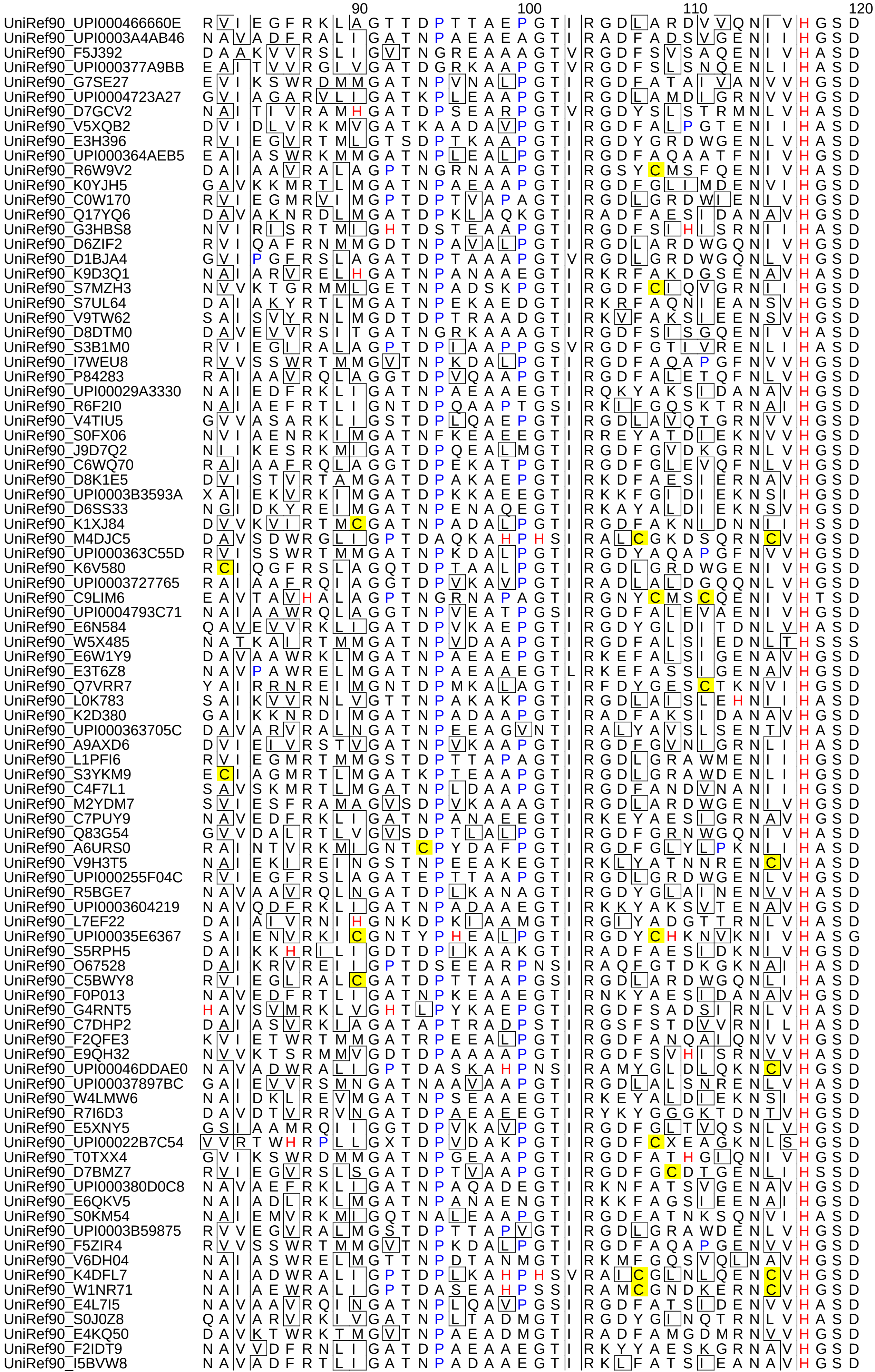
```
                                          130                 140                 150
UniRef90_B2I7V6         S V E N A A I E V A Y F F A A T E I I
UniRef90_UPI0004673AC0  S P E S A A R E I A F F F N E E D I C
UniRef90_UPI000345F683  S T Y S A E R E I K L F F P D
UniRef90_R6ZU28         S P E N A L V E I N R F F K P E E I F D Y E Q N A L P Y L Y
UniRef90_T1BLW2         S A E S A A R E L A L Y F A P A D Y L P Y S R V G E E Y
UniRef90_D6TI32         S L E T A K A E V P R F F K A E E L F E Y K D I L E T Y V Y
UniRef90_UPI0003B51215  S P E T A K Q E I S F F F K D E E I V
UniRef90_Q9Y9B0         S P E S F E R E F R V L F S E S E I V E W
UniRef90_F5YKN0         S P A S A A R E I A L F F K P E E I I E W E D G N A Q W
UniRef90_F9ZP19         S A E T A A W E I A Y F F S K R E L C
UniRef90_W6I8A5         S A E N A A I E I A Y F F A G S E I V
UniRef90_Q31I08         S P E S A Q R E I S Y F F S E I E V F S
UniRef90_F0ZDU0         S V E S S T R E L K L W F A D N E L L
UniRef90_A0A031GR04     A V E A A K V E I A Y F F P E
UniRef90_A0A022LLM2     S E E S A A R E I G L W F P D
UniRef90_V9HLH5         S L E N A Q I E I N Y F F Q P E E I F
UniRef90_E7A8X6         S A E N A Q R E I A F F F
UniRef90_R6I8V1         S E E S A A R E I K N F F K A E E I
UniRef90_Q5L6Z2         S L E N A A I E I N Y F F S K V E I V N
UniRef90_H7EH89         S D S S A E R E I G L F F K P C E I L D W E D S A S C W
UniRef90_Q5CLG3         S V D N A N L E I F L W F S P D E I Y S Y Q R A I D Q F V Y
UniRef90_W4YYY1         S V E E A N M D I E L W F Q T E E I I N Y T L C T E Q Y L Y E
UniRef90_UPI00047D709A  S I E S A E R E I A N F F D P L Q L
UniRef90_M1LS25         S D E N A R K E I A F F F S E A N I Y S C R
UniRef90_W0AAN6         S D E N A A I E I A F F F K P E E I V
UniRef90_C4L6N1         S V D S A E R E L S L W F A E
UniRef90_Q6MGU4         S P E S A A R E L A L F F E K H E I C N
UniRef90_X0V0P4         S P P N A A F E I A Y F F N E L E I L
UniRef90_B6BTM4         S L E N A K I E I E Y F F G
UniRef90_UPI0002D5AC83  S P A S A E R E I N L W F N   N E I V
UniRef90_A6LCB6         S P E T A E I E L K R F F K D D E I F D Y E
UniRef90_B6ACQ5         S V E S A K R E I S L W F K Q E E I H S Y N L T L S N F I L E
UniRef90_E3H6U7         G P E S S K R E I E N F F S N E E I Q T H I L C T E E W T C E
UniRef90_D6XV97         S V K S A E R E A S L F F P E N
UniRef90_G7DUA8         A V E S A K H E I G L W F P E
UniRef90_F2NEZ9         A P D T A E K E I N F F F N E L E
UniRef90_F6BAH7         S K E N A E R E I K L F F G K L E
UniRef90_F4HCP4         S S Q S A E R E I A Y F F T S N E L F
UniRef90_K1YJW4         S P E S A Q A E I K R F F S D K E I Y Q Y E K I T D K Y
UniRef90_G5BY68         S V E S A R Q E T E L W F R M E E I L C W K D S A S H W L Y E
UniRef90_Q3ZZF6         S A E N A K H E I S L F F S E S E L V N Y D R
UniRef90_UPI00047C5507  A P E T A A I E I A Q W F S G N E I V
UniRef90_F8E6Z0         A P E T A D I E T R F F F A D I E C V
UniRef90_A0A023X437     S P E S A E R E L G L F F G
UniRef90_A3ZXF1         G P E A A A R E I G L Y F T E S E L C D C T L S L T P W L
UniRef90_D8JUM1         S P A A A D R E I A L N F R L D E I V
UniRef90_C7RN36         G E D T A K V E I A F F F P
UniRef90_G5KGX4         S R E S A K N E I E L W F G K E E
UniRef90_UPI00037D3412  S I E A A E R E I A L F F K D D E I F E W
UniRef90_Q74E54         S P E S A A Y E I P Y F F S Q L E L L
UniRef90_UPI00046A5A49  S I E S A E V E L K R F F K P D E I F E Y R P A V T D A I Y
UniRef90_F0SRU4         G P E A A A R E I K I Y F A D S E L C S Y Q S T L S E W L
UniRef90_B1N022         S V A S A Q R E I N L W F
UniRef90_M4U533         S P A S A S R E I A Y F F S D E E I C S
UniRef90_E6YHB4         S A E S A K T E I A Y W F S D I E I V
UniRef90_T2GCZ8         A P E T A A Q E I P F F F S A L E I V
UniRef90_J9Z1B4         S D D N A K I E I E F F F A G S E L V
UniRef90_U1QA90         H E D S N E R E I D L F F E D S E L V E Y S R V D E T W V Y
UniRef90_Q0FGC0         A P E T A A E E I S F F F S G L E L V
UniRef90_K1ZDV6         S P E S A E K E M A I I F N A D E I F G Y Q S G M D C L I Y
UniRef90_F0JFP2         G P D T A R T E V A Y F F N D D E L V
UniRef90_S2W9Q9         S P A S A D R E I A L W F P E
UniRef90_L7LBV3         S P E S A A R E I A L W F P S
UniRef90_D2BCE1         S P E S A A R E I K I F F P D R
UniRef90_C1DWI5         S P E S A A Y E I P F F F S G L E I V E
UniRef90_B7XJT0         S I L S A E K E I K L W F G E
UniRef90_P95653         A E D T A K E E I A Y F F S G L E L V
UniRef90_K2A8K1         S L E N V Q R E I G I V F S E K E I H E Y Q T T M D Q L V Y
UniRef90_B8IH88         S A E N A K V E I A Q F F D E K D I V
UniRef90_Q48LZ8         S E A A A A R E I S Y F F A A T E V
UniRef90_A8ZWU7         A P D T A A F E I G Y F F N S F E I
UniRef90_I7KAL7         S L E S A E R E M K I W F S E
UniRef90_UPI0003B32F85  A P E T A A Q E I T Y W F S S T E I V
UniRef90_Q0BZX9         S A E N A A L E I A Q F F S E A D L T N
UniRef90_I9MEF6         S L I S A E R E I K N F F T E K E L
UniRef90_K2EDT3         S L Q N A K I E I P F F F N S G E I F
UniRef90_T0LHF0         S P E A F Q H E F S I F F K N N E M L P F Q Y G D E
UniRef90_UPI00047877FB  S V E S A V R E I A I W F
UniRef90_A0BID7         S C E S A Q K E I N L W F N Q K E I V D W K P S D L N W V C E
UniRef90_E3ITV9         S P E S A A R E I D L F F P
UniRef90_UPI0003B2FB66  S P E S A A Y E I P Y F F S A L E I H S
UniRef90_UPI0003B3D55F  S P E S A A R E L A L W F
UniRef90_UPI0003B5F56F  S E A S A A R E I A L W F P A E
UniRef90_D8PGP9         A P E T A K F E I G Y F F A E M E L V
UniRef90_K9B710         S P E S A E R E I A I W F P
UniRef90_UPI00047E41B3  S V E A A E V E L S R F F E E N E I F A Y K K A V L S F L Y
UniRef90_G9ZE66         S A E N A A R E I A F F F A E R E L C C
UniRef90_W0JJH8         S K E S A D F E I P Y F F S S I E I L
UniRef90_E9HVP8         S V E S A N K E
UniRef90_A0A021VLI1     S P E S A S R E I G L W F P
UniRef90_W9GK25         S P D S A S R E I G I W F P E
UniRef90_Q729L7         A P E T A A F E I S Y F F N A L E I V
```



```
                            1        10        20        30        40
UniRef90_UPI000466660E        MERTLILVKPDGVARSLVGEVIARVENKGYKIVGLKML
UniRef90_UPI0003A4AB46        VERTLTILKPDCVRKGLIGEVTKRIQDAGFKILAMKLT
UniRef90_F5J392               MEKTLVILKPSCVQRALMGEVISRFEKKGLRLAGMKMM
UniRef90_UPI000377A9BB         EKTLVLVKPDGVRRGLVGQILSRFEAKGFTIEAMKLQ
UniRef90_G7SE27               MERTFFIIKPDALKRGLAGQILSRIERRGFQIQDLKMV
UniRef90_UPI0004723A27         ERTFIAVKPDGVQRGLVADILGRFERKGFKLVGLKLL
UniRef90_D7GCV2             ARSERTLVLLKPDAVRRGLVGEIIARYERKGLRIRAMQLR
UniRef90_V5XQB2               MERTLVIIKPDGVRRHLIGRIIQRFEEKGFAIAEMKFA
UniRef90_E3H396                EKTLILVKPDGVERGLIGEILSRFETKGYVIEGLKML
UniRef90_UPI000364AEB5        MEKTFFIIKPDGVQRGLVGEVLHRIEVRGFKLEALDMR
UniRef90_R6W9V2               IEKTLVLLKPCTMQRGLAGEIISIFEKKGLQICGMKMM
UniRef90_K0YJH5               IEKTYSMLKPDAVRNRHMGEIIARIERSGLTIERMELG
UniRef90_C0W170                QHTLIVVKPDGYARGLTGEVIRRIERKGYKVVALKLM
UniRef90_Q17YQ6                QRTLSIIKPDALKKKVVGKIIDRFESNGLEVIAMKRL
UniRef90_G3HBS8                ERTLVAVKPDGVQRRLVGTVIERFERRGFKLVGMKML
UniRef90_D6ZIF2                EHTLVIIKPDGYRRGLIGEVISRIERRGFKIVGLQTK
UniRef90_D1BJA4                 RTLVLVKPDGVRRGLSGEILRRIEAKGYTLAAVQLV
UniRef90_K9D3Q1               MEQTLVLIKPDAVKAHHIGDITKAYEDAGLTIRAMKMM
UniRef90_S7MZH3
UniRef90_S7UL64               IQRTLSIIKPDATARNLDGAILAMIQEAGLRVVAMKRL
UniRef90_V9TW62               IERTLSIIKPDAIKRNLTGAIITLIENSDLHIVAQKRI
UniRef90_D8DTM0               MEKTLVILKPSCVMRGLIGEVLTRFERKGLHLIGLKMA
UniRef90_S3B1M0                QRTLVILKPDAVARGLMGEIIGRIERKGWTIAALELR
UniRef90_I7WEU8               MEQTFFMIKPDGVKRGLVGEILRRIERRGFTFERLELR
UniRef90_P84283                ERTLVLIKPDGIERQLIGEIISRIERKGLTIAALQLR
UniRef90_UPI00029A3330          RTFTMIKPDAVANGHIGSIINDITNAGFKIVALKYT
UniRef90_R6F2I0                 RTFAMIKPDAVACHYTGQIITLIEKAGFRIIAQKML
UniRef90_V4TIU5              QVEETYIMVKPDGVQRGLVGDIISRFEKKGFKLTGLKLF
UniRef90_S0FX06               MERTLSIIKPDGVAKNIIGEVIKRFESAGIKIAAMKMI
UniRef90_J9D7Q2              KMEHTFIALKPDCIARRLSGTIISRFEKKGFTLTAMKLV
UniRef90_C6WQ70                ERTLVLVKPDGVERGLVGEVISRIERKGLKLAALELR
UniRef90_D8K1E5               MEQILVLIKPDGVANGHSGAILHRLEATGARLVAARML
UniRef90_UPI0003B3593A       KVERTCVIIKPDAFERNLTTRILSIIEENGLKLIAIKSL
UniRef90_D6SS33                QRTLSIIKPDAVQRNLQGAIMKMIQDSGLKIVAMKML
UniRef90_K1XJ84                QRTLVLLKPDTIQKSLIGTVLARFEQKGLKIVGLKML
UniRef90_M4DJC5                ERTLAMIKPDGVSGNYTEEIKRLIVEAGFDIVKERLT
UniRef90_UPI000363C55D        MEKTFFIIKPDGVSRGLVGHVLHRMERRGFVIERLEMR
UniRef90_K6V580                ERSLILVKPDAFARGLTGEVLRRVEAKGYRLVALQIV
UniRef90_UPI0003727765         ERTLVLIKPDGVARRYVGEILGRIEKKGLSIAALELK
UniRef90_C9LIM6               MERTLVLLKPCTLQRGLVGEIISIFEKKGLHLCGMKMM
UniRef90_UPI0004793C71         ERTLILIKPDGVARGLVGEVLARIERKGLKITALDLR
UniRef90_E6N584               MDRTFVILKPNAVSRGLVGEIISRFERKGLKPLAIQLK
UniRef90_W5X485               IETTLVLIKPGGVQRNLIGTIAQRIEQRGLTLSGLKLI
UniRef90_E6W1Y9               MSRTFAMIKPDAVERAISGKIIAKIEEAGFNIVAMKKV
UniRef90_E3T6Z8                  TFGIIKPDAVRAGNQGKIIDRILSGGFKIRGMKLI
UniRef90_Q7VRR7              QKERTLSIIKPDAVSKGIIGAIISRFESSGLLIVSAKML
UniRef90_L0K783              SIEQTLVLIKPDGVSDGKIGQVIKRFEDKGLQLQGMKMI
UniRef90_K2D380                        PDAVSSNVIGQIITRFEQAGLKMIAGRMM
UniRef90_UPI000363705C        MEKTFVIIKPDGVKRHLIGQILHEYERNGLEIADMKMI
UniRef90_A9AXD6               MEKSLIILKPDAVQRGLIGPILTRLEARGLKFIGIKLS
UniRef90_L1PFI6              SLEHTLILVKPDGYARGLTGEILRRIEAKGYIIKGLKIM
UniRef90_S3YKM9                ERTLILLKPDAIKRQLRGEIIRRIEQKGYEILALDQR
UniRef90_C4F7L1             ADIEKTFIMIKPDAVRDRKTGLIIDRIERCGLTIEKMEKC
UniRef90_M2YDM7                ERTLILVKPDGVERGLTGQVLARVEARGFRLAELKKL
UniRef90_C7PUY9                 RTFTMIKPDAVENGHIGGILNKINAAGFRIVAMKMT
UniRef90_Q83G54               MEQTLVIIKPDGIRRGLIGQVLSRIEAKGYQIVDIRML
UniRef90_A6URS0               IQQTFVALKPDAVERKLIGRIIQRFEDRGFNIIEIKML
UniRef90_V9H3T5               MEKSLVLIKPDAVEKNLIGKIINKYEENGLKVVALKME
UniRef90_UPI000255F04C      THPEETLVLIKPDGVARNLTGQILARIEAKGYVIADLKMQ
UniRef90_R5BGE7               MEHTLVLVKPDGVKKKICGEILARYERKGLTISALKLL
UniRef90_UPI0003604219          RTLTMIKPDAVENGHIGAILNQIVEAGFKIKAMKFT
UniRef90_L7EF22               MERTLVLIKPDGVKRKLIGEIVGFYERKNLNIIALKML
UniRef90_UPI00035E6367        IERTLILVKPDGVKRGLIGEVLKRFEQRGLKIIGLKLV
UniRef90_S5RPH5                EQTLSILKPDALEKNIVGEIYNRYEKIGLKIIAAYMK
UniRef90_O67528               VERTLIIVKPDAMEKGALGKILDRFIQEGFQIKALKMF
UniRef90_C5BWY8              TTQRTLVLIKPDGVARSLVGEILGRIEAKGYELSRLELR
UniRef90_F0P013                  TFTMIKPDAVAKGHIGDILKDITDAGFTIKAMKMT
UniRef90_G4RNT5               IERTLVIVKPDGVKRGLVGEIISRIERAGLKIVAMKMV
UniRef90_C7DHP2               IERTLVLIKPDAVYRSLSGKIISKFEDAGLKVVALKML
UniRef90_F2QFE3               MEQTFFIIKPDGVKRGLVGQVLKRIEERGFKIEKLELR
UniRef90_E9QH32                ERTLVAVKPDGVQRRLIGEVIKRFEQRGFRLVGLKML
UniRef90_UPI00046DDAE0      AEKEKTLAIIKPDGLYDNCTDKIKNAIFDSGFTIVKEMLI
UniRef90_UPI00037897BC      SDVERTLVLLKPDAVRRGLVGTVIGRYEAKGLALAALELR
UniRef90_W4LMW6               MEQTLTIIKPDAVGRHLAGNIIARLEAEGFELLGMKMV
UniRef90_R7I6D3               LEKTLALVKPNGVEENHVGEILDDYEKAGLKIRALKMI
UniRef90_E5XNY5                     LIKPDAVARGLIGEVLGRVERKGLQILALQRL
UniRef90_UPI00022B7C54         ERTFLAVKPDVVQRRLVGEIRVR    RFXLVALKLV
UniRef90_T0TXX4               MQKTLFIIKPDAVKRHLVGQVIDRIERRGFTIERMEML
UniRef90_D7BMZ7                QQTLILVKPDGVRRHLTGQILARIEAKGYTIESMRML
UniRef90_UPI000380D0C8          RTFTMIKPDATAKGHTGAILDQIVKAGFTIKAMKWT
UniRef90_E6QKV5                ERTFSIIKPDAVRKGYSAAILAEIEKGGFHLCAIKKL
UniRef90_S0KM54                EKTLIIIKPDGVKRHLIGRIISRFEERLLTIDQMRYG
UniRef90_UPI0003B59875         EHTLLLVKPDGYRRGLTGEILRRIEAKGYVLRGLKVM
UniRef90_F5ZIR4               MEKTFFMIKPDGIERGLIGQVLYRIERRGFNLEKLELC
UniRef90_V6DH04               IQSTLAIIKPDAVNNLNSGDIVRLIELNGFNIKEMKKT
UniRef90_K4DFL7             TETERTLAIIKPDGVSGNHTNSVKETILNHGFKITEESLI
UniRef90_W1NR71                 RTLAIIKPDGVSGGYNNIIHTVIIDSGFKVITMKST
UniRef90_E4L7I5                EKTLVLVKPDGVRKHICGEIISRFERKGLNIEAIKMI
UniRef90_S0J0Z8               MEQTLVIIKPDGVERQLVGQIIQRFEAANLKMKAVNMT
UniRef90_E4KQ50               MQETLFIVKPDGVKRGLVGEVLRRIERRGFKLTRLEMR
UniRef90_F2IDT9                 RTFTMLKPDAIENGHMGKIIDMIIQAGFSIKAMKLT
UniRef90_I5BVW8                 RTFTMIKPDAFGAGNSGAILKMIEEAGFKIIALKAT
```



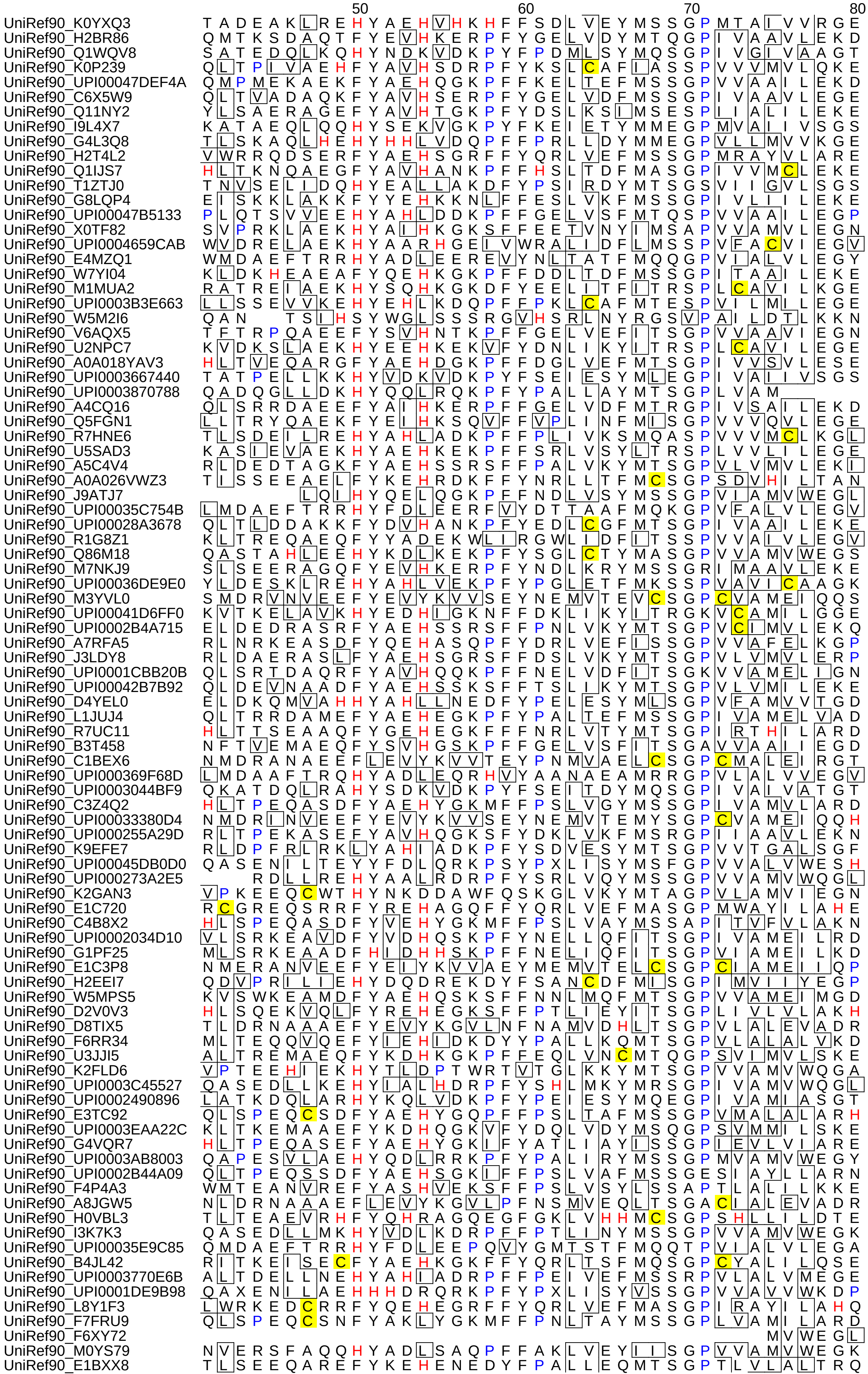
```
                                          50                  60                  70                  80
UniRef90_UPI000466660E  T P T R E I L A K H Y A E H E G K P F Y E P L L E F M L S G A I V A M I A E G N
UniRef90_UPI0003A4AB46  R L T A D T A G G F Y A V H K E R P F Y G E L C E F M S S G A C V P M I L E K E
UniRef90_F5J392         Q L T D T I L N E H Y A H L K E R P F F Q R V K D S M Q I C P V V V Q C W E G I
UniRef90_UPI000377A9BB  T V D K Q L A D Q H Y A E H V E K G W Y P E L R E F I T S G P L V A L I L S G D
UniRef90_G7SE27         T A T E E L I S Q H Y D H L T D K P F F P Q L V Q Y M T S G P M I A G I I E G P
UniRef90_UPI0004723A27  T P S R S L A E Q H Y G I H R E R P F F P G L V G F I T S G P V V A M V W E G A
UniRef90_D7GCV2         H V D A D L A A K H Y A E H V D A P Y Y P A V E A F I T C G P V V A L A L E G E
UniRef90_V5XQB2         T M T E K L A K E H Y Q H L S N R S F F D D L I D Y M T S G P V V Y L V L T G E
UniRef90_E3H396         Q P T E E L L A Q H Y A E H A G K P F Y R S L V D F M V S G P V V A A V L S G D
UniRef90_UPI000364AEB5  M V T P E L L S Q H Y E A L V D R P F F P K I V D Y M T S G P V I I G V F S G N
UniRef90_R6W9V2         M L T D E L L S E H Y S H L S E K P F F Q R V K D A M M T A P V V A M C L K G V
UniRef90_K0YJH5         M V T P E Q A A A N Y A E H E G K P F Y N G L I E Y I T S G P V V K M V V S G E
UniRef90_C0W170         Q A S K E L L T A H Y T E L V E R P F F P D I V E Y M T S G P V V A M V V E G D
UniRef90_Q17YQ6         H L S V K D A E N F Y A I H R E R P F F K D L I E F M V S G P V V V M V L E G K
UniRef90_G3HBS8         Q A P E S I L A E H Y R D L Q R K P F Y P A L I S Y M S S G P V V A M V W E G H
UniRef90_D6ZIF2         T A T R E E L E E H Y F E H K D K H F F E S L V S Y M T S G P I V L M V I E G S
UniRef90_D1BJA4         T P S R E L L E E H Y A E H Q G K P F F E P L V E F M L S G P V L A V V A E G H
UniRef90_K9D3Q1         Q M T D R I A R I H Y E E H L T K P F Y G E L S A F M T S A P L V A M V L A G E
UniRef90_S7MZH3               E D L L K Q H Y I D L K D R P F Y P G L V K Y M N S G P V V A M V W E G L
UniRef90_S7UL64         H L S C E Q A G G F Y A V H K E R P F Y N D L C A F M S S G P V V V S V L E G E
UniRef90_V9TW62         R L T K E Q A K T F Y A F H K D R P F F D E L V D F M L S S P V V V Q V L E G E
UniRef90_D8DTM0         Q L T D E Q L S E H Y A H L A G K P F F Q M L K D A M M A S P V I V C A F E G L
UniRef90_S3B1M0         T L D R A T L E Q H Y A E H E G R P F Y E P L V E F M S S G P S A V M V V E G E
UniRef90_I7WEU8         Q A S S E L L V K H Y E A L V A K P F Y P E L E A Y M T S G P V L I G V L S G N
UniRef90_P84283         T V S A E L A S Q H Y A E H E G K P F F G S L L E F I T S G P V V A A I V E G T
UniRef90_UPI00029A3330  K L T D E T A G Q F Y A V H A E R P F Y K D L V S F M S S G P I V A A I L E K D
UniRef90_R6F2I0         R L T T S D T N K F Y A V H S Q R P F F R N L S L F M T S G P V V V M V L E K E
UniRef90_V4TIU5         Q C P K D L A E E H Y K D L N S K P F F P K L I E Y I T S G P V V C M A W E G A
UniRef90_S0FX06         H L T K S Q A Q G F Y A V H K E R P F F D S L T D F M T S G P I V V M V L E G E
UniRef90_J9D7Q2         I A T E N M L R Q H Y A E H V D K P W F K D F I K F F L N K Q I I C M V W S G K
UniRef90_C6WQ70         S A D R A T A E Q H Y A E H E G K G F Y E G L L D F I T G G P L V A L V I E G P
UniRef90_D8K1E5         K I S R E T A E K H Y D V H R Q R P F F N S V V E Y I T S G P S I A A V F E G Q
UniRef90_UPI0003B3593A  N I K K E D A Q R F Y Y V H K D R P F F D S L T T Y M S S G K I V V A V F E G E
UniRef90_D6SS33         R L S K D E A R G F Y D V H K D R P F F D S L T D Y M S S G P I V V S I L E G E
UniRef90_K1XJ84         Q M D Q A L C D S H Y S D H V T K G F Y K Y L A A Y M M S G P I V A I A I E G H
UniRef90_M4DJC5         Q L D K E T A S T F Y D E H S S R S F F P H L V S Y M T S G P V V V M V L E K R
UniRef90_UPI000363C55D  Q A T P E L L R E H Y A A L V D K P F F P E I E E Y M T S G P L L A G V I K G N
UniRef90_K6V580         T A D R E T L A E H Y A E H Q G K S F Y E E L L D F M A S G P M T A V V I E G S
UniRef90_UPI0003727765  T V P T A L A S A H Y A E H E G K P F F P D L L E F I T S G P V V A A V L E G P
UniRef90_C9LIM6         Q L D D A I L N E H Y A H L A Q R P F F Q R V K S S M E A A P I I A M C L E G V
UniRef90_UPI0004793C71  V A D K A A A E A H Y A E H A E R P F Y G E L V D F I T S A P L I A G I V E G P
UniRef90_E6N584         Q L T R D E A A R L Y E V H R G K P F Y E D L L T A I T K G P V V L M V L E G R
UniRef90_W5X485         K A E R A T A E E H Y A E H R E R P F F G S V V D Y L T S G P I V A M A V T G E
UniRef90_E6W1Y9         Q L S L A D A Q A F Y A V H K E R P F F G E L T E F M S R S P I I A L A M E K P
UniRef90_E3T6Z8         H Q T R E Q A E G F Y E I H R G K G F F D E L T E F M S S G P C V V M A L E K E
UniRef90_Q7VRR7         Q L T T D Q V L E F Y N E H K N K F F F K D L M E F M I S G P I F V Q I L E G N
UniRef90_L0K783         W L D E A L A T K H Y Q Q H Q G K K F F E R L I S Y I T A A P V V A L V L A G E
UniRef90_K2D380         H L T Q K Q A E S F Y A V H K D R G F F H D L V K F M I Q G P V F V Q V L E G D
UniRef90_UPI000363705C  H A D V D T V K A H Y A E H V E K P F F Q E L V D Y L T S G P I V I L V L Q G E
UniRef90_A9AXD6         Q V S S E L A H K H Y G V H E G K P F F A G L V S Y I T S G P V L V V A V E G K
UniRef90_L1PFI6         V A S R E I L A E H Y R D H A G K P F F E G L L D F M S A G P L V A I I V E G Q
UniRef90_S3YKM9         A A S L E E L T A H Y A E H E G K P F F P P M L E F M S S G P L V A L V V A G E
UniRef90_C4F7L1         E L D E D L V K V H Y A H L A D K P F F G D I V D F M T S G P V V K M V V S G L
UniRef90_M2YDM7         D A T R E I L E Q H Y A E H Q G K P F F E P L V E F M M S G P V V A A V F E G E
UniRef90_C7PUY9         R L S S Q K A G E F Y A V H K E R P F Y G E L V E F M S S G H I V A A I L E K D
UniRef90_Q83G54         V P D R Q S V E E H Y L E H R D R H F Y L P L V D F M T S G P I V L V R A E G H
UniRef90_A6URS0         K L S K E L A E E Y Y S E H K G K E F Y E R L I T F M T S G K I V A M V I E G E
UniRef90_V9H3T5         T I S K E F A C R H Y E E H I G K S F F E P L I I F I T K G P L C A L I L E G E
UniRef90_UPI000255F04C  V P T R E M L V R H Y E E H E G K P F F E P L V E F M G S G P V V A V R V Q G H
UniRef90_R5BGE7         Q V P R E L A A A H Y D E H K D K P F F Q E L I D F I T S G P V L A M V L S G D
UniRef90_UPI0003604219  Q L T K R D A E A F Y A I H K E R P F F D T L V T F M T R G P I V A A V L E K E
UniRef90_L7EF22         K A S K K L A E D H Y S Q H R G K E Y F N E L I E Y I T E S R L C A M I L E G T
UniRef90_UPI00035E6367  W I D G K F A K R H Y T E D H G M D V W K R L L D Y I K E G P V I A A V L E G V
UniRef90_S5RPH5         K L S K N D V E K F Y S I H K N R P F F K N L V N F M I S G P V F I Q V L E G E
UniRef90_O67528         R F T P E K A G E F Y Y V H R E R P F F Q E L V E F M S S G P V V A A V L E G E
UniRef90_C5BWY8         T A D G A L L E Q H Y A E H V G K P F Y A P L V E F M G S G P L V A A V V S G H
UniRef90_F0P013         Q L A K Q D A E A F Y A I H K E R P F F G E L V E F M T S G P I V A A V L E K E
UniRef90_G4RNT5         K A T R E Q I E G F Y P S D E G W L R K G W L V D Y M T E A P I V L M V V E G N
UniRef90_C7DHP2         W P T K E T A E K H Y V L E K E W R I R G W L V K A L T S G P V V A M V I E G N
UniRef90_F2QFE3         S A V S E L I D Q H Y Q D L V E K S F Y P P I R Q F M T S G P V V V G I L S G P
UniRef90_E9QH32         Q                                                                     V W E G H
UniRef90_UPI00046DDAE0  Q L D E E A A M S F Y A E H S S R S F F S S L V K Y M T S G P V L I M V L E K E
UniRef90_UPI00037897BC  T I D A A M A D R H Y A A H V E Q P W Y P T L R E F I T S G P L V A L V I E G P
UniRef90_W4LMW6         Y M S K Q D A E R F Y N V H R E R P F F N D L T M F M S S G P C I P I V M Q R D
UniRef90_R7I6D3         K V N K E F A R Q H Y I D L K D K P F Y Q E L V D F I S R S P L V A M I L E G E
UniRef90_E5XNY5         V P H V D I A R E H Y A E H A Q R P F F D S L V E F I T S G P L V A A V I E G E
UniRef90_UPI00022B7C54  Q A S E E L L R E H Y A D L H G C P F Y G Q L V K Y M G S G P V V A M V W Q G E
UniRef90_T0TXX4         T L D L E R L K K H Y A Q L V D K S F F S S I T N Y M M S G P A I I G I L S G P
UniRef90_D7BMZ7         T A S E E Q L A A H Y H E H V D K P F Y P G I V R Y M T S G P I V A A V I S G Y
UniRef90_UPI000380D0C8  K L T P D K A G E F Y E V H K E R P F Y S E L V Q F M S S G P I V A A I L E K E
UniRef90_E6QKV5         S I S K K Q A E G F Y A V H S A R P F F D S L T S F M S S G P I I L M V L E K E
UniRef90_S0KM54         T L T E E T A K A H Y A H L A D K P F F Q D I I D Y M T S G P V V F I V L K G E
UniRef90_UPI0003B59875  V A S R D L L E E H Y A E H R G K G F F D P M V A Y M S S G P V V A V V I E G Q
UniRef90_F5ZIR4         Q A S P E L L K Q H Y S A L V E K P F Y P E L E A Y M T K G P I L I G I I S G N
UniRef90_V6DH04         T I E K K D A E K F Y A V H K E R P F F K E L V N Y M T S G P I I V M V L E K T
UniRef90_K4DFL7         Q L D E D R V K R F Y A E H S S R S F F P S L V E Y M T S G P V L I M V L E K G
UniRef90_W1NR71         Q L N E S Q A T N F Y V E H Q N R I F F P N L I K Y M T S G P V V I M V L E K P
UniRef90_E4L7I5         D V P V E L A K K H Y A E H E G K G F F N A L I S F I T S G K V L A M V I S G E
UniRef90_S0J0Z8         L L T T E L L K A H Y Q H L I G Q P F F P K L L A Y M T E G P V V L L I L E G E
UniRef90_E4KQ50         Q A D K A I L A R H Y E D L L E K P F Y H Q I E R Y M M E G P L V V G T F Y G P
UniRef90_F2IDT9         R L T E D Q A K K F Y E V H S E R P F Y G E L V E Y M T S G P I V A A I L E K D
UniRef90_I5BVW8         Q L S A E L A G Q F Y A V H K E R P F Y A D L C A Y M S S G P I I A A I L E K E
```



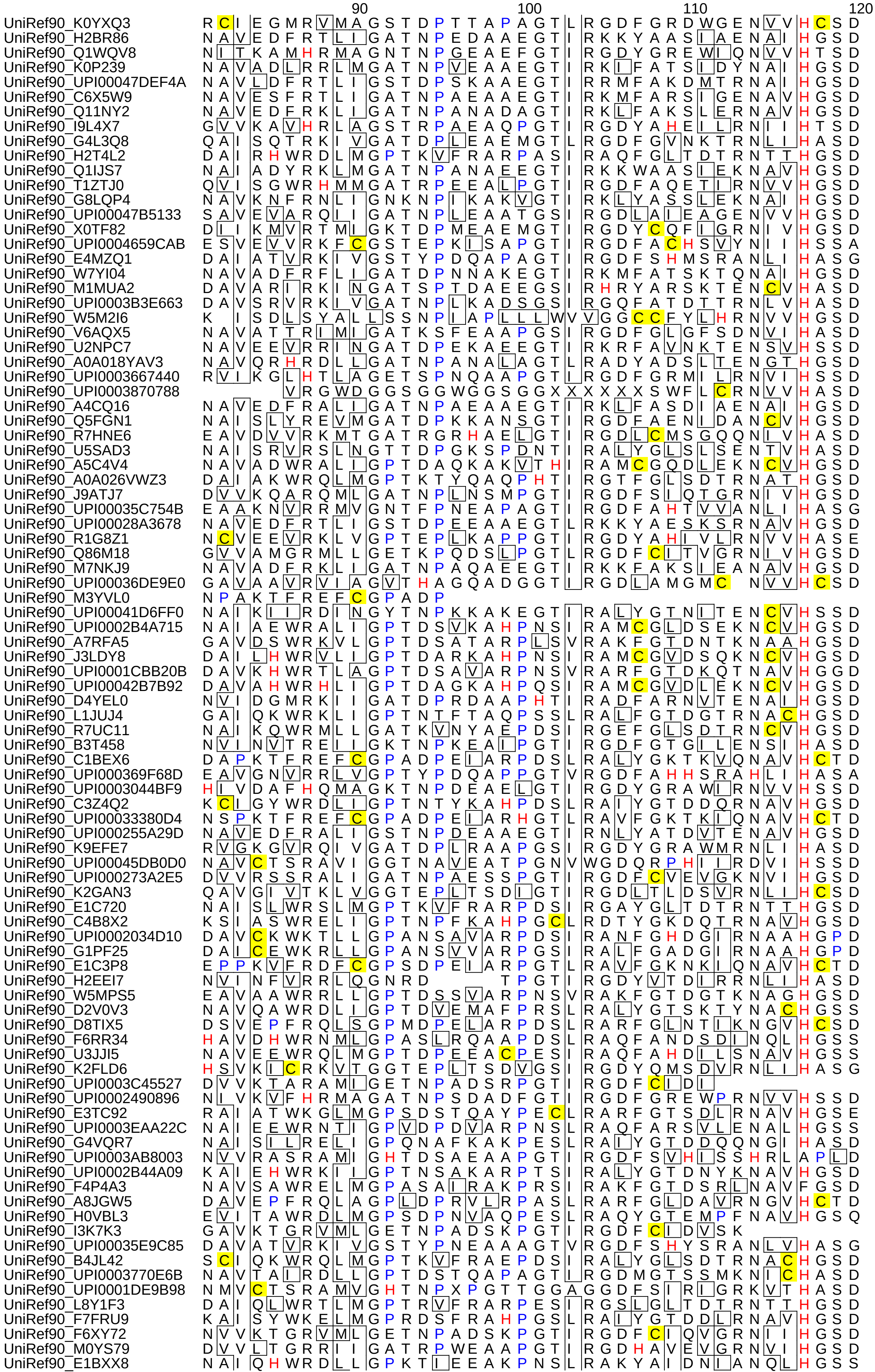
```
                                          90                  100                 110                 120
UniRef90_UPI000466660E  R V I E G F R K L A G T T D P T T A E P G T I R G D L A R D V V Q N I V H G S D
UniRef90_UPI0003A4AB46  N A V A D F R A L I G A T N P A E A E A G T I R A D F A D S V G E N I I H G S D
UniRef90_F5J392         D A A K V V R S L I G V T N G R E A A A G T V R G D F S V S A Q E N I V H A S D
UniRef90_UPI000377A9BB  E A I T V V R G I V G A T D G R K A A P G T V R G D F S L S N Q E N L I H A S D
UniRef90_G7SE27         E V I K S W R D M M G A T N P V N A L P G T I R G D F A T A I V A N V V H G S D
UniRef90_UPI0004723A27  G V I A G A R V L I G A T K P L E A A P G T I R G D L A M D I G R N V V H G S D
UniRef90_D7GCV2         N A I T I V R A M H G A T D P S E A R P G T V R G D Y S L S T R M N L V H A S D
UniRef90_V5XQB2         D V I D L V R K M V G A T K A A D A V P G T I R G D F A L P G T E N I I H A S D
UniRef90_E3H396         R V I E G V R T M L G T S D P T K A A P G T I R G D Y G R D W G E N L V H A S D
UniRef90_UPI000364AEB5  E A I A S W R K M M G A T N P L E A L P G T I R G D F A Q A A T F N I V H G S D
UniRef90_R6W9V2         D A I A A V R A L A G P T N G R N A A P G T I R G S Y C M S F Q E N I V H A S D
UniRef90_K0YJH5         G A V K K M R T L M G A T N P A E A A P G T I R G D F G L I M D E N V I H G S D
UniRef90_C0W170         R V I E G M R V I M G P T D P T V A P A G T I R G D L G R D W I E N I V H G S D
UniRef90_Q17YQ6         D A V A K N R D L M G A T D P K L A Q K G T I R A D F A E S I D A N A V H G S D
UniRef90_G3HBS8         N V I R I S R T M I G H T D S T E A A P G T I R G D F S I H I S R N I I H A S D
UniRef90_D6ZIF2         R V I Q A F R N M M G D T N P A V A L P G T I R G D L A R D W G Q N I V H G S D
UniRef90_D1BJA4         G V I P G F R S L A G A T D P T A A A P G T V R G D L G R D W G Q N L V H G S D
UniRef90_K9D3Q1         N A I A R V R E L H G A T N P A N A A E G T I R K R F A K D G S E N A V H A S D
UniRef90_S7MZH3         N V V K T G R M M L G E T N P A D S K P G T I R G D F C I Q V G R N I I H G S D
UniRef90_S7UL64         D A I A K Y R T L M G A T N P E K A E D G T I R K R F A Q N I E A N S V H G S D
UniRef90_V9TW62         S A I S V Y R N L M G D T D P T R A A D G T I R K V F A K S I E E N S V H G S D
UniRef90_D8DTM0         D A V E V V R S I T G A T N G R K A A A G T I R G D F S I S G Q E N I V H A S D
UniRef90_S3B1M0         R V I E G I R A L A G P T D P I A A P P G S V R G D F G T I V R E N L I H A S D
UniRef90_I7WEU8         R V V S S W R T M M G V T N P K D A L P G T I R G D F A Q A P G F N V V H G S D
UniRef90_P84283         R A I A A V R Q L A G G T D P V Q A A P G T I R G D F A L E T Q F N L V H G S D
UniRef90_UPI00029A3330  N A I E D F R K L I G A T N P A E A A E G T I R Q K Y A K S I D A N A V H G S D
UniRef90_R6F2I0         N A I A E F R T L I G N T D P Q A A P T G S I R K I F G Q S K T R N A I H G S D
UniRef90_V4TIU5         G V V A S A R K L I G S T D P L Q A E P G T I R G D L A V Q T G R N V V H G S D
UniRef90_S0FX06         N V I A E N R K I M G A T N F K E A E E G T I R R E Y A T D I E K N V V H G S D
UniRef90_J9D7Q2         N I I K E S R K M I G A T D P Q E A L M G T I R G D F G V D K G R N L V H G S D
UniRef90_C6WQ70         R A I A A F R Q L A G G T D P E K A T P G T I R G D F G L E V Q F N L V H G S D
UniRef90_D8K1E5         D V I S T V R T A M G A T D P A K A E P G T I R K D F A E S I E R N A V H G S D
UniRef90_UPI0003B3593A  X A I E K V R K I M G A T D P K K A E E G T I R K K F G I D I E K N S I H G S D
UniRef90_D6SS33         N G I D K Y R E I M G A T N P E N A Q E G T I R K A Y A L D I E K N S V H G S D
UniRef90_K1XJ84         D V V K V I R T M C G A T N P A D A L P G T I R G D F A K N I D N N I I H S S D
UniRef90_M4DJC5         D A V S D W R G L I G P T D A Q K A H P H S I R A L C G K D S Q R N C V H G S D
UniRef90_UPI000363C55D  R V I S S W R T M M G A T N P K D A L P G T I R G D Y A Q A P G F N V V H G S D
UniRef90_K6V580         R C I Q G F R S L A G Q T D P T A A L P G T I R G D L G R D W G E N I V H G S D
UniRef90_UPI0003727765  R A I A A F R Q I A G G T D P V K A V P G T I R A D L A L D G Q Q N L V H G S D
UniRef90_C9LIM6         E A V T A V H A L A G P T N G R N A P A G T I R G N Y C M S C Q E N I V H T S D
UniRef90_UPI0004793C71  N A I A A W R Q L A G G T N P V E A T P G S I R G D F A L E V A E N I V H G S D
UniRef90_E6N584         Q A V E V V R K L I G A T D P V K A E P G T I R G D Y G L D I T D N L V H A S D
UniRef90_W5X485         N A T K A I R T M M G A T N P V D A A P G T I R G D F A L S I E D N L T H S S S
UniRef90_E6W1Y9         D A V A A W R K L M G A T N P A E A E P G T I R K E F A L S I G E N A V H G S D
UniRef90_E3T6Z8         N A V P A W R E L M G A T N P A E A A E G T L R K E F A S S I G E N A V H G S D
UniRef90_Q7VRR7         Y A I R R N R E I M G N T D P M K A L A G T I R F D Y G E S C T K N V I H G S D
UniRef90_L0K783         S A I K V V R N L V G T T N P A K A K P G T I R G D L A I S L E H N I I H A S D
UniRef90_K2D380         G A I K K N R D I M G A T N P A D A A P G T I R A D F A K S I D A N A V H G S D
UniRef90_UPI000363705C  D A V A R V R A L N G A T N P E E A G V N T I R A L Y A V S L S E N T V H A S D
UniRef90_A9AXD6         D V I E I V R S T V G A T N P V K A A P G T I R G D F G V N I G R N L I H A S D
UniRef90_L1PFI6         R V I E G M R T M M G S T D P T T A P A G T I R G D L G R A W M E N I I H G S D
UniRef90_S3YKM9         E C I A G M R T L M G A T K P T E A A P G T I R G D L G R A W D E N L I H G S D
UniRef90_C4F7L1         S A V S K M R T L M G A T N P L D A A P G T I R G D F A N D V N A N I I H G S D
UniRef90_M2YDM7         S V I E S F R A M A G V S D P V K A A A G T I R G D L A R D W G E N I V H G S D
UniRef90_C7PUY9         N A V E D F R K L I G A T N P A N A E E G T I R K E Y A E S I G R N A V H G S D
UniRef90_Q83G54         G V V D A L R T L V G V S D P T L A L P G T I R G D F G R N W G Q N I V H A S D
UniRef90_A6URS0         R A I N T V R K M I G N T C P Y D A F P G T I R G D F G L Y L P K N I I H A S D
UniRef90_V9H3T5         N A I E K I R E I N G S T N P E E A K E G T I R K L Y A T N N R E N C V H A S D
UniRef90_UPI000255F04C  R V I E G F R S L A G A T E P T T A A P G T I R G D L G R D W G E N L V H G S D
UniRef90_R5BGE7         N A V A A V R Q L N G A T D P L K A N A G T I R G D Y G L A I N E N V V H A S D
UniRef90_UPI0003604219  N A V Q D F R K L I G A T N P A D A A E G T I R K K Y A K S V T E N A V H G S D
UniRef90_L7EF22         D A I A I V R N I H G N K D P K I A A M G T I R G I Y A D G T T R N L V H A S D
UniRef90_UPI00035E6367  S A I E N V R K I C G N T Y P H E A L P G T I R G D Y C H K N V K N I V H A S G
UniRef90_S5RPH5         D A I K K H R I L I G D T D P I K A A K G T I R A D F A E S I D K N I V H G S D
UniRef90_O67528         D A I K R V R E I I G P T D S E E A R P N S I R A Q F G T D K G K N A I H A S D
UniRef90_C5BWY8         R V I E G L R A L C G A T D P T T A A P G S I R G D L A R D W G Q N L I H A S D
UniRef90_F0P013         N A V E D F R T L I G A T N P K E A A E G T I R N K Y A E S I D A N A V H G S D
UniRef90_G4RNT5         H A V S V M R K L V G H T L P Y K A E P G T I R G D F S A D S I R N L V H A S D
UniRef90_C7DHP2         D A I A S V R K I A G A T A P T R A D P S T I R G S F S T D V V R N I L H A S D
UniRef90_F2QFE3         K V I E T W R T M M G A T R P E E A L P G T I R G D F A N Q A I Q N V V H G S D
UniRef90_E9QH32         N V V K T S R M M V G D T D P A A A A P G T I R G D F S V H I S R N V V H A S D
UniRef90_UPI00046DDAE0  N A V A D W R A L I G P T D A S K A H P N S I R A M Y G L D L Q K N C V H G S D
UniRef90_UPI00037897BC  G A I E V V R S M N G A T N A A V A A P G T I R G D L A L S N R E N L V H A S D
UniRef90_W4LMW6         N A I D K L R E V M G A T N P S E A A E G T I R K E Y A L D I E K N S I H G S D
UniRef90_R7I6D3         D A V D T V R R V N G A T D P A E A E E G T I R Y K Y G G G K T D N T V H G S D
UniRef90_E5XNY5         G S I A A M R Q I I G G T D P V K A V P G T I R G D F G L T V Q S N L V H G S D
UniRef90_UPI00022B7C54  V V R T W H R P L L G X T D P V D A K P G T I R G D F C X E A G K N L S H G S D
UniRef90_T0TXX4         G V I K S W R D M M G A T N P G E A A P G T I R G D F A T H G I Q N I V H G S D
UniRef90_D7BMZ7         R V I E G V R S L S G A T D P T V A A P G T I R G D F G C D T G E N L I H S S D
UniRef90_UPI000380D0C8  N A V A E F R K L I G A T N P A Q A D E G T I R K N F A T S V G E N A V H G S D
UniRef90_E6QKV5         N A I A D L R K L M G A T N P A N A E N G T I R K K F A G S I E E N A I H G S D
UniRef90_S0KM54         N A I E M V R K M I G Q T N A L E A A P G T I R G D F A T N K S Q N V I H A S D
UniRef90_UPI0003B59875  R V V E G V R A L M G S T D P T T A P V G T I R G D L G R A W D E N L V H G S D
UniRef90_F5ZIR4         R V V S S W R T M M G V T N P K D A L P G T I R G D F A Q A P G E N V V H G S D
UniRef90_V6DH04         N A I A S W R E L M G T T N P D T A N M G T I R K M F G Q S V Q L N A V H G S D
UniRef90_K4DFL7         N A I A D W R A L I G P T D P L K A H P H S V R A I C G L N L Q E N C V H G S D
UniRef90_W1NR71         N A I A E W R A L I G P T D A S E A H P S S I R A M C G N D K E R N C V H G S D
UniRef90_E4L7I5         N A V A A V R Q I N G A T N P L Q A V P G S I R G D F A T S I D E N V V H A S D
UniRef90_S0J0Z8         Q A V A R V R K I V G A T N P L T A D M G T I R G D Y G I N Q T R N L V H A S D
UniRef90_E4KQ50         D A V K T W R K T M G V T N P A E A D M G T I R A D F A M G D M R N V V H G S D
UniRef90_F2IDT9         N A V V D F R N L I G A T D P A E A A E G T I R K Y Y A E S K G R N A V H G S D
UniRef90_I5BVW8         N A V A D F R T L I G A T N P A D A A E G T I R K L F A T S I E A N A V H G S D
```

```
                                              130                 140                 150
UniRef90_UPI000466660E   S P E S A A R E I A I F F P E
UniRef90_UPI0003A4AB46   S V E N G Q I E A A Y F F A E S D V V
UniRef90_F5J392          S A E S A R I E L K R F F A D N E I F D Y K L S T Y A H L Y
UniRef90_UPI000377A9BB   S A E S A A R E I A L W F P E
UniRef90_G7SE27          S A E A A E R E I G L W L G K
UniRef90_UPI0004723A27   G P E S A R F E I G L W F H P E E L S S W E P A D Q G W
UniRef90_D7GCV2          S P K S A Q R E L A L W F G Q D
UniRef90_V5XQB2          S R D A A N T E I T R F F P P F D T
UniRef90_E3H396          S P E S A A R E I A L W
UniRef90_UPI000364AEB5   S K E S A Q R E M L L W F G K E
UniRef90_R6W9V2          S A E T A A I E L K R F F R D E E I I E W E Q C Y H P F L Y
UniRef90_K0YJH5          S P E S A E R E I G V F F G
UniRef90_C0W170          C P E N A E R E I G L W F P E
UniRef90_Q17YQ6          S L E N A H N E I A F F F A T R E F
UniRef90_G3HBS8          S V E G A Q R E I Q L W F K S S E L L N W A D D G H P
UniRef90_D6ZIF2          S V Q S A D R E I A L W F P
UniRef90_D1BJA4          S E E S A A R E I A L W F P
UniRef90_K9D3Q1          S P E S A A R E I H I F F S E T E I F
UniRef90_S7MZH3          S V K S A E R E I S L W F K P E E L V N Y K S C A F D W I Y E
UniRef90_S7UL64          A P E T A A F E I A Y F F N A L E I V
UniRef90_V9TW62          S A I A A R V E I A Q F F S D N E I V
UniRef90_D8DTM0          S V E N A K I E L K R F F K D D E F F E Y S T P M M P F L Y
UniRef90_S3B1M0          S E E S A Q R E L K I F F P S F
UniRef90_I7WEU8          S L D S A K R E I A L W F N Q D K F E S S A S L S Q D
UniRef90_P84283          S A E S A Q R E I A L W F P
UniRef90_UPI00029A3330   S D E N A E I E G N F F F K A D E R F
UniRef90_R6F2I0          S D E N A L R E I H F F F S E R E I V
UniRef90_V4TIU5          S P E N G K R E I G                 N Y K N L F Y G W I Y
UniRef90_S0FX06          A P E T A A F E I S Y F F N H L E I Q S
UniRef90_J9D7Q2          S L E S A Q R E I K L W F G D N   I D F Q D S D K D Q V Y E
UniRef90_C6WQ70          S V E S A E R E I K I W F P
UniRef90_D8K1E5          S P E T A A Y E I P L Y F R P E E I Y S
UniRef90_UPI0003B3593A   S P E S A K F E I G F F F S E Y E L
UniRef90_D6SS33          A P E T A Q V E M A Y F F S K M E M V
UniRef90_K1XJ84          S D E A G T I E V A R F F K D N E L F T Y G R
UniRef90_M4DJC5          S T S S A E R E I H F F F K D E E F S D W
UniRef90_UPI000363C55D   S A E S A K K E I A L W F G S D A L
UniRef90_K6V580          S P E S A A R E I E I W F P
UniRef90_UPI0003727765   S V E S A E R E I A L W F P
UniRef90_C9LIM6          S H E T A T I E I K R F F R P E E L Y D W H P A T F D Y L Y
UniRef90_UPI0004793C71   S P E S A E R E I S I W F P N Q
UniRef90_E6N584          S A E A Y Q R E S A I F F T G L E
UniRef90_W5X485          D P E A A A R E L S L W F P E
UniRef90_E6W1Y9          S D E N A A I E I S F F F N H F E Q V
UniRef90_E3T6Z8          S D E N A T I E I A Y F F S K L E L V
UniRef90_Q7VRR7          S E S S A K Y E I A Y F F
UniRef90_L0K783          S R E T A A K E I E L F F A S E E I F T Y
UniRef90_K2D380          S P E T A K Q E I A F F F T P N E I F
UniRef90_UPI000363705C   S L E S A E R E I G I W F N
UniRef90_A9AXD6          S P E N G D H E V A L F F S S E E L I R S E R S V D Q W I T E
UniRef90_L1PFI6          C A E S A L R E I Q I W F P E
UniRef90_S3YKM9          S P E S A A R E I A I W F P
UniRef90_C4F7L1          S L E N A A I E I E R F F G
UniRef90_M2YDM7          S S E S A E R E I G I W F
UniRef90_C7PUY9          S D E N A A I E G D F F F S G L E
UniRef90_Q83G54          S V K S A K R E L D I W F P
UniRef90_A6URS0          S I D G A K K E I E L F F D S K
UniRef90_V9H3T5          S I E S A K R E I K L W F G D S N L
UniRef90_UPI000255F04C   S T L S A E R E L E I W F
UniRef90_R5BGE7          A V A T A E R E V A L W F P E F
UniRef90_UPI0003604219   S D E N A E L E S N F H F S G R E I F
UniRef90_L7EF22          N S E N A K R E I G I W F P E F E
UniRef90_UPI00035E6367   N K E D A K K E I K L W F S D S E L V E Y K L S H E D
UniRef90_S5RPH5          S I K N A K F E I S Y F F S I S N I Y S
UniRef90_O67528          S P E S A Q Y E I C F I F S G L E I V
UniRef90_C5BWY8          A P E S A E R E I A L W F P
UniRef90_F0P013          S D E N A A I E A A F H F A K K E I F
UniRef90_G4RNT5          S P E E A R R E I S Y W F R D D E I L E Y
UniRef90_C7DHP2          S V P T A E R E I S V W F N K N E I L D Y K T A A E D Y M Y
UniRef90_F2QFE3          S E A S A K R E I A L W F K D
UniRef90_E9QH32          S V E G A Q R E I S L W F H R S E L V D W E G C D H K N I Y
UniRef90_UPI00046DDAE0   S P Q S A Q R E I S F F F K E K
UniRef90_UPI00037897BC   S P E S A A K E L G L W F P
UniRef90_W4LMW6          S P E S A A I E I P F F F N G L E F C
UniRef90_R7I6D3          S V E H A K R E I S M W F P E F
UniRef90_E5XNY5          S P E S A H R E I A L W F P E F C L S N
UniRef90_UPI00022B7C54   S Q E S A G Q K M E L W F H K E E I L S W E D S A S H W L
UniRef90_T0TXX4          S E E S A A R E I E L W F G E
UniRef90_D7BMZ7          S P E S A E H E I H V W F
UniRef90_UPI000380D0C8   S D E N A N I E G N F F F S L L E R F
UniRef90_E6QKV5          A P E T A A F E I G Y W F A G Y E L V
UniRef90_S0KM54          C P A A A D V E I K R F F S D K N L
UniRef90_UPI0003B59875   S P E S A R R E I K L W F P E
UniRef90_F5ZIR4          S P E A A L R E I D L W F G N H E L
UniRef90_V6DH04          S P Q A A Q E E I K F F F K
UniRef90_K4DFL7          S P Q S A S R E I S F F F K
UniRef90_W1NR71          S P D S A A R E I E F F F G K
UniRef90_E4L7I5          A V E T A N R E V K L W F P E
UniRef90_S0J0Z8          S S A N V Q I E I A R F F G K
UniRef90_E4KQ50          S V E S A E R E I N I W F G E
UniRef90_F2IDT9          S D E N A A I E G K F H F A D S E V F
UniRef90_I5BVW8          S D E N A Q I E G S F F F S S F E
```

```
                        1                10                  20                  30                  40
UniRef90_K0YXQ3         S Q S E R T L V L V K P E A F K R G L T G E V I R R I E A K G Y E L E A L A V V
UniRef90_H2BR86                 R T F T M L K P D A I E K G Y I G A I L E Q I N A S G F R I V A L K M T
UniRef90_Q1WQV8               E R T L I L V K P D G V S S H H V G E I I T R I E R K G Y E I E A L K V V
UniRef90_K0P239                   T F S M I K P D A V Q A N H I G A I L S M I E K A G F S I D A I T M L
UniRef90_UPI00047DEF4A            T L T M I K P F A V K E H H V G E I L S Y I E K A G F H I R A L K M T
UniRef90_C6X5W9                   T F T M I K P D A V A D G H I G A I L G K I S E A G F K I K A L K L T
UniRef90_Q11NY2                 R T F S M I K P D A V K D G H S G S I L K M I E G A G F R I V A I K L T
UniRef90_I9L4X7         A N S E K T L V L V K P D G V S E G H I G E V I T R L E R K G Y Q I A A L K V I
UniRef90_G4L3Q8               E Q T L V I I K P D G L A R R L L G R I I Q R F E D K Q L Q I S Q I K I E
UniRef90_H2T4L2             L Q L T L A V I K P D A V A H P L M L E L H Q R I L D N S F V I V R C K D L
UniRef90_Q1IJS7           T L Q R T L S I I K P D A V E K N A E G D I I S I L L N N N F R I L G I K M L
UniRef90_T1ZTJ0             M E Q T F F I I K P D G V K R G L V G E V L K R V E Q R G Y K I E R L E M R
UniRef90_G8LQP4                   T L A I I K P D A V K K G Y I G P I L F H I I N A G F F I R A I K M T
UniRef90_UPI00047B5133      M S R T L I L V K P D G V Q R Q L V G D V L G R F E R K G L K I Q Q L K L V
UniRef90_X0TF82           S K E R T F V M I K P D A V Q R G L T G E I I S R F E K K G I K I V A M K L M
UniRef90_UPI0004659CAB      V Q R T L C V V K P D G V R R G L I G N V V S R F E R V G L K I V A A K M V
UniRef90_E4MZQ1           Q V E R T L V L L K P D A V A R G L S G R V L Q R F E D A A L K I V G T K M K
UniRef90_W7YI04                 K T L T I I K P Y A V K N G N L G A I L H K I E E S G Y R F A A I K T L
UniRef90_M1MUA2             I E R S V V L I K P D G V E R N I I G N I L S C Y E A N G L K I V E L K L M
UniRef90_UPI0003B3E663        E Q T C V I I K P D G V R R R L V G R I I Q C F E D A D L T I V A L K K T
UniRef90_W5M2I6               E R T F V A V K P D G V Q R R L V G E I T R R F E Q K G F R L V G L K L V
UniRef90_V6AQX5               E Q T L F I V K P D A V A R K L V G Q I I A R F E S K G F K I L K L K M F
UniRef90_U2NPC7             I E K S F V L I K P D A V E R N L I G K I L D C Y E S N N L K I V A M K I F
UniRef90_A0A018YAV3                                     K N V I G S I F A R F E A A G F K I V G T K M L
UniRef90_UPI0003667440        E R T L I L I K P D G V K G R H I G Q I I T R I E N K G Y S I D G L K V T
UniRef90_UPI0003870788        E K T L V L V K P D A V Q R R L V G T V I Q R F E R R G F K R G A M K M L
UniRef90_A4CQ16                         M I K P D A V E N G H I G P I L E K I T A A G F R I V A M K Y T
UniRef90_Q5FGN1             L E R T L S I L K P D V V K R N I A G Q V N S Y I E N S G L K I I I Q K M C
UniRef90_R7HNE6                                         R G L A G E V I S R F E K K G L I I I G M K M M
UniRef90_U5SAD3               E K T L V L I K P D A V E R N L I G N I L I E Y E R N G L K I L D M K L I
UniRef90_A5C4V4         A E K E K T F A M I K P D G L S G N Y A D E I K N A I L E S G F I I L R E M T V
UniRef90_A0A026VWZ3       H L Q L T L A I L K P H V V K S P F A Q K I R D L I I D N N F K V V R S R R T
UniRef90_J9ATJ7
UniRef90_UPI00035C754B  A T V E R T L V L L K P D A V A R G L V G R I L Q R F E D A G L K I V G S K M K
UniRef90_UPI00028A3678          R T L T M I K P N A V K S G H V G A I L E K I A A S G F R I V A L K M T
UniRef90_R1G8Z1             I Q K T L V V L K P D S V K R G I I G E I I S R F E K A G L K I M G L K M I
UniRef90_Q86M18                                       Q R G L V G E T V R R F E Q K G F K L V A M K M V
UniRef90_M7NKJ9                         M I K P D A V A D G N S G A I L K M I E E A G F R I V A L K L T
UniRef90_UPI00036DE9E0        E K T I V I V K P D G V Q R S L V G E V V K R L E M K G L K I V G L K M M
UniRef90_M3YVL0                 C T C C I I K P H A I S E G L L G K I L M A I R D A G F E I S A M Q M F
UniRef90_UPI00041D6FF0      M E R S L V L I K P D G V E K C V I G N I I S M Y E K N N L K V E D I K M V
UniRef90_UPI0002B4A715    K M E K T L A M I K P D G L R G N Y T E R I K G A I V E S G F R I L E E R I D
UniRef90_A7RFA5               E K T L A M I K P D A V     G C L G G I M E M I D Q A G F K L C R A K M V
UniRef90_J3LDY8               E R T L A M I K P D G L S G N H T E R I K G V I L E S G F D I V K E A V V
UniRef90_UPI0001CBB20B  S T L E K T I A M I K P D A V S K     V G H I M D M I F S D G F H M S K A I M A
UniRef90_UPI00042B7B92        E R T L G I I K P D G L S G N Y T D R I R K V I L E S G F H I N K E M I I
UniRef90_D4YEL0               Q K T F I M L K P D V L K R G L M G A I I S R I E D Q N Y F I E R A Q V M
UniRef90_L1JUJ4               E R T L G L I K P D A F L K     V G K I V D A I Y K D G F R V A Q L R T L
UniRef90_R7UC11           T L E L T L A I L K P D L M S N I F A A Q V R Q R I L K N G F Y F V K T R N L
UniRef90_B3T458                 Q T L I I V K P D A V K R N L V E E I L S R F K K K G F S I S K L K T F
UniRef90_C1BEX6                     C C V I K P H A I S E A L T G K I L H S I S A A G F E I S A L Q M F
UniRef90_UPI000369F68D        E R T L V V C K P D A V A R G L I G R V V Q R I E D A G L K I V G A K M A
UniRef90_UPI0003044BF9        E R T L I L V K P D G V A N G H I G D V I D R L E R K Q Y Q I S A L K V V
UniRef90_C3Z4Q2             V E R T L A L I K P D A I D K     A E E I E D I I L R S G F T I L Q K R K V
UniRef90_UPI00033380D4          C T C C I I K P H A I N E G L L G K I L M A V R D A G F A V S A M Q M F
UniRef90_UPI000255A29D          R T F T M I K P D A I A A G N A G A I I Q K I T K S G F K I V A L K M T
UniRef90_K9EFE7               E H V F I I L K P D A L E R G L V G V L L S R L E N K G Y L I E R L E M T
UniRef90_UPI00045DB0D0        E P T L R A V K P D Q V Q R K L V G D V I P H F D R R C F K L V G M K M V
UniRef90_UPI000273A2E5
UniRef90_K2GAN3               E R T F L I I K P D G V Q R S L M G E I I S R I E R V G L K I T A V K F L
UniRef90_E1C720             L Q L T L A L L K P D A V A H P L V L E V H E T I L S N R L L I V R A K E L
UniRef90_C4B8X2               E R T L G I V K P D A M D K     V V E I E D I I L R N G F T I L Q K R K V
UniRef90_UPI0002034D10  S R K E R T L A L I K P D A T     P K I G E L V D I I I N A G F T I T K A K M M
UniRef90_G1PF25         S R K E K T L A L I K P D A V S K     A G E I I E I I N K A G F T I T K L K M M
UniRef90_E1C3P8                 C T C C I I K P H A V N E G L A G K I I K A I I N E G F Q I S A L Q M F
UniRef90_H2EEI7             M E Q T L V I I K P D A F E R N F V A K I M R R L E K K N I K I A N I K Y Y
UniRef90_W5MPS5         S K K E R T L A I I K P D A L I K     M G D I I Q M I Y D A G L M I I K A K M S
UniRef90_D2V0V3             V Q K T L A L I K P E A V A K G Y E D A I M E R I I D E G F T I V R W D K M
UniRef90_D8TIX5                   T L C L V K P H V V A D G G A G L V V D M I Q D   V F D I T A A Q L F
UniRef90_F6RR34               E R T L A L I R P D I L K D K K   D E I L Q S I R D A G F S I A M Q K E V
UniRef90_U3JJI5               E Q T F A L I K P D A   A K T H K D E I M K K V K E A G F S I S K V K E Q
UniRef90_K2FLD6           S K E R T L V I I K P D G V Q R T L I G E I I K R Y E Q I G L K L V G V K M V
UniRef90_UPI0003C45527        E L T F L A I K P D G V Q R H L I G E I I R R F E K K G F K L V G M K L M
UniRef90_UPI0002490896        E R I L I L V K P D G V A S G H I G E V V S R L E K K G Y H I D D L K I V
UniRef90_E3TC92             V E R T L A L I K P D A I D K     A D E I E D I I L R S G F T I L Q Q R K L
UniRef90_UPI0003EAA22C      V E H T L A V I K P D A   A K E H R D D I I N S I K E A G F C I S Q V K E T
UniRef90_G4VQR7           H I E R T L L I I K P D I I     N Y A D K I E E L I L Q K G F L I I Q K R R V
UniRef90_UPI0003AB8003        E R T L V A V K P D G V Q R R L V G D V I Q R F E R R G F T L V G M K M L
UniRef90_UPI0002B44A09    H I E Q T L A L I K P D A I D H     A E E I E D I I L S N G F L V L Q K R R V
UniRef90_F4P4A3             L E E T L A L I K P D A M S P G V L D Q I I D I I R L N R F E I V N R K K V
UniRef90_A8JGW5                   T L C L V K P H L V A D G A A G L V I D L I Q E S   F E V T A G G L Y
UniRef90_H0VBL3         S S K T C T L A V I K P D A V V H G K T D E I I M K I Q E A G F D I V T H E E R
UniRef90_I3K7K3               E R T F I A I K P D G V Q R G I I G E V I K R F E M K G F K L V G M K H V
UniRef90_UPI00035E9C85      V E R T L V L L K P D A V V R G F A G K I I S R F E D A A L K I V G V K M K
UniRef90_B4JL42             M E I T L A L L K P H V L R N T Y A L R Q L K A L I A S N F D V L Q A K E V
UniRef90_UPI0003770E6B        E R S L I L L K P D C L E G N H A G E V I G R F E K E G F E I R A A K L I
UniRef90_UPI0001DE9B98        E W T L V A V K P D G V Q R X L L A D G F L S F E R R G L K L T G R M M L
UniRef90_L8Y1F3             L Q L T L A L I K P D A V A H P L I L E I L S         N K F L I V R V R E L
UniRef90_F7FRU9             V E R T L A V I K P D A V D K E     E E I E D I I L R S G F T I I Q R R K L
UniRef90_F6XY72
UniRef90_M0YS79                                                                             M K F M
UniRef90_E1BXX8               E K T L A L I R P     C V L R E R R N S I M Q S I K D D G F E V A M Q K E I
```

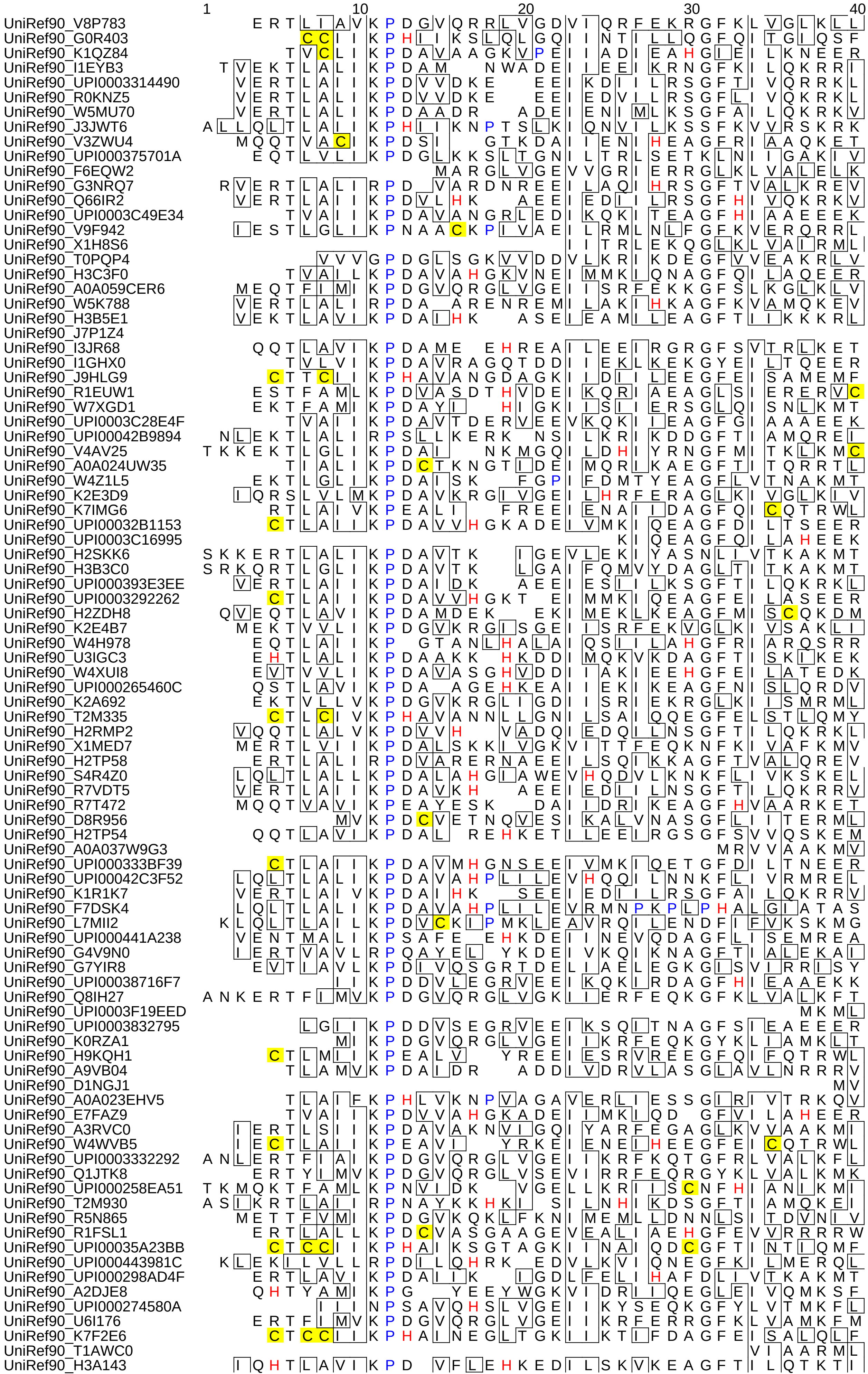


```
                                          50                  60                  70                  80
UniRef90_K0YXQ3         T A D E A K L R E H Y A E H V H K H F F S D L V E Y M S S G P M T A I V V R G E
UniRef90_H2BR86         Q M T K S D A Q T F Y E V H K E R P F Y G E L V D Y M T Q G P I V A A V L E K D
UniRef90_Q1WQV8         S A T E D Q L K Q H Y N D K V D K P Y F P D M L S Y M Q S G P I V G I V A A G T
UniRef90_K0P239         Q L T P I V A E H F Y A V H S D R P F Y K S L C A F I A S S P V V V M V L Q K E
UniRef90_UPI00047DEF4A  Q M P M E K A E K F Y A E H Q G K P F F K E L T E F M S S G P V V A A I L E K D
UniRef90_C6X5W9         Q L T V A D A Q K F Y A V H S E R P F Y G E L V D F M S S G P I V A A V L E G E
UniRef90_Q11NY2         Y L S A E R A G E F Y A V H T G K P F Y D S L K S I M S E S P I I A L I L E K E
UniRef90_I9L4X7         K A T A E Q L Q Q H Y S E K V G K P Y F K E I E T Y M M E G P M V A I I V S G S
UniRef90_G4L3Q8         T L S K A Q L H E H Y H H L V D Q P F F P R L L D Y M M E G P V L L M V V K G E
UniRef90_H2T4L2         V W R R Q D S E R F Y A E H S G R F F Y Q R L V E F M S S G P M R A Y V L A R E
UniRef90_Q1IJS7         H L T K N Q A E G F Y A V H A N K P F F H S L T D F M A S G P I V V M C L E K E
UniRef90_T1ZTJ0         T N V S E L I D Q H Y E A L L A K D F Y P S I R D Y M T S G S V I I G V L S G S
UniRef90_G8LQP4         E I S K K L A K K F Y Y E H K K N L F F E S L V K F M S S G P I V L I I L E K E
UniRef90_UPI00047B5133  P L Q T S V V E E H Y A H L D D K P F F G E L V S F M T Q S P V V A A I L E G P
UniRef90_X0TF82         S V P R K L A E K H Y A I H K G K S F F E E T V N Y I M S A P V V A M V L E G N
UniRef90_UPI0004659CAB  W V D R E L A E K H Y A A R H G E I V W R A L I D F L M S S P V F A C V I E G V
UniRef90_E4MZQ1         W M D A E F T R R H Y A D L E E R E V Y N L T A T F M Q Q G P V I A L V L E G Y
UniRef90_W7YI04         K L D K H E A E A F Y Q E H K G K P F F D D L T D F M S S G P I T A A I L E K E
UniRef90_M1MUA2         R A T R E I A E K H Y S Q H K G K D F Y E E L I T F I T R S P L C A V I L K G E
UniRef90_UPI0003B3E663  L L S S E V V K E H Y E H L K D Q P F F P K L C A F M T E S P V I L M I L E G E
UniRef90_W5M2I6         Q A N     T S I H S Y W G L S S S R G V H S R L N Y R G S V P A I L D T L K K N
UniRef90_V6AQX5         T F T R P Q A E E F Y S V H N T K P F F G E L V E F I T S G P V V A A V I E G N
UniRef90_U2NPC7         K V D K S L A E K H Y E E H K E K V F Y D N L I K Y I T R S P L C A V I L E G E
UniRef90_A0A018YAV3     H L T V E Q A R G F Y A E H D G K P F F D G L V E F M T S G P I V V S V L E S E
UniRef90_UPI0003667440  T A T P E L L K K H Y V D K V D K P Y F S E I E S Y M L E G P I V A I I V S G S
UniRef90_UPI0003870788  Q A D Q G L L D K H Y Q Q L R Q K P F Y P A L L A Y M T S G P L V A M
UniRef90_A4CQ16         Q L S R R D A E E F Y A I H K E R P F F G E L V D F M T R G P I V S A I L E K D
UniRef90_Q5FGN1         L L T R Y Q A E K F Y E I H K S Q V F F V P L I N F M I S G P V V V Q V L E G E
UniRef90_R7HNE6         T L S D E I L R E H Y A H L A D K P F F P L L V K S M Q A S P V V V M C L K G L
UniRef90_U5SAD3         K A S I E V A E K H Y A E H K E K P F F S R L V S Y L T R S P L V V L I L E G E
UniRef90_A5C4V4         R L D E D T A G K F Y A E H S S R S F F P A L V K Y M T S G P V L V M V L E K I
UniRef90_A0A026VWZ3     T I S S E E A E L F Y K E H R D K F F Y N R L L T F M C S G P S D V H I L T A N
UniRef90_J9ATJ7                     L Q I H Y Q E L Q G K P F F N D L V S Y M S S G P V I A M V W E G L
UniRef90_UPI00035C754B  L M D A E F T R R H Y F D L E E R F V Y D T T A A F M Q K G P V F A L V L E G V
UniRef90_UPI00028A3678  Q L T L D D A K K F Y D V H A N K P F Y E D L C G F M T S G P I V A A I L E K E
UniRef90_R1G8Z1         K L T R E Q A E Q F Y Y A D E K W L I R G W L I D F I T S S P V V A I V L E G V
UniRef90_Q86M18         Q A S T A H L E E H Y K D L K E K P F Y S G L C T Y M A S G P V V A M V W E G S
UniRef90_M7NKJ9         S L S E E R A G Q F Y E V H K E R P F Y N D L K R Y M S S G R I M A A V L E K E
UniRef90_UPI00036DE9E0  Y L D E S K L R E H Y A H L V E K P F Y P G L E T F M K S S P V A V I C A A G K
UniRef90_M3YVL0         S M D R V N V E E F Y E V Y K V V S E Y N E M V T E V C S G P C V A M E I Q Q S
UniRef90_UPI00041D6FF0  K V T K E L A V K H Y E D H I G K N F F D K L I K Y I T R G K V C A M I L G G E
UniRef90_UPI0002B4A715  E L D E D R A S R F Y A E H S S R S F F P N L V K Y M T S G P V C I M V L E K Q
UniRef90_A7RFA5         R L N R K E A S D F Y Q E H A S Q P F Y D R L V E F I S S G P V V A F E L K G P
UniRef90_J3LDY8         R L D A E R A S L F Y A E H S G R S F F D S L V K Y M T S G P V L V M V L E R P
UniRef90_UPI0001CBB20B  Q L S R T D A Q R F Y A V H Q Q K P F F N E L V D F I T S G K V V A M E L I G N
UniRef90_UPI0002B7B92   Q L D E V N A A D F Y A E H S S K S F F T S L I K Y M T S G P V L V M I L E K E
UniRef90_D4YEL0         E L D K Q M V A H H Y A H L L N E D F Y P E L E S Y M L S G P V F A M V V T G D
UniRef90_L1JUJ4         Q L T R R D A M E F Y A E H E G K P F Y P A L T E F M S S G P I V A M E L V A D
UniRef90_R7UC11         H L T T S E A A Q F Y G E H E G K F F F N R L V T Y M T S G P I R T H I L A R D
UniRef90_B3T458         N F T V E M A E Q F Y S V H G S K P F F G E L V S F I T S G A V V A A I I E G D
UniRef90_C1BEX6         N M D R A N A E E F L E V Y K V V T E Y P N M V A E L C S G P C M A L E I R G T
UniRef90_UPI000369F68D  L M D A A F T R Q H Y A D L E Q R H V Y A A N A E A M R R G P V L A L V V E G V
UniRef90_UPI0003044BF9  Q K A T D Q L R A H Y S D K V D K P Y F S E I T D Y M Q S G P I V A I V A T G T
UniRef90_C3Z4Q2         H L T P E Q A S D F Y A E H S G K M F F P S L V G Y M S S G P I V A M V L A R D
UniRef90_UPI00033380D4  N M D R I N V E E F Y E V Y K V V S E Y N E M V T E M Y S G P C V A M E I Q Q H
UniRef90_UPI000255A29D  R L T P E K A S E F Y A V H Q G K S F Y D K L V K F M S R G P I I A A V L E K N
UniRef90_K9EFE7         R L D P F R L R K L Y A H I A D K P F Y S D V E S Y M T S G P V V T G A L S G F
UniRef90_UPI00045DB0D0  Q A S E N I L T E Y F D L Q R K P S Y P X L I S Y M S F G P V V A L V W E S H
UniRef90_UPI000273A2E5      R D L L R E H Y A A L R D R P F Y S R L V Q Y M S S G P V V A M V W Q G L
UniRef90_K2GAN3         V P K E E Q C W T H Y N K D D A W F Q S K G L V K Y M T A G P V L A M V I E G N
UniRef90_E1C720         R C G R E Q S R R F Y R E H A G Q F F Y Q R L V E F M A S G P M W A Y I L A H E
UniRef90_C4B8X2         H L S P E Q A S D F Y V E H Y G K M F F P S L V A Y M S S A P I T V F V L A K N
UniRef90_UPI0002034D10  V L S R K E A V D F Y V D H Q S K P F Y N E L L Q F I T S G P I V A M E I L R D
UniRef90_G1PF25         M L S R K E A A D F H I D H H S K P F F N E L I Q F I T S G P V I A M E I L K D
UniRef90_E1C3P8         N M E R A N V E E F Y E I Y K V V A E Y M E M V T E L C S G P C I A M E I I Q P
UniRef90_H2EEI7         Q D V P R I L I E H Y D Q D R E K D Y F S A N C D F M I S G P I M V I I Y E G P
UniRef90_W5MPS5         K V S W K S K F D F Y A E H Q S K S F F N N L M Q F M T S G P V V A M E I M G D
UniRef90_D2V0V3         H L S Q E K V Q L F Y R E H E G K S F F P T L I E Y I T S G P L I V L V L A K H
UniRef90_D8TIX5         T L D R N A A A E F Y E V Y K G V L N F N A M V D H L T S G P V L A L E V A D R
UniRef90_F6RR34         M L T E Q Q V Q E F Y I E H I D K D Y Y P A L L K Q M T S G P V L A L A L V K D
UniRef90_U3JJI5         A L T R E M A E Q F Y K D H K G K P F F E Q L V N C M T Q G P S V I M V L S K E
UniRef90_K2FLD6         V P T E E H I E K H Y T L D P T W R T V T G L K K Y M T S G P V V A M V W Q G A
UniRef90_UPI0003C45527  Q A S E D L L K E H Y I A L H D R P F Y S H L M K Y M R S G P I V A M V W Q G L
UniRef90_UPI0002490896  L A T K D Q L A R H Y K Q L V D K P F Y P E I E S Y M Q E G P I V A M I A S G T
UniRef90_E3TC92         Q L S P E Q C S D F Y A E H Y G Q P F F P S L T A F M S S G P V M A L A L A R H
UniRef90_UPI0003EAA22C  K L T K E M A A E F Y K D H Q G K V F Y D Q L V D Y M S Q G P S V M M I L S K E
UniRef90_G4VQR7         H L T P E Q A S E F Y A E H Y G K I F Y A T L I A Y I S S G P I E V L V I A R E
UniRef90_UPI0003AB8003  Q A P E S V L A E H Y Q D L R R K P F Y P A L I R Y M S S G P M V A M V W E G Y
UniRef90_UPI0002B44A09  Q L T P E Q S S D F Y A E H S G K I F F P S L V A F M S S G E S I A Y L L A R N
UniRef90_F4P4A3         W M T E A N V R E F Y A S H V E K S F F P S L V S Y L S S A P T L A L I L K K E
UniRef90_A8JGW5         N L D R N A A A E F L E V Y K G V L P F N S M V E Q L T S G A C I A L E V A D R
UniRef90_H0VBL3         T L T E A E V R H F Y Q H R A G Q E G F G K L V H H M C S G P S H L L I L D T E
UniRef90_I3K7K3         Q A S E D L L M K H Y V D L K D R P F F P T L I N Y M S S G P V V A M V W E G K
UniRef90_UPI00035E9C85  Q M D A E F T R R H Y F D L E E P Q V Y G M T S T F M Q Q T P V I A L V L E G A
UniRef90_B4JL42         R I T K E I S E C F Y A E H K G K F F Y Q R L T S F M Q S G P C Y A L I L Q S E
UniRef90_UPI0003770E6B  A L T D E L L N E H Y A H I A D R P F F P E I V E F M S S R P V L A L V M E G E
UniRef90_UPI0001DE9B98  Q A X E N I L A E H H H D R Q R K P F Y P X L I S Y V S S G P V V A V V W K D P
UniRef90_L8Y1F3         L W R K E D C R R F Y Q E H E G R F F Y Q R L V E F M A S G P I R A Y I L A H Q
UniRef90_F7FRU9         Q L S P E Q C S N F Y A K L Y G K M F F P N L T A Y M S S G P L V A M I L A R D
UniRef90_F6XY72                                                                     M V W E G L
UniRef90_M0YS79         N V E R S F A Q Q H Y A D L S A Q P F F A K L V E Y I I S G P V V A M V W E G K
UniRef90_E1BXX8         T L S E E Q A R E F Y K E H E N E D Y F P A L L E Q M T S G P T L V L A L T R Q
```

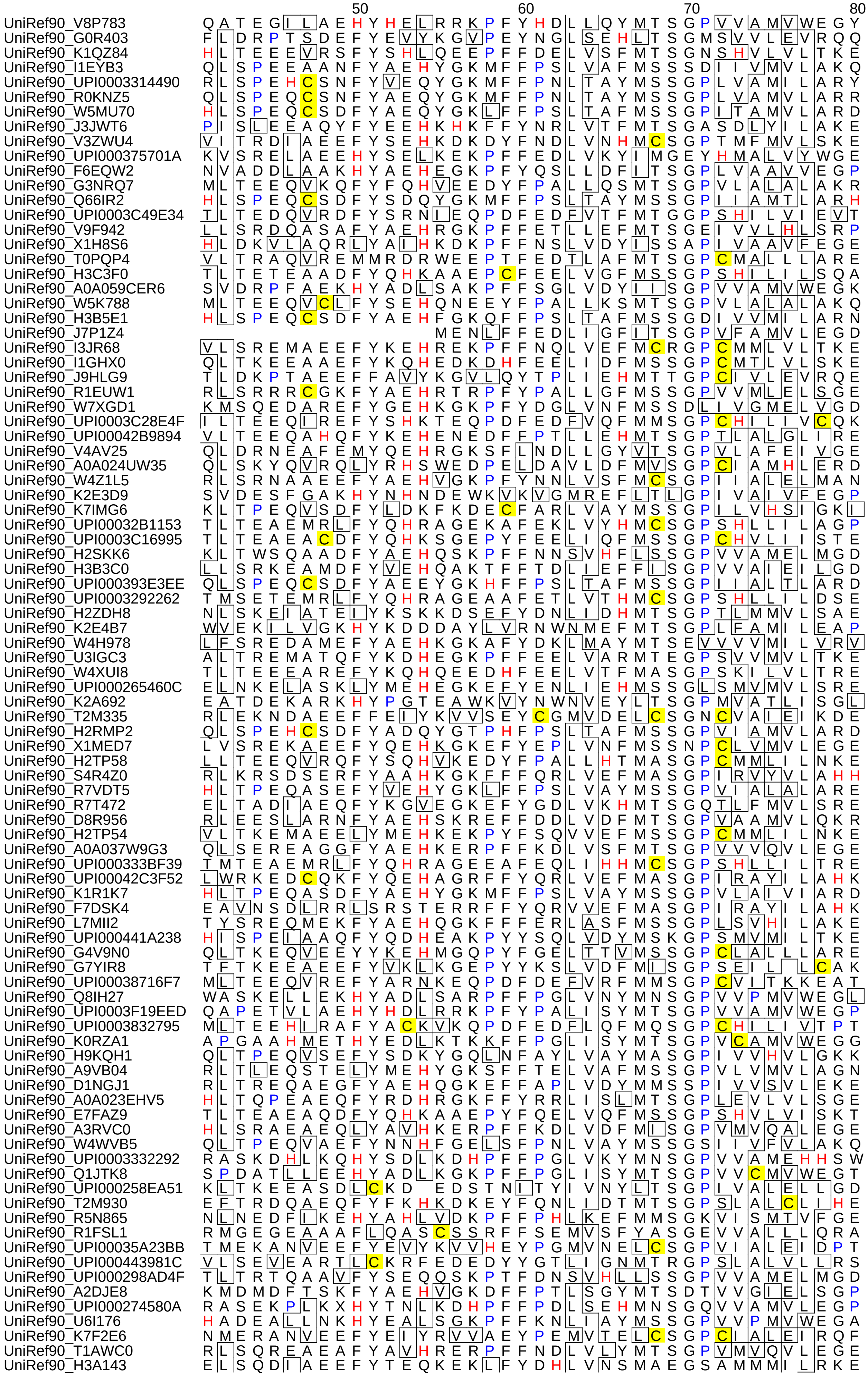


```
                                          90                  100                 110                 120
UniRef90_K0YXQ3         R C I E G M R V M A G S T D P T T A P A G T L R G D F G R D W G E N V V H C S D
UniRef90_H2BR86         N A V E D F R T L I G A T N P E D A A E G T I R K K Y A A S I A E N A I H G S D
UniRef90_Q1WQV8         N I T K A M H R M A G N T N P G E A E F G T I R G D Y G R E W I Q N V V H T S D
UniRef90_K0P239         N A V A D L R R L M G A T N P V E A A E G T I R K I F A T S I D Y N A I H G S D
UniRef90_UPI00047DEF4A  N A V L D F R T L I G S T D P S K A A E G T I R R M F A K D M T R N A I H G S D
UniRef90_C6X5W9         N A V E S F R T L I G A T N P A E A A E G T I R K M F A R S I G E N A V H G S D
UniRef90_Q11NY2         N A V E D F R K L I G A T N P A N A D A G T I R K L F A K S L E R N A V H G S D
UniRef90_I9L4X7         G V V K A V H R L A G S T R P A E A Q P G T I R G D Y A H E I L R N I I H T S D
UniRef90_G4L3Q8         Q A I S Q T R K I V G A T D P L E A E M G T L R G D F G V N K T R N L I H A S D
UniRef90_H2T4L2         D A I R H W R D L M G P T K V F R A R P A S I R A Q F G L T D T R N T T H G S D
UniRef90_Q1IJS7         N A I A D Y R K L M G A T N P A N A E E G T I R K K W A A S I E K N A V H G S D
UniRef90_T1ZTJ0         Q V I S G W R H M M G A T R P E E A L P G T I R G D F A Q E T I R N V V H G S D
UniRef90_G8LQP4         N A V K N F R N L I G N K N P I K A K V G T I R K L Y A S S L E K N A I H G S D
UniRef90_UPI00047B5133  S A V E V A R Q I I G A T N P L E A A T G S I R G D L A I E A G E N V V H G S D
UniRef90_X0TF82         D I I K M V R T M I G K T D P M E A E M G T I R G D Y C Q F I G R N I V H G S D
UniRef90_UPI0004659CAB  E S V E V V R K F C G S T E P K I S A P G T I R G D F A C H S V Y N I I H S S A
UniRef90_E4MZQ1         D A I A T V R K I V G S T Y P D Q A P A G T I R G D F S H M S R A N L I H A S G
UniRef90_W7YI04         N A V A D F R F L I G A T D P N N A K E G T I R K M F A T S K T Q N A I H G S D
UniRef90_M1MUA2         D A V A R I R K I N G A T S P T D A E E G S I R H R Y A R S K T E N C V H A S D
UniRef90_UPI0003B3E663  D A V S R V R K I V G A T N P L K A D S G S I R G Q F A T D T T R N L V H A S D
UniRef90_W5M2I6         K   I S D L S Y A L L S S N P I A P L L L W V V G G C C F Y L H R N V V H G S D
UniRef90_V6AQX5         N A V A T T R I M I G A T K S F E A A P G S I R G D F G L G F S D N V I H A S D
UniRef90_U2NPC7         N A V E E V R R I N G A T D P E K A E E G T I R K R F A V N K T E N S V H S S D
UniRef90_A0A018YAV3     N A V Q R H R D L L G A T N P A N A L A G T L R A D Y A D S L T E N G T H G S D
UniRef90_UPI0003667440  R V I K G L H T L A G E T S P N Q A A P G T I R G D F G R M I L R N V I H S S D
UniRef90_UPI0003870788            V R G W D G G S G G W G G S G G X X X X X X S W F L C R N V V H A S D
UniRef90_A4CQ16         N A V E D F R A L I G A T N P A E A A E G T I R K L F A S D I A E N A I H G S D
UniRef90_Q5FGN1         N A I S L Y R E V M G A T D P K K A N S G T I R G D F A E N I D A N C V H G S D
UniRef90_R7HNE6         E A V D V V R K M T G A T R G R H A E L G T I R G D L C M S G Q Q N I V H A S D
UniRef90_U5SAD3         N A I S R V R S L N G T T D P G K S P D N T I R A L Y G L S L S E N T V H A S D
UniRef90_A5C4V4         N A V A D W R A L I G P T D A Q K A K V T H I R A M C G Q D L E K N C V H G S D
UniRef90_A0A026VWZ3     D A I A K W R Q L M G P T K T Y Q A Q P H T I R G T F G L S D T R N A T H G S D
UniRef90_J9ATJ7         D V V K Q A R Q M L G A T N P L N S M P G T I R G D F S I Q T G R N I V H G S D
UniRef90_UPI00035C754B  E A A K N V R R M V G N T F P N E A P A G T I R G D F A H T V V A N L I H A S G
UniRef90_UPI00028A3678  N A V E D F R T L I G S T D P E E A A E G T L R K K Y A E S K S R N A V H G S D
UniRef90_R1G8Z1         N C V E E V R K L V G P T E P L K A P P G T I R G D Y A H I V L R N V V H A S E
UniRef90_Q86M18         G V V A M G R M L L G E T K P Q D S L P G T L R G D F C I T V G R N I V H G S D
UniRef90_M7NKJ9         N A V A D F R K L I G A T N P A Q A E E G T I R K K F A K S I E A N A V H G S D
UniRef90_UPI00036DE9E0  G A V A A V R V I A G V T H A G Q A D G G T I R G D L A M G M C   N V V H C S D
UniRef90_M3YVL0         N P A K T F R E F C G P A D P
UniRef90_UPI00041D6FF0  N A I K I I R D I N G Y T N P K K A K E G T I R A L Y G T N I T E N C V H S S D
UniRef90_UPI0002B4A715  N A I A E W R A L I G P T D S V K A H P N S I R A M C G L D S E K N C V H G S D
UniRef90_A7RFA5         G A V D S W R K V L G P T D S A T A R P L S V R A K F G T D N T K N A A H G S D
UniRef90_J3LDY8         D A I L H W R V L I G P T D A R K A H P N S I R A M C G V D S Q K N C V H G S D
UniRef90_UPI0001CBB20B  D A V K H W R T L A G P T D S A V A R P N S V R A R F G T D K Q T N A V H G G D
UniRef90_UPI00042B7B92  D A V A H W R H L I G P T D A G K A H P Q S I R A M C G V D L E K N C V H G S D
UniRef90_D4YEL0         N V I D G M R K I I G A T D P R D A A P H T I R A D F A R N V T E N A I H G S D
UniRef90_L1JUJ4         G A I Q K W R K L I G P T N T F T A Q P S S L R A L F G T D G T R N A C H G S D
UniRef90_R7UC11         N A I K Q W R M L L G A T K V N Y A E P D S I R G E F G L S D T R N C V H G S D
UniRef90_B3T458         N V I N V T R E I I G K T N P K E A I P G T I R G D F G T G I L E N S I H A S D
UniRef90_C1BEX6         D A P K T F R E F C G P A D P E I A R P D S L R A L Y G K T K V Q N A V H C T D
UniRef90_UPI000369F68D  E A V G N V R R L V G P T Y P D Q A P P G T V R G D F A H H S R A H L I H A S A
UniRef90_UPI0003044BF9  H I V D A F H Q M A G K T N P D E A E L G T I R G D Y G R A W I R N V V H S S D
UniRef90_C3Z4Q2         K C I G Y W R D L I G P T N T Y K A H P D S L R A I Y G T D D Q R N A V H G S D
UniRef90_UPI00033380D4  N S P K T F R E F C G P A D P E I A R H G T L R A V F G K T K I Q N A V H C T D
UniRef90_UPI000255A29D  N A V E D F R A L I G S T N P D E A A E G T I R N L Y A T D V T E N A V H G S D
UniRef90_K9EFE7         R V G K G V R Q I V G A T D P L R A A P G S I R G D Y G R A W M R N L I H A S D
UniRef90_UPI00045DB0D0  N A V C T S R A V I G G T N A V E A T P G N V W G D Q R P H I I R D V I H S S D
UniRef90_UPI000273A2E5  D V V R S S R A L I G A T N P A E S S P G T I R G D F C V E V G K N V I H G S D
UniRef90_K2GAN3         Q A V G I V T K L V G G T E P L T S D I G T I R G D L T L D S V R N L I H C S D
UniRef90_E1C720         N A I S L W R S L M G P T K V F R A R P D S I R G A Y G L T D T R N T T H G S D
UniRef90_C4B8X2         K S I A S W R E L I G P T N P F K A H P G C L R D T Y G K D Q T R N A V H G S D
UniRef90_UPI0002034D10  D A V C K W K T L L G P A N S A V A R P D S I R A N F G H D G I R N A A H G P D
UniRef90_G1PF25         D A I C E W K R L L G P A N S V V A R P G S I R A L F G A D G I R N A A H G P D
UniRef90_E1C3P8         E P P K V F R D F C G P S D P E I A R P G T L R A V F G K N K I Q N A V H C T D
UniRef90_H2EEI7         N V I N F V R R L Q G N R D         T P G T I R G D Y V T D I R R N L I H A S D
UniRef90_W5MPS5         E A V A A W R R L L G P T D S S V A R P N S V R A K F G T D G T K N A G H G S D
UniRef90_D2V0V3         N A V Q A W R D L I G P T D V E M A F P R S L R A L Y G T S K T Y N A C H G S S
UniRef90_D8TIX5         D S V E P F R Q L S G P M D P E L A R P D S L R A R F G L N T I K N G V H C S D
UniRef90_F6RR34         H A V D H W R N M L G P A S L R Q A A P D S L R A Q F A N D S D I N Q L H G S S
UniRef90_U3JJI5         N A V E E W R Q L M G P T D P E E A C P E S I R A Q F A H D I L S N A V H G S S
UniRef90_K2FLD6         H S V K I C R K V T G G T E P L T S D V G S I R G D Y Q M S D V R N L I H A S G
UniRef90_UPI0003C45527  D V V K T A R A M I G E T N P A D S R P G T I R G D F C I D I
UniRef90_UPI0002490896  N I V K V F H R M A G A T N P S D A D F G T I R G D F G R E W P R N V V H S S D
UniRef90_E3TC92         R A I A T W K G L M G P S D S T Q A Y P E C L R A R F G T S D L R N A V H G S E
UniRef90_UPI0003EAA22C  N A I E E W R N T I G P V D P D V A R P N S L R A Q F A R S V L E N A L H G S S
UniRef90_G4VQR7         N A I S I L R E L I G P Q N A F K A K P E S L R A I Y G T D D Q Q N G I H A S D
UniRef90_UPI0003AB8003  N V V R A S R A M I G H T D S A E A A P G T I R G D F S V H I S S H R L A P L D
UniRef90_UPI0002B44A09  K A I E H W R K I I G P T N S A K A R P T S I R A L Y G T D N Y K N A V H G S D
UniRef90_F4P4A3         N A V S A W R E L M G P A S A I R A K P R S I R A K F G T D S R L N A V F G S D
UniRef90_A8JGW5         D A V E P F R Q L A G P L D P R V L R P A S L R A R F G L D A V R N G V H C T D
UniRef90_H0VBL3         E V I T A W R D L M G P S D P N V A Q P E S L R A Q Y G T E M P F N A V H G S Q
UniRef90_I3K7K3         G A V K T G R V M L G E T N P A D S K P G T I R G D F C I D V S K
UniRef90_UPI00035E9C85  D A V A T V R K I V G S T Y P N E A A A G T V R G D F S H Y S R A N L V H A S G
UniRef90_B4JL42         S C I Q K W R Q L M G P T K V F R A E P D S I R A L Y G L S D T R N A C H G S D
UniRef90_UPI0003770E6B  N A V T A I R D L L G P T D S T Q A P A G T I R G D M G T S S M K N I C H A S D
UniRef90_UPI0001DE9B98  N M V C T S R A M V G H T N P X P G T T G G A G G D F S I R I G R K V T H A S D
UniRef90_L8Y1F3         D A I Q L W R T L M G P T R V F R A R P E S I R G S L G L T D T R N T T H G S D
UniRef90_F7FRU9         K A I S Y W K E L M G P R D S F R A H P G S L R A I Y G T D D L R N A V H G S D
UniRef90_F6XY72         N V V K T G R V M L G E T N P A D S K P G T I R G D F C I Q V G R N I I H G S D
UniRef90_M0YS79         D V V L T G R R I I G A T R P W E A A P G T I R G D H A V E V G R N V I H G S D
UniRef90_E1BXX8         N A I Q H W R D L L G P K T I E E A K P N S L R A K Y A I D N I A N Q L H G S S
```

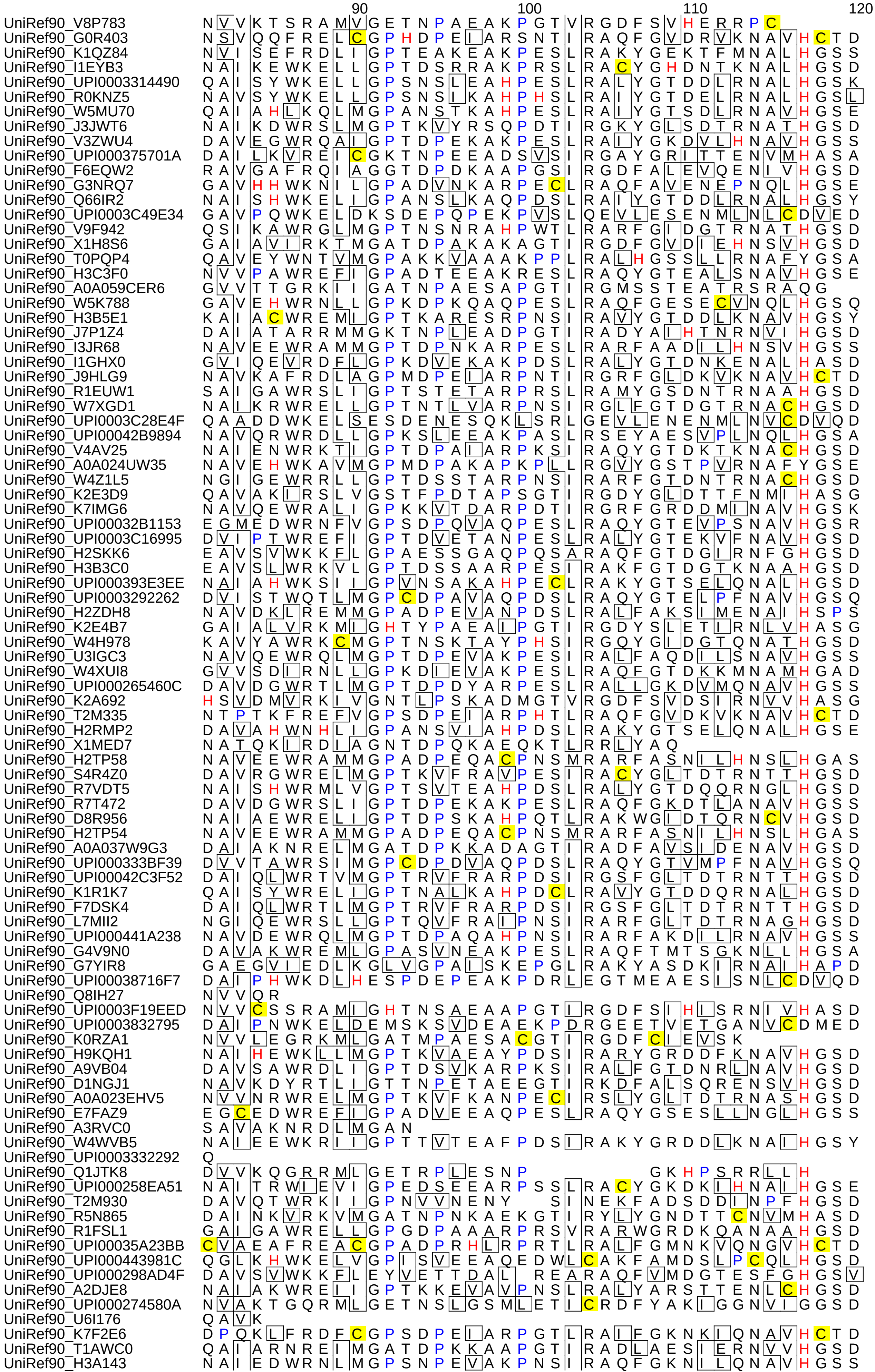
```
                                          130                 140                 150
UniRef90_K0YXQ3         S P T S A E R E I K I W F
UniRef90_H2BR86         S D E N A A I E S A F H F A G R E M F
UniRef90_Q1WQV8         S V E S A Q R E I K I W F P E F N F
UniRef90_K0P239         S D E T A A L E T S F F F P G C D L L
UniRef90_UPI00047DEF4A  S D E S A S R E C R F F F S S M E E F S Y
UniRef90_C6X5W9         S D E N A L I E A Q F H F S G R E I F
UniRef90_Q11NY2         S D E N A Q I E G S F F F S A L E
UniRef90_I9L4X7         S R E N A H H E I A I W F P E
UniRef90_G4L3Q8         S V D T A Q E E I A R F F G
UniRef90_H2T4L2         S V E S A E R E I R F F F P E F C V E D W M K K E E P
UniRef90_Q1IJS7         A D D T A R F E L S Y F F A G Y E L
UniRef90_T1ZTJ0         S E E S A K R E I A L W F G
UniRef90_G8LQP4         S D K N A F R E C R F Y F S D I E I F
UniRef90_UPI00047B5133  S D E N A E I E I K R F F P E
UniRef90_X0TF82
UniRef90_UPI0004659CAB  N L V D A I R E I P I W F G K D E I L S Y K R D A D S E C Y
UniRef90_E4MZQ1         N R E E A A Q E V E L W F A K D E L F D Y K T L A E S Y I Y
UniRef90_W7YI04         S D E S A D R E C D F F F S K R E
UniRef90_M1MUA2         T V E S A K E E I A L W F P E V E
UniRef90_UPI0003B3E663  S L D T A A I E I K R F F S
UniRef90_W5M2I6         S V E S A Q R E I S L W F R Q Q E V L C W E D C T E R W I Y E
UniRef90_V6AQX5         S K E S F E K E A R V V F
UniRef90_U2NPC7         S K T N A E R E I A L W F
UniRef90_A0A018YAV3     S L E S A Q R E I A F F F G E G E V C
UniRef90_UPI0003667440  N P Q N A E T E I N L W F P E
UniRef90_UPI0003870788  S V E T A Q R E I G F W F Q R D E L V A W E N G D R D Y T Y
UniRef90_A4CQ16         S D A N A E I E G A F H F S G R E I Y S
UniRef90_Q5FGN1         S L E N A I R E I R F F F S E Y E L L S L Y E C
UniRef90_R7HNE6         S V E N A E I E I R R F F K P E E I T D Y E T P M L K Y L Y
UniRef90_U5SAD3         S Q E S A D R E R A I W F G
UniRef90_A5C4V4         S P Q S A E R E I S F F F E E F
UniRef90_A0A026VWZ3     S T E S A E R E I A I F F K E F N V K K W Y D N E E K F
UniRef90_J9ATJ7         S L P S A E R E I A H W F K P E E L C E W S S A T A T W V Y E
UniRef90_UPI00035C754B  N S E E A K Y E V E L W F D Q S E L F D Y Q T L S E R Y T F
UniRef90_UPI00028A3678  S N D N A R I E A G F H F S R R E
UniRef90_R1G8Z1         T E K D A E R E I S I I F K P E E I Y N Y E R N I E E V I Y
UniRef90_Q86M18         S V E S A K R E I A L
UniRef90_M7NKJ9         S D E N A Q L E G S F F F S G L E
UniRef90_UPI00036DE9E0  S I E T A Q G E V A R F F D E K E I F E Y D K T E Y L H V Y
UniRef90_M3YVL0
UniRef90_UPI00041D6FF0  S K I N A E K E I N I W F
UniRef90_UPI0002B4A715  S L L S A Q R E I S F F F E E E
UniRef90_A7RFA5         S T E S A E R E V S F F F
UniRef90_J3LDY8         S P L S A A R E I S F F F G D
UniRef90_UPI0001CBB20B  S P E N A A K E L N I F F G P Q
UniRef90_UPI00042B7B92  S H Q S A Q R E I A F F F K E
UniRef90_D4YEL0         T E E N A A I E I T R F F N S Y E
UniRef90_L1JUJ4         S T A S A D R E L G F F F G S
UniRef90_R7UC11         S P A T A R R E I N F F F P D F N I E M W
UniRef90_B3T458         S R E S F D K E V N V V F
UniRef90_C1BEX6         L P E D G I L E V Q Y F F K
UniRef90_UPI000369F68D  T P E E A A A E V A L W F S E A E L F D Y T T A A E L Y T F
UniRef90_UPI0003044BF9  S P A A A E R E I K I W F P E
UniRef90_C3Z4Q2         S Y S S S E R E V R F M F P D S V I
UniRef90_UPI00033380D4  L P E D G L L E V Q Y F F K
UniRef90_UPI000255A29D  S D E N A A I E S Q F Y F S N E E I V S Y D
UniRef90_K9EFE7         S P E N A E R E I S L W F G
UniRef90_UPI00045DB0D0  P V E G A C R E I G L W V R R S E L V T W
UniRef90_UPI000273A2E5  S V E S A R R E I A L W F H A D E L L C W E D S A D R W L Y E
UniRef90_K2GAN3         K P E E A E R E I K I W F A E E E I I K Y R S I Q E A M L Y D
UniRef90_E1C720         S P A S A S R E I A F F F P E F N E Q L W Y Q Q E E P
UniRef90_C4B8X2         S F H S A E R E I R F M F H D S
UniRef90_UPI0002034D10  S V A S A A R E L E L F F P S S
UniRef90_G1PF25         S F A C A A R E M E L F F P S S G V C
UniRef90_E1C3P8         L P E D G L L E V Q Y F F K
UniRef90_H2EEI7         S V E N A Q R E I N I W F P
UniRef90_W5MPS5         S L A S A A R E L E L F F P S
UniRef90_D2V0V3         D P E A A R R E V K F F Y P
UniRef90_D8TIX5         L E E D G V L E V N Y F F
UniRef90_F6RR34         T P E E A K K E L N F F F P
UniRef90_U3JJI5         N T E H A L R S I Q L V F G E
UniRef90_K2FLD6         S V E E A N M E I E H W F K K E E L I D Y R L I S E Q I L Y D
UniRef90_UPI0003C45527
UniRef90_UPI0002490896  S V P A A E E E I G I W F P E K
UniRef90_E3TC92         T F S A A V R E L K F M F P N I E P V P K R Q A A T D Y L
UniRef90_UPI0003EAA22C  S V D H A K K N I R F I F G D I D L
UniRef90_G4VQR7         S F T S A E K E I R F F F P D M D V I S V R L A A K D Y L
UniRef90_UPI0003AB8003
UniRef90_UPI0002B44A09  S L K S A F R E I Q F F F S
UniRef90_F4P4A3         S V E T A K H E I D L L F G P N
UniRef90_A8JGW5         L P E D G V L E V N Y F F
UniRef90_H0VBL3         D R E D A D R E L A L L F P S F K F S D
UniRef90_I3K7K3
UniRef90_UPI00035E9C85  N K E E A D M E V G L W F D K G E L H D Y R T L A E V F T Y
UniRef90_B4JL42         S E A S A M R E I G I L F P E F D V
UniRef90_UPI0003770E6B  S I E N A A I E V E R F F E A K E V
UniRef90_UPI0001DE9B98  S V E G A Q R E X R L W F Q S S E L M N
UniRef90_L8Y1F3         S V V S A S R E I A A F F P D F
UniRef90_F7FRU9         T F A A A E K E I R F M F P A A E P I S T G A A A R D Y L
UniRef90_F6XY72         S V K S A E K E I S L W F K P E E L V D Y K S C A H D W V Y E
UniRef90_M0YS79         S V E N G K K E I A L W F P G G   L A E W K S N L H P W I Y E
UniRef90_E1BXX8         S V N D A Q K E L E F F F P Q E H T L
```



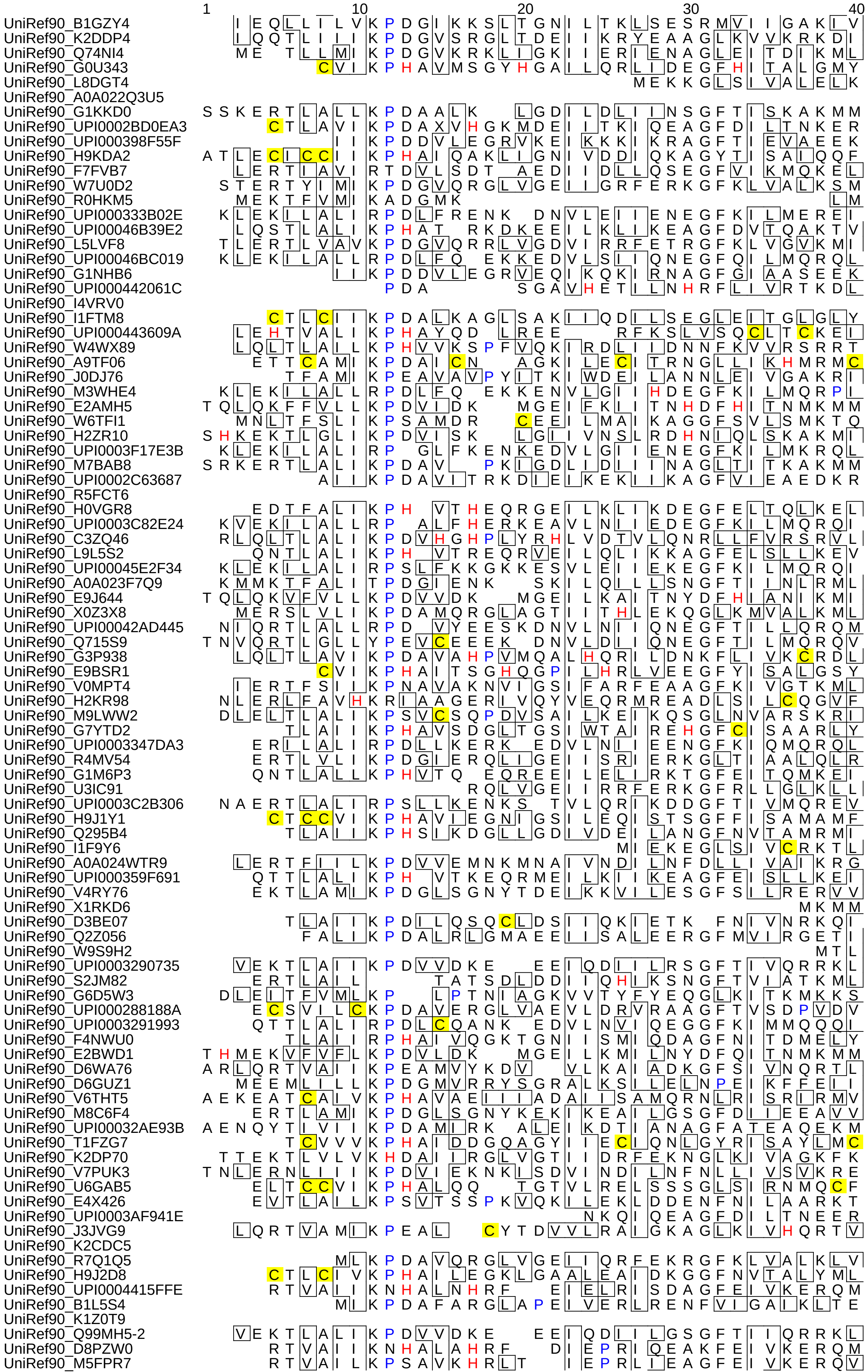
```
                        1       10        20        30        40
UniRef90_V8P783            ERTLIAVKPDGVQRRLVGDVIQRFEKRGFKLVGLKLL
UniRef90_G0R403               CCIIKPHIIKSLQLGQIINTILLQGFQITGIQSF
UniRef90_K1QZ84              TVCLIKPDAVAAGKVPEIIADIEAHGIEILKNEER
UniRef90_I1EYB3          TVEKTLALIKPDAM  NWADEIIEEIKRNGFKILQKRRI
UniRef90_UPI0003314490    VERTLAIIKPDVVDKE  EEIKDIILRSGFTIVQRRKL
UniRef90_R0KNZ5           VERTLALIKPDVVDKE  EEIEDVILRSGFLIVQKRKL
UniRef90_W5MU70           VERTLALIKPDAADR  ADEIENIMLKSGFAILQKRKV
UniRef90_J3JWT6         ALLQLTLAIIKPHIIKNPTSLKIQNVILKSSFKVVRSKRK
UniRef90_V3ZWU4           MQQTVACIKPDSI  GTKDAIIENIHEAGFRIAAQKET
UniRef90_UPI000375701A     EQTLVLIKPDGLKKSLTGNILTRLSETKLNIIGAKIV
UniRef90_F6EQW2                       MARGLVGEVVGRIERRGLKLVALELK
UniRef90_G3NRQ7          RVERTLALIRPD VARDNREEILAQIHRSGFTVALKREV
UniRef90_Q66IR2           VERTLAIIKPDVLHK  AEEIEDIILRSGFHIVQKRKV
UniRef90_UPI0003C49E34       TVAIIKPDAVANGRLEDIKQKITEAGFHIAAEEEK
UniRef90_V9F942           IESTLGLIKPNAACKPIVAEILRMLNLFGFKVERQRRL
UniRef90_X1H8S6                               IITRLEKQGLKLVAIRML
UniRef90_T0PQP4                VVVGPDGLSGKVVDDVLKRIKDEGFVVEAKRLV
UniRef90_H3C3F0              TVAILKPDAVAHGKVNEIMMKIQNAGFQILAQEER
UniRef90_A0A059CER6       MEQTFIMIKPDGVQRGLVGEIISRFEKKGFSLKGLKLV
UniRef90_W5K788           VERTLALIRPDA ARENREMILAKIHKAGFKVAMQKEV
UniRef90_H3B5E1           VEKTLAVIKPDAIHK  ASEIEAMILEAGFTIIKKKRL
UniRef90_J7P1Z4
UniRef90_I3JR68            QQTLAVIKPDAME EHREAILEEIRGRGFSVTRLKET
UniRef90_I1GHX0              TVLVIKPDAVRAGQTDDIIEKLKEKGYEILTQEER
UniRef90_J9HLG9             CTTCIIKPHAVANGDAGKIIDIILEEGFEISAMEMF
UniRef90_R1EUW1            ESTFAMLKPDVASDTHVDEIKQRIAEAGLSIERERVC
UniRef90_W7XGD1            EKTFAMIKPDAYI  HIGKIISIIERSGLQISNLKMT
UniRef90_UPI0003C28E4F       TVAIIKPDAVTDERVEEVKQKIIEAGFGIAAAEEK
UniRef90_UPI00042B9894   NLEKTLALIRPSLLKERK NSILKRIKDDGFTIAMQREI
UniRef90_V4AV25         TKKEKTLGLIKPDAI  NKMGQILDHIYRNGFMITKLKMC
UniRef90_A0A024UW35          TIALIKPDCTKNGTIDEIMQRIKAEGFTITQRRTL
UniRef90_W4Z1L5            EKTLGLIKPDAISK  FGPIFDMTYEAGFLVTNAKMT
UniRef90_K2E3D9           IQRSLVLMKPDAVKRGIVGEILHRFERAGLKIVGLKIV
UniRef90_K7IMG6             RTLAIVKPEALI  FREEIENAIIDAGFQICQTRWL
UniRef90_UPI00032B1153      CTLAIIKPDAVVHGKADEIVMKIQEAGFDILTSEER
UniRef90_UPI0003C16995                           KIQEAGFQILAHEEK
UniRef90_H2SKK6         SKKERTLALIKPDAVTK  IGEVLEKIYASNLIVTKAKMT
UniRef90_H3B3C0         SRKQRTLGLIKPDAVTK  LGAIFQMVYDAGLTITKAKMT
UniRef90_UPI000393E3EE    VERTLAIIKPDAIDK  AEEIESIILKSGFTILQKRKL
UniRef90_UPI0003292262      CTLAIIKPDAVVHGKT EIMMKIQEAGFEILASEER
UniRef90_H2ZDH8          QVEQTLAVIKPDAMDEK  EKIMEKLKEAGFMISCQKDM
UniRef90_K2E4B7           MEKTVVLIKPDGVKRGISGEIISRFEKVGLKIVSAKLI
UniRef90_W4H978            EQTLAIIKP GTANLHALAIQSIILAHGFRIARQSRR
UniRef90_U3IGC3            EHTLALIKPDAAKK HKDDIMQKVKDAGFTISKIKEK
UniRef90_W4XUI8            EVTVVLIKPDAVASGHVDDIIAKIEEHGFEILATEDK
UniRef90_UPI000265460C     QSTLAVIKPDA AGEHKEAIIEKIKEAGFNISLQRDV
UniRef90_K2A692            EKTVLLVKPDGVKRGLIGDIISRIEKRGLKIISMRML
UniRef90_T2M335             CTLCIVKPHAVANNLLGNILSAIQQEGFELSTLQMY
UniRef90_H2RMP2           VQQTLALVKPDVVH  VADQIEDQILNSGFTILQKRKL
UniRef90_X1MED7           MERTLVIIKPDALSKKIVGKVITTFEQKNFKIVAFKMV
UniRef90_H2TP58            ERTLALIRPDVARERNAEEILSQIKKAGFTVALQREV
UniRef90_S4R4Z0           LQLTLALLKPDALAHGIAWEVHQDVLKNKFLIVKSKEL
UniRef90_R7VDT5           VERTLAIIKPDAVKH  AEEIEDIILNSGFTILQKRRV
UniRef90_R7T472           MQQTVAVIKPEAYESK  DAIIDRIKEAGFHVAARKET
UniRef90_D8R956                 MVKPDCVETNQVESIKALVNASGFLIITERML
UniRef90_H2TP54            QQTLAVIKPDAL REHKETILEEIRGSGFSVVQSKEM
UniRef90_A0A037W9G3                                    MRVVAAKMV
UniRef90_UPI000333BF39      CTLAIIKPDAVMHGNSEEIVMKIQETGFDILTNEER
UniRef90_UPI00042C3F52    LQLTLALIKPDAVAHPLILEVHQQILNNKFLIVRMREL
UniRef90_K1R1K7           VERTLAIVKPDAIHK  SEEIEDIILRSGFAILQKRRV
UniRef90_F7DSK4           LQLTLALIKPDAVAHPLILEVRMNPKPLPHALGIATAS
UniRef90_L7MII2          KLQLTLAILKPDVCKIPMKLEAVRQILENDFIFVKSKMG
UniRef90_UPI000441A238    VENTMALIKPSAFE EHKDEIINEVQDAGFLISEMREA
UniRef90_G4V9N0           IERTVAVLRPQAYEL YKDEIVKQIKNAGFTIALEKAI
UniRef90_G7YIR8            EVTIAVLKPDIVQSGRTDELIAELEGKGISVIRRISY
UniRef90_UPI00038716F7          IIKPDDVLEGRVEEIKQKIRDAGFHIEAAEKK
UniRef90_Q8IH27         ANKERTFIMVKPDGVQRGLVGKIIERFEQKGFKLVALKFT
UniRef90_UPI0003F19EED                                      MKML
UniRef90_UPI0003832795        LGIIKPDDVSEGRVEEIKSQITNAGFSIEAEEER
UniRef90_K0RZA1                 MIKPDGVQRGLVGEIIKRFEQKGYKLIAMKLT
UniRef90_H9KQH1             CTLMIIKPEALV  YREEIESRVREEGFQIFQTRWL
UniRef90_A9VB04              TLAMVKPDAIDR  ADDIVDRVLASGLAVLNRRRV
UniRef90_D1NGJ1                                               MV
UniRef90_A0A023EHV5          TLAIFKPHLVKNPVAGAVERLIESSGIRIVTRKQV
UniRef90_E7FAZ9              TVAIIKPDVVAHGKADEIIMKIQD GFVILAHEER
UniRef90_A3RVC0           IERTLSIIKPDAVAKNVIGQIYARFEGAGLKVVAAKMI
UniRef90_W4WVB5           IECTLAIIKPEAVI  YRKEIENEIHEEGFEICQTRWL
UniRef90_UPI0003332292  ANLERTFIAIKPDGVQRGLVGEIIKRFKQTGFRLVALKFL
UniRef90_Q1JTK8            ERTYIMVKPDGVQRGLVSEVIRRFEQRGYKLVALKMK
UniRef90_UPI000258EA51  TKMQKTFAMLKPNVIDK  VGELLKRIISCNFHIANIKMI
UniRef90_T2M930         ASIKRTLAIIRPNAYKKHKI SILNHIKDSGFTIAMQKEI
UniRef90_R5N865           METTFVMIKPDGVKQKLFKNIMEMLLDNNLSITDVNIV
UniRef90_R1FSL1            ERTLALLKPDCVASGAAGEVEALIAEHGFEVVRRRRW
UniRef90_UPI00035A23BB      CTCCIIKPHAIKSGTAGKIINAIQDCGFTINTIQMF
UniRef90_UPI000443981C   KLEKILVLLRPDILQHRK EDVLKVIQNEGFKILMERQL
UniRef90_UPI000298AD4F     ERTLAVIKPDAIIK  IGDLFELIHAFDLIVTKAKMT
UniRef90_A2DJE8            QHTYAMIKPG  YEEYWGKVIDRIIQEGLEIVQMKSF
UniRef90_UPI000274580A         IIINPSAVQHSLVGEIIKYSEQKGFYLVTMKFL
UniRef90_U6I176            ERTFIMVKPDGVQRGLVGEIIKRFERRGFKLVAMKFM
UniRef90_K7F2E6             CTCCIIKPHAINEGLTGKIIKTIFDAGFEISALQLF
UniRef90_T1AWC0                                          VIAARML
UniRef90_H3A143           IQHTLAVIKPD VFLEHKEDILSKVKEAGFTILQTKTI
```



```
                                          50                  60                  70                  80
UniRef90_V8P783         Q A T E G I L A E H Y H E L R R K P F Y H D L L Q Y M T S G P V V A M V W E G Y
UniRef90_G0R403         F L D R P T S D E F Y E V Y K G V P E Y N G L S E H L T S G M S V V L E V R Q Q
UniRef90_K1QZ84         H L T E E E V R S F Y S H L Q E E P F F D E L V S F M T S G N S H V L V L T K E
UniRef90_I1EYB3         Q L S P E E A A N F Y A E H Y G K M F F P S L V A F M S S S D I I V M V L A K Q
UniRef90_UPI0003314490  R L S P E H C S N F Y V E Q Y G K M F F P N L T A Y M S S G P L V A M I L A R Y
UniRef90_R0KNZ5         Q L S P E Q C S N F Y A E Q Y G K M F F P N L T A Y M S S G P L V A M V L A R R
UniRef90_W5MU70         H L S P E Q C S D F Y A E Q Y G K L F F P S L T A F M S S G P I T A M V L A R D
UniRef90_J3JWT6         P I S L E E A Q Y F Y E E H K H K F F Y N R L V T F M T S G A S D L Y I L A K E
UniRef90_V3ZWU4         V I T R D I A E E F Y S E H K D K D Y F N D L V N H M C S G P T M F M V L S K E
UniRef90_UPI000375701A  K V S R E L A E E H Y S E L K E K P F F E D L V K Y I M G E Y H M A L V Y W G E
UniRef90_F6EQW2         N V A D D L A A K H Y A E H E G K P F Y Q S L L D F I T S G P L V A A V V E G P
UniRef90_G3NRQ7         M L T E E Q V K Q F Y F Q H V E E D Y F P A L L Q S M T S G P V L A L A L A K R
UniRef90_Q66IR2         H L S P E Q C S D F Y S D Q Y G K M F F P S L T A Y M S S G P I I A M T L A R H
UniRef90_UPI0003C49E34  T L T E D Q V R D F Y S R N I E Q P D F E D F V T F M T G G P S H I L V I E V T
UniRef90_V9F942         L L S R D Q A S A F Y A E H R G K P F F E T L L E F M T S G E I V V L H L S R P
UniRef90_X1H8S6         H L D K V L A Q R L Y A I H K D K P F F N S L V D Y I S S A P I V A A V F E G E
UniRef90_T0PQP4         V L T R A Q V R E M M R D R W E E P T F E D T L A F M T S G P C M A L L L A R E
UniRef90_H3C3F0         T L T E T E A A D F Y Q H K A A E P C F E E L V G F M S S G P S H I L I L S Q A
UniRef90_A0A059CER6     S V D R P F A E K H Y A D L S A K P F F S G L V D Y I I S G P V V A M V W E G K
UniRef90_W5K788         M L T E E Q V C L F Y S E H Q N E E Y F P A L L K S M T S G P V L A L A L A K Q
UniRef90_H3B5E1         H L S P E Q C S D F Y A E H F G K Q F F P S L T A F M S S G D I V V M I L A R N
UniRef90_J7P1Z4                                     M E N L F F E D L I G F I T S G P V F A M V L E G D
UniRef90_I3JR68         V L S R E M A E E F Y K E H R E K P F F N Q L V E F M C R G P C M M L V L T K E
UniRef90_I1GHX0         Q L T K E E A A E F Y K Q H E D K D H F E E L I D F M S S G P C M T L V L S K E
UniRef90_J9HLG9         T L D K P T A E E F F A V Y K G V L Q Y T P L I E H M T T G P C I V L E V R Q E
UniRef90_R1EUW1         R L S R R R C G K F Y A E H R T R P F Y P A L L G F M S S G P V V M L E L S G E
UniRef90_W7XGD1         K M S Q E D A R E F Y G E H K G K P F Y D G L V N F M S S D L I V G M E L V G D
UniRef90_UPI0003C28E4F  I L T E E Q I R E F Y S H K T E Q P D F E D F V Q F M M S G P C H I L I V C Q K
UniRef90_UPI00042B9894  V L T E E Q A H Q F Y K E H E N E D F F P T L L E H M T S G P T L A L G L I R E
UniRef90_V4AV25         Q L D R N E A F E M Y Q E H R G K S F L N D L L G Y V T S G P V L A F E I V G E
UniRef90_A0A024UW35     Q L S K Y Q V R Q L Y R H S W E D P E L D A V L D F M V S G P C I A M H L E R D
UniRef90_W4Z1L5         R L S R N A A E E F Y A E H V G K P F Y N N L V S F M C S G P I I A L E L M A N
UniRef90_K2E3D9         S V D E S F G A K H Y N H N D E W K V K V G M R E F L T L G P I V A I V F E G P
UniRef90_K7IMG6         K L T P E Q V S D F Y L D K F K D E C F A R L V A Y M S S G P I L V H S I G K I
UniRef90_UPI00032B1153  T L T E A E M R L F Y Q H R A G E K A F E K L V Y H M C S G P S H L L I L A G P
UniRef90_UPI0003C16995  T L T E A E A C D F Y Q H K S G E P Y F E E L I Q F M S S G P C H V L I I S T E
UniRef90_H2SKK6         K L T W S Q A A D F Y A E H Q S K P F F N N S V H F L S S G P V V A M E L M G D
UniRef90_H3B3C0         L L S R K E A M D F Y V E H Q A K T F F T D L I E F F I S G P V V A I E I L G D
UniRef90_UPI000393E3EE  Q L S P E Q C S D F Y A E E Y G K H F F P S L T A F M S S G P I I A L T L A R D
UniRef90_UPI0003292262  T M S E T E M R L F Y Q H R A G E A A F E T L V T H M C S G P S H L L I L D S E
UniRef90_H2ZDH8         N L S K E I A T E I Y K S K K D S E F Y D N L I D H M T S G P T L M M V L S A E
UniRef90_K2E4B7         W V E K I L V G K H Y K D D D A Y L V R N W N M E F M T S G P L F A M I L E A P
UniRef90_W4H978         L F S R E D A M E F Y A E H K G K A F Y D K L M A Y M T S E V V V V M I L V R V
UniRef90_U3IGC3         A L T R E M A T Q F Y K D H E G K P F F E E L V A R M T E G P S V V M V L T K E
UniRef90_W4XUI8         T L T E E E A R E F Y K Q H Q E E D H F E E L V T F M A S G P S K I L V L T R E
UniRef90_UPI000265460C  E L N K E L A S K L Y M E H E G K E F Y E N L I E H M S S G L S M V M V L S R E
UniRef90_K2A692         E A T D E K A R K H Y P G T E A W K V Y N W N V E Y L T S G P M V A T L I S G L
UniRef90_T2M335         R L E K N D A E E F F E I Y K V V S E Y C G M V D E L C S G N C V A I E I K D E
UniRef90_H2RMP2         Q L S P E H C S D F Y A D Q Y G T P H F P S L T A F M S S G P V I A M V L A R D
UniRef90_X1MED7         L V S R E K A E E F Y Q E H K G K E F Y E P L V N F M S S N P C L V M V L E G E
UniRef90_H2TP58         L L T E E Q V R Q F Y S Q H V K E D Y F P A L L H T M A S G P C M M L I L N K E
UniRef90_S4R4Z0         R L K R S D S E R F Y A A H K G K F F F Q R L V E F M A S G P I R V Y V L A H H
UniRef90_R7VDT5         H L T P E Q A S E F Y V E H Y G K L F F P S L V A Y M S S G P V I A L A L A R E
UniRef90_R7T472         E L T A D I A E Q F Y K G V E G K E F Y G D L V K H M T S G Q T L F M V L S R E
UniRef90_D8R956         R L E E S L A R N F Y A E H S K R E F F D D L V D F M T S G P V A A M V L Q K R
UniRef90_H2TP54         V L T K E M A E E L Y M E H K E K P Y F S Q V V E F M S S G P C M M L I L N K E
UniRef90_A0A037W9G3     Q L S E R E A G G F Y A E H K E R P F F K D L V S F M T S G P V V V Q V L E G E
UniRef90_UPI000333BF39  T M T E A E M R L F Y Q H R A G E E A F E Q L I H H M C S G P S H L L I L T R E
UniRef90_UPI00042C3F52  L W R K E D C Q K F Y Q E H A G R F F Y Q R L V E F M A S G P I R A Y I L A H K
UniRef90_K1R1K7         H L T P E Q A S D F Y A E H Y G K M F F P S L V A Y M S S G P V L A I V I A R D
UniRef90_F7DSK4         E A V N S D L R R L S R S T E R R F F Y Q R V V E F M A S G P I R A Y I L A H K
UniRef90_L7MII2         T Y S R E Q M E K F Y A E H Q G K F F F E R L A S F M S S G P L S V H I L A K E
UniRef90_UPI000441A238  H I S P E I A A Q F Y Q D H E A K P Y Y S Q L V D Y M S K G P S M V M I L T K E
UniRef90_G4V9N0         Q L T K E Q V E E Y Y K E H M G Q P Y F G E L T T V M S S G P C L A L L L A R E
UniRef90_G7YIR8         T F T K E E A E E F Y V K L K G E P Y Y K S L V D F M I S G P S E I L   L C A K
UniRef90_UPI00038716F7  M L T E E Q V R E F Y A R N K E Q P D F D E F V R F M M S G P C V I T K K E A T
UniRef90_Q8IH27         W A S K E L L E K H Y A D L S A R P F F P G L V N Y M N S G P V V P M V W E G L
UniRef90_UPI0003F19EED  Q A P E T V L A E H Y H D L R R K P F Y P A L I S Y M T S G P V V A M V W E G P
UniRef90_UPI0003832795  M L T E E H I R A F Y A C K V K Q P D F E D F L Q F M Q S G P C H I L I V T P T
UniRef90_K0RZA1         A P G A A H M E T H Y E D L K T K K F F P G L I S Y M T S G P V C A M V W E G G
UniRef90_H9KQH1         Q L T P E Q V S E F Y S D K Y G Q L N F A Y L V A Y M A S G P I V V H V L G K K
UniRef90_A9VB04         R L T L E Q S T E L Y M E H Y G K S F F T E L V A F M S S G P V L V M V L A G N
UniRef90_D1NGJ1         R L T R E Q A E G F Y A E H Q G K E F F A P L V D Y M M S S P I V V S V L E K E
UniRef90_A0A023EHV5     H L T Q P E A E Q F Y R D H R G K F F Y R R L I S L M T S G P L E V L V L S G E
UniRef90_E7FAZ9         T L T E A E A Q D F Y Q H K A A E P Y F Q E L V Q F M S S G P S H V L V I S K T
UniRef90_A3RVC0         H L S R A E A E Q L Y A V H K E R P F F K D L V D F M I S G P V M V Q A L E G E
UniRef90_W4WVB5         Q L T P E Q V A E F Y N N H F G E L S F P N L V A Y M S S G S I I V F V L A K Q
UniRef90_UPI0003332292  R A S K D H L K Q H Y S D L K D H P F F P G L V K Y M N S G P V V A M E H H S W
UniRef90_Q1JTK8         S P D A T L L E E H Y A D L K G K P F F P G L I S Y M T S G P V V C M V W E G T
UniRef90_UPI000258EA51  K L T K E E A S D L C K D   E D S T N I T Y I V N Y L T S G P I V A L E L L G D
UniRef90_T2M930         E F T R D Q A E Q F Y F K H K D K E Y F Q N L I D T M T S G P S L A L C L I H E
UniRef90_R5N865         N L N E D F I K E H Y A H L V D K P F F P H L K E F M M S G K V I S M T V F G E
UniRef90_R1FSL1         R M G E G E A A A F L Q A S C S S R F F S E M V S F Y A S G E V V A L L L Q R A
UniRef90_UPI00035A23BB  T M E K A N V E E F Y E V Y K V V H E Y P G M V N E L C S G P V I A L E I D P T
UniRef90_UPI000443981C  V L S E V E A R T L C K R F E D E D Y Y G T L I G N M T R G P S L A L V L L R S
UniRef90_UPI000298AD4F  T L T R T Q A A V F Y S E Q Q S K P T F D N S V H L L S S G P V V A M E L M G D
UniRef90_A2DJE8         K M D M D F T S K F Y A E H V G K D F F P T L S G Y M T S D T V V G I E L S G P
UniRef90_UPI000274580A  R A S E K P L K X H Y T N L K D H P F F P D L S E H M N S G Q V V A M V L E G P
UniRef90_U6I176         H A D E A L L N K H Y E A L S G K P F F K N L I A Y M S S G P V V P M V W E G A
UniRef90_K7F2E6         N M E R A N V E E F Y E I Y R V V A E Y P E M V T E L C S G P C I A L E I R Q F
UniRef90_T1AWC0         R L S Q R E A E A F Y A V H R E R P F F N D L V L Y M T S G P V M V Q V L E G E
UniRef90_H3A143         E L S Q D I A E E F Y T E Q K E K L F Y D H L V N S M A E G S A M M M I L R K E
```

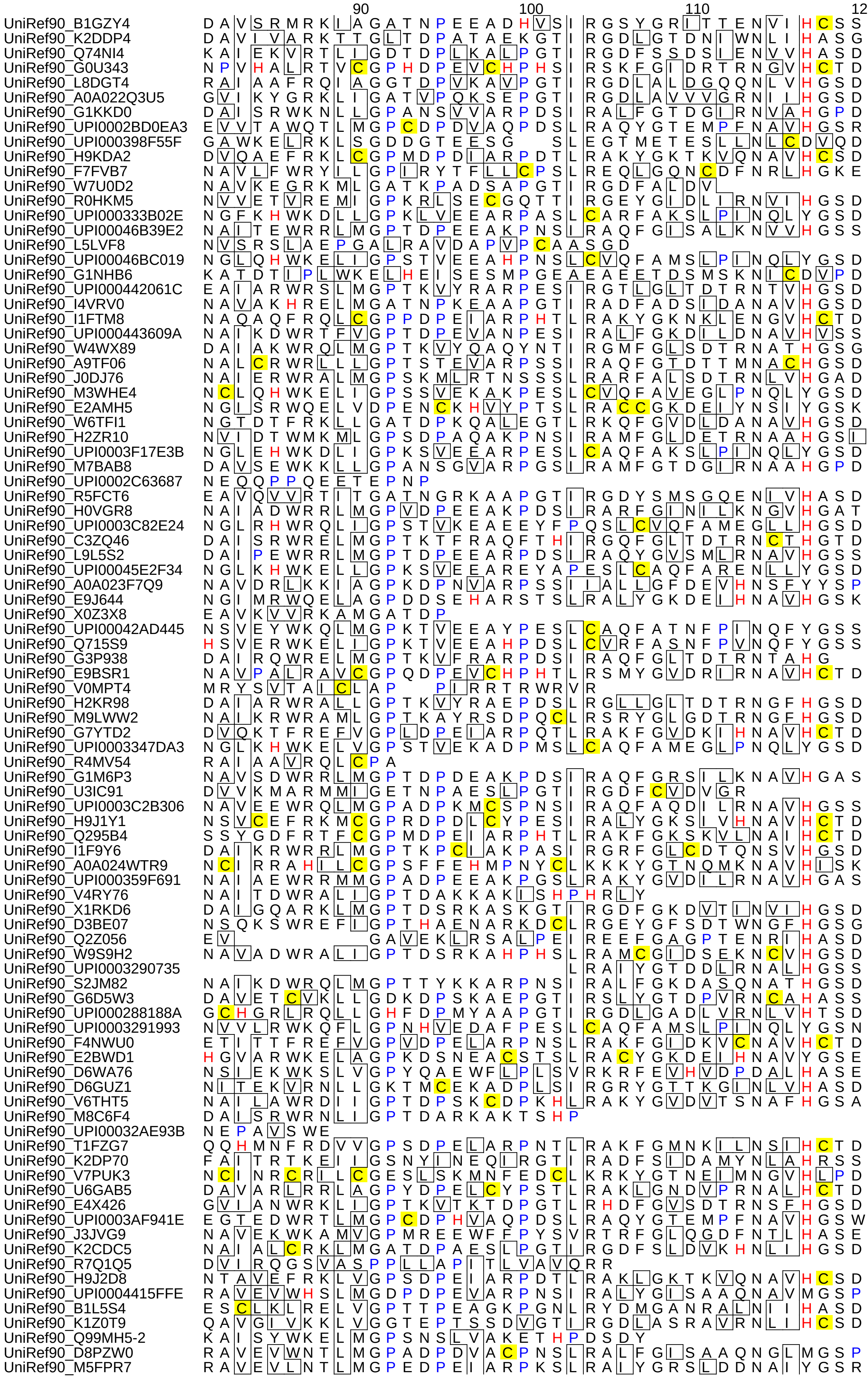


```
                                         130                  140                  150
UniRef90_V8P783
UniRef90_G0R403         L D E D G I L E V I N F F S
UniRef90_K1QZ84         S E D M A M R E L A F F F P D
UniRef90_I1EYB3         S E Y A A D K E I K F M F P D A E P V E R G T A M K D Y L
UniRef90_UPI0003314490  D F I A A E R E I R F L F P E V E P I P A G H A A Q D Y L
UniRef90_R0KNZ5         N I F S A E R E I R F M F P E
UniRef90_W5MU70         S F S A A E R E I Q F M F P G S E P I P L G N A A K D Y L
UniRef90_J3JWT6         S P E T A R R E I G V F F P E       F D Y D K         W F R E
UniRef90_V3ZWU4         N E E H A K K A I E Q V F G P L Q F N S
UniRef90_UPI000375701A  N S E D A E R E I K L W F K P D E I I E
UniRef90_F6EQW2         S A E S A A R E I E L W F P
UniRef90_G3NRQ7         S H K E A K R E I D F F F P K Q
UniRef90_Q66IR2         C F T S A E R E I R F M F P E
UniRef90_UPI0003C49E34  S I E E A S R Q L A F F F P D F
UniRef90_V9F942         S T A S A A R E L C F F F G S
UniRef90_X1H8S6         S A E T A E K E I K L F F S E D E I
UniRef90_T0PQP4         T A A C A V R D K D V L F P P
UniRef90_H3C3F0         N M E Q A S R E L A F F F P
UniRef90_A0A059CER6
UniRef90_W5K788         S L E E A E K E I S F F F P K E Q T L
UniRef90_H3B5E1         S F S N A E R E I H F M F P G E E P V P V G Q Q A K D Y L
UniRef90_J7P1Z4         S P E S A Q R E I Q L F F A P D E I L S Y Q K A V D T W I
UniRef90_I3JR68         N E Q H A E E K I R F I F G D
UniRef90_I1GHX0         S H E T A A R E L A F F F P K F D V
UniRef90_J9HLG9         L P E D G T L E S E Y F F S
UniRef90_R1EUW1         S P A S A A R E I R L M F Q K
UniRef90_W7XGD1         S P G S A F R E L N F F F
UniRef90_UPI0003C28E4F  S I E E A S R Q L A F F F P
UniRef90_UPI00042B9894  S P G E A K K E L E F F F P
UniRef90_V4AV25         S P A S S A R E L E F F F P S
UniRef90_A0A024UW35     T K L C A L R D R M L L F P
UniRef90_W4Z1L5         S V D S S N R E T N F F F G P S
UniRef90_K2E3D9         A V D E A E E E I R L W F K P E E I L S Y K R V H E D F
UniRef90_K7IMG6         D R R S A E R E I R F F F P D Q E Q L P T E D S A E D Y L W
UniRef90_UPI00032B1153  D R E D A K R E L A L L F P R F H L P D
UniRef90_UPI0003C16995  N T E Q A S R E L A F F F P D F
UniRef90_H2SKK6         S L A A A A R E L E F F F P S
UniRef90_H3B3C0         T L A S A A R E L E F F F P S S
UniRef90_UPI000393E3EE  S F Q A A V K E I K F M F P N S
UniRef90_UPI0003292262  D R E D A R R E L A L F F P S F
UniRef90_H2ZDH8         T N E S A Q E K I R V V F G D A Q   F D W D A S D
UniRef90_K2E4B7         N A E E A E F E R K L W F K E K E I Y K Y
UniRef90_W4H978         S R G S A D R E I S L L F
UniRef90_U3IGC3         T R E H A L E S I E C I F G E I D I
UniRef90_W4XUI8         S S E T A A R E L A F L L P N F S I
UniRef90_UPI000265460C  N P E E A K T R I E R L F P D V E V L
UniRef90_K2A692         D A S E A A N E I Q H W F K D S D I H N Y K R T E E D I M F
UniRef90_T2M335         L P D D G I L E V E Y F F
UniRef90_H2RMP2         S L A A A V K E I R F M F P
UniRef90_X1MED7
UniRef90_H2TP58         T E E R A K E K I H F I F G D
UniRef90_S4R4Z0         S S A S A L Q E I S F F F P E F D V A C W
UniRef90_R7VDT5         S Y T S A E W E V R F F F P D S E P I A V G Q A A R D Y L
UniRef90_R7T472         S A E Q A A E N I K I L F G D I Q F
UniRef90_D8R956         S S L S A G R E I S L L F G G S
UniRef90_H2TP54         T E E R A K E K I H F I F G D
UniRef90_A0A037W9G3     S E A S A A R E I A Y F F A A T E V C E
UniRef90_UPI000333BF39  D A A A A R R E L L L L F P S F K F S E E E T G A A P
UniRef90_UPI00042C3F52  S V V S A S R E I A A F F P
UniRef90_K1R1K7         S F S S S E K E I R F F F P D S E P V P V G Q A A K D Y L
UniRef90_F7DSK4         S V V S A S R E I A A F F P D F
UniRef90_L7MII2         S E E S A R R E I S F F F P E F D
UniRef90_UPI000441A238  N Q E H A E Q S I K F I Y G D I D L E D L K       H K Y V Y
UniRef90_G4V9N0         N E H E V E K D I N V F F P V E K T V
UniRef90_G7YIR8         S K D E A A R E L A F F F P D F E
UniRef90_UPI00038716F7  S V E N A S R Q L A F F F P N F D I
UniRef90_Q8IH27
UniRef90_UPI0003F19EED  S V E G A Q R E I Q L W F Q S S E L V D W A E E G H Q
UniRef90_UPI0003832795  S I E N A S R Q L A F F F P N F D T
UniRef90_K0RZA1
UniRef90_H9KQH1         T R E C A E K E I H F F F P D F E P L L K D E M A E D Y L W E
UniRef90_A9VB04         S L L S A Y R E I K F F F P
UniRef90_D1NGJ1         S I E N A N R E I A Y F F T D S E I F D
UniRef90_A0A023EHV5     S V A S F L T E A A L F F P N Q E F
UniRef90_E7FAZ9         D R E R A S R E L A F F F P N F S F S V W D S R P E E
UniRef90_A3RVC0
UniRef90_W4WVB5         N H E E A E K E I H F F F P R F E P V L R D E M A E D F L W E
UniRef90_UPI0003332292
UniRef90_Q1JTK8
UniRef90_UPI000258EA51  N E E A A E K E L Q F F F P S
UniRef90_T2M930         S D S C A S K E I N I L F P I E N I V
UniRef90_R5N865         S K E N A L I E L N R F
UniRef90_R1FSL1         S E E A A G R E I R F V F G E
UniRef90_UPI00035A23BB  L P E D A P L E V E Y F F K
UniRef90_UPI000443981C  S L E A A E R E I Q L L F P P Q N T L
UniRef90_UPI000298AD4F  S L A A A A K E L Q F F F P
UniRef90_A2DJE8         S P E S A A R E L G L V F G S Q
UniRef90_UPI000274580A  S L Q S A G K E M A       X K E E L V D Y R S C A Y D
UniRef90_U6I176
UniRef90_K7F2E6         L P E D G L L E V R
UniRef90_T1AWC0         A P E T A A R E I G F F F S A T E L
UniRef90_H3A143         N E K R A M I E I R Y L F G E
```



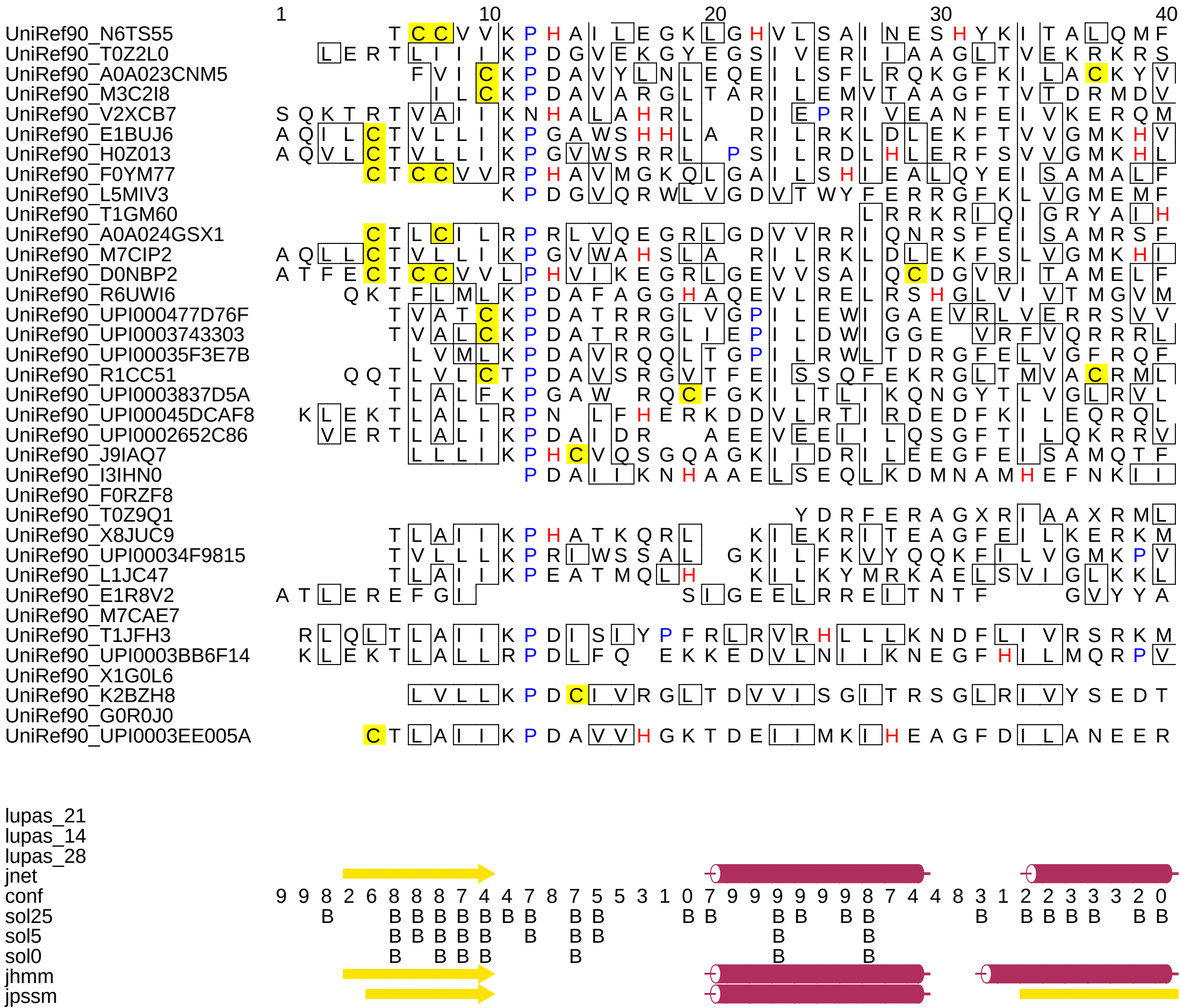
```
                       1        10        20        30        40
UniRef90_B1GZY4          IEQLLILVKPDGIKKSLTGNILTKLSESRMVIIGAKIV
UniRef90_K2DDP4          IQQTLIIIKPDGVSRGLTDEIIKRYEAAGLKVVKRKDI
UniRef90_Q74NI4          ME TLLMIKPDGVKRKLIGKIIERIENAGLEITDIKML
UniRef90_G0U343               CVIKPHAVMSGYHGAILQRLIDEGFHITALGMY
UniRef90_L8DGT4                                    MEKKGLSIVALELK
UniRef90_A0A022Q3U5
UniRef90_G1KKD0        SSKERTLALLKPDAALK  LGDILDLIINSGFTISKAKMM
UniRef90_UPI0002BD0EA3     CTLAVIKPDAXVHGKMDEIITKIQEAGFDILTNKER
UniRef90_UPI000398F55F         IIKPDDVLEGRVKEIKKKIKRAGFTIEVAEEK
UniRef90_H9KDA2        ATLECICCIIKPHAIQAKLIGNIVDDIQKAGYTISAIQQF
UniRef90_F7FVB7          LERTIAVIRTDVLSDT AEDIIDLLQSEGFVIKMQKEL
UniRef90_W7U0D2         STERTYIMIKPDGVQRGLVGEIIGRFERKGFKLVALKSM
UniRef90_R0HKM5          MEKTFVMIKADGMK                      LM
UniRef90_UPI000333B02E  KLEKILALIRPDLFRENK DNVLEIIENEGFKILMEREI
UniRef90_UPI00046B39E2   LQSTLALIKPHAT RKDKEEILKLIKEAGFDVTQAKTV
UniRef90_L5LVF8         TLERTLVAVKPDGVQRRLVGDVIRRFETRGFKLVGVKMI
UniRef90_UPI00046BC019  KLEKILALLRPDLFQ EKKEDVLSIIQNEGFQILMQRQL
UniRef90_G1NHB6                IIKPDDVLEGRVEQIKQKIRNAGFGIAASEEK
UniRef90_UPI000442061C            PDA     SGAVHETILNHRFLIVRTKDL
UniRef90_I4VRV0
UniRef90_I1FTM8            CTLCIIKPDALKAGLSAKIIQDILSEGLEITGLGLY
UniRef90_UPI000443609A   LEHTVALIKPHAYQD LREE   RFKSLVSQCLTCKEI
UniRef90_W4WX89          LQLTLAILKPHVVKSPFVQKIRDLIIDNNFKVVRSRRT
UniRef90_A9TF06           ETTCAMIKPDAICN  AGKILECITRNGLLIKHMRMC
UniRef90_J0DJ76             TFAMIKPEAVAVPYITKIWDEILANNLEIVGAKRI
UniRef90_M3WHE4         KLEKILALLRPDLFQ EKKENVLGIIHDEGFKILMQRPI
UniRef90_E2AMH5        TQLQKFFVLLKPDVIDK  MGEIFKIITNHDFHITNMKMM
UniRef90_W6TFI1          MNLTFSLIKPSAMDR  CEEILMAIKAGGFSVLSMKTQ
UniRef90_H2ZR10        SHKEKTLGLIKPDVISK  LGIIVNSLRDHNIQLSKAKMI
UniRef90_UPI0003F17E3B  KLEKILALIRP GLFKENKEDVLGIIENEGFKILMKRQL
UniRef90_M7BAB8        SRKERTLALIKPDAV  PKIGDLIDIIINAGLTITKAKMM
UniRef90_UPI0002C63687        AIIKPDAVITRKDIEIKEKIIKAGFVIEAEDKR
UniRef90_R5FCT6
UniRef90_H0VGR8           EDTFALIKPH VTHEQRGEILKLIKDEGFELTQLKEL
UniRef90_UPI0003C82E24  KVEKILALLRP ALFHERKEAVLNIIEDEGFKILMQRQI
UniRef90_C3ZQ46         RLQLTLALIKPDVHGHPLYRHLVDTVLQNRLLFVRSRVL
UniRef90_L9L5S2           QNTLALIKPH VTREQRVEILQLIKKAGFELSLLKEV
UniRef90_UPI00045E2F34  KLEKILALIRPSLFKKGKKESVLEIIEKEGFKILMQRQI
UniRef90_A0A023F7Q9     KMMKTFALITPDGIENK  SKILQILLSNGFTIINLRML
UniRef90_E9J644        TQLQKVFVLLKPDVVDK  MGEILKAITNYDFHIANIKMI
UniRef90_X0Z3X8          MERSLVLIKPDAMQRGLAGTIITHLEKQGLKMVALKML
UniRef90_UPI00042AD445  NIQRTLALLRPD VYEESKDNVLNIIQNEGFTILLQRQM
UniRef90_Q715S9        TNVQRTLGLLYPEVCEEEK DNVLDIIQNEGFTILMQRQV
UniRef90_G3P938          LQLTLAVIKPDAVAHPVMQALHQRILDNKFLIVKCRDL
UniRef90_E9BSR1               CVIKPHAITSGHQGPILHRLVEEGFYISALGSY
UniRef90_V0MPT4          IERTFSIIKPNAVAKNVIGSIFARFEAAGFKIVGTKML
UniRef90_H2KR98         NLERLFAVHKRIAAGERIVQYVEQRMREADLSILCQGVF
UniRef90_M9LWW2         DLELTLALIKPSVCSQPDVSAILKEIKQSGLNVARSKRI
UniRef90_G7YTD2             TLAIIKPHAVSDGLTGSIWTAIREHGFCISAARLY
UniRef90_UPI0003347DA3    ERILALIRPDLLKERK EDVLNIIEENGFKIQMQRQL
UniRef90_R4MV54           ERTLVLIKPDGIERQLIGEIISRIERKGLTIAALQLR
UniRef90_G1M6P3           QNTLALLKPHVTQ EQREEILELIRKTGFEITQMKEI
UniRef90_U3IC91                        RQLVGEIIRRFERKGFRLLGLKLL
UniRef90_UPI0003C2B306  NAERTLALIRPSLLKENKS TVLQRIKDDGFTIVMQREV
UniRef90_H9J1Y1            CTCCVIKPHAVIEGNIGSILEQISTSGFFISAMAMF
UniRef90_Q295B4             TLAIIKPHSIKDGLLGDIVDEILANGFNVTAMRMI
UniRef90_I1F9Y6                                 MIEKEGLSIVCRKTL
UniRef90_A0A024WTR9      LERTFIILKPDVVEMNKMNAIVNDILNFDLLIVAIKRG
UniRef90_UPI000359F691    QTTLALIKPH VTKEQRMEILKIIKEAGFEISLLKEI
UniRef90_V4RY76           EKTLAMIKPDGLSGNYTDEIKKVILESGFSILRERVV
UniRef90_X1RKD6                                            MKMM
UniRef90_D3BE07             TLAIIKPDILQSQCLDSIIQKIETK FNIVNRKQI
UniRef90_Q2Z056              FALIKPDALRLGMAEEIISALEERGFMVIRGETI
UniRef90_W9S9H2                                             MTL
UniRef90_UPI0003290735   VEKTLAIIKPDVVDKE  EEIQDIILRSGFTIVQRRKL
UniRef90_S2JM82           ERTLAIL    TATSDLDDIIQHIKSNGFTVIATKML
UniRef90_G6D5W3         DLEITFVMLKP  LPTNIAGKVVTYFYEQGLKITKMKKS
UniRef90_UPI000288188A    ECSVILCKPDAVERGLVAEVLDRVRAAGFTVSDPVDV
UniRef90_UPI0003291993    QTTLALIRPDLCQANK EDVLNVIQEGGFKIMMQQQI
UniRef90_F4NWU0             TLAIIRPHAIVQGKTGNIISMIQDAGFNITDMELY
UniRef90_E2BWD1        THMEKVFVFLKPDVLDK  MGEILKMILNYDFQITNMKMM
UniRef90_D6WA76        ARLQRTVAIIKPEAMVYKDV  VLKAIADKGFSIVNQRTL
UniRef90_D6GUZ1          MEEMLILLKPDGMVRRYSGRALKSILELNPEIKFFEII
UniRef90_V6THT5        AEKEATCAIVKPHAVAEIIIADAIISAMQRNLRISRIRMV
UniRef90_M8C6F4           ERTLAMIKPDGLSGNYKEKIKEAILGSGFDIIEEAVV
UniRef90_UPI00032AE93B AENQYTIVIIKPDAMIRK ALEIKDTIANAGFATEAQEKM
UniRef90_T1FZG7             TCVVVKPHAIDDGQAGYIIECIQNLGYRISAYLMC
UniRef90_K2DP70         TTEKTLVLVKHDAIIRGLVGTIIDRFEKNGLKIVAGKFK
UniRef90_V7PUK3        TNLERNLIIIKPDVIEKNKISDVINDILNFNLLIVSVKRE
UniRef90_U6GAB5           ELTCCVIKPHALQQ  TGTVLRELSSSGLSIRNMQCF
UniRef90_E4X426           EVTLAILKPSVTSSPKVQKILEKLDDENFNILAARKT
UniRef90_UPI0003AF941E                        NKQIQEAGFDILTNEER
UniRef90_J3JVG9          LQRTVAMIKPEAL  CYTDVVLRAIGKAGLKIVHQRTV
UniRef90_K2CDC5
UniRef90_R7Q1Q5                MLKPDAVQRGLVGEIIQRFEKRGFKLVALKLV
UniRef90_H9J2D8            CTLCIVKPHAILEGKLGAALEAIDKGGFNVTALYML
UniRef90_UPI0004415FFE     RTVAIIKNHALNHRF  EIELRISDAGFEIVKERQM
UniRef90_B1L5S4                MIKPDAFARGLAPEIVERLRENFVIGAIKLTE
UniRef90_K1Z0T9
UniRef90_Q99MH5-2        VEKTLALIKPDVVDKE  EEIQDIILGSGFTIIQRRKL
UniRef90_D8PZW0            RTVAIIKNHALAHRF  DIEPRIQEAKFEIVKERQM
UniRef90_M5FPR7            RTVAILKPSAVKHRLT  IEPRLIEAGFEIVKERQV
```

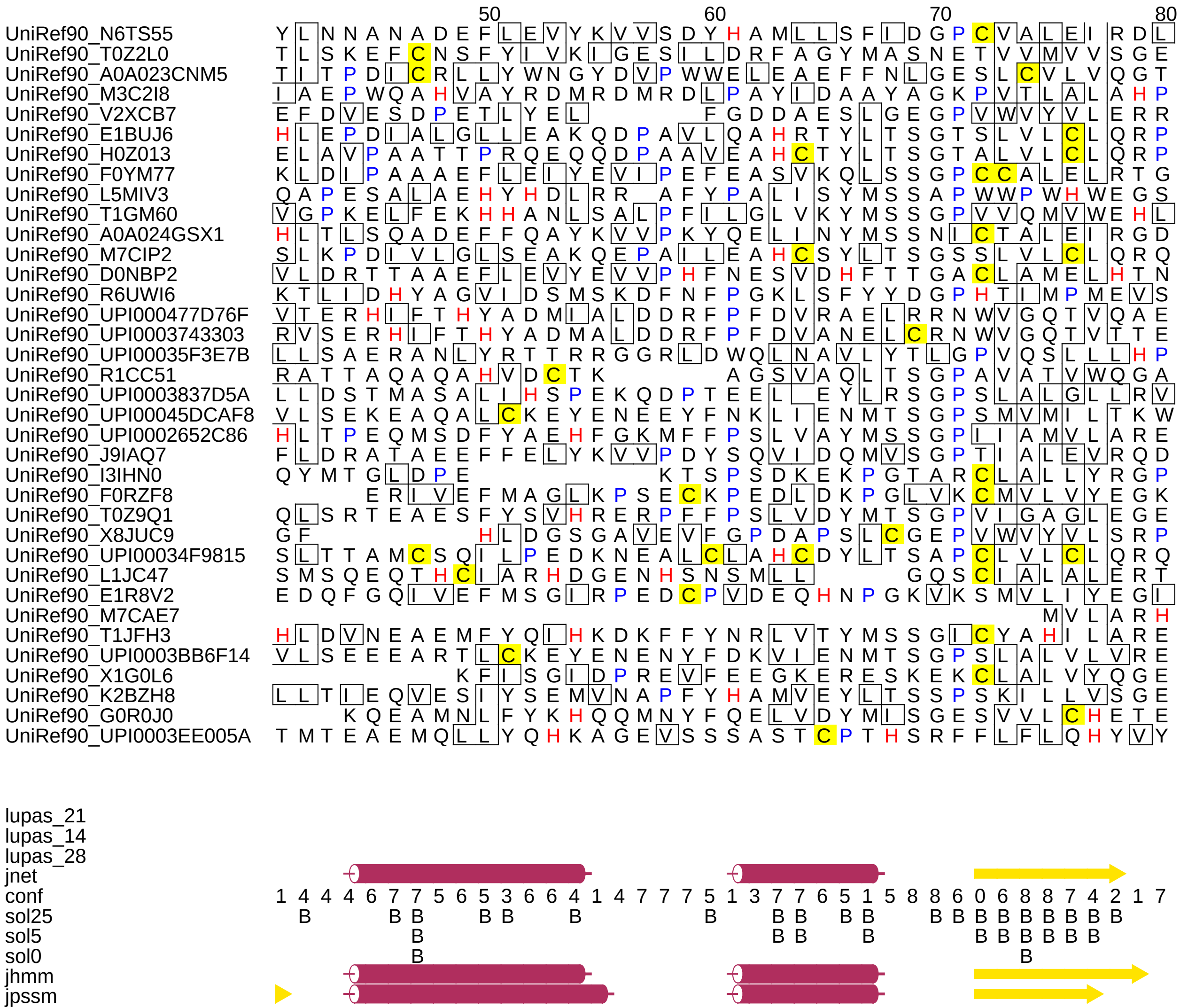
```
                                50        60        70        80
UniRef90_B1GZY4         KVSRDLAEAHYCHLKDKLFFNELLDYIPWDRVLAFVYQGE
UniRef90_K2DDP4         MAPLSIVEKHYPEDQGRKVVTWLRKFITSGPVVVMVLEGE
UniRef90_Q74NI4         QFTREMAEQFYVFPESWKVREALIEYILSGKVVAIRIKGD
UniRef90_G0U343         TLSMADAEDFLEVYNVVPEYKRLVEQMSSGPCWAVQVCSE
UniRef90_L8DGT4         TVSRDLASAHYAEHESKPFFPELLEFITSGPVVAAVLEGP
UniRef90_A0A022Q3U5                                    MYRHVWEGE
UniRef90_G1KKD0         QLSRAEATDFHADHLSKPYYNELLEFITSGPVVALEILGD
UniRef90_UPI0002BD0EA3  AMREAEMXLFYQHRDGEEAFKKLVHHMCSGPSHLLNLTRE
UniRef90_UPI000398F55F  MLTEEQIRAFYGHNKEQPDFEEFVQYMMSGPCHVLVITKK
UniRef90_H9KDA2         FVNPFDAEEFLEVYKGVPDYAAMVEELQSGPCIVMEIKHK
UniRef90_F7FVB7         TLTEEEVKIIYKDQQFRDFFPDLVQHLTSGPLMALCLERE
UniRef90_W7U0D2         NASKDLLNEHYQDLADKPFFGGLVAYMSSGPVIAMVWEGL
UniRef90_R0HKM5         NVERSLAEKHYEDLSGEYLFRRLVDYIVSSPVVAMIWEGK
UniRef90_UPI000333B02E  VLSNEEAQMLCKECEHEDYYDALVTNMTSDTSLALVLLRD
UniRef90_UPI00046B39E2  TLTHELADKIYPKITGKDFYNDVLEMLSEGPSMVMILTKW
UniRef90_L5LVF8         QAPESILAEHYHDLQRKPFYPALISYMSSGPVVAMVWEGP
UniRef90_UPI00046BC019  VLSKEEAQTLCKEYENEDYFENVIENMTSGPSLALVLVRE
UniRef90_G1NHB6         MLTEEQIREFYNKKREEPDFDDFVQFMMSGPCHILIITKK
UniRef90_UPI000442061C  LWSREDSQRFYQEHSGRFFYQRLVEFMSSGPMRVYILAHE
UniRef90_I4VRV0          MSRAEAEGFYAVHSERPFFKALVEFMISGPVMIQVLEGE
UniRef90_I1FTM8         NVEKANAEEFYEVYKGVLHYPDMVSLLTSGPSIAIALSGR
UniRef90_UPI000443609A  QFTPDLVGRLYKAHKEKDFYEDLVAHMTDGPCMAMIISKE
UniRef90_W4WX89         TISHEEAELFYKEHKDKFFYNRLLTFMCSGPSDIYILAHH
UniRef90_A9TF06         QLSRKQAEEFYNVHQGKPFYESLIQLISNGPVIAMELVGE
UniRef90_J0DJ76         CMNREVAEKLYSVHERKFFYDRLIQHIISGPVIVMKLGCG
UniRef90_M3WHE4         VLSEEEAQTLCKEYENEDYFENLIKKMTSGPSLALVLLRD
UniRef90_E2AMH5         QLTPTEIAECYF IKDATDKVSMINYLTSGPVVGLELLGE
UniRef90_W6TFI1         QLTLSQVKKFYEEHAEKSFFTSMCERLALGPVLLMALYEP
UniRef90_H2ZR10         TMTRADAAKLYEEYQSKPIFNSILDYMTSGPIVVMEIMGS
UniRef90_UPI0003F17E3B  VLSKEEAQIVCKEYENEHYFENLIENMTSGPSLALVLLGD
UniRef90_M7BAB8         VLSRE                 LLLFITSGPTVAMEILGD
UniRef90_UPI0002C63687  VLTEEQVRDFYSRIADQPDFEDFVSFMTSSLSHILVVSQG
UniRef90_R5FCT6                                   MKAAPVVAMCVEGC
UniRef90_H0VGR8         YLTPEQVERIYVQIVNKDFYKDVLQVLSEGPTVVMVLTKW
UniRef90_UPI0003C82E24  VLSREEAETLCKEHENKDYFESLIENMTSGPSLALVLLRE
UniRef90_C3ZQ46         RWSRKDSGHFYGEHEGRFFYNRLVGFMASGQMSAHILAGE
UniRef90_L9L5S2         LLIPEEADKIYSKIKGKDFYKDVLEVLSEGPSVVMILTKW
UniRef90_UPI00045E2F34  VLSKEEAQTFCKDYEKEDYFENLIENMTSGPSLVLVLLGD
UniRef90_A0A023F7Q9     KFTDSIAEKLLEYEKSSPTYLELKTHLQSSASIAMELVGE
UniRef90_E9J644         RLTANDIEESCLV KDVADKTSVINYLISGPVVALELLGG
UniRef90_X0Z3X8         HLDKALAQRHYAIHRDKPFFNGLVNYVSSAPIIAIVFEGK
UniRef90_UPI00042AD445  SLSEEEARTVCKNYENEEYFNKLIAFMCSNPSYALVLLRE
UniRef90_Q715S9         VLSEEEARAVCHVHEDEDYFDNLIGYMCSNNSYILVLMRE
UniRef90_G3P938         AWRRRDSERFYAEHSERFFYQRLVEFMSSGPMRAYVLARV
UniRef90_E9BSR1         QLTVADAEDFLEVYNGVPEYKKLVEQMSSGPCWAVEVCAE
UniRef90_V0MPT4         HLTVEQARGFYAEHDGKPFFDGLVEFMTSGPIVVSVLESE
UniRef90_H2KR98         RMSRSQAESFYGDHKGKFYYDRLVNHMVCGPIGVYVLRGV
UniRef90_M9LWW2         FWTSCDAHDFYAEHRGRFYYDRLIIGMISGPAMALALVGP
UniRef90_G7YTD2         RLSKADAAEFLEVYKGVAHYPEMLDQLACGPCVALEIEGV
UniRef90_UPI0003347DA3  VLSEVEAQTLCKEYENKSYFGNLIENMTSGPSLALVLLRD
UniRef90_R4MV54         TVSAELASQHYAEHEGKPFFGSLLEFITSGPVVAAIVEGT
UniRef90_G1M6P3         LLNEEAAEKIYSKITGKDFYQDVLEVLSEGPSLVLVLTKW
UniRef90_U3IC91         QASEELLKEHYVALRDRPFYGRLVKYMSSGPVVAMVWQGL
UniRef90_UPI0003C2B306  VLTEEQAREFYKEHENEDYFPTLLEQMTSGPTMVMILSKE
UniRef90_H9J1Y1         SVKLANATEFFEVYKGVPEYEAMCIHLAEGKCVVLEVTST
UniRef90_Q295B4         LMARINCEEFYEVYRGIPEYIPMVAQLASGVCMCLEIPGK
UniRef90_I1F9Y6         RLSLKEAEKFYEEHNGRFYFERLTTYMQSSDINGVILGGE
UniRef90_A0A024WTR9     VLSVERAKKLYSDLVDKPYYNDLIDFMTSSKIVCLLIEGP
UniRef90_UPI000359F691  HLIPENASKVYFKITGKDFYKSVLEVLSSGMSLIMALTKW
UniRef90_V4RY76         RLDEDGAKTFYAEHSSRSFFSSLIKYMTSGPVLAMVLEKE
UniRef90_X1RKD6         EIDEGLAKSHYRDHVEKDFFGPLLKYITSGPVIVMVISGE
UniRef90_D3BE07         VLSISEAEQFYNDHRGKFFYERLVGFMSRGPIIPMVLSEK
UniRef90_Q2Z056         RFNEEQAREHYVVHKGKPFFEDLVAYMASSESIPLFLLTQ
UniRef90_W9S9H2         QLDEDGVRTFYVEHSLKSFFHSLITYMTSGPVLVMVLEKE
UniRef90_UPI0003290735  HLSPEHCSNFYVEQYGKMFFPNLTAYMSSGP
UniRef90_S2JM82         ELTAEEAEEFYQDHVKQNYYEKGVRWLSSSKLCALVLEKE
UniRef90_G6D5W3         RLTSEDIGFIYRKQLTDPTYPFLVEHLIGQLVYGLELVGK
UniRef90_UPI000288188A  IVRPWQIHVHYWDLLVDADWFPDRDIPACHVSVALAHAEP
UniRef90_UPI0003291993  VLSEEEAKTICQEYEQDDNFEQIIYNMTSGPSLVLALVGD
UniRef90_F4NWU0         HLDRSNAEDFLEVYKVVPEYHLMLNQLTSGPIIAMEITGD
UniRef90_E2BWD1         KLTPDEVTEHYP MKDTDNKTCIINYLTSGPVVALELLGK
UniRef90_D6WA76         HLTPEQVAEIYEQHYGCPSFPNMVVSMSLGPCLVLSLAGM
UniRef90_D6GUZ1         KPDKDFAEKHYGEHKGKFCYDNLINFMSYTELAVIIAAGD
UniRef90_V6THT5         RFSENDVNAFYEEHIGKAFFPNLAAMVMAGPACVIELIGP
UniRef90_M8C6F4         HLDAERASLFYAEHADRSFFNSLVKYMTSGPVCAMVLESP
UniRef90_UPI00032AE93B  LLTSQQVRNFYRQMADQPDFEEFVSFMTSGVSWVLVLSQR
UniRef90_T1FZG7         TFDKVNAEEFYEVYKVVPEYPKMVDELSRGLCLAMEVQNC
UniRef90_K2DP70         TITKNFAQSFYINSKEWKIYEWTVNYLINGPVLALVLAGP
UniRef90_V7PUK3         ILTIEKAKRLYEDIVDKEYYSRLVDFMSSDKIVCLIVEGI
UniRef90_U6GAB5         RLTSVAAREFLEIYDTVKEFPKMVEEMTNGTVLAIQLEGP
UniRef90_E4X426         EISASQAARFYAEHEGKFFYPRLQAYVRSGPVIALALQGD
UniRef90_UPI0003AF941E  TMTEAEMRLFYQHRAGEDAFEKLVYHMCSGPSHLLILTRT
UniRef90_J3JVG9         HLTPEQVSEIYEKYYGTPAFPHMVVTVSVSPILVLALQAV
UniRef90_K2CDC5                                           MVVEGR
UniRef90_R7Q1Q5         TPSLEHAQKHYYDLAERPFFPTLCSFLSSGPVCAMVFEGE
UniRef90_H9J2D8         IVENINAAEFYEVYKIVPEYKGMVEELSSGPCVAMEIKNV
UniRef90_UPI0004415FFE  EFDVETDPDTLFEL     FGPDYESFAEGPVWVYVLERR
UniRef90_B1L5S4         MDAQMIDELYMFVKQRYRDSWWIMPKVFSQAPVVAIMESG
UniRef90_K1Z0T9                               LVKFMTCSPVVAMVWEGN
UniRef90_Q99MH5-2       HLSPEHCSNFYVEQYGKMFFPNLTAYMSSGPLVAMILARH
UniRef90_D8PZW0         EFDVETDPETLYEL     FGDDADSLGEGPVWVYVLERR
UniRef90_M5FPR7         EFQPD       DVALEALFGRDGPSLADGPVWVYVLERR
```



```
                                         90                  100                 110                 120
UniRef90_B1GZY4        D A V S R M R K I A G A T N P E E A D H V S I R G S Y G R I T T E N V I H C S S
UniRef90_K2DDP4        D A V I V A R K T T G L T D P A T A E K G T I R G D L G T D N I W N L I H A S G
UniRef90_Q74NI4        K A I E K V R T L I G D T D P L K A L P G T I R G D F S S D S I E N V V H A S D
UniRef90_G0U343        N P V H A L R T V C G P H D P E V C H P H S I R S K F G I D R T R N G V H C T D
UniRef90_L8DGT4        R A I A A F R Q I A G G T D P V K A V P G T I R G D L A L D G Q Q N L V H G S D
UniRef90_A0A022Q3U5    G V I K Y G R K L I G A T V P Q K S E P G T I R G D L A V V V G R N I I H G S D
UniRef90_G1KKD0        D A I S R W K N L L G P A N S V V A R P D S I R A L F G T D G I R N V A H G P D
UniRef90_UPI0002BD0EA3 E V V T A W Q T L M G P C D P D V A Q P D S L R A Q Y G T E M P F N A V H G S R
UniRef90_UPI000398F55F G A W K E L R K L S G D D G T E E S G     S L E G T M E T E S L L N L C D V Q D
UniRef90_H9KDA2        D V Q A E F R K L C G P M D P D I A R P D T L R A K Y G K T K V Q N A V H C S D
UniRef90_F7FVB7        N A V L F W R Y I L G P I R Y T F L L C P S L R E Q L G Q N C D F N R L H G K E
UniRef90_W7U0D2        N A V K E G R K M L G A T K P A D S A P G T I R G D F A L D V
UniRef90_R0HKM5        N V V E T V R E M I G P K R L S E C G Q T T I R G E Y G I D L I R N V I H G S D
UniRef90_UPI000333B02E N G F K H W K D L L G P K L V E E A R P A S L C A R F A K S L P I N Q L Y G S D
UniRef90_UPI00046B39E2 N A I T E W R R L M G P T D P E E A K P N S I R A Q F G I S A L K N V V H G S S
UniRef90_L5LVF8        N V S R S L A E P G A L R A V D A P V P C A A S G D
UniRef90_UPI00046BC019 N G L Q H W K E L I G P S T V E E A H P N S L C V Q F A M S L P I N Q L Y G S D
UniRef90_G1NHB6        K A T D T I P L W K E L H E I S E S M P G E A E A E E T D S M S K N I C D V P D
UniRef90_UPI000442061C E A I A R W R S L M G P T K V Y R A R P E S I R G T L G L T D T R N T V H G S D
UniRef90_I4VRV0        N A V A K H R E L M G A T N P K E A A P G T I R A D F A D S I D A N A V H G S D
UniRef90_I1FTM8        N A Q A Q F R Q L C G P P D P E I A R P H T L R A K Y G K N K L E N G V H C T D
UniRef90_UPI000443609A N A I K D W R T F V G P T D P E V A N P E S I R A L F G K D I L D N A V H V S S
UniRef90_W4WX89        D A I A K W R Q L M G P T K V Y Q A Q Y N T I R G M F G L S D T R N A T H G S G
UniRef90_A9TF06        N A L C R W R L L L G P T S T E V A R P S S I R A Q F G T D T T M N A C H G S D
UniRef90_J0DJ76        N A I E R W R A L M G P S K M L R T N S S S L R A R F A L S D T R N L V H G A D
UniRef90_M3WHE4        N C L Q H W K E L I G P S S V E K A K P E S L C V Q F A V E G L P N Q L Y G S D
UniRef90_E2AMH5        N G I S R W Q E L V D P E N C K H V Y P T S L R A C C G K D E I Y N S I Y G S K
UniRef90_W6TFI1        N G T D T F R K L L G A T D P K Q A L E G T L R K Q F G V D L D A N A V H G S D
UniRef90_H2ZR10        N V I D T W M K M L G P S D P A Q A K P N S I R A M F G L D E T R N A A H G S I
UniRef90_UPI0003F17E3B N G L E H W K D L I G P K S V E E A R P E S L C A Q F A K S L P I N Q L Y G S D
UniRef90_M7BAB8        D A V S E W K K L L G P A N S G V A R P G S I R A M F G T D G I R N A A H G P D
UniRef90_UPI0002C63687 N E Q Q P P Q E E T E P N P
UniRef90_R5FCT6        E A V Q V V R T I T G A T N G R K A A P G T I R G D Y S M S G Q E N I V H A S D
UniRef90_H0VGR8        N A I A D W R R L M G P V D P E E A K P D S I R A R F G I N I L K N G V H G A T
UniRef90_UPI0003C82E24 N G L R H W R Q L I G P S T V K E A E E Y F P Q S L C V Q F A M E G L L H G S D
UniRef90_C3ZQ46        D A I S R W R E L M G P T K T F R A Q F T H I R G Q F G L T D T R N C T H G T D
UniRef90_L9L5S2        D A I P E W R R L M G P T D P E E A R P D S I R A Q Y G V S M L R N A V H G S S
UniRef90_UPI00045E2F34 N G L K H W K E L L G P K S V E E A R E Y A P E S L C A Q F A R E N L L Y G S D
UniRef90_A0A023F7Q9    N A V D R L K K I A G P K D P N V A R P S S I I A L L G F D E V H N S F Y Y S P
UniRef90_E9J644        N G I M R W Q E L A G P D D S E H A R S T S L R A L Y G K D E I H N A V H G S K
UniRef90_X0Z3X8        E A V K V V R K A M G A T D P
UniRef90_UPI00042AD445 N S V E Y W K Q L M G P K T V E E A Y P E S L C A Q F A T N F P I N Q F Y G S S
UniRef90_Q715S9        H S V E R W K E L I G P K T V E E A H P D S L C V R F A S N F P V N Q F Y G S S
UniRef90_G3P938        D A I R Q W R E L M G P T K V F R A R P D S I R A Q F G L T D T R N T A H G
UniRef90_E9BSR1        N A V P A L R A V C G P Q D P E V C H P H T L R S M Y G V D R I R N A V H C T D
UniRef90_V0MPT4        M R Y S V T A I C L A P     P I R R T R W R V R
UniRef90_H2KR98        D A I A R W R A L L G P T K V Y R A E P D S L R G L L G L T D T R N G F H G S D
UniRef90_M9LWW2        N A I K R W R A M L G P T K A Y R S D P Q C L R S R Y G L G D T R N G F H G S D
UniRef90_G7YTD2        D V Q K T F R E F V G P L D P E I A R P Q T L R A K F G V D K I H N A V H C T D
UniRef90_UPI0003347DA3 N G L K H W K E L V G P S T V E K A D P M S L C A Q F A M E G L P N Q L Y G S D
UniRef90_R4MV54        R A I A A V R Q L C P A
UniRef90_G1M6P3        N A V S D W R R L M G P T D P D E A K P D S I R A Q F G R S I L K N A V H G A S
UniRef90_U3IC91        D V V K M A R M M I G E T N P A E S L P G T I R G D F C V D V G R
UniRef90_UPI0003C2B306 N A V E E W R Q L M G P A D P K M C S P N S I R A Q F A Q D I L R N A V H G S S
UniRef90_H9J1Y1        N S V C E F R K M C G P R D P D L C Y P E S I R A L Y G K S I V H N A V H C T D
UniRef90_Q295B4        S S Y G D F R T F C G P M D P E I A R P H T L R A K F G K S K V L N A I H C T D
UniRef90_I1F9Y6        D A I K R W R R L M G P T K P C I A K P A S I R G R F G L C D T Q N S V H G S D
UniRef90_A0A024WTR9    N C I R R A H I L C G P S F F E H M P N Y C L K K K Y G T N Q M K N A V H I S K
UniRef90_UPI000359F691 N A I A E W R R M M G P A D P E E A K P G S L R A K Y G V D I L R N A V H G A S
UniRef90_V4RY76        N A I T D W R A L I G P T D A K K A K I S H P H R L Y
UniRef90_X1RKD6        D A I G Q A R K L M G P T D S R K A S K G T I R G D F G K D V T I N V I H G S D
UniRef90_D3BE07        N S Q K S W R E F I G P T H A E N A R K D C L R G E Y G F S D T W N G F H G S G
UniRef90_Q2Z056        E V                 G A V E K L R S A L P E I R E E F G A G P T E N R I H A S D
UniRef90_W9S9H2        N A V A D W R A L I G P T D S R K A H P H S L R A M C G I D S E K N C V H G S D
UniRef90_UPI0003290735                                             L R A I Y G T D D L R N A L H G S S
UniRef90_S2JM82        N A I K D W R Q L M G P T T Y K K A R P N S I R A L F G K D A S Q N A T H G S D
UniRef90_G6D5W3        D A V E T C V K L L G D K D P S K A E P G T I R S L Y G T D P V R N C A H A S S
UniRef90_UPI000288188A G C H G R L R Q L L G H F D P M Y A A P G T I R G D L G A D L V R N L V H T S D
UniRef90_UPI0003291993 N V V L R W K Q F L G P N H V E D A F P E S L C A Q F A M S L P I N Q L Y G S N
UniRef90_F4NWU0        E T I T T F R E F V G P V D P E L A R P N S L R A K F G I D K V C N A V H C T D
UniRef90_E2BWD1        H G V A R W K E L A G P K D S N E A C S T S L R A C Y G K D E I H N A V Y G S E
UniRef90_D6WA76        N S I E K W K S L V G P Y Q A E W F L P L S V R K R F E V H V D P D A L H A S E
UniRef90_D6GUZ1        N I T E K V R N L L G K T M C E K A D P L S I R G R Y G T T K G I N L V H A S D
UniRef90_V6THT5        N A I L A W R D I I G P T D P S K C D P K H L R A K Y G V D V T S N A F H G S A
UniRef90_M8C6F4        D A I S R W R N L I G P T D A R K A K T S H P
UniRef90_UPI00032AE93B N E P A V S W E
UniRef90_T1FZG7        Q Q H M N F R D V V G P S D P E L A R P N T L R A K F G M N K I L N S I H C T D
UniRef90_K2DP70        F A I T R T K E I I G S N Y I N E Q I R G T I R A D F S I D A M Y N L A H R S S
UniRef90_V7PUK3        N C I N R C R I L C G E S L S K M N F E D C L K R K Y G T N E I M N G V H L P D
UniRef90_U6GAB5        D A V A R L R R L A G P Y D P E L C Y P S T L R A K L G N D V P R N A L H C T D
UniRef90_E4X426        G V I A N W R K L I G P T K V T K T D P G T L R H D F G V S D T R N S F H G S D
UniRef90_UPI0003AF941E E G T E D W R T L M G P C D P H V A Q P D S L R A Q Y G T E M P F N A V H G S W
UniRef90_J3JVG9        N A V E K W K A M V G P M R E E W F F P Y S V R T R F G L Q G D F N T L H A S E
UniRef90_K2CDC5        N A I A L C R K L M G A T D P A E S L P G T I R G D F S L D V K H N L I H G S D
UniRef90_R7Q1Q5        D V I R Q G S V A S P P L L A P I T L V A V Q R R
UniRef90_H9J2D8        N T A V E F R K L V G P S D P E I A R P D T L R A K L G K T K V Q N A V H C S D
UniRef90_UPI0004415FFE R A V E V W H S L M G D P D P E V A R P N S I R A L Y G I S A A Q N A V M G S P
UniRef90_B1L5S4        E S C L K L R E L V G P T T P E A G K P G N L R Y D M G A N R A L N I I H A S D
UniRef90_K1Z0T9        Q A V G I V K K L V G G T E P T S S D V G T I R G D L A S R A V R N L I H C S D
UniRef90_Q99MH5-2      K A I S Y W K E L M G P S N S L V A K E T H P D S D Y
UniRef90_D8PZW0        R A V E V W N T L M G P A D P D V A C P N S L R A L F G I S A A Q N G L M G S P
UniRef90_M5FPR7        R A V E V L N T L M G P E D P E I A R P K S L R A I Y G R S L D D N A I Y G S R
```

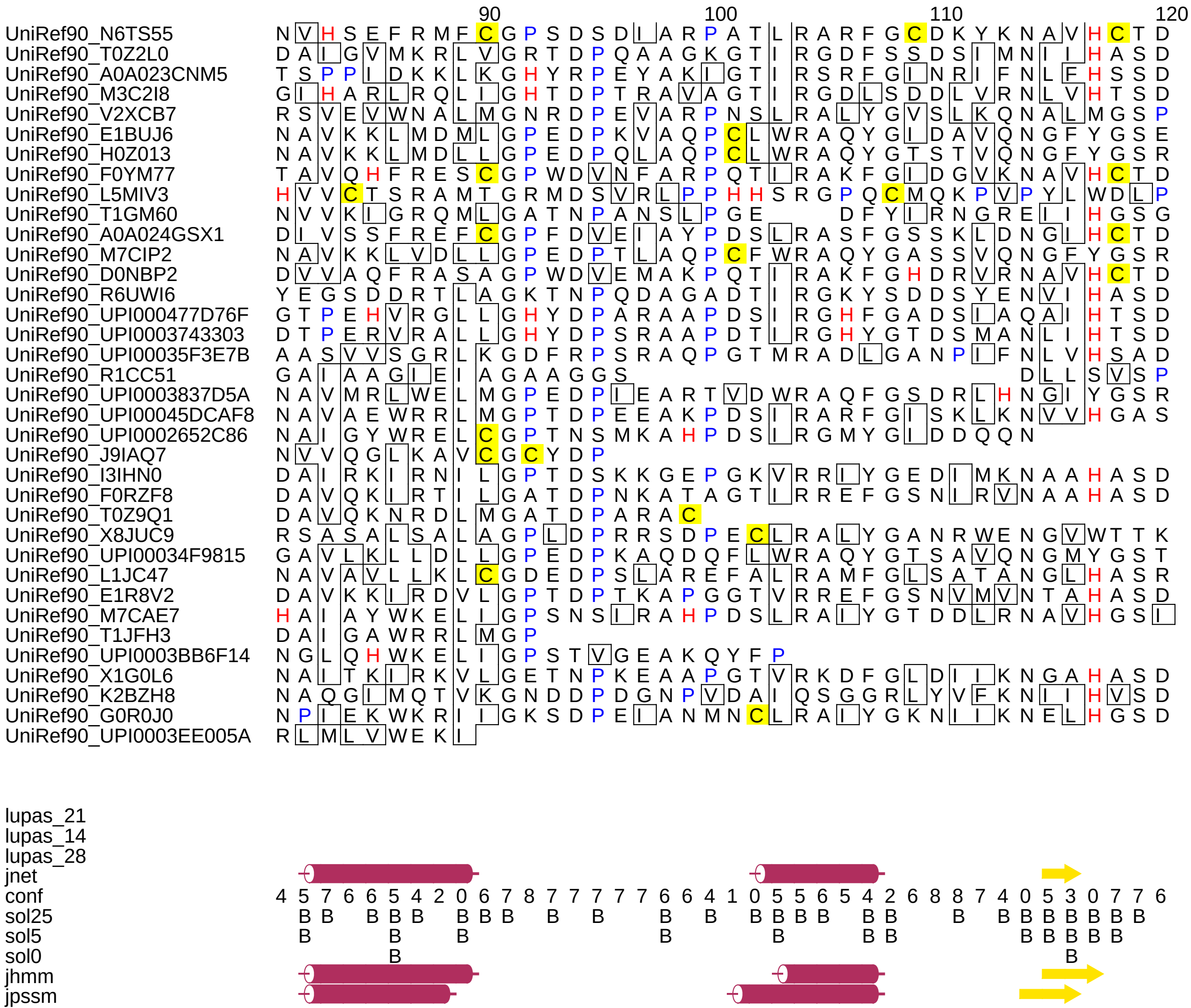
```
                                               130                 140                 150
UniRef90_B1GZY4               D P S E A A R E I K L W F K P E E I V
UniRef90_K2DDP4               S S K E A A K E I K L W F G E
UniRef90_Q74NI4               S E E N A K R E L K I V F G
UniRef90_G0U343               L E E D A P L E S E F F F S
UniRef90_L8DGT4               S V E S A E R E I S L W F P
UniRef90_A0A022Q3U5           G P E T A K D E I N L W F K P E E L V G Y T S N S E K W I Y
UniRef90_G1KKD0               S F A S A A R N C S
UniRef90_UPI0002BD0EA3        D S E D A R W E L T L L F P S F K F S D
UniRef90_UPI000398F55F        S V E E A S R Q L A F F F P N F D
UniRef90_H9KDA2               L P E D G I L E V E Y F F K
UniRef90_F7FVB7               S P E A E T K E I R S F F P L E H T V A I K P H A Y Q D L R E
UniRef90_W7U0D2
UniRef90_R0HKM5               S V V S A S K E I A L W F   P E G P V N W D K K I N N Y
UniRef90_UPI000333B02E        S L E V A E K E I Q Y F F P P Q N T V D Y E K K D E
UniRef90_UPI00046B39E2        S V F E A A E N I N A L F A E S
UniRef90_L5LVF8
UniRef90_UPI00046BC019        S L E A A E R E I Q Y F F P P Q N T L
UniRef90_G1NHB6               S L E D A S R Q L A F F F P N F D
UniRef90_UPI000442061C        S S A S A S K E I A F F F P D F S E E E W Y Q R E E P Q L
UniRef90_I4VRV0               A A E T A R V E I A Y Y F A E T E I A S
UniRef90_I1FTM8               L P E D G P L E V E Y F F K
UniRef90_UPI000443609A        T R Q H A Q E T I D L L F G D
UniRef90_W4WX89               N
UniRef90_A9TF06               S H E N A R
UniRef90_J0DJ76               S Q Q T A N Y E L S L F
UniRef90_M3WHE4               S L E T A E K E I Q Y F F P P Q Q T L
UniRef90_E2AMH5               N I E I A M Q E L Q H F F P
UniRef90_W6TFI1               S E I S A I R E L S F F F C G M E T
UniRef90_H2ZR10               N S A A A A K E L
UniRef90_UPI0003F17E3B        S L E A A K K E I Q Y F F P P Q S T L A I K P H V H D
UniRef90_M7BAB8               S F A S A A Q E L E L F F P S S
UniRef90_UPI0002C63687
UniRef90_R5FCT6               S P E N A A I E I R R F F K P D E L F E Y P D P L T S F F Y
UniRef90_H0VGR8               N L Y S V T E S I S A V F G E D
UniRef90_UPI0003C82E24        S L E A A R R E I K Y F F P P Q N T I
UniRef90_C3ZQ46               S E D S A R R E I G I F F P E F D A K T W W K E Q S E F F K E
UniRef90_L9L5S2               S V F E A V E S I G K M F E E F
UniRef90_UPI00045E2F34        S L E T A E K E I Q Y F F P P Q S T V S Y E N R D D
UniRef90_A0A023F7Q9           S V S V A A K Q T Q L I F E N E E T L
UniRef90_E9J644               D T E T A T Q E L R Y F F P D
UniRef90_X0Z3X8
UniRef90_UPI00042AD445        S K V A A E K E I E E F F P P Q
UniRef90_Q715S9               S K A A A E T E I E H F F P P Q
UniRef90_G3P938
UniRef90_E9BSR1               L E E D G P L E S E F F F S
UniRef90_V0MPT4
UniRef90_H2KR98               S D A T A L R E I Q F F F P S L R I N D P N P
UniRef90_M9LWW2               S P E S A A R E L G L I F
UniRef90_G7YTD2               L P E D T E L E
UniRef90_UPI0003347DA3        S L E T A E R D I Q Y F F P P Q T T F
UniRef90_R4MV54
UniRef90_G1M6P3               N A Y E A M E S I N R I F Q E F
UniRef90_U3IC91
UniRef90_UPI0003C2B306        N K E H A L K S I E Y V F G E I N L
UniRef90_H9J1Y1               L P E D G E L E V E Y F F K
UniRef90_Q295B4               L P D D T N L E L Q Y M F K
UniRef90_I1F9Y6               S V E N A M K E I N L I F P E       F C W K
UniRef90_A0A024WTR9           D   D N V E K E I D L F F G N E N F
UniRef90_UPI000359F691        N L S E A E S V I S N V F T E D N
UniRef90_V4RY76
UniRef90_X1RKD6               S A E S A V R E I G L F F G
UniRef90_D3BE07               S H D E A L N E I K F F F P D F D
UniRef90_Q2Z056               S V R N T L V E A A L A F K
UniRef90_W9S9H2               S P Q S A Q R E V S F F F K E
UniRef90_UPI0003290735        D F A A A E R E I R F M F P E
UniRef90_S2JM82               S D V S A G K E I E Y L F G A D
UniRef90_G6D5W3               D L E S A A E N I E Y F F P P
UniRef90_UPI000288188A        D A D A A R R D F G T W F G
UniRef90_UPI0003291993        S L E A A K R E I Q H F F P P Q N T L
UniRef90_F4NWU0               L P E D G T L E S Q F F F
UniRef90_E2BWD1               N V E R A T Q E L Q Y F F P D
UniRef90_D6WA76               N A K E A T R E N R Y F Y P D S
UniRef90_D6GUZ1               S K E T A E K E T T L W
UniRef90_V6THT5               S K G D A D R E L G I V F
UniRef90_M8C6F4
UniRef90_UPI00032AE93B
UniRef90_T1FZG7               L P E D T V I E L E Y F F K
UniRef90_K2DP70               N I T E A Q R D I N I W F K Q G E I G N Y N T A           Y E
UniRef90_V7PUK3               D C K   I D K E I N M F F S K S Q F
UniRef90_U6GAB5               L A E D A A L E C S Y F F
UniRef90_E4X426               A L Q S A Q S E L S I L F P D
UniRef90_UPI0003AF941E        D S E D A R R E L A L L F P S F R F S D
UniRef90_J3JVG9               G L N D A R K E S R Y L F P R T E I V R T K P I D
UniRef90_K2CDC5               S A E S F A Q E F I V Y F S N E E I L N Y H L D L E R W I Y
UniRef90_R7Q1Q5
UniRef90_H9J2D8               L A E D G L L E V E Y F F K
UniRef90_UPI0004415FFE        D P Q T A E I Q I Q S M F A S S
UniRef90_B1L5S4               D P A S A I R E A L V F F E M D E V L D A I L S E E D
UniRef90_K1Z0T9               K P E E A Q R E I E I W F D E K D L V N Y R L V Q E Q I L Y D
UniRef90_Q99MH5-2
UniRef90_D8PZW0               D V E T A E V Q I A S L F A S S
UniRef90_M5FPR7               S T D D A E R Q I A I L F A G S
```


1 10 20 30 40
UniRef90_N6TS55 T C C V V K P H A I L E G K L G H V L S A I N E S H Y K I T A L Q M F
UniRef90_T0Z2L0 L E R T L I I I K P D G V E K G Y E G S I V E R I I A A G L T V E K R K R S
UniRef90_A0A023CNM5 F V I C K P D A V Y L N L E Q E I L S F L R Q K G F K I L A C K Y V
UniRef90_M3C2I8 I L C K P D A V A R G L T A R I L E M V T A A G F T V T D R M D V
UniRef90_V2XCB7 S Q K T R T V A I I K N H A L A H R L D I E P R I V E A N F E I V K E R Q M
UniRef90_E1BUJ6 A Q I L C T V L L I K P G A W S H H L A R I L R K L D L E K F T V V G M K H V
UniRef90_H0Z013 A Q V L C T V L L I K P G V W S R R L P S I L R D L H L E R F S V V G M K H L
UniRef90_F0YM77 C T C C V V R P H A V M G K Q L G A I L S H I E A L Q Y E I S A M A L F
UniRef90_L5MIV3 K P D G V Q R W L V G D V T W Y F E R R G F K L V G M E M F
UniRef90_T1GM60 L R R K R I Q I G R Y A I H
UniRef90_A0A024GSX1 C T L C I L R P R L V Q E G R L G D V V R R I Q N R S F E I S A M R S F
UniRef90_M7CIP2 A Q L L C T V L L I K P G V W A H S L A R I L R K L D L E K F S L V G M K H I
UniRef90_D0NBP2 A T F E C T C C V V L P H V I K E G R L G E V V S A I Q C D G V R I T A M E L F
UniRef90_R6UWI6 Q K T F L M L K P D A F A G G H A Q E V L R E L R S H G L V I V T M G V M
UniRef90_UPI000477D76F T V A T C K P D A T R R G L V G P I L E W I G A E V R L V E R R S V V
UniRef90_UPI0003743303 T V A L C K P D A T R R G L I E P I L D W I G G E V R F V Q R R R L
UniRef90_UPI00035F3E7B L V M L K P D A V R Q Q L T G P I L R W L T D R G F E L V G F R Q F
UniRef90_R1CC51 Q Q T L V L C T P D A V S R G V T F E I S S Q F E K R G L T M V A C R M L
UniRef90_UPI0003837D5A T L A L F K P G A W R Q C F G K I L T L I K Q N G Y T L V G L R V L
UniRef90_UPI00045DCAF8 K L E K T L A L L R P N L F H E R K D D V L R T I R D E D F K I L E Q R Q L
UniRef90_UPI0002652C86 V E R T L A L I K P D A I D R A E E V E E I I L Q S G F T I L Q K R R V
UniRef90_J9IAQ7 L L L I K P H C V Q S G Q A G K I I D R I L E E G F E I S A M Q T F
UniRef90_I3IHN0 P D A I I K N H A A E L S E Q L K D M N A M H E F N K I I
UniRef90_F0RZF8
UniRef90_T0Z9Q1 Y D R F E R A G X R I A A X R M L
UniRef90_X8JUC9 T L A I I K P H A T K Q R L K I E K R I T E A G F E I L K E R K M
UniRef90_UPI00034F9815 T V L L L K P R I W S S A L G K I L F K V Y Q Q K F I L V G M K P V
UniRef90_L1JC47 T L A I I K P E A T M Q L H K I L K Y M R K A E L S V I G L K K L
UniRef90_E1R8V2 A T L E R E F G I S I G E E L R R E I T N T F G V Y Y A
UniRef90_M7CAE7
UniRef90_T1JFH3 R L Q L T L A I I K P D I S I Y P F R L R V R H L L L K N D F L I V R S R K M
UniRef90_UPI0003BB6F14 K L E K T L A L L R P D L F Q E K K E D V L N I I K N E G F H I L M Q R P V
UniRef90_X1G0L6
UniRef90_K2BZH8 L V L L K P D C I V R G L T D V V I S G I T R S G L R I V Y S E D T
UniRef90_G0R0J0
UniRef90_UPI0003EE005A C T L A I I K P D A V V H G K T D E I I M K I H E A G F D I L A N E E R
lupas_21
lupas_14
lupas_28
jnet
conf 9 9 8 2 6 8 8 8 7 4 4 7 8 7 5 5 3 1 0 7 9 9 9 9 9 9 8 7 4 4 8 3 1 2 2 3 3 3 2 0
sol25 B B B B B B B B B B B B B B B B B B B B B B B
sol5 B B B B B B B B B B
sol0 B B B B B B
jhmm
jpssm



```
                                        50                  60                  70                  80
UniRef90_N6TS55        Y L N N A N A D E F L E V Y K V V S D Y H A M L L S F I D G P C V A L E I R D L
UniRef90_T0Z2L0        T L S K E F C N S F Y I V K I G E S I L D R F A G Y M A S N E T V V M V V S G E
UniRef90_A0A023CNM5    T I T P D I C R L L Y W N G Y D V P W W E L E A E F F N L G E S L C V L V Q G T
UniRef90_M3C2I8        I A E P W Q A H V A Y R D M R D M R D L P A Y I D A A Y A G K P V T L A L A H P
UniRef90_V2XCB7        E F D V E S D P E T L Y E L           F G D D A E S L G E G P V W V Y V L E R R
UniRef90_E1BUJ6        H L E P D I A L G L L E A K Q D P A V L Q A H R T Y L T S G T S L V L C L Q R P
UniRef90_H0Z013        E L A V P A A T T P R Q E Q Q D P A A V E A H C T Y L T S G T A L V L C L Q R P
UniRef90_F0YM77        K L D I P A A A E F L E I Y E V I P E F E A S V K Q L S S G P C C A L E L R T G
UniRef90_L5MIV3        Q A P E S A L A E H Y H D L R R   A F Y P A L I S Y M S S A P W W P W H W E G S
UniRef90_T1GM60        V G P K E L F E K H H A N L S A L P F I L G L V K Y M S S G P V V Q M V W E H L
UniRef90_A0A024GSX1    H L T L S Q A D E F F Q A Y K V V P K Y Q E L I N Y M S S N I C T A L E I R G D
UniRef90_M7CIP2        S L K P D I V L G L S E A K Q E P A I L E A H C S Y L T S G S S L V L C L Q R Q
UniRef90_D0NBP2        V L D R T T A A E F L E V Y E V V P H F N E S V D H F T T G A C L A M E L H T N
UniRef90_R6UWI6        K T L I D H Y A G V I D S M S K D F N F P G K L S F Y Y D G P H T I M P M E V S
UniRef90_UPI000477D76F V T E R H I F T H Y A D M I A L D D R F P F D V R A E L R R N W V G Q T V Q A E
UniRef90_UPI0003743303 R V S E R H I F T H Y A D M A L D D R F P F D V A N E L C R N W V G Q T V T T E
UniRef90_UPI00035F3E7B L L S A E R A N L Y R T T R R G G R L D W Q L N A V L Y T L G P V Q S L L L H P
UniRef90_R1CC51        R A T T A Q A Q A H V D C T K           A G S V A Q L T S G P A V A T V W Q G A
UniRef90_UPI0003837D5A L L D S T M A S A L I H S P E K Q D P T E E L   E Y L R S G P S L A L G L L R V
UniRef90_UPI00045DCAF8 V L S E K E A Q A L C K E Y E N E E Y F N K L I E N M T S G P S M V M I L T K W
UniRef90_UPI0002652C86 H L T P E Q M S D F Y A E H F G K M F F P S L V A Y M S S G P I I A M V L A R E
UniRef90_J9IAQ7        F L D R A T A E E F F E L Y K V V P D Y S Q V I D Q M V S G P T I A L E V R Q D
UniRef90_I3IHN0        Q Y M T G L D P E                 K T S P S D K E K P G T A R C L A L L Y R G P
UniRef90_F0RZF8                E R I V E F M A G L K P S E C K P E D L D K P G L V K C M V L V Y E G K
UniRef90_T0Z9Q1        Q L S R T E A E S F Y S V H R E R P F F P S L V D Y M T S G P V I G A G L E G E
UniRef90_X8JUC9        G F               H L D G S G A V E V F G P D A P S L C G E P V W V Y V L S R P
UniRef90_UPI00034F9815 S L T T A M C S Q I L P E D K N E A L C L A H C D Y L T S A P C L V L C L Q R Q
UniRef90_L1JC47        S M S Q E Q T H C I A R H D G E N H S N S M L L         G Q S C I A L A L E R T
UniRef90_E1R8V2        E D Q F G Q I V E F M S G I R P E D C P V D E Q H N P G K V K S M V L I Y E G I
UniRef90_M7CAE7                                                                    M V L A R H
UniRef90_T1JFH3        H L D V N E A E M F Y Q I H K D K F F Y N R L V T Y M S S G I C Y A H I L A R E
UniRef90_UPI0003BB6F14 V L S E E E A R T L C K E Y E N E N Y F D K V I E N M T S G P S L A L V L V R E
UniRef90_X1G0L6                        K F I S G I D P R E V F E E G K E R E S K E K C L A L V Y Q G E
UniRef90_K2BZH8        L L T I E Q V E S I Y S E M V N A P F Y H A M V E Y L T S S P S K I L L V S G E
UniRef90_G0R0J0              K Q E A M N L F Y K H Q Q M N Y F Q E L V D Y M I S G E S V V L C H E T E
UniRef90_UPI0003EE005A T M T E A E M Q L L Y Q H K A G E V S S S A S T C P T H S R F F L F L Q H Y V Y


lupas_21
lupas_14
lupas_28
jnet
conf                   1 4 4 4 6 7 7 5 6 5 3 6 6 4 1 4 7 7 7 5 1 3 7 7 6 5 1 5 8 8 6 0 6 8 8 7 4 2 1 7
sol25                    B       B B     B B     B           B     B B   B B     B B B B B B B B B
sol5                               B                               B B     B         B B B B B B
sol0                               B                                                     B
jhmm
jpssm
```



```
                                          90                  100                 110                 120
UniRef90_N6TS55         N V H S E F R M F C G P S D S D I A R P A T L R A R F G C D K Y K N A V H C T D
UniRef90_T0Z2L0         D A I G V M K R L V G R T D P Q A A G K G T I R G D F S S D S I M N I I H A S D
UniRef90_A0A023CNM5     T S P P I D K K L K G H Y R P E Y A K I G T I R S R F G I N R I F N L F H S S D
UniRef90_M3C2I8         G I H A R L R Q L I G H T D P T R A V A G T I R G D L S D D L V R N L V H T S D
UniRef90_V2XCB7         R S V E V W N A L M G N R D P E V A R P N S L R A L Y G V S L K Q N A L M G S P
UniRef90_E1BUJ6         N A V K K L M D M L G P E D P K V A Q P C L W R A Q Y G I D A V Q N G F Y G S E
UniRef90_H0Z013         N A V K K L M D L L G P E D P Q L A Q P C L W R A Q Y G T S T V Q N G F Y G S R
UniRef90_F0YM77         T A V Q H F R E S C G P W D V N F A R P Q T I R A K F G I D G V K N A V H C T D
UniRef90_L5MIV3         H V V C T S R A M T G R M D S V R L P P H H S R G P Q C M Q K P V P Y L W D L P
UniRef90_T1GM60         N V V K I G R Q M L G A T N P A N S L P G E       D F Y I R N G R E I I H G S G
UniRef90_A0A024GSX1     D I V S S F R E F C G P F D V E I A Y P D S L R A S F G S S K L D N G I H C T D
UniRef90_M7CIP2         N A V K K L V D L L G P E D P T L A Q P C F W R A Q Y G A S S V Q N G F Y G S R
UniRef90_D0NBP2         D V V A Q F R A S A G P W D V E M A K P Q T I R A K F G H D R V R N A V H C T D
UniRef90_R6UWI6         Y E G S D D R T L A G K T N P Q D A G A D T I R G K Y S D D S Y E N V I H A S D
UniRef90_UPI000477D76F  G T P E H V R G L L G H Y D P A R A A P D S I R G H F G A D S I A Q A I H T S D
UniRef90_UPI0003743303  D T P E R V R A L L G H Y D P S R A A P D T I R G H Y G T D S M A N L I H T S D
UniRef90_UPI00035F3E7B  A A S V V S G R L K G D F R P S R A Q P G T M R A D L G A N P I F N L V H S A D
UniRef90_R1CC51         G A I A A G I E I A G A A G G S                                   D L L S V S P
UniRef90_UPI0003837D5A  N A V M R L W E L M G P E D P I E A R T V D W R A Q F G S D R L H N G I Y G S R
UniRef90_UPI00045DCAF8  N A V A E W R R L M G P T D P E E A K P D S I R A R F G I S K L K N V V H G A S
UniRef90_UPI0002652C86  N A I G Y W R E L C G P T N S M K A H P D S I R G M Y G I D D Q Q N
UniRef90_J9IAQ7         N V V Q G L K A V C G C Y D P
UniRef90_I3IHN0         D A I R K I R N I L G P T D S K K G E P G K V R R I Y G E D I M K N A A H A S D
UniRef90_F0RZF8         D A V Q K I R T I L G A T D P N K A T A G T I R R E F G S N I R V N A A H A S D
UniRef90_T0Z9Q1         D A V Q K N R D L M G A T D P A R A C
UniRef90_X8JUC9         R S A S A L S A L A G P L D P R R S D P E C L R A L Y G A N R W E N G V W T T K
UniRef90_UPI00034F9815  G A V L K L L D L L G P E D P K A Q D Q F L W R A Q Y G T S A V Q N G M Y G S T
UniRef90_L1JC47         N A V A V L L K L C G D E D P S L A R E F A L R A M F G L S A T A N G L H A S R
UniRef90_E1R8V2         D A V K K I R D V L G P T D P T K A P G G T V R R E F G S N V M V N T A H A S D
UniRef90_M7CAE7         H A I A Y W K E L I G P S N S I R A H P D S L R A I Y G T D D L R N A V H G S I
UniRef90_T1JFH3         D A I G A W R R L M G P
UniRef90_UPI0003BB6F14  N G L Q H W K E L I G P S T V G E A K Q Y F P
UniRef90_X1G0L6         N A I T K I R K V L G E T N P K E A A P G T V R K D F G L D I I K N G A H A S D
UniRef90_K2BZH8         N A Q G I M Q T V K G N D D P D G N P V D A I Q S G G R L Y V F K N I I H V S D
UniRef90_G0R0J0         N P I E K W K R I I G K S D P E I A N M N C L R A I Y G K N I I K N E L H G S D
UniRef90_UPI0003EE005A  R L M L V W E K I


lupas_21
lupas_14
lupas_28
jnet
conf                    4 5 7 6 6 5 4 2 0 6 7 8 7 7 7 7 7 6 6 4 1 0 5 5 6 5 4 2 6 8 8 7 4 0 5 3 0 7 7 6
sol25                     B B   B B B   B B B   B   B     B   B   B B B B   B B     B   B B B B B B B
sol5                      B       B     B                 B         B       B B           B B B B B
sol0                              B                                                         B
jhmm
jpssm
```

```
                                           130                 140                 150
UniRef90_N6TS55         L P E D T R L E L E Y F F
UniRef90_T0Z2L0           A A N A E N E I K L
UniRef90_A0A023CNM5     C T K A A K R E A S L F F T A E E I
UniRef90_M3C2I8         D P E G A R R E Y G T W Y G P G Q I N D F D R C
UniRef90_V2XCB7         D A E M A E V Q I A S L F A S S P P F P T T D L P E D
UniRef90_E1BUJ6         S Y Q I S V R D M K L F F P E G L C C E C Q T L E E E E I Y
UniRef90_H0Z013         S Y A M A V R D V K L F F P E
UniRef90_F0YM77         L P D D G E S E V R Y F F       E I L N
UniRef90_L5MIV3         P V T G A Q R E S R L W F Q S N E L V D W A A H I H P
UniRef90_T1GM60               A A N K K I N L Y F T K K E L V S
UniRef90_A0A024GSX1     C S E D G M L E S Y F F F
UniRef90_M7CIP2         S Y H A A V R D M K L F F P E
UniRef90_D0NBP2         L A E D G V L E C Q Y F F
UniRef90_R6UWI6         S H E S A Q R E L N I W
UniRef90_UPI000477D76F  D A E G S E R E F N V W F G P
UniRef90_UPI0003743303  D A P G T A R E F G V W F G P D N
UniRef90_UPI00035F3E7B  D P A S V R R E S R V L F D D G P V F D
UniRef90_R1CC51         S A A S A T L E I A V W F G A D E V
UniRef90_UPI0003837D5A  S Y R N A I E D M K L L F P S
UniRef90_UPI00045DCAF8  N A Y E A K E V I N R L F N P E E
UniRef90_UPI0002652C86
UniRef90_J9IAQ7
UniRef90_I3IHN0         A V E N A E R E I G L W   E N K E P Y E L K E I I E D Y L
UniRef90_F0RZF8         S A E N A Q R E M G V L     K A E E N F C Y S L I S E
UniRef90_T0Z9Q1
UniRef90_X8JUC9         D E A S A E R V V S E L F S G S P I M E
UniRef90_UPI00034F9815  S Y Q A A I R D I Q T F F P E G L L F E
UniRef90_L1JC47         S F L S A Q E E I R S I F P E
UniRef90_E1R8V2         S P E N A K R E M K I L     K I E E N N C G R V L K D Y I
UniRef90_M7CAE7         R F S S A E R E I Q F M F P E I E P I P V G Q A A K D Y L
UniRef90_T1JFH3
UniRef90_UPI0003BB6F14
UniRef90_X1G0L6         S S L S A E R E M K I I
UniRef90_K2BZH8         D G M T   E R E       F F
UniRef90_G0R0J0         N A F D S N K E R D I F
UniRef90_UPI0003EE005A


lupas_21
lupas_14
lupas_28
jnet
conf                    3 6 7 8 8 9 8 8 7 6 1 4 7 7 7 7 7 7 5 3 2 5 6 6 7 7 7 7 8 8 9
sol25                           B     B B   B B B         B B   B     B B     B B B
sol5                            B       B
sol0                            B
jhmm
jpssm
```