

1 K N K K W T D E E F H K Q R E E V L Q Q W P T G K E V D Q E A V D Y L K
 UniRef90_B8CYC4 M T I K D K R L D E E L F L K E R E E V L K A W P T G K E V D F D E A V I A Y H K
 UniRef90_F5YRD2 M E L E N K R I T D D E F Y K I R Q E E V L Q Q W P T G K D V N L E E S F A Y H K
 UniRef90_F4LS62 M E V Q N K K W D M K K F S E M R Q E E V L N Q W P T G K E V D F E E A V R Y H Q
 UniRef90_UP100037409CE M E I R N V R I S D A E F Q K E R E E V L Q Q W P T G A H V D F E E A V E Y Q K
 UniRef90_V71490 M N L R N R K L T E E E F M G I R S D V L T H W P T G K D V D F D E A V E Y L K
 UniRef90_R6VBU8 M D L R N K K M S D D E F Y G I R K E I L E Q W P T G K E V D F D E S V A Y H K
 UniRef90_UP1000363EAA9 M E L K N K K L T N D E F Y T I R K E I L N H W P T G A E V D F E E A V A Y H K
 UniRef90_I1YR38 M E L K N K K L T D D E F F K E R A D V L T H W E T G K E V D F Q E A V D Y Q K
 UniRef90_K8DYS6 M Q L A N K K L D W D E F L H I R Q E E V L N T W P T G R E V D L A E A V V A Y Q S
 UniRef90_A6TTM5 M E L K N K K L S E E S F F Q E R K E V L T H W V T G K D V D L Q E A V D Y L K
 UniRef90_UP10003639C9F V E I R N K K I S K E E F F N R I R E E V L S W P T G R D V N L D E S F E F H K
 UniRef90_R5J2Z3 M E I Q N R K I P E G E F M A M R Q E E V L Q Q W P T G R D V D L T E A A A Y Q K
 UniRef90_UP10004648972 D L R N E K L S D D I F Y S I Q K D V F N Q W N T S K G I D F K E A V E Y Q K
 UniRef90_W4UWJ6 M T L K N E K L S K D A F F K E R E E V L Q Q W P T G K A V N F D E A V E Y Q R
 UniRef90_E3H6D0 M K L K F N R W T E E E F M K V R E E V L K Q W P T G A E V D L D E A V A Y H K
 UniRef90_E3DQY7 M K L I E N K K W S L E K F N Q I R E E V L K Q W P T G Q D V D L E E A I I E Y Q K
 UniRef90_H5XXN6 M R N K R L E T D E F K A R R Q E E V L K Q W P T G E G V N F Q E A V A Y H K
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QUERY

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S	I P E E R I M V N T L	M K A D Q V G K T L I Q P R A G V A L P E E H I G L L Q		
S	L P E H K I F S K K L	L K A K Q S G T T L I Q P R A G V A L I G E H I K L L L K		
N	L P K N Q I M T N K L	R E A A T K N N T L I Q P R A G V A L Y D E H I E L L L Q		
K	I P K S Q R F D E K L	Q K A D K A G V T L I Q P R A G V A L I D E H I E L L L Q		
K	V P D E K N V A K K L	R K A K E E G V T L I Q P R A G V A L I D E H I E L L L Q		
A	M P E S K S F S K K L	A K A K A E R R T L I Q P R A G V A L I E E H I T L L L Q		
Q	I P D S R Q F A K V L	L K A K K D K V T L T Q P R A G V A L I E E H I T L L L Q		
S	I A P E K R F S Y K L	Q K A V E N G D T L I Q P R A G V A L V H E H I E L L L R		
G	I P V S R R F A E K L	A Q A K Q E K L T L A Q P R A G V A L V D E H I K L L L Q		
Q	I P K H K N F A L K M	R K A K A D G I T L A Q P R A G V A L V D D Q I K L L L Q		
S	L P K N Q I F S V K L	V K A K E E G I L T L I Q P R A G V P V L E E H I K L L L Q		
Q	Q K P S R N F S A R L	I E A K E H R T L I Q P R A G V P L I E E H I K L L L Q		
K	I P D N K R F S N K L	N N A E N N G V T L I Q P R A G V A L V D D E H I E L L L K		
A	I L P E K R F G E K L	S K A K A E K V T L I Q P R A G V A L P S E H I Q L L L Q		
A	L P D H K N F A K K L	I D A K E K G I T L A Q P R A G V A L I D E H I E L L L R		
N	I E P K K R V T A K L	K E A K E S G I L T L I Q P R A G V A L I D K H I E L L L R		
A	M P R E N V F A E V L	A K A K A E G R T L A Q P R A G V S S L I D E H I A M L K		
S	I P E H K R F S L A L	L K A D Q Q G K T L S Q P R A G V A L I D E H I E L L L K		
K	I P R E K C F G E K L	Q K A V A D K V T L I Q P R A G V A L Y R E Q I E L L L Q		
S	V P R E K N F A L K L	Q E A N N N K Q V T L T Q P R A G V A L I S S E H I N L L K		
S	L P E H K I F S N K L	N K A K K E G V T L V Q P R A G V G L I S E N H I E L L L K		
N	L P R S K N F S Y K L	A E G K A R G I T F A Q P R A G V A L L N E E H I E L L L R		
S	S L P E K Y A D Y V L	K K A D E E K R T L L Q P R A G V P I L R E E H I L L L Q		
S	I P D S K N F A L T L	L K A D Q A G I L T L S Q P R A G V A L M D E H I A L L K		
D	I P E S K R F S A A L	A R A E T T N N K T L L L Q P R A G V A L L S E Q I T L L L Q		
S	I P K E K N F A H A M I	Q A E R E G R T L L L Q P R A G V A L V D E H I K L L L Q		
A	I P E H K R F S S A L	A R A D R E G R T L R Q P R A G V A L V D E H I K L L L Q		
G	P K E K V A Y Y K L	L K G Q A E G R I Y L Q P R A G V A L I D E H I A L L L K		
A	L P P E K N F A V K L	K K V K E E G I T A I L Q P R A G V A L L N E E H I A L L L K		
K	I P P E K N F A I K L	E Q A D K E G I T T A Q P R A G V P P L L D E H I A L L L Q		
A	L P E A K R F P L A L	S R A D A E N R T L L L Q P R A G V A L L R E E H I A L L L Q		
E	M P D S K F K S V A L	A N A E E A A H K T L L L Q P R A G V A L L R E E H I A L L L Q		
S	L P K H K Q F A T V L	E S A S G V L T Q P R A G V P P C L D D Q I E L L L Q		
S	L P D S K R F A D V L	E S A E T P L L Q P R A G V P P R L D D Q I E L L L Q		
G	L P A P N K R F T P T L	R H A D H V L L Q P R A G V A R L S K Q I A L L N R		
S	S L P D Y K N F Q K M L	E K S I Q D N R I V T E A Y S K E T L L L E D L I K N L		
S	S L P A S K Q F A Q V L	E S A D Q P L L Q P R A G V P P C L E E Q I D L L R		
T	I P E H K R F S L A L	L K A D K E G K T L S Q P R A G V A L M D E H I E L L L K		
S	S L P A S K Q F A D V V	A D A D R V L V Q P R A G V P P C L D D Q I D L L D		
G	G P P S K E F A T V L	E S A T E P L L Q P R A G V A V R L D D Q I E L L L T		
S	S V P K H K S F H R K M I E A D R E G K I P L L Q P R A G V G G L Q E H I K L L L H			
S	S L P P H K R F A A V L	E N A E A V L C Q P R A G V V P R L D D E H I V E E L L L Q		
S	S L P E S K I F Y K Q L	Q K L D T E K R M A N F P R A G T P I L E D E L V R E		
N	A S K N L F I S H H F	K N A N K M L V Q P R G G F P T Y K K M F S L Y E		
N	A S K N L F I S H H F	D F G A F V R R E G G N G G L V A Q P R M G F S D P A K M R E G L I		
N	L R K Q N V H Q R L	K Q A D A L G T L L V Q P R M G F S D P N R M R E G L I		
G	A S K N L F I S H H F	T K M L V Q P R C G V G S Q Q K M G E L L L Q		
G	A S K N L F I S H H F	H K F T A D H M L V Q P R G G F P T Y D K V F Q L L Y K		
V	A A V T G T L	D D L L W N N K S N K S P L F Q P R T G V I N E D Q I E L L L Q		
M	P A P R D F G A F V	R R A H R A G R L V V Q P R M G F G D P A A M R A G L H		
N	A S K D L F I S H K F	K N S S T T L V Q P R G G F P T Y N K Q Y E L L Y E		
S	S L G K P T V R D V L	R R A D G E R G L L I Q P R C G V G H E A M R R L L E		
A	A V P A P V D F G A F V	V R A H G G E R L V V Q P R M G F G D P H R M R E G L I A		
A	A V P A P V D F G A F V	R F V V A Q R H A A G E L L V V Q P R M G F D S P A A M R A G L V		
G	G F G A F V R R A H	D A G R L V V Q P R M G M S N P E R M R A G L L		
E	E Q P S F S R A Q A L	V S T G E R P L L L Q P R A G I A L E G Q L E M F R		
G	G F G A F V A R A R A A G T L L V V Q P R M G F G D P A D M L D G L I			
P	P T T G S F G D F V	T R A R A A G T L L V V Q P R M G M A D P L R M R D G L R		
S	S T G G E F V R H A R A A G S E G E L L V V Q P R M G F S D P A R M R A G L L			
S	R F S R F V R R A A D E G R L V V Q P R M G F G R S D Q M R A G L E			
M	M N F G E F V R W R H	A R G A L V V Q P R M G F A D P T L M R A G L L		
K	K P D Y K N F S K R L	I A A K E D F I T L I Q P G M A P E E R L G L K		
K	K P D Y K N F S K R L	I A A K E D F I T L I Q P G M F A E I P V M R D G L L		
M	M A T P G R F T R F V	R T S R A G G L V V Q P R M G F G T V D Q M R A G L D		
G	G F G G F V V G A A R	S S G R L V V Q P R M G M S D P Q V M R E G L L		
A	A P R P F G A F V	V A D S A A A G R L V V Q P R M G F G D P R A M R T G L E		
F	F H R F M D A A A R S G A L V V Q P R M G F A D P A R M R A G L L			
T	T A Q P R G R F S R F	V S Q A R Q Q G R L V V Q P R M G F G E I A Q M R A G L D		
F	F G G F V V R A A R	A R G R L V V Q P R M G F G D P V T M R A G L L		
F	F G G F V V R A A R	F G R G L V V Q P R M G F G D P V T M R A G L L		
S	S S P G S F G A F V	V S A A R R A G R L V V Q P R M G F G D P V T M R A G L L A		
F	F G G F V V R A A R	A R G R L V V Q P R M G F G D P V T M R A G L L A		
D	D F G A F V V R A R S	A R G D L V V Q P R M G F G D P V T M R A G L L A		
R	R M A S F V V A R A A A E G R L V V Q P R M G F G T V A Q M R A G L E			
M	M S F G R F V V K R A A S	L V V Q P R M G F G D P V A M R D G L R		
I	I C A Q R G S S A T Q A T A D R E R R A L I H P R T G V S G F Q E Q I D L F D			
A	A P A R A S F G G F V	V A A T A A G R L V V Q P R M G F G D P G R M R S G L A		
K	K S T K R H P V E V L	R G A A R G R P V V Q P R C G V G H Q E M R R L L S		
S	S L D K E S V H S V L	T R C E S E G R V A V Q P R S G V G H Q E M R N L L T		
E	E L S H G K N F A L T L	K Q A K E E N N Q V L I P Q F G R T L T E H T L E G L L Q		
T	T G F G A Y V R S V H	R R G E L V V Q P R M G F S G T V E M R A G L L A		
G	G F G F V V R D A N A A G R L V V Q P R M G F G D P P R M R R G L L R			
P	P P A A D F G A F V	V A R V G G P R R L V V Q P R M G M S V P S T M R E G L L L		
P	P F G D Y V V E E A N Q A G R L V V Q P R M G F C D P D L M R M G L I A			
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QUERY	90	100	110	120
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UniRef90_E3H6D0	F L D E K G G A D L L P P S T I	D S Y T R Q N K Y E E C E R G I	I E S R R A G R S S	
UniRef90_E3DQY7	F L Q D E G K A D I L P P T T I	D S Y T R Q N N Y E D A E A G I	K E S R E E K R S S	
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UniRef90_G5GA79	Y L E D K G G A D L L P P T T I	D A Y T R L N R Y R E E A A V G I	E K S K I S G R S S	
UniRef90_U2E0A0	Y L S E E G E A D L L P P T T V	D S Y T R L N R Y R E E V E V G I	K E S V R L N R S S	
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UniRef90_B5YEV1	Y L Q K E G G A D I L P P T T I	D S Y T R Q N R Y R E A Q I G	E E S L R E G K S S	
UniRef90_G9YZ22	K L E P D C D L L P P S T I	D A Y T R H N R Y R E E A A I G I	K H S I E A G T S S	
UniRef90_F3LFB6	H Q N S C D L L P P T T I	D A Y T R L N R Y D E A Q V G I	D R S V K A G T S S	
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UniRef90_K4LJT5	S L E K E G E A D F L P P T T V	D S Y T R Q N R Y R E E A A R G I	K E S K A A D R S S	
UniRef90_Q3AFA5	Y L E K E G E A D F L P P T T I	D S Y T R Q N R Y Q E A Q R G I	E E S L A E G R S S	
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UniRef90_UP1000477D6D4	D L S P H C D V L P P T T V	D A Y T R H N R Y E E A Q A G I	D R S R A A G T S S	
UniRef90_U1MZ4	T L T D E G D A D L L P P T T I	D S Y T R D N Q Y E K A Q V G I	K E S R T T G K D	
UniRef90_R4W8S5	H L Q N E G G A D L L P P T T I	D S Y T R D N E Y G K A G D G I	E D A R E T A E D S	
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UniRef90_Q9HN20	H L D E E G G A D L L P P T T I	D S Y T R D N A Y E K A A E G I	A R S R E T D S S	
UniRef90_A5CZJ8	T L N S L G V I C T P L T T D	D S Y T R N L Q F E K A Q Q G I	E E S I R T G K P	
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UniRef90_A6Q984	E F K E A N V D V L P T I	D S Y T R V L N D Y A S A K K M L	M A L S E E N D V D	
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UniRef90_D9VEY9	A T K H A N A A T V G T I T L	D S Y T R V R D T E S A E H A L	R N G I P	
UniRef90_G2NJK1	A T R D A D A T T V G T I T L	D S Y T R V G D L E S S A Q I A V	E G V D	
UniRef90_A0A017SWU6	R F K R Q G Q L R V L S I Y Q V	D S L T R V G Q D Y A G A A E G I	R A S Q N A G A S	
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UniRef90_UP100035D47E6	A T R D A A A T T V G T I T L	D S Y T R T R M G D N V N A H A A L	A A G V E	
UniRef90_D1GLU8	A T R R A A A T T V G T I T L	D S Y T R V G D L A A A R D A L	R A G L A	
UniRef90_G8XFH6	A V R A A R G T T V G T I T L	D S Y T R V N D H A S A R D A L	A A G A D	
UniRef90_C4RJX4	A T R Q A D A A T V G T I T L	D S Y T R V G D L D A A G H A L	R Q G I A	
UniRef90_A5N4X5	Y L Q D E G K P D L L V S M Y N S V A Q N E N N S S N	D S Y T R V N D H E S A R R A L	L A A G	
UniRef90_UP10003C74014	G V R A A R A A S V G T I T L	D S Y T R V N D H E S A R R A L	R T G A E	
UniRef90_UP1000288972B	A V S R V D A A T V G T I T L	D S Y T R V N D H E S A R R A L	T	
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UniRef90_UP100036E9B35	R T R A A T A T T V G T I T L	D S Y T R V G D L A A A R G A L	D E G T R	
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UniRef90_C7QKA3	A V R D S H A T A I G T I T L	D S Y T R V N D H E S A R R A L	L A A G	
UniRef90_S5UBY3	A T R D A A A T T V G T I T L	D S Y T R V N D H E S A R R A L	L A R G	
UniRef90_J7L7I0	R T R A A D A V A G T I T L	D S Y T R V I G D H E A A R R A L	R D G I E	
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UniRef90_R4LM95	A V R G C R A R A V V G T I T L	D S Y T R V I G D H E S A R R S L	A R G A D	
UniRef90_W7JE85	A T R D A D A T T V G T I T L	D S Y T R V I G D H Q A A A K A L	R E	
UniRef90_UP100037F1AD8	A L Q T T G A E V V L S I F Q I	D S L T R N Q H E Q V E L L	R A	
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UniRef90_A8M7A5	A L E E R G R P G I L T I	D S F T R L K Q F R S A A Q T L	G G T	
UniRef90_U7NJB5	T I E E S A A P D I S T L T I	D S Y T R L Q K F D Q A S N L	S R N P A	
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130 140 150 160

QUERY	UniRef90_B8CYC4	UniRef90_F5YRD2	UniRef90_F4LS62	UniRef90_UPI00037409CE	UniRef90_V71490	UniRef90_R6VBU8	UniRef90_UPI000363EAA9	UniRef90_I1YR38	UniRef90_K8DYS6	UniRef90_A6TTM5	UniRef90_UPI0003639C9F	UniRef90_R5J2Z3	UniRef90_UPI0004648972	UniRef90_W4UWJ6	UniRef90_E3H6D0	UniRef90_E3DQY7	UniRef90_H5XXN6	UniRef90_B7LKN1	UniRef90_G5GA79	UniRef90_U2E0A0	UniRef90_R6CBM5	UniRef90_Q24SG9	UniRef90_B5YEV1	UniRef90_G9YZ22	UniRef90_F3LFB6	UniRef90_F8F1V4	UniRef90_UPI00045E85F3	UniRef90_K4LJT5	UniRef90_Q3AFA5	UniRef90_Q73K12	UniRef90_UPI00046577A5	UniRef90_UPI000477D6D4	UniRef90_U1MZE4	UniRef90_R4W8S5	UniRef90_V4YDA7	UniRef90_D6LIC8	UniRef90_Q5V466	UniRef90_K3K574	UniRef90_U1PN51	UniRef90_L0IBG1	UniRef90_V9GMU8	UniRef90_Q9HN20	UniRef90_A5CZJ8	UniRef90_G2HVVW0	UniRef90_UPI000347FEA7	UniRef90_W7T9Q2	UniRef90_S9QQC5	UniRef90_A6Q984	UniRef90_C7PT82	UniRef90_M3C0P1	UniRef90_UPI00046AA629	UniRef90_A0A017TA11	UniRef90_D9WEG1	UniRef90_A0A022MLW4	UniRef90_D9VEY9	UniRef90_G2NJK1	UniRef90_A0A017SWU6	UniRef90_S5TTR8	UniRef90_A0A024Z1V5	UniRef90_UPI00035D47E6	UniRef90_D1GLU8	UniRef90_G8XFH6	UniRef90_C4RJX4	UniRef90_A5N4X5	UniRef90_UPI0003C74014	UniRef90_UPI000288972B	UniRef90_UPI0003777137	UniRef90_UPI00036E9B35	UniRef90_UPI000429150A	UniRef90_C7QKA3	UniRef90_S5UBY3	UniRef90_J7L7I0	UniRef90_UPI00029AC8A7	UniRef90_W5W2X4	UniRef90_UPI0004641366	UniRef90_I2MUUF8	UniRef90_UPI0003645775	UniRef90_R4LM95	UniRef90_W7JE85	UniRef90_UPI00037F1AD8	UniRef90_UPI000369B498	UniRef90_A8M7A5	UniRef90_U7NJB5	UniRef90_UPI0004243713	UniRef90_Q76KY7	UniRef90_G2GER0	UniRef90_D7C4D4	UniRef90_UPI00036DDC54	UniRef90_H5X7R5	UniRef90_UPI00034D247C	UniRef90_UPI000303AE79							
L L N G F P G V N F G V K G C R K V L E A I V N L P L Q A R H G T P D S R L L A E	M L N G F P A V N H G V K V C R Q V N E A V N V P L Q A R H G T P D A R L L A E	M L N G F P A V N H G V S G C R Q I I D A L D T P V Q V R H G T P D A R L L T E	M L N G F P A V N Y G V K C R K V I E S V D C P V Q V R H G T P D A R L L A E	M L N G F P I V N Y G V E I C R T V T S S L R N P V Q V R H G T P D A R L L T E	M L N G F P A V N H G V A G C R R V F E A I H V P L Q V Q R H G T P D A R L L S E	M L N G F P A V N H G V S G C R K V I E N L D I P V Q V R H G T P D A R L L T E	M L N G F P A V N H G V K G V R Q V V E N V K A P L V Q V R H G T P D A R L L T E	M L N G F P A V N H G V D I C R K V T S A V K S P P V Q V R H G T P D A R L L T E	M L N G F P A V N H G V A A C R E V T E A L T V P V Q V R H G T P D A R L L A E	M L N G F P V V N H G V H N C R K V L D A V E L P V Q V R H G T P D A R L L T E	M L N G F P A V N H G V E S C R R V I E S V N V P V Q V R H G T P D A R L L S E	M L N G F P A V N H G V S G C R R V I E S V K S P P V Q V R H G T P D A R L L T E	M L N G F P A V N Y G V D I C R K V T S A V K S P P V Q V R H G T P D A R L L T E	M L N G F P A V N Y G V D I C R K V E V T S V L K K P V Q V R H G T P D A R L L T E	L L N G F P G V N H G I E G C R K V V E S V N L P L Q V R H G T P D A R L L S E	M L N G F P A V N H G V Q G C R E V V E A L A S P L V Q V R H G T P D A R L L A E	M L T G F P A I N Y G V V A C R E V N E S V K L P C V Q V R H G T P D A R L L A E	K L N G L P V V N H G V A A C R R L T E T L E K P L Q I R H G T P D A R L L A E	M L N G F P A V N Y G V N I C R I V T S A L R N P V Q V R H G T P D A R L L T E	M L N G F P A V N Y G V D I C R K V I V T S A L R N P V Q V R H G T P D A R L L S E	M L N G F P A V N H G V S G C R K V I E S V L D K P V Q V R H G T P D A R L L T E	Y L N G F P A V N H G V K G C R Q V V E A L D T P V Q V R H G T P D A R L L T E	M L N G F P A V N H G V S A C R R L I I E H P K V P V Q V R H G T P D A R L L A E	L L N G F P A V N Y G V K A C R R L T E A L V D P V Q V R H G T P D A R L L A E	M L N G F P A V N Y G V N I C R I V T S A L R N P V Q V R H G T P D A R L L T E	M L N G F P A V N H G V K A C R E L V E S V N K P I E V R H G T P D A R L L T E	L L N G F P A V N H G V K A C R E L V E S V N K P I E V R H G T P D A R L L A E	L L N G F P A V N H G V D G C R R V V I E S V D Q P V Q V R H G T P D A R L L A E	L L N G F P A V N H G V D G C R R V V I E S V D Q P V Q V R H G T P D A R L L A E	L L N G F P A V N H G V D G C R R V V I E S V D Q P V Q V R H G T P D A R L L A E	L M N G F P A V N W G V G P C R Q V L E A V V N L P L Q A R H G T P D A R L L S E	L L N G F P A V N H G V D G C R R V L E A V E K P V Q V R H G T P D A R L L A E	L L N G F P P V V N H G V D G C R R V L D N V S K P I V Q V R H G T P D A R L L M A E	E L N G F P A V N H S V A G C R D L I A A V D A P V Q V R H G T P D A R L L A A	E L N G F P A V N H S V A G C R D L I A A V D A P V Q V R H G T P D A R L L A A	T L N G F P A V N H G V E G C R D L I C A L D A P V E V R H G T P D A R L L A A	H L N G F P A V T H G D G C R E L I V E R P V Q V R H G T P D A R L L A E	L L N G F P L V N Y G T K L A R K I I N D V E L P L Q V R H G S A D A R L L A E	E L N G F P A V N H G V E D C R R L I I R A L L D A P V E V R H G T P D A R L L A M	K L N G L P V V N H G V A A C R R L T E T L Q K P L Q V I R H G T P D A R L L A E	E L N G F P A V N H G V E A C R R L I I E A V D S P V Q V R H G T P D A R A L A A	A L N G F P A V N H G V D G C R R V L E S V D G P I E V R H G T P D A R L L A A	A L N G F P A V N H G V D G C R R V L E S V D G P I E V R H G T P D A R L L A A	A L N G F P A V N H G V D G C R R V L E S V D G P I E V R H G T P D A R L L A A	H L N G F P A V T H G D G C R E L I V E R P V Q V R H G T P D A R L L A E	L L N G F P L V N Y G T K L A R K I I N D V E L P L Q V R H G S A D A R L L A E	E L N G F P A V N H G V E D C R R L I I R A L L D A P V E V R H G T P D A R L L A M	K L N G L P V V N H G V A A C R R L T E T L Q K P L Q V I R H G T P D A R L L A E	E L N G F P A V N H G V E A C R R L I I E A V D S P V Q V R H G T P D A R A L A A	A L N G F P A V N H G V D G C R R V L E S V D G P I E V R H G T P D A R L L A A	A L N G F P A V N H G V D G C R R V L E S V D G P I E V R H G T P D A R L L A A	A L N G F P A V N H G V D G C R R V L E S V D G P I E V R H G T P D A R L L A A	H L N G F P A V T H G D G C R E L I V E R P V Q V R H G S A T P L N I F A	L L N G Y P L V N H P V E T T Q W V L D G I I R F P V Q V R H G S A T P L N I F A	M L N G Y P L V C H G Y K K V R E L N E S V Q A P I E I R H G S P D A R L L F E	M L N G Y P L V N H G Y R T T R K M I T H Y D T P V S L R H G T P D A R L L V E	Q L N G F P I P I Y G V S E V R L L L S L K R P F Q L R G G G P D H R F T Y E	A L N G F P I V S Y P V E T T R A V L R G L D F P V Q V R H G S A A P F D I F V	M L N G Y P L V N H G Y R N T R K M V I T H F N R P V S L R H G T P D A R L L I E	G L N G Y P L V S H G H L R G R E L D A A L R A P L Q V I R H G S P D P R A L F D	D L N G Y P I V S H E E S V T R W V L S G P G F V Q V R H G S A A P A D I F R	L L N G Y P I V N H P P A T T E A V L A G V R F P V Q V R H G S A T P V D I F W	L L N G Y P I V N H P S E V T R A M L D G L D F P V Q V R H G S A R P V D I F R	L L N G Y P L V S H E T A T T R V L R V L D R V H F P V Q V R H G S A A P Q H F R	T L N G L P V V N Y G V G P L R V I S T I G V P L Q T R H S A R D P R L L A E	P L N G F P I V A H G P S V T R D M I S P V D F P V Q V R H G S A R P Q D I F R	G L N G Y P I A T H P A D T T R A V L R G L D F P V Q V R H G S A M P E H I V R	L L N G Y P I V A H D V A I T A V L D G V D F P V Q V R H G S P L P E T I V G	L L N G Y P I V A H P R E T T A Q V L A G I D F P V P V Q V R H G S A D P G H I F T	L L N G Y P I V N H P V D T T R A V L D G V D F P V Q V R H G S A R P L D I F A	L L N G Y P I L K Y F I E E C R E I C V D L P V Q V R H G T Y N T F D C K L L A E	D L N G F P L V A H G A D T T R A M L A M G V D F P V Q V R H G S A L P Y P L F A	D L N G F P L V A H G A A V T R G L L A G I D F P V P V Q V R H G S A L P G E L F A	D L N G Y P I V A Y N T A T T G A V T E G I I G F P V Q V R H G S A A P L D I F E	D L N G Y P I A T H P L A V T R A R L L D G L H F P V Q V R H G S A R P Q D I F E	D L N G Y P I V T M P V A T T S A L L D G D F P V Q V R H G S A Q P G R I V E	D L N G F P V V A H G A E Q T R R L L A G V Q F P V Q V R H G S A L P Y E L F Q	A M N G Y P I T A H S P R T T R R V L H G L G F P V Q V R H G S A V P D D I V S	L N G Y P I V A R P D E E T V A L L D G R F P V Q V R H G S S R P Q D I F R	L N G F P L V A H G P A V T R E M L R G V E F P V Q V R H G A P L P Y D I L R	G L N G Y P I V S H P E A T T R S V L L D G V V A F P V Q V R H G S A V P L D I F A	L L N G Y P I V T Y D T A V T R S L L D G I Q F P V Q V R H G S A A P Q D I V A	L L N G Y P I T A H S A E R T R A V L D G I A F P V V Q V R H G S S R P A A I V R	L L N G Y P I V T Y D R A V T Q V L A G I F P P V V Q V R H G S A V P G D I F R	L L N G F P I V A H G A A V T R A M L D G I D F P V V Q V R H G S A L P Y D I F R	P L N G Y P I V S H S T E T T A A L L D G I R F P V Q V R H G S A Q P Q D I F R	F L L N G F P I L N H G V T A S R H I T S L F S G P F Q V R H S T R D P R L L A E	G L N G Y P I A A H S P D T T R A V L H G D F P V Q V R H G S A R P A A I V R	D L N G Y P I V T H G W R R G R E L N E L V S T P I E V R H G S P D P R E L F A	Q L N G Y P I V S Q G I M R G R N L N E S T R A P L D I R H G S P I A N R L F E	M L N G W P V V N F G V I E A R R I I K G N K H F P L H F N S T D E D G R I L A S E	D L N G Y P I V T Y D E S T E R E L L A G I D F P V Q V R H G S A T P L H I F G	L L N G Y P I V T H G P A A T R R M L R G I G F P V Q V R H G S A A P Q Q D I V R	L L N G Y P I V S H H A A T T A Q V L S G V D F P V Q V R H G S A N P V D I F R	L L N G Y P I V A H T A E V T R S V L L D G V Q F P V Q V R H G T A D P Q Q D I F R	L L N G Y P I V A H S P A T T Q E V L D F Q V Q V R H G S A S P Q Q R I L A	L L N G Y P I V V H P R S R S L E M L R D V P V Q V R H G S S R P Q Q D I F R	L L N G Y P I T A H A P A V T A R M L A G I R F P V Q V R H G S A V P Q Q H I F A

170 180 190 200

QUERY	170	180	190	200
UniRef90_B8CYC4	I H A G G W T S N E G G G S Y N P Y A K N V T I E K S L D W Q Y C D R L			
UniRef90_F5YRD2	T L A G G F T D F E G G G I S Y N P Y A K S V A I E D T I R Y W Q Y V D R L			
UniRef90_F4LS62	A Y A G G F T S Y E G G G I S Y N P Y A K N A D L E E K T I L D W Q Y A D R L			
UniRef90_UP100037409CE	T L A G G F T D F E G G G I S Y N P Y S K D H S L A K T I R Y W Q Y T D R L			
UniRef90_V71490	I H A S G W T S N E G G G I S Y N P Y A K S V S M E K T T I T D W Q Y C D R L			
UniRef90_R6VBU8	C Y A G G F T S Y E G G G I S Y N P Y A K S V S M E K T T I T D W Q Y C D R L			
UniRef90_UP1000363EAA9	A L A G G F T S Y E G G G I S Y N P Y A K S V S L E K T T I T D W Q Y C D R V			
UniRef90_I1YR38	S I A G G F T S Y E G G G I S Y N P Y S K A H P V D Q V H H W Q Y A D R L			
UniRef90_K8DYS6	T L A G G F T S Y E G G G I S Y N P Y A K D V P L E R S T R D W Q Y V D R L			
UniRef90_A6TTM5	I H A G G F T S Y E G G G I S Y N P Y A K N V S L E K T T I R H W Q Y C D R V			
UniRef90_UP10003639C9F	T Y A G G F T S Y E G G G I S Y N P Y A K N V S L E K T T I R D W Q Y V D R L			
UniRef90_R5J2Z3	C V A G G F T S Y E G G G I S Y N P Y S K N H S L E K T T I F D W Q Y C D R L			
UniRef90_UP10004648972	T I A G G F T S Y E G G G I S Y N P Y S K N H S L E K T T I A H W Q Y T D R L			
UniRef90_W4UWJ6	M I A S G F T D F E G G G V S Y N P Y A K S V S L E R T I L D W Q Y V D R L			
UniRef90_E3H6D0	T L A G G F T D F E G G G I S Y N P Y A K E V S S L E R T I Y D W Q Y V D R L			
UniRef90_E3DQY7	T L A G G F T D F E G G G I S Y N P Y A K N I S S L E E E T I T N W Q Y V D R L			
UniRef90_H5XXN6	S F A S G F T S Y E G G G I S Y N P Y A K R V T L E K S I R D W Q Y C D R L			
UniRef90_B7LKN1	T M A M G G F T S Y E G G G I S Y N P Y S K N H S V A L E R T I R H W Q Y T D R L			
UniRef90_G5GA79	T M A S G F T S N E G G G I S Y N P Y S K D V P L E R T I K D W Q Y C D R L			
UniRef90_U2E0A0	I H A S G W T S N E G G G I S Y N P Y A K N I P I E Q T M K D W Q Y V D R L			
UniRef90_R6CBM5	T Y A G G F T S Y E G G G I S Y N P Y A K D V S S I E K S I T K Y W Q Y V D R L			
UniRef90_Q24SG9	T L A G G F T A Y E G G G I S Y N P Y A K D V S S I E K S I T Y W Q Y V D Y			
UniRef90_B5YEV1	T L A A G F T S F E G G G I S Y N P Y A K D V S S I E K S I R D W Q Y C D R L			
UniRef90_G9YZ22	S M A S G F T S F E G G G I S Y N P Y T K R V T L E K S I R D W Q Y V D R L			
UniRef90_F3LFB6	T M A S G F T S N E G G G I S Y N P Y S K R V S S L E K S I R D W Q Y C D R I			
UniRef90_F8F1V4	T L A A E F T A F E G G G I S Y N P Y A K N V P L R S S I Q Y W Q Y V D R L			
UniRef90_UP100045E85F3	T L A A G F T A Y E G G G I S Y N P Y A K K V P L E L S R H W Q Y C D R L			
UniRef90_K4LJT5	T L A A G F T D F E G G G I S Y N P Y A K D V S S I E K S I L H W Q Y V D R L			
UniRef90_Q3AFA5	T L A G G F S S F E G G G I S Y N P Y A K E V P L R K S I E D W Q Y V D R L			
UniRef90_Q73K12	I H A G G Y T S N E G G G I S Y N P Y A K A V S I E H S M C W Q Y A D R L			
UniRef90_UP100046577A5	T L C A G F S S Y E G G G I S Y N P Y A K R V P L E R S S R H W Q Y C D R L			
UniRef90_UP1000477D6D4	T L A S G F F Q S F E G G G P I T Y N P Y S K N V P L A E T T E Y W Q Y V D R L			
UniRef90_U1MZE4	V T L A G G F Q S F E G G G P I T Y N P Y T S K Y E L A E T T E Y W Q Y V D R L			
UniRef90_R4W8S5	V T Y A G G F Q S F E G G G P I S Y N P Y T K E R D D L A T T E Q W Q Y V D R L			
UniRef90_V4YDA7	V T L A G G F Q S F E G G G P I T Y N P Y T S K Y S L A E T T D H W Q Y V D R L			
UniRef90_D6LIC8	F L L L G G F Q S F E G G G P I S Y N P Y T N R H D L A E T T E H W Q F V D R L			
UniRef90_Q5V466	V T L A G G F Q S F E G G G P I S Y N P Y T K R H D L A E T T E H W Q F V D R L			
UniRef90_K3K574	I S M A S G F T S Y E G G G I S Y N P Y A K R V T L E K S I R D W Q Y C D R L			
UniRef90_U1PN51	V T L A G G F Q S F E G G G P I T Y N P Y T S K Y S L A E T T D H W Q Y V D R L			
UniRef90_L0IBG1	V T L A G G F Q S F E G G G P I T Y N P Y T K R G D L A T T E H W Q Y V D R L			
UniRef90_V9GMU8	I V H A S G W T S N E G G G I S Y N P Y A K K V S I E R S L L D W Q Y C D K L			
UniRef90_Q9HN20	V T L A G G F Q S F E G G G P I T Y N P Y T S A Y D L E T T I E Y W Q Y V D R L			
UniRef90_A5CZJ8	M A F A S G M N A M P C S F A W F G G Y D K K A T I E E C L E T A Q Y M G R L			
UniRef90_G2HVV0	T A L A S G I F E I E G G P T Y L L P Y S K N F P L D K A F M Y W K Y V E K I L			
UniRef90_UP1000347FEA7	A C L E L M L N A S E G G P V S Y C P L P Y G R T P L A D S V R N W A E C C T L			
UniRef90_W7T9Q2	S M V A L N L N A T E G G G P V S Y C P L P Y G R T V P L Q D S V R N W S Q C C E M			
UniRef90_S9QQC5	S S I A G G I T S F E G G G G Y N P I S Y N P Y S K N V P I S S S M Q N W R Y V D Q R			
UniRef90_A6Q984	T A L A S G I F E I E G G P I T Y L L P Y S K N F P M D K A F L Y W K Y V E R V			
UniRef90_C7PT82	T A L A K A G V S A L E G G P C Y C P I T Y L L P Y D K L T S P T E S L K R W Q F V D R L			
UniRef90_M3C0P1	A L T R A G L S A T E G G G P V S Y C P L P Y G R T P L D E S M R N W E R G S S L			
UniRef90_UP100046AA629	T A L A S G I F E I E G G P P T Y L L P Y S K N F P L D K A F L Y W K Y V E R V			
UniRef90_A0A017TA11	V A I A A G I T A F E G G G I C Y N P I C K D V P L A H S L R C W Q E V D R R			
UniRef90_D9WEG1	T L T R L G L G A S E G G P V S Y C P I P Y G R T P L A E S V R N W R E S C E V			
UniRef90_A0A022MLW4	A L L R L R L N A T E G G G P V S Y C P I P Y G R T P L A D G V K N W E A C C E L			
UniRef90_D9VEY9	A M I A A G L H A T E G G G P I S Y Y C C P I P Y S R T P L D E S V R N W A Q C C E L			
UniRef90_G2NJK1	A L T A V G L D A S E G G P V S Y C C P I P Y G R T V P L R E S V A H W T E S C E L			
UniRef90_A0A017SWU6	I S Y A S G V T S F E G G A I G Y N P I Y Y R D Y P I E D A I H A W Q H V D R L			
UniRef90_S5TTR8	T L V A A G L H A T E G G G P I S Y Y C C P I P Y S R T P L R E S L R H W Q E S C E			
UniRef90_A0A024Z1V5	A L L A V G L D A T E G E G G P V S Y C C P I P Y S R T V P L V D S I P N W A R S C D L			
UniRef90_UP100035D47E6	A L I K A G L H A T E G G G P V S Y C C P I P Y G R T P L E K S V D S W A R C C E D			
UniRef90_D1GLU8	A L T A A G L S A T E G G G P V S Y C C P I P Y G R T V P L P Q A V Q A W A E C C R L			
UniRef90_G8XFH6	A L V Q A G A D A T E G E G G P V S Y C C P I P Y G R T V P L P Q A V Q A W A E C C R L			
UniRef90_C4RJX4	A L I R A G L H A T E G G G P V S Y C C P I P Y G R T P L A E S V A N W A A A C E L			
UniRef90_A5N4X5	I I C L C G F T S S Q G G A I S H N L N A T N I P I E K S I L D W Q Y C D R L			
UniRef90_UP1000374014	A M V E A G I D A T E G E G G P V S Y C C P I P Y S R V P L S E A V D A W S R C C E L			
UniRef90_UP1000288972B	G L L E A G I D A T E G E G G P V S Y C C P I P Y S R V P L A Q A V A A W A E C C D M			
UniRef90_UP10003777137	A L V A V G L T A T E G E G G P V S Y C C P I P Y S R T P L T Q S V A N W R R C C E V			
UniRef90_UP100036E9B35	A L V A A G L D A T E G E G G P V S Y C C P I P Y G R T P L R E S V A A W A E G C E L			
UniRef90_UP1000429150A	A L I D A G L D A T E G E G G P V S Y C C P I P Y G R T P L A T S V Q A W R D A C R T			
UniRef90_C7QKA3	A L V E V G A G D A T E G E G G P V S Y C C P I P Y S R V P L A R A V A A A W A E C C R L			
UniRef90_S5UBY3	A L I A A G M H A T E G G G P A S Y C C P I P Y S R V L P P L R D S V E N W A R A C E R			
UniRef90_J7L710	A L G R L G L D A T E G E G G P V S Y C C P I P Y S R T P L R E A V D C W A E S M E V			
UniRef90_UP100029AC8A7	T L A E A G L T A T E G E G G P V S Y C C P I P Y G R T V P L R D S V R A W R G A C E M			
UniRef90_W5W2X4	A M M R A G L T A S E G G G P V S Y C C P I P Y G R T V P L Y D S L R N W E R S T E L L			
UniRef90_UP10004641366	A L L L A G L D A T E G E G G P V S Y C C P I P Y G R T P L A A S V E N W T R S C E L L			
UniRef90_I2MUFL8	A L A A A G L H A T E G G G P V S Y C C P I P Y G R T P L A E S V E N W A R A C E L			
UniRef90_UP10003645775	A L R G T W I N A T E G E G G P V S Y C C P I P Y G R T P L D E S V R N W V R C T E D			
UniRef90_R4LM95	S V L D A G A D A T E G E G G P V S Y C C P I P Y S R V P L R E A V S D W S R S A E L			
UniRef90_W7JE85	A L T A A G L D A T E G E G G P I S Y Y C C P I P Y G R T P L R E S I A N W R E T C E L			
UniRef90_UP100037F1AD8	I A Y A S G I T A Y E G G A L T Y N P I Y Y R N Y S P R E S I V Q R W R Y V D Q L L			
UniRef90_UP1000369B498	A L T A A G L D A T E G E G G P V S Y C C P I P Y G R T P L R E S V D A W V R A C E L			
UniRef90_A8M7A5	V S L A S A G F T S F E G G G I G Y N P I Y Y R N Y S P R E S I V Q R W R Y V D Q L L			
UniRef90_U7NJB5	A A I S S G I T S F E G G G I T Y N P I Y Y C K D V P L E A S L E S W R R I D E L			
UniRef90_UP10004243713	I V L A A G G W N G A S V R T L Q E V I A H C K E I P P L E E M I R I N Q Y E A R L			
UniRef90_Q76KY7	A L T R A G L D A T E G E G G P V S Y C C P I P Y G R T P L E E Q S V T N W T R C C E E			
UniRef90_G2GER0	G L L A A G L H A T E G G G P V S Y C C P I P Y S R T P L A E A V H H W T R A C E L			
UniRef90_D7C4D4	A L L A V R L G A T E G E G G P V S Y C C P I P Y G R T P L S E S V H N W E V S C E L			
UniRef90_UP100036DDC54	A L A P V G L N A S E G G P I S Y Y C C P I P Y G R T P L G K S V E N W T E G C R L			
UniRef90_H5X7R5	V M G K V G L N A S E G G P V S Y C C P I P Y G R T P L A E A V T N W E R S C E L			
UniRef90_UP100034D247C	A L V G L G L G A T E G E G G P V S Y C C P I P Y G R T P L F E A V D N W V E S T E L			
UniRef90_UP1000303AE79	T L I D Q R L D A S E G G P V S Y C C P I P Y G R T P L A E S V R N W T E G V R R			

QUERY	210	220	230	240
UniRef90_B8CYC4	V G F Y E E Q G V H I N R E P F G P L T T G T L V P P S M S N A V G I T E A L L L A			
UniRef90_F5YRD2	V G Y Y Q E H G V N I N R E P F G P L T T G T L V P P P S I S H S V A V G I I E S L L L A			
UniRef90_F4LS62	T G I Y E E N G I P S L N R E P F G P L T T G T L V P P P C I S H S V A V G I E S G L L L A			
UniRef90_UPI00037409CE	C G M Y A E A G V D I N R E P F G P L T T G T L I P P P C I S S N S V A V G I E A L L L A			
UniRef90_V7I490	V G Y Y E E R G I E L N R E P F G P L T T G T L V P P P S T S N S V A V G I E A L L L A			
UniRef90_R6VBU8	T G I Y E E A G I S N R E P F Y G P L T T G T L V P P P S M S N A V A V G I E A L L L A			
UniRef90_UPI000363EAA9	I G M Y A E A G I E I N R E P Y G P L T T G T L V P P P C I V S H A V A V G I E A I L L A			
UniRef90_I1YR38	V G L Y E E A G V S I N R E P F G P L T T G T L I P P P C C I S S N T V A V G I E A V L L A			
UniRef90_K8DYS6	V G Y Y E E Q G I S I N R E P F G P L T T G T L V P P P C C I S H S V A V G I E A L L L A			
UniRef90_A6TTM5	T G L Y E E M G V S E I N R E P F G P L T T G T L V P P P S M S N V V Q I L E E C L L L A			
UniRef90_UPI0003639C9F	T G L Y E E E M G V S I N R E P Y G P L T T G T L V P P P C I S H S V A V G I E A L L L A			
UniRef90_R5J2Z3	T G L Y E E E M G V S I N R E P F Y G P L T T G T L V P P P C C I S H S V A V G I E A L L L A			
UniRef90_UPI0004648972	V G I Y E E E S G I T I N R E P F G P L T T G T L V P P P C C I S N V V A V G I E A V L L A			
UniRef90_W4UWJ6	I G L Y E E E A G V S I N R E P F G P L T T G T L V P P P C C I S N A V A V G I E A V L L A			
UniRef90_E3H6D0	I I G W Y E E Q G V S I N R E P F G P L T T G T L V P P P S M S N V V Q I L E E C L L L A			
UniRef90_E3DQY7	V G L Y E E E N G I S I N R E P F G P L T T G T L V P P P S V S H T V A L V E E G L L L A			
UniRef90_H5XXN6	V G M Y E E E Y G V R I N R E P F G P L T T G T L V P P P C I S H S V S M I E A L L L A			
UniRef90_B7LKN1	V G L Y E E E H G I R M N R E P F G P L T T G T L I P P P C F M S H S V S A V G I E A L L L A			
UniRef90_G5GA79	I G M Y E E E A G V S I N R E P F G P L T T G T L I P P P C I S N S V A V G I E A L L L A			
UniRef90_U2E0A0	A A I Y E E E H G V P I N R E P F G P L T T G T L V P P P S M S N S V A V G I E A L L L A			
UniRef90_R6CBM5	T G I Y E E E A G V Q N R E P Y G P L T T G T L V P P P C I S H S V A V G I E A L L L A			
UniRef90_Q24SG9	V G M Y E E E K G V S I N R E P F G P L T T G T L V P P P S V S H G V A V G I E A L L L A			
UniRef90_B5YEV1	V G L Y E E E A G V S I N R E S F G P L T T G T L V P P P S I S I S V A G I E A L L L A			
UniRef90_G9YZ22	C G I Y Q E E N G I T I N R E P F G P L T T G T L V P P P F M S H S V A V G I E A L L L A			
UniRef90_F3LFB6	V G L Y A E E E G I I I N R E P F G P L T T G T L V P P P F V S H C V A V G I E A L L L A			
UniRef90_F8F1V4	V G L Y E E E A G V R I N R E P F G P L T T G T L V P P P F C V S H S V A M I E G L L L A			
UniRef90_UPI00045E85F3	I G L Y E E E H G V R I N R E P F G P L T T G T L V P P P F V S H S V A M I E G L L L A			
UniRef90_K4LJT5	C G F Y A E E H G I I I N R E M F G P L T T G T L V P P P F I S H H V V G I I E A L L L A			
UniRef90_Q3AFA5	I G Y Y A E E H G V L I N R E S F G P L T T G T L V P P P S V T I A I N V E E L L L A			
UniRef90_Q73K12	V G F Y E E E N G V H I N R E P F G P L T T G T L V P P P S V A I A I V M V V E G M L L A			
UniRef90_UPI00046577A5	V G R Y E E E A G V S I N R E P F G P L T T G T L V P P P F V S H A V A V G I E A L L L A			
UniRef90_UPI000477D6D4	S G A Y T E E R G V R I N R E P F G P L T T G T L V P P P S V A I A I C I V E G L L L A			
UniRef90_U1MZE4	A G A Y T E E R G V R I N R E P F G P L T T G T L V P P P C I A I V M V V E G M L L A			
UniRef90_R4W8S5	U N R E S F G P L T T G T L V P P P C I A I V M V V E G M L L A			
UniRef90_V4YDA7	C G Y E E E T D R G V K I N R E P F G P L T T G T L V P P P C I T I V I Q L C V E M L L S			
UniRef90_D6LIC8	V G L Y E E E N G I K I N R E P F S P L T T A T L V P P P A I S N S I Q I L E E T L L L A			
UniRef90_Q5V466	C G A Y T E E R G V T I N R E P F G P L T T G T L V P P P S I A I V M L V V E G E L L L A			
UniRef90_K3K574	M G M Y E E E H G I R I N R E P F G P L T T G T L I P P P F I S H S V A I E G L L L A			
UniRef90_U1PN51	C G A Y T E E T D R G V T I N R E P F G P L T T G T L V P P P S I T I V C V E M L L L A			
UniRef90_L0IBG1	A G V Y T E E R G V R I N R E P F G P L T T G T L V P P P S I A I A I V M V V E G L L L A			
UniRef90_V9GMU8	V G I Y E E E L G I R L N R E P F G P L T T G T L V P P P C V S N A V A V G I E A L L L A			
UniRef90_Q9HN20	C G A Y T E E R G V T I N R E P F G P L T T G T L V P P P S M L V A I S V L E E A L L L A			
UniRef90_A5CZJ8	M G Y Y A E E N G V I N A D C H G W L P N G V I P M S V S I A I A I V T Q I L E E M L L I V			
UniRef90_G2HVW0	C A N Y S K L N E P I N R E S F G P L T A T L V P P P C I T I V I Q L C V E M L L S			
UniRef90_UPI000347FEA7	F S E L R S V G V I E A H E T F F G C M M G Q L C P P P S Q L V A M S V L E E A L L F F			
UniRef90_W7T9Q2	F T Q L Q S R G I E P H E T F F G C M M G Q L C P P P S M L V A I S V L E E A L L F F			
UniRef90_S9QQC5	C G E L A Q D G I L V D R E L F G T L T A V L I P P P S I A I S M T L L E E A L L F F			
UniRef90_A6Q984	C A K Y S E L N E P I N R E S F G P L T S A T L Q P P P A I V I V I Q L L E E M L L S			
UniRef90_C7PT82	A A Y Y E L M F G V A I N R E Y F G V V L T A T L I E P S S L A I V V V N V I Q A V V A S F			
UniRef90_M3COP1	F A Q L R E W G A S P H E T F F G C L L G Q L C P P P S M L V A V S V L E A V F V L			
UniRef90_UPI00046A629	C A N Y S G L N E P I N R E S F G P L T A T L V P P P C I T I V I Q L C V E M L L S			
UniRef90_A0A017TA11	C G E L A R E G I L V D R E L F G T L T A V L I P P P S I L S L A M T L L E E A L L F F			
UniRef90_D9WEG1	F A G L L R E R G V E P H E T F F G C M L G Q L C P P P S Q L V A I S V L E E A L L F F			
UniRef90_A0A022MLW4	Y T R L R D T G V E P H E T F F G C M M G Q L C C P P S Q L V A I S F L E A M F F			
UniRef90_D9VEY9	L V D A D H P G G R P H E T F F G C M L G Q L C C P P S E L V A I S V L E A L F F			
UniRef90_G2NJK1	L A T L R E T G A E P H E T F F G C V L G Q L C C P P G L L V A V S V L E A L F F			
UniRef90_A0A017SWU6	T G L Y E E F G I V L D R E L F G P L T A T L I P P P C V A T L V E A V L A			
UniRef90_S5TR8	A I L A E T D I P A H E T F F G C M L G Q L C C P P S M L V I A V S A L E A M F F			
UniRef90_A0A024Z1V5	L A S T R E H G A E P H E T F F G C M L G Q L C C P P S S L L V I A V S V L E A L F F			
UniRef90_UPI00035D47E6	L A E V E R E T G V E P H V V E S F G G C M M G Q L C C P P S S L L V I A V S V L E C M F F			
UniRef90_D1GLU8	F A E P R R P G V R P H E T F F G C M L G Q L C C P P G Q L V A V S V L E A L F F			
UniRef90_G8XFH6	L A G L D E P V H E T F F G C M L G Q L C C P P S S L L V I A V S V L E A L F F			
UniRef90_C4RJX4	L L T T R Q D G V E P H E T F F G C M L G Q L C C P P S S L L V I A V S V L E A L F F			
UniRef90_A5N4X5	V G F Y E E Q G I S I N K E T F F G C M L G Q L I P P P S I S N A V S V I I E G L L L A			
UniRef90_UPI0003C74014	L A S Q E E L Q M H L E S F G G C M L G Q L C C P P S S L L V I A V S V L E E G L L F F			
UniRef90_UPI000288972B	L A G N S E P V H E T F F G C M L G Q L C C P P S S L L V I A V S V L E E G L L F F			
UniRef90_UPI000377137	L A G L R G S G E E P H E T F F G C M M G Q L C C P P S S L L V I A V S V L E E G L L F F			
UniRef90_UPI00036E9B35	L A A S A R P G S V P H E T F F G C L L G Q L C C P P P A L L V I A M S V L E E G M F F			
UniRef90_UPI000429150A	L A S L R A S G V E P H E T F F G C M L G Q L C C P P P S L L V I A V S V L E E G M F F			
UniRef90_C7QKA3	L A D R P E P M H E S F G G C M L G Q L C C P P P S S L L V I A V S V L E E G M F F			
UniRef90_S5UBY3	L A A L P E H E T F F G C M M G Q L C C P P P S M L V I A V S V L E E G M F F			
UniRef90_J7L710	F A A S G S D G V R P H M E S F G G C M L G Q L C C P P P S M L V I A V S V L E E G I L F F			
UniRef90_UPI00029AC8A7	L A S H D G R A G P V H M E S F G G C L L G Q L C C P P P G L L V A V T L L E E G I L F F			
UniRef90_W5W2X4	F A S L R S A Q P H L E S F G G C M M G Q L C C P P P S Q L V A I S A L E E A L F F			
UniRef90_UPI000461366	L A R T R D H G A D P H E T F F G C M M G Q L C C P P P S S L L V A I S V L E E A L F F			
UniRef90_I2MFU8	L A E L V P A P A L P H E S F G G C M L G Q L C C P P P G L L V A V S L L E E A L F F			
UniRef90_UPI0003645775	F A Q L R E S G V E P H E T F F G C M L G Q L C C P P P S Q L V A M S V L E E A L F F			
UniRef90_R4LM95	L A A A A A D G H V V H E T F F G C M L G Q L C C P P P G L L V A V T L L E E G I L F F			
UniRef90_W7JE85	L A A A A A D G H V V H E T F F G C M L G Q L C C P P P G L L V A V T L L E E G I L F F			
UniRef90_UPI00037F1AD8	T G L Y R R F D L V I D R E F F G V L T A T M I A C Y D S A V V A S C V V L E E A L F F			
UniRef90_UPI000369B498	L A D G A R P G A V P H E S F G G C L L G Q L C C P P P G L L V A T S L L E E C L F F			
UniRef90_A8M7A5	F A Q L R E S G V E P H E T F F G C M L G Q L C C P P P S Q L V A M S V L E E A L F F			
UniRef90_U7NJB5	C G V L A E L G V I V D R E L F G T L T A V L V P Y D S A V S L A V C V L E E A R A A G			
UniRef90_UPI0004243713	C G D L A Q E G V I V D R E L F G T L T A V L V P Y D S A V S L A V C V L E E A R A A G			
UniRef90_Q76KY7	A G I Y T E E N G V P H C P W N A S H T T G T L Y D S A G F R S F L S A V C V S E A L L F F			
UniRef90_G2GER0	F A R L R G L G R E P H L E T F F G C M L G Q L C C P P P S Q L V A I S M L E E A L F F			
UniRef90_D7C4D4	L A E A R G P G P E P H L E S F G G C M M G Q L C C P P P G L L V A I S V L L E E G M F F			
UniRef90_UPI00036DDC54	F A Q L R D T G M E P H L E T F F G C M L G Q L C C P P P S Q L V A I S V L L E E G M F F			
UniRef90_H5X7R5	L V A G A P P S D E P H L E T F F G C M M G Q L C C P P P S Q L V A I S V L L E E G M F F			
UniRef90_UPI00034D247C	L A E A A G E D F H P H L E S F G G C M L G Q L C C P P P G L L V A I S V L L E E G M F F			
UniRef90_U7P182_U0I000200A753	F A Q L R D T G M E P H L E T F F G C M L G Q L C C P P P G L L V A I S V L L E E G M F F			

290 300 310 320

QUERY				
UniRef90_B8CYC4	Y N D F V T T V F H Q W M G G F P Q D E S K A F G V V T A T T I A A L A G A			
UniRef90_F5YRD2	Y D D V M V T T V F H Q W M G G F P Q D E S K A Y A V I S W G A A A S L S R A			
UniRef90_F4LS62	Y G D V V V T T V L H Q W M G G F P Q D E A K A F A V I S W G S T V A A L H A			
UniRef90_UPI00037409CE	F G D A K V T T V F H Q W M G G F P Q D E A K A F G V I S W G S A A A L A K A			
UniRef90_V71490	Y E G V Y V T T V F H Q W M G G F P Q D E A K A F G V I S L G S T A A A L A G A			
UniRef90_R6VBU8	Y S D V V V T S V L H Q W M G G F P Q D E A K A F G V I S W G S S V A A L A K A			
UniRef90_UPI000363EAA9	Y N D C T I T T V F H Q W M G G F P Q D E A K A F A V I S W G A A A A A L S Q A			
UniRef90_I1YR38	Y K D A R V T T V F H Q W M G G F P Q D E A Q A F G V I S W G S A A G A L A K A			
UniRef90_K8DYS6	Y H N V V I T T V F H Q W M G G F P Q D E S K A F G V I S W G A A T A A L A K A			
UniRef90_A6TTM5	Y E I D L T T V L H Q W M G G F P Q D E A K S F G V I S W G A A T A A L A G A			
UniRef90_UPI0003639C9F	H D D V V T T V L H Q W M G S F P Q D E A K A F S V I S L G S T L A S L S K A			
UniRef90_R5J2Z3	Y H D V V V T T V L H Q W M G G F P Q D E A K A F G V I S T G A L I A A L S K A			
UniRef90_UPI0004648972	F S D D V T V T T V L H Q W M G G F P Q D E S K A F G V I S W G A A T A S L A G A			
UniRef90_W4UWJ6	F S D V R V T T V F H Q W M G G F P Q D E A K S F A V I S W G A A A A V L A K A			
UniRef90_E3H6D0	Y E N N M M T T V F H Q W M G G F P Q D E A K A F G V I S N A S V T A A L S G A			
UniRef90_E3DQY7	K D I M L T T V F H Q W M G G F P Q D E A Q A F A V I S W G A S T A A L G N A			
UniRef90_H5XXN6	Y Q G V M L T S V F H Q W M G G F P Q D E S K A F G V I S W G A A T V A L A K A			
UniRef90_B7LKN1	Y E D Y E L S T V F H Q W M G G F P Q D E A K A F A I S W G A A V A G M S G A			
UniRef90_G5GA79	F D D T R I T T V F H Q W M G G F P Q D E S K A F G V I S W G A A A A A L A K A			
UniRef90_U2E0A0	Y R D T V V T T V F H Q W M G G F P Q D E S K A F G V I S N A S V T A A M A K V			
UniRef90_R6CBM5	Y N D V N V T T V F H Q W M G G F P Q D E A K A F G V I S W G A A C A A L S K A			
UniRef90_Q24SG9	Y T D F D I T T V F H Q W M G G F P Q D E A K A Y G V I S W G A A A A A L G K A			
UniRef90_B5YEV1	Y Y D V H I T T V L H F H F M G G F P Q D E A R A Y A V I S L G T I P A V L S K A			
UniRef90_G9YZ22	Y S D Y E L S T V F H Q W M G G F P Q D E P N A F G L I S F G A L V A G L A G A			
UniRef90_F3LFB6	F D D Y K L S T V F H Q W M G G F P E N E A Q A Y S V I S L G A T A A A L A G A			
UniRef90_F8F1V4	F E N V E L T T V F H Q W M G G F P Q D E A K A F G V I S W G S V A G R L A G A			
UniRef90_UPI00045E85F3	F T D Y Q I S T V F H Q W M G G F P Q E E P R A L G V I C W G S A M A L S G A			
UniRef90_K4LJT5	Y S D V L L T T V F H Q W M G G F P Q D E A R A F A V I A W G A A T A A L A G A			
UniRef90_Q3AFA5	F Q D V D L T T V F H Q W M G G F P Q D E A R A F A V I A W G A V A A A L A K A			
UniRef90_Q73K12	Y K D M C I T T V F H Q W M G G F P A D E S R A Y G L I S L G S T T A A L S G A			
UniRef90_UPI00046577A5	Y G D Y Q L T T V F H Q W M G G F P Q D E A Q A T A V I C L G A L V A K Q A R A			
UniRef90_UPI000477D6D4	H D D Y A L S T V F H Q W M G G F P E I E A R A Y S V I A L G A A A A K F G G A			
UniRef90_U1MZ4	D V T V T T V F H Q W M G G F P R D E P R A Q G V I A L G S A T A A V V E P			
UniRef90_R4W8S5	V R V V T T V F H E W M G G F P P D E A R A N A V I S L G G A A T A A I A E P			
UniRef90_V4YDA7	N D V T V T T V F H Q W M G G F P P R D E P R A Q A H G V I G L G G L T A G I A E P			
UniRef90_D6LIC8	F K D I H I S T I F N Q W I G G F P E D E L K A Y S V I S Y S A T I A L F T K A			
UniRef90_Q5V466	D E V T V T T V F H E W M G G F P P D E A R A N G V I S L G G A T A A V A Q P			
UniRef90_K3K574	Y T D Y E L S T V F H Q W M G G F P P D E S K A F A I I S W G A A V A G M S G A			
UniRef90_U1PN51	S A V T V T S V F H Q W M G G F P P D E A R A Q G V I G L G A A T A A L A E P			
UniRef90_L0IBG1	N E V C V T V T V F H E W M G G F P P D E T Q A L A L I S W G S V T A K Y A G V			
UniRef90_V9GMU8	Y E G I E L T T V L H Q W M G F P N D E T Q A L A L I S W G S V T A K Y A G V			
UniRef90_Q9HN20	D S V T V T T V L H Q W M G G F P R D E A R A H G V I G L G A G T A A L V E P			
UniRef90_A5CZJ8	Y K D I I I S G V G S Q L Y P Y P Q D V G S A F G Y S T Y T A M V A L G K V			
UniRef90_G2HVVW0	C A D A R I N L V Y H Q W M G F P S N K D Y S E S L I N T S T V I A M M V K A			
UniRef90_UPI000347FEA7	W H V V I Y A Y M G V Y P M T P G G A Y R L I M G E A A R L A V L T G S			
UniRef90_W7T9Q2	W H V V I Y T Y M G M Y P T T D H G C E N L L G S A A Q L A V A T G A			
UniRef90_S9QQC5	H E D A T I N L V Y H Q W M G F P P A P R H D A E A L L I L K G A I V A K K G H A			
UniRef90_A6Q984	F T N C R V T T V Y H Q F M A A F P A D Y A K A E E L I F N S S I T A T L A G A			
UniRef90_C7PT82	D A D W H V V I Y A Y M G V Y P Y T P E G C Y R L L G E A A E L L A V G T G S			
UniRef90_M3C0P1	V E D A T I N L V Y H Q W M G F P P R N K E F S D S L I N T S S F I A S L V R A			
UniRef90_UPI00046A629	D V E V Y P V F H E W M G P F S S V R Q T A D T I F Y G A L T A H K G R A			
UniRef90_A0A017TA11	D W H D V F P V L H Q F M G F P P A P R H D A E A L L I L K G A I V A K K G H A			
UniRef90_D9WEG1	D W H D V F P V L H Q F M G F P P A P R H D A E A L L I L K G A I V A K K G H A			
UniRef90_A0A022MLW4	W H V V I Y A Y M G V Y P E T Y R G A H R L L G R A A E L L A V T T G A			
UniRef90_D9VEY9	E A T W H V V I Y A Y M G L F P R T P D G A M L L L G K A A E L L A V M S T G S			
UniRef90_G2NJK1	S D T E W H V V V Y A Y M G L F P E T E H G A R R L L L G A Q A A E L L A V G S G S			
UniRef90_A0A017SWU6	Y R D V Q L N T V F H Q Y M M A F P G S H A R A E A L I E H S A T T A A L A G A			
UniRef90_S5TTR8	V D W H I V V Y T Y M G L Y P E T E R G A L L Q R D A A S L A V W S G A			
UniRef90_A0A024Z1V5	D V D H D V V L Y A Y M G V Y P R T P S R A G G A R L L L E D A A R L A V V R A G A			
UniRef90_UPI00035D47E6	D L D W H I V V Y T Y M G V Y P R T P N G A T L L L E E A A R L A V V R T G A			
UniRef90_D1GLU8	D A D V H I V V Y T Y M G L F P Q T A D G A R R L L L G E A T R L A R A T G A			
UniRef90_G8XFH6	G G A E W H V V L Y T Y M G V F P R T P V G A Y R I L E E S V R L A V R T G T			
UniRef90_C4RJX4	A D T H V V V Y A Y M G L A P R T P A G A R R L L F A E A V R L A V V A G G A			
UniRef90_A5N4X5	Y K D V Y I T T S F H Q S M L K S S E D K G N F G T T S V G T V T A V L A G A			
UniRef90_UPI0003C74014	G D L D W H V V L Y M G V Y P Y P T T P V G S F R I L E D S A R L A V R S G T			
UniRef90_UPI000288972B	G D T D W H S V L Y T Y M G V Y P Y R S R Q G A Y R L L A E S A R L A A R S G A			
UniRef90_UPI0003777137	D W H D W H I V V Y T Y M G V Y P Y R S P G G A R L L L D E A A R L A V R T G A			
UniRef90_UPI00036E9B35	G V D D H D W H I V V Y T Y M G V Y P Y R T E H G A T R L L L E A S A R L A V R S G A			
UniRef90_UPI000429150A	D T S W H V V V Y A Y M G V F Y P E T R P G A L J V A D A A R L A V V R T G A			
UniRef90_C7QKA3	G G M D W H V V L Y T Y M G V F P R T A V G A F R I L L E D S V R L A V R S G T			
UniRef90_S5UBY3	S D V D W H V V I Y A Y M G V F P R T S T G A R R V L L T E A A R L A V V R T G S			
UniRef90_J7L710	T D T Q W H V V F Y T Y M G V Y P Y P T S W G A R R L L L E Q A A R T A V R A G A			
UniRef90_UPI00029AC8A7	D T D W H V V I Y T Y M G V Y P Y P T R T R A G A N L L R Q S A G L A V R T G A			
UniRef90_W5W2X4	V R W H V V V Y A H M G V Y P Y P T T P E G A Y L L L G Q A A E L A R S T G C			
UniRef90_UPI0004641366	D W H D V F P V L Y G M G V Y P Y P R T P D G A R L L L E E S A R L A V V R T G A			
UniRef90_I2MFU8	D T D R H V V L Y T Y M G V Y P Y P T R E T R G A T L L L E A S A R L A V E A G A			
UniRef90_UPI0003645775	W H V V I Y A Y M G V Y P Y P T T D E G A Y L L L D E A T R L A V A S G S			
UniRef90_R4LM95	S D I D R H T V V Y T Y M G V F P R T P V G A Y R T L L E E S V R L A R L G G A			
UniRef90_W7JE85	G T D W H V V L Y G Y M G V Y P T T R R G A L R L L Q A S A E L A A R T G T			
UniRef90_UPI00037F1AD8	H E D V V F F A V F H Q F M A A F P A D Q E K A R A L L H G S A F T A R L S G A			
UniRef90_UPI000369B498	D V D R H V V L Y T Y M G V Y P Y P R T E Q G A L R L L E A S A R L A V R S G A			
UniRef90_A8M7A5	V E I F P T L H Q F M G V F P T D P D V A D A L I F F G G L T A R L G G A			
UniRef90_U7NJB5	D V D V F P V L H Q Y M G P F P S G I H E S M A L V A H G A I V A K A G L A			
UniRef90_UPI0004243713	Y H D V K F T G A F P F P L G A W P P R E D E A N A M I A W N A V I P I L G G F			
UniRef90_Q76KY7	D A D C H I V V I Y A Y M G V Y P Y P T T P E G A Y L L L G R A A E L A V A T G A			
UniRef90_G2GER0	V D W H V V V Y A Y M G V Y P Y P T T P E G A Y R T L L Q D R A V A L A V R A G A			
UniRef90_D7C4D4	V D W H V V V Y T Y M G L Y P E T L D G A Y R L L L G Q A A E L A V V R G G A			
UniRef90_UPI00036DDC54	I I D W H V V V Y T Y M G L Y P Q T E H G A A L L L R A A A C L A V V R T R S			
UniRef90_H5X7R5	I I D W H V V V Y T Y M G L Y P E T L D G A Y R L L L G Q A A E L A V V R S G V			
UniRef90_UPI00034D247C	D A Q W H V V V Y T Y M G V F P P T R S A G A M L S E Q A V R T A M R A G A			
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330 340 350 360

QUERY				
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UniRef90_E3H6D0	T K V V K T P H E A G P T K E A N A E G I K A T K M V L N L E G Q N I S			
UniRef90_E3DQY7	T K V T K T T H E A G P T K E A N A E G I K A S K Q V I N M L R D Q S F L A			
UniRef90_H5XXN6	T K V V K S P Y E A G S T K E A N A S G I K A T K Q I L S M L K D Q S F P			
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UniRef90_UP1000477D6D4	T K I V K T P H E A S G V P T M E A N A A A G L R T T D Q V L Q M L S E Q T I D			
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UniRef90_R4W8S5	D K V T K S P Q E F A G V P T M E A N A A A G L R T T R Q L I D M L L E Q N V Q			
UniRef90_V4YDA7	D K V T K S P Q E A V G V P T A E S N A A G L R A T Q G A H M L S D Q E L A			
UniRef90_D6LIC8	D K V I F K N D E Y S K N S L G N T M I N S L V L T K T I D I G N S Q N F N			
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UniRef90_K3K574	T K V T K S P H E A W G I P T A A A A N Q G L K A S R Q M L N M V N E Q K F P			
UniRef90_U1PN51	D K V I T K S P Q E A R G V P T A E A N A A G T R T T K Q T L R M L T E Q E I			
UniRef90_L0IBG1	D K V I T K S P Q E F Q G V P T K E A N A A A G L R T T R Q L D M A M E Q R L			
UniRef90_V9GMU8	T K I V K T P Q E A L G V P T A E S N A Q G I R M S R A M L N W V G N Q N V L			
UniRef90_Q9HN20	T K V T K S P Q E A V G V P T A E S N A A G L R T T D Q V L R M L D E Q S I T			
UniRef90_A5CZJ8	P I A F I K D E A L G V P S T E S H V Q T Y K A C N W I F N V I R T Q D F E			
UniRef90_G2HVVW0	D K I T K T R D E S F G V P T R E S N A K T V A N T T Y Q T L G M L H G P T I			
UniRef90_UP1000347FEA7	E R I V K T V A E S Q R I P V A E N V A A L E F A G Q V A G E N R P			
UniRef90_W7T9Q2	E R V V K T V A E S S R I P T I A E N V Q A L E H A H N S T R V V R P E I G R			
UniRef90_S9QQC5	T K V N K T Y E E A L G V P T P Q A N A L G I W T T R I V N S T I S D F V K V			
UniRef90_A6Q984	D K I T K T R N E A F G V P T K E A N A M A V A N V K Y T L G M L K L P			
UniRef90_C7PT82	T K V M V T A V E A I R P D R Y D N S K A V A L S K R G A L C A E K S L L			
UniRef90_M3C0P1	E R L V K T V A E S R R P T V A E N V A A L E H A A R V A R T A P G P			
UniRef90_UP100046AA629	D K I I K T R D E A F G V P T M Q C N A Q S V A N T K Y T F K V L K G L P P I			
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UniRef90_D9WEG1	E R L V K T V A E S R R P T I E E N V A A L E Y A D R T A A L T G R A P D P			
UniRef90_A0A022MLW4	H R L V K T V A E E A R R P T I A E N V L A L E Y A D A V A R R T A P E P			
UniRef90_D9VEY9	E R L V K T A A E A H R P T V A E N V T A L E H A A S A K H A A A S A K			
UniRef90_G2NJK1	E R L V K T V A E S R R P S V A E N V A A L E Y A A V A A R T A R T A M P			
UniRef90_A0A017SWU6	T R I T K T P V E A L R P S V E D N L R G I A L A T R G V A A A G V S P			
UniRef90_S5TTR8	S R L V K T A A E A Y R P T V T Q N V V A L E T A A A A R A A G S P P P			
UniRef90_A0A024Z1V5	A R L V K T V A E A H R P T V G E N V R A L E T A A A A A E E R R A R P A R			
UniRef90_UP100035D47E6	A R L V K T V A E G Y R P T F A E N V D A L E T A A A A E R C T T			
UniRef90_D1GLU8	E R L V K T E A E A D R P T V A E N V A A L E H A A R T A R R H R A			
UniRef90_G8XFH6	E R L V K T P A E A A R I P S I G E N I D A L E F A A A V A E D E A L A			
UniRef90_C4RJX4	Q R L V K T V A E A Y R P T I A E N V A A L E H A A T A R A M P			
UniRef90_A5N4X5	T K V V K T S K L T K E V N S A I L R A A K M P V D I L G G Q R L A			
UniRef90_UP10003C74014	E R L V K T P A E A H R P T V Q E N V D A L E F A A Y V A D D E A R H G R P			
UniRef90_UP1000288972B	E R L V K T A V E S S R I P S I A D N V D A L E F A A S V A G E E			
UniRef90_UP10003777137	A R L I V K T A A E A H R P T I A E N V T A L E A A S A A A D A E R L I A			
UniRef90_UP100036E9B35	Q R L V K T T A E S R R P T V D E N V R A L E T A A A A A L A G P P S A P			
UniRef90_UP1000429150A	A R L I V K T A A E S S R I P S I A E N V T A L E T A T S A A H S A R P T A P P			
UniRef90_C7QKA3	E R L I V K T P A E A H R P T I A E N V D A L E F S A A V A E D E A G K F			
UniRef90_S5UBY3	A R L I V K T V A E A H R P S V A E N V A A L E H A D D V A A F A			
UniRef90_J7L7I0	A R V I V K T E A E A H R P T I E E N V R A L E V G A R S E G V G P R V			
UniRef90_UP100029AC8A7	E R L I V K T E V E A Y R P T I A E N V R A L E I A E E A A E E R S L L G A			
UniRef90_W5W2X4	E R L I V K T V A E S L R P T V A E N V A A L E H A G A V A E R T P L G A			
UniRef90_UP10004641366	A R L I V K T A A E A H R P T V R E N V A A L E A A A R A A E E A A R A R L P P			
UniRef90_I2MUFL8	Q R L I V K T A A E A H R P T V R E N V L R A L E T D L A R A R P R A P I V P P			
UniRef90_UP10003645775	E R L I V K T V A E S R R P T V V A E N V A A L E S A A T A R T S A P			
UniRef90_R4LM95	E R L I V K T P A E A H R P T I T E N V Q A L E V A A T A R A R P R F P P			
UniRef90_W7JE85	E R L I V K T V A E A H R P T I A E N V Q A L E V A A T A R A R P R F P P			
UniRef90_UP100037F1AD8	S R L M K T M V I E S S R I P S A Q Q N V D S L V L V R S A L D A Q E A P L M P			
UniRef90_UP1000369B498	G R L I V K T P A E A H R P G V G E N V R A L E T A A A A A A L A Q A P C H			
UniRef90_A8M7A5	A K V I N K T N Q E A R G P D I E A N V R G I R T T A L G T D L L D F V R L			
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UniRef90_UP10004243713	T G V V L K C Q D E A F A T P T K E G M A R S V R L A Q H M L T V M G T Q R L K			
UniRef90_Q76KY7	E R L I V K T A A E A H R P T I G E N V V A A L E H A T V S R A R R A T A P P P			
UniRef90_G2GER0	R R L I V K T T V E A S S R I P T V A E N V V A A L E T S A R T A R L P R P D			
UniRef90_D7C4D4	Q R L I V K T A S E S S R I P T I D E N V R A L E Y A A W A A G R V P P A R R			
UniRef90_UP100036DDC54	E R L M V K T S A E A F R P T I D E N V T A L E Q A D A V V A R T H R E V A R R			
UniRef90_H5X7R5	E R L I V K T T V E A S S R I P T I A E N V V A A L E Q A D A V V R A A H A A S A A			
UniRef90_UP100034D247C	A R I I V K T T V E A A H R P T I E E N V R A L E A G A S V V G A Q T S R			
UniRef90_UP1000303AE79	E R L I V K T V A E S S R I P T I E E N V V A A L E A A A R S A R S T V P G S V P			

QUERY	370	380	390	400
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UniRef90_F5YRD2	Q T H N M D E E K E M I R E T E E Q I L N R V L P E L G D G D L V Q G T V R A F S Q			
UniRef90_F4LS62	D T N S L M D E K E V I A G E T R C I V F Q L G D G D L A K G A V R A F E			
UniRef90_UPI00037409CE	S S Q E L E K E K E I K R E T R Q I L S K V Y E L G E G D W A K G A V R A F E			
UniRef90_V71490	N I P A V V I A E A E I E A E V I N Q I L D K V F E L G N G D L A Q G V I V A A F E			
UniRef90_R6VBU8	M S T E L A D E I T I K A E T A C M I E K V L E L G D G D L A R G T V E G F F K			
UniRef90_UPI000363EAA9	S S A L E L E K E K A I K G E T C A I V F C E L G M G D L A L G A V R A V K			
UniRef90_I1YR38	M T R E V A A E V E I K A E T R C I L N R V K E L L G K G D F V V G T V A A F Q			
UniRef90_K8DYS6	E I P A V V D E S E I M Q E M E C M L N K V E E L G K G D W A V G T C A A I E E			
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UniRef90_R5J2Z3	T D E V D I E K E I K R E T T R C I I D K C F E L G M G D I A L G A C C R G V			
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UniRef90_E3DQY7	D S E E L N A E V D L K K E V K A I M D K V A E L L G N G D L A Q G V V K A F K			
UniRef90_H5XXN6	S N D K L E K E K E M K K E T K Q I I M D H V L E E L G E G D I A L G T V K G F F K			
UniRef90_B7LKN1	P C P A V D Q E V E L K C E V R A V L K K V F E L G N G D L A R G T V L A F F E			
UniRef90_G5GA79	N I P A V I N E S Q I K E E T K C I I L D K V F E L G K G D M A L G A V A G F K			
UniRef90_U2E0A0	M S K K L S E Q I Q I K A E T T R C I I L D K V F E L G N G D L A R G V V E A F K			
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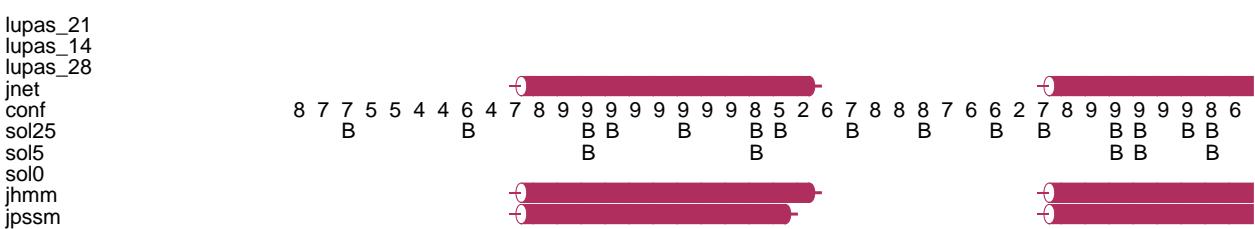
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450 460 470 480

QUERY				
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UniRef90_UP100045E85F3	D V L L D F H R E R I L E D R A K A E G R I V S L R M V T D D I Y A I G K G R L V G			
UniRef90_K4LJT5	D V L T Y H D K I K E S R A K A E R R A S F Q M V V D D I Y A V S K S R L I G			
UniRef90_Q3AFA5	E I K D F H R K K I E E R G R Q E K R E P G L R M V I D D I Y A I S K G R L V G			
UniRef90_Q73K12	E I R E F H R E R I L K R R G E K E G R E P S F Q M V I D D I Y A I G K G M L V G			
UniRef90_UP100046577A5	D I L D F N R G K L E E R A K A D K R E V D F Q M S V D D I V Y A V S S G V L V G			
UniRef90_UP1000477D6D4	D V L A W H R D K I A E R A R A E G R E A S F N M V V D D I V R A I S A S K L V G			
UniRef90_U1MZ4	D V I A F H K E K I A E R A A A E G R D A S K M V V D D I V R A I S A S K L I G			
UniRef90_R4W8S5	E V K E I H R A R L E D R A A T E D R S P S F R M V A D D V S A I S N G R L V G			
UniRef90_V4YDA7	D V I Q E I H E N R L E A R A S T E G R D R S F K M V V A D D V D A I S D G R L I G			
UniRef90_D6LIC8	D I K D I H R S H L E D R A A T E G R R P S F R M V A D D V S A V S E G G L I G			
UniRef90_Q5V466	S T Q E F H H N K I K E R A I N E R E I D F Q M T I D D I F A M S Q G K L I N G			
UniRef90_K3K574	D I K E H A A R L G E R A E T E G R D Q S F R M V A D D V D A I S D G K L I G			
UniRef90_U1PN51	D V R E T H R			
UniRef90_L0IBG1	E I K E H A A R L E R R A E T E D R S T S F H M V A D D V D A I S N G R L I G			
UniRef90_V9GMU8				
UniRef90_Q9HN20	E T K R I H R A R L D R R A D T E G R E L S F R M V A D D V S A V S D G R L I G			
UniRef90_A5CZJ8	D I K D F H R Q K V A E R A K A E G R E M M Y K V S L E D F W A I S K G Q L I G			
UniRef90_G2HVV0	R C F E Y E E K S K C D L N K D A S S I V N D I H D I G			
UniRef90_UP1000347FEA7	V V G G G R S R R L T A S D L L D D L S Y V Q R K F D D			
UniRef90_W7T9Q2	L V P R T R S R R I T T S S G L L D D L S Y V R R K Y D			
UniRef90_S9QC5	A V I R S R N A Q M L N N A T H S P S F S L F S K L T R D I M Y			
UniRef90_A6Q984	K S F A Y E R S K I K L A E G E R V V D I I Q D I G			
UniRef90_C7PT82	S V K D F H H Q K V H K R K T M E R D P S I F S L L E K D L S R I W K			
UniRef90_M3C0P1	L V D G R R S R P V T S S D L L E A L S Y V Q R S Y D			
UniRef90_UP100046AA629	K C F A Y E K S K V K L S E D K T T V I N K I I E D I			
UniRef90_A0A017TA11	A T K R R N E Q M L A A V V R S E A F D M Y A K L K A D I M H			
UniRef90_D9WEG1	I A G S H R A R P V T S A G L L E D L S Y M R R R F D E V			
UniRef90_A0A022MLW4	I A E Q G T A R K I T S A D L L			
UniRef90_D9VEY9	I A E R A P S G R I T S S T L M S A L S Y V Q H T H D			
UniRef90_G2NJK1	V T A A R P A H T V T S S E L L D S L S Y V R R S Y D			
UniRef90_A0A017SWU6	E V R E F H R D R N M Q D R M H A E G L S F E L V E R D V M R I			
UniRef90_S5TTR8	V A E L D R R N R L T S D G L L T A L S Y V R R T Y D			
UniRef90_A0A024Z1V5	L A D G G P R P P I L G S A G L I S A L S H V Q R T Y D D A Y A V G P S A A R			
UniRef90_UP100035D47E6	V V G H T G S Q G L T A A G L L A S L S Y V E R T F D			
UniRef90_D1GLU8	L V G A G R S R P V T S G E L M S A L S Y V R R T F D D P Y G E L R G			
UniRef90_G8XFH6	R A E E T A Q H R L T A R G L I D			
UniRef90_C4RJX4	L A E L R P R D P V G S T E L L S A L S Y T Q R T F D A P H			
UniRef90_A5N4X5	E L K N F N K R K M E			
UniRef90_UP10003C74014	D P A A G R D P L S A Q G L I D			
UniRef90_UP1000288972B	A A T A G N R Q R L T A R G L I D			
UniRef90_UP10003777137	A A R S A D G R R M T S A D L L T S L S Y V E R T Y D			
UniRef90_UP100036E9B35	D A P A D S A R L T A D G L L			
UniRef90_UP1000429150A	T A V V H R S R R L T S S S G L M			
UniRef90_C7QKA3	L V G G E R T S K T S A F G L I D			
UniRef90_S5UBY3	S A R H R R D M T S S D L L			
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UniRef90_UP100029AC8A7	S V R T G A P E R I G A D H L L N R S L S F V R T			
UniRef90_W5W2X4	I V R T T S A R P M G S S D L L			
UniRef90_UP10004641366	I V E L A H E P R L T S S S G L L			
UniRef90_I2MUFL8	D T P D G A P T P L T S D G L L			
UniRef90_UP10003645775	L V G P A H S R D V T S S S G L L A D L S Y V Q R A F D			
UniRef90_R4LM95	V G R G H N A Q H L L E M L S Y N E R			
UniRef90_W7JE85				
UniRef90_UP100037F1AD8	D L R R F H R E A V R R R L R R D G G D V N A L I E R D V L R T A R G E			
UniRef90_UP1000369B498	D T A A G A A P L T S D G L L			
UniRef90_A8M7A5	P T L R R N D Q C L R D R A S I S T R L V			
UniRef90_U7NJB5	N T K N F N R D S L A M D G L			
UniRef90_UP10004243713	E I K E Y H R E K I A E R E K K E G C K A G L A L A V K D L			
UniRef90_Q76KY7	A R K S G T G R S V S S T D L I S A L S F V Q R T Y D			
UniRef90_G2GER0	V V I T P R P A A A L T S S S G L L D			
UniRef90_D7C4D4	S P R R G G G R F T S A D L L K D L S Y M R R K F D S P M A V			
UniRef90_UP100036DDC54	D G G G R H P L R			
UniRef90_H5X7R5	D S T R R E V Q M T A S G L L S S L S Y V R R K F D D A L S A L D G Q L R S			
UniRef90_UP100034D247C	A P S T A A P K R L A T D D L L			
UniRef90_UP1000303AE79	A T R S T A R H R V D S A G L L A D L H H V Q R R Y D			

QUERY	R P E
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UniRef90_F4LS62	R
UniRef90_UPI00037409CE	R K Q
UniRef90_V7I490	R P E
UniRef90_R6VBU8	K P K
UniRef90_UPI000363EAA9	R P
UniRef90_I1YR38	R P K
UniRef90_K8DYS6	K P
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UniRef90_UPI000363C9F	R P
UniRef90_R5J2Z3	R P
UniRef90_UPI0004648972	R P
UniRef90_W4UWJ6	R P H
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UniRef90_E3DQY7	R P K
UniRef90_H5XXN6	R P
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UniRef90_G9YZ22	R P Q
UniRef90_F3LFB6	R P K
UniRef90_F8F1V4	R P Q
UniRef90_UPI00045E85F3	R P Q
UniRef90_K4LJT5	K P
UniRef90_Q3AFA5	K P
UniRef90_Q73K12	R P
UniRef90_UPI00046577A5	R P
UniRef90_UPI000477D6D4	R P
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UniRef90_UPI00029A2E3F					
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UniRef90_R4ST25					
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UniRef90_J2Y8V5					
UniRef90_UPI00035C5C24					D □ T E □ V I A Y □ R
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UniRef90_H9UBG8					E □ E E □ I □ A F L E
UniRef90_Q8RB98					
UniRef90_E8MYZ7					E E T □ N F □ R
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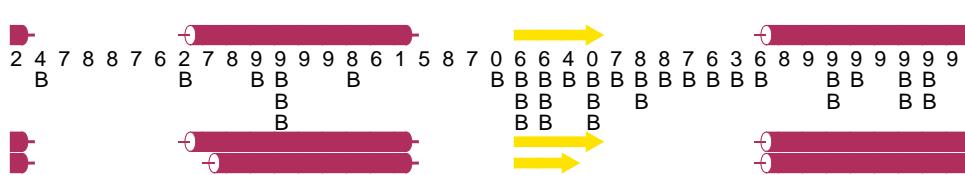


The figure displays a sequence alignment of UniRef90 proteins, focusing on the first 80 positions. The alignment is color-coded to highlight conservation and diversity. A legend at the top right indicates the following color scheme:

- Black:** Conserved residues.
- Blue:** Conserved or semi-conserved residues.
- Red:** Semi-conserved residues.
- Yellow:** Semi-conserved residues.
- Green:** Conserved residues.
- Pink:** Conserved or semi-conserved residues.
- Grey:** Semi-conserved residues.

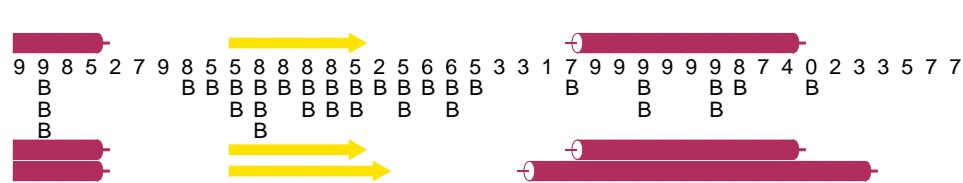
Key features of the alignment include:

- Position 50:** Shows a mix of conserved (black) and semi-conserved (blue, red, yellow) residues.
- Position 60:** Shows a mix of conserved (black) and semi-conserved (blue, red, yellow) residues.
- Position 70:** Shows a mix of conserved (black) and semi-conserved (blue, red, yellow) residues.
- Position 80:** Shows a mix of conserved (black) and semi-conserved (blue, red, yellow) residues.
- Conservation:** The alignment shows high conservation of certain amino acids (e.g., Aspartic Acid, Glutamic Acid, Alanine, Valine, Isoleucine, Leucine, Tyrosine, Phenylalanine, Histidine, Arginine, Lysine, Methionine, Cysteine, Threonine, Serine) across many positions.
- Color Coding:** The color coding provides a visual summary of the evolutionary pressure at each position, with black indicating strong conservation and other colors indicating semi-conservation or divergence.



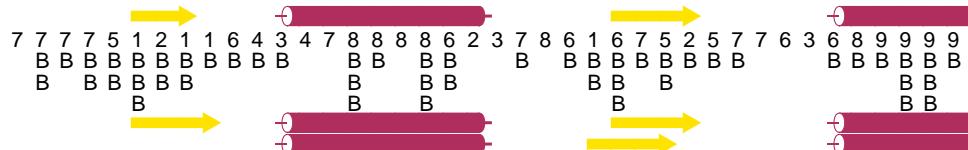
Sequence alignment showing conservation across three positions (90, 100, 110) for various UniRef90 entries and UniProt IDs. Colored boxes highlight specific amino acid changes or motifs.

Position	UniRef90 ID / UniProt ID	Sequence
90	UniRef90_4DHWX3	A T R D A A A T T V G T I T L D S Y T R T G
90	UniRef90_H0JZ64	A T K E [P] E P T V G T I T L D S Y T R [G] D S A A A Q R A L
90	UniRef90_F2YRZ6	A T R A A R A H T V G T I T L D S Y T R [L] G D L A A I E R A L
90	UniRef90_UPI000381FAA4	A [V] R A A N A V T A G T I T L D S Y T R T G Q L D Q A R R A L
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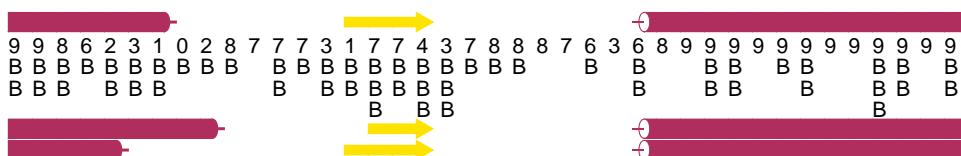


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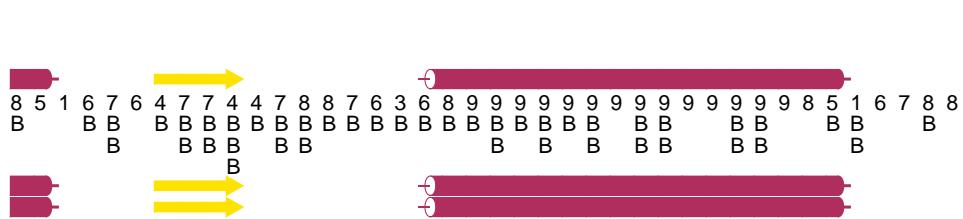


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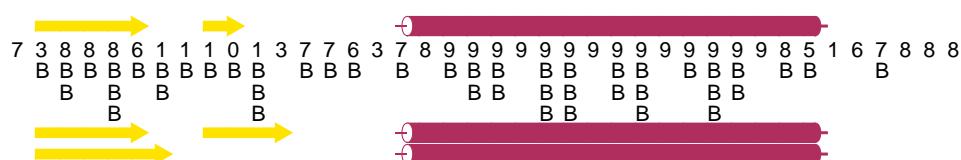


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G	D W H V V L Y T Y M G V F P R T T G G A L G L R D S A R L A L T G T			
E	I E V Y P V L H E W M G P F P P E R G A A V A T I F Y G A L T A K K G G A			
A	R T H V V I Y G Y M G V Y P R T P G G A L E L I A E S A R L A A R T G A			
D	W H V V V Y A Y M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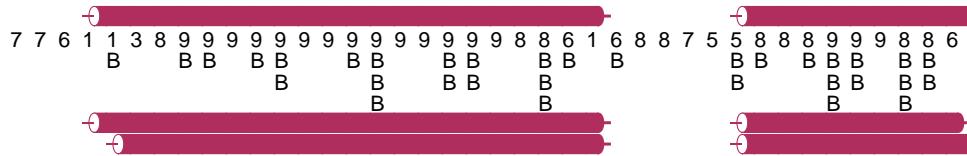
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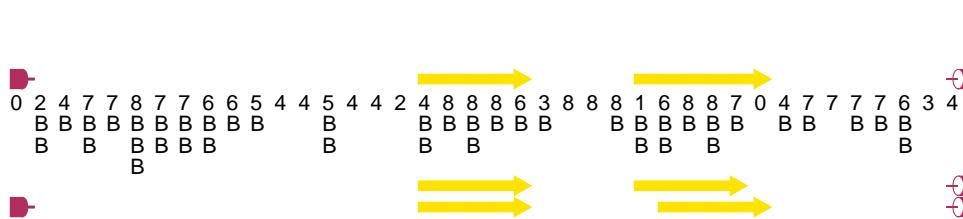


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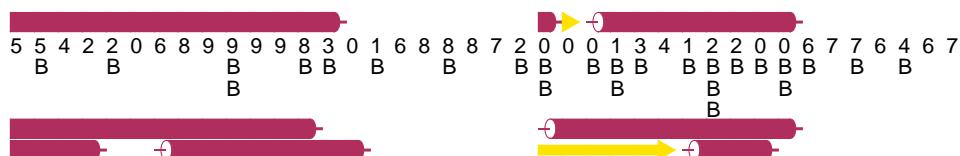
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