

## Supporting Information

Table S1. Structural relatives of UTCase

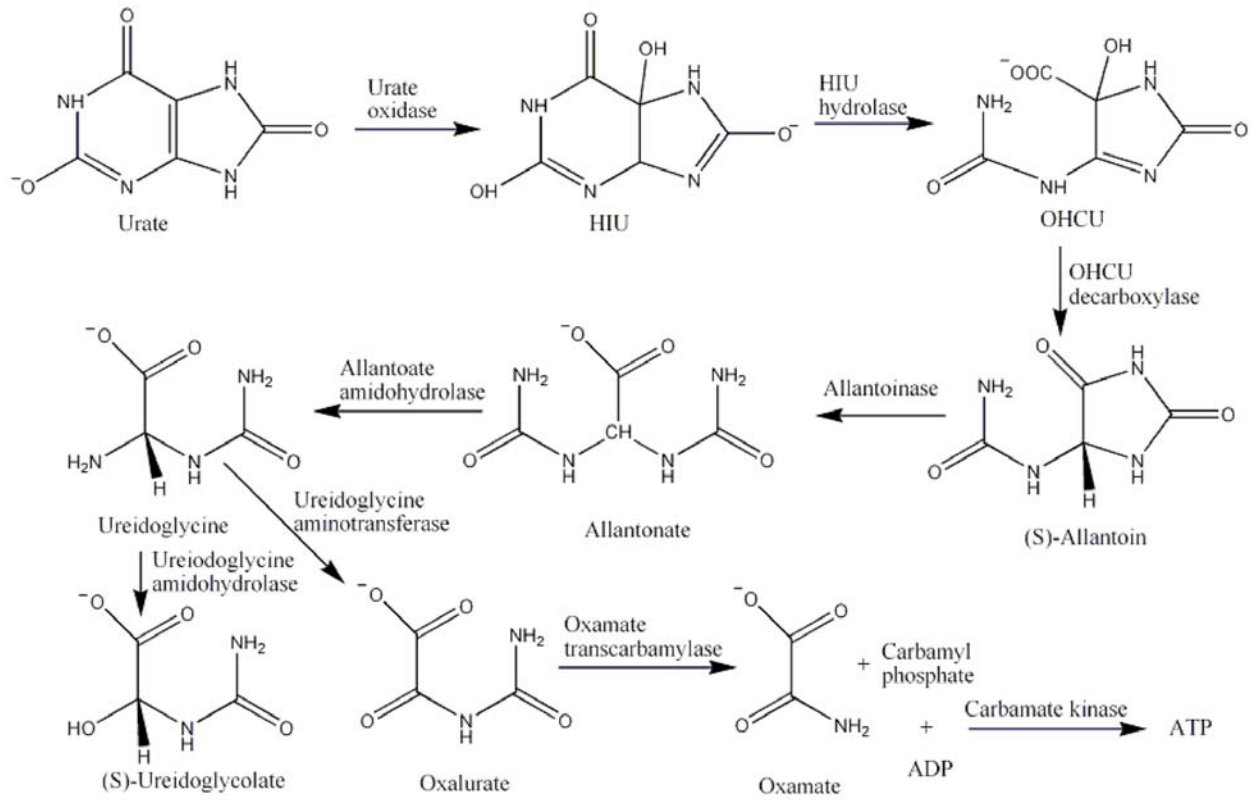
PDB	Transcarbamylase	Organism	Q	P	Z	RMSD	Nalign	Seq-%
3m4j	AOTCase	<i>X. campestris</i>	0.49	9.4	9.9	1.5	280	27.9
3gd5	OTCase	<i>G. violaceus</i>	0.48	10.8	10.8	1.7	262	26.7
1fvo	OTCase	<i>H. sapien</i>	0.47	10.0	10.0	1.7	276	23.9
1pvv	OTCase	<i>P. furiosus</i>	0.48	10.9	10.9	1.7	275	25.8
1vlv	OTCase	<i>T. maritima</i>	0.47	10.2	10.2	1.8	274	25.9
2i6u	OTCase	<i>M. tuberculosis</i>	0.40	9.3	9.3	1.9	256	26.2
2otc	OTCase	<i>E. coli</i>	0.45	10.4	10.4	1.9	284	21.8
2w37	OTCase	<i>L. hilgardii</i>	0.42	9.7	9.7	1.9	279	21.9
1dxh	OTCase	<i>P. pseudomonas</i>	0.41	8.5	9.6	2.0	273	22.7
2fg6	SOTCase	<i>B. fragilis</i>	0.39	5.4	8.2	2.0	260	25.0
1ml4	ATCase	<i>P. abyssi</i>	0.42	6.2	8.9	2.0	267	19.5
3d6n	ATCase	<i>A. aeolicus</i>	0.35	5.5	8.9	2.0	239	18.0
8at1	ATCase	<i>E. coli</i>	0.37	4.9	8.6	2.1	257	19.1

Table S2. The *ygeW* and *ygeA* gene and their genomic locations

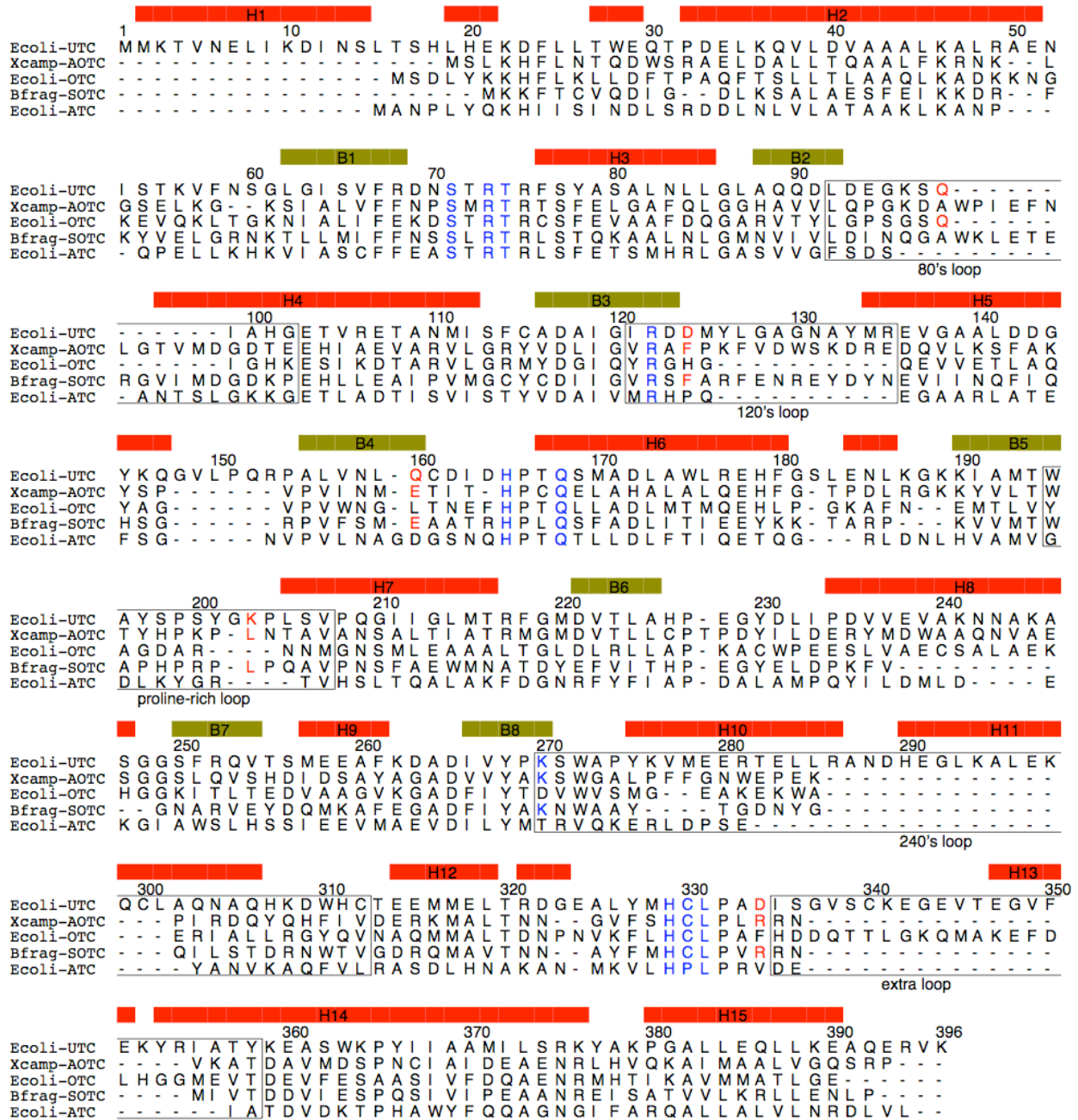
Organism	Protein ID	Locus-tag	
		<i>ygeW</i>	<i>ygeA</i>
Aeromonas hydrophila subsp. hydrophila ATCC 7966	YP_856685	AHA_2161	AHA_2165
Anaerotruncus colihominis DSM 17241	ZP_02440823	ANACOL_00087	ANACOL_00088
Anaerococcus prevotii DSM 20548	YP_003153177	Apre_1433	Apre_1429
Anaerococcus tetradius ATCC 35098	ZP_03931338	HMPREF0077_1973	HMPREF0077_1975
Anaerococcus vaginalis ATCC 51170	ZP_05473079	HMPREF0078_1336	HMPREF0078_1126
Anaerostipes caccae DSM 14662	ZP_02421132	ANACAC_03786	ANACAC_03787
Atopobium parvulum DSM 20469	YP_003179264	Apar_0241	Apar_0242
Atopobium rimae ATCC 49626	ZP_03568816	ATORI0001_0046	ATORI0001_1154
Bacteroides capillosus ATCC 29799	ZP_02035761	BACCAP_01358	BACCAP_01360
Brachyspira hyodysenteriae WA1	YP_002720240	BHWA1_00064	BHWA1_00063
Brachyspira murdochii DSM 12563	YP_003634918	Bmur_2651	Bmur_2650
Brachyspira pilosicoli 95/1000	YP_003785222	BP951000_0722	BP951000_0721
Citrobacter rodentium ICC168	YP_003366866	ROD_34031	ROD_33991
Clostridium beijerinckii NCIMB 8052	YP_001309094	Cbei_1968	Cbei_1969
Clostridium bolteae ATCC BAA-613	ZP_02085552	CLOBOL_03090	CLOBOL_03091
Clostridium botulinum B str. Eklund 17B	YP_002805407	CLL_A0623	CLL_A0624
Clostridium carboxidivorans P7	ZP_05392115	CcarbDRAFT_2115	CcarbDRAFT_2119
Clostridium hathewayi DSM 13479	ZP_06117625	CLOSTHATH_06075	CLOSTHATH_06073
Clostridium hylemonae DSM 15053	ZP_03777517	CLOHYLEM_04569	CLOHYLEM_04568
Clostridium ljungdahlii DSM 13528	YP_003780544	CLJU_c23840	CLJU_c23800
Clostridium saccharolyticum WM1	YP_003821271	Closa_1031	Closa_1030
Clostridium scindens ATCC 35704	YP_02432639	CLOSCI_02886	CLOSCI_02887
Clostridium sp. 7_2_43FAA	ZP_05130377	CSBG_00897	CSBG_00898
Clostridium sporogenes ATCC 15579	ZP_02995005	CLOSP0_02127	CLOSP0_02414
Clostridiales bacterium 1_7_47FAA	ZP_04670451	CBFG_01142	CBFG_04886
Collinsella aerofaciens ATCC 25986	ZP_01772316	COLAER_01320	COLAER_01230
Edwardsiella ictaluri 93-146	YP_002934904	NT01EI_3533	NT01EI_3529
Edwardsiella tarda EIB202	YP_003297220	ETA_E_3178	ETA_E_3174
Enterobacter cloacae SCF1	YP_003942316	Entcl_2784	Entcl_2788
Enterococcus faecalis ATCC 29200	ZP_04438022	HMPREF0345_1509	HMPREF0345_1510
Escherichia coli CFT073	NP_755323	C3448	C3452
Eubacterium limosum KIST612	YP_003960387	ELI_2442	ELI_2441
Eubacterium hallii DSM 3353	ZP_03716602	EUBHAL_01666	EUBHAL_01667
Eubacterium yurii subsp. margaretae ATCC 43715	ZP_07453580	HMPREF0379_0273	HMPREF0379_0275
Leptotrichia goodfellowii F0264	ZP_06011127	HMPREF0554_0912	HMPREF0554_0987
Oribacterium sinus F0268	ZP_03990290	HMPREF6123_0229	HMPREF6123_0228
Oribacterium sp. oral taxon 078 str. F0262	YP_06599918	GCWU000341_02703	GCWU000341_02702
Photobacterium profundum SS9	YP_130199	PBPRA1994	PBPRA1990
Ruminococcus gnavus ATCC 29149	ZP_02041390	RUMGNA_02158	RUMGNA_02156
Ruminococcus sp. 5_1_39BFAA	ZP_04855232	RSAG_00193	RSAG_00194
Ruminococcus obeum ATCC 29174	ZP_01965028	RUMOBE_02759	RUMOBE_02758
Sebaldella termitidis ATCC 33386	YP_003308453	Sterm_1664	Sterm_1665
Shewanella benthica KT99	ZP_02156908	KT99_16614	KT99_16594
Shewanella halifaxensis HAW-EB4	YP_001672869	Shal_0635	Shal_0639
Shigella sonnei Ss046	YP_311848	SSON_3021	SSON_3025
Spirochaeta smaragdinae DSM 11293	YP_003803116	Spirs_1395	Spirs_1022
Spirochaeta smaragdinae DSM 11293	YP_003801863	Spirs_0111	Spirs_1022
Treponema vincentii ATCC 35580	ZP_05621704	TREVI0001_1578	TREVI0001_0380
Trichomonas vaginalis G3	XP_001326968	TVAG_038530	TVAG_261970
Veillonella dispar ATCC 17748	ZP_04599321	VEIDISOL_00755	VEIDISOL_00756
Veillonella parvula DSM 2008	YP_003312230	Vpar_1270	Vpar_1269
Vibrio shilonii AK1	ZP_01868986	VSAK1_15732	VSAK1_15712
Veillonella sp. oral taxon 158 str. F0412	ZP_07826449	HMPREF9199_1314	HMPREF9199_1313

The species with *ygeW* gene without *ygeA* gene around are highlighted in grey.

**Figure S1.** Schematic representation of the ureido degradation pathway.



**Figure S2.** Sequence alignment of *Escherichia coli* UTCase with *Xanthomonas campestris* AOTCase, *Escherichia coli* OTCase *Bacteroides fragilis* SOTCase and *E. coli* ATCase. The secondary structural elements are indicated by boxes in yellow-green ( $\beta$ -strand) and red ( $\alpha$ -helix) above the sequence. Loops discussed in the paper are boxed. Residues that are conserved across UTCase, AOTCase and OTCase, and probably involved in binding substrates are colored in blue. Residues that are not conserved and probably involved in binding substrates are colored red.



**Figure S3.** The sequence alignment for all available *ygeW* encoded protein sequences using program ClusterW.

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Ahydr-UTC/1-395 ~~~~~~ MKA VNQLIKEINE LKS..NLHEK DFLLTWEQTP
Acoli-UTC/1-398 ~~~~~~ MDQK LQAYIDKLNK LNFK.GMYEN DFFLTWEKTN
Aprev-UTC/1-398 ~~~~~~ MTAD IKKLIDELSE LDYE.NLFED DFFHTWDKSQ
Atetr-UTC/1-398 ~~~~~~ MTQD IKKLIDELQE LDHE.KLFGN DFFHTWDKSQ
Avagi-UTC/1-404 ~~~~~~ MTQD INKLLKLEK LDFE.NLYHD DFFHTWDKSQ
Acacc-UTC/1-399 ~~~~~~ MKMNT LQDYIDRLNQ LNFK.EMYQN DFFLTWEKTD
Aparv-UTC/1-400 ~~~~~~ MATT IQPYLDKLAK LDFS.KMYNE DFLLTWEKST
Arima-UTC/1-400 ~~~~~~ MADT IQPYLDELAK LDFS.KMYNE DFLLTWEKST
Bcapi-UTC/1-399 ~~~~~~ MDAK LQAYIDKLNA LNFK.EMYEG DFFLTWEKTD
Bhyod-UTC/1-379 ~~~~~~ ~~~~~~ ~~~~~~ ~~~~~~ MYQN DFFLTWDKTF
Bmurd-UTC/1-397 ~~~~~~ MS IQKYISKLDS LEFG.KMYKN DFFLTWDKTF
Bpilo-UTC/1-380 ~~~~~~ ~~~~~~ ~~~~~~ ~~~~~~ MYKN DFFLTWDKTF
Crode-UTC/1-395 ~~~~~~ MKT VNELIKDLNK LNS..HLSEK DFLLTWEQSP
Cbeij-UTC/1-397 ~~~~~~ MSI VDKYVNALKS LEID.QMYKN DFLLTWEKTT
Cbolt-UTC/1-398 ~~~~~~ IMKT LQDYIDKLNS LNFK.EMYEN DFFLTWEKTD
Cbotu-UTC/1-398 ~~~~~~ MQD IKKLIEELKN IEFK.KMYNN DFFLTWEKTD
Ccarb-UTC/1-398 ~~~~~~ MEK LKELIQNLKK LDYK.NMYNN DFFLTWEKTD
Chath-UTC/1-397 ~~~~~~ MKT LQDYIDKLNA LNFK.EMYNN DFFLTWEKTD
Chyle-UTC/1-398 ~~~~~~ MMKT LQDYIDKLNS LNFK.EMYNG DFFLTWEKTD
Cljun-UTC/1-398 ~~~~~~ MEK LKELIQNLKK LDYK.NMYSN DFFLTWEKTD
Csacc-UTC/1-397 ~~~~~~ MKT LQDYIDKLNS LNFK.EMYEN DFFLTWEKSD
Cscin-UTC/1-397 ~~~~~~ MKT LQDYLDKLN LNFK.EMYNG NFFLTWEKTD
Csp72-UTC/1-397 ~~~~~~ MAL MDKYINELNQ LDFS.KMHND DFMETWKKSD
Cspor-UTC/1-398 ~~~~~~ MQE IKKLTEKLES LKYD.KMYNN DFFLTWEKTD
Cbact-UTC/1-397 ~~~~~~ MKT LQDYIDKLNS LNFK.EMYEN DFFLTWEKTD
Caero-UTC/1-400 ~~~~~~ MDAK FTELVEQLNG LDFK.GMYGS DFLHTWDKTT
Eicta-UTC/1-395 ~~~~~~ MKT VNEI IKDINA LKS..NLHDK DFLLTWEQSP
Etard-UTC/1-395 ~~~~~~ MKT VNEI IKDINA LKS..NLHDK DFLLTWEQSP
Ecloa-UTC/1-395 ~~~~~~ MKT VNELIKDINT LTS..HLHEK DFLLTWEQTP
Efaec-UTC/1-397 ~~~~~~ MET FKEYIEKLDK LEFE.KMYEN DFFLTWEKTR
Ecoli-UTC/1-396 ~~~~~~ MMKT VNELIKDINS LTS..HLHEK DFLLTWEQTP
Elimo-UTC/1-399 ~~~~~~ MDKT LQTYIDKLNA LNFK.EMYEN DFFLTWEKTP
Ehall-UTC/1-399 ~~~~~~ MDKK LQGYIDKLNK LNFK.EMYNG DFFLTWEKTD
Eyuri-UTC/1-397 ~~~~~~ MSL MQKYIGKLD LNFE.KMYNN DFFETWTKTF
Lgood-UTC/1-397 ~~~~~~ MVN IKKYIKILEK LNFK.SMYNS DFFLTWEKTG
Osinu-UTC/1-415 MGLYRINTFL KEIKMDKKQQ FEELVKEIKG LKTD.KMYLN DFFLTWEKSD
Ospor-UTC/1-401 ~~~~~~ MDKQKN FDALLKAIAG RKTE.KMYQN DFFLTWEKTE
Pprof-UTC/1-395 ~~~~~~ MKS INELIKEINE LKS..ELHEK DFLLTWEQSP
Rganv-UTC/1-397 ~~~~~~ MKT LQDYIDKLNA LNFK.DMYNS DFFLTWEKTD
Rsp51-UTC/1-397 ~~~~~~ MKT LQDYIDKLNS LNFK.EMYNN DFFWTWDKTD
Robeu-UTC/1-397 ~~~~~~ MKT LQDYIDKLNK LNFK.EMYNN DFFWTWDKTD
Sterm-UTC/1-401 ~~~~~~ MDKMQ FEEIARLEK LDYK.DMLND DFFLTWDKST
Sbent-UTC/1-396 ~~~~~~ MMKS INTLIKDINE LES..QLDQK DFLLTWEQTP
Shali-UTC/1-395 ~~~~~~ MKS INSLIKEINE LES..QLDQK DFLLTWEQTP
Ssonn-UTC/1-372 ~~~~~~ ~~~~~~ ~~~~~~ ~~~~~~ ~~~~~~ MLTWEQTP
Ssma1-UTC/1-398 ~~~~~~ MDKIG IEEMIRSLST LRTE.KMYLK DFFHTWKHSD
Ssma2-UTC/1-398 ~~~~~~ MDRIG IKEKIKLSLR LRTE.DMYLN DFFHTWKKSD
Tvinc-UTC/1-400 ~~~~~~ IMALI MDPYITKLN LSFK.KMYNN DFFLTWEKTF
Tvagi-UTC/1-398 ~~~~~~ MSA LDGYVQELEK LDGKICTYGK DWLRTWDMND
Vdisp-UTC/1-397 ~~~~~~ MTD FNKSIETLKG LDVS.KMYGE DFFLTWEKSE
Vparv-UTC/1-397 ~~~~~~ MTD FNKSIETLQK LDVS.KMYGE DFFLTWEKSD
Vshil-UTC/1-395 ~~~~~~ MKN MNELIKEISQ LES..KLHDK DFLLTWEQSP
Vspor-UTC/1-397 ~~~~~~ MTD FNKSIETLQN LDVS.KMYGE DFFLTWEKSD

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Ahydr-UTC/1-395	QELALVLKLA	EALKGLRAEN	IATKLFNTGL	GISVFRDNST	RTRFSYASAL
Acoli-UTC/1-398	DELEAVFTVA	DALRYMREQN	ISTKIFESGL	GISLFRDNST	RTRFSFASAC
Aprev-UTC/1-398	DELKAIWKTA	DIIRAMREEN	ISPKIFDSGL	GISLFRDNST	RTRFSFASAC
Atetr-UTC/1-398	DELKAIWKTA	DILRAMREEN	ISPKIFDSGL	GISLFRDNST	RTRFSFASAC
Avagi-UTC/1-404	DELEAIFTVA	DTLRAMREKN	ISPKIFDSGL	AISLFRDNST	RTRFSYASAA
Acacc-UTC/1-399	DELEAVWLVA	DALRFMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Aparv-UTC/1-400	DELQALYAVA	DALRNLRERN	ISTRLEFESGL	AVSLFRDNST	RTRFSFASGS
Arima-UTC/1-400	DELRALYAVA	DALRNLRERN	ISTRLEFESGL	AVSLFRDNST	RTRFSYASGS
Bcapi-UTC/1-399	DELEAVFTVA	DALRYMRENN	ISTKIFESGL	GISLFRDNST	RTRFSFASAC
Bhyod-UTC/1-379	DELQAVWTVA	DALRFLRESN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Bmurd-UTC/1-397	DELQAVWTVA	DALRFLRESN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Bpilo-UTC/1-380	DELQAVWTVA	DALRFLRESN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Crode-UTC/1-395	DELKQVLDVA	ATLKTLLRAEN	IATKVFNSGL	GISIFRDNST	RTRFSYASAL
Cbeij-UTC/1-397	DELKAVYEVA	DALRELRRNN	KSTRLEFDSGL	GISLFRDNST	RTRFSYASAC
Cbolt-UTC/1-398	EELEAVWTVA	DALRFMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Cbotu-UTC/1-398	DELKAVFTVA	DILRKMRENN	ISTKIFDSGL	GISVFRDNST	RTRFSFASAC
Ccarb-UTC/1-398	EELKAVFTVA	DILREMRENN	ISPRIFDSGL	AISLFRDNST	RTRFSFASAC
Chath-UTC/1-397	EELEAVWTVA	DALRFMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Chyle-UTC/1-398	DELEAVFTLA	DALRFMREHN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Cljun-UTC/1-398	EELKAVFTVA	DILRQMRENN	ISPRIFDSGL	AISLFRDNST	RTRFSFASAC
Csacc-UTC/1-397	AELEAVWTVA	DALRFMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Cscin-UTC/1-397	DEIEAVFTLA	DALRYMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Csp72-UTC/1-397	DELKAVFTVA	EALRDLRKNN	ISTKIFDSGL	GISLFRDNST	RTRFSFASAC
Cspor-UTC/1-398	DELKAVFQVA	DILRKMRENN	ISTKIFDSGL	GISVFRDNST	RTRFSFASAC
Cbact-UTC/1-397	EELEAVWTVA	DALRYMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Caero-UTC/1-400	DELKALYIVA	DALRELRENN	VSSKIFDSGL	AVSLFRDNST	RTRFSFASKAA
Eicta-UTC/1-395	EELKLVLDVA	EALKTMRAEN	ITTKIFNSGL	GISVFRDNST	RTRFSYASAL
Etard-UTC/1-395	EELKLVLDVA	EALKTMRAEN	IATKIFNSGL	GISVFRDNST	RTRFSYASAL
Ecloa-UTC/1-395	DELKQVLDIA	AALKTLRAEN	IATKVFNSGL	GISVFRDNST	RTRFSYASAL
Efaec-UTC/1-397	DELEAVFTVA	DTLRYLRENN	ISTKIFDSGL	GISLFRDNST	RTRFSFASAC
Ecoli-UTC/1-396	DELKQVLDVA	AALKALRAEN	ISTKVFNSGL	GISVFRDNST	RTRFSYASAL
Elimo-UTC/1-399	EELEAVFTVA	DALRYMRENN	ISTKIFESGL	GISLFRDNST	RTRFSFASAC
Ehall-UTC/1-399	DELEAVFTVA	EALRYMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Eyuri-UTC/1-397	DELQATWTV	DALRKLREEN	ISTKIFDSGL	GISLFRDNST	RTRFSFASAC
Igood-UTC/1-397	DELDAVFIVA	DALRYLRENN	ISSKIFDSGL	GISLFRDNST	RTRFSFASAC
Osinu-UTC/1-415	DELKAVWDVA	DALRNLRERN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Ospor-UTC/1-401	DELKAVWEVA	DALRNLRERN	ISTRVFDSDGL	GISLFRDNST	RTRFSFASAC
Pprof-UTC/1-395	EELERVLKTA	QVLKAMRQEN	IATNVFNNGL	GISLFRDNST	RTRFSYASAI
Rganv-UTC/1-397	DELEAVFTLA	DALRFMRENN	ISTKVFESGL	GISLFRDNST	RTRFSFASAC
Rsp51-UTC/1-397	DELEAVFTVA	DALRFMRENN	ISTKVFESGL	GISIFRDNST	RTRFSFASAC
Robeu-UTC/1-397	EELEAVFTVA	DALRFMRENN	ISTKVFESGL	GISIFRDNST	RTRFSFASAC
Sterm-UTC/1-401	DELNSVFAVA	DALRNLREQN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Sbent-UTC/1-396	AELERVLKTA	KVLKTMRDEN	IATNVFNNGL	GISLFRDNST	RTRFSYASAI
Shali-UTC/1-395	AELERVLKTA	KVLKTMRAEN	IATNVFNNGL	GISLFRDNST	RTRFSYASAI
Ssonn-UTC/1-372	DELKQVLDVA	AALKALRAEN	ISTKVFNSGL	GISVFRDNST	RTRFSYASAL
Ssma1-UTC/1-398	DEIRATFEVA	EILRGMRENN	ISSRVFDSGL	AISLFRDNST	RTRFSFASAC
Ssma2-UTC/1-398	QEIKAVFEVA	DILRGMRNNN	ISTRLEFDSGL	GISLFRDNST	RTRFSYASAC
Tvinc-UTC/1-400	DEILATWTV	DALRTLREAN	ISTKIFESGL	GISLFRDNST	RTRFSFASAC
Tvagi-UTC/1-398	ETIRSTLNCS	WALEELIKNN	VSKKIFKSGL	GASIFRDNST	RTRFSFASAT
Vdisp-UTC/1-397	DELKGVWAVA	DALRALRERN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Vparv-UTC/1-397	DELQGVWAVA	DALRALRERN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC
Vshil-UTC/1-395	EELERVLKTA	QVLKTMRGEN	IATNVFKNGL	GISLFRDNST	RTRFSYASAI
Vspor-UTC/1-397	DELQGVWAVA	DALRALRERN	ISTKVFDSGL	GISLFRDNST	RTRFSFASAC

Ahydr-UTC/1-395	NLLGLTQODL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Acoli-UTC/1-398	NMLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGN
Aprev-UTC/1-398	NLLGLEVQDL	DESKSQIAHG	ETVKETANMI	SFMADVVGIR	DDMYIGKGYK
Atetr-UTC/1-398	NLLGLEVQDL	DEGKSQIAHG	ETVKETANMI	SFMADVVGIR	DDMYIGKGYK

Avagi-UTC/1-404	NMLGLEVQDL	DEGKSQQAHG	ETVKETANMI	SFMADTVGIR	DDMYIGKGYK
Acacc-UTC/1-399	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Aparv-UTC/1-400	NLLGLQLMDL	DEGKSQIAHG	ETVRETATMI	SFMADVIGIR	DDKFIGKGDA
Arima-UTC/1-400	NLLGLQLMDL	DEGKSQIAHG	ETVRETATMI	SFMADVIGIR	DDKFIGKGDA
Bcapi-UTC/1-399	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Bhyod-UTC/1-379	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGHE
Bmurd-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGHE
Bpilo-UTC/1-380	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGHE
Crode-UTC/1-395	NLLGLAQDDL	DEGKSQIAHG	ETVRETANMI	AFCADAIGIR	DDMYLGAGNA
Cbeij-UTC/1-397	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNK
Cbolt-UTC/1-398	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Cbotu-UTC/1-398	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMFIGKGNK
Ccarb-UTC/1-398	NLLGLKVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMFIRGNK
Chath-UTC/1-397	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Chyle-UTC/1-398	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Cljun-UTC/1-398	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMFIGKGNK
Csacc-UTC/1-397	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGNA
Cscin-UTC/1-397	NLLGLKVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Csp72-UTC/1-397	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGNT
Cspor-UTC/1-398	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMFIGKGNK
Cbact-UTC/1-397	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Caero-UTC/1-400	NLLGLELQDL	DEKKSQIAHG	ETVRETATMI	SFMADVIGIR	DDMYIGKGDG
Eicta-UTC/1-395	NLLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMFLGAGNA
Etard-UTC/1-395	NLLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMFLGAGNA
Ecloa-UTC/1-395	NLLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Efaec-UTC/1-397	NLLGLEVQDL	DEGKSQISHG	ETVRETANMI	SFMADIIGIR	DDMYIGKGNA
Ecoli-UTC/1-396	NLLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Elimo-UTC/1-399	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Ehall-UTC/1-399	NLLGLEVQDL	DETKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNK
Eyuri-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNK
Lgood-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNK
Osinu-UTC/1-415	NLLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Ospor-UTC/1-401	NLLGLEVSDL	DEKKSQVAHG	ETVRETANMI	SFMADIIGIR	DDMYIGKGNK
Pprof-UTC/1-395	NMLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Rganv-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Rsp51-UTC/1-397	NLLGLEVQDL	DEKKSQIAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGHA
Robeu-UTC/1-397	NLLGLEVQDL	DEKKSQIAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGHA
Sterm-UTC/1-401	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADIIGIR	DDMYIGKGHT
Sbent-UTC/1-396	NMLGLAQDDL	DEGKSQISHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Shali-UTC/1-395	NMLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Ssonn-UTC/1-372	NLLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Ssma1-UTC/1-398	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGHT
Ssma2-UTC/1-398	NMLGLEVQDL	DEGKSQVAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGHT
Tvinc-UTC/1-400	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMV	SFMADVIGIR	DDMYIGKGNT
Tvagi-UTC/1-398	SMLGLSLSDL	DEGKSQISHG	ETVRETATMI	SFFTEAIGIR	DDLVLGAGHK
Vdisp-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Vparv-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA
Vshil-UTC/1-395	NMLGLAQDDL	DEGKSQIAHG	ETVRETANMI	SFCADAIGIR	DDMYLGAGNA
Vspor-UTC/1-397	NLLGLEVQDL	DEGKSQIAHG	ETVRETANMI	SFMADVIGIR	DDMYIGKGNA

Ahydr-UTC/1-395	YMREVGAAALD	EGFEKGVLPQ	RPALVNLQCD	IDHPTQSMAD	LAWLQEHFGS
Acoli-UTC/1-398	YMHEVSQSVR	EGYRDGVLEQ	IPTLVNLQCD	IDHPTQCMAD	TLHLIHEFGG
Aprev-UTC/1-398	YMKDFSEYVK	EGHEDGVLEQ	RPTLVNLQCD	IDHPTQAMAD	LNHVIHEFGG
Atetr-UTC/1-398	YMKDFSEYVQ	EGYDDGVLEQ	RPTLVNLQCD	IDHPTQSMAD	LNHVIHEFGG
Avagi-UTC/1-404	YMKDFAEYVQ	EGYDHGVLEQ	RPHLVNLQCD	IDHPTQAMAD	LLHVIHEFGG
Acacc-UTC/1-399	YMHEVADSVE	QGNKDGILEQ	RPTLVNLQCD	IDHPTQCMAD	MLHIHEFGG
Aparv-UTC/1-400	YMREVSASVK	QAFEDGVLDH	RPTLVSLQSD	MDHPTQSTAD	ILYLINEFGG
Arima-UTC/1-400	YMREVSASVK	QAFEDGVLDH	RPTLVSLQSD	MDHPTQSTAD	ILYLINEFGG

Bcapi-UTC/1-399 YMHEVVDSVT QGHKDGIVLEQ KPTLVNLQCD IDHPTQCMAD MLHIIHEFGG  
Bhyod-UTC/1-379 YMKEVSESVK QGYNDGILEQ RPTLVNLQCD RDHPTQMMAD SLHFIHELGG  
Bmurd-UTC/1-397 YMKEVSDSVR QGYNDGILEQ IPTLVNLQCD RDHPTQMMAD SLHFIHELGG  
Bpilo-UTC/1-380 YMKEVSESVR QGYNDGILEQ IPTLVNLQCD RDHPTQMMAD SLHFIHELGG  
Crode-UTC/1-395 YMREVGEALD DGYKEGVLPQ RPALINLQCD IDHPTQAMAD LAWLREHFGS  
Cbeij-UTC/1-397 YMHTVADAVK EGYEDGVLEQ KPTLVNLQCD IDHPTQVMAD MLHIIHEFGG  
Cbolt-UTC/1-398 YMHEVVDVAVT QGHKDGIVLEQ KPTLVNLQCD IDHPTQCMAD MLHIIHEFGG  
Cbotu-UTC/1-398 YMHEVSDAVQ EGYKSGVLEQ RPTLVNLQCD IDHPTQCMAD LLHLIHYFGG  
Ccarb-UTC/1-398 YMHKVSSESVQ EGYKAGILGQ RPTLVNLQCD IDHPTQCMAD LLQLIHYFGG  
Chath-UTC/1-397 YMHEVVDSVT QGHKDGIVLEQ KPTLVNLQCD IDHPTQCMAD MLHIIHEFGG  
Chyle-UTC/1-398 YMHDVADAVT EGNKAGILAQ KPTLVNLQCD IDHPTQVMAD MLHIIHEFGG  
Cljun-UTC/1-398 YMHKVSSESVQ EGYKAGILGQ RPTLVNLQCD IDHPTQCMAD LLHLIHYFGG  
Csacc-UTC/1-397 YMHEFMEAVT QGNKDGIVLEQ RPTLVNLQCD IDHPTQSMAD ALHIIHEMGG  
Cscin-UTC/1-397 YMHEVVDSVT QGHKDGIVLEQ KPTLVNLQCD IDHPTQVMAD MLHIIHEFGG  
Csp72-UTC/1-397 YMREVSKAVR EGYEEGTLEQ IPTLVDLQCD IDHPTQAMAD ALHLINEFGG  
Cspor-UTC/1-398 YMHEVSDAVQ EGYKSAVLEQ RPTLVNLQCD IDHPTQCMAD LLHLIHYFGG  
Cbact-UTC/1-397 YMHEVVDVAVT QGHKDGIVLEQ KPTLVNLQCD IDHPTQCMAD MLHIIHEFGG  
Caero-UTC/1-400 YMAEVSESVQ QAYEDGVLDH RPTLISLQSD SDHPTQSSAD MLYLISEFGG  
Eicta-UTC/1-395 YMREVGAALD EGYEQGVLPQ RPALVNLQCD IDHPTQSMAD LAWLREHFGS  
Etard-UTC/1-395 YMREVGAALD EGYEQGVLPQ RPALVNLQCD IDHPTQSMAD LAWLREHFGS  
Ecloa-UTC/1-395 YMREVGAALD DGHKQGVLPQ RPALINLQCD IDHPTQSMAD LAWLREHFGS  
Efaec-UTC/1-397 YMHEVSESVQ EGYKDGIVLEQ RPTLVNLQCD IDHPTQAMAD ALHLIHEFGG  
Ecoli-UTC/1-396 YMREVGAALD DGYKQGVLPQ RPALVNLQCD IDHPTQSMAD LAWLREHFGS  
Elimo-UTC/1-399 YMHEVVDVAVT EGHKDGIVLEQ KPTLVNLQCD IDHPTQAMAD ALHLIHYFGG  
Ehall-UTC/1-399 YMHEVVDSVT QGNKDGIVLEQ KPTLVNLQCD IDHPTQCMAD MLHIIHEFGG  
Eyuri-UTC/1-397 YMRDYADYVE EGYKDGIVLEQ RPTLVDLQCD IDHPTQAMAD ALHVIHEFGG  
Lgood-UTC/1-397 YMHDVAVNAV T EGNKDGIVLEQ KPTLVNLQCD IDHPTQSMAD ALHLIHEFGG  
Osinu-UTC/1-415 YMHEVADSVE AGHKDGIVLEQ RPTLVNLQCD IDHPTQCMAD ALHVIHEMGG  
Ospor-UTC/1-401 YMHEVADSVA QGYKDGIVLEQ RPTLVNLQCD IDHPTQCMAD ALHVIHEMGG  
Pprof-UTC/1-395 YMREVGAALD EGVKEGVLPQ RPALINLQCD IDHPTQSMAD LAWLEEHFGD  
Rganv-UTC/1-397 YMHEVVDVAVT EGHKDGIVLEQ KPTLVNLQCD IDHPTQAMAD MLHIIHEFGG  
Rsp51-UTC/1-397 YQKEFMEAVT EGNKDGIVLEQ RPTLVNLQCD VDHPTQCMAD MLHIIHEFGG  
Robeu-UTC/1-397 YQKEFMDAVT EGNKDGIVLEQ RPTLVNLQCD VDHPTQCMAD MLHIIHEFGG  
Sterm-UTC/1-401 YMQEVSQAVQ EGHKDGIVLEQ RPTLVNLQCD IDHPTQSMAD MLHIIHEFGG  
Sbent-UTC/1-396 YMREVGAALD DGVEKGVLPQ RPALINLQCD IDHPTQSMSD LAWLEEHFGD  
Shali-UTC/1-395 YMREVGEALD DGVKEGVLPQ RPALINLQCD IDHPTQSMAD LAWLEEHFGD  
Ssonn-UTC/1-372 YMREVGAALD DGYKQGVLPQ RPALVNLQCD IDHPTQSMAD LAWLREHFGS  
Ssmal-UTC/1-398 YMKTVAQAVE DGHYDGVLEQ RPTLVNLQCD IDHPTQSMAD ALHVINEFGG  
Ssma2-UTC/1-398 YMKEVAASVQ AGYDAGILEQ RPTLVNLQCD IDHPTQSMAD ALHLINHFGG  
Tvinc-UTC/1-400 YMHTFMDDAVA EGNKDGIVLEQ RPTLVNLQCD IDHPTQIMAD TLHIIHEFGG  
Tvagi-UTC/1-398 YMLEVGESIT ESAEKKVLFK RPCIINLQCD EDHPTQAMAD LSHLVKVFSG  
Vdisp-UTC/1-397 YMREVSNAVK EGHEDGVLEQ RPTLVNLQCD IDHPTQIMAD AAHIIKEFGG  
Vparv-UTC/1-397 YMHQVSDAVK EGHEDGVLEQ RPTLVNLQCD IDHPTQIMAD TAHIIKEFGG  
Vshil-UTC/1-395 YMREVGEALD DGVKEGVLPQ RPALVNLQCD IDHPTQSMAD LAWLEEHFGG  
Vspor-UTC/1-397 YMHEVSDAVK EGHEDGVLEQ RPTLVNLQCD IDHPTQIMAD AAHIIKEFGG

Ahydr-UTC/1-395 LENLKGKKIA MTWAYSPSYG KPLSVPQGI I GLMTRFGMDV TLAHPEGYDL  
Acoli-UTC/1-398 LENLKGKKVA MTWAYSPSYG KPLSVPQGI I GLMTRFGMDV VLAHPEGYEV  
Aprev-UTC/1-398 IENLKGKKVA MTWAYSPSYG KPLSVPQGI S GLFTRLGMDV VLAHPEGYEI  
Atetr-UTC/1-398 IENLKGKKVA MTWAYSPSYG KPLSVPQGI S GLFTRLGMDV VLAHPEGYEI  
Avagi-UTC/1-404 IENLKGKKVA MTWAYSPSYG KPLSVPQGI S GLFTRFGMDV VLAHPEGYEI  
Acacc-UTC/1-399 VENLKGKKLA MSWAYSPSYG KPLSVPQGI I GLMTRMGMDV VLAHPEGYDV  
Aparv-UTC/1-400 LENLRGKKVA VTWAYSPSYG KPLSCPQSLI TLLPRFGMDV TLAHPEGYDL  
Arima-UTC/1-400 LENLRGKKVA VTWAYSPSYG KPLSCPQSLI TLLPRFGMDV TLAHPEGYDL  
Bcapi-UTC/1-399 VENLKGKKVA MTWAYSPSYG KPLSVPQGI I GLMTRFGMDV VLAHPEGYEV  
Bhyod-UTC/1-379 LENLKGKKVA MTWAYSPSYG KPLSVPQGA A GLFTRLGMDV ALAYPKGYEL  
Bmurd-UTC/1-397 LENLKGKKVA MTWAYSPSYG KPLSVPQGA A GLFTRLGMDV ALAYPKGYEL  
Bpilo-UTC/1-380 LENLRGKKVA MTWAYSPSYG KPLSVPQGA A GLFTRLGMDV ALAYPKGYEL



Crode-UTC/1-395	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Cbeij-UTC/1-397	IENLKGKKIA	MSWAYSPSYG	KPLSVPQGV I	GLMTRFGMDV	CLAHPEGYEV
Cbolt-UTC/1-398	VENLKGKKLA	MTWAYSPSYG	KPLSVPQGV V	GLMTRMGMEV	VLAHPEGYEI
Cbotu-UTC/1-398	VENLKGKKVA	MSWAYSPSYG	KPLSVPQGV V	GLMTRMGMEV	VLAHPEGYDL
Ccarb-UTC/1-398	AEKLGKKMA	MTWAYSPSYG	KPLSVPQGI I	GLMTRMGMEV	VLAHPDGYDI
Chath-UTC/1-397	LENLKGKKLA	MTWAYSPSYG	KPLSVPQGV I	GLMTRMGMEV	VLAHPEGYEV
Chyle-UTC/1-398	VENLKGKKLA	MTWAYSPSYG	KPLSVPQGV I	GLMTRFGMDV	VLAHPEGYEV
Cljun-UTC/1-398	AQNLKGKKLA	MTWAYSPSYG	KPLSVPQGI I	GLMTRMGMEV	TLAHPEGYDI
Csacc-UTC/1-397	LENLKGKKLA	MTWAYSPSYG	KPLSVPQGI I	GLMTRMGMEV	VLAHPEGYEV
Cscin-UTC/1-397	VENLKGKKLA	MTWAYSPSYG	KPLSVPQGV I	GLMTRFGMDV	VLAHPEGYEV
Csp72-UTC/1-397	IENLKGKKVA	MTWAYSPSYG	KPLSVPQGI I	GLLTRFGMDV	VLAHPEGYEV
Cspor-UTC/1-398	IENLKGKKIA	MSWAYSPSYG	KPLSVPQGV V	GLMTRMGMEV	VLAHPEGYDL
Cbact-UTC/1-397	VENLKGKKLA	MTWAYSPSYG	KPLSVPQGV V	GLMTRMGMEV	VLAHPEGYEI
Caero-UTC/1-400	LENLKGKKVA	VTWAYSPSYG	KPLSCPQSL I	SLLPRFGMDV	TLAHPEGYDL
Eicta-UTC/1-395	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Etard-UTC/1-395	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Ecloa-UTC/1-395	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Efaec-UTC/1-397	IENLKGKKVA	MTWAYSPSYG	KPLSVPQGI V	GLMTRLGMDV	VLAHPEGYEI
Ecoli-UTC/1-396	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Elimo-UTC/1-399	IENLKGKKVA	MTWAYSPSYG	KPLSVPQGI V	GLMTRLGMDV	TLAHPEGYEI
Ehall-UTC/1-399	VENLKGKKVA	MTWAYSPSYG	KPLSVPQGV V	GLMTRFGMDV	VLAHPEGYDI
Eyuri-UTC/1-397	IENLKGKKIA	MTWAYSPSYG	KPLSVPQGI A	GLFTRLGMEV	SLAHPEGYEI
Lgood-UTC/1-397	VENLKGKKIA	MSWAYSPSYG	KPLSVPQGI V	GLMTRFGMEV	VLAHPKGYEI
Osinu-UTC/1-415	IENLKGKKLA	MTWAYSPSYG	KPLSVPQGV I	GLFTRLGMEV	VLAHPEGYDV
Ospor-UTC/1-401	IENLKGKKLA	MSWAYSPSYG	KPLSVPQGV I	GLFTRLGMEV	VLAHPEGYDV
Pprof-UTC/1-395	LNQLKGKKLA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Rganv-UTC/1-397	VENLKGKKIA	MSWAYSPSYG	KPLSVPQGV I	GLMTRFGMDV	VLAHPEGYEV
Rsp51-UTC/1-397	VENLKGKKIA	MTWAYSPSYG	KPLSVPQGV I	GLMTRFGMDV	VLAHPEGYDV
Robeu-UTC/1-397	VENLKGKKIA	MSWAYSPSYG	KPLSVPQGV I	GLMTRFGMDV	VLAHPEGYDV
Sterm-UTC/1-401	VENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMSRFGMEV	VLAHPEGYEV
Sbent-UTC/1-396	LKELKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Shali-UTC/1-395	LKELKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Ssonn-UTC/1-372	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMTRFGMDV	TLAHPEGYDL
Ssma1-UTC/1-398	VENLKGKKLA	MTWAYSPSYG	KPLSVPQGI I	GLFTRFGMDV	VLAHPEGYNV
Ssma2-UTC/1-398	IENLKGKKIA	MTWAYSPSYG	KPLSVPQGI M	GLMSRFGMAV	TLAHPEGYEV
Tvinc-UTC/1-400	LENLKGKKIA	MTWAYSPSYG	KPLSVPQGI A	GLFSRLGMNV	VLAHPEGYEI
Tvagi-UTC/1-398	LEALRGKKIV	MSWAYSPSYG	KPLSVPQGI F	ALLSRFGTNL	VLAHPEGYDL
Vdisp-UTC/1-397	IENLKGKKLA	MTWAYSPSYG	KPLSVPQGI A	GLFTRLGMEV	VLAHPEGYEV
Vparv-UTC/1-397	VENLKGKKIA	MTWAYSPSYG	KPLSVPQGI A	GLFTRLGMEV	VLAHPEGYEV
Vshil-UTC/1-395	LDQLKGKKIA	MTWAYSPSYG	KPLSVPQGI I	GLMSRFGMDV	VLAHPEGYDL
Vspor-UTC/1-397	VENLKGKKLA	MTWAYSPSYG	KPLSVPQGI A	GLFTRLGMEV	VLAHPEGYEV

Ahydr-UTC/1-395	IPDVIEVAKE	NAKASGGSFR	QVTSMEEAFK	DADIVYPKSW	APYQVMEQRT
Acoli-UTC/1-398	MPEVEEVAKK	NAAASGGSFR	RTNSMADAFK	DADIVYPKSW	APFAAMEKRT
Aprev-UTC/1-398	MPEVEEIAKK	NAEYGGSF	VTNSMEDAFK	DADIVYPKSW	APFAAMEERT
Atetr-UTC/1-398	MPEVEEIAKK	NAEYGGSF	VTNSMEDAFK	DADIVYPKSW	APFAAMEERT
Avagi-UTC/1-404	MPEVEEIAEE	NAKYGGSFT	KTNSMEEAFK	DADIVYPKSW	APFAAMEERT
Acacc-UTC/1-399	MPEVEEVARK	NAEKSGGTF	KTNSMEEAFK	DADIVYPKSW	APFAAMEERT
Aparv-UTC/1-400	MPELVDVAGK	FAAESGATFK	KTYNMAEAFE	GADIVIPKSW	APYAAMEKRT
Arima-UTC/1-400	MPELVDVAGK	FATESGATFK	KTHNMAEAFE	GADIVIPKSW	APYAAMEKRT
Bcapi-UTC/1-399	MPEVEAVAKA	NAEKSGGTF	KTNSMAEAFK	DADIVYPKSW	APFAAMEERT
Bhyod-UTC/1-379	MPEVEAIAKK	NAEAAGVKLT	ITNNMDEAFE	DADVVPKSW	APFAAMQERT
Bmurd-UTC/1-397	MPEVEAIAKK	NAEAAGVKLT	ITNSMDEAFE	NADVVPKSW	APFAAMQERT
Bpilo-UTC/1-380	MPEVEAIAKK	NAEAAGVKLT	ITNDMDEAFE	NADVVPKSW	APFAAMQERT
Crode-UTC/1-395	IPDVIEVAKN	NANNSGGSFR	QVTSMEEAFK	DADIVYPKSW	APYKVMERRT
Cbeij-UTC/1-397	MEEVENIARN	NAKESGGTF	KTNNMAEAFK	DADIVYPKSW	APFAAMKERT
Cbolt-UTC/1-398	MPEVEEVARK	NAEKTGGSFR	VSHDMADAFK	DADIVYPKSW	APFAAMEKRT
Cbotu-UTC/1-398	MPEVEDVARK	NAKASGGKFT	KTNSMKEAFE	NADVVPKSW	APFAFMERRT

Ccarb-UTC/1-398	LPEVEEVARN	NAEKSGGKFT	KTNSMKEAFE	NADIVYPKSW	APFAAMEKRT
Chath-UTC/1-397	MPEVEEVARK	NAEKSGGSFR	VSHDMADAFK	DADIVYPKSW	APFAAMEKRT
Chyle-UTC/1-398	FPEVEAVAAE	NASKSGGSYT	KTNDMKEAFQ	DADIVYPKSW	APFAAMEKRT
Cljun-UTC/1-398	LPEVENVARR	NAEISGGKFI	KTNSMKEAFE	NADIVYPKSW	APFAAMEKRT
Csacc-UTC/1-397	MPEVVEVAKK	NAEKSGGSFR	ISNDMADAFK	DADVVPKSW	APFAAMEKRT
Cscin-UTC/1-397	FPEVEAVAAE	NAKKSOGGSYT	KTNSMAEAFK	DADIVYPKSW	APFAAMGQRT
Csp72-UTC/1-397	MPEVEEIAKE	NAKLSGGSFY	KTNSMEEAFK	EADIVYPKSW	APFVAMEKRT
Cspor-UTC/1-398	MPEVEEVARK	NAKVSOGKFT	KTNSMKEAFE	NADIVYPKSW	APFAFMERRT
Cbact-UTC/1-397	MPEVEEVAKK	NAAATGGSFY	VSHDMADAFK	DADIVYPKSW	APFAAMEKRT
Caero-UTC/1-400	MPEVVERAKG	YAAESGTTFK	QVNTMAEAFE	GADIVIPKSW	APFAAMEKRT
Eicta-UTC/1-395	IPDVVEVAHN	NAKASGGSFY	QVSSMEEAFK	GADIVYPKSW	APYKVMQRT
Etard-UTC/1-395	IPDVVEVAHN	NAKASGGSFY	QVSSMEEAFK	DADIVYPKSW	APYKVMQRT
Ecloa-UTC/1-395	IPDVIEVAKN	NAKASGGSFY	QVTDMAEAFK	DADIVYPKSW	APYKVMQRT
Efaec-UTC/1-397	MPEVEEVAKK	NAAEFGGNFT	KTNSMAEAFK	DADVVPKSW	APFAAMEKRT
Ecoli-UTC/1-396	IPDVVEVAKN	NAKASGGSFY	QVTSMEEAFK	DADIVYPKSW	APYKVMERT
Elimo-UTC/1-399	MSDVVEVAKK	NAAESGGSFY	KTNSMAEAFK	DADVVPKSW	APFSAMEERT
Ehall-UTC/1-399	MPEVEEVAKK	NAAENGGSFT	KTNSMAEAFK	DADIVYPKSW	APFAAMEKRT
Eyuri-UTC/1-397	MPEVEEIAK	NAEISGGKFI	KTNSMAEAFK	DADIVYPKSW	APFAAMEKRT
Lgood-UTC/1-397	MPEVQKVAEK	NAIESGGTFK	VTNDMKEAFK	NADIVYPKSW	APFVAMEKRT
Osinu-UTC/1-415	MGDVVDVAEK	NAKESGGSFY	VTNDMKEAFQ	GADIVYPKSW	APFAAMEKRT
Ospor-UTC/1-401	MKVVEVAKK	NAQOQSGSFY	LTHDMKDAFR	DADIVYPKSW	APFAAMEERT
Pprof-UTC/1-395	IPEVVEQARQ	NAEASGGSFY	QVTSMEEAFD	GADIVYPKSW	APYQVMERRT
Rganv-UTC/1-397	FSEVEAVAAE	NAKKSOGGSFT	KTNNMAEAFK	DADIVYPKSW	APFAAMEKRT
Rsp51-UTC/1-397	MPEVEEIAK	NAEKNGGSFT	KTNDMAEAFK	DADIVYPKSW	APFAAMEKRT
Robeu-UTC/1-397	MPEVEEIAK	NAEATGGSFY	KTNSMEEAFK	DADIVYPKSW	APFAAMEKRT
Sterm-UTC/1-401	MPEVEEVARK	NAEASGGSFV	KTNNMAEAFK	DADIVYPKSW	APFAAMEKRT
Sbent-UTC/1-396	IPEVVEQAKK	NAKESGGSFY	QVDTMAAAFE	GADIVYPKSW	APYKVMERRT
Shali-UTC/1-395	IPEVVEEAKK	NAVASGGSFY	QVDTMAEAFE	GADIVYPKSW	APYQVMGKRT
Ssonn-UTC/1-372	IPDVVEVAKN	NAKASGGSFY	QVTSMEEAFK	DADIVYPKSW	APYKVMERT
Ssma1-UTC/1-398	MPEMEGVAEK	NAQKSGGSFV	KVNSMAEAFK	DADIVYPKSW	APFSVMEERT
Ssma2-UTC/1-398	MPEVEKIAEI	NSAKSGGTFV	KTNSMAEAFK	DADIVYPKSW	APFKAMEKRT
Tvinc-UTC/1-400	MPEVEEVAKK	QSKASGGSFY	KTNSMKEAFK	DADIVYPKSW	APFTAMEKRT
Tvagi-UTC/1-398	IPEIIEITKK	NAEKAGGSFE	ISHNMREAFK	GADVVPKSW	APMWISEKRT
Vdisp-UTC/1-397	MPEVEEIAK	QAEESGGSFY	RTNDMKEAFK	DADIVYPKSW	APFGAMEKRT
Vparv-UTC/1-397	MPEVEEIAK	QAEASGGSFY	RTNDMKDAFK	DADIVYPKSW	APFGAMEKRT
Vshil-UTC/1-395	IPEVVEEAKK	NAQESGGSFY	QVTSMEEAFK	DADIVYPKSW	APYKVMGERT
Vspor-UTC/1-397	MPEVEEIAK	QAEACGGSFY	KTNDMKDAFK	DADIVYPKSW	APFGAMEKRT

Ahydr-UTC/1-395	ELLRANDHAG	LKELEQHCLA	QNAKHKDWHC	TEEMMALTG	G.EALYMHCL
Acoli-UTC/1-398	NLYGEGDAEG	IKALEKELLA	QNAEHKDWCC	TEELMKMTKD	G.KALYHLHCL
Aprev-UTC/1-398	KLYGEGDQKG	IDELEQRLLE	QNKEHMDWEC	TEEMMELTKD	G.KALYMHCL
Atetr-UTC/1-398	KLYGEGDQKG	IDELEKRLLE	QNKNHMDWEC	TEEMMKLTKD	G.KALYMHCL
Avagi-UTC/1-404	DLYAKGDQKG	IDELEQRLLE	QNKEHMDWAC	TEEMMKLTKD	G.KALYMHCL
Acacc-UTC/1-399	ELYGNDFDFG	IDRLEKELLA	QNAKHKDWAC	TEELMKTTKD	G.KALYHLHCL
Aparv-UTC/1-400	NLYAAGDDAG	IDALEKELLA	QNATHKDWCC	TTDLMAKTAH	GMDTIYMHPL
Arima-UTC/1-400	NLYAAGDDAG	IDALEKDLA	ENATHKDWCC	TADLMAKTAH	GMDTIYMHPL
Bcapi-UTC/1-399	DLYAKGDSDG	IKALEKRLLA	QNAEHKDWCC	TEELMKTTKD	G.KALYHLHCL
Bhyod-UTC/1-379	DLYGKGDTDG	IKALEKRLLE	QNAQHKDWCC	TEEKMKKTKN	G.KALYHLHCL
Bmurd-UTC/1-397	DLYGKGDTDG	IKALEKRLLE	QNAQHKDWCC	TEEKMKKTKD	G.KALYHLHCL
Bpilo-UTC/1-380	DLYGKGDTDG	IKALEKRLLE	QNAKHKDWCC	TEEKMKKTKD	G.KALYHLHCL
Crode-UTC/1-395	ELLRANDHDG	LAALEKECLA	QNAKHKDWHC	TEEMMKHTRD	G.EALYMHCL
Cbeij-UTC/1-397	DLYSEGDSSEG	IKELEKLLA	QNAEHKDWEC	TEELMKTTKD	G.KALYHLHCL
Cbolt-UTC/1-398	NLYAEGDSEG	IKTLEKELLA	QNAEHKDWCC	TEELMKTTKD	G.KALYHLHCL
Cbotu-UTC/1-398	NLYGEGKFKE	IDVLEKELLE	ENAKHKDWEC	TEEMMKLTKD	E.KALYHLHCL
Ccarb-UTC/1-398	KLYGEGKFDE	IKVLEKELLN	QNANYKDWEC	TEEMMKLTKD	S.KALYMHCL
Chath-UTC/1-397	NLYGEGDTEG	IKALEKELLA	QNAEHKDWCC	TEELMKTTKD	G.KALYHLHCL
Chyle-UTC/1-398	DLYAKGDQAG	IDALEKELLS	QNAQHKDWAC	TEELMKTTKD	G.KALYHLHCL
Cljun-UTC/1-398	NLYGEGKFDE	IEVLEKELLN	QNANYKDWEC	TEEMMKLTKD	S.KALYMHCL

Csacc-UTC/1-397	NLYAEGDSGD	IKALEKELLS	QNAQHKDWCC	TEELMKTTKD	G.KALYMHCL
Cscin-UTC/1-397	ELYAQGDQAG	IDALEKELLA	QNAQHKDWAC	TEELMSTTKD	G.KALYLHCL
Csp72-UTC/1-397	DLYGNGDFDG	IKELEKELLA	QNAEHKDWQC	TEELMKTTKD	G.KALYLHCL
Cspor-UTC/1-398	NLYGEGKFKE	IDVLEKELLE	ENAKHKDWEC	TEEMMKLTKD	E.KALYLHCL
Cbact-UTC/1-397	NLYAEGDSEG	IKALEKELLA	QNAEHKDWCC	TEELMKTTKD	G.KALYLHCL
Caero-UTC/1-400	NLYAEGDDAG	IAALEKELLA	QNATHQDWCS	TTELMKKTAN	QDITFIMHPL
Eicta-UTC/1-395	ELLRANDHDG	LKALEKQCLA	QNaNHKNWHC	TEEMMKLTRG	G.EALYMHCL
Etard-UTC/1-395	ELLRANDHDG	LKALEKQCLA	QNaNHKDWHC	TEEMMKLTRG	G.EALYMHCL
Ecloa-UTC/1-395	ELLRANDHDG	LKTLEKACLA	QNaNHKDWHC	TEEMMKLTRD	G.NALYMHCL
Efaec-UTC/1-397	ELYGNGDQAG	IDOLEQELLS	QNKHKDWEC	TEELMKTTKD	G.KALYMHCL
Ecoli-UTC/1-396	ELLRANDHEG	LKALEKQCLA	QNAQHKDWHC	TEEMMELTRD	G.EALYMHCL
Elimo-UTC/1-399	ILYGNGDQEG	IDRLEKELLA	QNaNHKDWEC	TEELMKTTKD	G.KALYMHCL
Ehall-UTC/1-399	DLYAEGDQAG	IDALEKELLA	QNAEHKDWCC	TEELMSTTKD	G.KALYLHCL
Eyuri-UTC/1-397	DLYGKGDQAG	IDALEKELLA	QNAKHKDWEC	TEELMKTTKN	G.KALYMHCL
Lgood-UTC/1-397	VLYGNGDTQG	IKELEKELLE	ENSKHKDWEC	TEEFMKNTKN	G.KALYLHCL
Osinu-UTC/1-415	NLYGEGDTEG	IKALEKELLA	QNAQHKDWAC	TEEMMKLTKD	G.KALYMHCL
Ospor-UTC/1-401	ELYGRGDQKG	IDELEQRLLK	QNAAHKDWAC	TEEMMKLTKN	G.KALYLHCL
Pprof-UTC/1-395	ELLRAQDHDG	LKALEQECLA	QNaNFKDWHC	TEEMMTKTKG	G.EALYMHCL
Rganv-UTC/1-397	ELYGNGDFAG	IDALEKELLE	QNAQHKDWAC	TEELMKTTKD	G.NALYLHCL
Rsp51-UTC/1-397	DLYAEGDFDG	IDKLEKELLA	QNAQHKDWAC	TEELMKTTKD	G.KALYLHCL
Robeu-UTC/1-397	NLYAEGDFEG	IDKLEKELLA	QNAEHKDWAC	TEELMKTTKD	G.KALYLHCL
Sterm-UTC/1-401	NLYGEGKFDE	INVLEKELLA	QNaNHKDWEC	TEELMKTTTE	G.KALYMHCL
Sbent-UTC/1-396	VMLRANDQEG	LKSLEQECLA	QNAKHKDWHC	TEEMMTKTKD	G.EALYMHCL
Shali-UTC/1-395	ELLRANDEAG	LKSLEQECLA	QNAKHKDWHC	TEEMMKTKK	G.EALYMHCL
Ssonn-UTC/1-372	ELLRANDHEG	LKALEKQCLA	QNAQHKDWHC	TEEMMELTRD	G.EALYMHCL
Ssma1-UTC/1-398	KIVETGDQQA	LKELEKRCLA	QNAQFIDWEC	TEELMSTTRE	G.KALYLHCL
Ssma2-UTC/1-398	GLYGKGDQAG	IDKLEKELLG	QNAHDKDWEC	TEELMNSTKE	G.KALYMHCL
Tvinc-UTC/1-400	SLYGAGDFDG	IKALEKELLA	QNGHKKDWEC	TEDMMKLTKD	G.KALYLHCL
Tvagi-UTC/1-398	QQLKKKDYDG	LKATEKECLE	LNKKYIDWQC	DDEMMAATKD	G.KALYMHCL
Vdisp-UTC/1-397	KLYGENDHEG	IKALEKVLE	ENGKHKDWAC	TEEMMSLTKD	G.KALYLHCL
Vparv-UTC/1-397	KLYGENDHEG	IKALEKVLE	ENGKHKDWAC	TEEMMSLTKD	G.KALYLHCL
Vshil-UTC/1-395	DLLRANDHDG	LKELEKACLA	QNAQHKDWHC	TEEMMKLTKG	G.EALYMHCL
Vspor-UTC/1-397	KLYGDNDHEG	IKALEKVLE	ENGKHKDWAC	TEEMMSLTKD	G.KALYLHCL

Ahydr-UTC/1-395	PADISGVSC	EGEVSEGVFE	KYRIATYKEA	SWKPYIIAAM	IVARKFSAPG
Acoli-UTC/1-398	PADINDVSC	DGEVEASVFD	RYRTPYKEA	SYKPYVIAAM	MFLAKVKDPQ
Aprev-UTC/1-398	PADITGVSAE	HGEVAESVFD	RYRVPLYKEA	SFKPYIIAAM	ILLQKIENPE
Atetr-UTC/1-398	PADITGVSAE	HGEVADTVFD	RYRVPLYKEA	SFKPYIIAAM	ILLQKVENPE
Avagi-UTC/1-404	PADITGLSCE	DGEVDESVD	RYRDPLYKEA	SFKPYIIAAM	IFLQKVKDPK
Acacc-UTC/1-399	PADITGLSCE	EGEVDESVD	RYRNPLYKEA	SYKPYVIAAM	IFLSKFEDPQ
Aparv-UTC/1-400	PADINGVSCE	HGEVENEVFD	YHRDGLYKEA	SYKPYAIAAM	IFLQKAKDPI
Arima-UTC/1-400	PADINGVSCE	HGEVANEVFD	YHRDGLYKEA	SYKPYAIAAM	IFLQKAKDPI
Bcapi-UTC/1-399	PADINGVSCV	DGEVEATVFD	RYRDPLYKEA	SYKPYIIAAM	IFLAKCKDPQ
Bhyod-UTC/1-379	PADINDVSC	DGEVAASVFD	RYRVPLYKQA	SYKPYVIAAM	IFLSKFRDPQ
Bmurd-UTC/1-397	PADINDVSC	DGEVAASVFD	RYRVPLYKQA	SYKPYVIAAM	IFLSKFRDPQ
Bpilo-UTC/1-380	PADINDVSC	DGEVAASVFD	RYRVPLYKQA	SYKPYVIAAM	IFLSKFRDPQ
Crode-UTC/1-395	PADITDVSC	EGEVTQGVFE	KYRIATYKEA	SWKPYIIAAM	ILCRKYAKPG
Cbeij-UTC/1-397	PADISNLSCE	KGEVEDSVFD	RYRVPLYKEA	SYKPYIIAAM	ILLAKVKNPA
Cbolt-UTC/1-398	PADINDVSC	DGEVEATVFD	RYRDPLYKEA	SYKPYVIAAM	IMLAKFADPA
Cbotu-UTC/1-398	PADITGVSC	HGEVAESVFD	RYREPLYKEA	GYKPYIIAAM	MFLSKVKNPA
Ccarb-UTC/1-398	PADITGVSC	QGEVAASVFD	RYREELYKQA	GYKPYIIASM	IFLSKVKDPV
Chath-UTC/1-397	PADINDVSCV	DGEVEASVFD	RYRDPLYKEA	SFKPYVIAAM	IFLAKFENPQ
Chyle-UTC/1-398	PADITGVSC	EGEVDASVFD	RYREPLYKEA	SFKPYIIAAM	IFLAKFADPA
Cljun-UTC/1-398	PADITGVSC	QGEVAASVFD	RYREELYKQA	GYKPYIVASM	IFLSKVKDPV
Csacc-UTC/1-397	PADINDVSCV	DGEVEATVFD	RYRDPLYKEA	SYKPYVIASM	IFLSKFKNPQ
Cscin-UTC/1-397	PADITGVSC	TGEVDASVFD	RYRTLLYKEA	SYKPYIIAAM	IFLAKFADPA
Csp72-UTC/1-397	PADITGVSC	TGEVDASVFD	RYRKPLYKEA	SYKPYVIAAM	IFLSKVKDPQ
Cspor-UTC/1-398	PADITGVSC	EGEVAASVFD	RYREPLYKEA	GYKPYIIAAM	MFLSKVKNPA

Cbact-UTC/1-397 PADINDVSCK DGEVEASVFD RYRDPLYKEA SYKPYVIAAM IMLAKFADPA  
 Caero-UTC/1-400 PADISGVSC EGEVNADVFD MHRVGMKEA SYKPYAIAAM MFLQKVADPA  
 Eicta-UTC/1-395 PADISGVSC EGEVTEGVFE KYRIATYKEA SWKPYIIAAM IVARFKPKPG  
 Etard-UTC/1-395 PADISGVSC EGEVTEGVFE KYRIATYKEA SWKPYIIAAM IVARFKPKPG  
 Ecloa-UTC/1-395 PADITGVSCA EGEVTEGVFE KYRIETYKEA SWKPYIIAAM ILARKYAKPG  
 Efaec-UTC/1-397 PADITGVSC EGEVEASVFD RYRVELYKEA SYKPYVIAAM IFLSKVKNPQ  
 Ecoli-UTC/1-396 PADISGVSC EGEVTEGVFE KYRIATYKEA SWKPYIIAAM ILSRKYAKPG  
 Elimo-UTC/1-399 PADITGVSC EGEVEASVFD RYRTELYKEA SYKPYIIAAM IFLAKEKDPQ  
 Ehall-UTC/1-399 PADINGVSCK DGEVEASVFD RYRDPLYKEA SYKPYIIAAM ILLAKQKIDIT  
 Eyuri-UTC/1-397 PADITGLSCK EGEVENSVD RYRVPLYKEA SFKPYVIAAM IFLAKVKDPQ  
 Lgood-UTC/1-397 PADISGVSC KGEVEASVFN RYRIPLYKQA SFKPYIIAAM IFLSKVKEPE  
 Osinu-UTC/1-415 PADITGVSC EGEVDATVFD RYRDPLYKEA SYKPYVIAAM ILLEKFKDPA  
 Ospor-UTC/1-401 PADISGVSC EGEVDASVFD RYRDPLYKEA SFKPYVIASM ILLEKFRDPA  
 Pprof-UTC/1-395 PADITGVSC EGEVEEAVFE KYRIATYKEA SWKPYIIASM IMNRKYQEPG  
 Rganv-UTC/1-397 PADITGVSC SGEVDASVFD RYRTPYKEA SYKPYIIAAM IFLAKFADPA  
 Rsp51-UTC/1-397 PADITGVSC TGEVDASVFD RYRIPLYKEA SFKPYIIAAM IMLSKFENPQ  
 Robeu-UTC/1-397 PADITGVSC TGEVDASVFD RYRIPLYKEA SFKPYIIAAM IMLSKFENPQ  
 Sterm-UTC/1-401 PADITGVSC EGEVEASVFD RYRVPLYKEA GYKPYIIAAM MFLSKVKDPV  
 Sbent-UTC/1-396 PADISGVSC EGEVEEAVFE KYRIATYKQA SWKPYIIASM ILNRKFSEPG  
 Shali-UTC/1-395 PADITGVSC EGEVEEAVFE KYRIATYKEA SWKPYIIASM ILNRKYANPG  
 Ssonn-UTC/1-372 PADISGVSC EGEVTEGVFE KYRIATYKEA SWKPYIIAAM ILSRKYAKPG  
 Ssmal-UTC/1-398 PADISGVSC KGEVAASVFD RYRDPLYKQA SFKPYIIAAM IFLAKFRNPS  
 Ssma2-UTC/1-398 PADITDVSCK KGEVAASVFD RYRDPLYKQA SFKPYIIAAM IFLSKVKNPA  
 Tvinc-UTC/1-400 PADITGVSC EGEVAGSVFD RYRIPLYKQA SFKPYIIAAM IFLAKVRYPO  
 Tvagi-UTC/1-398 PADISGLSCK RGEITNECFQ KNRLDITYFEA SHKPFIIASM IMHCKCKSVA  
 Vdisp-UTC/1-397 PADITGVSC EGEVDATVFD RYRVPLYKEA SYKPYVIAAM IFLSKFKNPV  
 Vparv-UTC/1-397 PADITGVSC EGEVDATVFD RYRIPLYKEA SYKPYVIAAM IFLSKFKNPV  
 Vshil-UTC/1-395 PADITGVSC EGEVEEAVFE KYRIATYKEA SWKPYIIAAM ILNRKYQDVA  
 Vspor-UTC/1-397 PADITGVSC EGEVDATVFD RYRVPLYKEA SYKPYVIAAM IFLSKFKNPV

Ahydr-UTC/1-395 AALEGLIKEA QKRVK~~~~~  
 Acoli-UTC/1-398 QVLKALEERK TARWIG~~~~~  
 Aprev-UTC/1-398 EKLRELVDKA NKR.IDK~~~~~  
 Atetr-UTC/1-398 EKLRELVDKA KKR.LDK~~~~~  
 Avagi-UTC/1-404 ATIEKLIEN KERLVDKEDE NK  
 Acacc-UTC/1-399 AILKKEENK KPRIFK~~~~~  
 Aparv-UTC/1-400 ATLKALEQGD TPRWFOA~~~~~  
 Arima-UTC/1-400 ATLKALEQGN TPRWFOA~~~~~  
 Bcapi-UTC/1-399 AVLKALEERG TKRQFSL~~~~~  
 Bhyod-UTC/1-379 AILSKLASDK KQRIFG~~~~~  
 Bmurd-UTC/1-397 AILSKLASDG KPRVFGC~~~~~  
 Bpilo-UTC/1-380 AILSKLASDG KPRVFGY~~~~~  
 Crode-UTC/1-395 QVLEQLLKDA QKRIK~~~~~  
 Cbeij-UTC/1-397 EVLEKMAQSE .DIRFKG~~~~~  
 Cbolt-UTC/1-398 EVLKKLEEK TPRVFK~~~~~  
 Cbotu-UTC/1-398 LKFEKLIKEN NPRFYGK~~~~~  
 Ccarb-UTC/1-398 KTFAEIIEAK PPRFLAK~~~~~  
 Chath-UTC/1-397 EILKKEERN TPRVFK~~~~~  
 Chyle-UTC/1-398 DILKKLDEKG TPRILK~~~~~  
 Cljun-UTC/1-398 KTLTEIIDSK PPRFLAK~~~~~  
 Csacc-UTC/1-397 EILKKEVKK APRIFE~~~~~  
 Cscin-UTC/1-397 VILKKEENG KPRVFK~~~~~  
 Csp72-UTC/1-397 EVLAKLEEAK KDRQVK~~~~~  
 Cspor-UTC/1-398 LKFEELKAN KPRFYGK~~~~~  
 Cbact-UTC/1-397 EILKKEEK TPRVFK~~~~~  
 Caero-UTC/1-400 ATLKALDERN TARWLQA~~~~~  
 Eicta-UTC/1-395 LVLDQLLKEA QKRIK~~~~~  
 Etard-UTC/1-395 LVLEQLLKEA QKRIK~~~~~

Ecloa-UTC/1-395 MVLEQLLREA QKRIK~~~~~  
Efaec-UTC/1-397 KTLTELADKA TPREVK~~~~~  
Ecoli-UTC/1-396 ALLEQLLKEA QERVK~~~~~  
Elimo-UTC/1-399 ATLKALEERG IDRFFTK~~~~~  
Ehall-UTC/1-399 GTLEALADKA TPRHFGE~~~~~  
Eyuri-UTC/1-397 EMLQRLNKA KQRWAK~~~~~  
Lgood-UTC/1-397 KTLLENLMION KIRWNF~~~~~  
Osinu-UTC/1-415 KVLEELQKRG QDRIFE~~~~~  
Ospor-UTC/1-401 KLLRELEKRG QRRQFE~~~~~  
Pprof-UTC/1-395 LVLQQLLDEY KTRVK~~~~~  
Rganv-UTC/1-397 DILKKLEEK TPRVFE~~~~~  
Rsp51-UTC/1-397 DILKKLEVKA APRILK~~~~~  
Robeu-UTC/1-397 DILKKLEVKA APRIMK~~~~~  
Sterm-UTC/1-401 ATLKALSEGK KPRFFEK~~~~~  
Sbent-UTC/1-396 KILEELLKDA KKRVK~~~~~  
Shali-UTC/1-395 TILQQLLDDD KKRVK~~~~~  
Ssonn-UTC/1-372 ALLEQLLKEA QERVK~~~~~  
Ssmal-UTC/1-398 EKLLDLLTDA RKRIY~~~~~  
Ssma2-UTC/1-398 DRLDTILNAN LPRIV~~~~~  
Tvinc-UTC/1-400 LTLEELEKRA TLRHTGR~~~~~  
Tvagi-UTC/1-398 GAIKGIIARN EKNQEF~~~~~  
Vdisp-UTC/1-397 ETLKELERKG TDRVQP~~~~~  
Vparv-UTC/1-397 ETLKELERKG TERVQP~~~~~  
Vshil-UTC/1-395 GVLDELLNES EKRVK~~~~~  
Vspor-UTC/1-397 ETLKELERKG TDRVQP~~~~~