

# **Contact-dependent growth inhibition systems in *Acinetobacter***

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## Supplementary file 1. CDI-positive Acinetobacter strains

CDI type	species	CdiA protein	strain	GenBank	ST (sequence type)
type-I	<i>A. baumannii</i>	bau-A1	WC-348	AMZT01000004.1	23
type-I	<i>A. baumannii</i>	bau-A1	OIFC0162	AMFH01000034.1	412
type-I	<i>A. baumannii</i>	bau-A1	OCU_Ac16a	BDHK01000001.1	412
type-I	<i>A. baumannii</i>	bau-A1	ARLG1929	NGIG01000064.1	412
type-I	<i>A. baumannii</i>	bau-A1	OIFC047	AMFW01000012.1	665
type-I	<i>A. baumannii</i>	bau-A2	2004ZJAB5	JSCW01000063.1	23
type-I	<i>A. baumannii</i>	bau-A2	2004ZJAB6	JSCX01000078.1	23
type-I	<i>A. baumannii</i>	bau-A2	XH769	LYGN01000059.1	23
type-I	<i>A. baumannii</i>	bau-A2	XH683	LYJG01000011.1	23
type-I	<i>A. baumannii</i>	bau-A2	65	MACA01000015.1	23
type-I	<i>A. baumannii</i>	bau-A2	BJAB0715	NC_021733.1	23
type-I	<i>A. baumannii</i>	bau-A2	XH858	NZ_CP014528.1	23
type-I	<i>A. baumannii</i>	bau-A2	GB1-2	NIW001000006.1	23
type-I	<i>A. baumannii</i>	bau-A2	2011BJAB9	JSDA01000044.1	218
type-I	<i>A. baumannii</i>	bau-A2	ABBL102	LLHC01000068.1	ND
type-I	<i>A. baumannii</i>	bau-B1	4190	AEPA01000201	25
type-I	<i>A. baumannii</i>	bau-B1	Naval-18	AFDA02000005	25
type-I	<i>A. baumannii</i>	bau-B1	OIFC143	AFDL01000002	25
type-I	<i>A. baumannii</i>	bau-B1	AB5256	AHAI01000037	25
type-I	<i>A. baumannii</i>	bau-B1	NIPH146	APOU01000014	25
type-I	<i>A. baumannii</i>	bau-B1	CI86	AVOB01000053	25
type-I	<i>A. baumannii</i>	bau-B1	CI79	AVOD01000028	25
type-I	<i>A. baumannii</i>	bau-B1	107m	CBSG010000018	25
type-I	<i>A. baumannii</i>	bau-B1	984213	JEVX01000144	25
type-I	<i>A. baumannii</i>	bau-B1	1429530	JEWM01000012	25
type-I	<i>A. baumannii</i>	bau-B1	RUH1486	JZBU01000028	25
type-I	<i>A. baumannii</i>	bau-B1	NM3	JZBV01000025	25
type-I	<i>A. baumannii</i>	bau-B1	LUH_6220	JZBW01000015	25
type-I	<i>A. baumannii</i>	bau-B1	4390	JZBY01000030	25
type-I	<i>A. baumannii</i>	bau-B1	741019	JZBZ01000028	25
type-I	<i>A. baumannii</i>	bau-B1	161/07	JZCA01000036	25
type-I	<i>A. baumannii</i>	bau-B1	ABBL018	LLCY01000195	25
type-I	<i>A. baumannii</i>	bau-B1	AB2828 LV35	LRDT01000007	25
type-I	<i>A. baumannii</i>	bau-B1	AB3638 LV38	LRDW01000020	25
type-I	<i>A. baumannii</i>	bau-B1	AB3806 LV40	LRDY01000020	25
type-I	<i>A. baumannii</i>	bau-B1	PR388	NGEV01000032	25
type-I	<i>A. baumannii</i>	bau-B1	ARLG1317	NGH001000084	25
type-I	<i>A. baumannii</i>	bau-B1	HWBA8	NZ_CP020597	25
type-I	<i>A. baumannii</i>	bau-B1	BAuABod-3	NIWN01000020	25
type-I	<i>A. baumannii</i>	bau-B1	NIPH 201	APQV01000009	38
type-I	<i>A. baumannii</i>	bau-B1	P630	CBYG01000017	126
type-I	<i>A. baumannii</i>	bau-B1	233846	JMOG01000012	126
type-I	<i>A. baumannii</i>	bau-B1	PR337	NGEA01000060	126
type-I	<i>A. baumannii</i>	bau-B1	CIP70.10	NZ_LN865143.1	126
type-I	<i>A. baumannii</i>	bau-B1	R2091	NZ_LN997846.1	126
type-I	<i>A. baumannii</i>	bau-B1	DSM 30011	JJOC01000004	738
type-I	<i>A. baumannii</i>	bau-B1	554S	NKXP01000136.1	307
type-I	<i>A. baumannii</i>	bau-B1	LUH_7841	JZBX01000012	402
type-I	<i>A. baumannii</i>	bau-B1	ABBL007 contig-15	LLCN01000226.1	497
type-I	<i>A. baumannii</i>	bau-B1	ARLG1873	NGJA01000152	505
type-I	<i>A. baumannii</i>	bau-B2	XH730	LYHV01000053	46
type-I	<i>A. baumannii</i>	bau-B2	XH674	LYJP01000004	46
type-I	<i>A. baumannii</i>	bau-B2	XH673	LYJQ01000014	46
type-I	<i>A. baumannii</i>	bau-B2	XH668	LYJV01000011	46
type-I	<i>A. baumannii</i>	bau-B2	XH664	LYJZ01000023	46
type-I	<i>A. baumannii</i>	bau-B2	XH662	LYKB01000643	46
type-I	<i>A. baumannii</i>	bau-B2	XH661	LYKC01000016	46
type-I	<i>A. baumannii</i>	bau-B2	XH648	LYKH01000023	46
type-I	<i>A. baumannii</i>	bau-B2	XH647	LYKI01000034	46
type-I	<i>A. baumannii</i>	bau-B2	XH642	LYKN01000014	46
type-I	<i>A. baumannii</i>	bau-B2	XH641	LYK001000034	46
type-I	<i>A. baumannii</i>	bau-B2	XH553	LYKU01000022	46
type-I	<i>A. baumannii</i>	bau-B2	XH545	LYLC01000121	46
type-I	<i>A. baumannii</i>	bau-B2	XH512	LYLG01000108	46

type-I	<i>A. baumannii</i>	bau-B2	ATCC19606	ACQB0100024.1	52
type-I	<i>A. baumannii</i>	bau-B2	ATCC19606, JCM841 str.	APRG0100014.1	52
type-I	<i>A. baumannii</i>	bau-B2	ATCC19606	JMRY0100015	52
type-I	<i>A. baumannii</i>	bau-B2	MSP4-16	AODW0100028.1	52
type-I	<i>A. baumannii</i>	bau-B2	GTC03324	BBNH0100005.1	52
type-I	<i>A. baumannii</i>	bau-B2	GTC03329	BBNJ0100004.1	52
type-I	<i>A. baumannii</i>	bau-B2	NBRC110493	BBQ0100003.1	52
type-I	<i>A. baumannii</i>	bau-B2	NBRC110495	BBOR0100009.1	52
type-I	<i>A. baumannii</i>	bau-B2	GTC03325	BBSP0100005.1	52
type-I	<i>A. baumannii</i>	bau-B2	NBRC110494	BBTE0100006.1	52
type-I	<i>A. baumannii</i>	bau-B2	NBRC109757	BBTN0100005.1	52
type-I	<i>A. baumannii</i>	bau-B2	ab736	NZ_CP015121.1	52
type-I	<i>A. baumannii</i>	bau-B2	1062314	JFDR0100005	54
type-I	<i>A. baumannii</i>	bau-B2	3909	AEOZ01000177	78
type-I	<i>A. baumannii</i>	bau-B2	TG22142	ASFL0100019	78
type-I	<i>A. baumannii</i>	bau-B2	TG22146	ASFM0100029	78
type-I	<i>A. baumannii</i>	bau-B2	TG22150	ASF00100048	78
type-I	<i>A. baumannii</i>	bau-B2	UH5207	AYFP0100011.1	78
type-I	<i>A. baumannii</i>	bau-B2	68SM01	FUEK0100017	78
type-I	<i>A. baumannii</i>	bau-B2	61SM01	FUEL0100016	78
type-I	<i>A. baumannii</i>	bau-B2	103SM	FUEM0100017	78
type-I	<i>A. baumannii</i>	bau-B2	14336	FUEN0100043	78
type-I	<i>A. baumannii</i>	bau-B2	MGTN	FUEO0100015	78
type-I	<i>A. baumannii</i>	bau-B2	96SM	FUEP0100020	78
type-I	<i>A. baumannii</i>	bau-B2	20C15	FUEQ0100051	78
type-I	<i>A. baumannii</i>	bau-B2	25C30	FUER0100050	78
type-I	<i>A. baumannii</i>	bau-B2	74SM01	FUES0100018	78
type-I	<i>A. baumannii</i>	bau-B2	MONUR	FUET0100019	78
type-I	<i>A. baumannii</i>	bau-B2	2RED09	FUEU0100017	78
type-I	<i>A. baumannii</i>	bau-B2	65SM01	FUEV0100047	78
type-I	<i>A. baumannii</i>	bau-B2	2MG	FUEX0100028	78
type-I	<i>A. baumannii</i>	bau-B2	5M0	FUEY0100055	78
type-I	<i>A. baumannii</i>	bau-B2	1096934	JEXM0100065	78
type-I	<i>A. baumannii</i>	bau-B2	831240	JEY00100017	78
type-I	<i>A. baumannii</i>	bau-B2	855125	JMNT0100054	78
type-I	<i>A. baumannii</i>	bau-B2	UH17_52	JWYK0300038.1	78
type-I	<i>A. baumannii</i>	bau-B2	ABBL025	LLDF0100012	78
type-I	<i>A. baumannii</i>	bau-B2	ABBL026	LLDG01000302	78
type-I	<i>A. baumannii</i>	bau-B2	ABUH393	MSMS0100003	78
type-I	<i>A. baumannii</i>	bau-B2	PR308	NGBY0100015	78
type-I	<i>A. baumannii</i>	bau-B2	PR355	NGCI0100007	78
type-I	<i>A. baumannii</i>	bau-B2	PR371	NGCY0100042	78
type-I	<i>A. baumannii</i>	bau-B2	PR385	NGES0100073	78
type-I	<i>A. baumannii</i>	bau-B2	PR391	NGEY0100012.1	78
type-I	<i>A. baumannii</i>	bau-B2	72SM01	FUEW0100053	78
type-I	<i>A. baumannii</i>	bau-B2	B11911	CP021345.2	149
type-I	<i>A. baumannii</i>	bau-B2	1295549	JFXB0100002	652
type-I	<i>A. baumannii</i>	bau-B2	277047	JFXS0100010	652
type-I	<i>A. baumannii</i>	bau-B2	426863	JFYF0100002	652
type-I	<i>A. baumannii</i>	bau-B2	UH6507	AYFK0100017	669
type-I	<i>A. baumannii</i>	bau-B2	86II/2C	NIWI0100026	690
type-I	<i>A. baumannii</i>	bau-B2	Pr310	NGCA0100028	810
type-I	<i>A. baumannii</i>	bau-B2	RB-1399	MPPK0100005.1	920
type-I	<i>A. baumannii</i>	bau-B2	TG19617	AMID0100010.1	438
type-I	<i>A. baumannii</i>	bau-B2	IOMTU433	NZ_AP014649.1	622
type-I	<i>A. baumannii</i>	bau-B2	AB360	NGKM0100010	622
type-I	<i>A. baumannii</i>	bau-B2	XH729	LYHW0100020	nd
type-I	<i>A. baumannii</i>	bau-B2	XH703	LYIS0100052	nd
type-I	<i>A. baumannii</i>	bau-B3	1267820	JEWD0100091.1	103
type-I	<i>A. baumannii</i>	bau-B3	ABBL038	LLDS0100070.1	nd
type-I	<i>A. baumannii</i>	bau-B3	ABBL085	LLGN01000115.1	103
type-I	<i>A. baumannii</i>	bau-B3	AB031	NZ_CP009256.1	638
type-I	<i>A. baumannii</i>	bau-B3	NIPH 67	APRA0100005.1	35
type-I	<i>A. baumannii</i>	bau-B3	AB_2007-16-25-01-7	AMHI0100023.1	241
type-I	<i>A. baumannii</i>	bau-B3	AB_2007-16-27-01	AMHJ0100020.1	241
type-I	<i>A. baumannii</i>	bau-B3	AB_TG27339	AMIR0100011.1	241
type-I	<i>A. baumannii</i>	bau-B3	118362	JEWB0100054.1	241
type-I	<i>A. baumannii</i>	bau-B4	NIPH 601	APQZ0100007.1	40
type-I	<i>A. baumannii</i>	bau-B4	GTC 03322	BBNF1000060.1	40

type-I	A. baumannii	bau-B4	GTC 03323	BBNG01000061.1	40
type-I	A. baumannii	bau-B4	GTC 03328	BBNI01000064.1	40
type-I	A. baumannii	bau-B4	NBRC 110489	BBOP01000068.1	40
type-I	A. baumannii	bau-B4	NBRC 110491	BBTC01000062.1	40
type-I	A. baumannii	bau-B4	TYTH-7	AGSV01000139.1	40
type-I	A. baumannii	bau-B4	LY1	JDSV01000226.1	40
type-I	A. baumannii	bau-B4	LY2	JDSW01000052.1	40
type-I	A. baumannii	bau-B4	3.5D	MABZ01000006.1	388
type-I	A. baumannii	bau-B4	ABUH513	MSPL01000024.1	941
type-I	A. baumannii	bau-B4	ARLG1862	NGGF01000027.1	941
type-I	A. baumannii	bau-B4	219_ABAU	JVPN01000108.1	1140
type-I	A. baumannii	bau-B4	ABBL110	LLHI01000055.1	nd
type-I	A. baumannii	bau-B4	ATCC 17945	MTGG01000053.1	1168
type-I	A. baumannii	bau-B4	PR360	NGCN01000030	494
type-I	A. baumannii	bau-B4	NCTC7364	NZ_LT605059.1	494
type-I	A. baumannii	bau-C1	MSP4-16	AODW01000010.1	52
type-I	A. baumannii	bau-C1	ATCC19606, JCM841 str.	APRG01000013.1	52
type-I	A. baumannii	bau-C1	GTC03324	BBNH01000013.1	52
type-I	A. baumannii	bau-C1	GTC03329	BBNJ01000012.1	52
type-I	A. baumannii	bau-C1	NBRC110493	BBOQ01000026.1	52
type-I	A. baumannii	bau-C1	NBRC110495	BBOR01000002.1	52
type-I	A. baumannii	bau-C1	GTC03325	BBSF01000021.1	52
type-I	A. baumannii	bau-C1	NBRC110494	BBTE01000023.1	52
type-I	A. baumannii	bau-C1	NBRC109757	BBTN01000002.1	52
type-I	A. baumannii	bau-C1	ATCC 19606	JMRY01000018.1	52
type-I	A. baumannii	bau-C1	ab736	NZ_CP015121.1	52
type-I	A. baumannii	bau-C1	1417041	JEYP01000023.1	108
type-I	A. baumannii	bau-C1	TG19617	AMID01000004.1	438
type-I	A. baumannii	bau-C2	ACICU	CP000863	2
type-I	A. baumannii	bau-C3	625974	JEXD01000018.1	509
type-I	A. baumannii	bau-C3	B8342	NZ_CP021342	dsv 509
type-I	A. baumannii	bau-C3	ZW85-1	NC_023028.1	639
type-I	A. baumannii	bau-C3	ARLG1846	NGFV01000032	509
type-I	A. baumannii	bau-C4	UH19608	AYFZ01000050.1	79
type-I	A. baumannii	bau-C4	ABBL006	LLCM01000033.1	79
type-I	A. baumannii	bau-C4	ABBL017	LLCX01000003.1	79
type-I	A. baumannii	bau-C4	ABBL023	LLDD01000014.1	79
type-I	A. baumannii	bau-C4	ABBL039	LLDT01000099.1	79
type-I	A. baumannii	bau-C4	ABBL043	LLDX01000088.1	79
type-I	A. baumannii	bau-C4	ABBL049	LLED01000076.1	79
type-I	A. baumannii	bau-C4	ABBL052	LLEG01000087.1	79
type-I	A. baumannii	bau-C4	ABBL055	LLFA01000014.1	79
type-I	A. baumannii	bau-C4	ABBL056	LLFB01000081.1	79
type-I	A. baumannii	bau-C4	ABBL067a	LLFN01000302.1	79
type-I	A. baumannii	bau-C4	ABBL067b	LLF001000337.1	79
type-I	A. baumannii	bau-C4	ABBL067j	LLFV01000119.1	79
type-I	A. baumannii	bau-C4	ABBL067k	LLFW01000018.1	79
type-I	A. baumannii	bau-C4	ABBL067l	LLFX01000008.1	79
type-I	A. baumannii	bau-C4	ABBL068	LLFY01000131.1	79
type-I	A. baumannii	bau-C4	ABBL069	LLFZ01000242.1	79
type-I	A. baumannii	bau-C4	ABBL101	LLHB01000161.1	79
type-I	A. baumannii	bau-C4	ABOB01	LLIQ01000015.1	79
type-I	A. baumannii	bau-C4	ABOB03	LLIS01000357.1	79
type-I	A. baumannii	bau-C4	ABOB04	LLIT01000019.1	79
type-I	A. baumannii	bau-C4	ABOB04_a	LLIU01000391.1	79
type-I	A. baumannii	bau-C4	ABOB06	LLIW01000172.1	79
type-I	A. baumannii	bau-C4	ABOB08	LLIZ01000033.1	79
type-I	A. baumannii	bau-C4	ABOB12	LLJD010000318.1	79
type-I	A. baumannii	bau-C4	ABOBEN	LLJG01000005.1	79
type-I	A. baumannii	bau-C4	Ab28	LMBQ01000020.1	79
type-I	A. baumannii	bau-C4	CU032113	LXYW01000100.1	79
type-I	A. baumannii	bau-C4	ABUH564	MSOI01000074.1	79
type-I	A. baumannii	bau-C4	499	MWPK01000224.1	79
type-I	A. baumannii	bau-C4	923	MWP001000235.1	79
type-I	A. baumannii	bau-C4	ABUH505	NCXV01000134.1	79
type-I	A. baumannii	bau-C4	ABUH428	NCYV01000120.1	79
type-I	A. baumannii	bau-C4	ARLG-1775	NEQF01000053.1	79
type-I	A. baumannii	bau-C4	ARLG-1860	NEQK01000094.1	79
type-I	A. baumannii	bau-C4	AF-401	NZ_CP018254.1	79

type-I	<i>A. baumannii</i>	bau-C4	ABBL030	LLDK01000140.1	79
type-I	<i>A. baumannii</i>	bau-C4	PR307	NGBX01000017.1	79
type-I	<i>A. baumannii</i>	bau-C4	PR315	NGEM01000008.1	150
type-I	<i>A. baumannii</i>	bau-C4	ARLG1800	NGGR01000007.1	150
type-I	<i>A. baumannii</i>	bau-C4	ARLG1936	NGIK01000038.1	150
type-I	<i>A. baumannii</i>	bau-C4	TG02011	ASES01000060.1	422
type-I	<i>A. baumannii</i>	bau-C4	UH7607	AYFH01000090.1	422
type-I	<i>A. baumannii</i>	bau-C4	UH6907	AYFJ01000036.1	422
type-I	<i>A. baumannii</i>	bau-C4	UH22908	AYFV01000057.1	422
type-I	<i>A. baumannii</i>	bau-C4	UH16208	AYGB01000015.1	422
type-I	<i>A. baumannii</i>	bau-C4	UH12208	AYGK01000135.1	422
type-I	<i>A. baumannii</i>	bau-C4	CCBH15815Y_43	NLC001000043.1	730
type-I	<i>A. baumannii</i>	bau-C5	86II/2C	NIWI01000005.1	690
type-I	<i>A. baumannii</i>	bau-C5	01D3-2	NIWQ01000007.1	240
type-I	<i>A. baumannii</i>	bau-C5	PLG9P835	NIWR01000008.1	1179
type-I	<i>A. pittii</i>	pit-A3	IEC338SC	NZ_CP015145.1	1076
type-I	<i>A. pittii</i>	pit-A4	PR320	NGDK01000053.1	119
type-I	<i>A. pittii</i>	pit-A4	NBRC 110504	BBTQ01000063.1	119
type-I	<i>A. pittii</i>	pit-A4	NBRC 110507	BBTZ01000081.1	119
type-I	<i>A. pittii</i>	pit-A4	NBRC 110509	BBUA01000067.1	119
type-I	<i>A. pittii</i>	pit-A4	ABBL111	LLHJ01002199.1	119
type-I	<i>A. pittii</i>	pit-A4/C7/A4	St-12537-91	MDIL01000050.1	70
type-I	<i>A. pittii</i>	pit-A5	Ac. sp. 1294243	JFXG01000010.1	214
type-I	<i>A. pittii</i>	pit-A5	Ac. sp. 1264765	JMNG01000024.1	220
type-I	<i>A. pittii</i>	pit-A5	St-19650-90	MDHQ01000034.1	747
type-I	<i>A. pittii</i>	pit-A5	ABUH540	MSOC01000021.1	1175
type-I	<i>A. pittii</i>	pit-A5	ARLG1807	NGGW01000019.1	1176
type-I	<i>A. pittii</i>	pit-A5	ARLG1875	NGJC01000033.1	nd
type-I	<i>A. pittii</i>	pit-A5	TCM292	LSAK01000014.1	207
type-I	<i>A. pittii</i>	pit-A5/A4/A5	A. sp. 907131 (*)	JEXS01000005.1	220
type-I	<i>A. pittii</i>	pit-A5/A4/A5	FC8876	LBCP01000024.1	643
type-I	<i>A. pittii</i>	pit-A5/A4/A5	ABBL033	LLDN01000009.1	1170
type-I	<i>A. pittii</i>	pit-A5/A4/A5	ABBL098	LLGZ01000237.1	1177
type-I	<i>A. pittii</i>	pit-A5/C7/A5	PR301	NGBT01000013.1	457
type-I	<i>A. pittii</i>	pit-A5/Hn1/A5	UKK-0546	MDIJ01000089.1	776
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	DSM 21653	AIEK01000183.1	63
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	DSM 25618	BBST01000016.1	63
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	ATCC 19004	APQP01000005.1	63
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	DSM 9306	AIEF01000274.1	64
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	St-10592-91	MDH001000041.1	64
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	St-20772-90	MDHR01000015.1	64
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	St-14379-92	MDIW01000070.1	64
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	PR386	NGET01000034.1	248
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	UKK-0548	MDIM01000262.1	248
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	UKK-0556	MDIU01000045.1	248
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	ARLG1839	NGHJ01000050.1	396
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	PR368	NGCV01000008.1	744
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	St-12828-92	MDIV01000078.1	744
type-I	<i>A. pittii</i>	pit-A5/Hn2/A5	NBRC 110508	BBTR01000017.1	1178
type-I	<i>Acb complex</i>	pit-A5/Hn2/A5	NIPH 817	APPF01000024.1	88
type-I	<i>A. pittii</i>	pit-A5/C8/A5	ARLG1933	NGII01000017.1	1165
type-I	<i>A. pittii</i>	pit-B5	D499	AGFH01000024.1	63
type-I	<i>A. pittii</i>	pit-B5	ATCC 19004 = CIP 70.29	APQP01000005.1	63
type-I	<i>A. pittii</i>	pit-B5	DSM 25618	BBST01000007.1	63
type-I	<i>A. pittii</i>	pit-B5	UKK-0539	MDIC01000039.1	63
type-I	<i>A. pittii</i>	pit-B5	UKK-0541	MDIE01000040.1	63
type-I	<i>A. pittii</i>	pit-B5	UKK-0542	MDIF01000057.1	63
type-I	<i>A. pittii</i>	pit-B5	UKK-0543	MDIG01000029.1	63
type-I	<i>A. pittii</i>	pit-B5	UKK-0547	MDIK01001418.1	63
type-I	<i>A. pittii</i>	pit-B5	UKK-0551	MDIP01000101.1	63
type-I	<i>A. pittii</i>	pit-B5	St-10592-91	MDH001000002.1	64
type-I	<i>A. pittii</i>	pit-B5	St-20772-90	MDHR01000085.1	64
type-I	<i>A. pittii</i>	pit-B5	UKK-0327	MDHW01000161.1	64
type-I	<i>A. pittii</i>	pit-B5	St-14379-92	MDIW01000004.1	64
type-I	<i>A. pittii</i>	pit-B5	PR313	NGCD01000013.1	64
type-I	<i>A. pittii</i>	pit-B5	PR370	NGCX01000007.1	64
type-I	<i>A. pittii</i>	pit-B5	ARLG1803	NGGT01000052.1	64
type-I	<i>A. pittii</i>	pit-B5	St-12537-91	MDIL01000050.1	70
type-I	<i>A. pittii</i>	pit-B5	Ac sp. SH024	ADCH01000014.1	93

type-I	<i>A. pittii</i>	pit-B5	ABBL010	LLCQ01000051.1	93
type-I	<i>A. pittii</i>	pit-B5	ABBL047	LLEB01000028.1	93
type-I	<i>A. pittii</i>	pit-B5	ABBL065	LLFK01000010.1	93
type-I	<i>A. pittii</i>	pit-B5	ABBL103	LLHD01000155.1	93
type-I	<i>A. pittii</i>	pit-B5	St-11469-92	MDHP01000045.1	93
type-I	<i>A. pittii</i>	pit-B5	UKK-0245	MDHT01000134.1	93
type-I	<i>A. pittii</i>	pit-B5	UKK-0544	MDIH01000054.1	93
type-I	<i>A. pittii</i>	pit-B5	UKK-0555	MDIT01000139.1	93
type-I	<i>A. pittii</i>	pit-B5	St-14569-91	MDIX01000009.1	93
type-I	<i>A. pittii</i>	pit-B5	St-15559-91	MDIY01000035.1	93
type-I	<i>A. pittii</i>	pit-B5	St-15639-91	MDIZ01000031.1	93
type-I	<i>A. pittii</i>	pit-B5	ABUH403	NDFE01000196.1	93
type-I	<i>A. pittii</i>	pit-B5	ARLG1776	NGGH01000095.1	93
type-I	<i>A. pittii</i>	pit-B5	ARLG1798	NGGQ01000048.1	93
type-I	<i>A. pittii</i>	pit-B5	IHIT32685	NWVY01000021.1	93
type-I	<i>A. pittii</i>	pit-B5	IHIT32473	NWVZ01000019.1	93
type-I	<i>A. pittii</i>	pit-B5	UKK-0548	MDIM01000224.1	248
type-I	<i>A. pittii</i>	pit-B5	UKK-0556	MDIU01000067.1	248
type-I	<i>A. pittii</i>	pit-B5	PR386	NGET01000049.1	248
type-I	<i>A. pittii</i>	pit-B5	UBA2478	DDPC01000026.1	396
type-I	<i>A. pittii</i>	pit-B5	ARLG1839	NGHJ01000054.1	396
type-I	<i>A. pittii</i>	pit-B5	ARLG1768	NGHT01000057.1	396
type-I	<i>A. pittii</i>	pit-B5	PR301	NGBT01000034.1	457
type-I	<i>A. pittii</i>	pit-B5	ANC 3678	APQN01000012.1	640
type-I	<i>A. pittii</i>	pit-B5	UKK-0545	MDII01000018.1	744
type-I	<i>A. pittii</i>	pit-B5	PR368	NGCV01000022.1	744
type-I	<i>A. pittii</i>	pit-B5	PR339	NGEB01000042.1	744
type-I	<i>A. pittii</i>	pit-B5	St-19650-90	MDHQ01000073.1	747
type-I	<i>A. pittii</i>	pit-B5	NBRC 110508	BBTR01000005.1	1178
type-I	<i>A. pittii</i>	pit-B5	NBRC 110510	BBTS01000015.1	1172
type-I	<i>A. pittii</i>	pit-B5	ABBL042	LLDW01000017.1	nd
type-I	<i>A. pittii</i>	pit-B5	ABBL074	LLGE01000164.1	nd
type-I	<i>A. pittii</i>	pit-B5	XH765	LYGR01000024.1	nd
type-I	<i>A. pittii</i>	pit-B5	ABUH540	MSOC01000020.1	1175
type-I	<i>A. pittii</i>	pit-B5	ARLG1771	NGGG01000163.1	1173
type-I	<i>A. pittii</i>	pit-B5	ARLG1875	NGJC01000005.1	nd
type-I	<i>A. pittii</i>	pit-B5	42F	CBRO02000065.1	nd
type-I	<i>A. pittii</i>	pit-B5	IHIT29592	NWVA01000016.1	nd
type-I	<i>A. pittii</i>	pit-B5	IHIT29469	NWVB01000006.1	nd
type-I	<i>A. pittii</i>	pit-B5	IHIT24944	NWVC010000081	nd
type-I	<i>A. pittii</i>	bau-B3/pit-B5	269	JQNV01000053.1	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	NBRC 110507	BBTZ01000082	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	NBRC 110509	BBUA01000069	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	NBRC 110504	BBTQ01000064	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	CR12-42	JQNT01000051	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	A. sp. 2027	AMJN01000042	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	PR348	NGEJ01000058	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	A. sp. 1295259	JEWG01000043	119
type-I	<i>A. pittii</i>	bau-B3/pit-B5	TCM292	LSAK01000022	207
type-I	<i>A. pittii</i>	bau-B3/pit-B5	A. sp. 907131	JEXS01000003.1	220
type-I	<i>A. pittii</i>	bau-B3/pit-B5	A. sp. 883425	JFXZ01000006.1	220
type-I	<i>A. pittii</i>	bau-B3/pit-B5	NBRC 110506	BBTY01000009	220
type-I	<i>A. pittii</i>	bau-B3/pit-B5	NBRC 110505	BBTX01000009	220
type-I	<i>A. pittii</i>	bau-B3/pit-B5	A. sp. 809848	JEXG01000029.1	666
type-I	<i>A. pittii</i>	bau-B3/pit-B5	UKK-0546	MDIJ01000142	776
type-I	<i>A. pittii</i>	bau-B3/pit-B5	UKK-0540	MDID01000164	778
type-I	<i>A. baumannii</i>	bau-B3/pit-B5	NIPH 329	APQY01000009.1	11
type-I	<i>A. pittii</i>	bau-C3/new CT	792879	JFYC01000001	1167
type-I	<i>A. baumannii</i>	bau-C3/new CT	29D2	MABW01000006	309
type-I	<i>A. pittii</i>	PIT-B6	PR366	NGCT01000027.1	312
type-I	<i>A. pittii</i>	PIT-B6	ARLG1933	NGII01000026	1165
type-I	<i>A. pittii</i>	PIT-B6	T167	JRQZ01000033.1	655
type-I	<i>A. pittii</i>	PIT-B6	ARLG1942	NGI001000041.1	795
type-I	<i>A. pittii</i>	PIT-B6	ARLG1869	NGIX01000002.1	795
type-I	<i>A. pittii</i>	PIT-B6	IEC3385C	NZ_CP015145.1	1076
type-I	<i>A. pittii</i>	PIT-B6	792879	JFYC01000021	1167
type-I	<i>A. pittii</i>	pit-B7	ABBL098	LLGZ01000054.1	1177
type-I	<i>A. pittii</i>	pit-B7/pit-B5	PR320	NGDK01000009.1	119
type-I	<i>A. pittii</i>	pit-B7/pit-B5	ABBL135	LLIF01000327.1	119

type-I	<i>A. pittii</i>	pit-B7/pit-B5	ABBL111	LLHJ01002637.1	119
type-I	<i>A. pittii</i>	pit-B7/pit-B5	IPK_TSA6.1	LWHP01000001.1	321
type-I	<i>A. pittii</i>	pit-B7/pit-B5	FC8876	LBCP01000088.1	643
type-I	<i>A. pittii</i>	pit-B7/pit-B5	ABBL046	LLEA01000010.1	643
type-I	<i>A. pittii</i>	pit-B7/pit-B5	ABBL024	LLDE01000039.1	643
type-I	<i>A. pittii</i>	pit-B7/pit-B5	UBA2484	DDOW01000009.1	1171
type-I	<i>A. pittii</i>	pit-B7/pit-B5	UBA2608	DDKC01000097.1	nd
type-I	<i>A. pittii</i>	pit-B7/pit-B5	ARLG1957	NGIS01000052.1	1169
type-I	<i>A. pittii</i>	pit-C5	A. sp. 1295259	JEWG01000048.1	119
type-I	<i>A. pittii</i>	pit-C5	A. baumannii 269	JQNV01000054.1	119
type-I	<i>A. pittii</i>	pit-C5	AP_882	NZ_CP014477.1	119
type-I	<i>A. pittii</i>	pit-C5	ABBL111	LLHJ01000059	119
type-I	<i>A. pittii</i>	pit-C5	ABBL015	LLCV01000009	119
type-I	<i>A. pittii</i>	pit-C5	PR348	NGEJ01000078	119
type-I	<i>A. pittii</i>	pit-C5	CR12-42	JQNT01000088	119
type-I	<i>A. pittii</i>	pit-C5	UKK-0550	MDI001000081	119
type-I	<i>A. pittii</i>	pit-C5	UKK-0536	MDHZ01000127	119
type-I	<i>A. pittii</i>	pit-C5	NBRC 110506	BBTY01000007	220
type-I	<i>A. pittii</i>	pit-C5	IPK_TSA6.1	LWHP01000001	321
type-I	<i>A. pittii</i>	pit-C5	ABBL024	LLDE01000066	643
type-I	<i>A. pittii</i>	pit-C5	ARLG 1957	NGIS01000002	1169
type-I	<i>A. pittii</i>	pit-C5	ABBL033	LLDN01000069	1170
type-I	<i>A. pittii</i>	pit-C5	UBA 2484	DDOW01000010	1171
type-I	<i>A. pittii</i>	pit-C6	DSM25618	BBST01000014.1	63
type-I	<i>A. pittii</i>	pit-C6	UKK-0547	MDIK01001336.1	63
type-I	<i>A. pittii</i>	pit-C6	ATCC19004	APQP01000003.1	63
type-I	<i>A. pittii</i>	pit-C6	ABBL126	LLHW01000293.1	64
type-I	<i>A. pittii</i>	pit-C6	UKK-0327	MDHW01000178.1	64
type-I	<i>A. pittii</i>	pit-C6	IIF1SW-P1	MIZX01000011.1	64
type-I	<i>A. pittii</i>	pit-C6	PR313	NGCD01000037.1	64
type-I	<i>A. pittii</i>	pit-C6	PR370	NGCX01000020.1	64
type-I	<i>A. pittii</i>	pit-C6	ARLG1779	NGGI01000025.1	64
type-I	<i>A. pittii</i>	pit-C6	ARLG1803	NGGT01000062.1	64
type-I	<i>A. pittii</i>	pit-C6	DSM9306	AIEF01000088.1	64
type-I	<i>A. pittii</i>	pit-C6	ABBL128	LLHY01001554.1	64
type-I	<i>A. pittii</i>	pit-C6	St-10592-91	MDH001000070.1	64
type-I	<i>A. pittii</i>	pit-C6	St-20772-90	MDHR01000065.1	64
type-I	<i>A. pittii</i>	pit-C6	St-14379-92	MDIW01000067.1	64
type-I	<i>A. pittii</i>	pit-C6	Ac sp. SH024	ADCH01000005.1	93
type-I	<i>A. pittii</i>	pit-C6	ABBL010	LLCQ01000056.1	93
type-I	<i>A. pittii</i>	pit-C6	ABBL047	LLEB01000058.1	93
type-I	<i>A. pittii</i>	pit-C6	ABBL065	LLFK01000065.1	93
type-I	<i>A. pittii</i>	pit-C6	ABBL096	LLGX01000066.1	93
type-I	<i>A. pittii</i>	pit-C6	ABBL120	LLHQ01000819.1	93
type-I	<i>A. pittii</i>	pit-C6	St-11469-92	MDHP01000046.1	93
type-I	<i>A. pittii</i>	pit-C6	UKK-0245	MDHT01000136.1	93
type-I	<i>A. pittii</i>	pit-C6	UKK-0544	MDIH01000005.1	93
type-I	<i>A. pittii</i>	pit-C6	UKK-0555	MDIT01000070.1	93
type-I	<i>A. pittii</i>	pit-C6	St-14569-91	MDIX01000086.1	93
type-I	<i>A. pittii</i>	pit-C6	St-15559-91	MDIY01000009.1	93
type-I	<i>A. pittii</i>	pit-C6	St-15639-91	MDIZ01000006.1	93
type-I	<i>A. pittii</i>	pit-C6	ABUH403	NDFE01000063.1	93
type-I	<i>A. pittii</i>	pit-C6	PR369	NGCW01000047.1	93
type-I	<i>A. pittii</i>	pit-C6	PR318	NGDI01000015.1	93
type-I	<i>A. pittii</i>	pit-C6	PR346	NGEH01000075.1	93
type-I	<i>A. pittii</i>	pit-C6	ARLG1776	NGGH01000045.1	93
type-I	<i>A. pittii</i>	pit-C6	ARLG1798	NGGQ01000032.1	93
type-I	<i>A. pittii</i>	pit-C6	ARLG1804	NGGU01000039.1	93
type-I	<i>A. pittii</i>	pit-C6	ABBL103	LLHD01000160.1	93
type-I	<i>A. pittii</i>	pit-C6	CEB-Ap	NGAB01000018.1	93
type-I	<i>A. pittii</i>	pit-C6	IHIT32685	NWVY01000037.1	93
type-I	<i>A. pittii</i>	pit-C6	IHIT32473	NWVZ01000006.1	93
type-I	<i>A. pittii</i>	pit-C6	IHIT29592	NWWA01000059.1	93
type-I	<i>A. pittii</i>	pit-C6	IHIT29469	NWWB01000013.1	93
type-I	<i>A. pittii</i>	pit-C6	IHIT24944	NWWC01000020.1	93
type-I	<i>A. pittii</i>	pit-C6	ABUH411	MSMX01000037.1	248
type-I	<i>A. pittii</i>	pit-C6	UKK-0548	MDIM01000175.1	248
type-I	<i>A. pittii</i>	pit-C6	UKK-0556	MDIU01000051.1	248
type-I	<i>A. pittii</i>	pit-C6	PR386	NGET01000030.1	248

type-I	<i>A. pittii</i>	pit-C6	UBA2478	DDPC01000006.1	396
type-I	<i>A. pittii</i>	pit-C6	ARLG1839	NGHJ01000073.1	396
type-I	<i>A. pittii</i>	pit-C6	ARLG1768	NGHT01000085.1	396
type-I	<i>A. pittii</i>	pit-C6	St-12828-92	MDIV01000077.1	744
type-I	<i>A. pittii</i>	pit-C6	PR368	NGCV01000039.1	744
type-I	<i>A. pittii</i>	pit-C6	PR339	NGEB01000026.1	744
type-I	<i>A. pittii</i>	pit-C6	NBRC 110510	BBTS01000017.1	1172
type-I	<i>A. pittii</i>	pit-C6	ABBL005	LLCL01000051.1	nd
type-I	<i>A. pittii</i>	pit-C6	XH765	LYGR01000031.1	nd
type-I	<i>A. pittii</i>	pit-C6	ARLG1771	NGGG01000209.1	1173
type-I	<i>A. pittii</i>	pit-C6	ARLG1961	NGIT01000049.1	1174
type-I	<i>A. pittii</i>	pit-C7	PHEA-2	NC_016603.1	1164
type-I	<i>A. pittii</i>	pit-C7	<i>A. sp.</i> 1542444	JEYA01000001.1	675
type-I	<i>A. baumannii</i>	pit-C7-like	8D1	MABV01000005.1	512
type-I	<i>A. nosocomialis</i>	nos-C8	GTC 03313	BBTJ01000037.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	NBRC 110501	BBT001000034.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	NBRC 110503	BBTP01000032.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	NBRC 110502	BBTW01000035.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	UBA3105	DFAN01000123.1	nd
type-I	<i>A. nosocomialis</i>	nos-C8	UBA3966	DGCY01000018.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	<i>A. sp.</i> 1245593	JFDW01000009.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	<i>A. sp.</i> 1281984	JFXD01000005.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	446_ABAU	JVGT01000017.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	<i>A. sp.</i> FDAARGOS_131	LORV01000006.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	XH796	LYGC01000035.1	nd
type-I	<i>A. nosocomialis</i>	nos-C8	XH762	LYGU01000043.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	XH654	LYKD01000035.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	XH653	LYKE01000040.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	XH551	LYKW01000018.1	68
type-I	<i>A. nosocomialis</i>	nos-C8	HJ14	MADF01000010.1	217
type-I	<i>A. nosocomialis</i>	nos-C8	AN2605	NNSH01000193.1	68
type-I	<i>A. nosocomialis</i>	nos-C9	SSA3	NZ_CP020588.1	433
type-I	<i>A. nosocomialis</i>	nos-C9	UBA2042	DDBC01000042.1	1166
type-I	<i>A. nosocomialis</i>	nos-C9	TG21145	AMJH01000036.1	74
type-I	<i>A. nosocomialis</i>	nos-C9	NCTC 8102	AIEJ01000063.1	74
type-I	<i>A. calcoaceticus</i>	cal-C10	ANC3680	NZ_KB849752.1	539
type-I	<i>A. calcoaceticus</i>	cal-C11	RUH2202	ACPK01000025.1	92
type-II	<i>A. baumannii</i>	bau-D1	3909	AEOZ01000025.1	78
type-II	<i>A. baumannii</i>	bau-D1	TG22142	ASFL01000035.1	78
type-II	<i>A. baumannii</i>	bau-D1	TG22146	ASFM01000027.1	78
type-II	<i>A. baumannii</i>	bau-D1	TG22150	ASF001000033.1	78
type-II	<i>A. baumannii</i>	bau-D1	1096934	JEXM01000056.1	78
type-II	<i>A. baumannii</i>	bau-D1	831240	JEY001000006.1	78
type-II	<i>A. baumannii</i>	bau-D1	855125	JMNT01000076.1	78
type-II	<i>A. baumannii</i>	bau-D1	ABBL025	LLDF01000014.1	78
type-II	<i>A. baumannii</i>	bau-D1	ABBL026	LLDG01000017.1	78
type-II	<i>A. baumannii</i>	bau-D1	UH5207	AYFP01000025.1	78
type-II	<i>A. baumannii</i>	bau-D1	UH17_52	JWYK03000080.1	78
type-II	<i>A. baumannii</i>	bau-D1	68SM01	FUEK01000010.1	78
type-II	<i>A. baumannii</i>	bau-D1	61SM01	FUEL01000006.1	78
type-II	<i>A. baumannii</i>	bau-D1	103SM	FUEM01000001.1	78
type-II	<i>A. baumannii</i>	bau-D1	14336	FUEN01000014.1	78
type-II	<i>A. baumannii</i>	bau-D1	MGTN	FUE001000003.1	78
type-II	<i>A. baumannii</i>	bau-D1	96SM	FUEP01000001.1	78
type-II	<i>A. baumannii</i>	bau-D1	20C15	FUEQ01000001.1	78
type-II	<i>A. baumannii</i>	bau-D1	25C30	FUER01000002.1	78
type-II	<i>A. baumannii</i>	bau-D1	74SM01	FUES01000003.1	78
type-II	<i>A. baumannii</i>	bau-D1	MONUR	FUET01000004.1	78
type-II	<i>A. baumannii</i>	bau-D1	2RED09	FUEU01000004.1	78
type-II	<i>A. baumannii</i>	bau-D1	65SM01	FUEV01000003.1	78
type-II	<i>A. baumannii</i>	bau-D1	72SM01	FUEW01000002.1	78
type-II	<i>A. baumannii</i>	bau-D1	2MG	FUEX01000003.1	78
type-II	<i>A. baumannii</i>	bau-D1	PR308	NGBY01000012.1	78
type-II	<i>A. baumannii</i>	bau-D1	PR355	NGCI01000010.1	78
type-II	<i>A. baumannii</i>	bau-D1	PR371	NGCY01000013.1	78
type-II	<i>A. baumannii</i>	bau-D1	PR385	NGES01000050.1	78
type-II	<i>A. baumannii</i>	bau-D1	ABBL030	LLDK01000155.1	78
type-II	<i>A. baumannii</i>	bau-D1	ABUH393	MSMS01000084.1	78



type-II	<i>A. baumannii</i>	bau-D1	5M0	FUEY01000001.1	78
type-II	<i>A. baumannii</i>	bau-D1	UH19608	AYFZ01000199.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL006	LLCM01000053.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL017	LLCX01000017.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL023	LLDD01000202.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL039	LLDT01000063.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL043	LLDX01000121.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL049	LLED01000019.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL052	LEEG01000062.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL055	LLFA01000065.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL056	LLFB01000068.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067a	LLFN01000267.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067b	LLF001000279.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067j	LLFV01000130.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067k	LLFW01000040.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067l	LLFX01000045.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL068	LLFY01000087.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL069	LLFZ01000171.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL101	LLHB01000147.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB01	LLIQ01000018.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB03	LLIS01000428.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB04	LLIT01000118.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB04_a	LLIU01000358.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB06	LLIW01000299.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB08	LLIZ01000032.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB12	LLJD01000055.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOBEN	LLJG01000034.1	79
type-II	<i>A. baumannii</i>	bau-D1	Ab28	LMBQ01000001.1	79
type-II	<i>A. baumannii</i>	bau-D1	CU032113	LXYW01000010.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABUH564	MSOI01000045.1	79
type-II	<i>A. baumannii</i>	bau-D1	499	MWPK01000002.1	79
type-II	<i>A. baumannii</i>	bau-D1	923	MWPO01000003.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABUH505	NCXV01000092.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABUH428	NCYV01000132.1	79
type-II	<i>A. baumannii</i>	bau-D1	ARLG-1775	NEQF01000006.1	79
type-II	<i>A. baumannii</i>	bau-D1	ARLG-1860	NEQK01000117.1	79
type-II	<i>A. baumannii</i>	bau-D1	AF-401	NZ_CP018254.1	79
type-II	<i>A. baumannii</i>	bau-D1	UH106_440	JWUZ03000197.1	79
type-II	<i>A. baumannii</i>	bau-D1	UH106_429	JWVB03000032.1	79
type-II	<i>A. baumannii</i>	bau-D1	UH535_423	JWVC03000014.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL035	LLDP01000111.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL037	LLDR01000050.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL050	LLEE01000153.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL053	LLEH01000059.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL066	LLFL01000048.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067	LLFM01000081.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067c	LLFP01000234.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067e	LLFQ01000141.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067f	LLFR01000205.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067g	LLFS01000014.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067h	LLFT01000096.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL067i	LLFU01000254.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL079	LLGJ01000170.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL083	LLGM01000149.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL105	LLHE01000176.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL106	LLHF01000121.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL117	LLH001000219.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL118	LLHP010000616.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL122	LLHS01000277.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABBL127	LLHX01000342.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB02	LLIR01000425.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB04_b	LLIV01000188.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB06_a	LLIX01000047.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB07	LLIY01000105.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB09	LLJA01000175.1	79
type-II	<i>A. baumannii</i>	bau-D1	ABOB10	LLJB01000197.1	79
type-II	<i>A. baumannii</i>	bau-D1	Ab23	LMB001000002.1	79
type-II	<i>A. baumannii</i>	bau-D1	ORABashR	LRMG01000196.1	79
type-II	<i>A. baumannii</i>	bau-D1	ORABriCT	LRMH01000055.1	79

type-II	A. baumannii	bau-D1	LIM891	LUUZ01000291.1	79
type-II	A. baumannii	bau-D1	LIM994	LUVA01000276.1	79
type-II	A. baumannii	bau-D1	LIM929	LUVB01000368.1	79
type-II	A. baumannii	bau-D1	LIM997	LUV01000003.1	79
type-II	A. baumannii	bau-D1	LIM939	LUV01000521.1	79
type-II	A. baumannii	bau-D1	LIM1013	LUV01001894.1	79
type-II	A. baumannii	bau-D1	LIM1011	LUVF01002386.1	79
type-II	A. baumannii	bau-D1	LIM1049	LUVG01000004.1	79
type-II	A. baumannii	bau-D1	LIM1126	LUVH01000004.1	79
type-II	A. baumannii	bau-D1	LIM1099	LUVI01000006.1	79
type-II	A. baumannii	bau-D1	LIM1018	LUVJ01001272.1	79
type-II	A. baumannii	bau-D1	LIM1029	LUVK01000007.1	79
type-II	A. baumannii	bau-D1	LIM1128	LUVL01000225.1	79
type-II	A. baumannii	bau-D1	LIM941	MANL01000869.1	79
type-II	A. baumannii	bau-D1	AR_0036	MPBY01000002.1	79
type-II	A. baumannii	bau-D1	ABUH642	MSNJ01000071.1	79
type-II	A. baumannii	bau-D1	ABUH516	MSPM01000075.1	79
type-II	A. baumannii	bau-D1	502	MWPL01000003.1	79
type-II	A. baumannii	bau-D1	891	MWPM01000003.1	79
type-II	A. baumannii	bau-D1	895	MWPN01000006.1	79
type-II	A. baumannii	bau-D1	991	MWPP01000005.1	79
type-II	A. baumannii	bau-D1	ABUH502	NCXU01000046.1	79
type-II	A. baumannii	bau-D1	ABUH363	NCZR01000137.1	79
type-II	A. baumannii	bau-D1	PR323	NGDN01000081.1	79
type-II	A. baumannii	bau-D1	ARL61858	NGGD01000064.1	79
type-II	A. baumannii	bau-D1	ARL61864	NGIV01000047.1	79
type-II	A. baumannii	bau-D1	AB030	NZ_CP009257.1	79
type-II	A. baumannii	bau-D1	AbH120-A2	NZ_CP009534.1	79
type-II	A. baumannii	bau-D1	11598	MSCZ01000020.1	156
type-II	A. baumannii	bau-D1	4113	MSDA01000030.1	156
type-II	A. baumannii	bau-D1	11547	MSDB01000016.1	156
type-II	A. baumannii	bau-D1	11502	MSCX01000013.1	156
type-II	A. baumannii	bau-D1	11536	MSCY01000013.1	156
type-II	A. baumannii	bau-D1	11551	MSDC01000013.1	156
type-II	A. baumannii	bau-D1	11606	MSDD01000011.1	156
type-II	A. baumannii	bau-D1	TG02011	ASES01000026.1	422
type-II	A. baumannii	bau-D1	UH7607	AYFH01000099.1	422
type-II	A. baumannii	bau-D1	UH6907	AYFJ01000032.1	422
type-II	A. baumannii	bau-D1	UH22908	AYFV01000030.1	422
type-II	A. baumannii	bau-D1	UH16208	AYGB01000074.1	422
type-II	A. baumannii	bau-D1	UH12208	AYGK01000073.1	422
type-II	A. baumannii	bau-D1	3207	NZ_CP015364.1	422
type-II	A. baumannii	bau-D1	AB_1583-8	AMHC01000214.1	422
type-II	A. baumannii	bau-D1	AB_TG27343	AMIS01000029.1	422
type-II	A. baumannii	bau-D1	UH7907	AYFE01000114.1	422
type-II	A. baumannii	bau-D1	A33405	JPXZ01000025.1	422
type-II	A. baumannii	bau-D1	1412924	JFEF01000001.1	510
type-II	A. baumannii	bau-D1	342950	JEWZ01000078.1	512
type-II	A. baumannii	bau-D1	1295549	JFXB01000001.1	652
type-II	A. baumannii	bau-D1	277047	JFXS01000001.1	652
type-II	A. baumannii	bau-D1	426863	JFYF01000001.1	652
type-II	A. baumannii	bau-D1	CCBH15815_Y_1	NLC001000001.1	730
type-II	A. baumannii	bau-D3	ARL1814	NGGY01000078.1	32
type-II	A. baumannii	bau-D3	1525283	JEXR0100002/64.1	32
type-II	A. baumannii	bau-D3	781407	JEZS01000001.1	32
type-II	A. baumannii	bau-D5	NIPH_67	APRA01000004.1	35
type-II	A. baumannii	bau-D6	1035119	JEVY01000001.1	536
type-II	A. baumannii	bau-D6	8D1	MABV01000021.1	512
type-II	A. baumannii	bau-D6	01D3-2	NIWQ01000001.1	240
type-II	A. baumannii	bau-D6	86II/2C	NIWI01000010.1	690
type-II	A. baumannii	bau-D6	PLG9P835	NIWR01000002.1	1179
type-II	A. baumannii	bau-D7	M3AC9-7	JTEC01000010.1	250
type-II	A. baumannii	bau-D7	UH392_659	JWTR03000141	250
type-II	A. baumannii	bau-D7	UH592_595	JZJE02000126	250
type-II	A. baumannii	bau-D7	ABBL149	LLIP01000073.1	250
type-II	A. baumannii	bau-D7	UH592_599	JZJD02000204.1	250
type-II	A. baumannii	bau-D7	ABBL122	LLHS01000277.1	250
type-II	A. baumannii	bau-D7	CCF12	LZAF01000035.1	250
type-II	A. baumannii	bau-D7	CCF50	LZBF01000052.1	250

type-II	A. baumannii	bau-D7	ABUH797	LZUU01000019.1	250
type-II	A. baumannii	bau-D7	ABUH399	MSMU01000040.1	250
type-II	A. baumannii	bau-D7	ABUH675	MSNS01000001.1	250
type-II	A. baumannii	bau-D7	ABUH631	NCZW01000042.1	250
type-II	A. baumannii	bau-D7	ABUH638	NCZZ01000005.1	250
type-II	A. baumannii	bau-D7	ABUH650	NDAD01000033.1	250
type-II	A. baumannii	bau-D7	ABUH658	NDAF01000140.1	250
type-II	A. baumannii	bau-D7	ABUH619	NDAY01000053.1	250
type-II	A. baumannii	bau-D7	ARLG1898	NGHX01000065.1	250
type-II	A. baumannii	bau-D7	ARLG1906	NGID01000040.1	250
type-II	A. baumannii	bau-D7	ARLG1891	NGJI01000045.1	250
type-II	A. baumannii	bau-D7	247	NSJA01000052.1	286
type-II	A. baumannii	bau-D7	XH681	LYJI01000001.1	879
type-II	A. baumannii	bau-D9	TG27387	ASGJ01000040.1	6
type-II	A. baumannii	bau-D9	ABBL011	LLCR01000058.1	6
type-II	A. baumannii	bau-D9	XH730	LYHV01000013.1	46
type-II	A. baumannii	bau-D9	XH674	LYJP01000037.1	46
type-II	A. baumannii	bau-D9	XH673	LYJQ01000034.1	46
type-II	A. baumannii	bau-D9	XH668	LYJV01000010.1	46
type-II	A. baumannii	bau-D9	XH664	LYJZ01000001.1	46
type-II	A. baumannii	bau-D9	XH662	LYKB01000388.1	46
type-II	A. baumannii	bau-D9	XH661	LYKC01000040.1	46
type-II	A. baumannii	bau-D9	XH648	LYKH01000001.1	46
type-II	A. baumannii	bau-D9	XH647	LYKI01000023.1	46
type-II	A. baumannii	bau-D9	XH642	LYKN01000001.1	46
type-II	A. baumannii	bau-D9	XH641	LYK001000001.1	46
type-II	A. baumannii	bau-D9	XH553	LYKU01000207.1	46
type-II	A. baumannii	bau-D9	XH545	LYLC01000001.1	46
type-II	A. baumannii	bau-D9	XH512	LYLG01000001	46
type-II	A. baumannii	bau-D9	AE3M	FWFB01000092.1	85
type-II	A. baumannii	bau-D9	AE27M	FWW001000046.1	85
type-II	A. baumannii	bau-D9	AC40M	FWYN01000006.1	85
type-II	A. baumannii	bau-D9	ACMH-6200	LKMA01000064.1	85
type-II	A. baumannii	bau-D9	ACMH-6201	LKMB01000010.1	85
type-II	A. baumannii	bau-D9	AB-A	LWSM01000068.1	85
type-II	A. baumannii	bau-D9	AB-B	LWSN01000050.1	85
type-II	A. baumannii	bau-D9	AB-C	LWS001000056.1	85
type-II	A. baumannii	bau-D9	AR_0037	MPBX01000005.1	85
type-II	A. baumannii	bau-D9	AR_0033	MPCA01000001.1	85
type-II	A. baumannii	bau-D9	MBL_M4	MWTU01000196.1	85
type-II	A. baumannii	bau-D9	MBL_M6	MWTW01000060.1	85
type-II	A. baumannii	bau-D9	B11911	LFYX01000003.1	149
type-II	A. baumannii	bau-D9	PR361	NGC001000049.1	464
type-II	A. baumannii	bau-D9	6200	NZ_CP010397.1	464
type-II	A. baumannii	bau-D9	1297549	JEVV01000001.1	528
type-II	A. baumannii	bau-D9	ARLG1326	NGHQ01000027.1	973
type-II	A. baumannii	bau-D9	ABBL067	LLFM01000081.1	nd
type-II	A. baumannii	bau-D9	AB360	NGKM01000001.1	622
type-II	A. baumannii	bau-D9	IOMTU433	NZ_AP014649.1	622
type-II	A. baumannii	bau-D9	XH729	LYHW01000042.1	nd
type-II	A. baumannii	bau-D9	XH703	LYIS01000022.1	nd
type-II	A. baumannii	bau-D9	SP1917	LFYW01000006.1	nd
type-II	A. baumannii	bau-D10	AB900	ABXK01000016.1	49
type-II	A. baumannii	bau-D10	OIFC111	AMFY01000003.1	49
type-II	A. baumannii	bau-D10	1461963	JEVQ01000007.1	49
type-II	A. baumannii	bau-D10	1293320	JFEE01000003.1	49
type-II	A. baumannii	bau-D10	ABBL070	LLGA01000031.1	49
type-II	A. baumannii	bau-D10	ABBL071	LLGB01000025.1	49
type-II	A. baumannii	bau-D11	TG22198	ASFT01000014.1	164
type-II	A. baumannii	bau-D11	AB_2007-16-25-01-7	AMHI01000047.1	241
type-II	A. baumannii	bau-D11	AB_2007-16-27-01	AMHJ01000047.1	241
type-II	A. baumannii	bau-D11	AB_TG27339	AMIR01000013.1	241
type-II	A. baumannii	bau-D11	118362	JEWB01000070.1	241
type-II	A. baumannii	bau-D12	UMB002	AEPL01000028.1	16
type-II	A. baumannii	bau-D12	268680	JEYN01000009.1	16
type-II	A. baumannii	bau-D12	1043794	JEYX01000007.1	16
type-II	A. baumannii	bau-D12	972082	JFAA01000074.1	16
type-II	A. baumannii	bau-D12	655378	JFCE02000001.1	16
type-II	A. baumannii	bau-D12	1064293_45	JFDS01000016.1	16

type-II	<i>A. baumannii</i>	bau-D12	FDAARGOS_123	LORJ01000003	16
type-II	<i>A. baumannii</i>	bau-D12	232184	JEYI01000006	16
type-II	<i>A. baumannii</i>	bau-D12	J65	LAKP01000059.1	16
type-II	<i>A. baumannii</i>	bau-D12	BAL 255	CZWB01000012.1	16
type-II	<i>A. baumannii</i>	bau-D12	SIUA6 17	NIUK01000031.1	16
type-II	<i>A. baumannii</i>	bau-D12	NIPH 601	APQZ01000007.1	40
type-II	<i>A. baumannii</i>	bau-D12	GTC 03322	BBNF10000040.1	40
type-II	<i>A. baumannii</i>	bau-D12	GTC 03323	BBNG01000002.1	40
type-II	<i>A. baumannii</i>	bau-D12	GTC 03328	BBNI01000006.1	40
type-II	<i>A. baumannii</i>	bau-D12	NBRC 110489	BBOP01000045.1	40
type-II	<i>A. baumannii</i>	bau-D12	NBRC 110491	BBTC01000006.1	40
type-II	<i>A. baumannii</i>	bau-D12	A118	AEOW01001006.1	404
type-II	<i>A. baumannii</i>	bau-D12	ZW85-1	NC_023028.1	639
type-II	<i>A. baumannii</i>	bau-D13	NIPH 60	APPM01000011.1	34
type-II	<i>A. baumannii</i>	bau-D13	NBRC 110492	BBTD01000008.1	34
type-II	<i>A. baumannii</i>	bau-D13	NIPH 201	APQV01000007.1	38
type-II	<i>A. baumannii</i>	bau-D13	DSM 30011	JJOC01000003.1	738
type-II	<i>A. baumannii</i>	bau-D13	Naval-72	AMFI01000006.1	405
type-II	<i>A. baumannii</i>	bau-D14	1267820	JEWD01000063.1	103
type-II	<i>A. baumannii</i>	bau-D14	AB031	NZ_CP009256.1	638
type-II	<i>A. baumannii</i>	bau-D15	AB3638 LV38	LRDW01000016.1	25
type-II	<i>A. baumannii</i>	bau-D15	4190	AEPA01000264.1	25
type-II	<i>A. baumannii</i>	bau-D15	UMB003	AEPM01000002.1	25
type-II	<i>A. baumannii</i>	bau-D15	Naval-18	AFDA02000003	25
type-II	<i>A. baumannii</i>	bau-D15	OIFC143	AFDL01000004	25
type-II	<i>A. baumannii</i>	bau-D15	AB5256	AHAI01000041.1	25
type-II	<i>A. baumannii</i>	bau-D15	NIPH146	APOU01000021.1	25
type-II	<i>A. baumannii</i>	bau-D15	CI86	AVOB01000072.1	25
type-II	<i>A. baumannii</i>	bau-D15	CI79	AVOD01000049.1	25
type-II	<i>A. baumannii</i>	bau-D15	107m	CBSG01000032.1	25
type-II	<i>A. baumannii</i>	bau-D15	984213	JEVX01000013.1	25
type-II	<i>A. baumannii</i>	bau-D15	1429530	JEWM01000001.1	25
type-II	<i>A. baumannii</i>	bau-D15	RUH1486	JZBU01000024.1	25
type-II	<i>A. baumannii</i>	bau-D15	NM3	JZBV01000044.1	25
type-II	<i>A. baumannii</i>	bau-D15	LUH_6220	JZBW01000052.1	25
type-II	<i>A. baumannii</i>	bau-D15	4390	JZBY01000157.1	25
type-II	<i>A. baumannii</i>	bau-D15	741019	JZBZ01000009.1	25
type-II	<i>A. baumannii</i>	bau-D15	161/07	JZCA01000061.1	25
type-II	<i>A. baumannii</i>	bau-D15	ABBL018	LLCY01000148.1	25
type-II	<i>A. baumannii</i>	bau-D15	AB2828 LV35	LRDT01000061.1	25
type-II	<i>A. baumannii</i>	bau-D15	AB3806 LV40	LRDY01000030.1	25
type-II	<i>A. baumannii</i>	bau-D15	PR388	NGEV01000035.1	25
type-II	<i>A. baumannii</i>	bau-D15	ARLG1317	NGH001000017.1	25
type-II	<i>A. baumannii</i>	bau-D15	NIPH146	KB849308.1	25
type-II	<i>A. baumannii</i>	bau-D15	HWBA8	NZ_CP020597	25
type-II	<i>A. baumannii</i>	bau-D15	AB_2008-15-69	AMHN01000069.1	25
type-II	<i>A. baumannii</i>	bau-D15	R2091	NZ_LN997846.1	126
type-II	<i>A. baumannii</i>	bau-D15	P630	CBYG01000034.1	126
type-II	<i>A. baumannii</i>	bau-D15	233846	JMOG01000008.1	126
type-II	<i>A. baumannii</i>	bau-D15	PR337	NGEA01000014.1	126
type-II	<i>A. baumannii</i>	bau-D15	CIP70.10	NZ_LN865143.1	126
type-II	<i>A. baumannii</i>	bau-D15	LUH_7841	JZBX01000006.1	402
type-II	<i>A. baumannii</i>	bau-D16	NIPH 615	APOV01000028.1	12
type-II	<i>A. baumannii</i>	bau-D17	AB967	LRDS01000005	48
type-II	<i>A. baumannii</i>	bau-D17	ABUH397	NCY001000022.1	48
type-II	<i>A. baumannii</i>	bau-D17	PR356	NGCJ01000033.1	48
type-II	<i>A. baumannii</i>	bau-D17	PR343	NGEE01000017.1	48
type-II	<i>A. baumannii</i>	bau-D17	ARLG1830	NGHE01000010.1	48
type-II	<i>A. baumannii</i>	bau-D17	1598530	JMOE01000001.1	56
type-II	<i>A. baumannii</i>	bau-D17	OIFC035	AMTB01000006.1	403
type-II	<i>A. baumannii</i>	bau-D17	Ab5	LANH01000043	nd
type-II	<i>A. baumannii</i>	bau-D19	1062314	JFDR01000001.1	54
type-II	<i>A. baumannii</i>	bau-D19	99063	JEXJ01000070	506
type-II	<i>A. baumannii</i>	bau-D20	299505	JEWY01000048	508
type-II	<i>A. baumannii</i>	bau-D21	219_ABAU	JVPN01000006.1	1140
type-II	<i>A. baumannii</i>	bau-D21	ABBL110	LLHI01000268.1	nd
type-II	<i>A. baumannii</i>	bau-D21	LIM1820	LUUY01000276.1	107
type-II	<i>A. baumannii</i>	bau-D2	SDF	CU468230	17
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp.1424608	JFXL01000001.1	279

type-II	<i>A.nosocomialis</i>	nos-D2	Ac.sp. 21871	JEWV01000004.1	279
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_8	JFVJ01000007.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_7	JFVK01000003.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_6	JFVL01000006.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_4	JFVM01000009.1	501
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type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_1	JFVP01000009.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 796380-1375	JMOS01000007.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_9	JMPF01000048.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	Ac. sp. 25977_10	JFVQ01000046.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	TG19596	AMIZ01000051.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	UBA5656	DIJA01000032.1	501
type-II	<i>A.nosocomialis</i>	nos-D2	GTC 3312	BB0001000030.1	1181
type-II	<i>A.nosocomialis</i>	nos-D2	NBRC 110500	BB0T01000029.1	1181
type-II	<i>A.nosocomialis</i>	nos-D2	UBA873	DBFT01000089.1	nd
type-II	<i>A.nosocomialis</i>	nos-D4	GTC 03313	BBTJ01000007.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	NBRC 110501	BBT001000005.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	NBRC 110503	BBTP01000005.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	NBRC 110502	BBTW01000005.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	UBA3966	DGCY01000183.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	Ac. sp. 1281984	JFXD01000001.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	446_ABAU	JVGT01000060.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	Ac. sp. FDAARGOS_131	LORV01000006.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	XH762	LYGU01000023.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	XH654	LYKD01000057.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	XH653	LYKE01000040.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	XH551	LYKW01000034.1	68
type-II	<i>A.nosocomialis</i>	nos-D4	ABBL080	LLGK01000451.1	71
type-II	<i>A.nosocomialis</i>	nos-D4	ABUH381	NDFD01000029.1	71
type-II	<i>A.nosocomialis</i>	nos-D4	259052	JEYJ01000008.1	71
type-II	<i>A.nosocomialis</i>	nos-D4	1592897	JEYK02000002.1	71
type-II	<i>A.nosocomialis</i>	nos-D4	28F	CBSD02000036.1	71
type-II	<i>A.nosocomialis</i>	nos-D4	HJ14	MADF01000001.1	217
type-II	<i>A.nosocomialis</i>	nos-D4	UBA1655	DCLF01000050.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	UBA4562	DGKU01000019.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	NIPH 386	APPP01000013.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	1396970	JEWI01000055.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	694762	JFEV01000024.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	WC-487	AMZR01000082.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	Ac. sp.1396970	ACQF02000020.1	410
type-II	<i>A.nosocomialis</i>	nos-D4	UBA2098	DCYY01000023.1	1182
type-II	<i>A.nosocomialis</i>	nos-D4	UBA2046	DDAY01000142.1	1183
type-II	<i>A.nosocomialis</i>	nos-D4	A. baumannii 1	JSAO01000067.1	1184
type-II	<i>A.nosocomialis</i>	nos-D4	UBA3105	DFAN01000186.1	nd
type-II	<i>A.nosocomialis</i>	nos-D4	XH796	LYGC01000024.1	nd
type-II	<i>A.nosocomialis</i>	nos-D4	UBA5077	DIAN01000118.1	nd
type-II	<i>A.nosocomialis</i>	nos-D4	UBA6700	DKJE01000061.1	nd
type-II	<i>A.nosocomialis</i>	nos-D8	Ac. sp. TG21145	AMJH01000037	74
type-II	<i>A.nosocomialis</i>	nos-D12	OIFC021	AMFR01000029.1	224
type-II	<i>A.nosocomialis</i>	nos-D12	766875	JEXX01000001.1	224
type-II	<i>A.nosocomialis</i>	nos-D18	NIPH 2119	APOP01000003.1	76
type-II	<i>A.nosocomialis</i>	nos-D18	LMG 10619	BBSR01000002.1	76
type-II	<i>A.nosocomialis</i>	nos-D18	216872	JFEM01000009.1	530
type-II	<i>A.nosocomialis</i>	nos-D18	BIDMC 57	JMUI01000011.1	530
type-II	<i>A.nosocomialis</i>	nos-D22	UBA3970	DGCU01000061	ND
type-II	<i>A.nosocomialis</i>	nos-D22	PR365	NGCS01000003.1	395
type-II	13BJ	nos-D22	NBRC 110496	BBTF01000002.1	200
type-II	<i>A. pittii</i>	pit-D6	PHEA-2	NC_016603.1	1164
type-II	<i>A. pittii</i>	pit-D20	Acinetobacter sp. 1542444	JEYA01000001.1	675
type-II	<i>A.baylyi</i>	bay-D15	Acinetobacter ADP1	NC_005966.1	1185

## Supplementary file 2 CDI islands

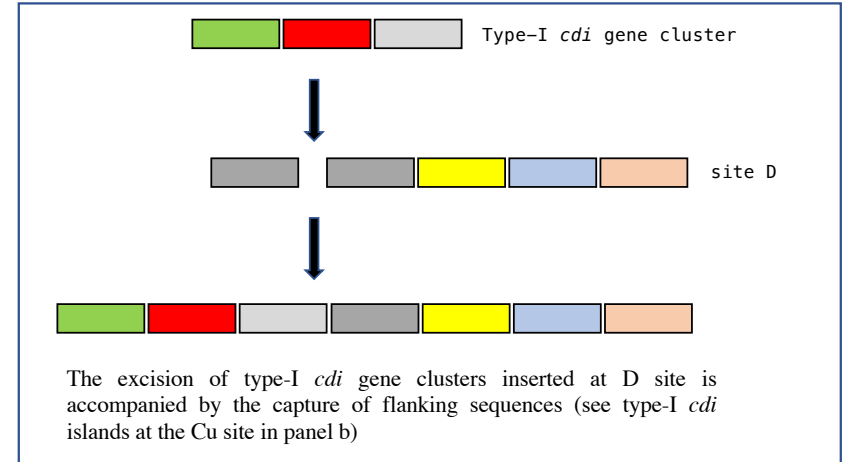
### a) Type-I *cdi* islands

		flanking orf	<i>cdi</i> B	<i>cdi</i> A	<i>cdi</i> I	flanking orf			
<i>A. baumannii</i>	WC-348	1316	1317	1318-19	1320	1321 1322	1323		
	BJAB0715	1274	1275	1276-78	-	1282 1283	1284		
	<i>A. pittii</i>	IEC338	7795	7800	7805	7810	7815 7820	7825	
	<i>A. pittii</i>	PR320	-	19125	19130	19135		19140	
	<i>A. pittii</i>	ABUH540	13600	13605	13610	13615		13620	
<i>A. baumannii</i>	ACICU (reference genome)	1137	empty site				1138		
<i>A. baumannii</i>	NCTC7364	1427	1428	1429	1430	1431 1432	1434		
	<i>A. pittii</i>	ABBL098	-	11410	11405	11415	11420 11425	11430	
	<i>A. baumannii</i>	NIPH146	1824	1825	1826	1827		1828	
	<i>A. pittii</i>	ATCC1904	2275	2270	2265	2260	2255	2250	
	<i>A. baumannii</i>	19606	2522	2521	2520	2519	2518	2517	
	<i>A. pittii</i>	IEC338	8930	8935	8940	8945	8950	8965	
	<i>A. baumannii</i>	AB031	8525	8530	8535	8540	8545 8550	TPase	
<i>A. baumannii</i>	ACICU (reference genome)	1272	alternative genomic island				1277		
<i>A. baumannii</i>	ab736	8290	8295	8300	8305		8310		
	<i>A. baumannii</i>	ACICU	1913	1912	1911	1910		1908	
	<i>A. baumannii</i>	ZW85-1	7825	7830-35	7840	7845		7850	
	<i>A. nosocomialis</i>	<i>A. sp.</i> FDAARGOS_131	14385	14390	14395	14400		14405	
<i>A. nosocomialis</i>	SSA3	8550	8545	8540	8535		8530		
<i>A. pittii</i>	ARLG1803	18850	18855	18860	18865	18870 18875 18880	18885	18890	
	<i>A. pittii</i>	PHEA-2	1272	1269	1268	1267	1266 1265 1264	1263	1262
	<i>A. calcoaceticus</i>	ANCC3680	2410	2411	2412	2413	2414 2415 2416	2417	2418
	<i>A. baumannii</i>	UH19608	833	834	835	836	838-37 840	-	839
<i>A. baumannii</i>	ACICU (reference genome)	1891	empty site				1890		

### b) Type-II *cdi* islands

		flanking orf	<i>cdi</i> B	<i>cdi</i> A	<i>cdi</i> I	flanking orfs
<i>A. baumannii</i>	ACICU (reference genome)	2441	empty site			2440 2439 2438 2437

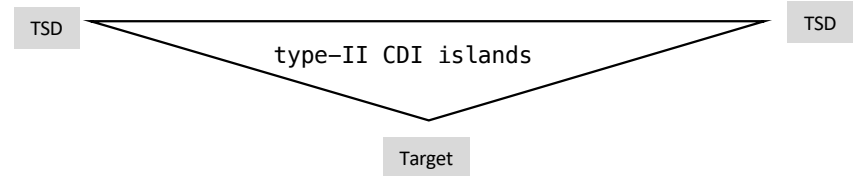
### c) Capture of flanking DNA



### d) Target site duplications (TSD) induced by type-II *cdi* islands

```

TATTGAAATA AAAAAGCTCCACAAA-AGGAGCTTTT target TTAGAATCTT
TATTGAAAT- AAAAAGCTCCACAAA-AGGAGCTTTT bau-D1 AAAAAGTCCCCTAACAGGAGCTTTT TT-GAATCTT
TATTGAAAT- AAAAAGCTCCACAAA-AGGAGCTTTT bau-D9 AAAAAGTCCATAAAA-AGGAGCTTTT TTAGAATCTT
TATCGAAATA AAAAAGCTCCACAAA-AGGAGCTTTT bau-D3 AAAAAGTCCCCTAACAGGAGCTTTT TT-GAATCTT
TATTGAAAT- AAAAAGCTCCACAAA-AGGAGCTTTT bau-D6 AAAAAGTCCCCTAACAGGAGCTTTT TTAGAATCTT
  
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Duplications at the ends of type-II *cdi* islands found in the *A. baumannii* strains AB030 (bau-D1), IOMTU 433 (bau-D9), 781407 (bau-D6) and 1035119 (bau-D6). The empty target site is from in the *A. baumannii* strain ACICU.



pit-B5 GNYDFSTSYS RYQYEQ-NVL GANG-VLRYP GLSQQGNLNV SRVLSRSQGH KTSLYGKLYH KQNSNFIDDI EIEVQRKRTS GWNAGIQHRQ YLGDVAULDAG  
pit-B7 GNYDFSTSYS RYQYEQ-NVL GANG-VLRYP GLSQQGNLNV SRVLSRSQGH KTSIYGKLYH KQNSNFIDDI EIEVQRKRTS GWNAGIQHRQ YLGDVAULDAG

401

500

bau-A1 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRFITPFL LLDKPAQYRF NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-C1 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRYITPFL LLDKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-A4 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRYITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-C5 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRYITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-C6 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRYITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-A5 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRYITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-C3 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRFSTPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
cal-C10 IDYRRGMGL- GARTAAEENI IDVNGNHLVP EGYSRAPLWS ADLRYITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-A2 IDYRRGMGV- EARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRFITPFL LLDKPAQYRF NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-C4 IDYRRGMGV- EARTAAEENI IDVNGNHLVP EGYSRAPLWS ADLRFITPFL LLDKPAQYRF NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-C2 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRYITPFL LLDKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-C7 IDYRRGMGI- NALTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRFITPFL LLEKPAQYRL NWRGOYASKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
nos-C8 IDYRRGMGV- GARTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRFITPFL LLDKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-A3 IDYRRGMGV- EARTAAEENI IDVNGNHLVP EGYSRAPLWS ADLRFITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-B6 IDYRRGMGV- EARTAAEENI IDVNGNHLVP EGYSRAPLWS ADLRFITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
cal-C11 IDYRRGVGV- GARTAAEENI TDVYGNHLPV EGYSRAPLWS ADLRFITPFL LLEKPAQYRL NWRGOYAPKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
nos-C9 IDYRRGMGI- NALTAPEENI TDVYGNHLPV EGYSRAPLWS ADLRFITPFL LLEKPAQYRL NWRGOYASKI LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-B1 LDYRHGTGAF DALLAPEEQI KDIDKNPLPS EGYSRAPLWS ADLRFQMPFL LLDTPAQYRL NWRGOYAPRV LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-B4 LDYRHGTGAF DALLAPEEQI KDIDKNPLPS EGYSRAPLWS ADLRFQMPFL LLDTPAQYRL NWRGOYAPRV LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-B2 LDYRHGTGAF DALLAPEEQI KDVDKNPLPP EGYSRAPLWS ADLRFQMPFQ LLDTPAQYRL NWRGOYAPRV LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
bau-B3 LDYRHGTGAF DALLAPEEQI KDVDKNPLPP EGYSRAPLWS ADLRFQMPFQ LLVTPAQYRL NWRGOYAPRV LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-B5 LDYRHGTGAF DALLAPEEQI KDIDKNPLPS EGYSRAPLWS ADLRFQMPFL LLDTPAQYRL NWRGOYAPRV LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ  
pit-B7 LDYRHGTGAF DALLAPEEQI KDIDKNPLPS EGYSRAPLWS ADLRFQMPFL LLDTPAQYRL NWRGOYAPRV LVPNDRFYIG GRYSVRGFDG ELMLSGDNGQ

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bau-A1 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
bau-C1 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-A4 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-C5 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-C6 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-A5 YLQOEISLNA IPINTQFYMA IDQGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
bau-C3 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
cal-C10 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
bau-A2 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
bau-C4 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
bau-C2 YVQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-C7 YLQOEISLNV IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
nos-C8 YLQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-A3 YVQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRAYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
pit-B6 YVQOEISLNA IPINTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRAYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
cal-C11 YVQOEISLNA IPINTQFYIA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
nos-C9 YLQOEISLNT PMPNTQFYMA VDOGWVNGRN SIPGORYLLG SVLGLRTYQN SFYLDFTGR GLIAPDSIKK DWITGFSINL SY  
bau-B1 YLQOEISVNT QIPNTQFYMA VDOGWVNGEN SIAGQRHLMG SVVGLRSYLN HFYIDFTGR GLIAPDSIKK DWIFGFSLNA FY  
bau-B4 YLQOEISVNT QIPNTQFYMA VDOGWVNGEN SIAGQRHLMG SVVGLRSYLN HFYIDFTGR GLIAPDSIKK DWIFGFSLNA FY  
bau-B2 YLQOEISVNT QIPNTQFYMA VDOGWVNGEN SIAGQRHLMG SVVGLRSYLN HFYIDFTGR GLIAPDSIKK DWIFGFSLNA FY  
bau-B3 YLQOEISVNT QIPNTQFYMA VDOGWVNGEN SIAGQRHLMG SVVGLRSYLN HFYIDFTGR GLIAPDSIKK DWIFGFSLNA FY  
pit-B5 YLQOEISVNT QIPNTQFYMA VDOGWVNGEN SIAGQRHLMG SVVGLRSYLN HFYIDFTGR GLIAPDSIKK DWIFGFSLNA FY  
pit-B7 YLQOEISLNT KIPNTQMYVA VDOGWVNGKN SIAGQRHLMG SVVGLRSYLN HFYIDFTGR GLIAPDSIKK DWIFGFSLNA FY





bau-A2 LAVDVKALGG MYANNIYLMG TEKGLGVTNA GTIQAVNNLV ITSAGKIEHS GTISSTSKTO GLVNIQTTGT GAASDINSSG SINSNSMLNI DSGNNLNVNA  
bau-A1 LAVDVKALGG MYANNIYLMG TEKGLGVTNA GTIQAVNNLV ITSAGKIEHS GTISSTNKTO GLVNIQTTGT GAAGDINSSG TISGKGVNVL DSANDLNITA  
pit-A3 LAVDVKALGG MYANNIYLMG TEKGLGVTNA GTIQAVNNLV ITSAGKIEHN GTISSTSKTO GLVNIQTTGT GVAGDINSSG TISGKGVNVL DSANDLNITA

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cal-C10 G-INLNGGRI QSTAIKPPVPV IIEAKGDIK SERASISNLK LGSNMYLNAN NIELDNKSSI SSN-GANSVI AKNGIVLKNN SSITSIYDLD V-SAQKIDSS  
bau-C4 G-INLNGGRI QSTAIKPPVPV IIEAKGDIK SERASISNLK LGSNMYLNAN NIELENKSSI SSN-GANSVI AKNGIILKNN SSITSIYDLD V-SAQKIDSS  
pit-C5 KEIINNGSL ASS-----PL IVNAKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
bau-C3 KEIINNGSL ASS-----PL MINTKGNLNL AANSRIFNDA QSGDVYIDAA NINLAANAGI TSNRGTASIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
cal-C11 KEIINNGSL ASS-----PL IVNTKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAQDLN VLSNGKLSLT  
pit-C7 KEIINNGSL ASS-----PL IVNAKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
bau-C1 KEIINNGSL ASS-----PL MINTKGNLNL AANSRIFNDA QSGDVYIDAA NINLAANAGI TSNRGTASIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
pit-A4 KEIINNGSL ASS-----PL IVNAKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
pit-A5 KEIINNGSL ASS-----PL IVNTKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
pit-C6 KEIINNGSL ASS-----PL IVNAKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
bau-C2 KEIINNGSL ASS-----PL IVNAKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAKDLN VLSNGKLSLT  
nos-C8 KEIINNGSL ASS-----PL IVNAKGNINL AADTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTASIQ VQKDLVAAKG AKLIAAQDLN VLSNGKLSLT  
pit-B7 KEIINNGSL ASS-----PL IISKGNLNL AANSRIFNDA QSGELYVDA NINLATNAGI TSNRGSAYIQ SQKDVVAAQG AKLIAAQDLN VSGGKLSLT  
bau-B4 KEIINNGSL ASS-----PL IISKGNLNL AANSRIFNDA QSGELYVDA NINLATNAGI TSNRGSAYIQ SQKDVVTEQG SQKDVVAAQG VSGRGLSLN  
nos-C9 ARIEKHGADN KNI-----V SLSAKNDINI KNSANIQFNG EGGDYLDA NINLGNVNL GVN-GAISLQ AKQNLQGDV RNISSMYDLN LYAGNLLSFP  
bau-B1 KEIINNGSL ASS-----PL IINTKGNLNL AANSRIFNDA QSGELYVDA NINLATNAGI TSNRGSAYIQ SQKDVVAAQG AKLIAAQDLN VSGRGLSLN  
pit-B5 KEIINNGSL ASS-----PL IISKGNLNL AANSRIFNDA QSGDVYIDAA NINLATNAGI TSNRGSAYIQ SQKDVVAAQG AKLIAAQDLN VSGGKLSLT  
bau-B3 KEIINNGSL ASS-----PL IISKGNLNL AANSRIFNDA QSGDVYIDAA NINLATNAGI TSNRGSAYIQ SQKDVVAAQG AKLIAAQDLN VSGGKLSLT  
bau-B2 GKIDKLGTTL SS-----I FLSAKGDVSL QNDVNIQWAG VGGGIYSDSL NFNLGKDSNI LSQ-GDISLL ANNNIDIQNG KGITSNNDLS IQSKNNLNIA  
pit-B6 GKIDKLGTTL SS-----I FLSAKGDVSL QNGVNVQVNG VGGGIYSDSL NFNLGKDSNI LSQ-GDISLL ANNNIDIQNG KGITSNNDLS IQSKNNLNIA  
bau-A1 KEVKIDEGN-NT-----AL ILAANGNINL AANTRIMDD QGGDVYIDAA NINLAAGSEL KSNRGTATIQ VQKDLVAAKG AKLIAAQDLN VLSNGKLSLT  
pit-A3 KEVKIDEGN-NT-----AL ILAANGNINL KNEIQLKNSA VGGIYLNAN NINLE-GNAT VDGKADVNIW GKESLILKKN NKIKSGKSIIS ILGGG-LSLE

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cal-C10 YSSLVANKGN INIVGSSDDR TLGNIDLLET ILNAEGDVSL YSSGNLTKK LDITTLNDGN SKIKNFMYK KNNL-LWDYL TKAPPQFVKG IQAEAGGKLT  
bau-C4 YSSLVANKGN INIVGSSDDR NLGNINLSET ILNAVGNVSL YSSGNLTKK LDITTLNDGN SKIKNFMYK KNNL-LWDYL TKAPPQFVKG IQAEAGKLT  
pit-C5 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
bau-C3 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
cal-C11 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-C7 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
bau-C1 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-A4 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-A5 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-C6 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
nos-C8 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-B7 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
bau-B4 GNOIQASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-A5 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-A6 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
bau-C2 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
nos-C8 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-B7 GNOIQASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
bau-B4 GNOIQASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-A5 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-A6 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
nos-C9 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-B5 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
bau-B3 ENHIOASLGS INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSSGDLNLKN LGFS-LENAA TRVKNIKAYS GRDL-VWVNA QALDAANLITL VQLDAANLITL  
pit-B6 NSSIESKAGN VNL-ISLGNL ASSLLGINNT KLYAGKDFNI KGAKNIKLS -----SIVQ ENSNINLYA GNDIEIGNDV SPVSLKTQGT INIAAKNNLI  
bau-B2 NSSIESKAGN VNL-ISLGNL ASSLLGINNT KLYAGKDFNI KGAKNIKLS -----SIVQ ENSNINLYA GNDIEIGNDV SPVSLKTQGT INIAAKNNLI  
bau-A2 ENHIOASLGT INLQANSANT Q-NLIDLQGG TIYAGKDLNL YSTDINIKK LDFS-ENKNN NRKKNINIIY GGSGL-YWDNT AFLIPDLTGG ISLRAEKDLT  
bau-A1 GSELTSGQN- VNLQNSVNIK K-L-LIN--DS VIKAEEDYNF YSNGDLSINK IDFS-QSKDN LKQONIKVGS GGIL-DLGDN FTFNKSGGGA FESKSNINLG  
pit-A3 GSELTSGQN- INLQSTGVNK K-L-LIN--DS IKAENYNYF YSHEDLSINK IDFS-QNKDN LRKQNIKIGS GGIL-ELGDN FTFNKSGGAN FESKSNINLG

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cal-C10 LSGKLIADL GIDLQASQLN LDELDLSDQK INITSKDDL ILEKNLNAQN DINLTALGG VTANSLKATS SAGKISILAN KVNVLNSTQT TKAMPSADK  
bau-C4 LSGKLIADL GIDLQASQLN LDELDLSDQK INITSKDDL ILEKNLNAQN DINLTALGG VTANSLKATS SAGKISILAN KVNVLNSTQT TKAMPSADK  
pit-C5 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGEISILAN KNISLNSTQT TKAMPSADK  
bau-C3 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNINLNSTQT TKAMPSADK  
cal-C11 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNINLNSTQT SKAMPSADK  
pit-C7 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNISLNSTQT TKAMPSADK  
bau-C1 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNINLNSTQT SKAMPSADK  
pit-A4 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGEISILAN KNISLNSTQT TKAMPSADK  
pit-A5 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNINLNSTQT SKAMPSADK  
pit-C6 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNINLNSTQT SKAMPSADK  
bau-C2 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VTANSLKATS SAGKISILAN KNINLNSTQT SKAMPSADK  
nos-C8 VTAKESNKD SIQHLANQIA LNSALTSQKN IDVSSEIADL VLSQALKAQG DINLTALAGG VAANSLKATS SAGKISILAN KNINLNSTQT SKAVPATDK  
pit-B7 LSTATLSSKD SIQLOQAQLT LNSGLTSLNN ISLTAESIADL VLSNVAQON NIDVSLTGS ITTNLQATS TGGKISLLAK KDLINSVQHT --VLPKWPDT  
bau-B4 LSSQGFSSKG GIQLOADQLS LSTALTSQNN ISLTAESIADL VLDNALTAQN DINVTALAGN LKTFSLKANS IAGKISILAN KVNLSSTIQH --FDSMAYD  
nos-C9 LKGSGLSSTG DLKLOAKALN IGTDLNAGKN LSLNATQSDL NLNKLTAQON NIDVSLTGS ITATGLNATS LQKLSILGA KDTLFTMAGT T-----  
bau-B1 LSSQGFSSKG GIQLOADQLT LNTALTSQNN ISLTAESIADL LNTALTAQON DINVTALAGN LKTFSLKANS IAGKISILAN KVNLSSTIQH FDSM--ASYD  
pit-B5 ISAQGVSSKD SIQLOQAQLT LNTNFTSQKD INLITETDDL FLNVLNLAQN DINISALTGG ITANSLKANS NAGKISILAN KNINLNSLQE IESAPWADQ  
bau-B3 ISAQGVSSKD SIQLOQAQLT LNTNFTSQKD INLITETDDL FLNVLNLAQN DINISALTGG ITANSLKANS NAGKISILAN KNINLNSLQE IESAPWADQ  
bau-B2 LRT-----DTSLLTKKD IDVQTDI-----GN LYAKSLNVSS SEGVSYILGN GNVWFET-----QND  
pit-B6 LRT-----DTSLLTKKD IDVQTDI-----GN LYAKSLNVSS SEGVSYILGN GNVWFET-----QND  
bau-A2 ILGQ-----GGLSA DNGISLYGNN VNVSSLNLS NIIGNTLVFAN NNIDIKGVNI KSNNGNLNFS  
bau-A1 EGLK-----LNLDD DTSFISTGSD IKANTLNLTS NVGGVYFKSN GDININSKIT EKKVLSKGV  
pit-A3 EGLK-----LNLDE DIGVSTGGD IKANTLNLTS NLGSVYFKSN GNIKIDSKIT NKKYSDSIFG

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cal-C10 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV KGDGTGTQIV N-NVLKQGTV SVENSKSDIK IONTDLGSTV  
bau-C4 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV KGDGTGTQIV N-NVLKQGTV SVENSKSDIK IONTDLGSTV  
pit-C5 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLSSTV  
bau-C3 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLSSTV  
cal-C11 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLGSTV  
pit-C7 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLSSTV  
bau-C1 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLGSTV  
pit-A4 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLSSTV  
pit-A5 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TANKGQVKT V N-NVLKQGTV SIENSKSDIK IONTDLGSTV  
pit-C6 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TANKGQVKT V N-NVLKQGTV SIENSKSDIK VQNTDLGSTV  
bau-C2 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGDTRGFKT V N-NVLKQGTV SIENSKSDIK IONTDLSSTV  
nos-C8 ELTTDQSVIS G--LKGVTLG SIGDGTVN-L QSVQVNASQG DILVSSNNGI NLKANSDVSV TGNNGQFKT V N-NVLKQGTV SIENSKSDIK IONTDLSSTV  
pit-B7 ELTTDQSVIS G--QKIDLGG SIGDGTVN-L ISSGEGVSI IISGEGVSI DIQIISNGL NLPNYDVEV NADDWYERSI S-STLTAQNI GINNKGDKL TADTLTATF  
bau-B4 VITTKTNIN G--AKGVVIG STGEGALS-I SATDIMANQG DVQLISNGL KILANNDVSM HNDNNGRSVL SPPTITAQNI NINNKKNLNDV VDNGETSFAIA  
nos-C9 --NTVLK G--SKGVVIG TTGIIGDLT-V QNAILLESQSG NIVATSG-- -----GN LYAKSLNVSS SEGVSYILGN GNVWFET-----QND  
bau-B1 VITTKTNIN G--AKGVVIG STGEGALS-I SATDIMANQG DVQLISNGL KILANNDVSM HNDNNGRSVL SPPTITAQNI NINNKKNLNDV VDNGETSFAIA  
pit-B5 GATTDMTFIN G--NKGVTLG SIGDGNVQ-L KSTRITAEQG DIQLVAGNVI SLQANTDVIT --SGDSGYDNV RKNVLQGGSL QIQNKKADIV IDSTNLTTSV  
bau-B3 GATTDMTFIN G--NKGVTLG SIGDGNVQ-L KSTRITAEQG DIQLVAGNVI SLQANTDVIT --RGDHYDDI RKNVLQGGSL QIQNKKADIV IDSTNLTTSV  
bau-B2 GWYTLKRNIN A--KNGIILG SKGENAITKI NTVDLKSVDG NVLLLSGGDL TLDGNGYTT --TGMKAIV ASGFINAQDV TLWSKTGVLD ISSGVINASN  
pit-B6 GWYTLKRNIN A--KNGIILG SKGENAITKI NTVDLKSVDG NVLLLSGGDL TLDGNGYTT --TGMKAIV ASGFINAQDV TLWSKTGVLD ISSGVINASN

800

bau-A2 AENGYIKIAD SNLSSEKNKL FLISKDKQIF NNTSLLSG-G DLILNT---- -ISNKGDVIEI NQDGLFSSP IKSNNNGVVI DSKGMLNITT KDLNKFVDIS  
bau-A1 ETGQFNQEV ENYINAFNDI SIDSNIQVY NGANFKTNFG DFVVKG---- -KDLINIDVSK YGHTRFDYIM ----GQELY SYKNSNNKNN FEANNILFLV  
pit-A3 GGAYFDQEV ENYINSQKDL SYYSKNNIYI NGADFKNSG DILIGS---- -RSVDFDAYR YDSAR----L ----GGIL GKKN--NNTNR FDANNISILA

801

cal-C10 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
bau-C4 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ANKVTNLTSK GVTSVTATGN QVLQNTLGT  
pit-C5 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
bau-C3 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
cal-C11 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
pit-C7 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
bau-C1 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ANKVTNLTSK GVTSVTATGN QVLQNTLGT  
pit-A4 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
pit-A5 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
bau-C2 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
nos-C8 GKLAINSRAG MSTIIDSVLTK SKGNTELYAK DLLTLQGVNA TSDQHLAVSS GRTVYSNAEY TPAT---KWI ADKVTNLTSK GVTSVTATGN QVLQNTLGT  
pit-B7 GDLINSIE-G KSSIKAVSLN SKGNTELSAK DHLTMHAVA NADKHMALSS KKNIYLNMGY GSTTTPVILD SYSSVNLKAN GILSIASAG- HAAYRTNYTG  
bau-B4 NELKINSE-G KLNFKNSILN SKGNTEISSK DHLTLGAVTA NSDKHLALSS KKNIYINGEY GTTT---VMT PYVESNLTK GILSMTSGGS HAAQNTTTYTG  
nos-C9 -----A KNTLTDSTLT AKNNIEIFAT DDLLDQGVKS TSQOHTALNS KKNIYINS-H VNAVYVADFS STKSSLNST GVLSLVGGGS LNVQNTKLTG  
bau-B1 NELKINSE-G KLNFKNSILN SKGNTEISSK DHLTLGAVTA NSDKHLALSS KKNIYINGEY G---TTTVM PYVESNLTK GILSMTSGGS HAAQNTTTYTG  
pit-B5 GGLSINGE-G KTLTNSSELN SKGNTELSAK DHLTLQVNEA NADKHMALNS KKNIYLNSEQ GPTVTSTIWE SYSLVNLKAA GLLSLKSGS QALNSTSIGK  
bau-B3 GGLSINGE-G KTLTNSSELN SKGNTELSAK DHLTLQVNEA NADKHMALNS KKNIYFNISKY GSTATPVVMD SSSSVNLKAN GILSMV-GMD HIANQTTYTG  
bau-B2 GGISIRAG-N NAQVHDIIDL STKNIEINSD KDLILERTNT RANQHIALSS KGNINAYQNY I-----LDAK GVLSAISNGS IDGQGY--G  
pit-B6 GGISIRAG-N NAQVHDIIDL STKNIEINSD KDLILERTNT RANQHIALSS KGNINAYQNY I-----LDAK GVLSAISNGS IDGQGY--G  
bau-A2 GE----- KIEISSNMM KLDGINVYSN GNLSLHA--- DKDIYLVNTLV PNSWT-GGGF GSEIIRSQKH IS-SSKEGS VIGLENQAL NAPVGLKAN  
bau-A1 DN----- SLRAVSGKYI AKKNINLFSN GSFDFYVNDL NSNGHTNIQA KNKLNIRDGF NGKNFFDNQY ISGNNFKSD GLISILGSRV EVDGFLNAKG  
pit-A3 ED----- RLKTVAGNYN AKKNINLFSN GDVDFYGYI NSGGHTNIQA KNKLIIRGGI GGENFNPNKY ISGVNSFKSD GLILILGDSV ELDGFLNARG

901

cal-C10 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK TGTTLT--K GYEGTKNGGS  
bau-C4 GAVLLEAGGF IT--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK AGTLTL--K GYEGAKNGGS  
pit-C5 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK NGTLTL--K GYGGTAGNGS  
bau-C3 GAVLLEAGGF IA--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK TGTTLT--K GYEGAKNGGS  
cal-C11 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KAYSLK AVGDIELVSK NGTLTL--K GYGGTNGGS  
pit-C7 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK TGTTLT--K GYGGTNGGS  
bau-C1 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK TGTTLT--K GYGGTAGNGS  
pit-A4 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK NGTLTL--K GYGGTNGGS  
pit-A5 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK TGTTLT--K GYGGTNGGS  
pit-C6 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KVYSLK AVGDIELVSK TGTTLT--K GYGGTAGNGS  
bau-C2 GAVLLEAGGF IL--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KAYSLK AVGDIELVSK TGTTLT--K GYGGTAGNGS  
nos-C8 GAVLLEAGGF IT--GQTGLN L-----NAV GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KAYNLK AVGDIELVSK AGTLTL--K GYGGTAGNGS  
pit-B7 GAVSLEANNL IS-PSDGLT F-----NTV DSTFLKNDPV LKDLNGDLTI QTNALTIIDP ---KIHKFN AIGDIELISK NGTLTL--K GYEGTAGNGS  
bau-B4 GAVLIEAGNV LTPPSNATL F-----NTV DSTFLKNDPV LKDLNGDLTI QTNALTIIDP ---KIHKFN AIGDIELISK NGTLTL--K GYEGTAGNGS  
nos-C9 GAVLIEGDAL NT--AKSVD L-----NAT GSDLLKNDTK LNSLNGDLTI QTNLSLTIDP ---KIHNLK AAGDIELISK NGTLTL--K GYEGTAGNGS  
pit-B5 GALSLEAGNV LTPPSNATL F-----NAV DSFAFLRSDPA LKDLNGDLTI QTNALTIIDP ---KIHTLN AKGDVQLISK NGALNL--N GYGGKNGGS  
bau-B1 GAINIETDGS FNINKDVLQN SARNIIFSNQE SDFKFLASDPQ LKIQIKNLSI QTNNTLVLDP ---EKIKIQ GDNNIELISK NGDLTL--L GYGGKNGGS  
bau-B3 GALSLEANNL IS-PSAGTL F-----NAM DSSVLTNDPA LKDLNGDLTI QTNALTIIDP ---KIHKLK AAGDIELISK NGTLTL--L GYGGTAGNGS  
bau-B2 GAVIVEANQL ---SNNID F-----RAT GSELLQLDTK LKNGINGLSI QLNKDFVIK THGHDTITLV AENDIDVRSK QGAIIRI--E GENFAPNLNE  
pit-B6 GAVIVEANQL ---SNNID F-----RAT GSELLQLDTK LKNGINGLSI QLNKDFVIK THGHDTITLV AENDIDVRSK QGAIIRI--E GENFAPNLNE  
bau-A2 GVISIKSKLD QS-YQNTSLN A-----GAITL HSD---AGSI NNSKFNRAIA NTTFFLES- ---SELK INGNLSLYAK KDQILDAINS QGRAFPPNYT  
bau-A1 GAILINSLFN YS-NSDGLH L-----FLTST KNDFFLENSL LKMHNGSIDI RSTGGVDFK- ---TNKIE AYGIDINLYSK GVTTLN-- KIIDFSKDDV  
pit-A3 GAILINSLFN YN-N--NGVN L-----ILTSS KSDFLEGISI LQKYNYSIDI LSKENLNF- ---WNNIK ADGIDINLYSK GGMVFN-- RGANYSGEEA

1001

cal-C10 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA K-----KD IQVVS TKDDL LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-C4 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA K-----KD IQVVS TKDDL LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-C5 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-C3 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
cal-C11 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-C7 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-C1 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-A4 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-A5 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-C6 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA A-----KD ISVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-C2 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
nos-C8 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-B7 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-B4 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
nos-C9 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-B1 EQVVKLDTAN GGINLEGAK- VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-B5 ERNFTISGT- GDHVEGK- VDIQGSQLIA Q-----RN INIFSSGDI VDIQGSQLIA Q-----KD IKVSSKDDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-B3 ETVFRLTMM GSHSLEKNGK VEIQGTIVIR M-----KD LKIIAPDGI KIEGVKNTFN NSTYSKSHDY LFKQRLYYEN KIQEINRLG LNTAQKLLVA  
bau-B2 AGFVGIISRK GGLSLEGT- VDIKGTINQ Q-----KD INIVSTKGDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
pit-B6 AGFVGIISRK GGLSLEGT- VDIKGTINQ Q-----KD INIVSTKGDV LIDGVRNSFS NIKFPDKAN- REKIVQADFI QELNALKATQ EYLNQQAALK  
bau-A2 RMIKPVLSO GLMDIRADG- V----FOVNG K-----AP PAQTAMWDL KMDRAYFTSN DGINILAG- -TVKMYAGDL KNTSNTAPIN IISTGDIVLD  
bau-A1 KNNKEISSEN GLINISADY- VDLNAARLKS K-----NG ISIVANKGDI SLNSKKTETLN S-INVGMK- -FTESYGDY SEFELFKKNN ---PEYKLLD  
pit-A3 KTSKDISSEN GVINISADY- IDLNAARLKS K-----NG ISIVANKGDI S-INVGMK- -FTESYGDY SEFELFKKNN ---PEYKLLD

1101

cal-C10 DANDQIK- -AGEDW- -MRTAQG -SIALTAK RLKDEGERKL -AQVNE  
bau-C4 DANDQIK- -AGEDW- -MRTAQG -SIALTAK RLKDEGERKL -AQVNE  
pit-C5 AYEDYAS -SNYDYTLVY KHYNLYKDFI SKYPVRPNPR -LLIFGSD VPLFHSIIAV -PORS5  
bau-C3 ILKKRLH -SGNELGFNV SE-----AKKLAES -LKERKYL I KIEISGTTNG -PMLPQ  
cal-C11 NELDEILK- GRKKIEEMMK YSL--TRSVG QKLLQESINK -NQLEEK YPET- -NGLSN  
pit-C7 NINNSINS- KRKEWERRV DDLHSHKRAL SDQLKLEEE -REDIRNK FKDI- -IDQEN  
bau-C1 SELDSTLE- KRKKIEEMMK LPF--TKGV QKLLDEITIM -QNNLEEK YPET- -NGPSN  
pit-A4 KYRNYNDMF- LKYWDYELL QTKNKNSEI VNAVKEYERD -FNVFKD YPIKINYPVP GQLPFL- -GGNNT  
pit-A5 AYEDYTS -SNYDYSLVY KHYNLYKDFI SKYPVRPNPR -LLIFGSD KPLFHSI -FSE- -PORMT  
pit-C6 FFMKEALKV- YARISSGELI EGSPMDREL QKALQKTTKE -FPEYVSK YGP- -LRDQK  
bau-C2 KYOYQNV- NKYWRDSTLD QSKNENAVLV VNAVYNDYHN -YNEFKN YMVKINYPIL GEPPILI- -NLMDS  
nos-C8 NIKKTKNSLE AALSFLFDGS NGEYSAGALS QSDVSNIFY ENAYIQSFSS -EGA-SDT YAMVINNDIV GFLPSVDSIG TLLSSYKAEI KKYKNLNESE  
pit-B7 SLGSQASQIN QLLNDAL SAY TSGVDPLNAS IGYDSENGNY IYVSDNDDGR -AYFVSIPL SGLDLSRYRQ IVLNL- -PAENQ  
bau-B4 SLGSQASQIN QLLNDAL SAY TSGVDPLNAS IGYDSENGNY IYVSDNDDGR -AYFVSIPL SGLDLSRYRQ IVLNL- -PAENQ  
nos-C9 NIKKAKNMLE ASMSYLFNAS NGEYAGALS NVDVSNLTFY ENAYIQSIS EGASDXYIIV IPTGSGYNIQ GFLPSGLYVE VLLNSYKTEI KKYKILNESK  
bau-B1 SMVQQRN- -IMSQ  
pit-B5 QMQEELA- -DLKD  
bau-B3 QYTEEIN- -DITK  
bau-B2  
pit-B6  
bau-A2 AMNYDVI- -GQLDLMLPA QKLRLDELEAS GKDSVTLNT INQLNEEIAF YLSRSLNGT- -RSQSS

1200

cal-C10 DANDQIK- -AGEDW- -MRTAQG -SIALTAK RLKDEGERKL -AQVNE  
bau-C4 DANDQIK- -AGEDW- -MRTAQG -SIALTAK RLKDEGERKL -AQVNE  
pit-C5 AYEDYAS -SNYDYTLVY KHYNLYKDFI SKYPVRPNPR -LLIFGSD VPLFHSIIAV -PORS5  
bau-C3 ILKKRLH -SGNELGFNV SE-----AKKLAES -LKERKYL I KIEISGTTNG -PMLPQ  
cal-C11 NELDEILK- GRKKIEEMMK YSL--TRSVG QKLLQESINK -NQLEEK YPET- -NGLSN  
pit-C7 NINNSINS- KRKEWERRV DDLHSHKRAL SDQLKLEEE -REDIRNK FKDI- -IDQEN  
bau-C1 SELDSTLE- KRKKIEEMMK LPF--TKGV QKLLDEITIM -QNNLEEK YPET- -NGPSN  
pit-A4 KYRNYNDMF- LKYWDYELL QTKNKNSEI VNAVKEYERD -FNVFKD YPIKINYPVP GQLPFL- -GGNNT  
pit-A5 AYEDYTS -SNYDYSLVY KHYNLYKDFI SKYPVRPNPR -LLIFGSD KPLFHSI -FSE- -PORMT  
pit-C6 FFMKEALKV- YARISSGELI EGSPMDREL QKALQKTTKE -FPEYVSK YGP- -LRDQK  
bau-C2 KYOYQNV- NKYWRDSTLD QSKNENAVLV VNAVYNDYHN -YNEFKN YMVKINYPIL GEPPILI- -NLMDS  
nos-C8 NIKKTKNSLE AALSFLFDGS NGEYSAGALS QSDVSNIFY ENAYIQSFSS -EGA-SDT YAMVINNDIV GFLPSVDSIG TLLSSYKAEI KKYKNLNESE  
pit-B7 SLGSQASQIN QLLNDAL SAY TSGVDPLNAS IGYDSENGNY IYVSDNDDGR -AYFVSIPL SGLDLSRYRQ IVLNL- -PAENQ  
bau-B4 SLGSQASQIN QLLNDAL SAY TSGVDPLNAS IGYDSENGNY IYVSDNDDGR -AYFVSIPL SGLDLSRYRQ IVLNL- -PAENQ  
nos-C9 NIKKAKNMLE ASMSYLFNAS NGEYAGALS NVDVSNLTFY ENAYIQSIS EGASDXYIIV IPTGSGYNIQ GFLPSGLYVE VLLNSYKTEI KKYKILNESK  
bau-B1 SMVQQRN- -IMSQ  
pit-B5 QMQEELA- -DLKD  
bau-B3 QYTEEIN- -DITK  
bau-B2  
pit-B6  
bau-A2 AMNYDVI- -GQLDLMLPA QKLRLDELEAS GKDSVTLNT INQLNEEIAF YLSRSLNGT- -RSQSS



1201 1300  
bau-A1 DLNYHYIL--- ----TRYGVSGKG AGQKRIDYAN NEINNAEKEI VLNNTYGVV NLYNRYKLL- ----FSEYA  
pit-A3 DLNYHYIL--- ----TRWGVSGKG AGQKRIDYAN SEINNAEKEI VLNNAAYGVV NLYNRYKIL- ----FSEYA

1201 1300  
cal-C10 TYKTLIANLN GVORNIQD- GANINFYEQS LKGOQHASVN IKSSGGNINL VSAKGLSLSG SKVN-AQQGE VQIEAAGTLT NNIYNIQGGY DSATENSVKQ  
bau-C4 TYKTLITNLN GLORNIQD- GANISFYEQN LKGOQHASVN IKSDIGNINI VSAKGLSLSG SKVN-AQQGE VQIEAAGTLT NNIYNIQGGY DSATENSVKQ  
pit-C5 RFDALYSFEP KYDENYLRSL QAEVDFYNTG INGSHEAEAK LNSKSGNINI TSAKGLSISG GNIS-AQLGQ VNLASGVLA E-----QYKS S1SSGVNQP  
bau-C3 LGAWVLGKIT ILYPQINDI DKAITLYSQS LTGYEHAQPI LRSNNKIDINI AAAGVSISSG AMID-STKG VNIEMAGTIN GETYNIQGGY NSDKENSVKQ  
cal-C11 KIKLS-----IQDI EDNLKYFEEE VNGSEHSEVN FSALSGNINI TSAKGLSISG GNIS-AQSGQ VNLASGVLA E-----QYKS S1SSGVNQP  
pit-C7 KLNLL-----LDER NNYFYFDSN VSGSEHSEAK IISKLGWNI TSAKGLSISG GNIS-AQSGQ VNLASGVLA E-----QYKS S1SSGVNQP  
bau-C1 KLVYI-----IKDV EANISFFKNS INGSHEHETK LTKSGNINI TSAKGLSISG GNIS-AQSGQ VNLASGVLA E-----QYKS S1SSGVNQP  
pit-A4 PLDAPVYVGF KYDNDYINDV EKNELFYKES LNGSEHAETK LTKSGNINI TSAKGLSISG GNIS-AQLGQ VNLASGVLA E-----QYKS S1SSGVNQP  
pit-A5 RFDALYSFEP KYDENYLRSL QAEVDFYNTG INGSHEAEAK LNSKSGNINI TSAKGLSISG GNIS-AQSGQ VNLASGVLA E-----QYKS TINNGANQP  
cal-C6 DFYSEMI-----KLFNVGY VNGEVHSGSK IISNTGNIQV VSNKGLSISG SSMD-AKDGK VNLAAAGALD GEGYNIQGGY NNPTENSVKK  
bau-C2 PFSADYVFSF KYDDNYLNDV KRNELFYKSN LNGSEHSETK LNSKGNINIV TSAKGLSISG GNIS-AQLGQ VNLASGVLA E-----QYKS TTITESNPQP  
nos-C8 KVKDLQKILS KLESQKQSEI KSKELLTKG- VNGSEHTEAK LTKSGNINI TSAKGLSISG GNIS-AQSGQ VNLASGVLA E-----QYKS TTTINTNPQP  
pit-B7 KLNLFNFKIT AFQDKAR-V NQITIFMNNK TNGYEHAKST LTKAGNISL TAARGISISG ANLT-ATAGQ ANIEARAPLV S-----QYTS STINSQTLP  
bau-B4 KLNLFNFKIT VFEQDKAR-V NQITISFMNNK TNGYEAHAST LTKAGNISL TAARGISISG ANLT-ATAGQ ANIEARSPL S-----QYTS STINSQTLP  
nos-C9 AIKDLESMIN KLQSQKQIEL KTKE-FLASN INGNHAEAN LTKSGNINI TSAKGLTISG GNIS-SQLGQ VNLANGALS E-----QYKS TTTIGTAQP  
bau-B1 GLEML-----KTKGKAI EHSYAEILPW TKAAAITGTT PYWAKGNVNI LNSGGIKLEQ TQVD-GLSLV IRAKGLLSQD PD-----VGNK TEILPNSVVI  
pit-B5 ASTFL-----ENGTNGV EHAETVL-----RSLDGDGI ISKGGIKITG ATIQAGYDGK VNLAAQGGSD K-----YNS TTTINTNPQP  
bau-B3 QINFV-----SLGTNGA EHAGSLL-----RSETGK-----VNI VSGGIMITG ADIM-AIDGQ VNLAAQGGSD K-----YNS TALDKNSQPM  
bau-B2 -----NSQDD QEKNFIANT ITGVNFNSE LSTNTGNINI SSKGVSIITG ANID-AKQGI VNIQAQGVLN G-----KYRA TAKKEGTA-  
pit-B6 -----NSQDD QEKNFIANT ITGVNFNSE LSSNAGNINI SSKGVSIITG ANID-AKQGI VNIQAQGVLN G-----KYRA TAKKEGTA-  
bau-A2 HIDAQINIL LSKGILRQV SELYAKNEVN IEAQGLLARD LTG-AQVTV IDTS1LVLDGV HDIY-KNGE ATNSNY-----EERS DFHNS1VSDG  
bau-A1 VILGKKRFNY YFED--FKQV NENIDYSDLN FSGYLHRGGD LLS-DGNINL ISNNGIILNS ANVN-TLGD FT-VYA-----KGL DKKKTAELVE  
pit-A3 VILGKKRFNY YFED--FKQV NENIDYSDLN FSGYLHRGGD LQS-DGNINL ISNNGIILNS ANVN-TLGD FT-VYA-----KGL DKKKTAELVE

1301 1400  
cal-C10 GAIAGSIIID ANQDSYFEGN ESEATYAWRS PVDAPS1YKG KGVKIKATGT NTTDNLILQG VDIRSE-GDV NIEAHKNIIIF DVAVEGYDK STTTETKKKW  
bau-C4 GAIASSIIID ANQDSYFEGN ETDTTYAWRS PVDAPS1YKG KGVKIKATGT NTTDNLVLQG VDIRSE-GDV NIEAHKNIIIF DVAVEGYDK STTTETKKKW  
pit-C5 RILNASIIID GHTDFYDKGS ENDNQSMRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
bau-C3 GTIQSSIIID ALQDSYFAK PNDTNSWRS PVPNTEINGY KGVKIKATGQ QKTDNLVLQG VRIDSA-NSV NIEAHKNIIIF DVAVEGYDK SEQETQKKW  
cal-C11 KSLNASIIID GHTDFYDKGS EGENYSFRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
pit-C7 RILNASIIID GHTDFYDKGS EGENYSFRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
bau-C1 RILNASIIID GHTDFYDKGS ENDNQSMRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
pit-A4 KSLNASIIID GHTDFYDKGS EGENYSFRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
pit-A5 KSLNASIIID GHTDFYDKGS EGENYSFRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
cal-C6 GVLKGSIIID ANQDSYEQGS PSDNDRWFS PVSPTIINGT KGVSIKIVGK QSTDNLILQG VAITSEN-DV NIEAHKNIIIF DVAINNSFNK SQTETKKSWS  
bau-C2 RILNASIIID GHTDFYDKGS ENDNQSMRT LVSPTIINGD KGVNIRTVGK TKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
nos-C8 RILNASIIID GHTDFYDKGS ENDNQSMRT LVSPTIINGD KGVNIRTVGK SKDDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
pit-B7 RTLNASIIID GHTDFYDKGS EADANYSMRT FISPTIINGT KGVNIRTVGK TASNDLVLA TGITASQGDV KIEANKSMLF DAALIEQSYDR STITTEKKSWS  
bau-B4 RTISASIIID GHTDFYDKGS EADNYSMRT FISPTIINGT KGVNIRTVGK TASNDLVLA TGITASQGDV KIEANKSMLF DAALIEQSYDR STITTEKKSWS  
nos-C9 RILNASIIID GHTDFYDKGS ENDNQSMRT LVSPTIINGD KGVNIRTVGK SQSDNLVLA TGITSKNGDV KIESNKSLF DAALIEQSYDR SITTEKKSWS  
bau-B1 QKSPS1YIA GLLDEFYEGN AGANNYGYAS FNTPSYINGV KSVKIELTGG NNGLTIVSSS LN-GGIDG-V NLAASGDLRL EATQEEYKY STKYTKGNW  
pit-B5 MNM-ASIIIA GHTDFYDKGS DTDNSYKAI S VSPPTIEGA -DNIKTVGN SAGDNLVLA VGISAKNQ-V KIEAKNIIIF DVALEQYDR STVKKKSWS  
bau-B3 SMN-AGVILA AHNDYFDRGN ETDQNYQAI LFTPTLVGK RGVNITGGA QEGSNLILQA VGISSEGDV KIESNKSLF DVALEQYDR STVKKKSWS  
bau-B2 KELSASIIID GHTDFYDKGS ETDQNSYRE YVNPNTINGN KGVNIRTVGK TVNDNLVLA VGINSAGQDV NIEADKSLF DTALETLYDR STKTETKRSW  
pit-B6 KEISASIIID GHTDFYDKGS ETDQNSYRE YVNPNTINGN KGVNIRTVGK TVNDNLVLA VGINSAGQDV NIEADKSLF DTALETLYDR STKTETKRSW  
bau-A2 NGINIKSTGS AKLNNDYDNP NLLSNY-ATVT SAKPIQLK-K-----IND GKN-MIVFNG AELISSGGDV NIOSNANIVL EESSTYKHS STSQV1KKTW  
bau-A1 NQLDSSIVFA NVKDDQYELGR DNENYQKID ITKPNIN-A KVNVL-IAND QSGNLILQG TD-1KAADTV NIVGSGNIDF RHNVDNYTK TQQT1TKESL  
pit-A3 NQLDSSIVFA NVKDDQYELGR DNENYQKID ITKPNIN-A KVNVL-IAND QSGNLILQG TD-1KAADTV NIVGSGNIDF RHNVDNYTK TQQT1TKESL

1401 1500  
cal-C10 YG-KKTTTT WNTSNKSEGV SVNINAKNIS IKSKEQNTKE MTGKNR-----TSIDMYSSQF TATGGKISIQ AGGDLNFLTALDVEQNTDDI TKKSSFLGV-  
bau-C4 YG-KKTTTT WNTSNKSEGV SVNINAKNIS IKSKEQNTKE MTGKNR-----TSIDMYSSQF TATGGKISIQ AGGDLNFLTALDVEQNTDDI TKKSSFLGV-  
pit-C5 GGLKKYIIT VSENNTNAA SVDISAKNIS IETKLDPSV DAKTPD-----NNIDYSGRF TAEGGTISIK SGGNLFYTV EESSSNVDI TKKSSFAGI-  
bau-C3 YG-KKTRIT WNTSNKSLGI SVDIVAKDIN IRSEGNTEA MKGDR-----TSIDMYSSNL TANGGKVTIQ AGGDLNFLTALDVEQNTDDI TKKKTWGT-  
cal-C11 GGLKKYIIT VSENNTNAA SVDISAKNIS IETKLDPSV DAKTPD-----NNIDYSGRF TAEGGTISIK SGGNLFYTV EESSSNVDI TKKTSYSKLI  
pit-C7 GGLKKYIIT VSENNTNAA SVDISAKNIS IETKLDPSV DAKTPD-----NNIDYSGRF TAEGGTISIK SGGNLFYTV EESSSNVDI TKKTSYSKLI  
bau-C1 GGLKKYIIT VAESNDTAA SVDISGKNIF IETKLDPSV DAKNPD-----NNIDYSGRF TADGGKITIN SGGNLFYTV EESSSNVDI TKKSSFAGI-  
pit-A4 GGLKKYIIT VSENNTNAA SVDISAKNIS IETKLDPSV DAKTPD-----NNIDYSGRF TAEGGTISIK SGGNLFYTV EESSSNVDI TKKTSYSKLI  
pit-A5 GGLKKYIIT VSENNTNAA SVDISAKNIS IETKLDPSV DAKNPD-----NNIDYSGRF TAEGGTISIK SGGNLFYTV EESSSNVDI TKKTSYSKLI  
cal-C6 YG-KKKTIT TQDEKSGGL SVDIDAKNIN LKSOAKNTPA MSQGNR-----TSIDMYSSQL TAIDGKINIQ AGGDLNFLTALDVEQNTDDI SKKSSFLGV-  
bau-C2 GGLKKYIIT VAENNDTAA SVDISGKNIF IETKLDPSV DVKNPD-----NNIDYSGRF TADGGKITIN SGGNLFYTV EESSSNVDI TKKSSFAGI-  
nos-C8 GGLKKYIIT VAESNDTAA SVDISGKNIF IETKLDPSV NVSTPD-----NNIDYSGRF TAEGGQIKIN SGGNLFYTV EESSSNVDI TKKSSFAGI-  
pit-B7 GGLKKYIIT IEETNITNAA SVDISGKNIF IETKLDPSV DPTKPD-----NNIDYSGRF TAEGGQISIK SGGNLFYTV EETSSKVDI TKKSSFAGI-  
bau-B4 GGLKKYIIT IEETNITNAA SVDISGKNIF IETKLDPSV DPTKPD-----NNIDYSGRF TAEGGQISIK SGGNLFYTV EETSSKVDI TKKSSFAGI-  
nos-C9 GGLKKYIIT IAESNANAA SVDISGKNIF IETKLDPSL N-----TPD-----NNIDYSGRF TADGGKITIN SGGNLFYTV EESSSNVDI TKKSSFAGI-  
bau-B1 YKRTVTEIE TYNTPTPT S1-1SNRDIK ISSN-----GSLTLVSTDL QSHDGNINLN AGGYLRLWTK PTFQSFQIDV SKKSKLFGV-  
pit-B5 GGLKKYIIT VMENELIRPA SVDIDAKNIN IESKEVNV-----PO-----NLSIDYGGQL TANGGMISVR SGGNLFYTV PESSKTIDV NKS51MG-  
bau-B3 GGLKKYIIT FSENESTRA SVDISGKNIF IESKELN-----KN-----NKIDYSGQF TAEGGQVIFR SGGDLFFNTV NEISKQVLE NKS51LGI-  
bau-B2 YG-KKKTIT TTIGDVTTPA SVDIYGNIN VISQFNPLR ADGTRDPALN TSVDIYARF NANGGKISIR SGGDLNFLTAVAVNNSNVQ VKKSSWLGI-  
pit-B6 YG-KKKTIT TTIGDVTTPA SVDIYGNIN VISQFNPLR ADGTRDPALN TSVDIYARF NANGGKISIR SGGDLNFLTAVAVNNSNVQ VKKSSWLGI-  
bau-A2 YGKKKSTETV TQSQYGTAVP TTILAKN-1S LKA-A-----GDIDFYSTLM KANSGNVNI-TGENYFLT S NNYANTSTT KKNSS1LGT-  
bau-A1 FGLKSSSTTE TRILEYVIGK SDVLKANKIN IESLGG-----G5ISLYGTQI QAPKQVVKL AAKDIYMTVF QDQINEVNTF KKDAGFLGL-  
pit-A3 FGLKSSSTTE TKLEGVYIGK SDVLKANKIN IESLGG-----G5ISLYGTQI QAPKQVVKL AAKDIYMTVF QDQINEVNTF KKDAGFLGL-

1501 1600  
cal-C10 ---KLNKSK TATRNIKAEL PATLKADY-I GTSGLDTRL KGPPEFYLSG -ATIEAG-----GVISI ESASNVVEQT LKRDKNSVWV QSMODKGSIT  
bau-C4 ---KLNKSK TATRNIKAEL PATLKADY-I GTSGLDTRL KGPPEFYLSG -ATIEAG-----GVISI ESASNVVEQT LKRDKNSVWV QSMODKGSIT  
pit-C5 ---KYNTSK NATRTOVTEI PATLKADY-I GTSVYDTRL VGTFEYLLG -STIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
bau-C3 ---KYNDKS TNTRDIKSEI PAVLTADY-I TTKSGFTRL KGTFFYLLG -ATIEAG-----GKIQL EGASSTVSET LKKEKNSVWV QSMODKGSIT  
cal-C11 SLLASSKTTT NTRTQISEL PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
pit-C7 SLLASSKTTT NTRTQISEL PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
bau-C1 ---KYNTSK NATRTOVTEI PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
pit-A4 SLLGSSKTTT NTRTQISEL PATLKADY-I NTQAVDKTL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
pit-A5 SLLGSSKTTT NTRTQISEL PATLKADY-I NTQAVDKTL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
cal-C6 ---KLNKSK TNTRNVKSEL PAELNADY-I GTSGGFTRL KGTFFYLLG -AEIQAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
bau-C2 ---KYNTSK NATRTOVTEI PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
nos-C8 ---KYNTSK NATRTOVTEI PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
pit-B7 ---KYNTSK NATRTOVTEI PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
bau-B4 ---KYNTSK NATRTOVTEI PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
nos-C9 ---KYNTSK NATRTOVTEI PATLKADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKLEL IAAKTSITDL LKKEKNSVWV QSMODKGSIT  
bau-B1 ---KYNTSK SSTRSVESEL PAVLVAQRNT NLSGNTTWI RSEFENKLG HAEIKAGVGE NAVEGAQIIL QDQIVTITET KKRDKNSVWV QSMODKGSIT  
pit-B5 ---KYNTSK NSTHNVVTOI PTKLVADY-I GTSGGFTRL VGTFEYLLG -ATIEAG-----GKIFL EPAITNISTK LKKEKNSVWV QSMODKGSIT  
bau-B3 ---KYNTSK NSSYQVTVQI PSTLTSY-I GTSGGFTRL AGTFENYLLG -ATIEAG-----GKIFL EPSVTSINNT LKKEKNSVWV QSMODKGSIT  
bau-B2 ---NLGTSK NATRNOQTEI PAKLKADY-I GTSGYDTRL EGTFEYLLG -ATIEAG-----GKIFL VPAKLVVEES LNRKNSVWV QSMODKGSIT  
pit-B6 ---NLGTSK NATRNOQTEI PAKLKADY-I GTSGYDTRL EGTFEYLLG -ATIEAG-----GKIFL VPAKLVVEES LNRKNSVWV QSMODKGSIT  
bau-A2 ---MLGTSK TSSRSQISQL PAKLVGDY-L STESKNDTVF VGTFEYLLG -ASVKAG-----GQIAF LGASETISQA LKVEKNSVWV QSMODKGSIT  
bau-A1 ---EYRDSNS VGSKLVNNOI PTVITGRY-I ASSSGGSTYL EGTFQNFTEG -VSIKVDGDP NPSEDALVI NSAKGLYSNS QDNKKNFTF QSMESRGVTE  
pit-A3 ---EYRDSNS VGSKLVNNOI PTVITGRY-I ASSSGGSTYL EGTFQNFTEG -VSIKVDGDP NPSEDALVI NSAKGLYSNS QDNKKNFTF QSMESRGVTE

1601 cal-C10 ETAQLPSFNG PVLPTFKATG GLSVQVPISE KDANKVELRD EILKLANHPG NTYLKELVNR KD--VDWQTV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
bau-C4 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQKV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
pit-C5 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD AIDLKSKPPG NEYLKELVNR KD--VDWQTV LLTKQDWDYK SOGLTAAGAA IIVIVTILT  
bau-C3 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQVQ LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
cal-C11 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKIELRD AILEL SKOPP NEYLKELVNR KD--VDWQMV LLTKQDWDYK SOGLTAAGAA IIVIVTMTV  
pit-C7 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKIELRD AILEL SKOPP NEYLKELVNR KD--VDWQMV LLTKQDWDYK SOGLTAAGAA IIVIVTMTV  
bau-C1 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQTV LLTKQDWDYK SOGLTAAGAA IIAIVAVLT  
pit-A4 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD AIDLKSKPPG NEYLKELVNR KD--VDWQIV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
pit-A5 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD AIDLKSKPPG NEYLKELVNR KD--VDWQKV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
pit-C6 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQTV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
bau-C2 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQTV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
nos-C8 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQVI LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
pit-B7 ETAQLPSFNG PVLPTFKAAAG GLLVQVPISE VDANKVELRD EILKLANOPG NAYLKELVNR ND--VNWQII LLTKQDWDYK SOGLTAAGAA IIAIVAVLT  
bau-C1 ETAQLPSFNG PVLPTFKAAAG GLLVQVPISE IDANKVELRD EILKLANOPG NAYLKELVNR ND--VNWQII LLTKQDWDYK SOGLTAAGAA IIAIVAVLT  
nos-C9 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE TDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQVI LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
bau-B1 ETAQLPSFNG PVLPTFKATG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR ND--VDWQKV LLTKQDWDYK SOGLTAAGAA IIAIVAVLT  
pit-B5 ETAQLPSFNG PVLPTFKATG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR ND--VDWQKV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
bau-B3 ETAQLPSFNG PVLPTFKAAAG GLAVQVPISE D-----VRS ALDTLVNQQG TTYLKLVLNR ND--VDWQAV KLAQQQWDYK SOGLTPAGAA IIVIVTIVT  
bau-B4 ETAQLPSFNG PVLPTFKAAAG GLVQVPISE IDANKVELRD EILKLANOPG NAYLKELVNR KD--IDWQTV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
pit-B6 ETAQLPSFNG PVLPTFKAAAG GLSVQVPISE KDANKVELRD EILKLANOPG NAYLKELVNR KD--VDWQTV LLTKQDWDYK SOGLTAAGAA IIVIVTIVT  
bau-A2 ETTLKPNFNG PTPPTFKASG GLIVQVPISE NKNN--DIRT EVINLANOPG NEYLKELVNR KD--VNWQAV KLAQENWDYK SOGLTAAGAA IIVIVTIVT  
bau-A1 ELANLPKFNG PVN-NIKIDG NLSVQVPIKQ GEN--EVID IINLSKEKG YEYLKTLIDN KDKNVNWTAL ELTKNWDYK QOGLTPAGAA ILTIVTALT  
pit-A3 ELANLPKFNG PVN-NIKIDG NLSVQVPIKQ GEN--EVID IINLSKEKG YEYLKTLIDN KDKNVNWTAL ELTKNWDYK QOGLTPAGAA ILTIVTALT

1701 cal-C10 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
bau-C4 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
pit-C5 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
bau-C3 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTITTAAGAI VP-----STLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
cal-C11 AGAGAAVVG-----ALGGSAAATL- GGSATA-----MTQAALTSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
pit-C7 AGAGAAVVG-----ALGGSAAATL- GGSATA-----MTQAALTSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
bau-C1 YGAGTALIGT TAAAGAGTTT AAVGTTTVA AGGGTTTFF- GGMTLATTTA AGVTTYTTG IMVNAALTSI ATQASVGLIN NGDNVQTLK DLGSKDINK  
pit-A4 AGAG-AAVV-----GALG GSAAT-----LGSASV-----AMTQAALTSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
pit-A5 MGTGTA AAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
pit-C6 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
bau-C2 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTITTAAGAI VP-----STLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
nos-C8 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
pit-B7 YGAGVAAALGT TTVAAAGGAT TTVGTTTVA VGAGGSATAF GGTVLATTTA AGVTTYTTG IMVNAALTSI ASQASVGLIN NGDNVQTLK DLGSKDINK  
bau-B4 YGAGVAAALGT TTVAAAGGAT TTVGTTTVA VGAGGSATAF GGTVLATTTA AGVTTYTTG IMVNAALTSI ASQASVGLIN NGDNVQTLK DLGSKDINK  
nos-C9 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGSA- GVTTATVGGV TTIITGVSTLG AMANAAITSL ATQASVGLIN NGDGIGTKL DLGSKDINK  
bau-B1 AGAG-ATVV-----GALG GTAST-----LGSASV-----AMSQAALTSI ASQASVGLIN NGDGIGTKL DLGSKDINK  
pit-B5 MGTGTA AAA-----GAAG GTAASGTTVG LGASMIGTA- VTTTAAAGAI VP-----STLG AMANAAITSL ATQASVGLIN NGDGIGTKL EMGSKDINK  
bau-B3 YGYGAAGAG-----AALF QTSSA-----TSS AMANAAITSL ASQASVGLIN NGDGIGTKL EMGSKDINK  
pit-B6 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGTA- GVTTTAAAGAI VP-----STLG AMANAAITSL ATQASVGLIN NGDGIGTKL EMGSKDINK  
pit-B8 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGTA- GVTITTAAGAI VP-----STLG VMANAAITSL ATQASVGLIN NGDGIGTKL EMGSKDINK  
bau-A2 MGSCTAAAA-----GAAG GTAASGTTVG LGASMIGTA- GVTTTAAAGAI VP-----STLG VMANAAITSL ATQASVGLIN NGDGIGTKL EMGSKDINK  
bau-A1 AGAGSSAA-----GALGFSTT- GVASS-----MAQAALTSI STQASVGLIN NGDNVAAATLR ELGSDQIRN  
pit-A3 AGAGSSAA-----GALGFSTT- GVASS-----MAQAALTSI STQASVGLIN NGDNVAAATLR ELGSDQIRN

1801 cal-C10 LAASVVTAGL LNVGATNLNI SS-----NAIVN--DI ANMATGMIQ VVGSTLIDSA VNGRDLSEGL EKALLAGLAN SLQAPLAGAI GDT---LGMS  
bau-C4 LAASVVTAGL LNVGATNLNI SS-----NAIVN--DI ANMATGMIQ VVGSTLIDSA VNGRDLSEGL EKALLAGLAN SLQAPLAGAI GDT---LGMS  
pit-C5 LAASVVTAGL LNVGATNLNI SS-----NAIVN--DI ANMATGMIQ VVGSTLIDSA VNGRDLSEGL EKALLAGLAN SLQAPLAGAI GDT---LGMS  
bau-C3 LATSVTAGV LSQVSTELM SDL-SKMTKQ GEFMK-----EV VGRTTQGIIN AGASSLVTTA INGGSLSENL SNALLTNTAM ALQASLSGQI ---K---LLES  
cal-C11 LAASVVTAGL LSQVSTELM KPDSTVFS- DRLVN--NF TSSVSTLVQ T-----AIN-- --GGLEENL KVALLSGLAG ALQOQMAQNI KGL---EDT-  
pit-C7 LAASVVTAGL LSQVSTALNL KPDSTVFS- DRLVN--NF TSSVSTLVQ T-----AIN-- --GGLEENL KVALLSGLAG ALQOQMAQNI KGL---EDT-  
bau-C1 LATSVTAGV LDKVGGTAM QSLKALGNTF DVLMLAAKT ATAIETTR I T-----GINST ITGESFSDGL EDLLYQSLGT AVQGTMAQNI HLN---KEII  
pit-A4 LAASVVTAGL LSQVSTALNL KP-DSTVL-S DRLIN--NF TSSVSTLVQ T-----TA IKGGLEENL KVALLAGLAG ALQOQMAQNI GDS---LYKA  
pit-A5 LATSVTAGV LSKIASIDQM KALQETTK-S GEFFT--NL SGRVQALVN STVSASVDTA VNGGSLSEKL SASLVAGLSV ALQOQMAQNI GEN---LDLG  
pit-C6 LAASVVTAGL MSQVGSALNL KP-DSTLL-P DRLAN--NF ASSVSTLVQ T-----TA IKGGDLGDNL QVALLAGLAG ALQOQMAQNI -----K  
bau-C2 LAASVVTAGL MSQVGSALNL KP-DSTLL-P DRLAN--NF ASSVSTLVQ T-----TA IKGGDLGDNL QVALLAGLAG ALQOQMAQNI -----K  
nos-C8 LATSVTAGV MSQVGSALNL KP-DSTML-P DRLIN--NF SSSVSTLVQ T-----TA IKGGDLGDNL QVALLAGLAG ALQOQMAQNI GDS---LYKS  
pit-B7 LATSVTAGV LDKVGGTAM QOQNGTGV-T DRIVT--NL VNSTGSALVS T-----TA INGGDLNDNL QTALLGGLAT AVQOYLSNNI SG---IQOQ  
bau-B4 LATSVTAGV LDKVGGTAM QOQNGTGV-T DRIVT--NL VNSTGSALVS T-----TA INGGDLNDNL QTALLGGLAT AVQOYLSNNI SG---IQOQ  
nos-C9 LAASVVTAGL MSQVSSALNI NLNDMPRL- EKLAN--NF VQVGSNIIS T-----SS IQGENLSDNL DSIIISGLTS ALHAETIAGI GENFSPLLKD  
bau-B1 LAASVVTAGL LSQV-S-TAL- ---NLKPD5 TLFP--DR LMNFTTSVVG STL---VQTA INGGDLGDNL QVALLAGLAG ALQOQMAQNI GTS---LDKV  
pit-B5 LAASVVTAGL LSQV-S-TAL- ---NLKPD5 TLFP--DR LMNFTTSVVG STL---VQTA INGGDLGDNL QVALLAGLAG ALQOQMAQNI GTS---LDKV  
bau-B3 LAVSVLSAGA LSAGVGTAM QNLEKLKQSG DRLV--KI VQNTAQALVN STIAGAGINTA VSGNSLSENL ENYLASGAM ALQOQMAQNI -KP---LE5Q  
bau-B2 LAASVVTAGL LSQVGTALNL KPDSTLL-S DRLAN--NF ASSVSTLVQ T-----TA INGGDLGDNL QVALLAGLAG ALQOQMAQNI GTS---LDKV  
pit-B6 LAASVVTAGL LSQVGTALNL KPDSTLL-S DRLAN--NF ASSVSTLVQ T-----TA INGGDLGDNL QVALLAGLAG ALQOQMAQNI GTS---LDKV  
bau-A2 LATSVTAGV LSTVGLDWM EKLDMGTD P NLLV--NL AGRTGATVE AGLSAGISS INGGSLDNL QGMLLSFFAT ALQOQMAQNI GKE---LGM  
bau-A1 LVASIATAGA LKISVQFNL PETSTAFND- ---RLVYAFVN STSSSIINSA INGGSLDNL EASLLAGLSN SLQAEFAQNI GLS---LDTK  
pit-A3 LVASIATAGA LKISVQFNL PETSTAFND- ---RLVYAFVN STSSSIINSA INGGSLDNL EASLLAGLSN SLQAEFAQNI GLS---LDTK

1901 cal-C10 SNAFVSKVVA IAHAHAAGC- ATGVIDKECQ SRALGAALGE VIAENM-FKP A-NGIEYTEA E-----KSKI LNITKLTGGV VAAYAGYDVT AAANAADTAVSNN  
bau-C4 SNAFVSKVVA IAHAHAAGC- ATGVVDNECK SRALGAALGE VIAENM-FKP A-NGIEYTEA E-----KSKI LNITKLTGGV VAAYAGYDVT AAANAADTAVSNN  
pit-C5 SNAFVSKVVA IAHAHAAGC- ATGVIDKECQ SRALGAALGE VIAENM-FKP A-NGIEYTEA E-----KSKI LNITKLTGGV VAAYAGYDVT AAANAADTAVSNN  
bau-C3 NELDMDYVLH KVAHAAGCV AASISRSECE SGAIGAAIGE IVAEHM-DKS I-DSKFNND NDIQNYQQKV RDVSKLVASS VATLAGYDNP TAANSAEIILNN  
cal-C11 ----NYIAH KLAHALAGCI AGAIQG-QCQ AGAIGGAVGE IVAGFT--PP S-SGLLYTEE E-----KQKI LMVQQLTSGI IAAYAGYDVN VASNSANIALTNN  
pit-C7 ----NYIAH KLAHALAGCI AGAIQG-QCQ AGAIGGAVGE IVADFI--PP S-SGLLYTEE E-----KQKI LMVQQLTSGV IAAYAGYDVN VASNSANIALTNN  
bau-C1 SDTLMKYLTH QVAHATAGCT GAAGGGGECI AGAIGGAVGE IVAEYI--KQ Y-S-----D-----KQKI TNISNAMAVT IAAYAGYDVA TAQOQSETAVSNN  
pit-A4 DPVGLQYIIL KVAHAAGCV VAATKQSCCE AGAIGGAVGE IIAELMYPG K-TALDLDND E-----INRI KGVSKIVAGS ISAYAGYDVN TAANSADTAVSNN  
pit-A5 SKELSDQIHL KVAHAAGC- IAASLQEKCE AGAIGGAVGE MVAGSFDMEP E-NDGYSQA Q-----LNKV KNVGQLISGV VAASAGYDVT VASQASATVANN  
pit-C6 GLEDVNYIHL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IIAQEM-LHG R-NPTFVSAE E-----KAKI EAYSKLIAGT ISAYAGYDVN TAANSATIAIQQN  
bau-C2 GLEDVNYIHL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IIAQEM-LHG R-NPTFVSAE E-----KAKI EAYSKLIAGT ISAYAGYDVN TAANSATIAIQQN  
nos-C8 DPITLQYIIL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVASLM-PKP I-NGIEYNDE E-----KVKI KNVGKLVAGV V5AYAGYDVN TAANSADTAVSNN  
pit-B7 SNTLDYIHL KVAHAAGC- AGSIOK-DCA AGAIGGAVGE VFADTI--T G-NKYDYTDA Q-----LNAI KEGSKALAAAT VAAYAGYDVN TAISSADTAVSNN  
bau-B4 SNTLDYIHL KVAHAAGC- AGSIOK-DCA AGAIGGAVGE VFADTI--T G-NKYDYTDA Q-----LNAI KEGSKALAAAT VAAYAGYDVN TAISSADTAVSNN  
nos-C9 NPDIFFDYHL KVAHAAGC- IGSIOK-QCE AGAIGGAVGE IIAETIINDS L-NQQTTINE E-----LEI KNYGKLSGI ISAYAGYDVN IAANSADTAVSNN  
bau-B1 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMPEPA A-NGIEYDVA E-----KLI RNIGKLVSGT VAAYAGYDVN TAANSADTAVSNN  
pit-B5 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMPEPA A-NGIEYDVA E-----KLI RNIGKLVSGT VAAYAGYDVN TAANSADTAVSNN  
bau-B3 GFSI-EYVHL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE VAAEYLRKRP VFESVDDALA Y-----KNQI VEVSQIAGA IAIVTGYDVS TAMASADNALKNN  
pit-B2 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMIPAG K-TALDLDTA E-----RTKI KDTSKLIAGT TAAFAGYDVN TAANSADTAVSNN  
bau-B6 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMIPAG K-TALDLDTA E-----RTKI KDTSKLIAGT TAAFAGYDVN TAANSADTAVSNN  
bau-A2 NKTDENIHL KVAHAAGC- AGAIQK-QCE SGAIGGAVGE FVAEFMPAAS GNGVYSDEK -----ERV LAVGKILAG VAGITGYDVN VASSANTALLNN  
bau-A1 DPTVIDSLH KVAHAAGC- TGAIQK-QCE AGAIGGAVGE IVAGMIEOPN KDATVEDISK Y-----QEKV INTSKLISGS LASLAGYDAG YAASASLAVSNN  
pit-A3 DPTVIDSLH KVAHAAGC- TGAIQK-QCE AGAIGGAVGE IVAGMIEOPN KDATVEDISK Y-----QEKV INTSKLISGS LASLAGYDAG YAASASLAVSNN

2003 cal-C10 SNAFVSKVVA IAHAHAAGC- ATGVIDKECQ SRALGAALGE VIAENM-FKP A-NGIEYTEA E-----KSKI LNITKLTGGV VAAYAGYDVT AAANAADTAVSNN  
bau-C4 SNAFVSKVVA IAHAHAAGC- ATGVVDNECK SRALGAALGE VIAENM-FKP A-NGIEYTEA E-----KSKI LNITKLTGGV VAAYAGYDVT AAANAADTAVSNN  
pit-C5 SNAFVSKVVA IAHAHAAGC- ATGVIDKECQ SRALGAALGE VIAENM-FKP A-NGIEYTEA E-----KSKI LNITKLTGGV VAAYAGYDVT AAANAADTAVSNN  
bau-C3 NELDMDYVLH KVAHAAGCV AASISRSECE SGAIGAAIGE IVAEHM-DKS I-DSKFNND NDIQNYQQKV RDVSKLVASS VATLAGYDNP TAANSAEIILNN  
cal-C11 ----NYIAH KLAHALAGCI AGAIQG-QCQ AGAIGGAVGE IVAGFT--PP S-SGLLYTEE E-----KQKI LMVQQLTSGI IAAYAGYDVN VASNSANIALTNN  
pit-C7 ----NYIAH KLAHALAGCI AGAIQG-QCQ AGAIGGAVGE IVADFI--PP S-SGLLYTEE E-----KQKI LMVQQLTSGV IAAYAGYDVN VASNSANIALTNN  
bau-C1 SDTLMKYLTH QVAHATAGCT GAAGGGGECI AGAIGGAVGE IVAEYI--KQ Y-S-----D-----KQKI TNISNAMAVT IAAYAGYDVA TAQOQSETAVSNN  
pit-A4 DPVGLQYIIL KVAHAAGCV VAATKQSCCE AGAIGGAVGE IIAELMYPG K-TALDLDND E-----INRI KGVSKIVAGS ISAYAGYDVN TAANSADTAVSNN  
pit-A5 SKELSDQIHL KVAHAAGC- IAASLQEKCE AGAIGGAVGE MVAGSFDMEP E-NDGYSQA Q-----LNKV KNVGQLISGV VAASAGYDVT VASQASATVANN  
pit-C6 GLEDVNYIHL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IIAQEM-LHG R-NPTFVSAE E-----KAKI EAYSKLIAGT ISAYAGYDVN TAANSATIAIQQN  
bau-C2 GLEDVNYIHL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IIAQEM-LHG R-NPTFVSAE E-----KAKI EAYSKLIAGT ISAYAGYDVN TAANSATIAIQQN  
nos-C8 DPITLQYIIL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVASLM-PKP I-NGIEYNDE E-----KVKI KNVGKLVAGV V5AYAGYDVN TAANSADTAVSNN  
pit-B7 SNTLDYIHL KVAHAAGC- AGSIOK-DCA AGAIGGAVGE VFADTI--T G-NKYDYTDA Q-----LNAI KEGSKALAAAT VAAYAGYDVN TAISSADTAVSNN  
bau-B4 SNTLDYIHL KVAHAAGC- AGSIOK-DCA AGAIGGAVGE VFADTI--T G-NKYDYTDA Q-----LNAI KEGSKALAAAT VAAYAGYDVN TAISSADTAVSNN  
nos-C9 NPDIFFDYHL KVAHAAGC- IGSIOK-QCE AGAIGGAVGE IIAETIINDS L-NQQTTINE E-----LEI KNYGKLSGI ISAYAGYDVN IAANSADTAVSNN  
bau-B1 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMPEPA A-NGIEYDVA E-----KLI RNIGKLVSGT VAAYAGYDVN TAANSADTAVSNN  
pit-B5 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMPEPA A-NGIEYDVA E-----KLI RNIGKLVSGT VAAYAGYDVN TAANSADTAVSNN  
bau-B3 GFSI-EYVHL KVAHAAGC- AAAATKQSCCE AGAIGGAVGE VAAEYLRKRP VFESVDDALA Y-----KNQI VEVSQIAGA IAIVTGYDVS TAMASADNALKNN  
pit-B2 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMIPAG K-TALDLDTA E-----RTKI KDTSKLIAGT TAAFAGYDVN TAANSADTAVSNN  
bau-B6 DPNIFFEYTH KVAHAAGC- AAAATKQSCCE AGAIGGAVGE IVAGLMIPAG K-TALDLDTA E-----RTKI KDTSKLIAGT TAAFAGYDVN TAANSADTAVSNN  
bau-A2 NKTDENIHL KVAHAAGC- AGAIQK-QCE SGAIGGAVGE FVAEFMPAAS GNGVYSDEK -----ERV LAVGKILAG VAGITGYDVN VASSANTALLNN  
bau-A1 DPTVIDSLH KVAHAAGC- TGAIQK-QCE AGAIGGAVGE IVAGMIEOPN KDATVEDISK Y-----QEKV INTSKLISGS LASLAGYDAG YAASASLAVSNN  
pit-A3 DPTVIDSLH KVAHAAGC- TGAIQK-QCE AGAIGGAVGE IVAGMIEOPN KDATVEDISK Y-----QEKV INTSKLISGS LASLAGYDAG YAASASLAVSNN

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cal-C10	YLSHAQEKQK	SQDFKNCNVL	TCGGVTVKWA	AISAGQDANY	AVGFAAGIPT	STAESVVGLA	QMALSPIQTY	KAIKEVINSE	NALGKISDSI	KOEYTNRINK
bau-C4	YLNHVQEKQK	SOELKDCNVL	TCGGVVVKWA	AISAGQDANY	AAGFAVGIPT	SVAESVVGLA	KMALSPIQTY	KAIKEVINSE	NALGNISDAI	KODYTNRINK
pit-C5	YLNHVQEKQK	SOELKDCNVL	TCGGVVVKWA	AISAGQDANY	AAGFAVGIPT	SVAESVVGLA	KMALSPIQTY	KAIKEVINSE	NALGNISDAI	KODYTNRINK
bau-C3	RQLNQSEIIK	IRMLAAGNAN	KEARYNIAAC	ALVRCAEGYE	GTTEYAFLLKR	IDDAGNSAEF	KGERDILVKQ	NFRTPIMGSM	TTNQLFEKS	SSNFRELNGK
cal-C11	AFNEKKVKQL	LEQAKGYMGE	KGGOALDAVS	RGIAKGDINA	LKNAQTQIAE	YLLKKADSGG	LSQAEWTFG	TLYALNETLF	PTNILDVIPI	AGKAIKGNND
pit-C7	AFNEKKVKEL	LDOAKGYMGE	KGGOALDAVS	RGIAKGDINA	LKNAQTQIAE	YLLKKADSGG	LSQAEWTFG	TLYALNETLF	PTNILDVIPI	AGKAIKGNND
bau-C1	AFWVPIIAAV	MIADRAYSAY	QIYRDVDQV	DGKKSLEQLA	IEKGATYVER	ATLGNLTSKG	LGIVSEGGKK	VIKRVTYIAP	AKGIAELFTK	TNSRNLTTA
pit-A4	SLPKLATSGA	KIAAKVLDQI	KKWPSNKPLE	PNDVTFMKFD	AGVQELIVDVA	NNIKITLVSPT	STWFEKISAA	VDLAVGIDIK	EGKDVALAMK	DKHIIQLKOP
pit-A5	WGKVLSSSTGK	AAYKIFKKAT	ELQKAGKNLN	DTNVWKDILK	DTATGEYQDM	LNSFKTAFSA	GSTPLERTWA	LIDLATGIDK	KDVKIVQDLL	KDRNTIAKRL
pit-C6	AFKDKALKLK	EATRKYLDK	SKAALDGLIN	AYKKGDIIEAA	KFKKQLDDSS	VTTWANSSSS	YLNIEKTSAL	GEIVIVVSDI	VIPITNYVEIL	PVGKLSKVAK
bau-C2	AFKDKALKLK	EATRKYLDK	SKAALDGLIN	AYKKGDIIEAA	KFKKQLDDSS	VTTWANSSSS	YLNIEKTSAL	GEIVIVVSDI	VIPITNYVEIL	PVGKLSKVAK
nos-C8	YLTHYSKAKF	VADLAKCKVT	SSNCDTIION	YQNLKSTNDL	ELATVCNNTA	RSRDCNNMLK	AALDYAGNDF	NQIYGINSPA	MANLKADQIR	SRELVLKNIIF
pit-B7	NLGTQQKQOR	ELEYIKANAL	GDAAI FAKYG	GISVLQDRLT	GGGFAAGVAA	GAGSDIWNVY	KAILSPIDTL	NGLKAIADS	DVRAQLTOSA	ITAFNTKIQR
bau-B4	NLGTQQKQOR	ELEYIKANAL	GDAAI FAKYG	GISVLQDRLT	GGGFAAGVAA	GAGSDIWNVY	KAILSPIDTL	NGLKAIADS	DVRAQLTOSA	ITAFNTKIQR
nos-C9	AFVSAKVKLE	GAKRSCTEVG	FAYGSTGCKE	FLSKKYEMOP	AKNSALDELQ	VSEFIFETLE	DVTPIWGNIK	AFRDAETKTD	YFVAGITVFP	IAKWNVSGKK
bau-B1	SLVRLATTTG	KLVRLTKDQY	NALRKTGQV	TKDDIVAS-L	KEQSDAGELIG	IADDLTVFVG	RSTSPFDRAK	AAIDLVVGTD	LKPGKGESLG	LAKSELDKDK
pit-B5	SLVRLATTTG	KLVRLTKDQY	NALRKTGQV	TKDDIVAS-L	KEQSDAGELIG	IADDLTVFVG	RSTSPFDRAK	AAIDLVVGTD	LKPGKGESLG	LAKSELDKDK
bau-B3	VFLAAVPTA	GEALVGLTLG	AIRTCATNAA	CVSRAAQGLI	SVGTAALANS	IADDLTVFVG	PASTPFDRAK	AAFDLIIGTD	LKPGKAEESL	LAQALDKLAK
bau-B2	TLGKLATTAG	KAAYRAVKRI	TMPASVRAN	LKPDVVIKIF	KEEGVQGVID	IGDNIKTLIS	PTSTPGDRAF	AAIDLIGID	LKAGKNVDIL	KSEKNIIIGN
pit-B6	TLGKLATTAG	KAAYRAVKRI	TMPASVRAN	LKPDVVIKIF	KEEGVQGVID	IGDNIKTLIS	PTSTPGDRAF	AAIDLIGID	LKAGKNVDIL	KSEKNIIIGN
bau-A2	ALSKTDDVIL	IQNLKSKCNE	SQCRNEIQKA	VLKSNYQSN	AVNLSLLCS	DNLEQASISY	NQLRGTIASG	KFGSDNLKLL	NNLLTOSTKD	ITLQINRLPQ
bau-A1	YLTSKNYRDL	KTNYDTCIKG	GSVGVKCSGA	MIAAAETISK	TNDTRLRADC	VNATSNACIN	GIKDLFEGER	TRNELNKVKN	IFYNSEYSKF	NSWPKFNLSL
pit-A3	YLTSKNYRDL	KTNYDTCIKG	GSVGVKCSGA	MIAAAETISK	TNDTRLRADC	VNATSNACIN	GIKDLFEGER	TRNELNKVKN	IFYNSEYSKF	NSWPKFNLSL

cal-C10	LESEYKQAGI	KGSYNAGLEA	GKLTADVASL	FAGGAGLAKG	GVILTEKVAE	KVGYKVLKDP	IVISDKGIPV	TLDGHKIYDP	QFTPLSTNPR	ALYRFSDFNH
bau-C4	LESEYKQAGI	KGSYNAGLEA	GKLTADVASL	FAGGAGLAKG	GVILTEKVAE	KVGYKVLKDP	IVISDKGIPV	TLDGHKIYDP	QFTPLSTNPR	ALYRFSDFNH
pit-C5	LESEYKQAGI	KGSYNAGLEA	GKLTADVASL	FAGGAGLAKG	GVILTEKVAE	KVGYKVLKDP	IVISDKGIPV	TLDGHKIYDP	QFTPLSTNPR	ALYRFSDFNH
bau-C3	YSLIDLRLNDY	QITTRAGGAV	MVVGGGVGLA	GSTALGSTCV	TGCVGLVALG	GFVSSADLVM	AGAKQAWSGK	SIDTIGAQVI	SATTTGLSTSQ	AEMIVGMLSM
cal-C11	LLGKIRAAAP	ASASAATARL	GLREDLAKLA	NIPRNMEIOP	ANWZKGTJOD	IKYSFEMDGA	VLTLSPPKSG	TSGLAQVYSV	KNSATGKKEF	EYHPGGGTHS
pit-C7	LLGKIRAAAP	ASASAATARL	GLREDLAKLA	NIPRNMEIOP	ANWZKGTJOD	IKYSFEMDGA	VLTLSPPKSG	TSGLAQVYSV	KNSATGKKEF	EYHPGGGTHS
bau-C1	LLGKIRAAAP	ASASAATARL	GLREDLAKLA	NIPRNMEIOP	ANWZKGTJOD	IKYSFEMDGA	VLTLSPPKSG	TSGLAQVYSV	KNSATGKKEF	EYHPGGGTHS
pit-A4	GPIHHICTNK	NCLSTARGGP	WTRQFQKYFD	GAGLDINKSV	ENLVALADHK	PHPKKEYHAY	VEKELRLAVS	GKQANTAEYR	NAVIATLSRI	KSEALVSGSQ
pit-A5	PNIKNGQFFD	DKKIEELANR	GVQKKIHQID	VGAKGGWAKQ	ANGKLEANS	YLLPNGAAYV	TDNSGNVKEV	TANLRNLIEMD	RNNYQO5IAG	KSGISGDQGG
pit-C6	TLKIGEDGTR	SAGRAELAE	ELQKVDIKFG	KTLPGAKAPI	TVTAESNIGG	KHMFDTNQT	RPEVNRNTNP	TLAAGNAKID	PSNPMLTMKN	AHAELIQR
bau-C2	TLKIGEDGTR	SAGRAELAE	ELQKVDIKFG	KTLPGAKAPI	TVTAESNIGG	KHMFDTNQT	RPEVNRNTNP	TLAAGNAKID	PSNPMLTMKN	AHAELIQR
nos-C8	KDVNNWYGM	NDIDLRRADF	SAMYAKTGA	WFRVANETS	AAIIVGLGAE	AYSAGATFAI	GVISSITSAG	SVNLLDVMNV	RSEAGYALMK	AGYNNFKQLY
pit-B7	LENNYNTGG	KEATQGVYD	GLTWVWVGI	LTWVKGAAITA	TAKMGSAGLK	ITTTIAETAK	QSAKYQAPIT	SIISAAQTOK	VSDVKTIPV	VTFNQVLLDP
bau-B4	LENNYNTGG	KEATQGVYD	GLTWVWVGI	LTWVKGAAITA	TAKMGSAGLK	ITTTIAETAK	QSAKYQAPIT	SIISAAQTOK	VSDVKTIPV	VTFNQVLLDP
nos-C9	AITLILKDG	EVEAISRAG	TGYSIYVQV	GKDIVEMAQ	GKTVTSTTFK	PGARQTINNI	KGLDKSGNMW	SVNLIIGDGT	MNKAQOYTVV	DVSPAGVKTT
bau-B1	IDRSYQVTVY	QNRVDVTRN	RNNGKEFETS	VASKLGVKRN	TDRQMITIKT	ERDGOINIIP	DAFGNGGTLV	EFKNVQYLTD	TQQLRGYAT	GKPVSLVVMNM
pit-B5	VDQAYTLKVL	QVKKDVVTRN	RLNGKEFEMS	AASKLGVKRN	TDRQMITIKT	ERDGOINIIP	DAFGNGGTLV	EFKNVQYLTD	TQQLRGYAT	GKPVSLVVMNM
bau-B3	NWHTKSLKSR	IAAAYARELR	GSKNFDFYRD	PKTGDIFIKG	NQSNMNMKID	ISRFLK*				
bau-B2	YSAGLNREIL	NKAGDFYPNV	PDRLTGRITIS	FPVGDLLKVP	ELSRVSWGAA	ERGFIOEWF	KRGYETPRGG	WSEYDIHHIK	PREFGGTNEF	WNLTVPQRKT
pit-B6	YSAGLNREIL	NKAGDFYPNV	PDRLTGRITIS	FPVGDLLKVP	ELSRVSWGAA	ERGFIOEWF	KRGYETPRGG	WSEYDIHHIK	PREFGGTNEF	WNLTVPQRKT
bau-A2	QOAYLNSPWT	PPTKQMAQI	VIDILPMTSD	PSAIYSIITG	KAVVTEQEV	RFYAAGVLIL	PITIGRSLTK	AEIAGLKQSS	QNPLSGTVSI	KDLPALPKSA
bau-A1	KADTNIRDLG	SLYSTFEKID	FWQKTCNGIT	STAAACQTKYK	QYLDANEATR	VOIAGGLDRV	KSMPIVGNVT	TVGDAVITLI	TGTSLSNDP	SRLVALAEIA
pit-A3	KADTNIRDLG	SLYSTFEKID	FWQKTCNGIT	STAAACQTKYK	QYLDANEATR	VOIAGGLDRV	KSMPIVGNVT	TVGDAVITLI	TGTSLSNDP	SRLVALAEIA

cal-C10	RSTGGDIYFG	ENIATSYFEV	QAVNGKSLFV	GOVEVKNMLD	LTPDKILKQ	GIDQKCLTEV	APDGYSNVEK	AKKEAIYAYT	NRIANQAYD	GYTGIIYNS
bau-C4	RSTGGDIYFG	ENIATSYFEV	QAVNGKSLFV	GOVEVKNMLD	LTPDKILKQ	GIDQKCLTEV	APDGYSNVEK	AKKEAIYAYT	NRIANQAYD	GYTGIIYNS
pit-C5	RSTGGDIYFG	ENIATSYFEV	QAVNGKSLFV	GOVEVKNMLD	LTPDKILKQ	GIDQKCLTEV	APDGYSNVEK	AKKEAIYAYT	NRIANQAYD	GYTGIIYNS
bau-C3	ASVTNSVRTG	AKQAVQEQRV	LINPKPTITNC	VNGTTCFVAG	TLTETKNGLK	PZEEFNGL	VWSRNDLTL	YGYPVIAIAK	ITHNQPIFEV	VVQNALKLDK
cal-C11	KSGDMYKILN	MNDGTQFRII	DPKSAFNPRY	ITSNQIYLN	N-GOKLKYON	KWEIWK*				
pit-C7	SDGVRYKIVL	MNDGTQFRII	DPKSAFNPRY	ITSNQIYLN	N-GOKLKYON	KWEIWK*				
bau-C1	IEIKFR*									
pit-A4	VNKWLTKK*									
pit-A5	HLIAASLGG	GDRINLVPM	KTLNNGSWKA	MESELANAVK	LGKDVNMKVA	VGYPTGSSRP	NKFIVTATIN	GKSTNYQFSQ*		
pit-C6	AYDAGLTKGE	TMQVLRGKE	VCDHCGQVMK	TMYSERSGLAK	LIHDTTSGS	ITTYKVIDA	KTNIATKIV	VSPIFGH*		
bau-C2	AYDAGLTKGE	TMQVLRGKE	VCDHCGQVMK	TMYSERSGLAK	LIHDTTSGS	ITTYKVIDA	KTNIATKIV	VSPIFGH*		
nos-C8	DGKVTDIVAV	NISQMQEQK	LLQPIHEKYF	KNSKLFVPTQ	WVPTKFPNPN	VNLLDYNRSV	KYGCIEMGYT	IAQCKP*		
pit-B7	RLPAPVAGYA	YKPKVIDSPN	PNIANSHVNG	YMGELRLANE	VAAQPNQAVL	KFGDGLTHHG	SDIISVDVKT	GGVYLWDSKY	RSANSKLGAS	ITFTNSTTRT
bau-B4	RLPAPVAGYA	YKPKVIDSPN	PNIANSHVNG	YMGELRLANE	VAAQPNQAVL	KFGDGLTHHG	SDIISVDVKT	GGVYLWDSKY	RSANSKLGAS	ITFTNSTTRT
nos-C9	KIANIPYDSS	GLPIFDDIAK	FTTTISAHKA	ESTQFYASL	SLWEAIQKQG	VNSSQFTSEQ	LKIQIQAGAS	IKGYTWHHNA	QSGPNMQLL	PEVVHNAVKH
bau-B1	NTKISSETVKN	NILSNKGTIQ	RFDPKQTLH	PY*						
pit-B5	NTKISSETVKN	NILSNKGTIQ	RFDPKQTLH	PY*						
bau-B2	HQOEFNSFWR	NM*								
pit-B6	HQOEFNSFWR	NM*								
bau-A2	QNVFIEQTAQ	SKYTKLLYEA	KNDPSLGTWS	TSKIGQKGE	IAVQLVKGSG	FTDVISIQNA	SGNGIDIIAK	NPQGNVYVLE	VKTSAVGKIG	SLSKRQEDMN
bau-A1	SVGITRYIPQ	VGPVHVHAQP	KYAGORYTTA	SLTSNKDATI	NPDTIRAALV	NNRSWLKASY	VPEKVSIAVA	KVETKSGTDN	ILLAVSGPWN	GNAPTGTGKNT
pit-A3	SVGITRYIPQ	VGPVHVHAQP	KYAGORYTTA	SLTSNKDATI	NPDTIRAALV	NNRSWLKASY	VPEKVSIAVA	KVETKSGTDN	ILLAVSGPWN	GNAPTGTGKNT

cal-C10	-RNTGSNNR	AVVLFGGRYD	AAKIKPVLDK	PILKK*						
bau-C4	SRNTGSSNNR	AVVLFGGRYD	AAKIKPVLDK	PILKK*						
pit-C5	SRNTGSSNNR	AVVLFGGRYD	AAKIKPVLDK	PILKK*						
bau-C3	NAIDLDSLVV	TRGQVKQIAK	NGDPLGGERE	TFKTTTEHPF	WVKNIGWQKA	SILSEGMTLL	DRSNMELTVI	SQKLLAKLDT	VYNIIEVKDYH	TYHVGKLGW
pit-B7	NAVNEALTTI	RQSNLPESVK	QVALKNLNDG	TFTTYTVATG	NSKNSVIFSC	VNKVCK*				
bau-B4	NAVNEALTTI	RQSNLPESVK	QVALKNLNDG	TFTTYTVATG	NSKNSVIFSC	VNKVCK*				
nos-C9	IGEDSLKKG	IIK*								
bau-A2	FFVNDILTNA	AAKTGRYVNI	SDTVNAQAQI	MLTKYKQKQA	VGNIYGAAGI	VDLKNAQILI	SSWTNK*			
bau-A1	DVINGVYKYK	VVTDSHSVQ	PIITYVDKNG	KPITNNNHAE	AKLFSYIKDS	YSSTPSKVTM	SIQNTASEPA	GMCNGLFSSG	KYFTNEVPFM	RLSIFHG*
pit-A3	DVINGVYKYK	VVTDSHSVQ	PIITYVDKNG	KPITNNNHAE	AKLFSYIKDS	YSSTPSKVTM	SIQNTASEPA	GMCNGLFSSG	KYFTNEVPFM	RLSIFHG*
bau-C3	VHNAQCDDLI	YQIVKETYK	GVISNRVKTE	ALFENVVKEQ	GKVLVSGGKY	GSNNGYDHI	IFKDAQGNTN	LTMVVDKQLG	QKGIKLDPKAAGNMQMS	
bau-C3	SEWRAVLAK	LDPNSEAYKA	VFAARQNGTL	VKGAAYVDKS	AEKLMVLRID	PATKK*				

Supplementary file 5. A) HET regions (blu residues)

bau-A1	<b>GDISLNSKKE</b>	TLNSINVMGKFTTESYGDPSYEFELFKNNPEYKXKLDLNLHYIYLTRYGVSGKAGQKRIDYANNEINNAEKEIWNLNNTYGVTLNRYKLLFSEYAVILGKKRNFYFEDFKQVNEIDYSDLNF	SGYLHRGVDLSDG
pit-A3	<b>GDIGFNSKXV</b>	TLDDVNMVWGFTEYTDPSYEFELFKNNPEYKXKLDLNLHYIYLTRYGVSGKAGQKRIDYANNEINNAEKEIWNLNNTYGVTLNRYKLLFSEYAVILGKKRNFYFEDFKQVNEIDYSDLNF	SGYLHRGVDLSDG
bau-A2	<b>VKMYAGDLKN</b>	TSNTAPINIIISTGDIVLDAMNYDNIIGQLDMLPAQKLRDELEASGKDSVTLNTINQLNEEIAFYLSRSL	NGTRRSQSSHDSAQ
pit-A4	<b>DDVLDGVKN</b>	NFSSLQKLNLAADYTLKEEHNKERLKSQDYFNDSYSLVKKRYNNDHFLKYWDYELLDQTKNNSEIWNAYKEYERDFNVFKDKYPIKINYPVPGQLPFL-LGQWNTPLAVDYVFGFKYDNDYINDVEKNELFYKESL	NGSEHAETKLTSSK
pit-A5	<b>DDVLDGVKN</b>	SFINRKKQKLNENLKNKINISDLALKSQDFFDYDNYMVTAYEDYTSNYDYSLYMKHYNLNDYFISKYPVPRNPRLLIFGSDKPLFHSIFSEPRMTRFDALYSFEPKYDENYLRSLQAEVDFYNTGI	NGSEHAETKLTSSK
bau-B1	<b>GDVVTSGVKN</b>	TAVDYVTQKRIOEIGIELSALDAQIERYKQDQANYKAQTFESHVQQRNIMSQGLEMLTKGKAIEHSYAEILPWT	KAAAITGTGTPYWA
bau-B4	<b>EDVLDGVKN</b>	KFTNFIASIKHIASLNQNLADLNKINIKNDPSYLSKDKDIASLGSQASQINQLNDALSAYTSGVDPLNASIGYDSENGNYIYVSMDDGGRAYFVSIPLGLDLSRYRQIILNELPAENQKLNFNKTIATFEQDKARVNTIIFMNNKT	NGYEHAEKLTSSKA
pit-B7	<b>EDVLDGVKN</b>	KFTNFIASIKHIASLNQNLADLNKINIKNDPSYLSKDKDIASLGSQASQINQLNDALSAYTSGVDPLNASIGYDSENGNYIYVSMDDGGRAYFVSIPLGLDLSRYRQIILNELPAENQKLNFNKTIATFEQDKARVNTIIFMNNKT	NGYEHAEKLTSSKA
pit-B5	<b>GDINIDGINK</b>	NFNMYASKKYSSELFEKIFNLTMILSNTESLKYSASRISQMQEELADLKDASTFLENGTG	FEHAETVLRITSLGD
bau-C1	<b>DEVLTDGINK</b>	SLKEVVSLEYKTELDELKDLNNSLKEESELINKARYNDYKSELDSILEKRKKIEQMMKLPFTKGVGQKLDDEITIMONNLEEKYPEINGPSNKLKVIKIDVEANISFFKNSI	NGSEHTETKLTSSK
bau-C3	<b>DDVLDGVKN</b>	TLNQSSSTKYLNLEIVKTDLQKENDKLAADPEYIQLLDLKKRLHSGNELGFNVSEAKKLAESLERKYLKIEISGTTNGPMLPQLGANVLGKITLILYQEIINDIDKAITLYSQSL	TGYEHAQDILRSNW
bau-C4	<b>DDVLDGVKN</b>	SFSNIKFPDKANREKIVQDFIQELNALKATQEYLNQYQALKDANDQIKAGEDMMRTAQSIALTAKRLKDEGERKLAQVNETYKTLITNLNGLQRNIDQSGANISFYEQNL	KGQOHSWIKSID
cal-C10	<b>DDVLDGVKN</b>	SFSNIKFPDKANREKIVQDFIQELNALKATQEYLNQYQALKDANDQIKAGEDMMRTAQSIALTAKRLKDEGERKLAQVNETYKTLITNLNGLQRNIDQSGANISFYEQNL	KGQOHSWIKSSG
pit-C5	<b>DDVLDGVKN</b>	SFAKRKKEEFTEANLNKNSLSSLDLKKQDFFDYDNYMVTAYEDYASNYDYTYLVKHYNLKDFISKYPVPRNPRLLIFGSDVPLFHSIIAVPQRSRFDALYSFEPKYDENYLRSLQAEVDFYNTGI	NGSEHAETKLTSSK
pit-C7	<b>EDVLDGVKN</b>	NITNKISISK-LEYSKELNININIIQDFKQDENKLYKNSIDNININSINSKRKWERAVSDLLHKKRALSDQLKLEEREDIRNFKFDIIDQENLNLDERNWYFYFDSNV	SGSEHSEAKLTSSK
cal-C11	<b>DDVLDGVKN</b>	SLENIASLKYKEDFKELEYSRAVLEKEEINLVNKPRYNDYKNELEDEILKGRKKIEEMMKYSLTRSVGQKLLQESINKQNLLEEKYPEINGLSNKIKLSIODIEDNLKYFEFV	NGSEHSEVNFSAIS
nos-C8	<b>DDVLDGVKN</b>	TLNINSADSKNLIENIKKEIDNSINILSNSKEFQERKTLIDNIKTKNSLEAAISYLFDSNGEYSAGALSNDVSNIFFYENAYIQSFSSEGASDYAMVINND-----IVGFLPSVDISGTLSSYKAEIKKYKLNESKVKDQKLSKLESQKSEIKSKELLTKGV	NGSEHTETKLTSSK
bau-C5	<b>DDVLDGVKN</b>	TLNINSADSKNLIENIKKEIDNSINILSNSKEFQERKTLIDNIKTKNSLEAAISYLFDSNGEYSAGALSNDVSNIFFYENAYIQSFSSEGASDYAMVINND-----IVGFLPSVGSIGTLSSYKAEIKKYKLNESAKVQLEKLSKLEAEKQSEIKSKELLTTGV	SGSEHTETKLTSSK
nos-C9	<b>DDVLDGVKN</b>	ILNRTADTKNIIENIKKEIDNSINILSNSKEFQERKTLIDNIKTKNSLEAAISYLFDSNGEYSAGALSNDVSNIFFYENAYIQSFSSEGASDYIIVIPGTSYQIQGFLPSLGYVEVLLNSYKTEIKKYKLNESKAIKQDLESMINKLQSQKIELKTEFLASNI	NGEHAEANLTSKS
bau-B3	<b>GDIKTEGVKN</b>	TFNNSYSKHSDYLFKQRLYYENKIQEINRLGVLNLAQKLVAAQYTEEINDITQINFLSLGT	NGEHAESLLRSET
pit-B7	<b>EDVLDGVKN</b>	KFTNFIASIKHIASLNQNLADLNKINIKNDPSYLSKDKDIASLGSQASQINQLNDALSAYTSGVDPLNASIGYDSENGNYIYVSMDDGGRAYFVSIPLGLDLSRYRQIILNELPAENQKLNFNKTIATFEQDKARVNTIIFMNNKT	NGYEHAKSTLTSSKA
bau-C2	<b>DDVLDGVKN</b>	KFSGLQKLNLAQDYSLELDRLNKERLKSQDYFNDSYSLVKKRYNNDHFLKYWDYELLDQTKNNSEIWNAYKEYERDFNVFKDKYPIKINYPVPGQLPFL-LGQWNTPLAVDYVFGFKYDNDYINDVEKNELFYKESL	NGSEHSETKLTSSKN
bau-B2	<b>GDVLDGVKN</b>	KVNGVSKKQDLINSQDQDEKKNFIANTI	TGVENFNSLSTNT
pit-B6	<b>GDVLDGVKN</b>	KVNGVSKKQDLINSQDQDEKKNFIANTI	TGVENFNSLSTNT
pit-C6	<b>GDVLDGVKN</b>	TIINQHTDEYKAKIILDEETIKLQKSSDYEAIIAFFMKEALKYARISSGELIEGSPMDRELQKALQKTKTEFPEYVSKYGLRDKQDFYSEMIKLFNVGV	NGEYHSGSITSNIT
pit-n1	<b>DDVLDGVKN</b>	TILDSTKITSFERLAAVTSEKIDLEIQHEKMRKDPDYFLINELDKGRGLKYEDKVDKMYALRDALEKRYLVKIDIEAGAGRRGKVFDDAYEKYTKISELQDSINFYNNKF	TGNEHRGSSFTSKIT
pit-n2	<b>DDVLDGVKN</b>	SLKQLQSKYQNSIDDPFNWIKTLESKTSSEYQAYTKDGTMSRGRYQALVEFSGNHDFAMHLEESNKIEKNSKYSTLLEAELEKNSLDAEILKQMFDSNV	EGSEHAETKLTSSK







1921 2848  
pit-A5/C8 DVTVASOSAS TAIENN---- WGVLSSTGK AAYKIFKKAT E-LQKAGKLN NDTNWKDIL KDTATGEYQD MLNSFKTAFS AGSTPLERTW ALIDLATGID KKDVKIVQDL LKDRNTIAKR  
pit-A5 DVTVASOSAS TAIENN---- WGVLSSTGK AAYKIFKKAT E-LQKAGKLN NDTNWKDIL KDTATGEYQD MLNSFKTAFS AGSTPLERTW ALIDLATGID KKDVKIVQDL LKDRNTIAKR  
pit-A5/A4 DVTVASOSAS TAIENN---- WGVLSSTGK AAYKIFKKAT E-LQKAGKLN NDTNWKDIL KDTATGEYQD MLNSFKTAFS AGSTPLERTW ALIDLATGID KKDVKIVQDL LKDRNTIAKR  
pit-A5/Hn2 DVTVASOSAS TAIENN---- WGVLSSTGK AAYKIFKKAT E-LQKAGKLN NDTNWKDIL KDTATGEYQD MLNSFKTAFS AGSTPLERTW ALIDLATGID KKDVKIVQDL LKDRNTIAKR  
pit-A5/Hn1 DVTVASOSAS TAIENN---- WGVLSSTGK AAYKIFKKAT E-LQKAGKLN NDTNWKDIL KDTATGEYQD MLNSFKTAFS AGSTPLERTW ALIDLATGID KKDVKIVQDL LKDRNTIAKR  
pit-A5/C7 DVTVASOSAS TAIENN--N WGVLSSTGK AAYKIFKKAT E-LQKAGKLN NDTNWKDIL KDDMC  
nos-C8 DVNTAANSAD IAIQNNYLTH YSKAKFVADL AKCKVTSSNC DTIIQNYQNL SKTNDLELAT VCNNTARSRD CNNMLKAALD YAGNDFNQIY GINSPAMA-- ----NLKADQ IRSRELVLN  
pit-A4 DVNTAANSAD TAIENN--S LPKLATSGAK IAKKVLDDQIK K--WPSNKP L EPNQ--VTKHF KDAGVQEIVD VANNIKTLVS PTTWTFEKIS AAVDLAVGID IKAGKDVALA MKDKHILQIK  
pit-C7 DVNTAANSAN IALTN--A FNE-----K KVKELLDQAK G--YMGKGG QALDAVSRGI AKGDINALKK AQTQIAEYLL KKADSGGLSQ AEWVTFGLY ALNETLFPIN ILDVIPGAGK  
2841  
pit-A5/C8 LPNIKNGOFF DDKKIEELAN RGDVKKIHOI DVGAGGGWAK QANGKLEANS AYLLPNGA-- AYVTNSGNV KEVTANLRNI LMDRNNYQOS IAGKSGISGD QGGHL-IAAS LGGSGDRINL  
pit-A5 LPNIKNGOFF DDKKIEELAN RGDVKKIHOI DVGAGGGWAK QANGKLEANS AYLLPNGA-- AYVTNSGNV KEVTANLRNI LMDRNNYQOS IAGKSGISGD QGGHL-IAAS LGGSGDRINL  
pit-A5/A4 LPNIKNGOFF DDKKIEELAN RGDVKKIHOI DVGAGGGWAK QANGKLEANS AYLLPNGA-- AYVTNSGNV KEVTANLRNI LMDRNNYQOS IAGKSGISGD QGGHL-IAAS LGGSGDRINL  
pit-A5/Hn2 LPNIKNGOFF DDKKIEELAN RGDVKKIHOI DVGAGGGWAK QANGKLEANS AYLLPNGA-- AYVTNSGNV KEVTANLRNI LMDRNNYQOS IAGKSGISGD QGGHL-IAAS LGGSGDRINL  
pit-A5/Hn1 LPNIKNGOFF DDKKIEELAN RGDVKKIHOI DVGAGGGWAK QANGKLEANS AYLLPNGA-- AYVTNSGNV KEVTANLRNI LMDRNNYQOS IAGKSGISGD QGGHL-IAAS LGGSGDRINL  
nos-C8 IPKQVNNWY-- --QINDIDL RADFFSAMYA KTGAE--WFR VANETSRAAI VGLGAEAYS GATFALGVVI SSIISAGSVN LLDVYNRSE AGYALMKAGY NNFQK-LYDG KVTIDIVANNI  
pit-A4 DPGTHICT IRNCLSTARG GPWTRPQKY FDGAGL-DIN KSVENI VALA DNGGPHRKEY HAYVEKELRL AVSQQANTIA EYR-NAVIAT LSRIKSEALV SSSQNKWLT KK  
pit-C7 AIGKNDLLK GIRAAAPASA ASATARLGLR EDLAKLANIP RMEIOPANI WGMTI00IKY SFEMDGAULT LVPPKSSSTSG LAQVYSWNS ATGIKEFEVH PGGGTHSSDG VRYYKIVMND  
2161 2215  
pit-A5/C8 VPMAKTLNNG SWKAMESELA NAVKLGKDW MKVAVGYPTG SSRPNKFIVT ATINGKSTNY QF50  
pit-A5 VPMAKTLNNG SWKAMESELA NAVKLGKDW MKVAVGYPTG SSRPNKFIVT ATINGKSTNY QF50  
pit-A5/A4 VPMAKTLNNG SWKAMESELA NAVKLGKDW MKVAVGYPTG SSRPNKFIVT ATINGKSTNY QF50  
pit-A5/Hn2 VPMAKTLNNG SWKAMESELA NAVKLGKDW MKVAVGYPTG SSRPNKFIVT ATINGKSTNY QF50  
pit-A5/Hn1 VPMAKTLNNG SWKAMESELA NAVKLGKDW MKVAVGYPTG SSRPNKFIVT ATINGKSTNY QF50  
nos-C8 SQWDEKLL QPIHEKVFYN SKLFPQTMV PTKFPMNPM LLDYNSRVKY GCIEHGYTIA QGCRP  
pit-C7 GTQRLIDPN KGRKPGTITS NQIYLNPGQ KLYENKWE LMK

C) CdiA chimerae

Strains: B3/B5, TCM292; B5, CIP 70.29;

120  
83/B5 MNKLYRIVF NKARMFMAV AENVRSOSKA AGOSTS5EIE RSGOS5GQEK SFHQLHWKKA LVASISLLVP FAPYAAIYA DSAMAANRA VIGAGKNSAG VTPVPVNIQT PKNGISHNIT  
85 MNKLYRIVF NKARMFMAV AENVRSOSKA AGOSTS5EIV SSGOS5LVEQK SFHQLHWKKA LVASISLLVP FAPYAAIYA DSAMAANRA VIGAGKNSAG VTPVPVNIQT PKNGISHNIT  
87/B5 MNKLYRIVF NKARMFMAV AENVRSOSKA AGOSTS5EIV SSGOS5LVEQK SFHQLHWKKA LVASISLLVP FAPYAAIYA DSAMAANRA VIGAGKNSAG VTPVPVNIQT PKNGISHNIT  
87 MNKLYRIVF NKARMFMAV AENVRSOSKA AGOSTS5EIE RSGOS5GQEK SFHQLHWKKA LVASISLLVP FAPYAAIYA DSAMAANRA VIGAGKNSAG VTPVPVNIQT PKNGISHNIT  
83 MNKLYRIVF NKARMFMAV AENVRSOSKA AGOSTS5EIV SSGOS5LVEQK SFHQLHWKKA LVASISLLVP FAPYAAIYA DSAMAANRA VIGAGKNSAG VTPVPVNIQT PKNGISHNIT

240  
83/B5 KQFDVLAEGA VLNSRRTGAT TKTVGAVGAM PFLATGEARV ILEUWNSTAA SRFEGNLEVA GQMDVVIAN PSGINIKGGG FINANKALFT TGPQLNADG SIQGFNU5GQ KVITITAPTN5  
85 KQFDVLAEGA VLNSRRTGAT TKTVGAVGAM PFLATGEARV ILEUWNSTAA SRFEGNLEVA GQMDVVIAN PSGINIKGGG FINANKALFT TGPQLNADG SIQGFNU5GQ KVITITAPTN5  
87/B5 KQFDVLAEGA VLNSRRTGAT TKTVGAVGAM PFLATGEARV ILEUWNSTAA SRFEGNLEVA GQMDVVIAN PSGINIKGGG FINANKALFT TGPQLNADG SIQGFNU5GQ KVITITAPTN5  
87 KQFDVLAEGA VLNSRRTGAT TKTVGAVGAM PFLATGEARV ILEUWNSTAA SRFEGNLEVA GQMDVVIAN PSGINIKGGG FINANKALFT TGPQLNADG SIQGFNU5GQ KVITITAPTN5  
83 KQFDVLAEGA VLNSRRTGAT TKTVGAVGAM PFLATGEARV ILEUWNS5AA SRFEGNLEVA GQMDVVIAN PSGINIKGGG FINANKALFT TGPQLNADG SIQGFNU5GQ KVITITAPTN5

360  
83/B5 TFLGQGNNN ANVDYIARA LDNLAKLQAT NDIQVITGAN TVSSDLKNTA SITGTGAVPT LAVDVKALGG MYANNIYLMG TEKGLGVYNA GTIQAVSNLV ITSAGKIEHS GTISSTSKTO  
85 TFLGQGNNN ANVDYIARA LELSAELRAK NDIQVITGAN TVSSADLDQVT AKTGTGTAPT LAVDVKALGG MYANNIYLMG TEKGLGVYNA GTIQAVSNLV ITSAGKIEHS GTISSTSKTO  
87/B5 TFLGQGNNN ANVDYIARA LDNLAKLQAT NDIQVITGAN TVSSDLKNTA PISGAGTAPT LAIDVKALGG MYANNIYLMG TEKGLGVYNA GTIQAVSNLV ITSAGKIEHS GTISSTSKTO  
87 TFLGQGNNN ANVDYIARA LELSAELRAK NDIQVITGAN TVSSADLDQVT AKTGTGTAPA LAVDVKALGG MYANNIYLMG TEKGLGVYNA GTIQAVSNLV ITSAGKIEHS GTISSTSKTO  
83 TFLGQGNNN ANVDYIARA LELSAELRAK NDIQVITGAN TVSSADLDQVT AKTGTGTAPA LAVDVKALGG MYANNIYLMG TEKGLGVYNA GTIQAVSNLV ITSAGKIEHS GTISSTSKTO

480  
83/B5 GLVS5VTTGQ VAAADINS5G SINSNMLNI DSGNLDLNNVA KEIINNLSL AASPLIISK GNUNLAANSR IFNDAOSGEL YVEADLNLA TNAGITSNRG SAYIOSQKDI VAAQGAKLIA  
85 GLVS5VTTGQ VAAADINS5G SINSNMLNI DSGNLDLNNVA KEIINNLSL AASPLIISK GNUNLAANSR IFNDAOSGEL YVEADLNLA TNAGITSNRG SAYIOSQKDI VAAQGAKLIA  
87/B5 GLVS5VTTGQ VAAADINS5G SINSNMLNI DSGNLDLNNVA KEIINNLSL AASPLIISK GNUNLAANSR IFNDAOSGEL YVEADLNLA TNAGITSNRG SAYIOSQKDI VAAQGAKLIA  
87 GLVS5VTTGQ VAAADINS5G SINSNMLNI DSGNLDLNNVA KEIINNLSL AASPLIISK GNUNLAANSR IFNDAOSGEL YVEADLNLA TNAGITSNRG SAYIOSQKDI VAAQGAKLIA  
83 GLVS5VTTGQ VAAADINS5G SINSNMLNI DSGNLDLNNVA KEIINNLSL AASPLIISK GNUNLAANSR IFNDAOSGEL YVEADLNLA TNAGITSNRG SAYIOSQKDI VAAQGAKLIA

680  
83/B5 AQNLVNSGK KLSLNGNTO ASLGSINLQA DSSNTDGLD IGGTGYTAGK DLNLYSSGVD NLQNLGFSL NSATRVKINI AHSGRNLVWV NATKVLPOIT GKVALDAENI L5ISAQGV5N  
85 AQNLVNSGK KLSLNGNTO ASLGSINLQA DSSNTDGLD IGGTGYTAGK DLNLYSSGVD NLQNLGFSL NSATRVKINI AHSGRNLVWV NATKVLPOIT GKVALDAENI L5ISAQGV5N  
87/B5 AQNLVNSGK KLSLNGNTO ASLGSINLQA DSSNTDGLD IGGTGYTAGK DLNLYSSGVD NLQNLGFSL NSATRVKINI AHSGRNLVWV NATKVLPOIT GKVALDAENI L5ISAQGV5N  
87 AQNLVNSGK KLSLNGNTO ASLGSINLQA DSSNTDGLD IGGTGYTAGK DLNLYSSGVD NLQNLGFSL NSATRVKINI AHSGRNLVWV NATKVLPOIT GKVALDAENI L5ISAQGV5N  
83 AQNLVNSGK KLSLNGNTO ASLGSINLQA DSSNTDGLD IGGTGYTAGK DLNLYSSGVD NLQNLGFSL NSATRVKINI AHSGRNLVWV NATKVLPOIT GKVALDAENI L5ISAQGV5N

720  
83/B5 KDSIQLQAGQ LTLNFT5G KDNLITLETA DFLFNVLNVA ONDIKISALT GGITANSKKA NSMAGKISIL ATRNLVLSL QEIESAFWAD QDQATDMTF INGNKGVTLG SIDDGWQLK  
85 KDSIQLQAGQ LTLNFT5G KDNLITLETA DFLFNVLNVA ONDIKISALT GGITANSKKA NSMAGKISIL ATRNLVLSL QEIESAFWAD QDQATDMTF INGNKGVTLG SIDDGWQLK  
87/B5 KDSIQLQAGQ LTLNFT5G KDNLITLETA DFLFNVLNVA ONDIKISALT GGITANSKKA NSMAGKISIL ATRNLVLSL QEIESAFWAD QDQATDMTF INGNKGVTLG SIDDGWQLK  
87 KDSIQLQAGQ LTLNFT5G KDNLITLETA DFLFNVLNVA ONDIKISALT GGITANSKKA NSMAGKISIL ATRNLVLSL QEIESAFWAD QDQATDMTF INGNKGVTLG SIDDGWQLK  
83 KDSIQLQAGQ LTLNFT5G KDNLITLETA DFLFNVLNVA ONDIKISALT GGITANSKKA NSMAGKISIL ATRNLVLSL QEIESAFWAD QDQATDMTF INGNKGVTLG SIDDGWQLK

840  
83/B5 STRTAEQGD IQLIAGNCS LOANTDVTIR GQHGVDIRK NILQOSLQI QNKKADVVID NTLTTSVGG LSINSEKGT LSINSELSKG NTELSAKDHL TLQNEANAD KHMALS5KKN  
85 STRTAEQGD IQLIAGNCS LOANTDVTIR GQHGVDIRK NILQOSLQI QNKKADVVID NTLTTSVGG LSINSEKGT LSINSELSKG NTELSAKDHL TLQNEANAD KHMALS5KKN  
87/B5 STRTAEQGD IQLIAGNCS LOANTDVTIR GQHGVDIRK NILQOSLQI QNKKADVVID NTLTTSVGG LSINSEKGT LSINSELSKG NTELSAKDHL TLQNEANAD KHMALS5KKN  
87 STRTAEQGD IQLIAGNCS LOANTDVTIR GQHGVDIRK NILQOSLQI QNKKADVVID NTLTTSVGG LSINSEKGT LSINSELSKG NTELSAKDHL TLQNEANAD KHMALS5KKN  
83 STRTAEQGD IQLIAGNCS LOANTDVTIR GQHGVDIRK NILQOSLQI QNKKADVVID NTLTTSVGG LSINSEKGT LSINSELSKG NTELSAKDHL TLQNEANAD KHMALS5KKN

960  
83/B5 IYVINGEYV ---ITTLKPKNI QSKLTSQSL SMIGASHAA QNTTYTGGAT LLEAGWVLT PSNATLSF--- ---NAVDA FLRIDPALKD LINGOLTIQNT GTLSLDPKH KLSAAGLEL  
85 IYVINGEYV ---ITTLKPKNI QSKLTSQSL SMIGASHAA QNTTYTGGAT LLEAGWVLT PSNATLSF--- ---NAVDA FLRIDPALKD LINGOLTIQNT GTLSLDPKH KLSAAGLEL  
87/B5 IYVINGEYV ---ITTLKPKNI QSKLTSQSL SMIGASHAA QNTTYTGGAT LLEAGWVLT PSNATLSF--- ---NAVDA FLRIDPALKD LINGOLTIQNT GTLSLDPKH KLSAAGLEL  
87 IYVINGEYV ---ITTLKPKNI QSKLTSQSL SMIGASHAA QNTTYTGGAT LLEAGWVLT PSNATLSF--- ---NAVDA FLRIDPALKD LINGOLTIQNT GTLSLDPKH KLSAAGLEL  
83 IYVINGEYV ---ITTLKPKNI QSKLTSQSL SMIGASHAA QNTTYTGGAT LLEAGWVLT PSNATLSF--- ---NAVDA FLRIDPALKD LINGOLTIQNT GTLSLDPKH KLSAAGLEL

1080  
83/B5 ISKNGKLLSLL GYGTNGNFS ETIFMIVH--- GCSHLEGNK VETQAGAGRS IKDFKIVAPD GDIKIEGVNV TRNYSYAKH ALDLAHQRLY YENRIQALNS LGLTLA00K  
85 ISKNGKLLSLL GYGTNGNFS ETIFMIVH--- GCSHLEGNK VETQAGAGRS IKDFKIVAPD GDIKIEGVNV TRNYSYAKH ALDLAHQRLY YENRIQALNS LGLTLA00K  
87/B5 ISKNGKLLSLL GYGTNGNFS ETIFMIVH--- GCSHLEGNK VETQAGAGRS IKDFKIVAPD GDIKIEGVNV TRNYSYAKH ALDLAHQRLY YENRIQALNS LGLTLA00K  
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83 ISKNGKLLSLL GYGTNGNFS ETIFMIVH--- GCSHLEGNK VETQAGAGRS IKDFKIVAPD GDIKIEGVNV TRNYSYAKH ALDLAHQRLY YENRIQALNS LGLTLA00K

1200  
83/B5 -----LVA OYTEEINDIT QOQNFRLSGT NGAEHKGSLL TSETGK---VN  
85 -----LVA OYTEEINDIT QOQNFRLSGT NGAEHKGSLL TSETGK---VN  
87/B5 INQLNDALS AYTS5GVDPLN ASIGYDENG NIYV5SNDG GRAYFV5PSI GDLTRYRQI VLNELPAENO KLNFNKINI AFEQDKARIN QITFNNKKT NGYEAHSTL TSAQAN---IS  
87 INQLNDALS AYTS5GVDPLN ASIGYDENG NIYV5SNDG GRAYFV5PSI GDLTRYRQI VLNELPAENO KLNFNKINI AFEQDKARIN QITFNNKKT NGYEAHSTL TSAQAN---IS  
83 INQLNDALS AYTS5GVDPLN ASIGYDENG NIYV5SNDG GRAYFV5PSI GDLTRYRQI VLNELPAENO -----LVA OYTEEINDIT KQINFSLGT NGAEHKGSLL RSETGK---VN

1320  
83/B5 LVSQKIMIT GADIRA-VQG EWNISQDIEG EKVYS5TALD KNGQ-PHIMN AGAIIAAND FYDRNETDQ NYQATSLTPT TLVEGRGRWN IKTTGTQEGS HLVLQAVGIS S5NGDVKIES  
85 LVSQKIMIT GADIRA-VQG EWNISQDIEG EKVYS5TALD KNGQ-PHIMN AGAIIAAND FYDRNETDQ NYQATSLTPT TLVEGRGRWN IKTTGTQEGS HLVLQAVGIS S5NGDVKIES  
87/B5 LVSQKIMIT GADIRA-VQG EWNISQDIEG EKVYS5TALD KNGQ-PHIMN AGAIIAAND FYDRNETDQ NYQATSLTPT TLVEGRGRWN IKTTGTQEGS HLVLQAVGIS S5NGDVKIES  
87 LVSQKIMIT GADIRA-VQG EWNISQDIEG EKVYS5TALD KNGQ-PHIMN AGAIIAAND FYDRNETDQ NYQATSLTPT TLVEGRGRWN IKTTGTQEGS HLVLQAVGIS S5NGDVKIES  
83 LVSQKIMIT GADIRA-VQG EWNISQDIEG EKVYS5TALD KNGQ-PHIMN AGAIIAAND FYDRNETDQ NYQATSLTPT TLVEGRGRWN IKTTGTQEGS HLVLQAVGIS S5NGDVKIES

1440  
83/B5 KNMLFDVAL EQ5YDRSTV EKK5S5GGLK KKTITTFP5N ESSRPASVDI SGNIIYIESK EL-----N KNHNDIY5G QPIAEGDQVF TRSGDGLYFN TWNEISKNOL E1NKK5S5ILG  
85 KNMLFDVAL EQ5YDRSTV EKK5S5GGLK KKTITTFP5N ESSRPASVDI SGNIIYIESK EL-----N KNHNDIY5G QPIAEGDQVF TRSGDGLYFN TWNEISKNOL E1NKK5S5ILG  
87/B5 KNMLFDVAL EQ5YDRSTV EKK5S5GGLK KKTITTFP5N ESSRPASVDI SGNIIYIESK EL-----N KNHNDIY5G QPIAEGDQVF TRSGDGLYFN TWNEISKNOL E1NKK5S5ILG  
87 KNMLFDVAL EQ5YDRSTV EKK5S5GGLK KKTITTFP5N ESSRPASVDI SGNIIYIESK EL-----N KNHNDIY5G QPIAEGDQVF TRSGDGLYFN TWNEISKNOL E1NKK5S5ILG  
83 KNMLFDVAL EQ5YDRSTV EKK5S5GGLK KKTITTFP5N ESSRPASVDI SGNIIYIESK EL-----N KNHNDIY5G QPIAEGDQVF TRSGDGLYFN TWNEISKNOL E1NKK5S5ILG

1560  
83/B5 IKYNTSKNS SYQVVTQPS TAAAYITCK SFDTHLAGT ERYNLEKATI E5GKIFLEP SVTSINNTIK KENS5VWDS MQDKGSITET AKLPSFNGPT PPIFAKAGGL SVOIP5EKD  
85 IKYNTSKNS SYQVVTQPS TAAAYITCK SFDTHLAGT ERYNLEKATI E5GKIFLEP SVTSINNTIK KENS5VWDS MQDKGSITET AKLPSFNGPT PPIFAKAGGL SVOIP5EKD  
87/B5 IKYNTSKNS SYQVVTQPS TAAAYITCK SFDTHLAGT ERYNLEKATI E5GKIFLEP SVTSINNTIK KENS5VWDS MQDKGSITET AKLPSFNGPT PPIFAKAGGL SVOIP5EKD  
87 IKYNTSKNS SYQVVTQPS TAAAYITCK SFDTHLAGT ERYNLEKATI E5GKIFLEP SVTSINNTIK KENS5VWDS MQDKGSITET AKLPSFNGPT PPIFAKAGGL SVOIP5EKD  
83 IKYNTSKNS SYQVVTQPS TAAAYITCK SFDTHLAGT ERYNLEKATI E5GKIFLEP SVTSINNTIK KENS5VWDS MQDKGSITET AKLPSFNGPT PPIFAKAGGL SVOIP5EKD

|-----switch region-----|

1680  
83/B5 ANKVLRLDEI LKLANOPGNT YLKDVLNRND VDWQVLLTO KMDYK5GGL TGAGAAALVI IVTIATMGTG TAAAAGAAAG TAASGTTV---G L6ASMLG-TA GVTTTAAAGAI  
85 ANKVLRLDEI LKLANOPGNT YLKDVLNRND VDWQVLLTO KMDYK5GGL TGAGAAALVI IVTIATMGTG TAAAAGAAAG TAASGTTV---G L6ASMLG-TA GVTTTAAAGAI  
87/B5 ANKVLRLDEI LKLANOPGNT YLKDVLNRND VDWQVLLTO KMDYK5GGL TGAGAAALVI IVTIATMGTG TAAAAGAAAG TAASGTTV---G L6ASMLG-TA GVTTTAAAGAI  
87 ANKVLRLDEI LKLANOPGNT YLKDVLNRND VDWQVLLTO KMDYK5GGL TGAGAAALVI IVTIATMGTG TAAAAGAAAG TAASGTTV---G L6ASMLG-TA GVTTTAAAGAI  
83 ANKVLRLDEI LKLANOPGNT YLKDVLNRND VDWQVLLTO KMDYK5GGL TGAGAAALVI IVTIATMGTG TAAAAGAAAG TAASGTTV---G L6ASMLG-TA GVTTTAAAGAI

1800  
83/B5 VPSTLGMAN AAVTSLA00A S1GLDNGG0 IGKTLKEMGS KDSINLQAS VVTAGLLS0V GTALNLPK-D STLLS5RDLN NFFT5VGS0L VQ----- TAINGNLG0D NLOVALLAGL  
85 VPSTLGMAN AAVTSLA00A S1GLDNGG0 IGKTLKEMGS KDSINLQAS VVTAGLLS0V GTALNLPK-D STLLS5RDLN NFFT5VGS0L VQ----- TAINGNLG0D NLOVALLAGL  
87/B5 VPSTLGMAN AAVTSLA00A S1GLDNGG0 IGKTLKEMGS KDSINLQAS VVTAGLLS0V GTALNLPK-D STLLS5RDLN NFFT5VGS0L VQ----- TAINGNLG0D NLOVALLAGL  
87 VPSTLGMAN AAVTSLA00A S1GLDNGG0 IGKTLKEMGS KDSINLQAS VVTAGLLS0V GTALNLPK-D STLLS5RDLN NFFT5VGS0L VQ----- TAINGNLG0D NLOVALLAGL  
83 VPSTLGMAN AAVTSLA00A S1GLDNGG0 IGKTLKEMGS KDSINLQAS VVTAGLLS0V GTALNLPK-D STLLS5RDLN NFFT5VGS0L VQ----- TAINGNLG0D NLOVALLAGL

1920  
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85 AGALQELAS QIGTSLDKVD PNFIEYTIHK IAHAAVGC5A AAKTK5S5CA GAIGAGVGEI VAGLMP5EPA---NGIEYD5AE KLIKIRNIGKL V5GTVAA5YT YDNTAAN5A DTAI0NN5LV  
87/B5 AGALQELAS QIGTSLDKVD PNFIEYTIHK IAHAAVGC5A AAKTK5S5CA GAIGAGVGEI VAGLMP5EPA---NGIEYD5AE KLIKIRNIGKL V5GTVAA5YT YDNTAAN5A DTAI0NN5LV  
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83 AGALQELAS QIGTSLDKVD PNFIEYTIHK IAHAAVGC5A AAKTK5S5CA GAIGAGVGEI VAGLMP5EPA---NGIEYD5AE KLIKIRNIGKL V5GTVAA5YT YDNTAAN5A DTAI0NN5LV

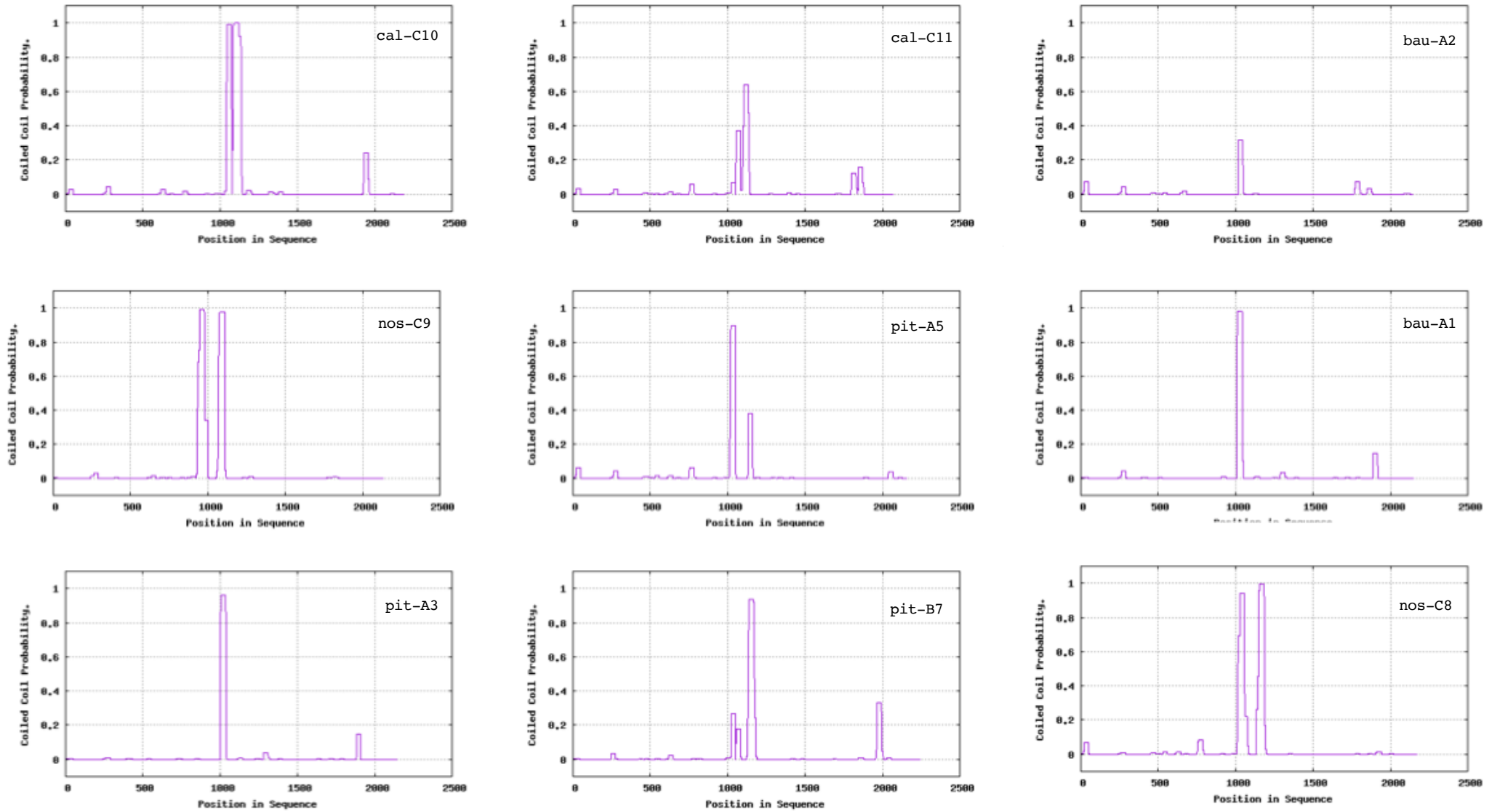
2040  
83/B5 RLATTTGKLL VKAEIYDGI KKANGIY5DS KVFQV0KLD0 G5VEL---GI ADDLVTF5G ASTPDRALA AFDLIGTDL KPGKASLKL A-QAELDKL ---VDQAYTLK VLQVKKD5VT  
85 RLATTTGKLL VKAEIYDGI KKANGIY5DS KVFQV0KLD0 G5VEL---GI ADDLVTF5G ASTPDRALA AFDLIGTDL KPGKASLKL A-QAELDKL ---VDQAYTLK VLQVKKD5VT  
87/B5 RLATTTGKLL VKAEIYDGI KKANGIY5DS KVFQV0KLD0 G5VEL---GI ADDLVTF5G ASTPDRALA AFDLIGTDL KPGKASLKL A-QAELDKL ---VDQAYTLK VLQVKKD5VT  
87 RLATTTGKLL VKAEIYDGI KKANGIY5DS KVFQV0KLD0 G5VEL---GI ADDLVTF5G ASTPDRALA AFDLIGTDL KPGKASLKL A-QAELDKL ---VDQAYTLK VLQVKKD5VT  
83 RLATTTGKLL VKAEIYDGI KKANGIY5DS KVFQV0KLD0 G5VEL---GI ADDLVTF5G ASTPDRALA AFDLIGTDL KPGKASLKL A-QAELDKL ---VDQAYTLK VLQVKKD5VT

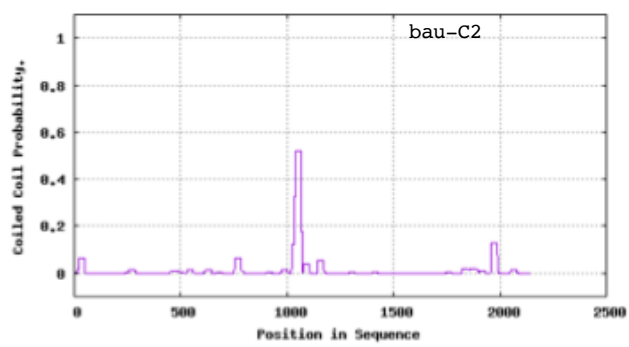
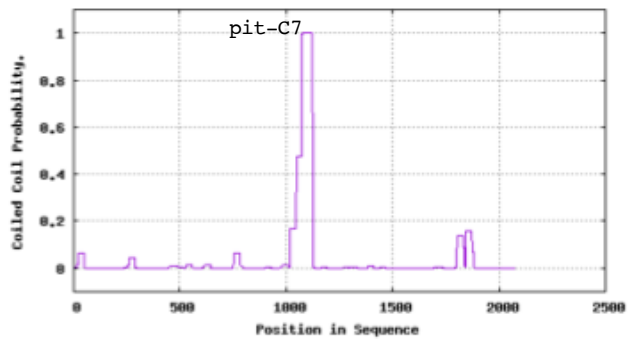
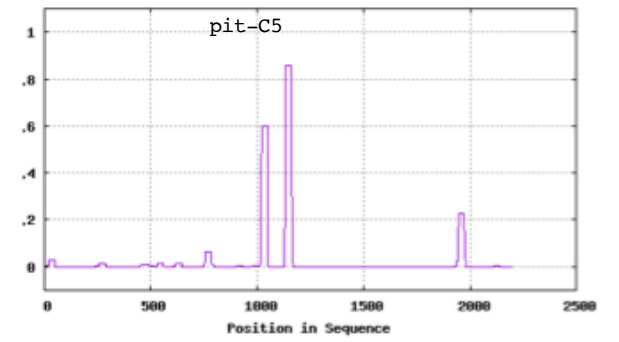
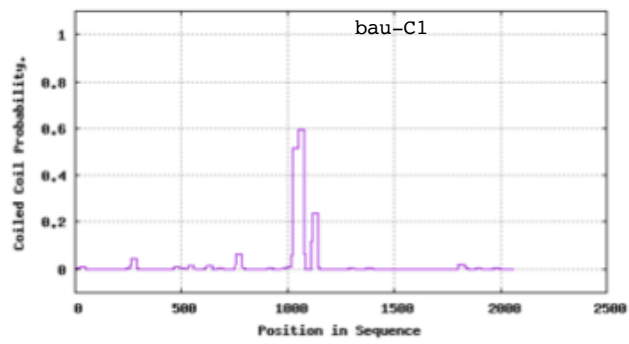
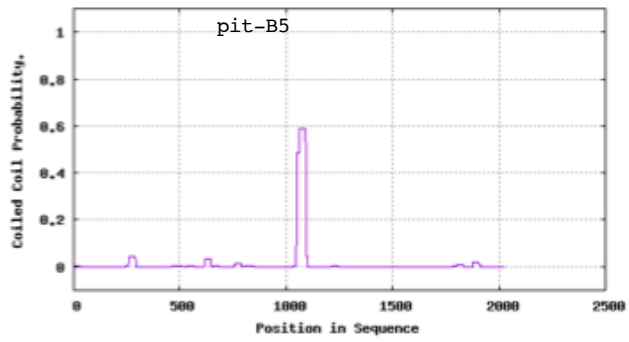
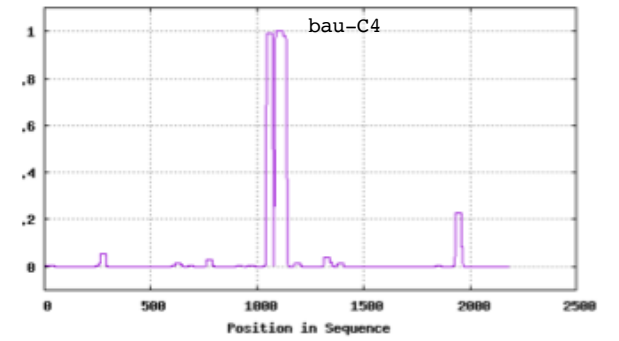
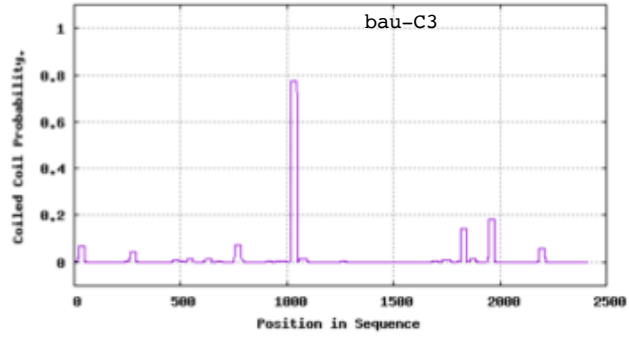
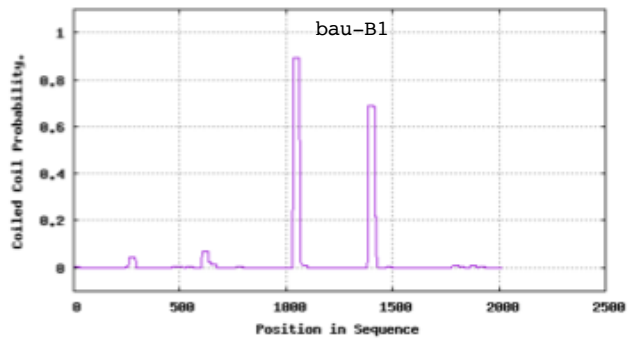
2160  
83/B5 RNR-----LN K5EF5MSA5 KL5-VKRN0 R0MIIKT5R D0G0IIIPDA F0NG5TLV5F KNVQV0LTD0 OLR5YGAT5K PVTLVN5NNT KIS5TVK5NI L5NKGTI0RF DPKI5NTH5Y  
85 RNR-----LN K5EF5MSA5 KL5-VKRN0 R0MIIKT5R D0G0IIIPDA F0NG5TLV5F KNVQV0LTD0 OLR5YGAT5K PVTLVN5NNT KIS5TVK5NI L5NKGTI0RF DPKI5NTH5Y  
87/B5 RNR-----LN K5EF5MSA5 KL5-VKRN0 R0MIIKT5R D0G0IIIPDA F0NG5TLV5F KNVQV0LTD0 OLR5YGAT5K PVTLVN5NNT KIS5TVK5NI L5NKGTI0RF DPKI5NTH5Y  
87 RNR-----LN K5EF5MSA5 KL5-VKRN0 R0MIIKT5R D0G0IIIPDA F0NG5TLV5F KNVQV0LTD0 OLR5YGAT5K PVTLVN5NNT KIS5TVK5NI L5NKGTI0RF DPKI5NTH5Y  
83 RNR-----LN K5EF5MSA5 KL5-VKRN0 R0MIIKT5R D0G0IIIPDA F0NG5TLV5F KNVQV0LTD0 OLR5YGAT5K PVTLVN5NNT KIS5TVK5NI L5NKGTI0RF DPKI5NTH5Y

2275  
83/B5 LTR5E5GILT V5K5GAT5TA K5CSA-GKLT Q5T5E5TAK0 S5K5QAP5TS I5SA5Q0TKV I5D5VK5TIPV F5NG5VLD5RP LP5AV5G5Y5 K5PV5D5SPN I5N5SH5NGY H5G5LRL5AN5V  
85 LTR5E5GILT V5K5GAT5TA K5CSA-GKLT Q5T5E5TAK0 S5K5QAP5TS I5SA5Q0TKV I5D5VK5TIPV F5NG5VLD5RP LP5AV5G5Y5 K5PV5D5SPN I5N5SH5NGY H5G5LRL5AN5V  
87/B5 LTR5E5GILT V5K5GAT5TA K5CSA-GKLT Q5T5E5TAK0 S5K5QAP5TS I5SA5Q0TKV I5D5VK5TIPV F5NG5VLD5RP LP5AV5G5Y5 K5PV5D5SPN I5N5SH5NGY H5G5LRL5AN5V  
87 LTR5E5GILT V5K5GAT5TA K5CSA-GKLT Q5T5E5TAK0 S5K5QAP5TS I5SA5Q0TKV I5D5VK5TIPV F5NG5VLD5RP LP5AV5G5Y5 K5PV5D5SPN I5N5SH5NGY H5G5LRL5AN5V  
83 LTR5E5GILT V5K5GAT5TA K5CSA-GKLT Q5T5E5TAK0 S5K5QAP5TS I5SA5Q0TKV I5D5VK5TIPV F5NG5VLD5RP LP5AV5G5Y5 K5PV5D5SPN I5N5SH5NGY H5G5LRL5AN5V

2615  
83/B5 A0QPN5AVLK F6GDL5TH5G5 D1S5D5V5K5T G5V5L5D5K5YR S5N5K5L5G5AT T5T5N5TR5T5N A5N5E5L5T5R O5N5L5P5E5V5K0 V5L5N5L5D5G5T F5T5Y5V5AT5G S5N5S5I5F5C5V N5K5V5C

Supplementary Fig. 6. Coiled-coil conformation of type-I CdiA proteins predicted by the MARCOIL program





Supplementary file 7. *Acinetobacter pittii* strains carrying multiple *cdiA* genes

<i>pit-A3</i>	<i>pit-A4</i>	<i>pit-A5</i>	<i>pit-A4/C7/A4</i>	<i>pitA5/A4/A5</i>	<i>pitA5/C7/A5</i>	<i>pitA5/C8/A5</i>	<i>pit-A5/n2/A5</i>	<i>pit-B7/pit-B5</i>	<i>pit-B5</i>	<i>pit-C6</i>	<i>pit-C5</i>	<i>bau-B3/B5</i>	<i>pit-B7</i>	<i>pit-B6</i>	strain	ST	Place of isolation
						•		•	•						DSM 25618	63	unknown
						•		•	•						ATCC19004	63	unknown
						•		•	•						St-10592-91	64	Germany Cologne
						•		•	•						St-20772-90	64	Germany Cologne
						•		•	•						St-14379-92	64	Germany Cologne
						•		•	•						DSM 9306	64	unknown
						•		•	•						UKK-0548	248	Germany
						•		•	•						UKK-0556	248	Germany Bochum
						•		•	•						PR386	248	unknown
						•		•	•						ARLG 1839	396	unknown
						•		•	•						PR368	744	unknown
								•	•						UKK-0547	63	Germany Dresden
								•	•						UKK-0327	64	Germany mainz
								•	•						PR313	64	unknown
								•	•						PR370	64	unknown
								•	•						ARLG 1803	64	unknown
		•						•	•						St-12537-91	70	Germany Cologne
								•	•						SH024	93	unknown
								•	•						ABBL10	93	USA Chicago
								•	•						ABBL047	93	USA Chicago
								•	•						ABBL065	93	USA Chicago
								•	•						ABBL103	93	USA Chicago
								•	•						St-11469-92	93	Germany Cologne
								•	•						UKK-0245	93	Germany Berlin
								•	•						UKK-0544	93	Germany Braunschweig
								•	•						UKK-0555	93	Germany
								•	•						St-15639-92	93	Germany Cologne
								•	•						St-15559-91	93	Germany Cologne
								•	•						St-14569-91	93	Germany Cologne
								•	•						ABUH403	93	USA
								•	•						ARLG 1776	93	unknown
								•	•						ARLG 1798	93	unknown
								•	•						IHIT32685	93	Germany
								•	•						IHIT32473	93	Germany
								•	•						UBA2478	396	USA New York
								•	•						ARLG 1768	396	unknown
								•	•						NBRC 110510	1172	Japan Hyogo
								•	•						PR339	744	unknown
								•	•						XH765	nd	China Hangzhou
								•	•						ARLG 1771	1173	unknown
								•	•						St-19650-90	747	Germany Cologne
								•	•						ARLG 1875	nd	unknown
								•	•						ABUH540	1175	USA Ohio
								•	•						ARLG 1950	nd	unknown
						•		•	•						NBRC 110508	1178	Japan Osaka
								•	•						PR301	457	unknown
								•	•						NBRC 110506	220	Japan Gifu
								•	•						1295259	119	USA
								•	•						PR348	119	unknown
								•	•						CR12-42	119	Australia
								•	•						269	119	Malaysia
								•	•						NBRC 110504	119	Japan Osaka
								•	•						NBRC 110507	119	Japan Osaka
								•	•						NBRC 110509	119	Japan Hyogo
								•	•						ABBL111	119	USA Chicago
								•	•						PR320	119	unknown
								•	•						IPK TSA6.1	321	South Korea
								•	•						UBA2484	1171	USA New York
								•	•						ARLG 1957	1169	unknown
								•	•						ABBL024	643	USA Chicago
								•	•						TCM292	207	China Hangzhou
								•	•						907131	220	USA
								•	•						FC8876	643	Rio de Janeiro
								•	•						St-12828-92	744	Germany Cologne
								•	•						UKK-0546	776	Germany Munich
								•	•						IEC338SC	1076	Brazil
								•	•						ABBL103	93	USA Chicago
								•	•						ABBL033	1170	USA Chicago
								•	•						ARLG 1933	1165	unknown

Supplementary file 8. Type-II CdIA alignment.

Residues color: red, high consensus value (90%); blu, moderate consensus value(50%)

PT-VENN motifs, PT-LPEN motifs and the FhaB domain are highlighted in green,turquoise and grey, respectively.

Table with 20 columns of amino acid sequences for residues 1-120. Sequences are aligned across various protein variants (bau-D1 to bay-D15) and include motifs like AGSQGQVGT, DSTIDSVLPI, and others.

Table with 20 columns of amino acid sequences for residues 121-240. Sequences are aligned across various protein variants (bau-D1 to bay-D15) and include motifs like QGGWVQGNP, WLAKGEAKVI, and others.

Table with 20 columns of amino acid sequences for residues 241-360. Sequences are aligned across various protein variants (bau-D1 to bay-D15) and include motifs like LTPYTDIYAR, ALKVNAGLYA, and others.

Table with 20 columns of amino acid sequences for residues 361-480. Sequences are aligned across various protein variants (bau-D1 to bay-D19) and include motifs like IANKDQVQLK, AONIKNTGNV, and others.





baud-020 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL K-LVSONLIN NOOGLLSAQ IVLN-AKQL NSQGKIQHTG TNDLNIQFAN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
baud-015 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL N-LVSONLIN NOOGLLSAQ IVLN-AKQL NSQGKIQHTG INEFALNFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
baud-016 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL K-LTSRNLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
baud-021 ATGIDAAQG QLOQSKIALN AGT-DISTQT ATVVAQN-QL K-LTSRNLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
baud-019 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL K-LVSONLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
baud-013 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL K-LVSONLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
cal-023 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL K-LVSONLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
pit-020 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL N-LVSONLIN NOOGLLSAQ IVLN-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
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baud-017 AOSNIDAAGK QLOAQNIELG SVTGNISTQA GSVVAKD-QL K-LTSRNLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
nos-018 ATRTINAAGQ QLOQSKIALN AGT-DISTQA ATVVAQN-QL K-LTSRNLIN NOOGLLSAQ L1LT-AKQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
nos-022 ATGIDAAQG QLOQSKIALN AGT-DISTQA ATVVAQN-QL K-LASONLIN NOOGLLSAQ ILS-AQQL NSQGKIQHTG NNEFTLDFVN GLNNKAGEIS SNASSINLNT SALNNEAGKI  
baud-02 AAOQTDLLOS ESQAKNVQIE TTFQDTS-A KIAADR-QL D-IRALQSN NEKGOYSAEQ VNLN-TAQLN NNQGLIHTG KNDFILNVAD RIANHAGKII SNAKTEIKI NTLSSVAGEI  
bay-015 SKQIDATNG QLOQAKVIDLA SDAQDISTR ATVIAE-QL S-LKSHOLD NOOGLLSAQ LNLT-ANRLD NTQGHILHTG QDQLDLNFSQ SLNNQLGIEIR SNAELNLIKI ALLNNTGQV

1961  
baud-01 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN GSSSQPV---  
nos-02 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
baud-03 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
nos-04 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
baud-07 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
baud-05 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
nos-08 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
baud-09 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
baud-06 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
nos-012 LHSQOAGLNM DIQNIHAQKA ELRTNGALKL TTDQALLDQS KVSATOANIQ ANOFTDRNGE MLFSAVNGOS SIRVNGDYQH QGSVLOSNSH LDIQTGSLSN QNGNIVLVTQN EATSQPV---  
baud-010 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-011 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-014 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-012 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-020 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-015 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-010 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-021 IHVGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-019 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-013 IHAGNQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
cal-023 IHAGTQQLIN KANOLGQSQ QILTNQGLFV DAGIIVLDGA TTSANOINIS ANSLSHOKGQ MVORGLTKPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
pit-020 IHAGSQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVORGLTKPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
pit-06 IHVGSQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVORGLTKPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
baud-017 IHAGSQQLIN TADOLGQAQ QILSNQGLLL KGGQVLDGA TTSANOINIS ADLSLHOKGQ MVOSGTLNPL TLAIKDQNNN QLGFISQSQS LQKTTTLLN QGGQLSSALN YDQVQDVALG  
nos-018 IHSNQQLIN NSNOLGQVQ KILSNQGLVL ATEQAILDGA ITSAODINIT AYNLSHOKGQ MIORGLTKPL TLAITDQINN QLGFISQSPA LYITAGSLNN QGGQLSSAAD HDLQDVALG  
nos-022 IHSNQQLIN NSNOLGQVQ KILSNQGLVL ATEQAILDGA ITSAODINIT AYNLSHOKGQ MIORGLTKPL TLAITDQINN QLGFISQSPA LYITAGSLNN QGGQLSSAAD HDLQDVALG  
baud-02 LHAQDQHLKI TAQNLQGGQ KIQSNSDLQL NLGTANLDKA LTAQASINLT ATELSHOKGQ LIQNDANGHL QNVVQTLN MSQVISAAGN ADIKTADLNN QSVIQTALN KDLSESQKQL  
bay-015 VHAQTQQLIN QTAQLNHLGL HILSNQGLQL KAGFLDVSQV VTSADQITIQ ANVLNNAQOQ LTRQRTSNPL NLTIQQQLNN QAGLIQSATA TDIKAGSLNN QRTLSQAQ QNLVDV---

1081  
baud-01 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
nos-02 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
baud-03 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
nos-04 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
baud-07 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
baud-05 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
nos-08 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
baud-09 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
baud-06 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
nos-012 ---QNLIVSQN DIQNLD-GNI VSEGLSLTK GKGSINQOQN IISNTLELT TDQL --- ---INNO SQ01QA-KDI KLSASNLDNS SG ---  
baud-010 LDNSQSGKIY AGONGVIOAG SINNSINGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-011 LDNSQSGKIY AGOSVIOAG SINNSINGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-014 LDNSQSGKIY AGOSVIOAG SINNSINGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-012 LDNSQSGKIY AGOSVIOAG SINNSINGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-020 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-015 LDNSQSGKIY AGOSVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-016 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-021 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-019 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-013 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
cal-023 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
pit-020 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
pit-06 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
baud-017 LDNSQSGKIY AGONGVIOAG SIDNSLSGLI SAQNALTLTS LGIINNSQSK IVANQDVTLT SMLDNSSGQ IGSSQGVIAI NAGSGVNNNT SGTLOAEKDL SVSADQINNO SGLMNSOSSL  
nos-018 LDNSQSGKIY AGONNINHAG SINNSIAGQI SAQNALTLTS LGIINNSQSK IVANQDVTR SEGLDNTGQ IGSVQAGLTL DVGKGLTNO SGLQADKNI EIKADQKTO AGLISAQGI  
nos-022 LDNSQSGKIY AGONNINHAG SINNSIAGQI SAQNALTLTS LGIINNSQSK IVANQDVTR SEGLDNTGQ IGSVQAGLTL DVGKGLTNO SGLQADKNI EIKADQKTO AGLISAQGI  
baud-02 ---ENOSGKIY AGRDAAIKTT QLNN-DTGT YAAGKLGHA TDVSNQOGL IAAQSLNIE AQNLNNSKGO IQTESGDANL TIAQ-ILNNO AGHIQAANAL NIVATQVENO AG ---  
bay-015 VAGKLD ---NSQ-SGQI YAGNOAHQV GSDINSHGQ INAQOQLLT SQQ --- ---INNO SG ---

1201  
baud-01 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
nos-02 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
baud-03 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
nos-04 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
baud-07 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
baud-05 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
nos-08 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
baud-09 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
baud-06 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
nos-012 ---VIAAKT GDV-SLNNIN Q --- ---LINGRVE QKGSAGIIQA AQNDIVOTGL LDN-SGLIYA --- ---GONOQLK VAQNLKNAQ LAAQNNLNITQ  
baud-010 ALISRKDINN KSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-011 ALISRKDINN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-014 ALISRKDINN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-012 ALISRKDINN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-020 SLSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-015 QAQITQDIDN SEGOIVANKA VLLSSOGLNN NAGLIGSVED IVNINAGSAGV LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-016 SLSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-021 SLSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-019 SLSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-013 ALISRKDINN KSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
cal-023 ALSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
pit-020 SLSSRKDVNN ASGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
pit-06 SLSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
baud-017 SLSSRKDVNN TSGQIIAKQD VTTQSOGLAN DLGQIGSVQV NVSLDAGLGD LSNQSGKTLA AQDLTLSAQN LDNQSGLISA --- ---QKHLAK VQKNNLKGQ IQSGDAIETM  
nos-018 QAQINQDIDN SSGQIVANKS VLLSSOGLNN NQGVIASIQD ELNINAGSLA LTNQAGLLQS GRNNILITRG IDNSSGTIDS AGRQLMSGPI QTGOSTLST TPWMLMTAGI IKMGDFHLD  
nos-022 QAQINQDIDN SSGQIVANKS VLLSSOGLNN NQGVIASIQD ELNINAGSLA LTNQAGLLQS GRNNILITRG IDNSSGTIDS AGRQLMSGPI QTGOSTLST PPWMLMTAGI IKMGDFHLD  
baud-02 ---QLSGLTD TQDVAHLNN QSGTIYSKQO DLNLSVSGTD ---NSAGTLAA DONLNLRNG DNLNQAQIRS EN ---ADLKLNI AQDVQNTTGL ISAANKLNLT  
bay-015 ---QIVANGD VQIQSOGLNN SHGQM --- ---GSLQG GLSLNTGSDT LINGSG --- ---ADLKLNI AQDVQNTTGL ISAANKLNLT L IQAKKDITQ

1440  
baud-01 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
nos-02 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
baud-03 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
nos-04 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
baud-07 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
baud-05 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
nos-08 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
baud-09 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL  
baud-06 TATLQTSAG SIIAGLSDG SLANQGNLNI DATGAI --- ---NAOQGLIAG GDLSSQAASH VLNQLVQAK NISLNSKSGO LS --- ---AQQSTIQAAQ QLNLTTPDTL



nos-D12 TATLSQTSAG SIIAGLTS DG SLANQGNLNI DATGAI----- -SAQGQLIAG GDLNSQAASH VLNQSLVQAK NISLNSKSGQ LS----- A0QSSIQAAQ QLNLTTPDTL
bau-D10 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DTLTVLSQQA INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D11 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DALTVLSQOE INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D14 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DALTVLSQOE INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D12 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DALTVLSQOE INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D20 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DTLTVLSQGG INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D15 G0KDFN-N0GG LLQ5--GADL NFKLSGLLND S0SGQLASGG NTIIOQAGSVK NSGGKISAQ GVLNIDAVQA IDNQLGTMVA NQDITLTSOG LNSVQ----- G0IGSKNLG MIDVGGQQLS
bau-D16 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAI DTLTVLSQQA INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D21 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAI DTLTVLSQQA INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D19 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAI DTLTVLSQQA INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D13 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAI DTLTVLSQQA INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
cal-D23 G0SLN-N0GG SIET--NADL TLNINAALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DALTVLSQQA INNQAQVMTA NQNVSIQSQG LDNTG----- G0IGSVQGS L TIDAQKEKLL
pit-D20 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DTLTVLSQGG INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
pit-D6 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DTLTVLSQGG INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
bau-D17 G0SLN-N0GG SIET--NADL TLNITDALDN S0SGKL-TGN TTKITAGSIN NSNKQINAT DTLTVLSQQA INNQTGVMAA NQNVSIQSQG LDNTS----- G0IGSVQGS L TIDAQKEKLL
nos-D18 ASQFD-NRGG TLQTRQGYDL SLNITGQLDN S0GGQLQSGH DLMIASGSMN NEH--GHLSAQ GLASVKADHG LDNTAGSIIA NADVNVSNQG LNRSTINDQ GTIGSVQGL TVDAGQGLLS
nos-D22 ASQFD-NRGG TLQTRQGYDL SLNITGQLDN S0GGQLQSGH DLMIASGSMN NEH--GHLSAQ GLASVKADHG LDNTAGSIIA NADVNVSNQG LNRSTINDQ GTIGSVQGL TVDAGQGLLS
bau-D2 AKNIT-S0QG KVQSGANANI QLNMF----- DNTEGVVYAE EQLQLSATKG LNTQGIYAA EQSTDIRAGS VINDA----- G0IRSQDQL KLNVOQD--IS
bay-D15 AQRID-N0QG QI----- -TTQG----- -OAEILSQAE IDNLEGAIAA DLDVNIIRSQ LNNK----- G0ISSAQNL TLNAG-----

1441

1560
bau-D1 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDDTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTADSQI LAIA-----
nos-D2 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTADSQI LAIA-----
bau-D3 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTADSQI LAIA-----
nos-D4 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTADSQI LAIA-----
bau-D7 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTADSQI LAIA-----
bau-D5 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTAGSOLI LAIA-----
nos-D8 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTAGSOLI LAIA-----
bau-D9 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTAGSOLI LAIA-----
bau-D6 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTAGSOLI LAIA-----
nos-D12 DTQANLKAN KVQINAKDLN NOSGHIQ0TG LDHTQILLTG DLSNONGQID SLGQKLQINA NNLNNQGLI QSGTAGSOLI LAIA-----
bau-D10 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D11 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D14 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D12 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D20 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D15 NQAGSLQAGT ELHLQAAGIN NDSGIV--GS LGSNHLSSG DLSNKAGKIA TNATLQVNGQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D16 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D21 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D19 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D13 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
cal-D23 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
pit-D20 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
pit-D6 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
bau-D17 NTSGSLQAGT SLKITSGGLN NDSGTI--LA LTDNTITSTD DLSNKAGKIA SNAHTITITQ N-LNNOAGMI QSGSGSALD VINGALDNSQ AGHLLSG---
nos-D18 NQHGTLQAA RDLNAAID STSGTI--QA QDDIQI ISAT ALNNSGSHV TTAGSIIATA NSLDNQAGLI LSNPQHDITL TVSDLLDNRQ QGQINSGHRI GISAGQLNNS SQGITAQSTA
nos-D22 NQHGTLQAA RDLNAAID STSGTI--QA QDDIQI ISAT ALNNSGSHV TTAGSIIATA NSLDNQAGLI LSNPQHDITL TVSDLLDNRQ QGQINSGHRI GISAGQLNNS SQGITAQSTA
bau-D2 NQNGEISA AK SIELNAQKVS NQKQKV--IA QDDIQI ISAT ALNNSGSHV TTAGSIIATA NSLDNQAGLI LSNPQHDITL TVSDLLDNRQ QGQINSGHRI GISAGQLNNS SQGITAQSTA
bay-D15 --NGTLT-- NQAATI--VS -----GESLNV TAQ-----
--NGTLT-- NQAATI--VS -----GKTLT SAN-----

1561

1680
bau-D1 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
nos-D2 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
bau-D3 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
nos-D4 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
bau-D7 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
bau-D5 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
nos-D8 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
bau-D9 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
bau-D6 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
nos-D12 ----- N TLNNQGNIK TAGSLQTNSS EL--NNDAGTL LSFNGFNINT QQLSNQAGOI
bau-D10 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D11 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D14 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D12 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D20 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D15 NLQVN----- A LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D16 NLQVN----- S LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS EGLNHHQOI
bau-D21 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D19 NLQVN----- S LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS EGLNHHQOI
bau-D13 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
cal-D23 NLQVN----- S LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS EGLNHHQOI
pit-D20 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
pit-D6 NLKVN----- T LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS KGLNNQGOI
bau-D17 NLQVN----- S LDNSQGGIIS AQDALNIIISA GLINNOAGTL VANQVTLSS EGLNHHQOI
nos-D18 NLNINQDINN NNGSIVAYDD VTTTSSVGNM DAGKISSAKG LLSIDAGTV LSSQVGTQA GTNLTAASA INNTAAGLIS ALNAVTLTST GLINNDGSI IANHDVNTS QGLSNHAGEI
nos-D22 NLNINQDINN NNGSIVAYDD VTTTSSVGNM DAGKISSAKG LLSIDAGTV LSSQVGTQA GTNLTAASA INNTAAGLIS ALNAVTLTST GLINNDGSI IANHDVNTS QGLSNHAGEI
bau-D2 ----- Q VD--SIEGTIY AKQELHLTVA DDFNNOGTAI NQNTSAGTI KANLNNTAGKI
bay-D15 ----- Q LDNSNHQIIN SQNNADISIV KDIINNTSGVI AAKQQLILSS QGLNNTTGOI

1681

1800
bau-D1 -----VE AGTQ-----
nos-D2 -----VE AGTQ-----
bau-D3 -----VE AGTQ-----
nos-D4 -----VE AGTQ-----
bau-D7 -----VE AGTQ-----
bau-D5 -----VE AGTQ-----
nos-D8 -----VE AGTQ-----
bau-D9 -----VE AGTQ-----
bau-D6 -----VE AGTQ-----
nos-D12 -----VE AGTQ-----
bau-D10 GSIQGGLAID AGDQALTNQS GVLOAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVKSTGLNNS LGQISSAQGE IVLNAGQGLL SNOTGKIIAG QALQLTADQF
bau-D11 GSIQGGLAID AGDQALTNQS GVLOAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVKSTGLNNS LGQISSAQGE IVLNAGQGLL SNOTGKIIAG QALQLTADQF
bau-D14 GSIQGGLAID AGDQALTNQS GVLOAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVKSTGLNNS LGQISSAQGE IVLNAGQGLL SNOTGKIIAG QALQLTADQF
bau-D12 GSIQGGLAID AGDQALTNQS GVLOAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVKSTGLNNS LGQISSAQGE IVLNAGQGLL SNOTGKIIAG QALQLTADQF
bau-D20 GSIQGGLAID AGDQALTNQS GVLOAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVKSTGLNNS LGQISSAQGE IVLNAGQGLL SNOTGKIIAG QALQLTADQF
bau-D15 GSIQGGTVD TGNQALSNKA GTLQAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVNSQGLNNS LGNISSAQGN IVLNAGQGVV SNOTGKVIAG QALQLSAGOV
bau-D16 GSIQGGLAID AGDQALTNQS GILQAKSDVT IKALSIDSTE GOIISQAKVD VQSQKEVNNQ QGLISADQGI QVNSQGLNNS LGNISSAQGN IVLNAGQGVV SNOTGKVIAG QALQLSAGOV
bau-D21 GSIQGGLAID AGDQALTNQS GVLOAKTDLT AKALSIDSTE GOIISQAKID LQSLKEINNO QGIISADQGI QVNSQGLNNS LGNISSAQGN IVLNAGQGVV SNOTGKVIAG QALQLSAGOV
bau-D19 GSIQGGLAID AGDQALTNQS GILQAKSDVT IKALSIDSTE GOIISQAKVD VQSQKEVNNQ QGLISADQGI QVNSQGLNNS LGNISSAQGN IVLNAGQGVV SNOTGKVIAG QALQLSAGOV
bau-D13 GSIQGGVLD AGDQALTNQS GVLOAKTDLT AKALS-----
cal-D23 GSIQGGVLD SGLDALTQS GVLOAKTDLT AKALS-----
pit-D20 GSIQGGVLD VGDQALTNQS GVLOAKTDLT AKALS-----
pit-D6 GSIQGGVLD AGDQALTNQS GVLOAKTDLT AKALS-----
bau-D17 GSIQGGVLD AGDQALTNQS GILQAKTDLT GKALS-----
nos-D18 GSIITGVNAN AGNAALSQNS GRIQAATAIA LTAVGIDNTA GNISSQGTAT VDSRQIITNO SGRLIAHDNL NVSSEGLNNS MGQIGSANGL LNLNTGNGAL SRSRSGKQAA TAAVTIAHDI
nos-D22 GSIITGVNAN AGNAALSQNS GRIQAATAIA LTAVGIDNTA GNISSQGTAT VDSRQIITNO SGRLIAHDNL NVSSEGLNNS MGQIGSANGL LNLNTGNGAL SRSRSGKQAA TAAVTIAHDI
bau-D2 RS-----
bay-D15 -----

1801

1920
bau-D1 -----
nos-D2 -----
bau-D3 -----
nos-D4 -----



Table with columns for identifiers (bau-D1 to bay-D15), a central column with dashes, and a right column with numbers (2281, 2400). Includes entries like QOGLVGSVSG ALNIDAGQGL LNNQOQGQL AATTADLKA...

Table with columns for identifiers (bau-D1 to bay-D15), a central column with dashes, and a right column with numbers (2401, 2520). Includes entries like LYSGGQTTIK AASVDNSAQ QINSQGLNI TTAQDINNTE GVIIVATKQMQ LKSQGLENTA...

Table with columns for identifiers (bau-D1 to bay-D15), a central column with dashes, and a right column with numbers (2521, 2640). Includes entries like NDITIIQTQGT LGNQNHGQIV SATGNINATA NGLNNOQGLI ETYLNHDIDL TLKDTLDNSQ...

Table with columns for identifiers (bau-D1 to bay-D15), a central column with dashes, and a right column with numbers (2641, 2760). Includes entries like QAGIIQSGEQ ANLIDLINGV LNNQAGQIHG GANTQIHANS INNSOQGOIS AQDALNIISA GLVDNQ-AGQ...

nos-D18 DSGLIGSAGS QLQVDAGSGS LTNHAGQLLS AGNMDLHAAG IDNSGQGEIN TQOQLNINSD QVLSNSDAGO IAIAKQDLSIH SDGLDNYNAG RIGSQQGLMN LNIGTGLLNN SQOGLLQAAT  
nos-D22 DSGLIGSAGS QLQVDAGLGS LTNHAGQLLS AGNMDLHAAG IDNSGQGEIN TQOQLNINSD QVLSNSDAGO IAIAKQDLSIH SDGLDNYNAG RIGSQQGLMN LNIGTGLLNN SQOGLLQAAT  
bau-D2  
bay-D15

2761

2880

bau-D1 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQAGALKNN TGSI  
nos-D2 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQAGALKNN TGSI  
bau-D3 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQADALKNN AGSI  
nos-D4 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQAGALKNN MGSI  
bau-D7 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQADALKNN AGSI  
bau-D5 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQADALKNN AGSI  
nos-D8 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQAGALKNN TGSI  
bau-D9 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQADALKNN AGSI  
bau-D6 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQADALKNN AGSI  
nos-D12 ---DNIVNQ LIVKNLNNS NGKIQTNNHL ETQAGALKNN TGSI  
bau-D10 DVSVKALSID NT----V GQINTQGNIN LLSQOSINNT QGVIVGDQSI NINSQGLNNN QGQI  
bau-D11 DVAVKALSVD NT----A GQINTPGGID LVSQOINNT QGSIVGDQRL NLKAQGLNNN QGQI  
bau-D14 DVAVKALSVD NT----A GQINTPGGID LVSQOINNT QGSIVGDQRL NLKAQGLNNN QGQI  
bau-D12 DVAVKALSVD NT----A GQINTPGGID LVSQOINNT QGSIVGDQRL NLKAQGLNNN QGQI  
bau-D20 DVAVKALSVD NT----A GQINTPGGID LVSQOINNT QGSIVGDQRL NLKAQGLNNN QGQI  
bau-D15 DIAVKALSVD NS----A GQINTQGGID LVSQOINNT QGSIVGDQSI NINSQGLNNN QGQI  
bau-D16 DVSVKALSID NT----A GQINTQGNIN LLSQOSINNT QGVIVGDQSI NINSQGLNNN QGQI  
bau-D21 DVSVKALSID NT----A GQINTQGNIN LLSQOSINNT QGVIVGDQSI NINSQGLNNN QGQI  
bau-D19 DVSVKALSID NT----A GQINTQGNIN LLSQOSINNT QGVIVGDQSI NINSQGLNNN QGQI  
bau-D13 ---VD NT----A GHFSAQKID LTSQQTINNT QGSIVADQNL NIHSQGLINN QGKL  
cal-D23 ---VD NT----A GHFSAQKID LNSQQTINNT QGSIVADQNL NMHSQGLINN QGKL  
pit-D20 ---VD NT----A GHFSAQKID LTSQKNINNT QGSIVADQNL NIHSQGLINN QGKL  
pit-D6 ---VE NT----A GHISAQKID LNSQKNINNT QGSIVADQNL NIHSQGLINN QGKL  
bau-D17 ---VD NT----A GHFSAQKID LTSQQTINNT QGSIVADQNL NIHSQGLINN QGKL  
nos-D18 DLNIESGSDI NSHTLSAAQS NGIKAGGKLO LISQOSLNNO QGATVAGKTL SHSTEVNND QGLMNSLDDL GIVTSGALTN QHGQLQSATN LSIESESLNN DHGDLQAQNT LAVSINQETIN  
nos-D22 DLNIESGSDI NSHTLSAAQS NGIKAGGKLO LISQOSLNNO QGATVAGKTL SHSTEVNND QGLMNSLDDL GIVTSGALTN QHGQLQSATN LSIESESLNN DHGDLQAQNT LAVSINQETIN  
bau-D2 ---EQNLQD LNVQNLDNQ TQIYAGSQA NIHTTELNNO QGTI  
bay-D15 ---GTV

2881

3000

bau-D1 ---VTA GTAGLNLNTA SRLDNQSGNI HSSGDLNIKA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
nos-D2 ---VTA GTAGLNLNTA SRLDNQSGNI HSSGDLNIKA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
bau-D3 ---VTA GAAGLNLNTT SRLDNQSGNI RSSGDLNVNA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
nos-D4 ---VTA GTAGLNLNTA SRLDNQSGNI HSSGDLNIKA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
bau-D7 ---VTA GTAGLNLNTT SRLDNQSGNI RSSGDLNVNA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
nos-D5 ---VTA GAAGLNLNTT SRLDNQSGNI RSSGDLNVNA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
nos-D8 ---VTA GTAGLNLNTA SRLDNQSGNI HSSGDLNIKA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
bau-D9 ---VTA GAAGLNLNTT SRLDNQSGNI RSSGDLNVNA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
bau-D6 ---VTA GAAGLNLNTT SRLDNQSGNI RSSGDLNVNA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
nos-D12 ---VTA GTAGLNLNTA SRLDNQSGNI RSSGDLNVNA QDILND-QGO ILAAKNAQFN SQNTLSNQ  
bau-D10 GTQ GDLTVQAGTQ V-LQNTGTL QAGQNLNISA AADNLLSGO INAQGSAILQ STGLVNNQ  
bau-D11 GTQ GDLNLVSGSG 5-LQNTGTL QAGQNIIVDA AADNSSTGK INAQGNVTLQ STGLINNE  
bau-D14 GTQ GDLNLVSGSG 5-LQNTGTL QAGQNIIVDA AADNSSTGK INAQGNVTLQ STGLINNE  
bau-D12 GTQ GDLNLVSGSG 5-LQNTGTL QAGQNIIVDA AADNSSTGK INAQGNVTLQ STGLINNE  
nos-D20 GTQ GDLNLVSGSG 5-LQNTGTL QAGQNIIVDA AADNSSTGK INAQGNVTLQ STGLINNE  
bau-D15 GTQ GDLTVQAGTQ V-LQNTGTL QAGQNLNISA AADNSLSGK INAQGSVALQ STGLINNE  
bau-D16 GTQ GDLTVQAGTQ V-LQNTGTL QAGQNLNISA AADNLLSGO INAQGSAILQ STGLVNNQ  
bau-D21 GTQ GDLTVQAGTQ V-LQNTGTL QAGQNLNISA AADNLLSGO INAQGSAILQ STGLVNNQ  
bau-D19 GTQ GDLTVQAGTQ V-LQNTGTL QAGQNLNISA AADNLLSGO INAQGSAILQ STGLVNNQ  
bau-D13 ---ATO GNLTVOAGTQ A-LKNOAGII QSGQDMSVIA ASIDNSLSGO INAQGSATLQ STGLLNNE  
cal-D23 ---ATO GNLTVOAGTQ A-LKNOAGII QSGQDMSVIA ASIDNSLSGO INAQGSATLQ STGLLNNE  
pit-D20 ---ATO GNLTVOAGTQ A-LKNOAGII QSGQDMSVIA ASIDNSLSGO INAQGSATLQ STGLLNNE  
pit-D6 ---ATO GNLTVOAGTQ A-LKNOAGII QSGQDMSVIA ASIDNSLSGO INAQGSATLQ STGLLNNE  
bau-D17 ---ATO GNLTVOAGTQ A-LKNOAGII QSGQDMSVIA ASIDNSLSGO INAQGSATLQ STGLLNNE  
nos-D18 NVGGHIAAFN DVNLHNSGLN NNAVNSAAGS MDVSQIGSVY SMLNIDAGRG A-LTNOGSSL QAGRSITLSA DGDIDSSNGGY IHAVQNIELN SQHRLNNDYQ QIVADSGSIV SQSSDLSNLG  
nos-D22 NVGGHIAAFN DVNLHNSGLN NNAVNSAAGS MDVSQIGSVY SMLNIDAGRG A-LTNOGSSL QAGRSITLSA DGDIDSSNGGY IHAVQNIELN SQHRLNNDYQ QIVADSGSIV SQSSDLSNLG  
bau-D2 ---Y SQNLQDLIAS Q-LNNOQGOI YSG  
bay-D15 ---Q GNHLIDAGSQ L-LNNOQGOI QSG

3001

3120

bau-D1 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
nos-D2 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
bau-D3 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
nos-D4 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
bau-D7 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
nos-D5 ---GLIAAQQQIM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
nos-D8 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
bau-D9 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
nos-D12 ---GLIAAQQQLM IQSAAALNQA GQIGSVADGV NIQTTOQALN NOSGKIQAQ  
bau-D10 ---T GITANQDIT LTSQGLNNTQ GQIGSVVGLS NLD5GQOILN NOSGSLLSGH  
bau-D11 ---T GVIAANQDVT LTGQGLNNTQ GQIGSVAGSL NLD5GQOILN NOSGSLLSNN  
bau-D14 ---T GVIAANQDVT LTGQGLNNTQ GQIGSVAGSL NLD5GQOILN NOSGSLLSNN  
bau-D12 ---T GVIAANQDVT LTGQGLNNTQ GQIGSVAGSL NLD5GQOILN NOSGSLLSNN  
bau-D20 ---T GVIAANQDVT LTGQGLNNTQ GQIGSVAGSL NLD5GQOILN NOSGSLLSNN  
bau-D15 ---T GVIAANQDVM LTSQGLNNTQ GQIGSVVGLS NLD5GQOILN NOSGSLLSGH  
bau-D16 ---T GITANQDIT LTSQGLNNTQ GQIGSVVGLS NLD5GQOILN NOSGSLLSGH  
bau-D21 ---T GITANQDIT LTSQGLNNTQ GQIGSVVGLS NLD5GQOILN NOSGSLLSGH  
bau-D19 ---T GITANQDIT LTSQGLNNTQ GQIGSVVGLS NLD5GQOILN NOSGSLLSGH  
bau-D13 ---T GVLAAGQDLT LNGNGLNNAK KIGISVNGAL NINAGSLLN NOSGSLQ5AG  
cal-D23 ---T GVLAAGQDLT LNGNGLNNAK KIGISVNGAL NINAGSLLN NOSGSLQ5AG  
pit-D20 ---T GVLAAGQDLT LNGNGLNNAK KIGISVNGAL NINAGSLLN NOSGSLQ5AG  
pit-D6 ---T GVLAAGQDLT LNGNGLNNAK KIGISVNGAL NINAGSLLN NOSGSLQ5AG  
bau-D17 ---T GVLAAGQDLT LNGNGLNNTK KIGISVNGAL NINAGSLLN NOSGSLQ5AG  
nos-D18 ---K GIAAANNVT VNSNGLINDT GHIQSVNGDL NVDAGSGLV NQRGDLQ5GQ  
nos-D22 ---K GIAAANNVT VNSNGLINDT GHIQSVNGDL NVDAGSGLV NQRGDLQ5GQ  
bau-D2 ---K GVLAAGQDLT INNSAGLDNTA GTRISENADI TLNAQQGLIN AQ-GDIYAGH  
bay-D15 ---QDLN LNATGIDNT

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bau-D1 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
nos-D2 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
nos-D3 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
nos-D4 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
bau-D7 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
nos-D5 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
nos-D8 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
bau-D9 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
nos-D12 ATNLDVQGLD NSLQGLISST KGDQSKIQID THQOQLNNO GQINSQNTLQ ISTNSLNNOQ -GLITAOQDL GINAVQLIDN RQTYLNATLP ELAAGIQSLG QVLLQT-SEL NNEEQGVIAQ  
bau-D10 QINIHAAGLN NTQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---TIDT QGHLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D11 QISIHATGLN NSQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---TIDT QGHLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D14 QISIHATGLN NSQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---TIDT QGHLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D12 QISIHATGLN NSQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---TIDT QGHLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D20 QISIHATGLN NSQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---TIDT QGHLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D15 QISIHATGLN NSQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGAFNNDQ -GLVQAKTSL ---VLDT NGQNLVNSNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D16 QINIHAAGLN NTQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---MIDT QGQSLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D21 QINIHAAGLN NTQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---TIDT QGHLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG  
bau-D19 QINIHAAGLN NTQGOIVA---QQLLDID AELQALNNOQ GLISS-DTVN ITSGLLNNDQ -GLIQSNSAM ---MIDT QGQSLINTNS GTQGGLLSQ NLSLKNVGLL DNKLGYLASG

baud-13 VIDLKAGVW NQLGKITS ---LKAIND S00QAFNTQQ GTISS-DLVS ISSGLFNDDQ -GLVQAKTSL -----VLDT NGQNLVNTNS GTQGGLLSQG NLTLLKNSAL DNTQGYIASS  
cal-023 VIDLKAGVW NQLGKITS ---LKAIND S00QAFNTQQ GTISS-DLVS ISSGLFNDDQ -GLVQAKTSL -----VLDT NGQNLVNTNS GTQGGLLSQG NLTLLKNSAL DNTQGYIASS  
pit-020 VIDLKAGVW NQLGKITS ---LTAIND S00QAFNTQQ GTISS-DQIS ILSGPFNDDQ -GLVQAKTSL -----VLDT NGQNLVNTNS GTQGGLLSQG NLTLLKNSAL DNTQGYIASS  
pit-06 VIDLKAGVW NQLGKITS ---LTAIND S00QAFNTQQ GTISS-DQIS ILSGPFNDDQ -GLVQAKTSL -----VLDT NGQNLVNTNS GTQGGLLSQG NLTLLKNSAL DNTQGYIASS  
bau-017 VIDVQAGVW NQLGKITS ---LKAIND S00QAFNTQQ GTISS-DLVS ISSGLFNDDQ -GLVQAKTSL -----VLDT NGQNLVNTNS GTQGGLLSQG NLTLLKNSAL DNTQGYIASS  
nos-018 NASIAATGID NQTGHIFA ---NQALSID SRGQALQNOQ GOING-TGVQ ILSGALDNGO SGLTOSGALL ---SINT HQQALNNONS GDTGGLSRRG DLTLLNISOQL DNTSGYIASS  
nos-022 NASIAATGID NQTGHIFA ---NQALSID SRGQALQNOQ GOISG-TGVQ ILSGALDNGO SGLTOSGALL ---SINT HQQALNNONS GDTGGLSRRG DLTLLNISOQL DNTSGYIASS  
bau-02 NASLNSVGLD NSSGQIAA ---NQQLTID TQKQQLSNQ AKITA-RAVD LKTGKLDNQT -GLTQAEQSV -----KIDT QNALNNNS GNNAGLSQG GLDTANVSOL ENSNGYIAAI  
bay-015 ---QGQISS ---KNQLQLD SREQLLNRLO RFLSA-ENLT IDSJELNDDQ -GLTQAEQSV -----QIDT HQHNLNNTNS GAQGGLLSQG NIQLNNTQTL DNQOQYIASS

3241

baud-01 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG FISAQKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
nos-02 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLIS- GSQLDNSQQG LISAAKVKI VSONDNSNN DQN----- OGIQAGQIEI AASTLNNSSG  
bau-03 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG LISAAKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
nos-04 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMT- GSQLDNSQQG LISAAKVKI VSONDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
bau-07 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG LISAAKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
bau-05 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG LISAAKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
nos-08 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLIS- GSQLDNSQQG LISAAKVKI VSONDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
bau-09 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG FISAQKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
bau-06 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG LISAAKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
nos-012 NGLTIAQPKV NNSNAGLLAS G0DLLIDSVG QA-GTINNO KKGISANONI SLNTGLMS- GSQLDNSQQG LISAAKVKI ISQNDNSNN DQN----- OGIQAGQIEI AASTLNNASG  
bau-010 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-011 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-014 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-012 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-020 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-015 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-016 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-021 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-019 NGLDISANOV QNSGGTLAA -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-013 NGLDISANOV INNKGTLLAT -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
cal-023 NGLDISANOV INNKGTLLAT -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
pit-020 NGLDISANOV INNKGTLLAT -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
pit-06 NGLDISANOV INNKGTLLAT -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
bau-017 NGLDISANOV INNKGTLLAT -ONLKLQIGI QN-QLLNNO SQGLSMGDM QLSVEHINNO GKLASTDADS HIMATGOLDI QTQQLDNQNT -LVA DT- -V OGIQAGQIEI AASTLNNSSG  
nos-018 NDLNGVNDV LNSHGQLAA -HDNLQSNQ ASGSMLLNDQ SQVNAQHDI SVHFDSINNO G-----G HLVAANQLNL TSNVLDNQT NNINLGT----- OGIQATTVNL NVNSLNNSSG  
nos-022 NDLNGVNDV LNSHGQLAA -HDNLQSNQ ASGSMLLNDQ SQVNAQHDI SVHFDSINNO G-----G HLVAANQLNL TSNVLDNQT NNINLGT----- OGIQATTVNL NVNSLNNSSG  
bau-02 GSANLTAQNI NNSGQINSQ AG-LTTLQOQL AG-GRINDV AGQVLAQNI SLNADITNNA GTV-----S HIIAGEKTLA NASKVMNEQT KDSN-----LL GGLHAKTIEI NAGSLNNSSG  
bay-015 QQLDLQANOV FNQNGTLAA -KQLNLQIGI QN-QLLNNO SQGLSMGDM NLDIDQINNK GKANTADADS HIMAGELNI TTQQLDNQNT LNTDPANTSI OGIQANTLVN TSKVLLNNSSG

3360

3361

baud-01 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
nos-02 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ NAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-03 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
nos-04 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-07 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-05 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
nos-08 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-09 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-06 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
nos-012 RISAEQQLNL NLDNLNNTK GLISSDLQTL IOGQDNNRRL IVNNOQGTII AGEESSTAG LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-010 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L VMNINLQGLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-011 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AINNLINGQLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-014 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AINNLINGQLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-012 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AINNLINGQLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-020 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AINNLINGQLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-015 TRSSENOL NISQQLNNS GEISAVKQLG IOGQD-----L AMNINLQGLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-016 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AMNINLQGLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-021 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AMNINLQGLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-019 ATRSSONSOL NISQQLNNS GEISAVKQLG IOGQD-----L AMNINLQGLL AGEN----- LNILAKGLTG DGKVLSSQGL NLQLNDYVQ DAQ-GQLQA OGNLNLSSKG KVTNHAIGAKS  
bau-013 ATRSNQNAV NISQQLNNS GEISAVKQLG IOGQD-----L VINNOKGKLL SGEN----- LNIITAQSLTG DGQIASLQNA NITLKEFSKO TOE-GQLQA NNLSLSTAS DITNDGKINA  
cal-023 ATRSNQNAV NISQQLNNS GEISAVKQLG IOGQD-----L VINNOKGKLL SGEN----- LNIITAQSLTG DGQIASLQNA NITLKEFSKO TOE-GQLQA NNLSLSTAS DITNDGKINA  
pit-020 ATRSNQNAV NISQQLNNS GEISAVKQLG IOGQD-----L VINNOKGKLL SGEN----- LNIITAQSLTG DGQIASLQNA NITLKEFSKO TOE-GQLQA NNLSLSTAS DITNDGKINA  
pit-06 ATRSNQNAV NISQQLNNS GEISAVKQLG IOGQD-----L VINNOKGKLL SGEN----- LNIITAQSLTG DGQIASLQNA NITLKEFSKO TOE-GQLQA NNLSLSTAS DITNDGKINA  
bau-017 ATRSNQNAV NISQQLNNS GEISAVKQLG IOGQD-----L VINNOKGKLL SGEN----- LNIITAQSLTG DGQIASLQNA NITLKEFSKO TOE-GQLQA NNLSLSTAS DITNDGKINA  
nos-018 ATRANDRAVL NISQQLNNS VGSITSSGGL VVTSOGLLS AKQK-----L DLSQSLSS DGRILSLGDT TNLGSSYTG TADMSSQLA NGHLTINTG DITNDGKINA  
nos-022 ATRANDRAVL NISQQLNNS VGSITSSGGL VVTSOGLLS AKQK-----L DLSQSLSS EGRILSLGDT TNLGSSYTG TADMSSQLA NGHLTINTG DITNDGKINA  
bau-02 VIRASENATL NINMOLNNS G6ITSLNRLN IGTANKI-LA NLNNTGKLL AKQK-----L LMLKANELVN KGTISEGNV IDTLMQSYSH TOA-QDIAA NQDLKLSSTG DLINQSELSA  
bay-015 VIRSSADQNL NVQQLNNS G6ISSEKQLT L-VGDQ-L EINNINLQGLL AGTA-----L DLAQSLSS DGKLLSLGNA KLSLQNDYH SSG-AQLQA NQDLKLSSTG NIINNGTINA

3480

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baud-01 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
nos-02 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
bau-03 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
nos-04 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
bau-07 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
nos-05 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
nos-08 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
bau-09 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
bau-06 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
nos-012 NGQLSISANT IEN---AVDG SLESQQTGLE SVGVLNLYGL INGSNTYVKA GQLNNI-AGR IYGDHIAIQA NTLNNO-SLK GLAPVIASRG DLDLGVQV LNLENNLHQ-----SGSQ  
bau-010 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-011 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-014 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-012 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-020 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-015 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-016 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-021 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-019 GNQLQLSAVN ISN---SNSA KIESHDTQLT AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-013 GNILKLANAAN ITN---NSNA QIESHDTQIE AQQQINNTGL INGDLTTLTA DTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
cal-023 GNILKLANAAN ITN---NSNA QIESHDTQIE AQQQINNTGL INGDYTTLKA NTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
pit-020 GNILKLANAAN ITN---NSNA QIESHDTQIE AQQQINNTGL INGDYTTLKA NTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
pit-06 GNILKLANAAN ITN---NSNA QIESHDTQIE AQQQINNTGL INGDYTTLKA NTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
bau-017 GNILKLANAAN ITN---NSNA QIESHDTQIE AQQQINNTGL INGDYTTLKA NTVNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVNV LNANTODYD-----SQAL  
nos-018 GQTLNLNAAN INGLNNSA RLESYDTQLS AQQQINNTGL INGELTTLTA NTVNNTGTR IYGTSLAIGA NTLNLPDAN SVAPVIASRG DMNLGVQTL NMEPTDQNK GMOGTNNGAQ  
nos-022 GQTLNLNAAN INGLNNSA RLESYDTQLS AQQQINNTGL INGELTTLTA NTVNNTGTR IYGTSLAIGA NTLNLPDAN SVAPVIASRG DMNLGVQTL NMEPTDQNK GMOGTNNGAQ  
bau-02 GQVELNAKNI IQN---QTGA SISSNHTHLI AQQDTHNQGL INGELTHIQA NRWDNGA-R IYGTQVAIQS NTLNLPDAN GTAVIASRG DMNLGVQTL NQSGGVVKEN G-----RDNAW  
bay-015 GNQLALNAAN ITN---QOAG KIESHDTQLT AQQQINNTGL INGDFTRLQA ETLNNOGTR IYGTDLAIST NTLNLPDAN GTAPVIASRG DMNLGVQTL NLSNPT---D Y-----TSQAL

3600

3601

baud-01 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
nos-02 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
bau-03 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
nos-04 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
bau-07 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
bau-05 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
nos-08 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
bau-09 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
bau-06 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
nos-012 IAMGDLRIG GSDSOWHQA GTAQVNNRS SVINANGNID LNADIVNNO VFFTTKQOQT TEQLDYNNYI ISDSRAGWYN PGPSQITQE IYSQNPDLFT KLPQAQVLT SY-----  
bau-010 IFSAGNLYLG GALDENRKA GTQTVINNES ATIESLGDNR LSQQTINNI KNFSTHE -----VYFSROEGL  
bau-011 IFSAGNLYLG GALDENRKA GTQTVINNES ATIESLGDNR LSQQTINNI KNFSTHE -----VYFSROEGL  
bau-014 IFSAGNLYLG GALDENRKA GTQTVINNES ATIESLGDNR LSQQTINNI KNFSTHE -----VYFSROEGL  
bau-012 IFSAGNLYLG GALDENRKA GTQTVINNES ATIESLGDNR LSQQTINNI KNFSTHE -----VYFSROEGL

3720





nos-D12 ---GANTTDH KAMSSAVDQ IQNTDTKAA5 VQGQTTQIDG SG---FIRT- NNANVQVNN ALYSKPNDSR ANVLVETDPA FSNYRNWLS DYMLNLGLD PALQOKRLGD GYFEORMVD  
bau-D10 ----NTTQV SVLEQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D11 ----NTTQV SVLDQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D14 ----NTTQV SVLEQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D12 ----NTAQV SVLDQLQGGT ASQVSVTIT DQTTAPDQAG AGEQFERTI NTNNVKVANN ALYRTVSDSK AGYLIVETDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D20 ----NTAQV SVLDQLQGGT ASQVSVTIT DQTTAPDQAG AGEQFERTI NTNNVKVANN ALYRTVSDSK AGYLIVETDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D15 ----NTTQV SVLEQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D16 ----NTTQV SVLEQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D21 ----NTTQV SVLEQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D19 ----NTTQV SVLEQLQGGT AEQVSEAST DQANAPDQAG TGEQLEIRTI NNSOFKVANN ALYRVGADSK AGYLIEITDPS FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D13 ----NTTQI SVLDQLQGGK ASQVSGVSTS DQTTAPDQAG TGEQLEIRTI NNNNIKVANN ALYRTGADSK VGYIETDPP FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
cal-D23 ----NTTQI SVLDQLQGGK ASQVSGVSTS DQTTAPDQAG TGEQLEIRTI NNNNIKVANN ALYRTGADSK VGYIETDPP FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
pit-D20 ----NTTQI SVLDQLQGGK ASQVSGASTS GQATAPDQAG TGEQLEIRTI NNNNIKVANN ALYRTGADSK AGYLIEITDPP FTNYNQLWSS NYMLSALGLD PALQOKRLGD GYFEORMVD  
pit-D6 ----NTTQI SVLDQLQGGK ASQVSGVSTS DQTTAPDQAG TGEQLEIRTI NNNNIKVANN ALYRTGADSK AGYLIEITDPP FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D17 ----NTTQI SVLDQLQGGK ASQVSGVSTS DQTTAPDQAG TGEQLEIRTI NNNNIKVANN ALYRTGADSK AGYLIEITDPP FTNYNQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
nos-D18 DGEVKNSTTV NQASMLTGEQ AQAQAANATN SSVATGTKAV TAPSYEIRTI NTDDGKISNS ALYRINPDSR SGYIETDPP FSQYRQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
nos-D22 DGEVKNSTTV NQASMLTGEQ AQAQAANATN SSVATGTKAV TAPSYEIRTI NTDDGKISNS ALYRINPDSR SGYIETDPP FSQYRQLWSS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bau-D2 ----EAMPT TDIOAEQ-N IDRVEGEELN QVMNTASAVD SATDITVTRV SODFLNPSN ALFTTKQSDQ AQYLVETDPA YANVYRNWLS DYMLDALGLD PALQOKRLGD GYFEORMVD  
bay-D15 ----NAPQA SAVETVQ-QQ ----- SATSAPSSTP QGTSEIRSI DFSNFKVPS ALYKVNADSK AGYLIEITDPA FADYKWLSS DYMLDALGLD PALQOKRLGD GYFEORMVD

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bau-D1 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D2 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D3 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D4 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D7 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D8 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D5 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D8 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D9 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D6 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D12 QVAQLTGYRF LOGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D10 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D11 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D14 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D12 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D20 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D15 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D16 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D19 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D13 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
cal-D23 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
pit-D20 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
pit-D6 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bau-D17 QIANLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
nos-D18 QIAKLTGSRV LVYHSDDEEQ YKALLDAGVT FAQQYSLRPG VALTAAQMAE LSTDIVLVE KEVLTNGTIT TRALVPOVYV RAKAGDLLGD GSLTAAND10Q LKLGKVNLE ATIAGRAHALQ  
nos-D12 QIAKLTGSRV LVYHSDDEEQ YKALLDAGVT FAQQYSLRPG VALTAAQMAE LSTDIVLVE KEVLTNGTIT TRALVPOVYV RAKAGDLLGD GSLTAAND10Q LKLGKVNLE ATIAGRAHALQ  
bau-D2 QVAQLTGYRF LEGYGSDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO  
bay-D15 QIANLTGYRF LEGFANDEEQ YKALMNNGLS YAKOYNLRPG IALTPQEAQA LSSDIVLVE KETTLPDGTG TKALVPOVYV KARVGLDKGD GTLSADS10Q LNSKDLTNA GTIAGROVVO

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4440

bau-D1 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
nos-D2 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
bau-D3 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
nos-D4 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
bau-D7 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
nos-D5 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
nos-D8 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
bau-D9 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
nos-D6 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
nos-D12 INSQNLNLA GNIRGGVSI STEKDLNNGI GMIOADQAMN LQVGNLNIQ STTQSSONA ----- LGQSNYSWTG IDRIAGLYYG S-----AQQQA LSDOPTLVMN VGGDRILAA  
bau-D10 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
bau-D11 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
bau-D14 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
nos-D12 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
bau-D20 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
nos-D15 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
bau-D16 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
nos-D19 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
bau-D13 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
pit-D20 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
nos-D18 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
nos-D22 ISAEQDNDIG GRIEIGNVAL TTKDLNNGI GTLKAGSAMA LNVGNFNHV STS5ISGN PVFGQGMNG ISGNYTSQTS IDRIAGLYYG D-----GTGPI DPNNVSLMN VGGKSTLTA  
nos-D22 ISAEQDNDIG GRIEIGNVAL TTKDLNNGI GTLKAGSAMA LNVGNFNHV STS5ISGN PVFGQGMNG ISGNYTSQTS IDRIAGLYYG D-----GTGPI DPNNVSLMN VGGKSTLTA  
bau-D2 LNAENVLNLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA  
bay-D15 ITADNVNMLN GRIQGNVDI TSKDLNNGI GSIQAKDAMA MNGVGNLNV STTRTDTQ ----- VGFSASTTG LDRVAGLYYG D-----IQAGV DLNKATFVLN VAGNSVLKGA

4441

4560

bau-D1 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
nos-D2 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
bau-D3 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
nos-D4 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
bau-D7 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
nos-D5 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
nos-D8 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
bau-D9 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
nos-D12 NIQNNSGGRS IIRTGDLKV GSNLNTVNN VVGSKAYHL DTRQVEVSGO IKSQGDLSLQ GNNIQIHGSO ISSEGLTAL QAKERLOIEE GRNKLDQDDO SFSKKGKLS SSTSDFSHR  
bau-D10 E1-NNSNGAT LINTQGNVDI GTVQTYGKLG TVLDRNNSV SOKTQDVVSGO INSTGSLLN GONNIKIGSG LNS-QATTQL AAVQLNIEE GRQTSQDSD WYSKRGKLS SKTDTGSHD  
bau-D11 E1-NNSNGAT LINTQGNVDI GTVQTYGKLG TVLDRNNSV SOKTQDVVSGO INSTGSLLN GONNIKIGSG LNS-QATTQL AAVQLNIEE GRQTSQDSD WYSKRGKLS SKTDTGSHD  
nos-D14 E1-NNSNGAT LINTQGNVDI GTVQTYGKLG TVLDRNNSV SOKTQDVVSGO INSTGSLLN GONNIKIGSG LNS-QATTQL AAVQLNIEE GRQTSQDSD WYSKRGKLS SKTDTGSHD  
bau-D12 E1-NNSNGAS VINTQGNVDI GTVQTYGKLS TYRDIQNQTT SQAQADVSGO LNSNGSLLN GONNIKIGSG LNSVQGTQAI SAVNOLDIEE GRKTSQFDR WYKHKGTLS SKTDTGTFHD  
nos-D20 E1-NNSNGAS VINTQGNVDI GTVQTYGKLS TYRDIQNQTT SQAQADVSGO LNSNGSLLN GONNIKIGSG LNSVQGTQAI SAVNOLDIEE GRKTSQFDR WYKHKGTLS SKTDTGTFHD  
bau-D15 E1-NNSNGAT LINTQGNVDI GAVQIKGQEV LNLDAKNYK IAQQQDVGSO ISSAGTLAI GKNITGKAVO FSSQIGNVEL LAENDIQLE GLTOSTASSO FAYKSSFFG-K KKSSTYNAHE  
nos-D16 E1-NNSNGAT LINTQGNVDI GAVQIKGQEV LNLDAKNYK IAQQQDVGSO ISSAGTLAI GKNITGKAVO FSSQIGNVEL LAENDIQLE GLTOSTASSO FAYKSSFFG-K KKSSTYNAHE  
bau-D21 E1-NNSNGAT LINTQGNVDI GAVQIKGQEV LNLDAKNYK IAQQQDVGSO ISSAGTLAI GKNITGKAVO FSSQIGNVEL LAENDIQLE GLTOSTASSO FAYKSSFFG-K KKSSTYNAHE  
nos-D19 E1-NNSNGAT LINTQGNVDI GAVQIKGQEV LNLDAKNYK IAQQQDVGSO ISSAGTLAI GKNITGKAVO FSSQIGNVEL LAENDIQLE GLTOSTASSO FAYKSSFFG-K KKSSTYNAHE  
cal-D23 E1-NNSNGAS VINTQGNVDI GTVQTYGKLS TYRDIQNQTT SQAQADVSGO LNSNGSLLN GONNIKIGSG LNSVQGTQAI SAVNOLDIEE GRKTSQFDR WYKHKGTLS SKTDTGTFHD  
pit-D20 E1-NNSNGAS VINTQGNVDI GTVQTYGKLS TYRDIQNQTT SQAQADVSGO LNSNGSLLN GONNIKIGSG LNSVQGTQAI SAVNOLDIEE GRKTSQFDR WYKHKGTLS SKTDTGTFHD  
pit-D6 E1-NNSNGAS VINTQGNVDI GTVQTYGKLS TYRDIQNQTT SQAQADVSGO LNSNGSLLN GONNIKIGSG LNSVQGTQAI SAVNOLDIEE GRKTSQFDR WYKHKGTLS SKTDTGTFHD  
nos-D17 E1-NNSNGAS VINTQGNVDI GTVQTYGKLS TYRDIQNQTT SQAQADVSGO LNSNGSLLN GONNIKIGSG LNSVQGTQAI SAVNOLDIEE GRKTSQFDR WYKHKGTLS SKTDTGTFHD  
nos-D18 K1-ENRNGAS L1QIQGNVEL GTIKVGOQHD NVGSVSGRYYS S6SSQIEGSS ITSVGNVTIT GNNIHGTAVK LGSQGDVAAL LAEHLNLTGD GRSLE----- EHYTTGN KKNSSHDAN  
nos-D22 K1-ENRNGAS L1QIQGNVEL GTIKVGOQHD NVGSVSGRYYS S6SSQIEGSS ITSVGNVTIT GNNIHGTAVK LGSQGDVAAL LAEHLNLTGD GRSLE----- EHYTTGN KKNSSHDAN  
bau-D2 Q1-QNANGST QILTQGNLNI GAIQTIQISNK GYANEKNYNY S1TQIDGSS IOQGTANLS ANKIQGKAVD IASQGDIVL NAQOQISLEN GKNLHSTDSA MSAQSSGMLG RNTERNEVHK  
bay-D15 Q1-NNSNSAT VLNTTQGNVDI GTVSVGQKET LKIDDKNGYQ LKQQDVGSO IKSAGSLLN GONNIKIGSG LNSVQGTQAI SAQKQIVLND GLNQSTVSS--OSQSKSGFG GKSSTYDAS

4561

4680

bau-D1 S5D1AVGSIV EGKVVLLDAG N1NVRGSNIV SDELTOIQAK DNANIEGAQN QYNSQTSNV KNSGLMSTGG IGFSLGGKQE TTLKTEQ0LT NSA-----SQVG SLNGNTNIVA GKTYQ0TGST  
nos-D2 S5D1AVGSIV EGKVVLLDAG N1NVRGSNIV SDELTOIQAK DNANIEGAQN QYNSQTSNV KNSGLMSTGG IGFSLGGKQE TTLKTEQ0LT NSA-----SQVG SLNGNTNIVA GKTYQ0TGST  
bau-D3 S5D1AVGSIV EGKVVLLDAG N1NVRGSNIV SDELTOIQAK DNANIEGAQN QYNSQTSNV KNSGLMSTGG IGFSLGGKQE TTLKTEQ0LT NSA-----SQVG SLNGNTNIVA GKTYQ0TGST  
nos-D4 S5D1AVGSIV EGKVVLLDAG N1NVRGSNIV SDELTOIQAK DNANIEGAQN QYNSQTSNV KNSGLMSTGG IGFSLGGKQE TTLKTEQ0LT NSV-----SQVG SLNGNTNIVA GKTYQ0TGST



baud-7 SSDIavgSIV EGKVVLLDAG NINVRGSNV SDELTOIQAK DNANI EGAQN QYNSQNSV KNSGVMSTGG IGFSLGKKQE TTLKTEQOQL NSA---SQVG SLNGNTNIVA GKTYQQTGST  
baud-5 SSDIavgSIV EGKVVLLDAG NINVRGSNV SDELTOIQAK DNANI EGAQN QYNSQNSV KNSGVMSTGG IGFSLGKKQE TTLKTEQOQL NSA---SQVG SLNGNTNIVA GKTYQQTGST  
nos-08 SSDIavgSIV EGKVVLLDAG NINVRGSNV SDELTOIQAK DNANI EGAQN QYNSQNSV KNSGVMSTGG IGFSLGKKQE TTLKTEQOQL NSA---SQVG SLNGNTNIVA GKTYQQTGST  
baud-09 SSDIavgSIV EGKVVLLDAG NINVRGSNV SDELTOIQAK DNANI EGAQN QYNSQNSV KNSGVMSTGG IGFSLGKKQE TTLKTEQOQL NSA---SQVG SLNGNTNIVA GKTYQQTGST  
baud-06 SSDIavgSIV EGKVVLLDAG NINVRGSNV SDELTOIQAK DNANI EGAQN QYNSQNSV KNSGVMSTGG IGFSLGKKQE TTLKTEQOQL NSA---SQVG SLNGNTNIVA GKTYQQTGST  
nos-012 SSDIavgSIV EGKVVLLDAG NINVRGSNV SDELTOIQAK DNANI EGAQN QYNSQNSV KNSGVMSTGG IGFSLGKKQE TTLKTEQOQL NSA---SQVG SLNGNTNIVA GKTYQQTGST  
baud-10 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENISITTAEN QYNSQNFQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKTGDITII- AGKDLTTEAA  
baud-11 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENISITTAEN QYNSQNFQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKTGDITII- AGKDLTTEAA  
baud-14 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENISITTAEN QYNSQNFQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKTGDITII- AGKDLTTEAA  
baud-12 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENISITTAEN QYNSQNFQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKTGDITII- AGKDLTTEAA  
baud-20 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENISITTAEN QYNSQNFQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKTGDITII- AGKDLTTEAA  
baud-15 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
baud-16 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
baud-21 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
baud-19 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
baud-13 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENINIVAAEN HYSNQEQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKAGDITII- AGKDLTTEAA  
cal-23 QANEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENINIVAAEN HYSNQEQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKAGDITII- AGKDLTTEAA  
pit-20 QNEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENINIVAAEN HYSNQEQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKAGDITII- AGKDLTTEAA  
pit-06 QNEASTI GKKVLLDAN NINVRGSQVV SDDLTOIQAK ENINIVAAEN HYSNQEQTV KKSQFASLS DGVASVGYGK SSLNTEKDGK STTLTQSVIR SKAGDITII- AGKDLTTEAA  
baud-17 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
nos-018 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
nos-012 TVSQANQIN- AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
baud-02 SDQSIANLW AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN  
bay-015 SDQSIANLW AGQNVILNSQ QGNITAIIDLK AT-----AG NNIQIQAEQG NV---QLLSAL NEKSESSTSS KKAATYNNR QSYIDQOVA QTLL----- -KAGNTVDVN AAKNIELQAN

4681

baud-01 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
nos-02 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
baud-03 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
nos-04 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
baud-07 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
baud-05 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
nos-08 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
baud-09 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
nos-06 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
baud-12 VSSQKGDVNI LAEQVNI EAA KEQSTSDYKH EMQKGLTLA VNPVVSAVQ SVAESAKQV QSKNDRVN-A MAANAAGFDA YKAGQALS QGALSNAAGL N---GGVEVGV SLTYGEQKNT  
baud-11 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
baud-10 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
baud-14 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
baud-12 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
baud-20 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
baud-15 DVQAGQSIYV GNTMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
baud-16 DVQAGQSIYV GNTMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
baud-21 DVQAGQSIYV GNTMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
baud-19 DVQAGQSIYV GNTMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
baud-13 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
cal-23 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
pit-06 ILDAGKDLN KGANVNLNAG YTTDEQHSV HSKQGISVGV VTPSPAMAAA AAYKNSMNNQ QFSDSVAQVQ MAQGEARAKA SMAAMTLVTI QAQSKTNEV SMTSSTQAVI TOATKAGNIN  
baud-17 DVQAGQSIYV GNTMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
nos-018 DADAGKSIYV GNTLMORQAD GTLKAADGSL MPKNVLLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
nos-022 DADAGKSIYV GNTLMORQAD GTLKAADGSL MPKNVLLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
baud-02 DVQAGQSIYV GNTLMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT  
bay-015 DVQAGQSIYV GNTLMORQAD GTLKAADGSL MPENVTLSTL ETHDQWDEQ QKGYRGIAGE LVKGLAVG--- MSGLEALAPG LKLDKKTIVG ESNRQTEQI ROTGSLNAA NIAVSSGQOT

4800

4801

baud-01 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
nos-02 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
baud-03 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
nos-04 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
baud-07 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
baud-05 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
nos-08 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
baud-09 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
baud-06 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
nos-012 ETSHSQSTTA S0S0VNAAGT TTIATGAGD QSNINIVGSD VLG00GTRLA ADNPNVNIKAA ---EONHIE ESKNESAGWN AGVTVS---N KTGFVGTAG NLGKGGKNGT -DTSYVNSHV  
baud-10 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
baud-11 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
baud-14 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
baud-12 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
baud-20 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
baud-15 TL-TSADTLA KNVALSGOK- VTLNAAEQON IE-SSSHSTE TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
baud-21 TL-TSADTLA KNVALSGOK- VTLNAAEQON IE-SSSHSTE TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
baud-19 TL-TSADTLA KNVALSGOK- VTLNAAEQON IE-SSSHSTE TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
baud-13 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
cal-23 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
pit-06 IATGEGSINS QGALS SAEGD ALLHAKENIN LNVAQSHSEQ TVDRKQSGFS IDNRDWAAPA GTFKNNKQGD GRNTQTTGTQ LSVGGKTLQ TGGQDINNVG SSVASKGDVN L-HAARDINI  
baud-17 TL-TSADTLA KNVALSGOK- VTLNAAEQON I---ESSHS TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
nos-018 TL-TSADTLA KNVALSGOK- VTLNAAEQON IE-SSSHSTE TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
nos-022 TL-TSADTLA KNVALSGOK- VTLNAAEQON IE-SSSHSTE TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
baud-02 TL-TSSDITA KNTLILGOK- VTLNAAEQON IS-ATSHSKE TIEGL---GVK L-NKDSIRLG GFVSEKDKNT LTVTETTHKA G5INTDNL5I NGKGVDTLQ QNIKATGDTL IDHGRGDLNI  
bay-015 TL-TSDITA KNTLILGOK- VTLNAAEQON IT-VESTSKE TVQGL---GAK L-NKDSIRLG GFVLEDAQS SKTTETTHKL G5INTENLKI QVGEVDILG QNITATGDTL IDHGRGDLNI

4920

4921

baud-01 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
nos-02 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
baud-03 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
nos-04 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
baud-07 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
baud-05 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
nos-08 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
baud-09 GSKDLSLTTI SGNATN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
baud-06 GSKDLSLTTI SGNATN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
nos-012 GSKDLSLTTI SGKTNN--- ---IIGQVQ GKGVI EADN LNVELQDKA TYKSKQNMMS AQVSVGFSGG NVSGSFSKSN VDANYASVNE  
baud-10 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMSGKSQST SNSVEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
baud-11 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMSGKSQST SNSVEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
baud-14 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMSGKSQST SNSVEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
baud-12 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMSGKSQST SNSVEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
baud-20 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMSGKSQST SNSVEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
baud-15 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
baud-16 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
baud-21 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
baud-19 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
baud-13 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMSGKSQST SNSVEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
cal-23 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMNQSQSN SHGIEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
pit-06 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMNQSQSN SHGIEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
pit-06 KSSONS0S0S EQSSNKGIGS AQISDTEQFY GYMNQSQSN SHGIEQQRSS VGSLEGNVNI QAQRQYTOQV ADVIAAKDLN IKAQDQVLE GHNTGSSSEN SKDLKVGQFS RVSSPILDLV  
baud-17 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
nos-018 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
nos-022 GGYENKTITE EKTKNE--- ---KTSVEV GRYNVALDAA LAVGAVKDA SALKDAK--- ---DAYSQA QRDYAAAGL KEA---LDDSK  
baud-02 GGYENKTITE DKTHTV--- ---TISTEV GRYNVALDAA LAVGAVKDA EVVKQAK--- ---DQYSQA QRDYASGKIT KEA---LDDTK  
bay-015 GGYENKTITE DKTHTV--- ---TISTEV GRYNVALDAA LAVGAVKDA EAVKQAK--- ---DQYSQA QRDYASGKIT KEA---LDDSK

5040



5041
bau-D1 QSGVFGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
nos-02 QSGVFGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
bau-03 QSGVFGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
nos-04 QSGVFTGEDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
bau-05 QSGVFGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
bau-07 QSGVFGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
nos-08 QSGVFGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
bau-09 QAGIYAGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
bau-10 QAGIYAGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
nos-112 QTVGFAGDDG YQIKVKNKTD LKGAIIITSTQ TAENLKKNSL DTGTLTSSNI QNVTEYDAGK ISVGGGFNAG KSGTAGNKEP GTVLSTPNKI DOHASTTVGV SKSVGFGLDS DKDSSVTKSG
bau-110 NAADKATKSQ ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
bau-111 NAADKATKSQ ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
bau-114 NAADKATKSQ ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
bau-112 NAADKATKSQ ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
bau-120 NAADKATKSQ ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGNS
bau-D15 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
bau-016 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
bau-021 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
bau-019 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
bau-113 NAADKATKSQ ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
ca l-223 NAADKAKNSK ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
pit-20 NAADKAKNSK ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
pit-06 NAADKAKNSK ADDRTOALQA VAAGAOGYQT YSDIKGGALF KAESGIGFST SKNQNSSYA TSQNNLKAG GNVNLTSTHG DIHLQNTQV KAEDKINLDS AKNIVLESQO SQNKADGKNS
bau-017 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
nos-018 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
nos-022 ANVAMATANL ASAOIIVAGAS AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
bau-02 ANVAMATANL ANAQIIVAGSA AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK
bay-015 ANVAMATANL ANAQIIVAGSA AAAAAASSAT YGFTIIGANGE RIET-----TT NNNOTOGHW-----QGSNLELN -NLTLSKSEGO NTNIQO-SRL TATGTTTFNG TKDLNVTAGT EHSQESSK

5161
bau-D1 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
nos-02 VNTONITIRE EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
bau-03 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
nos-04 VNTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
bau-07 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
nos-05 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
nos-08 VNTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
bau-09 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
bau-10 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
nos-012 INTONITIRD EQGQALTKG TAGQIKSEIL TSVTTDARE NSGALONNFD KDVQSEINL QMDVTKNFD NRQEAGITVD NIVKALEVTG QAI-EGAKOT LAIAKAQOQE IQKLSPEDO-
bau-110 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-111 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-114 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-112 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-120 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-015 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-016 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-021 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-019 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-113 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
ca l-223 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
pit-06 NAGL SVGVGA SVGAOTGYVI YGEAGFGKGS NHDLSNTHNQ TLDKAKNISL TSKGDTTLRG AQAKADRIDA N-VGGQLKVE SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-017 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
nos-018 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
nos-022 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bau-02 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG
bay-015 TNSQSVSYSS GGGGSASIGK QTSOSQESL THVNSVALN RTEGOLNKLN IOGGEVSI-----ADRGNL Q-VN-QIHEV SLODTEVQNT KOTGAGGRLO ASFGTAWAS GNFSSSKASG

5281
bau-01 -----WIFEN FLTELALQST TDRDITY-----YPLVLA GLAEMLAASA SARPCASALE TVNVLGAVG AILNEQSDDK NKKTPPKPL STSGNSATV PPNKDNDR FKYDNKQIGK
nos-02 WDEGGYRVA MHTALAGST GLEGAIV-----TTGTIVA SAPKINDFON SVAQ-ALTO GMSEKAAEAV ASGVTSLTLA AAGVAVGLNT ASGTATVND GNSKLLTEG
bau-03 WDEGGYRVA MHTALAGST GLEGAIV-----TTGTIVA SAPKINDFON SVAQ-ALTO GMSEKAAEAV ASGVTSLTLA AAGVAVGLNT ASGTATVND GNSKLLTEG
nos-04 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDAMTA GLSAGGAEA APILSSFL-Y GKADKLTAD
bau-07 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDALTA GLSAGGAEA APILSSFL-Y GKADKLTAD
nos-05 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDALTA GLSAGGAEA APILSSFL-Y GKADKLTAD
nos-08 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDALTA GLSAGGAEA APILSSFL-Y GKADKLTAD
bau-09 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDALTA GLSAGGAEA APILSSFL-Y GKADKLTAD
bau-06 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDALTA GLSAGGAEA APILSSFL-Y GKADKLTAD
nos-012 YORLGVLLDS ISTGLSAPTS SGLGIAT-----ATLSPA SYQIGQYFKE QASNNANGQL TSGQEAHIL AHTVLGAAVA AAGNDALTA GLSAGGAEA APILSSFL-Y GKADKLTAD
bau-110 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
bau-111 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
bau-114 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
bau-112 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
bau-120 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
bau-015 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
bau-016 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
bau-021 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
bau-019 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
bau-113 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
ca l-223 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
pit-06 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
pit-20 DNSVNVQSSG LFAFGGGYHV KADSVDLKG-----GAVSTA TKDNLDLTTN RL-FSNIEV QSYDATTVS LSGGTSLGKG K-7GDSKAS TPTNNDWRN ATFSFPLPQ HDSDKDSST
bau-017 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
nos-018 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
nos-022 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
bau-02 DKAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL
bay-015 DSAMVNTSK LLIIGDKDHA NLDAMGVQK-----VTNIGGV IANATKNADG TLDYKGLNY SGAELEKLDQ DHNVNSRGRF NVSTTIGKTT QEKDGKSKY PNGSTTLGLQ SNGQTEQL

5401
bau-01 KLGKHVSDFG RNPANATDRE YVLAQIENIA RHPDKVVRGT FAGQGPMTNR GAVQFRIKQO DVVVTKPDGT FVT-----ILRNGIN-----NPSVKQAL NGAK
nos-02 KTEAEQTRLR AAACALVECS KGVPESDANY KSLKAFKFEALG KTYTKEQNAL KATGLF-----TYSNWDKAND IRT-----NHDEAVTR-----VGGAGKVI TGGVTAIDG AAGALGCT-----
bau-03 KTEAEQTRLR AAACALVECS KGVPESDANY KSLKAFKFEALG KTYTKEQNAL KATGLF-----TYSNWDKAND IRT-----NHDEAVTR-----VGGAGKVI TGGVTAIDG AAGALGCT-----
nos-04 OKSTISSIVG LAGSVAVGTT GDIGSVTQSSG QVAONAVEIN YLTVKIQIAY K-----TQMLCK VKQ-----NCDQVI-----DKFRKL-A IQKDEQLVAV CTSPTNCKQ
bau-07 OKSTISSIVG LAGSVAVGTT GDIGSVTQSSG QVAONAVEIN FLSVKEARK NALYK-----SKHEELSNE KKE-----LAE INRKDKAR-----DEFITKVC QLVNVSASQ QSAQAAMST
nos-08 OKSTISSIVG LAGSVAVGTT GDIGSVTQSSG QVAONAVEIN FLSVKEARK NALYK-----SKHEELSNE KKE-----LAE INRKDKAR-----DEFITKVC QLVNVSASQ QSAQAAMST
bau-09 OKSTISSIVG LAGSVAVGTT GDIGSVTQSSG QVAONAVEIN FLSVKEARK NALYK-----SKHEELSNE KKE-----LAE INRKDKAR-----DEFITKVC QLVNVSASQ QSAQAAMST
nos-06 OKSTISSIVG LAGSVAVGTT GDIGSVTQSSG QVAONAVEIN YLTYKELACT EQAKTKLANC NRTNKCSPDE IRQAEITVKL LDKDQIIT-----DVKLLETC RT-NPOSSA QOQKLDQAT
nos-012 OKSTISSIVG LAGSVAVGTT GDIGSVTQSSG QVAONAVEIN EFSIVTDASN QOAGKSIYA KMRAECPANG INP-----N SAACQGYO-----DAKLREA SGTGLNLSDG ATIVGLQP
bau-011 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
bau-110 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
bau-114 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
bau-112 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
bau-120 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
bau-015 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
bau-016 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
bau-021 KATMGQTVK -----GAPPTAN RDVNSQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
bau-019 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
bau-113 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
ca l-223 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
pit-06 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
pit-20 YATLSAGNIK VGGKSTVVEQ LGHISDASTA NRVAVETLPLN QTILDKQKTV ADATSTIAAA TRTYSONQOQ QAEKAKNAEK QNVNLQGLD SDALKYYEEL DSAKOEYLR QYS-----PDY
bau-017 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
nos-018 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
nos-022 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
bau-02 KATMGQTVK -----GAPPTAN RDVNSQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT
bay-015 KATMGQTVK -----NITTELIN RDINTTQEI RDOTTGMLNG SFTVDHRLLS ESGRAEIVQO QKDLPENFRQ -----SAENVKAL PESEYNQVQL -----QTLNVL OAKLY-KMPT

5160
5280
5400
5520



ca1-D23 EKD----RFK SGNVVPKTWG EAI--KLRVE KQGQFEKGWE IKFPYGSY-Y DPKVTK  
pit-D6 SAV----VGT AA EKIQKVEP KKATQNNKEG NK  
bau-D2 KAR-----L DKKPINKIVV GVNSRAITL NLGQVGSK  
  
6121 6133  
bau-D10 NTSGMPKVIF ERK

Supplementary file 9

a) type-II CdiA repeats. The first ten 20-21 aa repeats found in type-II CdiA are shown. The first four are common to all proteins. From repeat 5 on, class 1 (blu residues) and class 2 and 3 proteins (red residues) repeats diverge. Regularly repeated residues are highlighted.

Table of amino acid sequences for repeats 01-10 across various protein classes (bau-09 to bau-15, nos-02 to nos-04, cal-02, pit-06, pit-08, pit-09, pit-10, pit-11, pit-12, pit-13, pit-14, pit-15, nos-02 to nos-04, cal-02, pit-06, pit-08, pit-09, pit-10, pit-11, pit-12, pit-13, pit-14, pit-15). Residues are color-coded by class (blue, red, black) and some are bolded.

Supplementary file 9

b) PT-VENN and PT-LPEN modules in type-I and type-II proteins. The size of the pretoxin PT-VENN module is defined (see PF04829). The upstream boundary of the PT-LPEN module is unknown. For sake of simplicity, the two pre-toxin modules have the same size in the alignment shown

Table of amino acid sequences for PT-VENN and PT-LPEN domains across various protein classes (bau-A1 to bau-C8, nos-4 to nos-9, bau-D10 to bau-D12, bau-D13 to bau-D15, nos-D22 to nos-D24, bau-D17 to bau-D19, bau-D2). Residues are color-coded by class (blue, red, black).

Supplementary file 9

c) potential N-domains in the CT region of type-I CdiA. Conserved residues are highlighted.

Table of amino acid sequences for potential N-domains in the CT region of type-I CdiA (bau-B1 to pit-A5). Conserved residues are highlighted in yellow.

Supplementary file 9

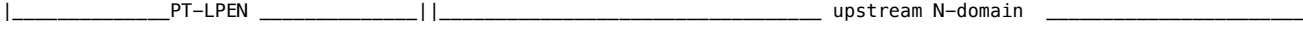
d) upstream N-domains in the CT region of type-II CdiA (class-1 and class-2 proteins) proteins with similar domains are marked

Table of amino acid sequences for upstream N-domains in the CT region of type-II CdiA (nos-D2 to nos-D4, bau-D14 to bau-D16, bau-D17 to bau-D19, bau-D20 to bau-D22, cal-D23). Residues are color-coded by class (blue, red, black).

Supplementary file 9

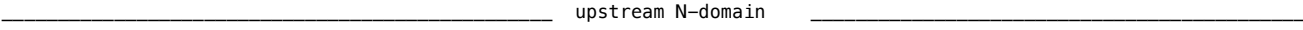
e) upstream N-domains in the CT region of type-II CdiA (class-3 CdiA). Similar regions are highlighted. SWRs (switch regions) located immediately upstream of the C-domain of the CT region are shown. Only

nos-D22 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPEN FRQSAENLAKALPDGAYKDKALQTLNNVQA KLYNLSEYKEAGVWVNSVASELLKRMESKDVLEALFSKLDFFYAAKEFSEIQNQLTDLKSGFNLETFRQP
nos-D17 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPEN FRQSAENLAKALPDGAYKDKALQTLNNVQA KLYNLSEYKEAGVWVNSVASELLKRMESKDVLEALFSKLDFFYAAKEFSEIQNQLTDLKSGFNLETFRQP
bay-D15 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPEN FRQSAENLAKALPDGAYKDKALQTLNNVQA KLYNLSEYKEAGVWVNSVASELLKRMESKDVLEALFSKLDFFYAAKEFSEIQNQLTDLKSGFNLETFRQP
bau-211 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPEN FRQSAENLAKALPDGAYKDKALQTLNNVQA KLYNLSEYKEAGVWVNSVASELLKRMESKDVLEALFSKLDFFYAAKEFSEIQNQLTDLKSGFNLETFRQP
...
nos-D15 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPEN FRQSAENLVQALPDNAYKQKALSLNNVQA GLANNPEHLAKGGDEVYEGYKEFIRQGGPEQYEAALLNKEVLPKALELNNTAKQTLDEIQKQIAEYQVSDDT
nos-D18 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPEN FRQSAENLVQALPDNAYKQKALSLNNVQA GLANNPEHLAKGGDEVYEGYKEFIRQGGPEQYEAALLNKEVLPKALELNNTAKQTLDEIQKQIAEYQVSDDT
...
nos-D19 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPRN AEIVGKMTAAGVTSLVGATAAALATKQDNLK QAYDTVMNPARTFDFVQKHPEAATVLEQFKNGYDGLLQTKGSIQLLAQALGQDQVWLTTSMTSFLGKIGAYD
nos-D2 NRDINTTQEITRDQTTGMLNGSFTVDHRLLESSEGRAEIVQOQKDLPRN AEIVGKMTAAGVTSLVGATAAALATKQDNLK QAYDTVMNPARTFDFVQKHPEAATVLEQFKNGYDGLLQTKGSIQLLAQALGQDQVWLTTSMTSFLGKIGAYD



nos-D22 KSGVNEEKTIYAQGTDFETKVS-SITTLGHTIISNVADLNSIKDISESTGVDIEKVLAVGLLISGPPVRLVIESGKMAVSLVDEIVQA
nos-D17 KAGGNEQETIYAQGTDFETKVS-SITTLGHTIISNVADLNSIKDISESTGVDIEKVLAVGLLISEPPVRLVIESGKMAVSLVDEIVQA
bay-D15 KAGVNEQETIYAQGTDFETKVS-SITTLGHTIISNVADLNSIKDISESTGVDIEKVLAVGLLISGPPVRLVIESGKMAVSLVDEIVQA
bau-211 KSGVNEQETIYAQGTDFETKVS-SITTLGHTIISNVADLNSIKDISESTGVDIEKVLAVGLLISGPPVRLVIESGKMAVSLVDEIVQA
...
nos-D15 TDNRQSPTEDEITFKDYKVEIQNSITLQKLEINFIKQNEEIKDQENLITLQADNVLQDQNVKQSAQLGHLALAPKPKK
nos-D18 TDNRQSPTEDEITFKDYKVEIQNSITLQKLEINFIKQNEEIKDQENLITLQADNVLQDQNVKQSAQLGHLALAPKPKK
bau-Leaf ADKNQSSVTSDEITFKDYKVEIQNSITLQKLEINFIKQNEEIKDQENLITLQADNVLQDQNVKQSAQLGHLALAPKPKK
...
nos-D16 ARSIVREVLTAVSQDQGANNTTDEGTGLNPNQPYKGFELPTIVTAKGDAVLIQGSQSDSEASIAGENVVKVDGNSLAIKLFQDQSAVSYKVNDAIEKTDIPATAGLALSLAFGGPIGLARDLITDVLGPELAQ
nos-D21 ARSIVREVLTAVSQDQGANNTTDEGTGLNPNQPYKGFELPTIVTAKGDAVLIQGSQSDSEASIAGENVVKVDGNSLAIKLFQDQSAVSYKVNDAIEKTDIPATAGLALSLAFGGPIGLARDLITDVLGPELAQ
...
nos-D19 HQTNTVLDVNNENRSSLITTTGHEIAHGQGISNETSADLVGKSDVWAFSGVKMNEATIDQYKQDGGKDASTQANVAVLEKONTKALDAISDHADQIDEKTSYWDIKH-DGCHSKECTVAYQKMDAAQEKAFRLGQAKATKFMNDIKNL
nos-D2 HQTNTVLDVNNENRSSLITTTGHEIAHGQGISNETSADLVGKSDVWAFSGVKMNEATIDQYKQDGGKDASTQANVAVLEKONTKALDAISDHADQIDEKTSYWDIKH-LGCWNCDECAVYKQMDAAQEKAYRLGQAKATKFMNDIKNL

A.seifertii // \*asnaqlagvigQNAVENN KTSIKQDIKHALTCWGLECHQYKHLDVVQEAAYQKGGDRAVAKFVSDLKNL
A.junii // aagivavgtvgdsafeaqisgvaqNAVENN KTSVQDIKHALTCWGAECRQYKDLKVAQKAAQYKGGQDAITKFMVNDLNL



nos-D22 GVDILNSMTAAAHDTSVNTINNWTNPKIASELENSTGENKEASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKIDGKDVSTAGIG SNSKDPVKELEVGSYQELKSR //
nos-D17 GVDILNSMTAAAHDTSVNTINNWTNPKIASELETSTGENKEASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKSDGKEAGVNSGVG GATWDTSPKVTLDKVDNYIN //
bay-D15 GVDILNSMTAAAHDTSVNTINNWTNPKIASELENSTGENKASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKIDGKDVSTAGIG NINPITGHKILGTHKDESNTV...
bau-D211 GVDILNSMTAAAHDTSVNTINNWTNPKIASELENSTGENKASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKIDGKDVSTAGIG IGWVDQYGVQKVTGDTVARD...
...
nos-D18 GVDILNSMTAAAHDTSVNTINNWTNPKIASELENSTGENKASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKIDGKDVSTAGIG ISALNRIKENDKGTDLNSKSSD //
nos-D15 GVDILNSMTAAAHDTSVNTINNWTNPKIASELENSTGENKASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKIDGKDVSTAGIG NINPITGHKILGTHKDESNTV...
bau-Leaf GVDILNSMTAAAHDTSVNTINNWTNPKIASELENSTGENKASLKFANEVQD KQGAEYLINAAAGIVVGGIGGTAKTKIDGKDVSTAGIG SRGELTKPYDPVQTRNDLEAVH...
...
nos-D16 GSDVLLKNEVTAVVRDTSYDVTSGYTSNSTKQQLSGLTDPASQALQVSEQLQRT KDGVGFLASVVLGA--GGIAKTA--KIDGNEVEVSTAGIG SRGELTKPYDPVQTRNDLEAVH...
nos-D21 GSDVLLKNEVTAVVRDTSYDVTSGYTSNSTKQQLSGLTDPASQALQVSEQLKRT KDGVGFLASVVLGA--GGIAKTA--KIDGNEVEVSTAGIG IGWVDQYGVQKVTGDTVARD...
...
nos-D19 VPNPKEVYDALNDPMTGAMAIWGVKNIIPGELWDTGKTIITNVLVNGSPAEFEKLGNAEMTTVLN---AVSAGTITVAKKGGKI VVEAAKVKLAKADFPDPLNVO----- INGFSLPPKTKLVINIKADQA...
nos-D2 VPNPKEVYDALNDPMTGAMAIWGVKNIIPGELWDTGKTIITNVLVNGSPAEFEKLGNAEMTTVLN---AVSAGTITVAKKGGKI VIEAAKSAKRILQNDPAKLP----- ITTSAGGYIKASLITENGLIID...
...
A.seifertii VPNPKEVYAIKNDPAGTAKAIYEGKQVPRDIDTGTKIANTVNTGDTPAEFEKLGADMALALNTLSGLVAGTIVTAKKGGKI VIDASKTIKAKADFPDPLNVO----- INGFSLPPKTKLVINIKADQA...
A.junii VPNPKEVYDALNDPMTGAMAIWGVKNIIPGELWDTGKTIITNVLVNGSPAEFEKLGADMALALNTLSGLVAGTIVTAKKGGKI VIEAAKVKLAKADFPDPLNVO----- VNGTSGNRVSDSNTSLIDEK...
...
|----- SWR -----|----- C-domain -----|





**Supplementary file 11.** CdiA proteins in non ACB-complex Acinetobacter species  
 Identical proteins are highlighted

species	strain	GenBank ID	type	size (aa)	notes	modules	recognized CT domains
<i>A. gernerii</i>	MTCC 9824	ASY01000035.1	II	2010	truncated	PT-LPEN	bacteriocin (pfam12639)
	DSM 14967	APPN01000054.1	II	>4000	truncated		
	KCTC 12415	BBLI01000056.1	II	2228	truncated		
<i>A. guillouiae</i>	CIP 63.46	APOS01000036.1	I	2113		DUF 637	
	KCTC 23200	BBRY01000027.1					
	MSP4-18	ASQG01000044.1					
<i>A. junii</i>	NIPH 991	APPJ01000002.1	II	1196	truncated	PT-VENN/SWR	endoU (pfam14436)
	CIP 107470	APPS01000060.1	II	4136	<i>cdiC</i> gene between <i>cdiB</i> and <i>cdiA</i> genes		
	KCTC 12416	BBSD01000040.1					
<i>A. haemolyticus</i>	MTCC 11364	ASYZ01000005.1					
	TJS01	NZ_CP018871.1	I	2246		DUF-637	HINT (c125980)
<i>A. bereziniae</i>	UBA4199	DFTZ01000108.1	I	2199		DUF-637	
	XH901	NZ_CP018259.1	II	4155			ribonuclease (pfam00545)
	KCTC23199	BBLJ01000001.1					
LMG1003	APQG01000036.1						
<i>A. soli</i>	NIPH 3	APPK01000024.1	II	4662			
	GFJ2	NZ_CP016896.1	II	3552		PT-VENN	endoU (c116881)
	NIPH2899	APPV01000010.1	II	4024			