

S1C, supplementary material, prokaryotic BLUF proteins

Nr.Org. Species/strain	Group	Uniprot	Gene name	aa Architecture (Interpro)	Nr.Prot
1 *Clavibacter michiganensis subsp. sepedonicus ATCC 33113	Ac	B0RBP8	CMS0328	126 Short-BLUF	1
		B0RFL5	CMS2137	142 Short-BLUF	2
2 *Clavibacter michiganensis subsp. michiganensis NCPPB 382	Ac	A5CNT4	CMM_0695	142 Short-BLUF	3
		A5CM94	CMM_0159	148 Short-BLUF	4
3 *Corynebacterium efficiens (strain DSM 44549 / YS-314 / AJ 12310 / Jk)	Ac	Q8FMY2	HMPREF0290_2407	158 Short-BLUF	5
4 *Leifsonia xyli subsp. xyli	Ac	Q6AGS2	Lxx04275	145 Short-BLUF	6
5 *Microbacterium testaceum (strain StLB037)	Ac	E8NB71	MTES_1754	145 Short-BLUF	7
6 Afipia sp. 1NLS2	P (α)	D6V881	AfiDRAFT_2814	151 Short-BLUF	8
7 Ahrensia sp. R2A130	P (α)	E0MSP0	R2A130_1977	125 Short-BLUF	9
8 alpha proteobacterium BAL199	P (α) U	A8TQR5	BAL199_04414	124 Short-BLUF	10
9 Asticcacaulis biprosthecum C19	P (α)	F4QHK8	ABI_11820	122 Short-BLUF	11
10 *Azospirillum lipoferum (strain 4B)	P (α)	G7ZDG1	AZOLI_p20356	163 Short-BLUF	12
11 *Azospirillum lipoferum (strain 4B)	P (α)	G7Z5P1	AZOLI_2561	161 Short-BLUF	13
12 Bradyrhizobium sp. STM 3809	P (α)	H0SXV9	BRAS3809_2400007	151 Short-BLUF	14
		H0T8Q2	BRAS3809_6630003	125 Short-BLUF	15
13 Brevundimonas diminuta ATCC 11568	P (α)	F4Q249	BDIM_27840	136 Short-BLUF	16
		F4R104	BDIM_29840	136 Short-BLUF	17
14 Brevundimonas sp. BAL3	P (α)	B4W666	BBAL3_1766	136 Short-BLUF	18
		B4WEH9	BBAL3_3156	151 Short-BLUF	19
		B4W667	BBAL3_2545	141 Short-BLUF	20
15 *Brevundimonas subvibrioides ATCC 15264	P (α)	D9QFJ9	Bresu_3208	133 Short-BLUF	21
		D9QF25	Bresu_1198	148 Short-BLUF	22
		D9QJR6	Bresu_0353	137 Short-BLUF	23
		D9QHQ8	Bresu_0018	129 Short-BLUF	24
		D9QN89	Bresu_0977	167 Short-BLUF	25
16 Citreicella sp. SE45	P (α)	D0D5D9	CSE45_0446	131 Short-BLUF	26
17 *Dinoroseobacter shibae DFL 12	P (α)	A8LL23	Dshi_3039	135 Short-BLUF	27
18 Fulvimarina pelagi HTCC2506	P (α)	Q0G5H1	FP2506_09626	144 Short-BLUF	28
		Q0G0Q7	FP2506_18629	145 Short-BLUF	29
		Q0G114	FP2506_18094	122 Short-BLUF	30
19 Hoeflea phototrophica DFL-43	P (α)	A9DDP2	HPDFL43_03319	130 Short-BLUF	31
20 *Hyphomonas neptunium ATCC 15444	P (α)	Q0C3J3	HNE_0975	152 Short-BLUF	32
21 *Jannaschia sp. (strain CCS1)	P (α)	Q28NL5	Jann_2780	164 Short-BLUF	33
		Q28QR5	Jann_2030	150 Short-BLUF	34
		Q28M24	Jann_3321	135 Short-BLUF	35
22 Labrenzia aggregata IAM 12614	P (α)	A0NTY6	SIAM614_12243	152 Short-BLUF	36
23 Labrenzia alexandrii DFL-11	P (α)	B9QVG5	SADFL11_2400	152 Short-BLUF	37
24 Loktanelia vestfoldensis SKA53	P (α)	A3V3H6	SKA53_01516	136 Short-BLUF	38
25 Magnetospirillum gryphiswaldense	P (α)	A4U007	MGR_2159	156 Short-BLUF	39
		A4U445	MGR_1944	151 Short-BLUF	40
26 *Maricaulis maris (strain MCS10)	P (α)	Q0AMF1	Mmar10_2250	152 Short-BLUF	41
		Q0ALH8	Mmar10_2579	141 Short-BLUF	42
27 *Methylobacterium chloromethanicum CM4	P (α)	B7KRN3	Mchl_4786	150 Short-BLUF	43
		B7KN60	Mchl_4401	148 Short-BLUF	44
		B7L1R5	Mchl_0527	150 Short-BLUF	45
		B7L240	Mchl_0912	155 Short-BLUF	46
28 *Methylobacterium extorquens AM1	P (α)	C5B322	MexAM1_META1p4421	148 Short-BLUF	47
		C5AVI4	MexAM1_META1p0723	155 Short-BLUF	48
29 *Methylobacterium extorquens DM4	P (α)	C7CE09	METDI1095	155 Short-BLUF	49
		C7CJD7	METDI5025	148 Short-BLUF	50
30 Methylobacterium extorquens DSM 13060	P (α)	H1KED3	MetexDRAFT_0995	148 Short-BLUF	51
		H1KPI6	MetexDRAFT_4549	155 Short-BLUF	52
31 *Methylobacterium extorquens PA1	P (α)	A9VWG7	Mext_0114	150 Short-BLUF	53
		A9W8Q2	Mext_4031	148 Short-BLUF	54
		A9W198	Mext_0949	155 Short-BLUF	55

32	* <i>Methylobacterium nodulans</i> ORS 2060	P (α)	B8IB70	Mnod_2309	155 Short-BLUF	56
33	* <i>Methylobacterium populi</i> ATCC BAA-705	P (α)	B1ZGT3 B1Z908	Mpop_4513 Mpop_0888	162 Short-BLUF 155 Short-BLUF	57 58
34	* <i>Methylobacterium radiotolerans</i> ATCC 27329	P (α)	B1M482 B1M108 B1LTA6 B1M0G5	Mrad2831_4411 Mrad2831_2569 Mrad2831_0397 Mrad2831_5542	309 Short-BLUF 139 Short-BLUF 143 Short-BLUF 155 Short-BLUF	59 60 61 62
35	* <i>Methylobacterium</i> sp. 4-46	P (α)	B0UJP3 B0ULI8 B0U8I2 B0UQT1 B0UIK0	M446_2545 M446_4183 M446_1828 M446_4576 M446_4017	150 Short-BLUF 155 Short-BLUF 296 Short-BLUF 162 Short-BLUF 373 Short-BLUF	63 64 65 66 67
36	<i>Methylocystis</i> sp. ATCC 49242	P (α)	E8L1R8	Met49242DRAFT_1484	179 Short-BLUF	68
37	* <i>Parvibaculum lavamentivorans</i> DS-1	P (α)	A7HQ46	Plav_0406	153 Short-BLUF	69
38	<i>Phaeospirillum molischianum</i> DSM 120	P (α)	H8FX83	PHAMO_510085	150	70
39	* <i>Phenyllobacterium zucineum</i> HLK1	P (α)	B4RAQ0	PHZ_c3239	166 Short-BLUF	71
40	* <i>Polymorphum gilvum</i> (strain LMG 25793 / CGMCC 1.9160 / SL003B-26A1)	P (α) poly	F2J5Y4	SL003B_2815	156 Short-BLUF	72
41	<i>Pseudovibrio</i> sp. JE062	P (α)	B6R848	PJE062_4201	152 Short-BLUF	73
42	* <i>Puniceispirillum marinum</i> (strain IMCC1322)	P (α)	D5BS69	SAR116_0873	411 RRF-BLUF	74
43	<i>Rhodobacter sphaeroides</i> (<i>Rhodopseudomonas sphaeroides</i>)	P (α)	Q53119	appA	450 BLUF+SCHIC	75
44	<i>Rhodobacter sphaeroides</i> ATCC 17023/2.4.1	P (α)	Q3J677 Q3IV98 Q3IYE4	RHOS4_01390 RHOS4_39680 RHOS4_28720	450 BLUF+SCHIC 134 Short-BLUF 140 Short-BLUF	76 77 78
45	* <i>Rhodobacter sphaeroides</i> ATCC 17025	P (α)	A4WX15 A4WZ22	Rsph17025_3045 Rsph17025_4104	448 BLUF+SCHIC 135 Short-BLUF	79 80
46	* <i>Rhodobacter sphaeroides</i> ATCC 17029	P (α)	A3PG69 A3PNV7	Rsph17029_0216 Rsph17029_2921	450 BLUF+SCHIC 140 Short-BLUF	81 82
47	* <i>Rhodobacter sphaeroides</i> KD131	P (α)	B9KRZ4 B9KPY5	RSKD131_2962 RSKD131_2660	450 BLUF+SCHIC 128 Short-BLUF	83 84
48	<i>Rhodobacter sphaeroides</i> WS8N	P (α)	F3U4S4 F5M0G5 F5M357	RSWS8N_20589 RSWS8N_11770 RSWS8N_13265	174 BLUF+TETR 140 Short-BLUF 450 BLUF+SCHIC	85 86 87
49	<i>Rhodobacterales bacterium</i> HTCC2255	P (α)	Q0FFK4	OM2255_05635	142 Short-BLUF	88
50	<i>Rhodobacterales bacterium</i> Y4I	P (α)	B6BAZ4	RBV4I_3405	145 Short-BLUF	89
51	* <i>Rhodopseudomonas palustris</i> BisA53	P (α)	Q07KQ3 Q07NU1 Q07V95 Q07LL8	RPE_3551 RPE_2454 RPE_0179 RPE_3231	202 Short-BLUF 172 Short-BLUF 146 Short-BLUF 134 Short-BLUF	90 91 92 93
52	* <i>Rhodopseudomonas palustris</i> BisB18	P (α)	Q211J0 Q21C17 Q214S4	RPC_3406 RPC_0494 RPC_2562	225 Short-BLUF 147 Short-BLUF 131 Short-BLUF	94 95 96
53	* <i>Rhodopseudomonas palustris</i> CGA009	P (α)	Q6NCF0 Q6N1X0 Q6N4H0	RPA0522 RPA4282 RPA3367	147 Short-BLUF 157 Short-BLUF 156 Short-BLUF	97 98 99
54	* <i>Rhodopseudomonas palustris</i> DX-1	P (α)	E6VP72 E6VKR4 E6VPR9	Rpdx1_2012 Rpdx1_0553 xl_4497	148 Short-BLUF 147 Short-BLUF 157 Short-BLUF	100 101 102
55	* <i>Rhodopseudomonas palustris</i> (strain Haa2)	P (α)	Q2J2T2	RPB_0517	141 Short-BLUF	103
56	* <i>Rhodopseudomonas palustris</i> TIE-1	P (α)	B3QE01 B3QBC9 B3Q6V3	Rpal_3848 Rpal_0523 Rpal_4761	148 Short-BLUF 147 Short-BLUF 157 Short-BLUF	104 105 106
57	* <i>Rhodospirillum centenum</i> ATCC 51521 / SW	P (α)	B6IP78	RC1_2193	148 Short-BLUF	107
58	<i>Rhodospirillum photometricum</i> DSM 122	P (α)	H6SMN4	RSPFHO_02543	175 Short-BLUF	108
59	<i>Roseibium</i> sp. TrichSKD4	P (α)	E2CEP5	TRICHSKD4_1518	157 Short-BLUF	109
60	* <i>Roseobacter denitrificans</i> OCH 114	P (α)	Q169R5	RD1_1653	131 Short-BLUF	110
61	* <i>Roseobacter litoralis</i> OCH 149	P (α)	F7ZIV2	RL0149_c030560	131 Short-BLUF	111

62	<i>Roseobacter</i> sp. AzwK-3b	P (α)	A6FLZ7	RAZWK3B_04305	138 Short-BLUF	112
63	<i>Roseobacter</i> sp. CCS2	P (α)	A4EDL7 A4EKD4	RCCS2_03869 RCCS2_17171	158 Short-BLUF 95 Short-BLUF	113 114
64	<i>Roseobacter</i> sp. GAI101	P (α)	B7RMG6	RGAI101_3017	108 Short-BLUF	115
65	<i>Roseobacter</i> sp. MED193	P (α)	A3X3E5	MED193_17939	146 Short-BLUF	116
66	<i>Roseobacter</i> sp. SK209-2-6	P (α)	A4EP54	RSK20926_11024	143 Short-BLUF	117
67	<i>Roseovarius</i> sp. 217	P (α)	A3W442	ROS217_10352	137 Short-BLUF	118
68	<i>Roseovarius</i> sp. HTCC2601	P (α)	Q0FHM9	R2601_09270	131 Short-BLUF	119
69	<i>Roseovarius</i> sp. TM1035	P (α)	A6E0Y7	RTM1035_19421	137 Short-BLUF	120
70	<i>Sagittula stellata</i> E-37	P (α)	A3JXI1 A3JYT3	SSE37_19467 SSE37_07508	157 Short-BLUF 177 Short-BLUF	121 122
71	<i>Silicibacter</i> sp. TrichCH4B	P (α)	C9CW04 C9CW06	SCH4B_1670 SCH4B_1672	144 Short-BLUF 131 Short-BLUF	123 124
72	* <i>Silicibacter</i> sp. TM1040	P (α)	Q1GF07 Q1GF09	TM1040_2027 TM1040_2025	144 Short-BLUF 169 Short-BLUF	125 126
73	<i>Sphingobium chlorophenolicum</i> L-1	P (α)	F6ET28	Sphch_0103	138 Short-BLUF	127
74	* <i>Sphingobium japonicum</i> NBRC 101211 / UT26S	P (α)	D4Z033	SJA_C1-11310	138 Short-BLUF	128
75	<i>Sphingomonas</i> sp. S17	P (α)	F3X316	SUS17_3836	130 Short-BLUF	129
76	<i>Sphingomonas</i> sp. SKA58	P (α)	Q1NAZ4	SKA58_07655	133 Short-BLUF	130
77	* <i>Sphingomonas wittichii</i> RW1	P (α)	A5VFD3	Swit_4662	164 Short-BLUF	131
78	* <i>Sphingopyxis alaskensis</i>	P (α)	Q1GWG4	Sala_0285	141 Short-BLUF	132
79	<i>Sulfitobacter</i> sp. EE-36	P (α)	A3S970	EE36_06508	110 Short-BLUF	133
80	<i>Sulfitobacter</i> sp. NAS-14.1	P (α)	A3SU32	NAS141_11436	110 Short-BLUF	134
81	* <i>Acidovorax avenae</i> ATCC 19860	P (β)	F0QCG3 F0Q3D8	Acav_3547 Acav_3950	140 Short-BLUF 137 Short-BLUF	135 136
82	* <i>Acidovorax avenae</i> sub. <i>citrulli</i> AAC00-1	P (β)	A1TT92 A1TUE4	Aave_3630 Aave_4041	140 Short-BLUF 137 Short-BLUF	137 138
83	<i>Acidovorax delafieldii</i> ZAN	P (β)	C5TAV7 C5TBB6	Acde1DRAFT_4037 Acde1DRAFT_4196	140 Short-BLUF 132 Short-BLUF	139 140
84	* <i>Acidovorax ebreus</i> TPSY	P (β)	B9ME34	Dtpsy_0809	140 Short-BLUF	141
85	* <i>Acidovorax</i> sp. JS42	P (β)	A1W4E7	Ajs_0880	140 Short-BLUF	142
86	<i>Acidovorax</i> sp. NO-1	P (β)	H0C3A0 H0BYE8 H0C4J7	KYG_20830 KYG_12109 KYG_23110	139 Short-BLUF 140 Short-BLUF 132 Short-BLUF	143 144 145
87	* <i>Alicyclophilus denitrificans</i> DSM 14773	P (β)	F4G8R2	Alide2_0928	140 Short-BLUF	146
88	* <i>Alicyclophilus denitrificans</i> JCM 14587	P (β)	E8U0X9	Alide_0965	140 Short-BLUF	147
89	<i>beta proteobacterium</i> KB13	P (β) U	B6BTG8	KB13_624	135 Short-BLUF	148
90	* <i>Bordetella avium</i> (strain 197N)	P (β)	Q2L1Z3	BAV1542	421 BLUF+EAL	149
91	* <i>Burkholderia</i> sp. CCGE1003	P (β)	E1TCW7	BC1003_2228	174 Short-BLUF	150
92	<i>Burkholderiales bacterium</i> JOSHI_001	P (β)	H5WUY1 H5WRM6 H5WLF9 H5WT39	BurJ1DRAFT_0879 BurJ1DRAFT_4006 BurJ1DRAFT_1827 BurJ1DRAFT_4789	143 Short-BLUF 157 Short-BLUF 142 Short-BLUF 137 Short-BLUF	151 152 153 154
93	* <i>Chromobacterium violaceum</i>	P (β)	Q7NSR1	CV_3359	141 Short-BLUF	155
94	<i>Comamonas testosteroni</i> (strain CNB-2)	P (β)	D0J3Z8 D0J4M9	CtCNB1_1445 CtCNB1_1541	135 Short-BLUF 131 Short-BLUF	156 157
95	<i>Comamonas testosteroni</i> ATCC 11996	P (β)	H1RQ19	CTATCC11996_11618	132 Short-BLUF	158
96	<i>Comamonas testosteroni</i> S44	P (β)	D8DEA6	CTS44_25848	132 Short-BLUF	159
97	<i>Cupriavidus basiliensis</i> OR16	P (β)	H1S5P4	OR16_15927	147 Short-BLUF	160
98	* <i>Cupriavidus necator</i> ATCC 17699	P (β)	Q0JZS4	H16_B1968	147 Short-BLUF	161
99	* <i>Cupriavidus necator</i> ATCC 43291	P (β)	F8GRM4	CNE_2c19330	147 Short-BLUF	162
100	* <i>Cupriavidus taiwanensis</i> LMG 19424	P (β)	B3RBI8	RALTA_B1671	147 Short-BLUF	163
101	<i>Curvibacter putative symbiont of Hydra magnipapillata</i>	P (β)	C9Y8H7 C9Y9E1 C9Y9G6	Csp_A04280 Csp_A07420 Csp_B17670	156 Short-BLUF 425 BLUF+EAL 77 Short-BLUF	164 165 166
102	* <i>Delftia acidovorans</i> SPH-1	P (β)	A9BX41	Daci_4395	133 Short-BLUF	167

103	<i>*Delftia sp. (strain Csl-4)</i>	P (β)	F6ALE0	DelCs14_2655	133 Short-BLUF	168
104	<i>*Herbaspirillum seropedicae (strain SmR1)</i>	P (β)	D8IY84	Hsero_4745	141 Short-BLUF	169
105	<i>*Herminiimonas arsenicoxydans</i>	P (β)	A4G7R3	HEAR2419	116 Short-BLUF	170
106	<i>*Leptothrix cholodnii SP-6</i>	P (β)	B1XZW9	Lcho_1829	141 Short-BLUF	171
107	<i>*Limnobacter sp. MED105</i>	P (β)	A6GT96	LMED105_07528	157 Short-BLUF	172
			A6GT66	LMED105_07378	134 Short-BLUF	173
108	<i>*Methylibium petroleiphilum (strain PM1)</i>	P (β)	A2SEP7		142 Short-BLUF	174
			A2SHW7	Mpe_A2200	97 Short-BLUF	175
109	<i>*Methylotenera mobilis JLW8</i>	P (β)	C6WT83	Mmol_2243	162 Short-BLUF	176
110	<i>*Methylotenera sp. 301</i>	P (β)	D7DKL3	M301_2090	137 Short-BLUF	177
			D7DLZ8	M301_2327	199 Short-BLUF	178
111	<i>Methyloversatilis universalis FAM5</i>	P (β)	F5RDI2	METUNv1_02349	140 Short-BLUF	179
			F5RC20	METUNv1_01660	141 Short-BLUF	180
112	<i>Oxalobacteraceae bacterium IMCC9480</i>	P (β)	F1VUP6	IMCC9480_3241	141 Short-BLUF	181
113	<i>*Polaromonas naphthalenivorans CJ2</i>	P (β)	A1VKQ2	Pnap_0913	140 Short-BLUF	182
			A1VJM4	Pnap_0531	134 Short-BLUF	183
114	<i>†Polaromonas sp. strain JS666</i>	P (β)	Q12F66	Bpro_0870	140 Short-BLUF	184
			Q12FR6	Bpro_0667	135 Short-BLUF	185
115	<i>*Polynucleobacter necessarius STIR1</i>	P (β)	B1XTH8	Pnec_0370	135 Short-BLUF	186
116	<i>*Polynucleobacter sp. QLW-P1DMWA-1</i>	P (β)	A4SV33	Pnuc_0367	135 Short-BLUF	187
117	<i>*Ralstonia eutropha H16</i>	P (β)	Q0JZS4	H16_B1968	147 Short-BLUF	188
118	<i>*Ralstonia eutropha JMP134</i>	P (β)	Q46V06	Reut_B3670	147 Short-BLUF	189
119	<i>*Ralstonia metallidurans CH34</i>	P (β)	Q1LG69	Rmet_3989	147 Short-BLUF	190
120	<i>*Ramlibacter tataouinensis DSM 14655</i>	P (β)	F5XYH6	Rta_20590	225 Short-BLUF	191
			F5XWS2	Rta_31060	140 Short-BLUF	192
121	<i>*Rhodoferax ferrireducens DSM 15236</i>	P (β)	Q21YW7	Rfer_1302	140 Short-BLUF	193
122	<i>Rubrivivax benzoatilyticus JA2</i>	P (β)	F3LLG6	RBXJA2T_02597	141 Short-BLUF	194
123	<i>Rubrivivax benzoatilyticus JA2</i>	P (β)	F3LQM5	RBXJA2T_09974	187 Short-BLUF	195
124	<i>*Thiomonas intermedia K12</i>	P (β)	D5X5X2	Tint_0625	159 Short-BLUF	196
125	<i>*Variovorax paradoxus (strain EPS)</i>	P (β)	E6UYF4	Varpa_4786	140 Short-BLUF	197
			E6UZL0	Varpa_3634	140 Short-BLUF	198
			E6UVF8	Varpa_1063	134 Short-BLUF	199
126	<i>*Variovorax paradoxus S110</i>	P (β)	C5CWK4	Vapar_4118	140 Short-BLUF	200
			C5CNN1	Vapar_0996	134 Short-BLUF	201
127	<i>*Verminophrobacter eiseniae strain EF01-2</i>	P (β)	A1WMH3	Veis_3097	133 Short-BLUF	202
			A1WHJ0	Veis_1330	142 Short-BLUF	203
128	<i>Acinetobacter baumannii</i>	P (γ)	B9UN50		125 Short-BLUF	204
129	<i>*Acinetobacter baumannii ATCC 17978</i>	P (γ)	A3M6V8	AlS_2225	156 Short-BLUF	205
130	<i>Acinetobacter baumannii 6013113</i>	P (γ)	F5IG55	HMPREF0020_04017	156 Short-BLUF	206
131	<i>Acinetobacter baumannii 6013150</i>	P (γ)	F5I0V4	HMPREF0021_02589	156 Short-BLUF	207
132	<i>Acinetobacter baumannii 6014059</i>	P (γ)	F5INK0	HMPREF0022_02580	156 Short-BLUF	208
133	<i>*Acinetobacter baumannii AB0057</i>	P (γ)	B7IC80	AB57_2585	146 Short-BLUF	209
134	<i>Acinetobacter baumannii AB210</i>	P (γ)	F5JQ04	AB210_1737	156 Short-BLUF	210
135	<i>*Acinetobacter baumannii AB307-0294</i>	P (γ)	B7H0C4	ABBFA_001217	156 Short-BLUF	211
136	<i>Acinetobacter baumannii ABNIH1</i>	P (γ)	F9I778	ABNIH1_02696	156 Short-BLUF	212
137	<i>Acinetobacter baumannii ABNIH2</i>	P (γ)	F9IL05	ABNIH2_08347	156 Short-BLUF	213
138	<i>Acinetobacter baumannii ABNIH3</i>	P (γ)	F9J0C3	ABNIH3_14704	156 Short-BLUF	214
139	<i>Acinetobacter baumannii ABNIH4</i>	P (γ)	F9J5J3	ABNIH4_03325	156 Short-BLUF	215
140	<i>*Acinetobacter baumannii ACICU</i>	P (γ)	B2HUF8	ACICU_02430	156 Short-BLUF	216
141	<i>Acinetobacter baumannii ATCC 19606</i>	P (γ)	D0C5R9	HMPREF0010_00099	156 Short-BLUF	217
142	<i>*Acinetobacter baumannii AYE</i>	P (γ)	B0V7Y7	ABAYE1304	156 Short-BLUF	218
143	<i>Acinetobacter baumannii MDR-ZJ06</i>	P (γ)	G2JJV4	ABZJ_02558	156 Short-BLUF	219
144	<i>*Acinetobacter baumannii strain 1656-2</i>	P (γ)	E8PHE0	ABK1_1258	156 Short-BLUF	220
145	<i>*Acinetobacter baumannii TCDC-AB0715</i>	P (γ)	F0QKL9	ABTW07_2622	156 Short-BLUF	221
146	<i>*Acinetobacter calcoaceticus (strain PHEA-2)</i>	P (γ)	F0KGE8	BDGL_001471	141 Short-BLUF	222
			F0KI11	BDGL_001731	156 Short-BLUF	223

147	<i>Acinetobacter calcoaceticus</i> RUH2202	P (γ)	D0S286	HMPREF0012_00422	156 Short-BLUF	224
148	<i>Acinetobacter haemolyticus</i> ATCC 19194	P (γ)	D4XPD9	HMP0015_1581	128 Short-BLUF	225
149	<i>Acinetobacter johnsonii</i> SH046	P (γ)	D0SCH6	HMPREF0016_01549	156 Short-BLUF	226
150	<i>Acinetobacter lwoffii</i> SH145	P (γ)	D0SZQ9	HMPREF0017_02783	157 Short-BLUF	227
			D0ST39	HMPREF0017_00463	143 Short-BLUF	228
151	<i>Acinetobacter radioresistens</i> SH164	P (γ)	D0T1D2	HMPREF0018_00222	146 Short-BLUF	229
			D0T5A8	HMPREF0018_01454	146 Short-BLUF	230
			D0T1Y5	HMPREF0018_00425	140 Short-BLUF	231
			D0T1A1	HMPREF0018_00191	152 Short-BLUF	232
			D0T1D4	HMPREF0018_00224	154 Short-BLUF	233
			D0T1E1	HMPREF0018_00231	118 Short-BLUF	234
152	<i>Acinetobacter radioresistens</i> SK82	P (γ)	C6RNE8	ACIRA0001_2692	140 Short-BLUF	235
			C6RPU2	ACIRA0001_0008	148 Short-BLUF	236
			C6RLZ1	ACIRA0001_1266	118 Short-BLUF	237
			C6RQ12	ACIRA0001_3262	146 Short-BLUF	238
			C6RLZ9	ACIRA0001_1274	146 Short-BLUF	239
			C6RLZ8	ACIRA0001_1273	147 Short-BLUF	240
153	<i>Acinetobacter</i> sp. 93A2	P (γ)	Q933L6		149 Short-BLUF	241
154	* <i>Acinetobacter</i> sp. ADP1	P (γ)	Q6FAI1	ACIAD2125	149 Short-BLUF	242
			Q6FAJ5	ACIAD2110	155 Short-BLUF	243
			Q6FAH9	ACIAD2129	163 Short-BLUF	244
			Q7BC36	ACIAD1499	149 Short-BLUF	245
155	<i>Acinetobacter</i> sp. ATCC 27244	P (γ)	C0VK32	HMPREF0023_1501	141 Short-BLUF	246
156	* <i>Acinetobacter</i> sp. DR1	P (γ)	D8JK77	AOLE_10045	161 Short-BLUF	247
			D8JFY6	AOLE_05860	156 Short-BLUF	248
157	<i>Acinetobacter</i> sp. NBRC 100985	P (γ)	G7GFE4	ACT4_028_00890	148 Short-BLUF	249
			G7GDM0	ACT4_021_03110	155 Short-BLUF	250
158	<i>Acinetobacter</i> sp. RUH2624	P (γ)	D0B2X2	HMPREF0014_01683	147 Short-BLUF	251
			D0C5A7	HMPREF0014_03568	150 Short-BLUF	252
			D0BX54	HMPREF0014_00715	156 Short-BLUF	253
159	<i>Acinetobacter</i> sp. SH024	P (γ)	D6JU40	HMPREF0013_01670	156 Short-BLUF	254
			D6JTD2	HMPREF0013_01410	147 Short-BLUF	255
160	<i>Alishewanella jeotgali</i> KCTC 22429	P (γ)	H32IX1	AJE_16694	137 Short-BLUF	256
161	* <i>Allochromatium vinosum</i> DSM 180	P (γ)	D3RR59	Alvin_1044	1124 PAS+GGDEF+EAL+BLUF	257
			D3RMV8	Alvin_2329	143 Short-BLUF	258
162	<i>Alteromonadales bacterium</i> TW-7	P (γ)	A0XX52	ATW7_15186	141 Short-BLUF	259
163	* <i>Alteromonas macleodii</i> 'Deep ecotype'	P (γ)	F2G2W2	MADE_1000865	390 BLUF+EAL	260
164	<i>Beggiatoa</i> sp. PS	P (γ)	A7BT71	BGP_1043	350 BLUF+Cyclase	261
165	<i>Bermanella marisrubri</i>	P (γ)	Q1N3J0	RED65_12464	163 Short-BLUF	262
166	<i>Citrobacter freundii</i> 4_7_47CFAA	P (γ)	G9SK57	HMPREF9428_01595	409 BLUF+EAL	263
167	* <i>Citrobacter rodentium</i> (strain ICC168)	P (γ)	D2TIH4	ROD_15371	406 BLUF+ EAL	264
168	<i>Citrobacter</i> sp. 30_2	P (γ)	C1M5D7	CSAG_01611	409 BLUF+ EAL	265
169	<i>Citrobacter youngae</i> ATCC 29220	P (γ)	D4B8N0	CIT292_06813	403 BLUF+ EAL	266
170	<i>Congregibacter litoralis</i> KT71	P (γ) U	A4A4X0	KT71_09447	160 Short-BLUF	267
			A4ACN4	KT71_19323	120 Short-BLUF	268
			A4A4X0	KT71_09447	160 Short-BLUF	269
171	<i>Cronobacter sakazakii</i> E899	P (γ)	F5VN29	CSE899_13206	403 BLUF+EAL	270
172	* <i>Cronobacter turicensis</i> DSM 18703 / LMG 23827 / z3032	P (γ)	C9XVD7	CTU_26930	404 BLUF+ EAL	271
			C9Y5C1	Ctu_1p00290	405 BLUF+ EAL	272
173	<i>Ectothiorhodospira</i> sp. PHS-1	P (γ)	H1G5T1	ECTPHS_10786	1090 PAS+GGDEF+EAL+BLUF	273
174	<i>Enhydrobacter aerosaccus</i> SK60	P (γ)	C8PY76	ENHAE0001_1035	190 Short-BLUF	274
			C8PVS3	ENHAE0001_1814	168 Short-BLUF	275
			C8PY73	ENHAE0001_1032	143 Short-BLUF	276
			C8Q1B6	ENHAE0001_2043	217 Short-BLUF	277

		C8PX01	ENHAE0001_2283	192 Short-BLUF	278
		C8PY74	ENHAE0001_1034	191 Short-BLUF	279
175	* <i>Enterobacter aerogenes</i> ATCC 13048	F (γ) G0EBF4	EAE_14360	403 BLUF+EAL	280
176	* <i>Enterobacter asburiae</i> (strain LF7a)	F (γ) G2SAH3	Entas_1776	406 BLUF+EAL	281
		G2S426	Entas_2186	404	282
177	<i>Enterobacter cancerogenus</i> ATCC 35316	F (γ) D22BH9	ENTCAN_05821	406 BLUF+ EAL	283
178	<i>Enterobacter cloacae</i> EcWSU1	F (γ) G8LLE0	EcWSU1_01857	406 BLUF+EAL	284
179	<i>Enterobacter cloacae</i> subsp. <i>Cloacae</i> NCTC 9394	F (γ) D6DT37	ENC_13730	406 BLUF+ EAL	285
180	* <i>Enterobacter cloacae</i> subsp. <i>Cloacae</i> strain ATCC 13047	F (γ) D5CBV1	ECL_02372	406 BLUF+ EAL	286
181	<i>Enterobacter hormaechei</i> ATCC 49162	F (γ) F5RSE2	HMPREF9086_0546	406 BLUF+EAL	287
182	* <i>Enterobacter sakazakii</i> ATCC BAA-894	F (γ) A7MRH4	ESA_pESA3p05462	406 BLUF+ EAL	288
		A7MJM6	ESA_01221	403 BLUF+ EAL	289
183	* <i>Enterobacter</i> sp. 638	F (γ) A4WAH8	Ent638_2032	406 BLUF+ EAL	290
		A4W9Q6	Ent638_1757	418 BLUF+ EAL	291
184	* <i>Erwinia billingiae</i> (strain Eb661)	F (γ) D8MSM3	EbC_22990	405 BLUF+EAL	292
185	* <i>Erwinia tasmaniensis</i> Et1/99	F (γ) B2VD82	ETA_07760	399 BLUF+ EAL	293
186	<i>Escherichia coli</i>	F (γ) E2QKT5	LF82_2729	429 BLUF+EAL	294
187	* <i>Escherichia coli</i> (protein YCGF)	F (γ) Q2LD83	ycgF	403 BLUF+ EAL	295
188	* <i>Escherichia coli</i> (strain ATCC 55124 / K011)	F (γ) E8YDG2	EKO11_2694	403 BLUF+EAL	296
189	* <i>Escherichia coli</i> (strain ATCC 9637)	F (γ) E0IV99	ECW_m1247	403 BLUF+EAL	297
190	* <i>Escherichia coli</i> (strain 'clone D i14')	F (γ) G7RPK6	i14_1435	429 BLUF+EAL	298
191	* <i>Escherichia coli</i> (strain 'clone D i2')	F (γ) G7R214	i02_1435	429 BLUF+EAL	299
192	** <i>Escherichia coli</i> (strain K12)	F (γ) P75990	JW1150	403 BLUF+EAL	300
193	* <i>Escherichia coli</i> (strain UM146)	F (γ) E1RSI8	UM146_11275	403 BLUF+EAL	301
194	* <i>Escherichia coli</i> (strain UTI89 / UPEC)	F (γ) Q1RCT6	UTI89_C1346	429 BLUF+ EAL	302
195	<i>Escherichia coli</i> 1827-70	F (γ) E2WUJ4	EC182770_1852	203 Short-BLUF	303
196	<i>Escherichia coli</i> 2362-75	F (γ) E3XMI4	EC236275_2212	372 BLUF+EAL	304
197	<i>Escherichia coli</i> 2534-86	F (γ) G1Z313	EC253486_1665	403 BLUF+EAL	305
198	<i>Escherichia coli</i> 3030-1	F (γ) G1ZHP6	EC30301_1390	403 BLUF+EAL	306
199	<i>Escherichia coli</i> 3431	F (γ) E6B8L1	EC3431_3949	403 BLUF+EAL	307
200	* <i>Escherichia coli</i> 55989	F (γ) B7LGR8	EC55989_1253	403 BLUF+ EAL	308
201	<i>Escherichia coli</i> 83972	F (γ) C2DS59	HMPREF0358_3023	403 BLUF+ EAL	309
202	<i>Escherichia coli</i> AA86	F (γ) F5MCT4	ECAA86_01351	403 BLUF+EAL	310
203	* <i>Escherichia coli</i> ATCC 33849 / DSM 4235 / NCIB 12045 / K12 / DH1	F (γ) C9QYF1	EcDH1_2484	403 BLUF+ EAL	311
204	* <i>Escherichia coli</i> ATCC 8739 / DSM 1576 / Crooks	F (γ) B1IUC7	EcolC_2463	403 BLUF+ EAL	312
205	* <i>Escherichia coli</i> B / BL21	F (γ) C5W442	B21_01146	403 BLUF+ EAL	313
206	* <i>Escherichia coli</i> B str. REL606	F (γ) C6UG31	ECB_01138	403 BLUF+ EAL	314
207	<i>Escherichia coli</i> B088	F (γ) D6HVN5	ECCG_01606	403 BLUF+ EAL	315
208	<i>Escherichia coli</i> B093	F (γ) H1DQ46	ESNG_01279	403 BLUF+EAL	316
209	<i>Escherichia coli</i> B171	F (γ) B3WRP4	EcB171_0273	403 BLUF+ EAL	317
210	<i>Escherichia coli</i> B185	F (γ) D6I668	ECDG_00989	403 BLUF+ EAL	318
211	<i>Escherichia coli</i> B354	F (γ) D6J9C2	ECEG_00472	403 BLUF+ EAL	319
212	<i>Escherichia coli</i> B7A	F (γ) B3HJB2	EcB7A_5182	403 BLUF+ EAL	320
213	* <i>Escherichia coli</i> BL21 (DE3)	F (γ) C6EGV1	ECBD_2459	403 BLUF+ EAL	321
214	* <i>Escherichia coli</i> BW2952	F (γ) C4ZS80	BWG_0988	403 BLUF+ EAL	322
215	<i>Escherichia coli</i> cloneA_i1	F (γ) G5KLP3	i01_01533	403 BLUF+EAL	323
216	<i>Escherichia coli</i> DEC10A	F (γ) H5DHS1	ECDEC10A_1803	403 BLUF+EAL	324
217	<i>Escherichia coli</i> DEC10B	F (γ) H5E006	ECDEC10B_2006	403 BLUF+EAL	325
218	<i>Escherichia coli</i> DEC10C	F (γ) H5EGS7	ECDEC10C_2039	403 BLUF+EAL	326
219	<i>Escherichia coli</i> DEC10D	F (γ) H5EXJ1	ECDEC10D_1687	261 Short-BLUF	327
220	<i>Escherichia coli</i> DEC10E	F (γ) H5FCY8	ECDEC10E_1376	403 BLUF+EAL	328
221	<i>Escherichia coli</i> DEC11A	F (γ) H5GAH5	ECDEC11A_1328	403 BLUF+EAL	329
222	<i>Escherichia coli</i> DEC11B	F (γ) H5GRQ2	ECDEC11B_1320	403 BLUF+EAL	330
223	<i>Escherichia coli</i> DEC11C	F (γ) H5H5Q9	ECDEC11C_1479	403 BLUF+EAL	331
224	<i>Escherichia coli</i> DEC11D	F (γ) H5HNB4	ECDEC11D_1359	403 BLUF+EAL	332

225	<i>Escherichia coli</i> DEC11E	F (γ)	H5I2D6	ECDEC11E_1346	403 BLUF+EAL	333
226	<i>Escherichia coli</i> DEC12A	F (γ)	H5IHP5	ECDEC12A_1440	403 BLUF+EAL	334
227	<i>Escherichia coli</i> DEC12B	F (γ)	H5I2B9	ECDEC12B_1651	403 Short-BLUF	335
228	<i>Escherichia coli</i> DEC12C	F (γ)	H5JGE4	ECDEC12C_1428	403 BLUF+EAL	336
229	<i>Escherichia coli</i> DEC12D	F (γ)	H5JXD2	ECDEC12D_1649	403 BLUF+EAL	337
230	<i>Escherichia coli</i> DEC12E	F (γ)	H5KCA3	ECDEC12E_1217	403 BLUF+EAL	338
231	<i>Escherichia coli</i> DEC13A	F (γ)	H5KRY6	ECDEC13A_1327	403 BLUF+EAL	339
232	<i>Escherichia coli</i> DEC13B	F (γ)	H5L5W5	ECDEC13B_1151	403 BLUF+EAL	340
233	<i>Escherichia coli</i> DEC13C	F (γ)	H5LK42	ECDEC13C_1404	403 BLUF+EAL	341
234	<i>Escherichia coli</i> DEC13D	F (γ)	H5LZX0	ECDEC13D_1367	403 BLUF+EAL	342
235	<i>Escherichia coli</i> DEC13E	F (γ)	H5MDZ1	ECDEC13E_1382	381 BLUF+EAL	343
236	<i>Escherichia coli</i> DEC14A	F (γ)	H5MTG4	ECDEC14A_1211	403 BLUF+EAL	344
237	<i>Escherichia coli</i> DEC14B	F (γ)	H5N8E5	ECDEC14B_1585	403 BLUF+EAL	345
238	<i>Escherichia coli</i> DEC14C	F (γ)	H5NN30	ECDEC14C_1372	372 BLUF+EAL	346
239	<i>Escherichia coli</i> DEC14D	F (γ)	H5P346	ECDEC14D_1365	403 BLUF+EAL	347
240	<i>Escherichia coli</i> DEC15A	F (γ)	H5PIC2	ECDEC15A_1552	403 BLUF+EAL	348
241	<i>Escherichia coli</i> DEC15B	F (γ)	H5PXP2	ECDEC15B_1311	403 BLUF+EAL	349
242	<i>Escherichia coli</i> DEC15C	F (γ)	H5QCW6	ECDEC15C_1288	372 BLUF+EAL	350
243	<i>Escherichia coli</i> DEC15D	F (γ)	H5QSM1	ECDEC15D_1278	403 BLUF+EAL	351
244	<i>Escherichia coli</i> DEC15E	F (γ)	H5R7T0	ECDEC15E_1586	403 BLUF+EAL	352
245	<i>Escherichia coli</i> DEC1A	F (γ)	H4HV06	ECDEC1A_1251	372 BLUF+EAL	353
246	<i>Escherichia coli</i> DEC1B	F (γ)	H4I9V2	ECDEC1B_1401	403 BLUF+EAL	354
247	<i>Escherichia coli</i> DEC1C	F (γ)	H4IQ81	ECDEC1C_1290	403 BLUF+EAL	355
248	<i>Escherichia coli</i> DEC1D	F (γ)	H4J754	ECDEC1D_1786	403 BLUF+EAL	356
249	<i>Escherichia coli</i> DEC1E	F (γ)	H4JKR0	ECDEC1E_1496	372 BLUF+EAL	357
250	<i>Escherichia coli</i> DEC2A	F (γ)	H4K1Y1	ECDEC2A_1564	261 Short-BLUF	358
251	<i>Escherichia coli</i> DEC2B	F (γ)	H3KN36	ECDEC2B_1466	403 BLUF+EAL	359
252	<i>Escherichia coli</i> DEC2C	F (γ)	H4KF73	ECDEC2C_1280	261 Short-BLUF	360
253	<i>Escherichia coli</i> DEC2D	F (γ)	H4KZ77	ECDEC2D_2332	403 BLUF+EAL	361
254	<i>Escherichia coli</i> DEC2E	F (γ)	H4LAN7	ECDEC2E_1353	403 BLUF+EAL	362
255	<i>Escherichia coli</i> DEC3F	F (γ)	H4P354	ECDEC3F_1736	403 BLUF+EAL	363
256	<i>Escherichia coli</i> DEC5A	F (γ)	H4S987	ECDEC5A_1286	44 Short-BLUF	364
257	<i>Escherichia coli</i> DEC5B	F (γ)	H4SPW0	ECDEC5B_1586	75 Short-BLUF	365
258	<i>Escherichia coli</i> DEC5C	F (γ)	H4T6P3	ECDEC5C_1561	403 BLUF+EAL	366
259	<i>Escherichia coli</i> DEC5D	F (γ)	H4TM31	ECDEC5D_1736	372 BLUF+EAL	367
260	<i>Escherichia coli</i> DEC5E	F (γ)	H4U0V1	ECDEC5E_1340	403 BLUF+EAL	368
261	<i>Escherichia coli</i> DEC6A	F (γ)	H4UHN0	ECDEC6A_1424	403 BLUF+EAL	369
262	<i>Escherichia coli</i> DEC6B	F (γ)	H4UYZ3	ECDEC6B_1583	403 BLUF+EAL	370
263	<i>Escherichia coli</i> DEC6C	F (γ)	H4VEK7	ECDEC6C_1292	261 Short-BLUF	371
264	<i>Escherichia coli</i> DEC6D	F (γ)	H4VUU4	ECDEC6D_1336	403 BLUF+EAL	372
265	<i>Escherichia coli</i> DEC6E	F (γ)	H4W991	ECDEC6E_1347	403 BLUF+EAL	373
266	<i>Escherichia coli</i> DEC7A	F (γ)	H4WPY9	ECDEC7A_1348	386 BLUF+EAL	374
267	<i>Escherichia coli</i> DEC7B	F (γ)	H4X4A0	ECDEC7B_1312	403 BLUF+EAL	375
268	<i>Escherichia coli</i> DEC7C	F (γ)	H4XJ12	ECDEC7C_1348	403 BLUF+EAL	376
269	<i>Escherichia coli</i> DEC7D	F (γ)	H4XZW2	ECDEC7D_1470	403 BLUF+EAL	377
270	<i>Escherichia coli</i> DEC7E	F (γ)	H4YEQ8	ECDEC7E_1286	372 BLUF+EAL	378
271	<i>Escherichia coli</i> DEC8A	F (γ)	H4YUP5	ECDEC8A_1448	372 BLUF+EAL	379
272	<i>Escherichia coli</i> DEC8B	F (γ)	H4ZC69	ECDEC8B_1490	372 BLUF+EAL	380
273	<i>Escherichia coli</i> DEC8C	F (γ)	H4ZUJ6	ECDEC8C_1966	403 BLUF+EAL	381
274	<i>Escherichia coli</i> DEC8D	F (γ)	H5ABU3	ECDEC8D_1741	403 BLUF+EAL	382
275	<i>Escherichia coli</i> DEC8E	F (γ)	H5ASV4	ECDEC8E_1465	403 BLUF+EAL	383
276	<i>Escherichia coli</i> DEC9A	F (γ)	H5B8B5	ECDEC9A_1555	403 BLUF+EAL	384
277	<i>Escherichia coli</i> DEC9B	F (γ)	H5BP36	ECDEC9B_1214	403 BLUF+EAL	385
278	<i>Escherichia coli</i> DEC9C	F (γ)	H5C4S5	ECDEC9C_1515	372 BLUF+EAL	386
279	<i>Escherichia coli</i> DEC9D	F (γ)	H5CJX7	ECDEC9D_1255	403 BLUF+EAL	387
280	<i>Escherichia coli</i> DEC9E	F (γ)	H5D173	ECDEC9E_1653	403 BLUF+EAL	388

281	<i>*Escherichia coli DH10B</i>	P (γ)	B1XA50	ECDH10B_1212	403 BLUF+ EAL	389
282	<i>Escherichia coli E101</i>	P (γ)	H1E3B0	ESOG_01023	403 BLUF+EAL	390
283	<i>Escherichia coli E110019</i>	P (γ)	B3ISH0	Ece110019_5252	403 BLUF+ EAL	391
284	<i>Escherichia coli E1167</i>	P (γ)	E9W5A9	ERBG_02717	403 BLUF+EAL	392
285	<i>Escherichia coli E128010</i>	P (γ)	E7HSJ0	ECE128010_1543	417 BLUF+EAL	393
		P (γ)	E7HNP6	ECE128010_0178	403 BLUF+EAL	394
286	<i>Escherichia coli E1520</i>	P (γ)	E9WDJ1	ERCG_00965	197 Short-BLUF	395
287	<i>Escherichia coli E22</i>	P (γ)	B3ICE9	Ece22_4368	403 BLUF+ EAL	396
288	<i>*Escherichia coli E24377A</i>	P (γ)	A7ZKT0	Ece24377A_1303	403 BLUF+ EAL	397
289	<i>Escherichia coli E482</i>	P (γ)	E9WRS0	ERDG_00922	403 BLUF+EAL	398
290	<i>Escherichia coli EC4100B</i>	P (γ)	E7UMM1	ECOL_03296	403 BLUF+EAL	399
291	<i>*Escherichia coli ED1a</i>	P (γ)	B7MTT9	ECED1_1303	403 BLUF+ EAL	400
292	<i>Escherichia coli EPECa14</i>	P (γ)	E7HK90	ECEPECa14_4956	403 BLUF+EAL	401
293	<i>Escherichia coli F11</i>	P (γ)	B3HNR5	Ecf11_0259	403 BLUF+ EAL	402
294	<i>Escherichia coli FVEC1302</i>	P (γ)	D7JMN5	ECFG_00025	403 BLUF+ EAL	403
295	<i>Escherichia coli FVEC1412</i>	P (γ)	D6IP27	ECGG_00015	403 BLUF+ EAL	404
296	<i>Escherichia coli G58-1</i>	P (γ)	G2B830	ECG581_1420	372 BLUF+EAL	405
297	<i>Escherichia coli H252</i>	P (γ)	E9VF91	ERKG_03995	403 BLUF+EAL	406
298	<i>Escherichia coli H263</i>	P (γ)	E9VWR7	ERLG_04810	403 BLUF+EAL	407
299	<i>Escherichia coli H299</i>	P (γ)	F4VTS9	ECOG_01848	403 BLUF+EAL	408
300	<i>Escherichia coli H397</i>	P (γ)	H1EL63	ESPG_02327	403 BLUF+EAL	409
301	<i>Escherichia coli H489</i>	P (γ)	E9XXX0	ERGG_00871	403 BLUF+EAL	410
302	<i>Escherichia coli H494</i>	P (γ)	H1F5D1	ESQG_02104	403 BLUF+EAL	411
303	<i>Escherichia coli H591</i>	P (γ)	F4VDH0	ECPG_02343	403 BLUF+EAL	412
304	<i>Escherichia coli H736</i>	P (γ)	F4SGE2	ECHG_00944	403 BLUF+EAL	413
305	<i>*Escherichia coli IAI1</i>	P (γ)	B7LX75	ECIAI1_1178	403 BLUF+ EAL	414
306	<i>*Escherichia coli IAI39</i>	P (γ)	B7NJI1	ECIAI39_1913	403 BLUF+ EAL	415
307	<i>Escherichia coli M605</i>	P (γ)	F4SXD2	ECIG_00854	403 BLUF+EAL	416
308	<i>Escherichia coli M718</i>	P (γ)	F4TD47	ECJG_00622	403 BLUF+EAL	417
309	<i>Escherichia coli M863</i>	P (γ)	E9YT62	ERJG_01722	403 BLUF+EAL	418
310	<i>Escherichia coli MS 107-1</i>	P (γ)	D8ELF2	HMPREF9345_01898	403 BLUF+EAL	419
311	<i>Escherichia coli MS 110-3</i>	P (γ)	E5ZQR8	HMPREF9539_01505	403 BLUF+EAL	420
312	<i>Escherichia coli MS 115-1</i>	P (γ)	D7Y2E5	HMPREF9540_01724	403 BLUF+EAL	421
313	<i>Escherichia coli MS 116-1</i>	P (γ)	D8AP06	HMPREF9541_02522	403 BLUF+EAL	422
314	<i>Escherichia coli MS 117-3</i>	P (γ)	E9TJ35	HMPREF9542_03827	403 BLUF+EAL	423
315	<i>Escherichia coli MS 119-7</i>	P (γ)	D8E362	HMPREF9346_00899	403 BLUF+EAL	424
316	<i>Escherichia coli MS 124-1</i>	P (γ)	ELJCK6	HMPREF9347_04701	403 BLUF+EAL	425
317	<i>Escherichia coli MS 145-7</i>	P (γ)	E1IU70	HMPREF9348_03742	403 BLUF+EAL	426
318	<i>Escherichia coli MS 146-1</i>	P (γ)	E1HU81	HMPREF9543_04683	184 Short-BLUF	427
319	<i>Escherichia coli MS 153-1</i>	P (γ)	E6AF94	HMPREF9544_04783	403 BLUF+EAL	428
320	<i>Escherichia coli MS 16-3</i>	P (γ)	E6AUN3	HMPREF9545_04353	403 BLUF+EAL	429
321	<i>Escherichia coli MS 175-1</i>	P (γ)	D8B0N6	HMPREF9547_01419	403 BLUF+EAL	430
322	<i>Escherichia coli MS 182-1</i>	P (γ)	D7YEO0	HMPREF9548_00912	403 BLUF+EAL	431
323	<i>Escherichia coli MS 185-1</i>	P (γ)	D8C9B8	HMPREF9549_00883	403 BLUF+EAL	432
324	<i>Escherichia coli MS 187-1</i>	P (γ)	D7ZPK1	HMPREF9550_00665	403 BLUF+EAL	433
325	<i>Escherichia coli MS 196-1</i>	P (γ)	D8C5N7	HMPREF9551_05299	403 BLUF+EAL	434
326	<i>Escherichia coli MS 198-1</i>	P (γ)	D7X3D5	HMPREF9552_01114	403 BLUF+EAL	435
327	<i>Escherichia coli MS 200-1</i>	P (γ)	D8BP86	HMPREF9553_04857	403 BLUF+EAL	436
328	<i>Escherichia coli MS 21-1</i>	P (γ)	D8AF51	HMPREF9530_05213	403 BLUF+EAL	437
329	<i>Escherichia coli MS 45-1</i>	P (γ)	D7YSY1	HMPREF9531_00305	403 BLUF+EAL	438
330	<i>Escherichia coli MS 57-2</i>	P (γ)	E9UH50	HMPREF9532_04387	403 BLUF+EAL	439
331	<i>Escherichia coli MS 60-1</i>	P (γ)	E9TPH6	HMPREF9533_00291	403 BLUF+EAL	440
332	<i>Escherichia coli MS 69-1</i>	P (γ)	D7Z144	HMPREF9534_03941	403 BLUF+EAL	441
333	<i>Escherichia coli MS 78-1</i>	P (γ)	E1I486	HMPREF9535_03207	381 BLUF+EAL	442
334	<i>Escherichia coli MS 79-10</i>	P (γ)	F8XHY8	HMPREF9439_04455	403 BLUF+EAL	443
335	<i>Escherichia coli MS 84-1</i>	P (γ)	D7XUY0	HMPREF9536_04898	403 BLUF+EAL	444

336	<i>Escherichia coli</i> MS 85-1	F (γ)	E6BLL3	HMPREF9350_03387	403 BLUF+EAL	445
337	<i>Escherichia coli</i> NC101	F (γ)	E0QZ15	ECNC101_17944	403 BLUF+EAL	446
338	* <i>Escherichia coli</i> O1:K1 / APEC	F (γ)	A1AA89	EcoK1_10850	403 BLUF+ EAL	447
339	* <i>Escherichia coli</i> O103:H2 (strain 12009 / EHEC)	F (γ)	C8U6S6	ECO103_1264	403 BLUF+ EAL	448
340	<i>Escherichia coli</i> O104:H4 str. 01-09591	F (γ)	F9CGF7	HUSEC41_06250	403 BLUF+EAL	449
341	<i>Escherichia coli</i> O104:H4 str. 04-8351	F (γ)	G5U6U7	EUDG_00232	403 BLUF+EAL	450
342	<i>Escherichia coli</i> O104:H4 str. 09-7901	F (γ)	G5TW99	EUEG_01577	403 BLUF+EAL	451
343	<i>Escherichia coli</i> O104:H4 str. 11-3677	F (γ)	G5UQE0	EUFG_01621	403 BLUF+EAL	452
344	<i>Escherichia coli</i> O104:H4 str. 11-4404	F (γ)	G5VMA5	EUHG_01629	403 BLUF+EAL	453
345	<i>Escherichia coli</i> O104:H4 str. 11-4522	F (γ)	G5W1R3	EUIG_01628	403 BLUF+EAL	454
346	<i>Escherichia coli</i> O104:H4 str. 11-4623	F (γ)	G5W4F4	EUJG_00249	403 BLUF+EAL	455
347	<i>Escherichia coli</i> O104:H4 str. 11-4632 C1	F (γ)	G5WRS9	EUKG_01606	403 BLUF+EAL	456
348	<i>Escherichia coli</i> O104:H4 str. 11-4632 C2	F (γ)	G5X6D7	EULG_01619	403 BLUF+EAL	457
349	<i>Escherichia coli</i> O104:H4 str. 11-4632 C3	F (γ)	G5XQC8	EUMG_01623	403 BLUF+EAL	458
350	<i>Escherichia coli</i> O104:H4 str. 11-4632 C4	F (γ)	G5XVF0	EUNG_01122	403 BLUF+EAL	459
351	<i>Escherichia coli</i> O104:H4 str. 11-4632 C5	F (γ)	G5YFA6	EUOG_01624	403 BLUF+EAL	460
352	<i>Escherichia coli</i> O104:H4 str. C227-11	F (γ)	F9HVJ8	EUAG_01613	403 BLUF+EAL	461
353	<i>Escherichia coli</i> O104:H4 str. C236-11	F (γ)	G5TEW1	EUBG_01621	403 BLUF+EAL	462
354	<i>Escherichia coli</i> O104:H4 str. LB226692	F (γ)	F8YEL3	HUSEC_06530	372 BLUF+EAL	463
355	* <i>Escherichia coli</i> O111:H- (strain 11128 / EHEC)	F (γ)	C8UNS0	ECO111_1488	403 BLUF+ EAL	464
356	* <i>Escherichia coli</i> O127:H6 (strain E2348/69 / EPEC)	F (γ)	B7UQ48	E2348C_1280	403 BLUF+ EAL	465
357	* <i>Escherichia coli</i> O150:H5 (strain SE15)	F (γ)	D2NHM0	ECSF_1104	429 BLUF+ EAL	466
358	<i>Escherichia coli</i> O157:H- str. 493-89	F (γ)	E8HST2	ECO9389_04361	403 BLUF+EAL	467
359	<i>Escherichia coli</i> O157:H- str. H 2687	F (γ)	E8I6Q4	ECO2687_07029	403 BLUF+EAL	468
360	<i>Escherichia coli</i> O157:H43 str. T22	F (γ)	H4FLQ5	T22_12508	403 BLUF+EAL	469
361	<i>Escherichia coli</i> O157:H7 str. G5101	F (γ)	E8HDS1	ECO5101_10887	403 BLUF+EAL	470
362	<i>Escherichia coli</i> O157:H7 str. LSU-61	F (γ)	E8JDA4	ECOSU61_02983	403 BLUF+EAL	471
363	* <i>Escherichia coli</i> O17:K52:H18 (strain UMN026 / ExPEC)	F (γ)	B7N3W4	ECUMN_1448	403 BLUF+ EAL	472
364	* <i>Escherichia coli</i> O18:K1:H7 (strain IHE3034 / ExPEC)	F (γ)	D5D0X4	ECOK1_1309	403 BLUF+ EAL	473
365	* <i>Escherichia coli</i> O26:H11 (strain 11368 / EHEC)	F (γ)	C8TQH3	ECO26_1674	403 BLUF+ EAL	474
366	* <i>Escherichia coli</i> O44:H18 (strain 042 / EAEC)	F (γ)	D3H1V7	ECO42_1210	429 BLUF+ EAL	475
367	<i>Escherichia coli</i> O55:H7 str. 3256-97	F (γ)	E8IK46	ECO7815_16818	106 Short-BLUF	476
368	<i>Escherichia coli</i> O55:H7 str. RM12579	F (γ)	H6MEI0	ECO55CA74_06920	403 BLUF+EAL	477
369	<i>Escherichia coli</i> O55:H7 str. USDA 5905	F (γ)	E8IY83	ECO5905_20298	403 BLUF+EAL	478
370	* <i>Escherichia coli</i> O6	F (γ)	Q8FI42	c1606	429 BLUF+ EAL	479
371	* <i>Escherichia coli</i> O6:K15:H31 536 / UPEC)	F (γ)	Q0TIL8	ECP_1200	403 BLUF+ EAL	480
372	* <i>Escherichia coli</i> O83:H1 (strain NRG 857C / AIEC)	F (γ)	E4P2E2	NRG857_05925	403 BLUF+EAL	481
373	* <i>Escherichia coli</i> O9:H4 / HS	F (γ)	A7Z294	EoHS_A1259	403 BLUF+ EAL	482
374	<i>Escherichia coli</i> OK1180	F (γ)	E71PF0	ECOK1180_1992	403 BLUF+EAL	483
375	<i>Escherichia coli</i> OK1357	F (γ)	E7J2J6	ECOK1357_1041	403 BLUF+EAL	484
376	* <i>Escherichia coli</i> OR:K5:H- (strain ABU 83972)	F (γ)	E1PJK6	ECABU_c14230	429 BLUF+EAL	485
377	<i>Escherichia coli</i> PCN033	F (γ)	F7MVM7	PPECC33_10740	403 BLUF+EAL	486
378	<i>Escherichia coli</i> RN587/1	F (γ)	E7JQF9	ECRN5871_4211	403 BLUF+EAL	487
379	* <i>Escherichia coli</i> S88	F (γ)	B7MK58	ECS88_1224	403 BLUF+ EAL	488
380	<i>Escherichia coli</i> SCI-07	F (γ)	H8D7Y9	OQA_05817	403 BLUF+EAL	489
381	* <i>Escherichia coli</i> SE11	F (γ)	B6I9L9	ECSE_1206	429 BLUF+ EAL	490
382	* <i>Escherichia coli</i> SMS-3-5 / SECEC	F (γ)	B1LI04	EcSMS35_1986	403 BLUF+ EAL	491
383	<i>Escherichia coli</i> STEC_7v	F (γ)	F3LXX7	ECSTEC7V_1275	372 BLUF+EAL	492
384	<i>Escherichia coli</i> STEC_94C	F (γ)	G1Z43	ECSTEC94C_1408	261 Short-BLUF	493
385	<i>Escherichia coli</i> STEC_B2F1	F (γ)	G1Y830	ECSTECB2F1_1132	371 BLUF+EAL	494
386	<i>Escherichia coli</i> STEC_C165-02	F (γ)	G1YNH8	ECSTECC16502_1696	372 BLUF+EAL	495
387	<i>Escherichia coli</i> STEC_DG131-3	F (γ)	G2AEP4	ECSTECDG1313_1894	372 BLUF+EAL	496
388	<i>Escherichia coli</i> STEC_EH250	F (γ)	G2ATD7	ECSTECEH250_1485	372 BLUF+EAL	497
389	<i>Escherichia coli</i> STEC_H.1.8	F (γ)	G2BMD5	ECSTECH18_1484	230 Short-BLUF	498
390	<i>Escherichia coli</i> STEC_MHI813	F (γ)	G2C223	ECSTECHMI813_1179	372 BLUF+EAL	499
391	<i>Escherichia coli</i> STEC_S1191	F (γ)	G2CJ51	ECSTECs1191_1855	403 BLUF+EAL	500

392	<i>Escherichia coli</i> TA124	P (γ)	H1FGR3	ESRG_01225	403 BLUF+EAL	501
393	<i>Escherichia coli</i> TA143	P (γ)	F4U625	ECMG_02285	403 BLUF+EAL	502
394	<i>Escherichia coli</i> TA206	P (γ)	F4TT04	ECKG_01013	176 Short-BLUF	503
395	<i>Escherichia coli</i> TA271	P (γ)	F4ULK8	ECLG_02334	403 BLUF+EAL	504
396	<i>Escherichia coli</i> TW10509	P (γ)	E9XMH9	ERFG_02276	403 BLUF+EAL	505
397	<i>Escherichia coli</i> TX1999	P (γ)	G2CYS1	ECTX1999_1741	403 BLUF+EAL	506
398	<i>Escherichia coli</i> UMN18	P (γ)	G0FBW4	UMNF18_1476	403 BLUF+EAL	507
399	<i>Escherichia coli</i> UMNK88	P (γ)	F4M2X4	UMNK88_1472	403 BLUF+EAL	508
400	<i>Escherichia coli</i> WV_060327	P (γ)	E7U6E5	EcoM_02287	403 BLUF+EAL	509
401	<i>Escherichia coli</i> XH001	P (γ)	G2F1Z8	IAM_07948	403 BLUF+EAL	510
402	<i>Escherichia coli</i> XH140A	P (γ)	F9QYE5	IAE_06756	BLUF+EAL	511
403	<i>Escherichia hermannii</i> NBRC 105704	P (γ)	H5V3N0	EH105704_07_01550	BLUF+EAL	512
			H5UZV4	EH105704_02_02910	406 BLUF+EAL	513
404	<i>Escherichia sp.</i> 3_2_53FAA	P (γ)	C1HJN0	ESAG_01839	429 BLUF+ EAL	514
	* <i>Frateuria aurantia</i> ATCC 33424	P(γ)	H8L2L8	Fraau_1022	424 BLUF+EAL	515
			H8L2L7	Fraau_1021	439 BLUF+EAL	516
405	<i>gamma proteobacterium</i> HIMB55	P (γ) U	H3NRI2	OMB55_00005740	146 Short-BLUF	517
406	<i>gamma proteobacterium</i> IMCC1989	P (γ)	F3LF24	IMCC1989_2697	144 Short-BLUF	518
407	<i>gamma proteobacterium</i> IMCC2047	P (γ) U	F3KDB1	imdm_869	150 Short-BLUF	519
408	<i>gamma proteobacterium</i> IMCC3088	P (γ) U	F3KYX3	IMCC3088_2496	145 Short-BLUF	520
409	<i>gamma proteobacterium</i> NOR5-3	P (γ) U	B8KEY4	NOR53_730	161 Short-BLUF	521
			B8KLI1	NOR53_3510	157 Short-BLUF	522
			B8KT47	NOR51B_2485	149 Short-BLUF	523
410	* <i>Glaciecola nitratreducens</i> JCM 12485	P (γ)	G4QF34	GNIT_0224	147 Short-BLUF	524
411	<i>Grimontia hollisae</i> CIP 101886	P (γ)	D0IB49	VHA_002976	136 Short-BLUF	525
412	* <i>Halothiobacillus neapolitanus</i> c2	P (γ)	D0L046	Hneap_1233	143 Short-BLUF	526
413	* <i>Kangiella koreensis</i> DSM 16069	P (γ)	C7R790	Kkor_2136	143 Short-BLUF	527
414	<i>Klebsiella oxytoca</i> 10-5242	P (γ)	H3L520	HMPREF9686_00621	407 BLUF+EAL	528
			H3L8A3	HMPREF9686_01788	408 BLUF+EAL	529
415	<i>Klebsiella oxytoca</i> 10-5243	P (γ)	H3LKF5	HMPREF9687_00687	407 BLUF+EAL	530
			H3LPD4	HMPREF9687_02066	390 BLUF+EAL	531
			H3LNU7	HMPREF9687_01768	409 BLUF+EAL	532
416	<i>Klebsiella oxytoca</i> 10-5245	P (γ)	H3M2I6	HMPREF9689_01069	407 BLUF+EAL	533
			H3M586	HMPREF9689_02295	409 BLUF+EAL	534
417	<i>Klebsiella oxytoca</i> 10-5250	P (γ)	H3N9V3	HMPREF9694_04884	407 BLUF+EAL	535
			H3MWL6	HMPREF9694_00309	408 BLUF+EAL	536
418	* <i>Klebsiella oxytoca</i> ATCC 8724	P (γ)	G8WFT1	KOX_14855	407 BLUF+EAL	537
			G8WGX1	KOX_21390	402 BLUF+EAL	538
419	<i>Klebsiella pneumoniae</i>	P (γ)	G0GUP8	KPN2242_06695	403 BLUF+EAL	539
			G0GPP1	KPN2242_10805	405 BLUF+EAL	540
420	* <i>Klebsiella pneumoniae</i> 342	P (γ)	B5XQ25	KPK_2809	405 BLUF+ EAL	541
			B5X296	KPK_3794	403 BLUF+ EAL	542
421	* <i>Klebsiella pneumoniae</i> NTUH-K2044	P (γ)	C4X832	KP1_2624	422 BLUF+ EAL	543
			C4X5Q9	KP1_1729	403 BLUF+ EAL	544
422	* <i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i> ATCC 700721	P (γ)	A6T8V8	KPN_01598	405 BLUF+ EAL	545
			A6T6J7	KPN_00782	403 BLUF+ EAL	546
423	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i> HS11286	P (γ)	G8W5H8	KPHS_16090	403 BLUF+EAL	547
			G8W1U2	KPHS_25130	405 BLUF+EAL	548
424	<i>Klebsiella pneumoniae</i> subsp. <i>rhinoscleromatis</i> ATCC 13884	P (γ)	C8TA32	HMPREF0484_4475	405 BLUF+ EAL	549
			C8T1B3	HMPREF0484_1403	405 BLUF+ EAL	550
425	<i>Klebsiella sp.</i> 1_1_55	P (γ)	D6GDL7	HMPREF0485_01412	405 BLUF+ EAL	551
			D6GGM4	HMPREF0485_02258	403 BLUF+ EAL	552

426	<i>Klebsiella sp. 4_1_44FAA</i>	P (γ)	G9RCF4	HMPREF1024_01643	403 BLUF+EAL	553
427	<i>Klebsiella sp. MS 92-3</i>	P (γ)	F3Q8C8 F3P297	HMPREF9538_03346 HMPREF9538_00112	405 BLUF+EAL 403 BLUF+EAL	554 555
428	* <i>Klebsiella variicola (strain At-22)</i>	P (γ)	D3RGS1 D3RM34	Kvar_2745 Kvar_3602	405 BLUF+ EAL 403 BLUF+ EAL	556 557
429	<i>Legionella drancourtii LLAP12</i>	P (γ)	G9ETS2	LDG_8708	155 Short-BLUF	558
430	<i>Legionella longbeachae D-4968</i>	P (γ)	D1RLZ8	LLB_3415	309 BLUF+PAS	559
431	* <i>Legionella longbeachae serogroup 1 (strain NSW150)</i>	P (γ)	D3HJ09	LLO_2005	708 BLUF+3PAS+GGDEF	560
432	<i>Marichromatium purpuratum 984</i>	P (γ)	F9TWL2 F9TYC6	MarpuDRAFT_0051 MarpuDRAFT_0864	1221 2PAS+GGDEF+EAL+BLUF 137 Short-BLUF	561 562
433	<i>marine gamma proteobacterium HTCC2080</i>	P (γ) U	A0Z2D8 A0Z4F4 A0Z3A0	MGP2080_11943 MGP2080_10098 MGP2080_04075	150 Short-BLUF 159 Short-BLUF 152 Short-BLUF	563 564 565
434	<i>marine gamma proteobacterium HTCC2148</i>	P (γ) U	B7S2E6	GPB2148_306	127 Short-BLUF	566
435	* <i>Marinobacter adhaerens (strain HP15)</i>	P (γ)	E4PFT3 E4PIQ9	HP15_2239 HP15_2546	143 Short-BLUF 185 Short-BLUF	567 568
436	<i>Marinobacter algicola DG893</i>	P (γ)	A6F2F1	MDG893_01965	188 Short-BLUF	569
437	* <i>Marinobacter aquaeolei VI8</i>	P (γ)	A1U4G7	Maqu_2811	189 Short-BLUF	570
438	<i>Marinobacter hydrocarbonoclasticus ATCC 49840</i>	P (γ)	H8WBH9	MARHY2699	189	571
439	<i>Marinobacter manganoxydans MnI7-9</i>	P (γ)	G6YW66 G6YUG7	KYE_15614 KYE_13275	143 Short-BLUF 188 Short-BLUF	572 573
440	* <i>Marinomonas mediterranea ATCC 700492</i>	P (γ)	F2JZB3 F2JWR3	Marme_3990 Marme_2595	138 Short-BLUF 144 Short-BLUF	574 575
441	* <i>Marinomonas posidonica (strain CECT 7376 / NCIMB 14433 / IVIA-Po-18)</i>	P (γ)	F6CVF9	Mar181_2300	143 Short-BLUF	576
442	<i>Marinomonas sp. MED121</i>	P (γ)	A3YED7 A3YFN4 A3YFL0	MED121_05143 MED121_20671 MED121_20791	140 Short-BLUF 152 Short-BLUF 154 Short-BLUF	577 578 579
443	* <i>Marinomonas sp. MWYLL</i>	P (γ)	A6VYY7	Mmwyll_2753	142 Short-BLUF	580
444	<i>Methylobacter tundripaludum SV96</i>	P (γ)	G3ISM9	Mettu_1213	289 Short-BLUF	581
445	* <i>Methylomicrobium alcaliphilum DSM 19304</i>	P (γ)	G4T071 G4T077 G4T0S3 G4T2T3	MEALZ_1674 MEALZ_1680 MEALZ_0658 MEALZ_0873	136 Short-BLUF 294 Short-BLUF 141 Short-BLUF 1111 PAS+GGDEF+EAL+BLUF	582 583 584 585
446	<i>Methylomicrobium japanense</i>	P (γ)	Q25BV7		141 Short-BLUF	586
447	* <i>Methylomonas methanica (strain MC09)</i>	P (γ)	G0A610 G0A1P9 G0A2A9	Metme_2054 Metme_1692 Metme_0477	120 Short-BLUF 292 Short-BLUF 1104 PAS+GGDEF+EAL+BLUF	587 588 589
448	<i>Methylophaga aminisulfidivorans MP</i>	P (γ)	F5T211	MAMP_00459	140 Short-BLUF	590
449	<i>Methylophaga thiooxidans DMS010</i>	P (γ)	C0N528	MDMS009_1508	139 Short-BLUF	591
450	<i>Neptuniibacter caesariensis</i>	P (γ)	C0N9F9 Q2BIC6 Q2BP57	MDMS009_2819 MED92_11734 MED92_15473	136 Short-BLUF 142 Short-BLUF 147 Short-BLUF	592 593 594
451	* <i>Pantoea ananatis (strain AJ13355)</i>	P (γ)	F2ET35 F2E2T9	PAJ_1093 PAJ_p0070	403 BLUF+EAL 397 BLUF+EAL	595 596
452	* <i>Pantoea ananatis (strain LMG 20103)</i>	P (γ)	D4GGD1	PANA_4217	397 BLUF+ EAL	597
453	<i>Pantoea ananatis LMG 5342</i>	P (γ)	D4GDM8 G9AT61 G9AXC0	PANA_1748 PANA5342_2462 PANA5342_pPANA10038	403 BLUF+ EAL 403 BLUF+EAL 397 BLUF+EAL	598 599 600
454	<i>Pantoea ananatis PA13</i>	P (γ)	G7UHX4 G7UM94	PAGR_g2362 PAGR_p030	403 BLUF+EAL 397 BLUF+EAL	601 602
455	<i>Pantoea sp. aB</i>	P (γ)	E0M383 E0M391 E0M088	PanABDRAFT_3851 PanABDRAFT_3859 PanABDRAFT_2805	405 BLUF+EAL 395 BLUF+EAL 403 BLUF+EAL	603 604 605
456	* <i>Pantoea sp. At-9b</i>	P (γ)	E6WL97	Pat9b_4872	386 BLUF+EAL	606

		E6WBK2	Pat9b_2385	403 BLUF+EAL	607
457 <i>Pantoea</i> sp. Sc1	P (γ)	H8DUK7	S7A_20369	395 BLUF+EAL	608
		H8DLJ6	S7A_10555	403	609
		H8DUL4	S7A_20404	405 BLUF+EAL	610
458 <i>Pantoea stewartii</i> subsp. <i>stewartii</i> DC283	P (γ)	H3RKF0	CKS_3095	134 Short-BLUF	611
		H3RCE8	CKS_3462	403 BLUF+EAL	612
459 * <i>Pantoea vagans</i> (strain C9-1) (<i>Pantoea agglomerans</i> (strain C9-1))	P (γ)	E1SBR1	Pvag_1190	403 BLUF+EAL	613
		E1PKB3	Pvag_pPag10010	404 BLUF+EAL	614
		E1PKA4	Pvag_pPag10001	409 BLUF+EAL	615
460 * <i>Pseudoalteromonas atlantica</i> (T6c / BAA-1087)	P (γ)	Q15XU6	Pat1_0764	138 Short-BLUF	616
		Q15W34	Pat1_1378	133 Short-BLUF	617
461 <i>Pseudoalteromonas</i> sp. BSi20311	P (γ)	G7EN43	P20311_0084	141 Short-BLUF	618
462 <i>Pseudoalteromonas</i> sp. BSi20439	P (γ)	G7FK05	P20439_3598	141 Short-BLUF	619
463 <i>Pseudoalteromonas</i> sp. BSi20480	P (γ)	G7FLG8	P20480_0448	141 Short-BLUF	620
464 <i>Pseudoalteromonas</i> sp. BSi20652	P (γ)	G7ED85	P20652_0717	141 Short-BLUF	621
465 * <i>Pseudoalteromonas</i> sp. SM9913	P (γ)	E6RIH7	PSM_A0186	138 Short-BLUF	622
466 <i>Pseudoalteromonas tunicata</i> D2	P (γ)	A4C8E2	PTD2_07434	140 Short-BLUF	623
		A4CA03	PTD2_20387	133 Short-BLUF	624
467 * <i>Psychrobacter arcticum</i>	P (γ)	Q4FUS2	Psyc_0367	210 Short-BLUF	625
468 * <i>Psychrobacter cryohalolentis</i> (strain K5)	P (γ)	Q1QDR2	Pcryo_0408	210 Short-BLUF	626
		Q1Q9K9	Pcryo_1867	196 Short-BLUF	627
		Q1QAA1	Pcryo_1625	169 Short-BLUF	628
469 <i>Psychrobacter</i> sp. 1501(2011)	P (γ)	F5SNV9	HMPREF9373_0742	209 Short-BLUF	629
		F5SLW1	HMPREF9373_0044	216 Short-BLUF	630
470 * <i>Psychrobacter</i> sp. PRwf-1	P (γ)	A5WCY1	PsycPRwf_0567	209 Short-BLUF	631
		A5WEX6	PsycPRwf_1270	216 Short-BLUF	632
471 * <i>Psychromonas ingrahamii</i> (strain 37)	P (γ)	A1S277	Ping_3094	157 Short-BLUF	633
472 * <i>Rahnella aquatilis</i> ATCC 33071	P (γ)	H2J1E2	Rahaq2_4662	413 BLUF+EAL	634
473 <i>Rahnella aquatilis</i> HX2	P (γ)	H8P0G4	Q7S_23851	413	635
474 * <i>Rahnella</i> sp. (strain Y9602)	P (γ)	E8XZ15	Rahaq_4666	413 BLUF+EAL	636
475 <i>Reinekea</i> sp. MED297		A4BGV1	MED297_02795	172 Short-BLUF	637
476 <i>Rheinheimera</i> sp. Al3L	P (γ)	F7NUK1	Rhein_1451	141 Short-BLUF	638
477 <i>Salinisphaera shabanensis</i> E1L3A	E (γ)	F7Q923	SSPSH_10602	142 Short-BLUF	639
478 * <i>Shewanella oneidensis</i>	P (γ)	Q8EBA3	SO_3629	140 Short-BLUF	640
479 * <i>Shewanella woodyi</i> ATCC 51908	P (γ)	B1KH49	Swoo_4105	156 Short-BLUF	641
480 <i>Shigella boydii</i> 5216-82	P (γ)	F3WJP8	SB521682_2249	372 BLUF+EAL	642
481 <i>Shigella boydii</i> ATCC 9905	P (γ)	E7T1P3	SGB_03440	372 BLUF+EAL	643
482 <i>Shigella dysenteriae</i> 1012	P (γ)	B3X612	Sd1012_3785	311 BLUF+ EAL	644
483 <i>Shigella dysenteriae</i> 155-74	P (γ)	F3V2I3	SD15574_0611	342 BLUF+EAL	645
484 <i>Shigella flexneri</i> J1713	P (γ)	F7R7D0	SFJ1713_1304	386 BLUF+EAL	646
485 <i>Shigella flexneri</i> VA-6	P (γ)	F5N0U1	SFVA6_1693	372 BLUF+EAL	647
486 <i>Shigella sonnei</i> 53G	P (γ)	E7K4N8	SS53G_4335	198 Short-BLUF	648
487 <i>Shigella</i> sp. D9	P (γ)	F4NHE2	SSJG_01403	429 BLUF+EAL	649
488 * <i>Stenotrophomonas maltophilia</i> R551-3	P (γ)	B4STM1	Sma1_1741	142 Short-BLUF	650
		B4SR64	Sma1_1430	144 Short-BLUF	651
489 <i>Stenotrophomonas maltophilia</i> JV3	P (γ)	G0JUR4	BurJV3_1486	144 Short-BLUF	652
		G0K4E1	BurJV3_3610	143 Short-BLUF	653
		G0JY27	BurJV3_1799	142 Short-BLUF	654
490 * <i>Stenotrophomonas maltophilia</i> K279a	P (γ)	B2FSB2	Smlt2535	155 Short-BLUF	655
		B2FNU4	Smlt2097	144 Short-BLUF	656
		B2FSB7	Smlt2541	132 Short-BLUF	657
		B2FK66	Smlt1691	144 Short-BLUF	658
		B2FSU5	Smlt2579	157 Short-BLUF	659
		B2FSA5	Smlt2528	149 Short-BLUF	660
491 <i>Stenotrophomonas</i> sp. SKA14	P (γ)	B8L2D7	SSKA14_2852	144 Short-BLUF	661

		B8LAI7	SSKA14_3844	142 Short-BLUF	662
492	<i>Thioalkalimicrobium aerophilum</i> AL3	P(γ) G4D9V3	ThiaeDRAFT_0875	135 Short-BLUF	663
493	* <i>Thioalkalivibrio</i> sp. HL-EbGR7	P(γ) B8GP27	Tgr7_3075	168 Short-BLUF	664
494	* <i>Thioalkalivibrio</i> sp. K90mix	P(γ) D3SBJ7	TK90_1911	196 Short-BLUF	665
495	<i>Thiocystis violascens</i> DSM 198	P(γ) G4DSB4	ThiviDRAFT_1502	597 GGDEF+EAL+BLUF	666
496	<i>Thiorhodococcus drewsii</i> AZ1	P(γ) G2DZK4	ThidrDRAFT_1467	1199 2PAS+GGDEF+EAL+BLUF	667
		G2E4Y1	ThidrDRAFT_3344	151 Short-BLUF	668
497	<i>Thiorhodospira sibirica</i> ATCC 700588	P(γ) G4E7K7	ThisiDRAFT_2286	139 Short-BLUF	669
		G4E8F6	ThisiDRAFT_2585	1099 2PAS+GGDEF+EAL+BLUF	670
498	<i>Thiorhodovibrio</i> sp. 970	P(γ) H8Z515	Thi970DRAFT_04056	148 Short-BLUF	671
		H8Z1A9	AFT_01632	299 Short-BLUF	672
499	uncultured <i>gamma</i> proteobacterium	P(γ) U H5SE04	M_F15A06C04	113 Short-BLUF	673
500	<i>Vibrio cholera</i> RC385	P(γ) D7HCX4	VCRC385_03186	142 Short-BLUF	674
501	<i>Vibrio coralliilyticus</i> ATCC BAA-450	P(γ) C9NR36	VIC_001437	139 Short-BLUF	675
		C9NQ17	VIC_001362	136 Short-BLUF	676
		C9NPY7	VIC_001332	104 Short-BLUF	677
		C9NVS2	VIC_003382	141 Short-BLUF	678
502	<i>Vibrio ichthyoenteri</i> ATCC 700023	P(γ) F9S3C4	VII00023_19469	134 Short-BLUF	679
503	<i>Vibrio nigripulchritudo</i> ATCC 27043	P(γ) F9THX2	VINI7043_06241	138 Short-BLUF	680
		F9TGM9	VINI7043_09402	127 Short-BLUF	681
504	<i>Vibrio orientalis</i> CIP 102891 = ATCC 33934	P(γ) C9QIB2	VIOR3934_04989	60 Short-BLUF	682
505	<i>Vibrio scophthalmi</i> LMG 19158	P(γ) F9RIQ0	VIS19158_10404	139 Short-BLUF	683
506	<i>Vibrio sinaloensis</i> DSM 21326	P(γ) E8M6S4	VIS11226_22520	139 Short-BLUF	684
507	<i>Vibrio</i> sp. MED222	P(γ) A3Y2H2	MED222_16646	142 Short-BLUF	685
508	<i>Vibrio splendidus</i> 12B01	P(γ) A3UYZ3	V12B01_03553	141 Short-BLUF	686
509	* <i>Vibrio splendidus</i> Mel32	P(γ) B7VGM9	VS_1896	139 Short-BLUF	687
510	<i>Vibrio tubiashii</i> ATCC 19109	P(γ) F9T3Q3	VITU9109_09427	151 Short-BLUF	688
511	Vibrionales bacterium SWAT-3	P(γ) A5L553	VSWAT3_05156	139 Short-BLUF	689
512	* <i>Xanthomonas axonopodis</i> pv. <i>citri</i> str.306	P(γ) Q8PHH6	XAC3278	147 Short-BLUF	690
		Q8PKP9	XAC2120	158 Short-BLUF	691
513	<i>Xanthomonas axonopodis</i> pv. <i>punicae</i> str. LMG 859	P(γ) H1XN33	XAPC_4350	128 Short-BLUF	692
514	<i>Xanthomonas citri</i> pv. <i>mangiferaeindicae</i> LMG 941	P(γ) H8FLF5	XMIN_4184	158	693
515	<i>Xanthomonas fuscans</i> subsp. <i>aurantifolii</i> str. ICPB 10535	P(γ) D4TC91	XAUC_43810	147 Short-BLUF	694
		D4SRA6	XAUB_06010	159 Short-BLUF	695
516	<i>Xanthomonas perforans</i> 91-118	P(γ) F0BUQ3	XPE_3069	184 Short-BLUF	696
517	* <i>Desulfococcus oleovorans</i> Hxd3	P(δ) A9A0H4	Dole_1670	148 Short-BLUF	697
518	* <i>Desulfatibacillum alkenivorans</i> AK-011	P(δ) B8FK53	Dalk_1025	144 Short-BLUF	698
519	* <i>Myxococcus xanthus</i> DK1622	P(δ) Q93SK7		253 Short-BLUF	699
520	* <i>Magnetococcus</i> sp. MC-1	P(Magn) A0LAZ4	Mmcl_2641	1118 PAS+GGDEF+EAL+BLUF	700
		A0L5S5	Mmcl_0797	139 Short-BLUF	701
		A0LAQ1	Mmcl_2544	160 Short-BLUF	702
521	uncultured proteobacterium delRiverFos06H03	PUnc Q58PP1	DelRiverFos06H03.10	147 Short-BLUF	703
522	uncultured proteobacterium.	PUnc Q8KZ47	EBAC000-29C02.32	146 Short-BLUF	704
523	uncultured bacterium 581	PUnc Q6SFE3	MBMO_EBAC000-69B03.24	159 Short-BLUF	705
524	* <i>Cyanothece</i> sp. PCC 7425 / ATCC 29141	Cya B8HWP0	Cyan7425_4153	145 Short-BLUF	706
525	* <i>Synechococcus</i> sp. PCC 7002	Cya B1XJZ3	C7002_A1121	145 Short-BLUF	707
526	* <i>Synechocystis</i> sp. PCC 6803	Cya P74295	slr1694	150 Short-BLUF	708
		F7UR00	SYNGTS_1814	150 Short-BLUF	709
527	<i>Synechocystis</i> sp. PCC 6803 substr. GT-I	Cya HONXE6	SYNGTI_1814	150 Short-BLUF	710
528	<i>Synechocystis</i> sp. PCC 6803 substr. PCC-N	Cya H0P9U8	SYNPCCN_1813	150 Short-BLUF	711
529	<i>Synechocystis</i> sp. PCC 6803 substr. PCC-P	Cya H0PNV0	SYNPCCP_1813	150 Short-BLUF	712
530	* <i>Thermosynechococcus elongatus</i>	Cya Q8DMN3	t110078	143 Short-BLUF	713

531	* <i>Rhodopirellula baltica</i>	Pl	Q7UXU1	RB1118	141 Short-BLUF	714
532	<i>Rhodopirellula baltica</i> WH47	Pl	F2AXT1	RBWH47_05171	132 Short-BLUF	715
533	<i>Candidatus Nitrospira defluvi</i>	Nit	D8PAY1	NIDE0618	138 Short-BLUF	716
534	* <i>Bdellovibrio bacteriovorus</i>	Bact	Q6MPS8	Bd0763	142 Short-BLUF	717
535	* <i>Cellulophaga algicola</i> (strain DSM 14237 / IC166 / ACAM 630)	Bact	E6X5L6	Celal1_1057	144 Short-BLUF	718
536	* <i>Chloroherpeton thalassium</i> ATCC 35110 / GB-78	Bact	B3QX03	Ctha_2363	145 Short-BLUF	719
537	<i>Dokdonia donghaensis</i> MED134	Bact	A2TPW0	MED134_07089	135 Short-BLUF	720
538	<i>Flavobacteria bacterium</i> BBFL7.	Bact	Q26D86	BBFL7_00860	139 Short-BLUF	721
539	<i>Gillisia limnaea</i> DSM 15749	Bact	H2BX58	Gilli_1345	134 Short-BLUF	722
			H2BW61	Gilli_2351	133 Short-BLUF	723
			H2BVP6	Gilli_3402	135 Short-BLUF	724
			H2BX59	Gilli_1347	135 Short-BLUF	725
540	* <i>Gramella forsetii</i> KT0803	Bact	A0LYB8	GFO_0378	133 Short-BLUF	726
541	* <i>Krokinobacter</i> sp. (strain 4H-3-7-5)	Bact	F4B036	Krodi_2311	137 Short-BLUF	727
			F4B057	Krodi_2332	151 Short-BLUF	728
542	* <i>Marivirga tractuosa</i> ATCC 23168	Bact	E4TNQ3	Ftrac_1500	139 Short-BLUF	729
543	<i>Microscilla marina</i> ATCC 23134	Bact	A1ZRF7	M23134_04735	137 Short-BLUF	730
544	<i>Mucilaginibacter paludis</i> DSM 18603	Bact	H1Y0M8	Mucpa_4683	140 Short-BLUF	731
		Bact	H1YF64	Mucpa_2063	151 Short-BLUF	732
		Bact	H1Y0M7	Mucpa_4682	137 Short-BLUF	733
		Bact	H1Y8V0	Mucpa_4627	151 Short-BLUF	734
545	<i>Pedobacter</i> sp. BAL39	Bact	A6E9F4	PBAL39_15209	152 Short-BLUF	735
546	<i>Polaribacter dokdonensis</i> MED152	Bact	A2TY78	MED152_08960	481 HtH-BLUF	736
547	<i>Psychroflexus torquis</i> ATCC 700755	Bact	Q1VYM2	P700755_13122	142 Short-BLUF	737
548	* <i>Spirosoma linguale</i> DSM 74	Bact	D2QR85	Slin_3663	142 Short-BLUF	738
			D2QVZ0	Slin_7029	137 Short-BLUF	739
549	* <i>Terriglobus saanensis</i> ATCC BAA-1853	Bact	E8UXB9	AciPR4_3389	153 Short-BLUF	740
550	unidentified eubacterium SCB49	Bact	A6ENE1	SCB49_03514	133 Short-BLUF	741
551	* <i>Zobellia galactanivorans</i> DSM 12802	Bact	G0L2R9	zobellia_1095	145 Short-BLUF	742
			G0KZL8	zobellia_2908	147 Short-BLUF	743
552	* <i>Zunongwangia profunda</i> SM-A87	Bact	D5BH98	ZPR_0925	133 Short-BLUF	744
553	<i>Solibacter usitatus</i> Ellin6076	AcidoB	Q01S10	Acid_6638	141 Short-BLUF	745
554	<i>Lentisphaera araneosa</i> HTCC2155	Lent	A6DQ35	LNTAR_24234	132 Short-BLUF	746
555	<i>Chthoniobacter flavus</i> Ellin428	Verr	B4D369	Cfe428DRAFT_3357	157 Short-BLUF	747
556	* <i>Coralimargarita akajimensis</i> DSM 45221	Verr	D5EM63	Caka_2206	148 Short-BLUF	748
557	<i>Verrucomicrobiae bacterium</i> DG1235	Verr	B5JMC0	VDG1235_4805	141 Short-BLUF	749
			B5JJ76	VDG1235_4166	157 Short-BLUF	750
558	<i>Leptonema illini</i> DSM 21528	Spi	H2CIX2	Lepil_3481	261 BLUF+GAF	751