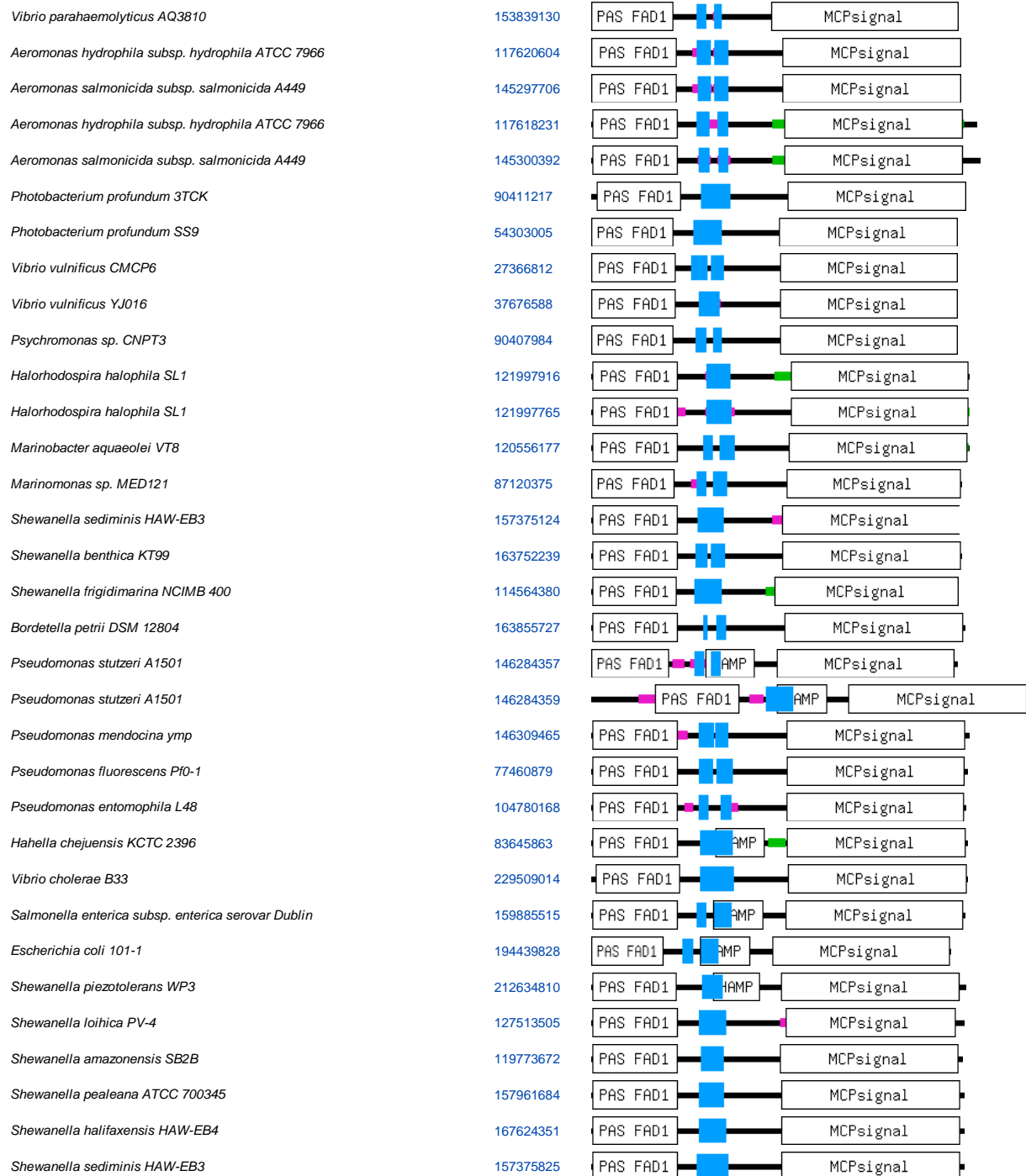
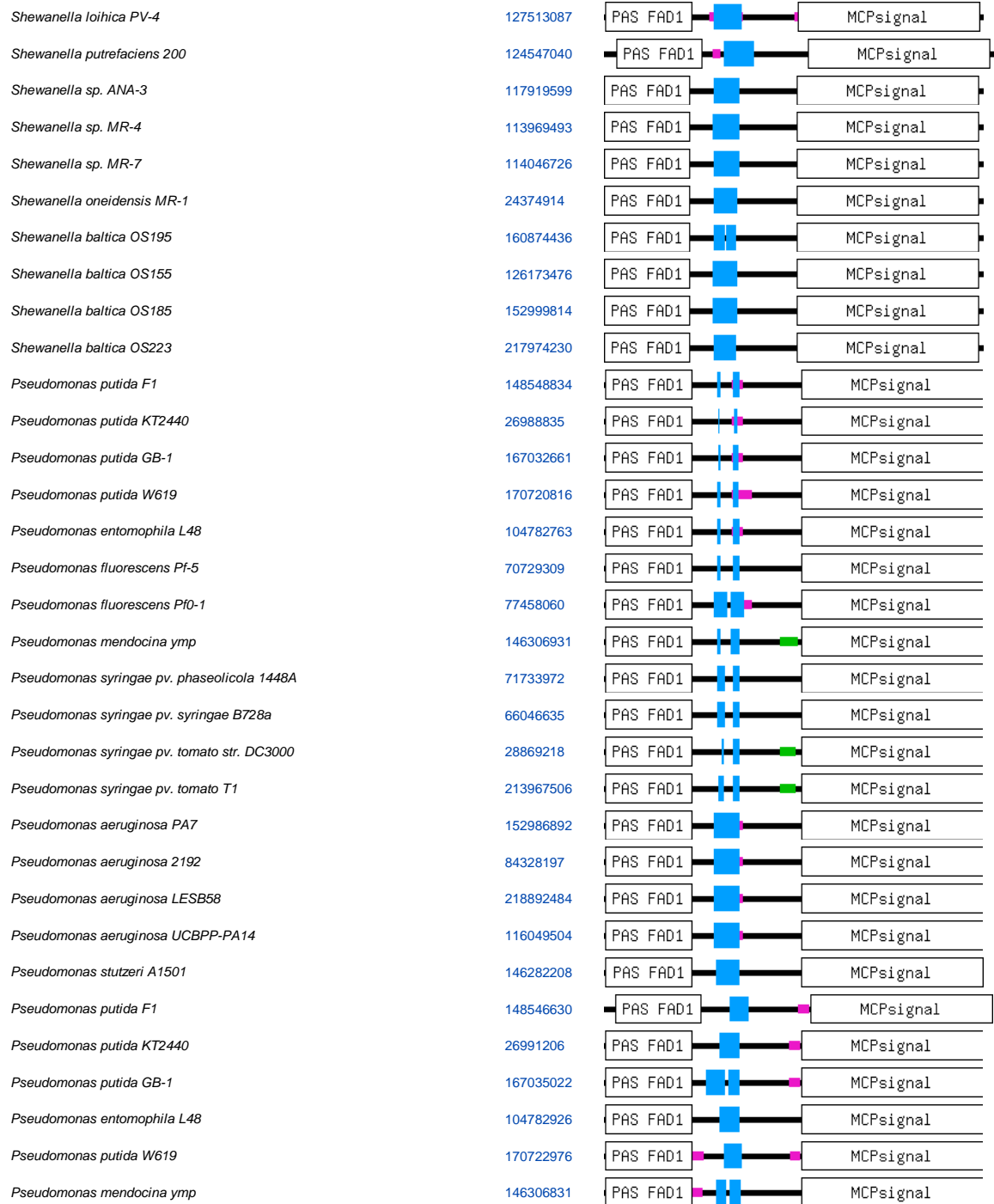
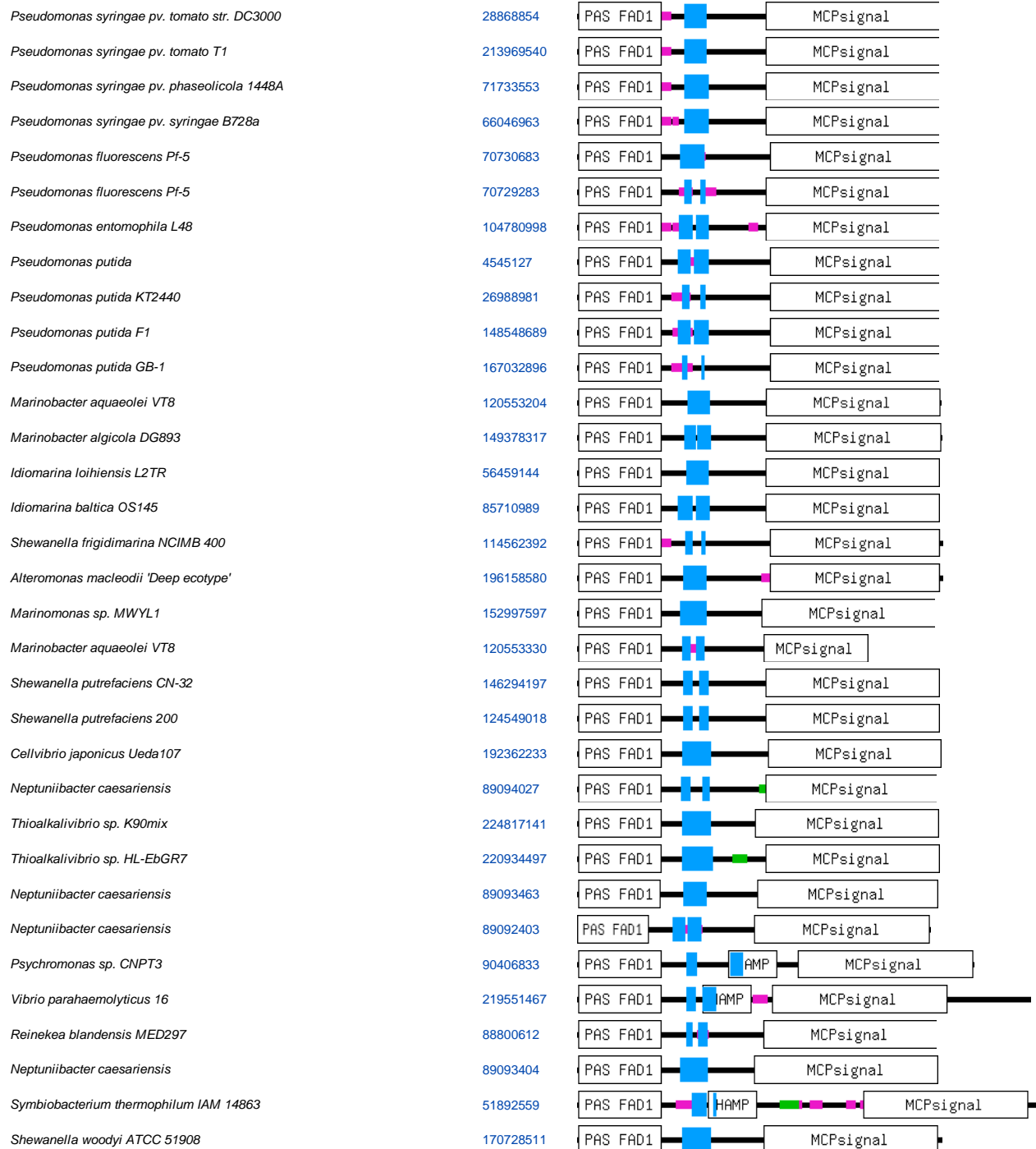


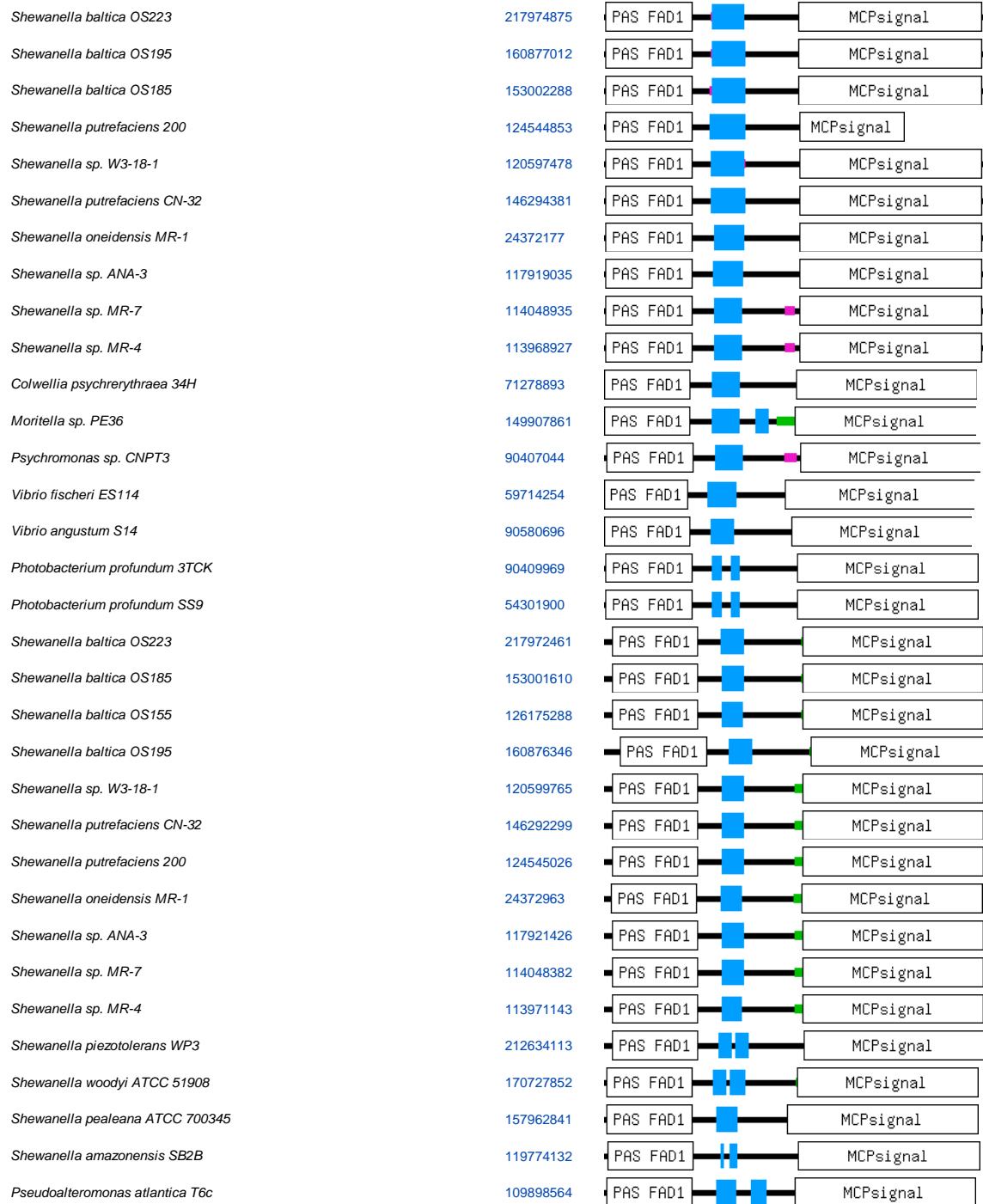
PAS FAD1 containing methyl-accepting chemotaxis proteins

Organism	GI	Domain architecture
<i>Acidovorax citrullii</i> AAC00-1	120612562	PAS FAD1 - HAMP - MCPsignal
<i>Azoarcus</i> sp. BH72	119897661	PAS FAD1 - HAMP - MCPsignal
<i>Burkholderia</i> sp. H160	209515519	PAS FAD1 - HAMP - MCPsignal
<i>Burkholderia graminis</i> C4D1M	170692196	PAS FAD1 - HAMP - MCPsignal
<i>Colwellia psychrerythraea</i> 34H	71279028	PAS FAD1 - HAMP - MCPsignal
<i>Moritella</i> sp. PE36	149908222	PAS FAD1 - HAMP - MCPsignal
<i>Marinobacter algicola</i> DG893	149375527	PAS FAD1 - HAMP - MCPsignal
<i>Methylibium petroleiphilum</i> PM1	124267965	PAS FAD1 - HAMP - MCPsignal
<i>Thiomicrospira crunogena</i> XCL-2	78486236	PAS FAD1 - HAMP - MCPsignal
<i>Leptospira interrogans</i> serovar Lai str. 56601	24212749	PAS FAD1 - MCPsignal
<i>Leptospira interrogans</i> serovar Copenhageni str. Fiocruz L1-130	45655957	PAS FAD1 - MCPsignal
<i>Leptospira borgpetersenii</i> serovar Hardjo-bovis JB197	116329831	PAS FAD1 - MCPsignal
<i>Leptospira borgpetersenii</i> serovar Hardjo-bovis L550	116329516	PAS FAD1 - MCPsignal
<i>Marinomonas</i> sp. MED121	87120253	PAS FAD1 - MCPsignal
<i>Marinomonas</i> sp. MED121	87119503	PAS FAD1 - MCPsignal
<i>Marinomonas</i> sp. MWYL1	152997463	PAS FAD1 - MCPsignal
<i>Vibrio cholerae</i> 1587	153212224	PAS FAD1 - MCPsignal
<i>Vibrio cholerae</i> 623-39	153827851	PAS FAD1 - MCPsignal
<i>Vibrio cholerae</i> V51	116221838	PAS FAD1 - MCPsignal
<i>Vibrio cholerae</i> TMA 21	229514396	PAS FAD1 - MCPsignal
<i>Vibrio cholerae</i> 2740-80	121587001	PAS FAD1 - MCPsignal
<i>Vibrio cholerae</i> RC385	116218088	PAS FAD1 - MCPsignal
<i>Vibrio vulnificus</i> CMCP6	27366531	PAS FAD1 - MCPsignal
<i>Vibrio vulnificus</i> YJ016	37676239	PAS FAD1 - MCPsignal
<i>Marinomonas</i> sp. MED121	87118448	PAS FAD1 - MCPsignal
<i>Vibrio fischeri</i> ES114	59713275	PAS FAD1 - MCPsignal
<i>Vibrio fischeri</i> MJ11	197337320	PAS FAD1 - MCPsignal
<i>Shewanella pealeana</i> ATCC 700345	157960166	PAS FAD1 - MCPsignal
<i>Shewanella halifaxensis</i> HAW-EB4	167625858	PAS FAD1 - MCPsignal
<i>Vibrio</i> sp. Ex25	116183844	PAS FAD1 - MCPsignal
<i>Vibrio parahaemolyticus</i> RIMD 2210633	28900451	PAS FAD1 - MCPsignal

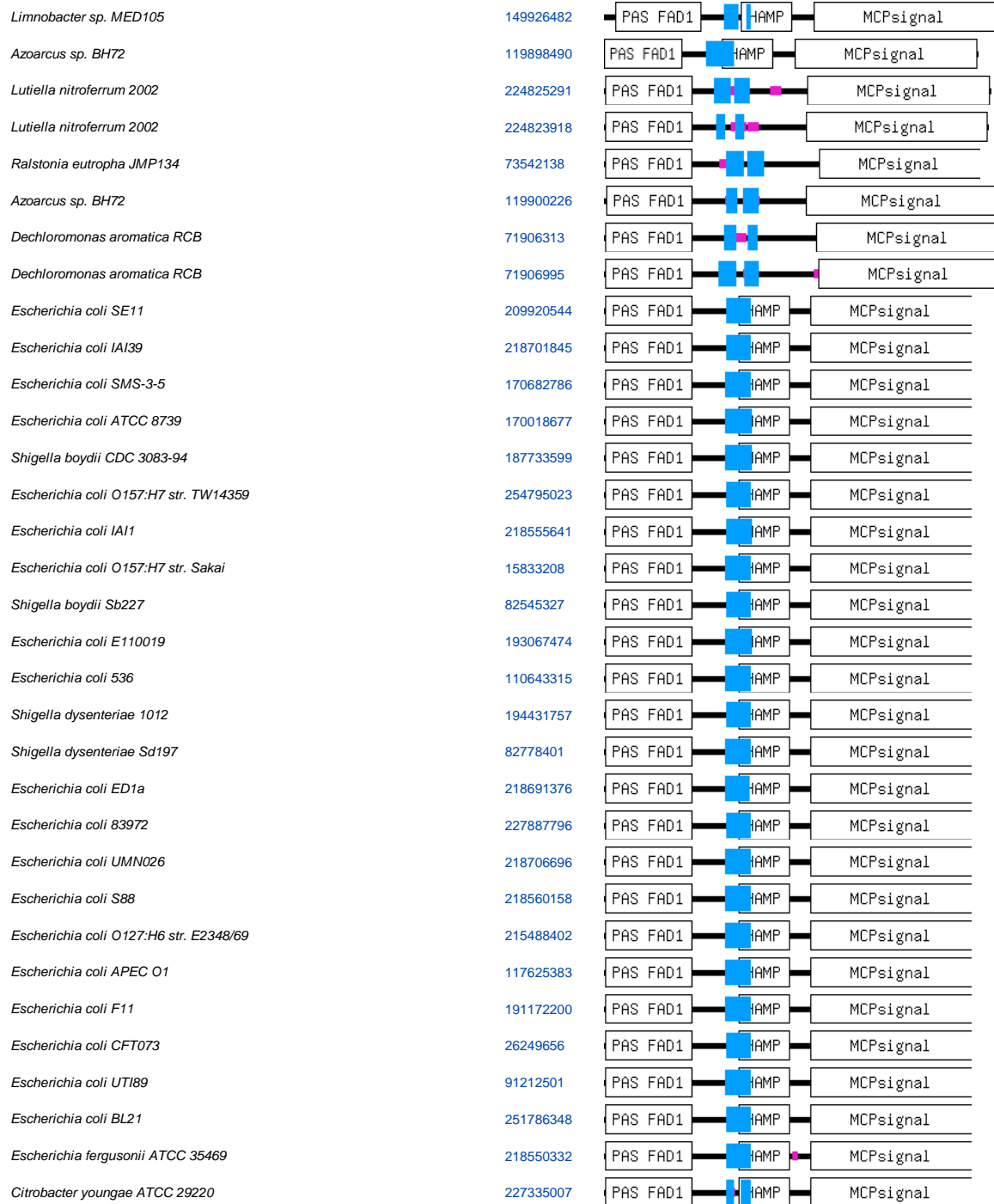






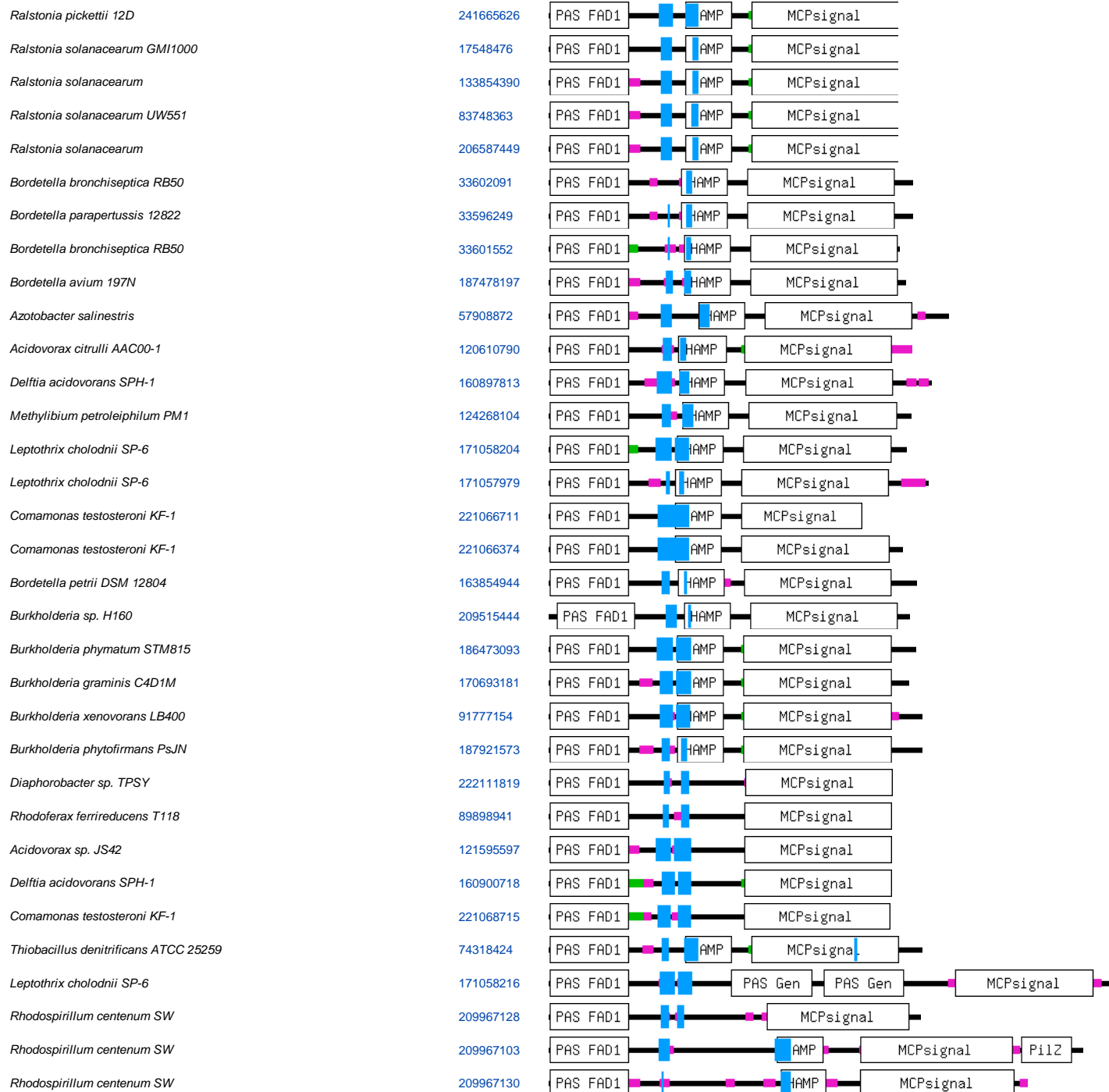


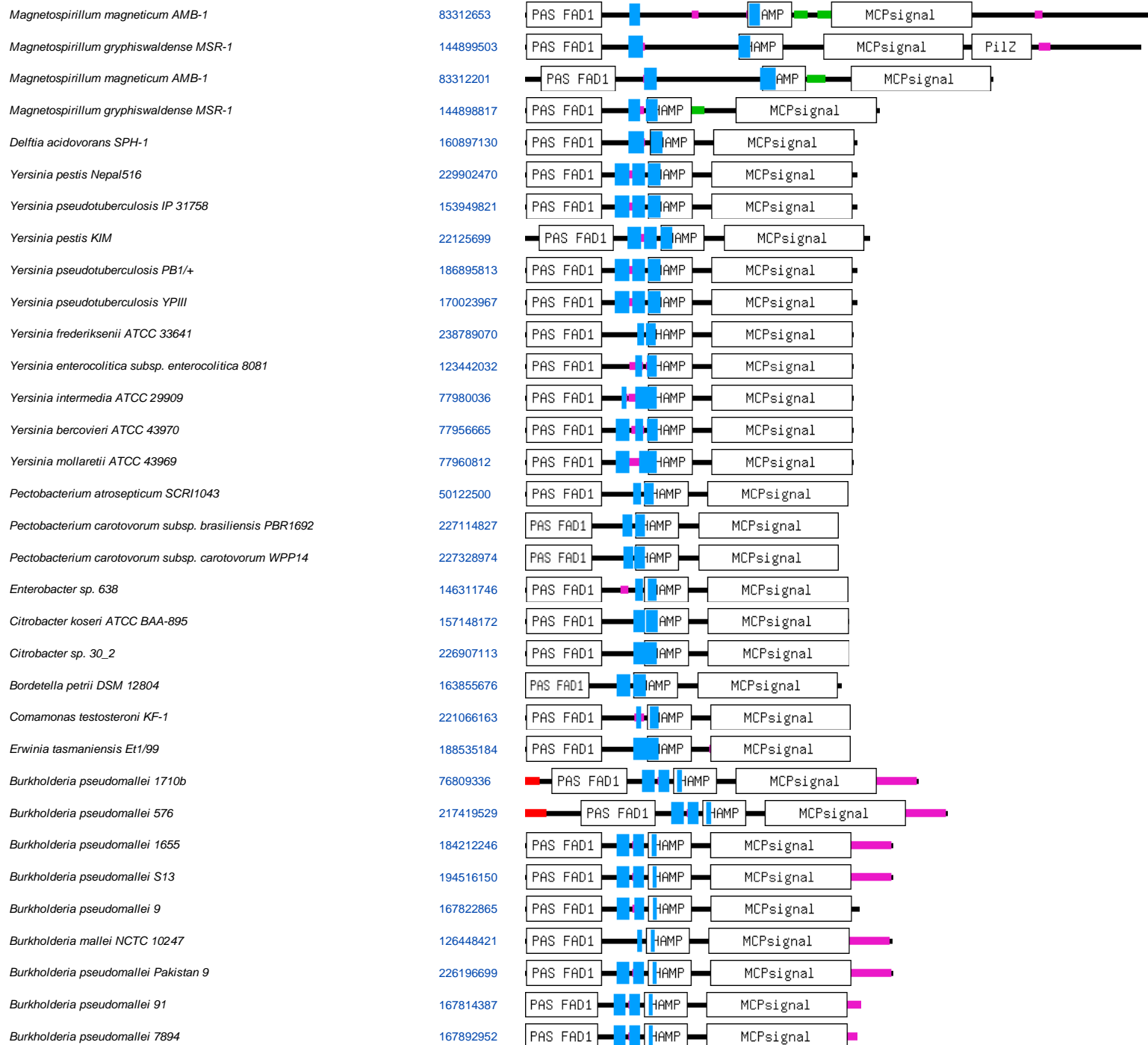
<i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i> ATCC 7966	117618963	PAS FAD1		MCPsignal
<i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i> A449	145299460	PAS FAD1		MCPsignal
<i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i> ATCC 7966	117617725	PAS FAD1		MCPsignal
<i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i> A449	145300009	PAS FAD1		MCPsignal
<i>Pseudoalteromonas haloplanktis</i> TAC125	77359361	PAS FAD1		MCPsignal
<i>Pseudoalteromonas tunicata</i> D2	88857473	PAS FAD1		MCPsignal
<i>Colwellia psychrerythraea</i> 34H	71279686	PAS FAD1		MCPsignal
<i>Pseudoalteromonas haloplanktis</i> TAC125	77359883	PAS FAD1		MCPsignal
<i>Alteromonadales</i> bacterium TW-7	119470044	PAS FAD1		MCPsignal
<i>Photobacterium profundum</i> 3TCK	90411120	PAS FAD1		MCPsignal
<i>Photobacterium profundum</i> SS9	54302188	PAS FAD1		MCPsignal
<i>Vibrio alginolyticus</i> 12G01	91224875	PAS FAD1		MCPsignal
<i>Vibrio</i> sp. Ex25	116187405	PAS FAD1		MCPsignal
<i>Vibrio parahaemolyticus</i> RIMD 2210633	28901037	PAS FAD1		MCPsignal
<i>Vibrio harveyi</i> ATCC BAA-1116	156977471	PAS FAD1		MCPsignal
<i>Vibrio vulnificus</i> YJ016	37676765	PAS FAD1		MCPsignal
<i>Vibrio vulnificus</i> CMCP6	27366987	PAS FAD1		MCPsignal
<i>Vibrio parahaemolyticus</i> 16	219550454	PAS FAD1		MCPsignal
<i>Vibrio splendidus</i> 12B01	84385130	PAS FAD1		MCPsignal
<i>Vibrio splendidus</i> LGP32	218676816	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> RC385	194535348	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> M66-2	227812225	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> MZO-2	153824377	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> V51	194537641	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> MZO-3	153800901	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> MAK 757	153219971	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> 12129(1)	229528511	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> O395	227119829	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> MO10	116190359	PAS FAD1		MCPsignal
<i>Vibrio cholerae</i> B33	229509965	PAS FAD1		MCPsignal
<i>Laribacter hongkongensis</i> HLHK9	226939655	PAS FAD1		MCPsignal
<i>Lutiella nitroferum</i> 2002	224824463	PAS FAD1		MCPsignal
<i>Lutiella nitroferum</i> 2002	224827062	PAS FAD1		MCPsignal

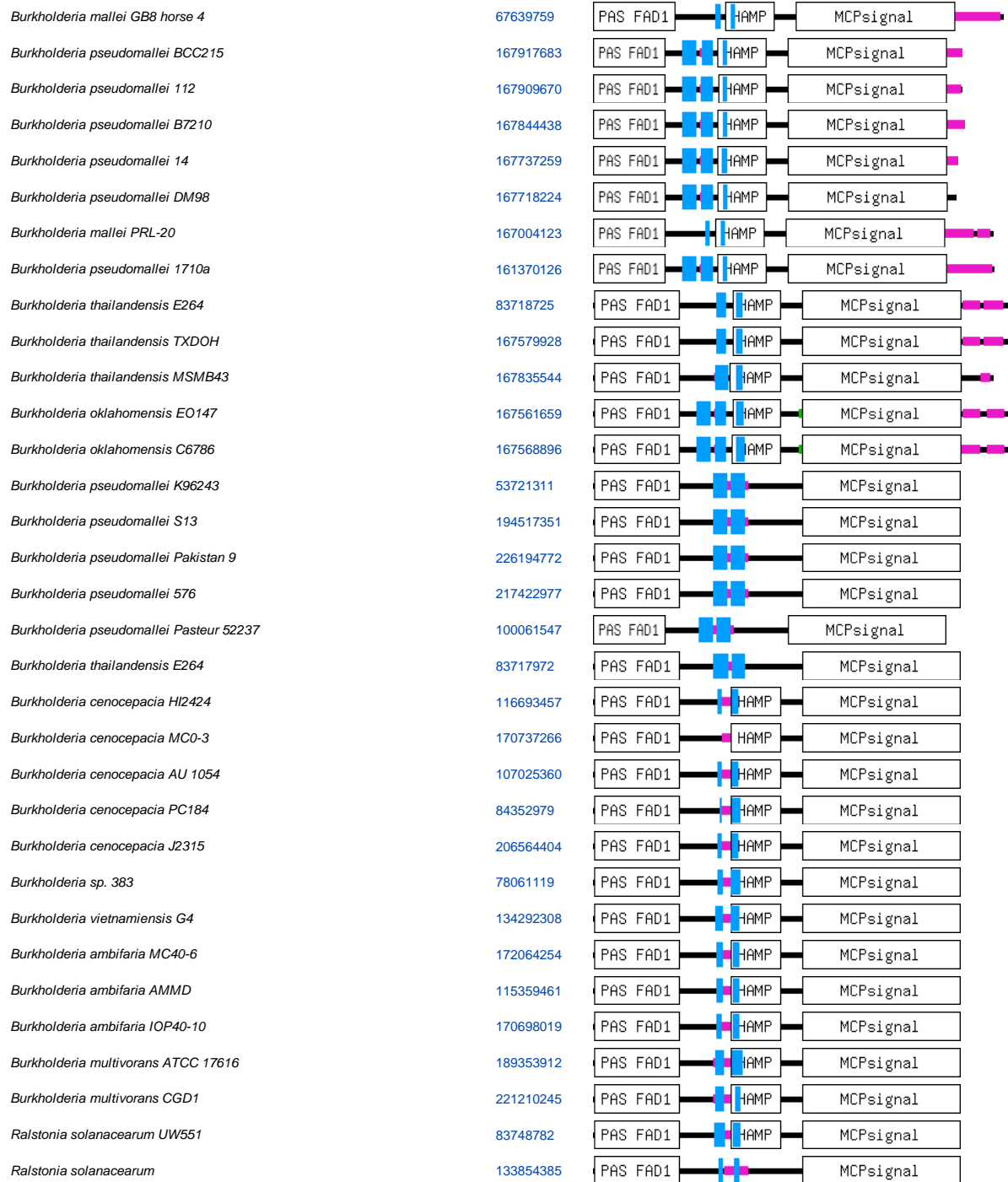





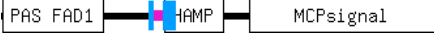
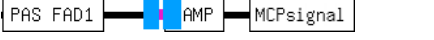



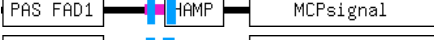


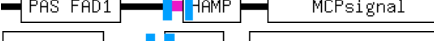

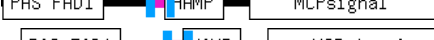
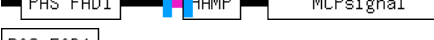
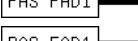
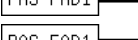
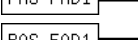
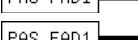
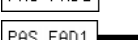
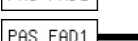
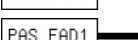
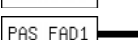
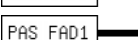
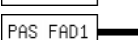
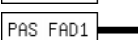
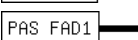
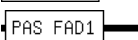
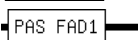
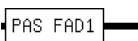

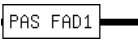

<i>Citrobacter</i> sp. 30_2	226908619	
<i>Citrobacter koseri</i> ATCC BAA-895	157148657	
<i>Salmonella enterica</i> subsp. <i>arizonae</i> serovar 62:z4,z23:--	161506219	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhi str. E98-3139	214001002	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhi str. E00-7866	213053181	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhi str. J185	213646101	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Hadar str. RL_05P066	168262780	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Tennessee str. CDC07-0191	238910019	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Heidelberg str. SL486	168243048	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Schwarzengrund str. CVM19633	194737278	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Kentucky str. CVM29188	194471795	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Gallinarum str. 287/91	205354131	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Saintpaul str. SARA29	167553278	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Paratyphi B str. SPB7	161616210	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Javiana str. GA_MM04042433	204927997	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Paratyphi C strain RKS4594	224585019	
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Virchow str. SL491	200388320	
<i>Enterobacter</i> sp. 638	146313162	
<i>Enterobacter cancerogenus</i> ATCC 35316	209910113	
<i>Oryza sativa</i> Indica Group	218185801	
<i>Cronobacter sakazakii</i> ATCC BAA-894	156935624	
<i>Providencia stuartii</i> ATCC 25827	183597876	
<i>Providencia rettgeri</i> DSM 1131	223991569	
<i>Providencia rustigianii</i> DSM 4541	212706173	
<i>Providencia alcalifaciens</i> DSM 30120	212711172	
<i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i> WPP14	227326377	
<i>Pectobacterium carotovorum</i> subsp. <i>brasiliensis</i> PBR1692	227111876	
<i>Pectobacterium atrosepticum</i> SCRI1043	50120929	
<i>Pectobacterium carotovorum</i> subsp. <i>brasiliensis</i> PBR1692	227111875	
<i>Pectobacterium atrosepticum</i> SCRI1043	50120928	
<i>Pectobacterium carotovorum</i> subsp. <i>carotovorum</i> WPP14	227326376	
<i>Proteus mirabilis</i> HI4320	197286642	
<i>Proteus mirabilis</i> ATCC 29906	227355167	



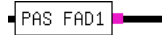






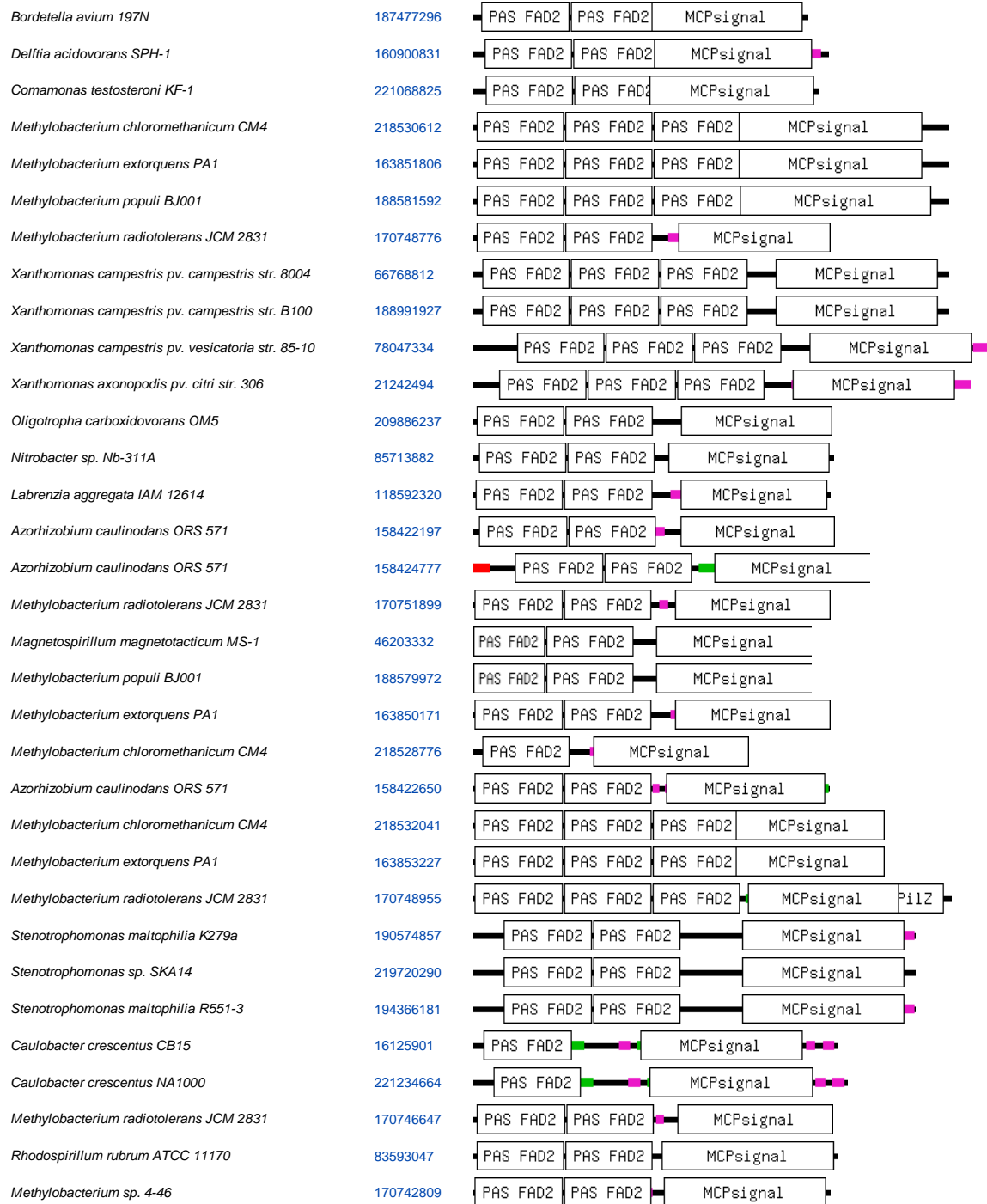
<i>Ralstonia solanacearum</i> GMI1000	17549445	
<i>Ralstonia eutropha</i> H16	116694983	
<i>Burkholderia xenovorans</i> LB400	91783410	
<i>Burkholderia multivorans</i> CGD2M	221200890	
<i>Burkholderia ambifaria</i> IOP40-10	170698018	
<i>Burkholderia ambifaria</i> MEX-5	171321576	
<i>Burkholderia ambifaria</i> AMMD	115359460	
<i>Burkholderia ambifaria</i> MC40-6	172064253	
<i>Burkholderia vietnamiensis</i> G4	134292307	
<i>Burkholderia</i> sp. 383	78061120	
<i>Burkholderia cenocepacia</i> PC184	194560768	
<i>Burkholderia cenocepacia</i> J2315	206564403	
<i>Burkholderia cenocepacia</i> MC0-3	170737267	
<i>Burkholderia cenocepacia</i> HI2424	116693456	
<i>Burkholderia cenocepacia</i> AU 1054	107025361	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> CG8421	205356212	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> 84-25	88596730	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> 81116	157415453	
<i>Campylobacter jejuni</i> subsp. <i>doylei</i> 269.97	153951873	
<i>Campylobacter upsaliensis</i> RM3195	57505415	
<i>Campylobacter upsaliensis</i> RM3195	57505413	
<i>Campylobacter coli</i> RM2228	57168070	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> 260.94	86151085	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> CG8421	205356214	
<i>Campylobacter jejuni</i> RM1221	57238063	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> CG8486	148926195	
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> NCTC 11168	15792515	
<i>Campylobacter lari</i> RM2100	222823964	
<i>Wolinella succinogenes</i> DSM 1740	34557696	
<i>Wolinella succinogenes</i> DSM 1740	34557986	
<i>Wolinella succinogenes</i> DSM 1740	34557107	
<i>Campylobacter concisus</i> 13826	157165744	
<i>Campylobacter curvus</i> 525.92	154174054	

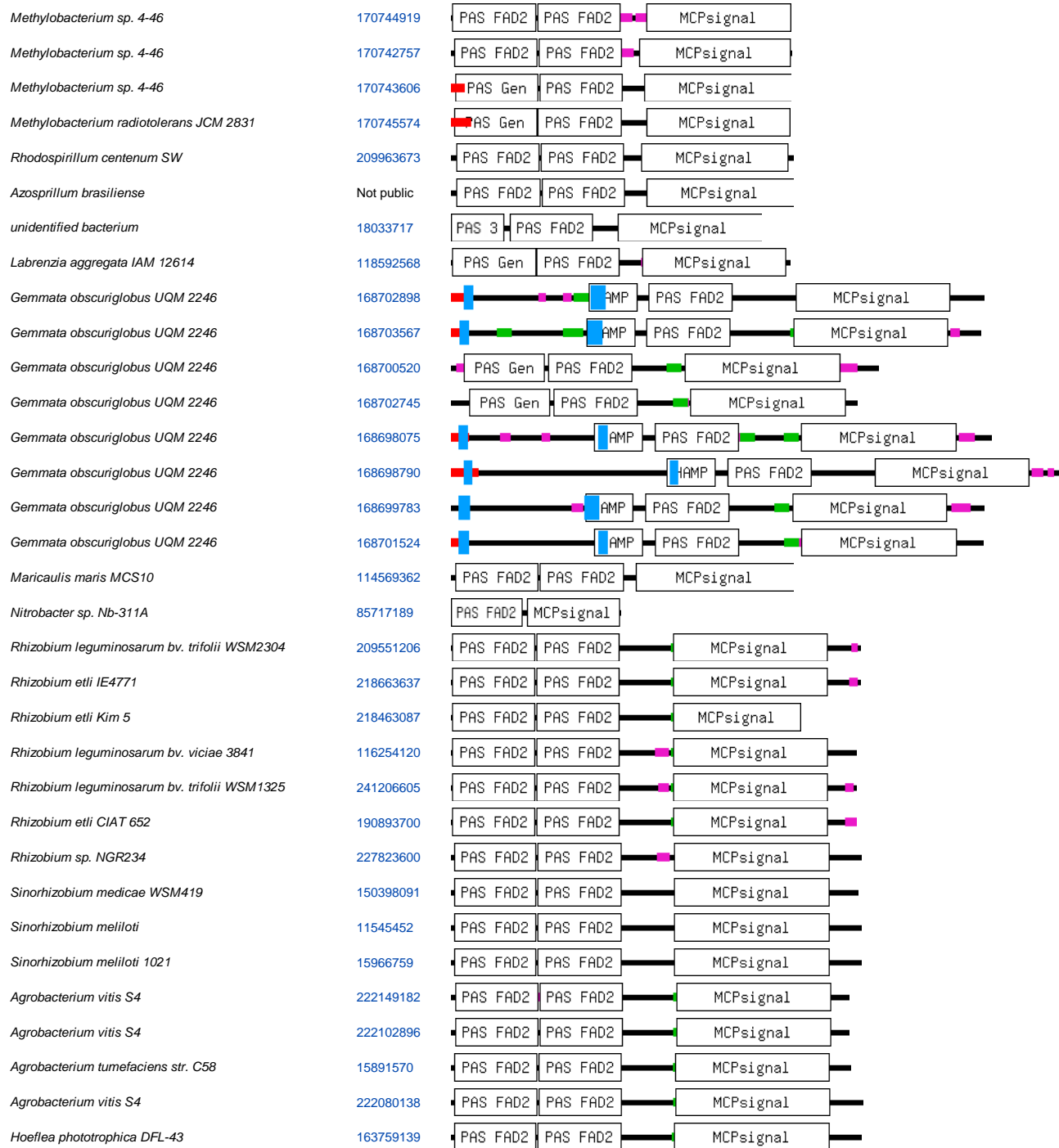
<i>Sulfurimonas denitrificans</i> DSM 1251	78776245	
<i>Caminibacter mediatlanticus</i> TB-2	149193754	
<i>Caminibacter mediatlanticus</i> TB-2	149194227	
<i>Azoarcus</i> sp. BH72	119899765	
<i>Dechloromonas aromatica</i> RCB	71909619	
<i>Magnetospirillum magnetotacticum</i> MS-1	46203509	
<i>Rhodospirillum rubrum</i> ATCC 11170	83594793	
<i>Kineococcus radiotolerans</i> SRS30216	152967347	
<i>Magnetospirillum magneticum</i> AMB-1	83313108	
<i>Magnetospirillum magnetotacticum</i> MS-1	46201019	
<i>Magnetospirillum magneticum</i> AMB-1	83312799	
<i>Magnetospirillum gryphiswaldense</i> MSR-1	144898373	
<i>Labrenzia aggregata</i> IAM 12614	118588823	
<i>Magnetospirillum magneticum</i> AMB-1	83309684	
<i>Magnetospirillum magnetotacticum</i> MS-1	46200832	
<i>Magnetospirillum gryphiswaldense</i> MSR-1	144901270	
<i>Magnetospirillum magnetotacticum</i> MS-1	23015159	
<i>Magnetospirillum magneticum</i> AMB-1	83309284	
<i>Rhodopseudomonas palustris</i> CGA009	39937372	
<i>Rhodopseudomonas palustris</i> HaA2	86748437	
<i>Rhodopseudomonas palustris</i> BisB5	91978371	
<i>Bradyrhizobium japonicum</i> USDA 110	27378086	
<i>Rhodopseudomonas palustris</i> HaA2	86748196	
<i>Rhodopseudomonas palustris</i> TIE-1	192293334	
<i>Rhodopseudomonas palustris</i> CGA009	39937544	
<i>Rhodopseudomonas palustris</i> BisA53	115526652	
<i>Rhodopseudomonas palustris</i> BisB18	90426133	
<i>Rhodopseudomonas palustris</i> TIE-1	192293044	
<i>Rhodopseudomonas palustris</i> BisB5	91975872	
<i>Rhodopseudomonas palustris</i> HaA2	86748538	
<i>Bermanella marisrubri</i>	94500119	
<i>Reinekea blandensis</i> MED297	88798040	
<i>Neptuniibacter caesariensis</i>	89093193	

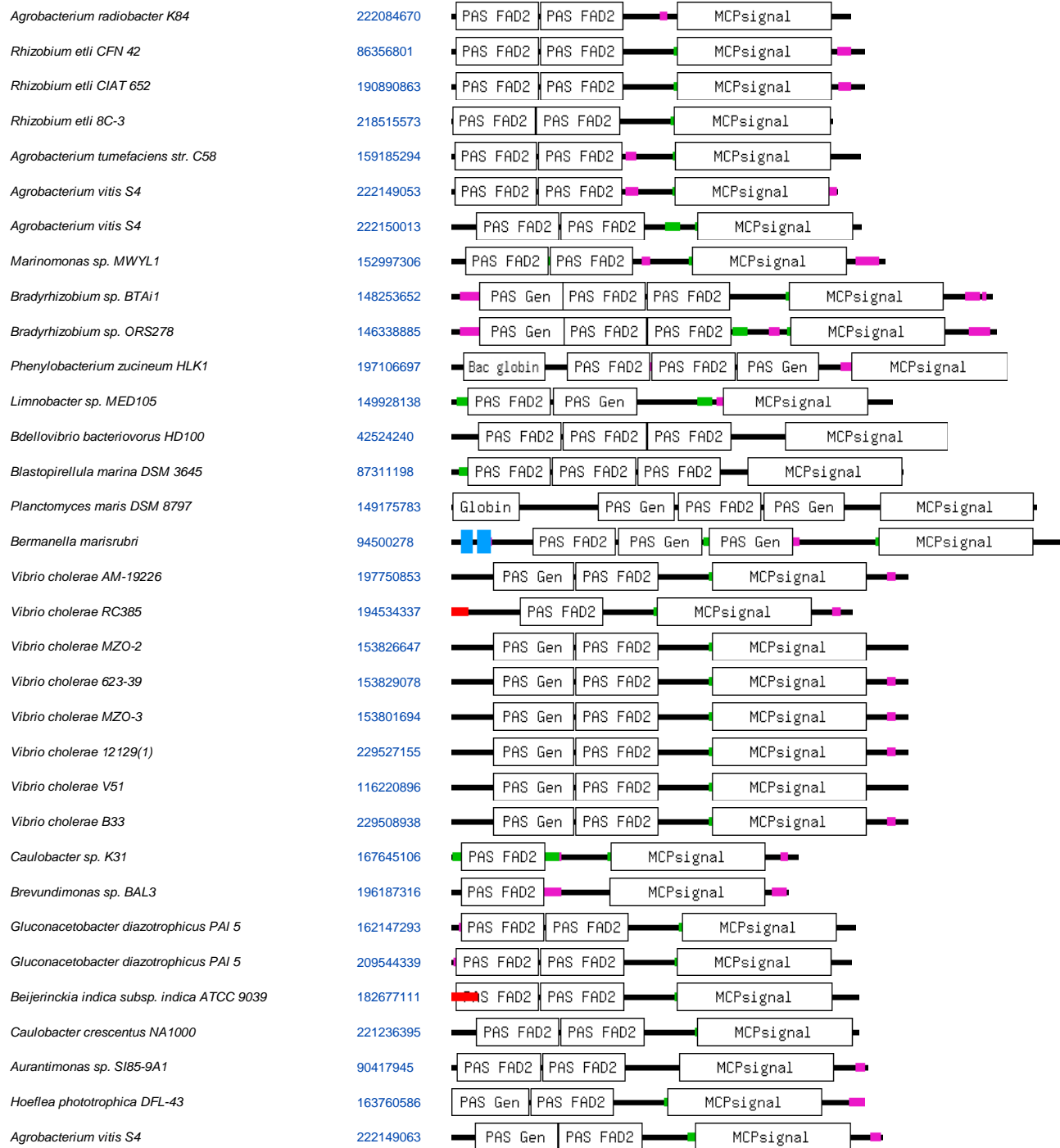


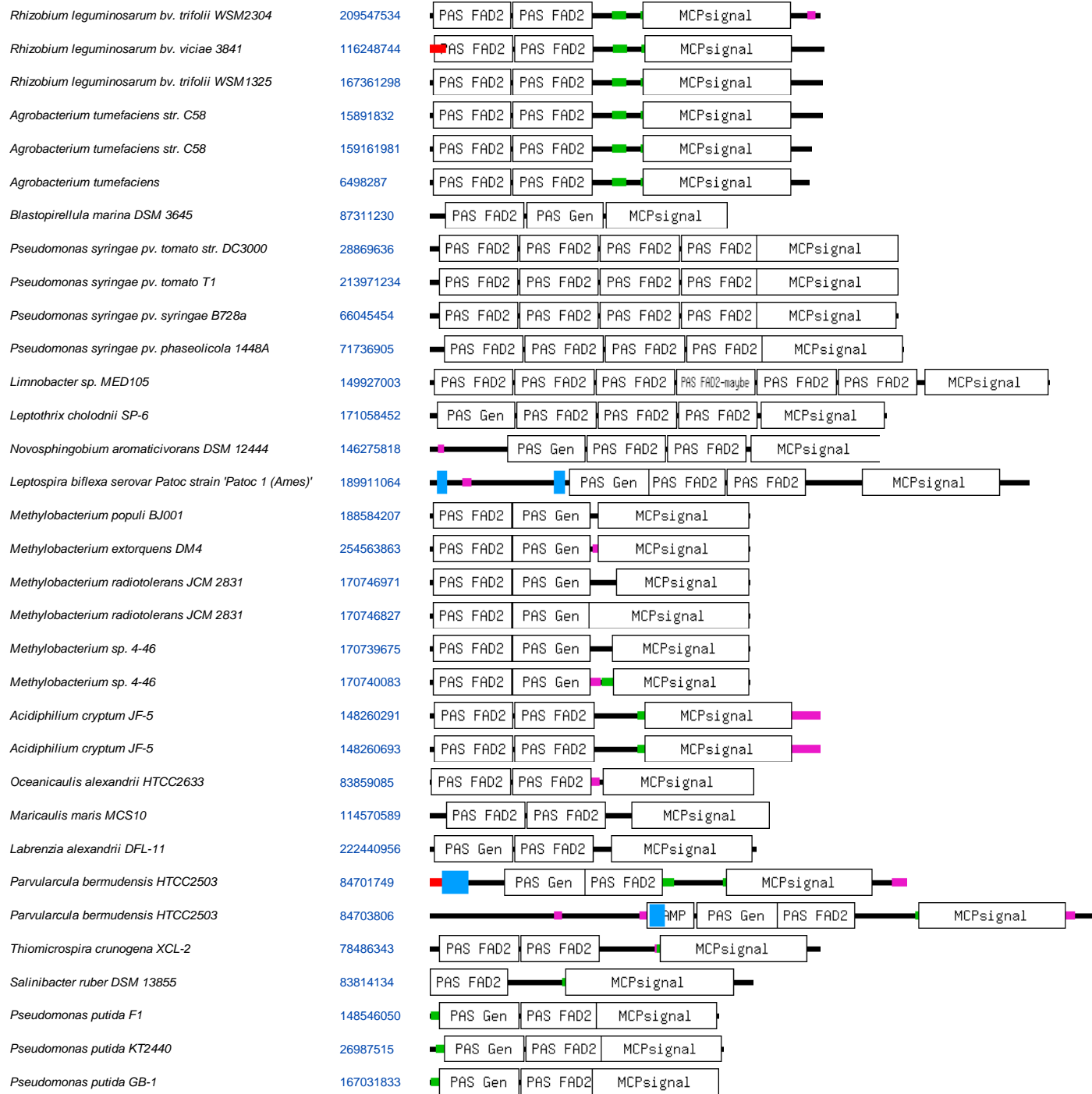
PAS FAD2 containing methyl-accepting chemotaxis proteins













Organism	GI	Domain architecture
<i>Ruegeria</i> sp. TM1040	99078220	PAS FAD2 PAS Gen PAS FAD2 PAS FAD1-maybe PAS FAD2 MCPsignal
<i>Oceanicaulis alexandrii</i> HTCC2633	83945017	PAS Gen PAS Gen PAS Gen PAS FAD1-maybe PAS Gen
<i>Pseudomonas putida</i> W619	170722401	PAS FAD2 PAS FAD2 PAS FAD1-maybe PAS Gen
<i>Cellvibrio japonicus</i> Ueda107	192361936	PAS Gen PAS Gen PAS FAD1-maybe PAS Gen
<i>Rhodopseudomonas palustris</i> BisA53	115523216	PAS FAD2 PAS FAD1-maybe PAS FAD2 PAS FAD2 MCPsignal
<i>Leptothrix cholodnii</i> SP-6	171057024	PAS FAD1-maybe PAS FAD2 MCPsignal
<i>Verrucomicrobiae bacterium</i> DG1235	198260512	JAMP PAS FAD1-maybe PAS FAD2 PAS FAD2 MCPsignal
uncultured crenarchaeote 31-F-01	106364387	MCPsignal PAS FAD1-maybe
<i>Bradyrhizobium japonicum</i> USDA 110	27376034	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Bradyrhizobium</i> sp. BTAi1	148253803	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> HaA2	86750602	PAS Gen PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> CGA009	39934953	PAS Gen PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> TIE-1	192290483	PAS Gen PAS FAD2 PAS FAD2 MCPsignal
<i>Bradyrhizobium</i> sp. BTAi1	148257508	PAS Gen PAS FAD2 PAS FAD2 MCPsignal
<i>Bradyrhizobium</i> sp. BTAi1	148252483	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> HaA2	86747734	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> BisB5	91974708	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> CGA009	39933508	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> TIE-1	192288866	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> BisB18	90425575	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> BisA53	115526148	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> BisB18	90425574	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Oligotropha carboxidovorans</i> OM5	209885932	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> BisB18	90425987	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Rhodopseudomonas palustris</i> BisB5	91974707	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Alteromonadales bacterium</i> TW-7	119471379	PAS FAD2 PAS FAD2 PAS Gen PAS Gen MCPsignal
<i>Bradyrhizobium</i> sp. ORS278	146337210	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Bradyrhizobium</i> sp. ORS278	146338351	PAS FAD2 PAS FAD2 PAS FAD2 MCPsignal
<i>Arcobacter butzleri</i> RM4018	157736853	PAS FAD2 PAS FAD2 MCPsignal



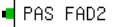
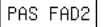
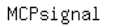


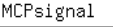


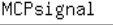
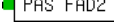
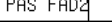
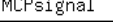
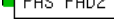
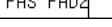
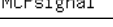
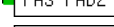
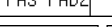
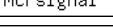
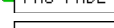
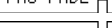
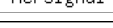
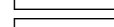
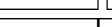
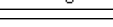
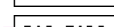
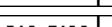
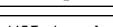
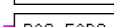
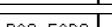
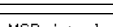
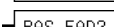
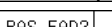
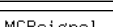
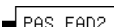
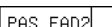
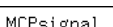
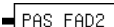
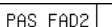
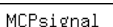
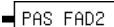
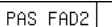
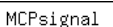


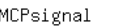
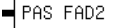

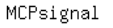
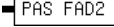
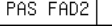
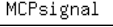
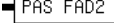

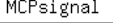
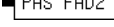
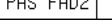
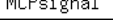
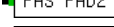
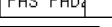
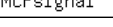
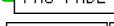
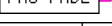

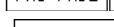
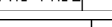
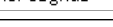
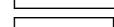
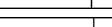
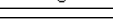
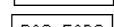
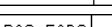
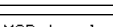
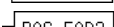
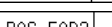
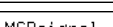
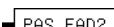
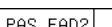
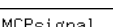
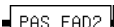
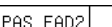
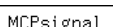
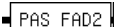

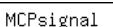


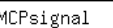
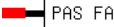
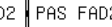

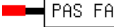

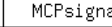












<i>Pseudomonas entomophila</i> L48	104780144	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas putida</i> W619	170723571	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas fluorescens</i> Pf-5	70732527	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas fluorescens</i> Pf0-1	77460987	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas stutzeri</i> A1501	146282621	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas mendocina</i> ymp	146307996	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Shewanella baltica</i> OS155	126175568	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Shewanella baltica</i> OS185	152999507	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Shewanella putrefaciens</i> CN-32	146294059	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Shewanella</i> sp. W3-18-1	120597808	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Shewanella putrefaciens</i> 200	124546283	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato str. DC3000	28870064	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato T1	213966928	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. phaseolicola 1448A	71735288	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. syringae	15077778	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. syringae B728a	66045832	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Alteromonadales bacterium</i> TW-7	119472174	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Reinekea blandensis</i> MED297	88798027	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Marinomonas</i> sp. MWYL1	152994435	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Alteromonas macleodii</i> 'Deep ecotype'	196158452	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Vibrio parahaemolyticus</i> RIMD 2210633	28900467	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Vibrio alginolyticus</i> 12G01	91225724	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Vibrio</i> sp. Ex25	116186017	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato str. DC3000	28870908	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato T1	213968809	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas fluorescens</i> Pf-5	70732526	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato str. DC3000	28868227	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato T1	213967307	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. phaseolicola 1448A	71736057	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. syringae B728a	66044126	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas putida</i> W619	170722644	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Idiomarina loihiensis</i> L2TR	56461164	 PAS Gen	 PAS FAD2	 MCPsignal
<i>Pseudomonas syringae</i> pv. tomato T1	213966820	 PAS Gen	 PAS FAD2	 MCPsignal

<i>Pseudomonas viridiflava</i>	51102930	PAS Gen	PAS FAD2	MCPsignal
<i>Pseudomonas putida F1</i>	148547569	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas putida KT2440</i>	26990127	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas putida GB-1</i>	167033530	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas entomophila L48</i>	104781535	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas putida W619</i>	170721956	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas fluorescens Pf0-1</i>	77460564	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas fluorescens Pf-5</i>	70731932	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas syringae pv. tomato str. DC3000</i>	28872463	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas syringae pv. tomato T1</i>	213971195	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas syringae pv. phaseolicola 1448A</i>	71735128	PAS FAD2	PAS FAD2	MCPsignal
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<i>Shewanella amazonensis SB2B</i>	119773792	PAS FAD2	PAS FAD2	MCPsignal
<i>Chromohalobacter salexigens DSM 3043</i>	92113034	PAS FAD2	PAS FAD2	MCPsignal
<i>Chromohalobacter salexigens DSM 3043</i>	92113033	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas fluorescens Pf-5</i>	70731875	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas fluorescens Pf0-1</i>	77460529	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas aeruginosa PA7</i>	152987347	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas aeruginosa UCBPP-PA14</i>	116049369	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas aeruginosa 2192</i>	194550759	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas aeruginosa LESB58</i>	218892704	PAS FAD2	PAS FAD2	MCPsignal
<i>Pseudomonas aeruginosa C3719</i>	84321813	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. jejuni 260.94</i>	86151016	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni RM1221</i>	57237992	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. jejuni 81116</i>	157415371	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. jejuni HB93-13</i>	86152624	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. doylei 269.97</i>	153951158	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. jejuni NCTC 11168</i>	15792435	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. jejuni CG8486</i>	148925991	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter jejuni subsp. jejuni CG8421</i>	205355856	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter lari RM2100</i>	222824202	PAS FAD2	PAS FAD2	MCPsignal
<i>Campylobacter fetus subsp. fetus 82-40</i>	118474888	PAS FAD2	PAS FAD2	MCPsignal
<i>Chromobacterium violaceum ATCC 12472</i>	34497153	PAS FAD2	PAS FAD2	MCPsignal

<i>Chromobacterium violaceum</i> ATCC 12472	34496909			
<i>Shewanella baltica</i> OS223	217974830			
<i>Shewanella baltica</i> OS155	126172837			
<i>Shewanella baltica</i> OS195	160876967			
<i>Shewanella baltica</i> OS185	153002243			
<i>Shewanella</i> sp. ANA-3	117919084			
<i>Shewanella</i> sp. MR-7	114048885			
<i>Shewanella</i> sp. MR-4	113968976			
<i>Shewanella</i> sp. W3-18-1	120600305			
<i>Shewanella putrefaciens</i> CN-32	146291766			
<i>Shewanella putrefaciens</i> 200	124545590			
<i>Shewanella woodyi</i> ATCC 51908	170728284			
<i>Hahella chejuensis</i> KCTC 2396	83645852			
<i>Pseudomonas aeruginosa</i> PA7	152988016			
<i>Pseudomonas aeruginosa</i> UCBPP-PA14	116049884			
<i>Pseudomonas aeruginosa</i> 2192	84327770			
<i>Pseudomonas aeruginosa</i> 2192	194551306			
<i>Pseudomonas aeruginosa</i> LESB58	218892112			
<i>Pseudomonas aeruginosa</i> PAO1	15597126			
<i>Pseudomonas aeruginosa</i> C3719	194546007			
<i>Idiomarina loihiensis</i> L2TR	56460774			
<i>Idiomarina baltica</i> OS145	85711422			
<i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i> ATCC 7966	117621338			
<i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i> A449	145299996			
<i>Marinomonas</i> sp. MWYL1	152997925			
<i>Marinomonas</i> sp. MWYL1	152997926			
<i>Pseudoalteromonas atlantica</i> T6c	109899778			
<i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i> ATCC 7966	117617928			
<i>Vibrio parahaemolyticus</i> RIMD 2210633	28900409			
<i>Vibrio parahaemolyticus</i> AQ3810	153837387			
<i>Vibrio cholerae</i> RC385	116218265			
<i>Vibrio cholerae</i> 12129(1)	229528283			
<i>Vibrio cholerae</i> V51	194538248			

<i>Vibrio cholerae</i> MZO-2	153825378	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> O395	227120061	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> MZO-3	153800485	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> 1587	153216706	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> NCTC 8457	153817041	PAS FAD2	PAS FAD2	MCPsignal
<i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i> ATCC 7966	117619786	PAS FAD2	PAS FAD2	MCPsignal
<i>Marinomonas</i> sp. MED121	87122479	PAS FAD2	PAS FAD2	MCPsignal
<i>Marinobacter algicola</i> DG893	149375939	PAS FAD2	PAS FAD2	MCPsignal
<i>Shewanella</i> sp. ANA-3	117920693	PAS FAD2	PAS FAD2	MCPsignal
<i>Cellvibrio japonicus</i> Ueda107	192361221	PAS FAD2	PAS FAD2	MCPsignal
<i>Shewanella baltica</i> OS155	126175574	PAS FAD2	PAS FAD2	MCPsignal
<i>Marinomonas</i> sp. MWYL1	152994182	PAS FAD2	PAS FAD2	MCPsignal
<i>Shewanella loihica</i> PV-4	127511824	PAS FAD2	PAS FAD2	MCPsignal
<i>Thioalkalivibrio</i> sp. HL-EbGR7	220934135	PAS FAD2	PAS FAD2	MCPsignal
<i>Thioalkalivibrio</i> sp. K90mix	224817844	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrionales bacterium</i> SWAT-3	148974015	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> 1587	153212690	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> AM-19226	197752391	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> 623-39	153830160	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> M66-2	227081577	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> B33	229511312	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> MZO-2	153826993	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> O395	227117871	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> V51	194537545	PAS FAD2	PAS FAD2	MCPsignal
<i>Vibrio cholerae</i> MZO-3	183179389	PAS FAD2	PAS FAD2	MCPsignal
<i>Cronobacter sakazakii</i> ATCC BAA-894	156935923	PAS FAD2	PAS FAD2	MCPsignal
<i>Serratia proteamaculans</i> 568	157369715	PAS FAD2	PAS FAD2	MCPsignal
<i>Yersinia mollaretii</i> ATCC 43969	238798475	PAS FAD2	PAS FAD2	MCPsignal
<i>Yersinia frederiksenii</i> ATCC 33641	238788812	PAS FAD2	PAS FAD2	MCPsignal
<i>Yersinia enterocolitica</i> subsp. <i>enterocolitica</i> 8081	123443063	PAS FAD2	PAS FAD2	MCPsignal
<i>Yersinia pseudotuberculosis</i> IP 31758	153950307	PAS FAD2	PAS FAD2	MCPsignal
<i>Yersinia pseudotuberculosis</i> YPIII	170023838	PAS FAD2	PAS FAD2	MCPsignal
<i>Yersinia pseudotuberculosis</i> PB1/+	186895951	PAS FAD2	PAS FAD2	MCPsignal

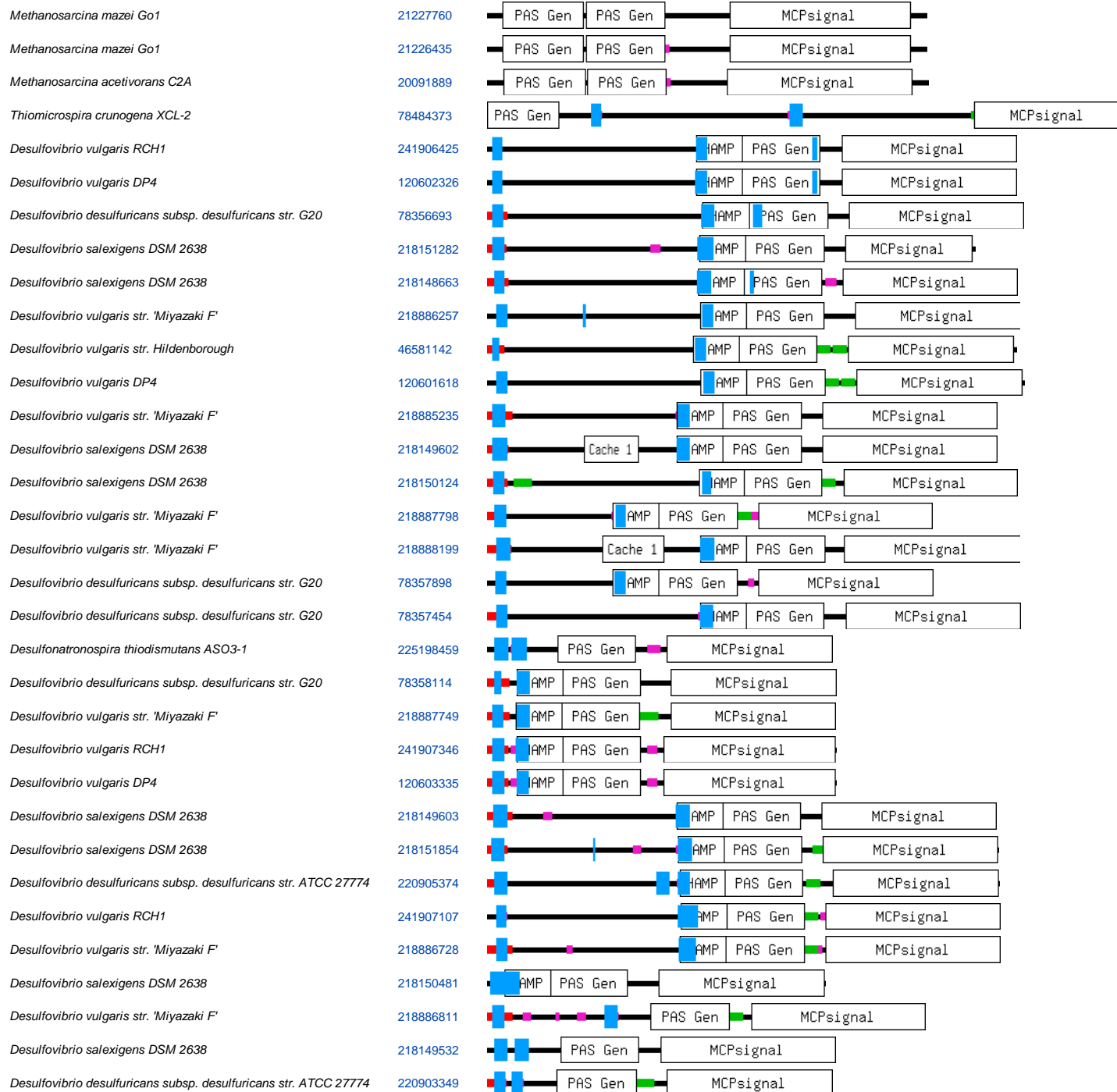
<i>Yersinia pestis</i> CA88-4125	149365576	PAS FAD2	PAS FAD2	MCPsignal	
<i>Yersinia pestis</i> Pestoides A	229895248	PAS FAD2	PAS FAD2	MCPsignal	
<i>Yersinia pestis</i> Nepal516	229902608	PAS FAD2	PAS FAD2	MCPsignal	
<i>Yersinia pestis</i> KIM	22125567	PAS FAD2	PAS FAD2	MCPsignal	
<i>Leptospirillum</i> sp. Group II UBA	124515593	PAS FAD2	MCPsignal		
<i>Bordetella avium</i> 197N	187476865	PAS FAD2	PAS FAD2	MCPsignal	
<i>Jannaschia</i> sp. CCS1	89053870	PAS FAD2	MCPsignal		
<i>Ruegeria</i> sp. TM1040	99081328	PAS FAD2	MCPsignal		
<i>Roseovarius</i> sp. HTCC2601	114762921	PAS FAD2	MCPsignal		
<i>Roseobacter</i> sp. AzwK-3b	149912680	PAS FAD2	MCPsignal		
<i>Roseobacter</i> sp. SK209-2-6	126737020	PAS FAD2	MCPsignal		
<i>Roseobacter</i> sp. MED193	86135823	PAS FAD2	MCPsignal		
<i>Rhodobacterales</i> bacterium Y4l	206687260	PAS FAD2	MCPsignal		
<i>Roseobacter</i> sp. SK209-2-6	126739491	PAS FAD2	MCPsignal		
<i>Ruegeria</i> sp. R11	214030216	PAS FAD2	MCPsignal		
<i>Phaeobacter gallaeciensis</i> 2.10	163743846	PAS FAD2	MCPsignal		
<i>Phaeobacter gallaeciensis</i> BS107	163739670	PAS FAD2	MCPsignal		
<i>Sagittula stellata</i> E-37	126728813	PAS FAD2	MCPsignal		
<i>Saccharophagus degradans</i> 2-40	90022747	PAS FAD2	PAS Gen	PAS Gen	MCPsignal
<i>Gemmatimonas aurantiaca</i> T-27	226226217	PAS FAD2	PAS FAD2	MCPsignal	
<i>Acidovorax</i> sp. JS42	121592485	PAS FAD2	PAS FAD2	MCPsignal	
<i>Diaphorobacter</i> sp. TPSY	222109294	PAS FAD2	PAS FAD2	MCPsignal	
<i>Anoxybacillus flavithermus</i> WK1	212639805	PAS FAD2	MCPsignal		
<i>Bacillus</i> sp. NRRL B-14911	89098292	PAS FAD2	MCPsignal		
<i>Bacillus coahuilensis</i> m4-4	205374790	PAS FAD2	MCPsignal		
<i>Paenibacillus</i> sp. JDR-2	169187546	PAS FAD2	MCPsignal		
<i>Bacillus pumilus</i> SAFR-032	157693297	PAS FAD2	MCPsignal		
<i>Bacillus pumilus</i> ATCC 7061	194017342	PAS FAD2	MCPsignal		
<i>Exiguobacterium sibiricum</i> 255-15	172057579	PAS FAD2	MCPsignal		
<i>Exiguobacterium</i> sp. AT1b	229917521	PAS FAD2	MCPsignal		
<i>Bacillus</i> sp. B14905	126652946	PAS FAD2	MCPsignal		
<i>Lysinibacillus sphaericus</i> C3-41	169825647	PAS FAD2	MCPsignal		
<i>Oceanobacillus iheyensis</i> HTE831	23098712	PAS FAD2	MCPsignal		

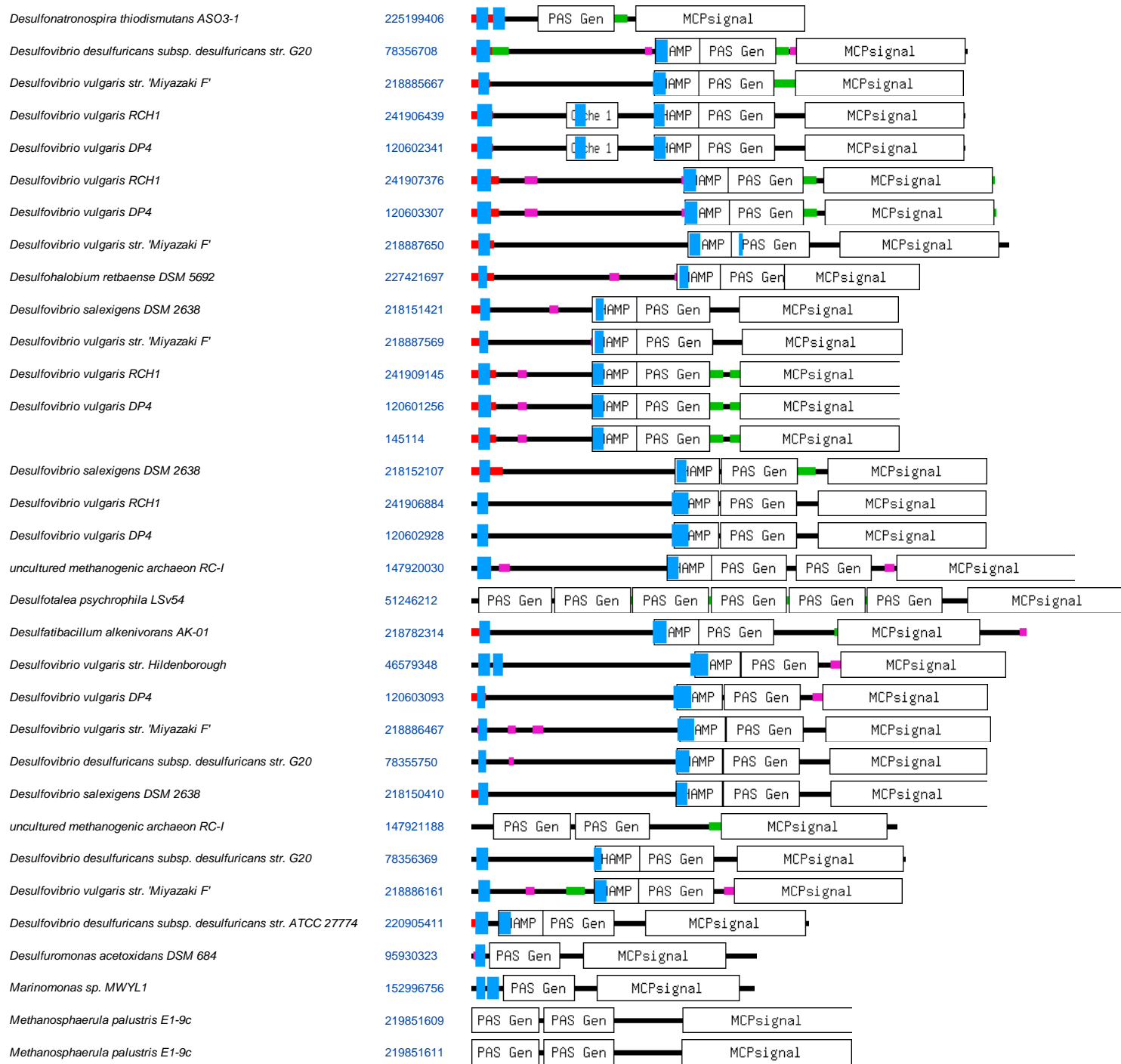
<i>Exiguobacterium</i> sp. AT1b	229916018	PAS FAD2 MCPsignal
<i>Exiguobacterium sibiricum</i> 255-15	172057534	PAS FAD2 MCPsignal
<i>Exiguobacterium arabatum</i>	183223730	PAS FAD2 MCPsignal
<i>Bacillus cereus</i> E33L	67078237	PAS FAD2 MCPsignal
<i>Bacillus cereus</i> Q1	221642228	PAS FAD2 MCPsignal
<i>Bacillus cytotoxicus</i> NVH 391-98	152975936	PAS FAD2 MCPsignal
<i>Bacillus selenitireducens</i> MLS10	163764662	PAS FAD2 MCPsignal
<i>Listeria welshimeri</i> serovar 6b str. SLCC5334	116873133	PAS FAD2 MCPsignal
<i>Listeria innocua</i> Clp11262	16800875	PAS FAD2 MCPsignal
<i>Listeria monocytogenes</i> HCC23	217964152	PAS FAD2 MCPsignal
<i>Listeria monocytogenes</i> str. 1/2a F6854	47097659	PAS FAD2 MCPsignal
<i>Listeria monocytogenes</i> Finland 1988	224499579	PAS FAD2 MCPsignal
<i>Listeria monocytogenes</i> str. 4b F2365	46907930	PAS FAD2 MCPsignal
<i>Listeria monocytogenes</i> Clp80459	226224302	PAS FAD2 MCPsignal
<i>Caulobacter crescentus</i> CB15	16127042	PAS FAD2 MCPsignal
<i>Caulobacter crescentus</i> NA1000	221235837	PAS FAD2 MCPsignal
<i>Acidiphilium cryptum</i> JF-5	148260586	PAS Gen PAS FAD2 MCPsignal

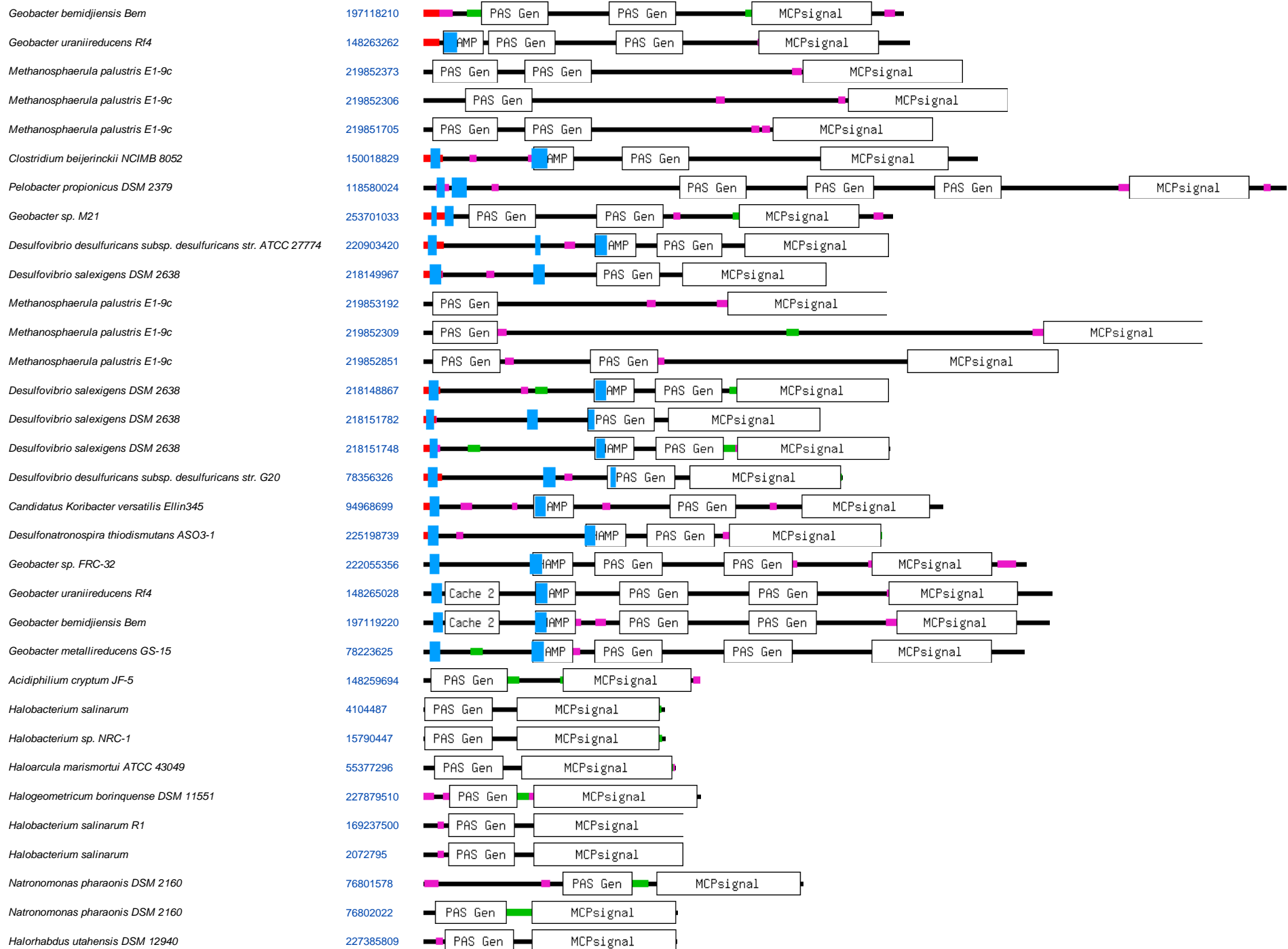
Unclassified (general) PAS containing methyl-accepting chemotaxis proteins

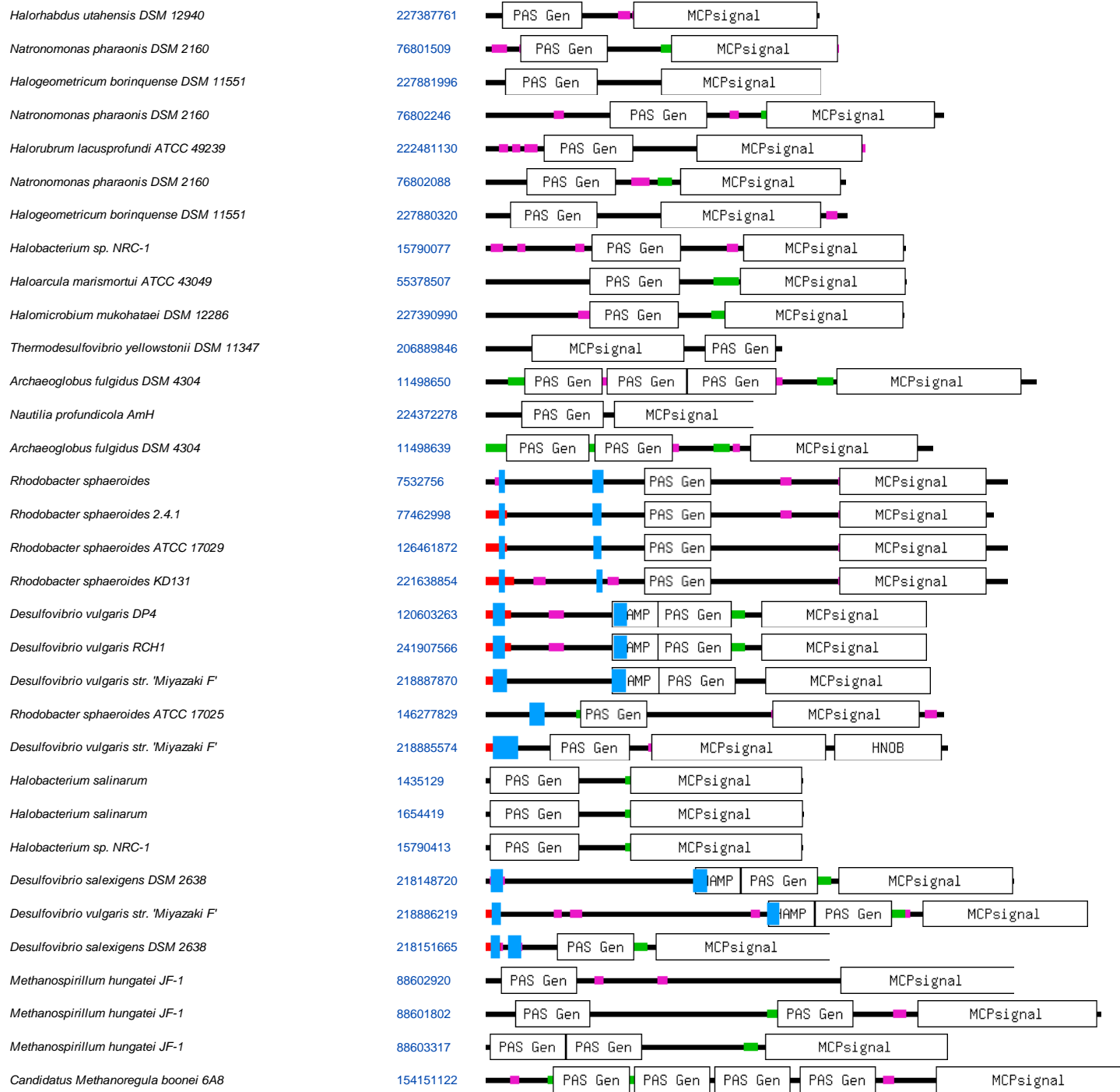
Organism	GI	Domain architecture
<i>Roseobacter denitrificans</i> OCh 114	110680740	PAS Gen MCPsignal
<i>Roseobacter denitrificans</i> OCh 114	110679750	IAMP PAS Gen PAS Gen MCPsignal
<i>Roseobacter litoralis</i> Och 149	163735331	IAMP PAS Gen PAS Gen MCPsignal
<i>Roseobacter</i> sp. GAI101	214042265	IAMP PAS Gen PAS Gen MCPsignal
<i>Rhodobacterales bacterium</i> HTCC2654	84683864	IAMP PAS Gen PAS Gen MCPsignal
<i>Rhodobacterales bacterium</i> HTCC2654	84686846	IAMP PAS Gen PAS Gen MCPsignal
<i>Erwinia tasmaniensis</i> Et1/99	188535075	PAS Gen IAMP MCPsignal
<i>Shewanella woodyi</i> ATCC 51908	170725923	PAS Gen IAMP MCPsignal
<i>Laribacter hongkongensis</i> HLHK9	226939049	PAS Gen IAMP MCPsignal
<i>Marinomonas</i> sp. MED121	87121651	PAS Gen IAMP MCPsignal
<i>Azorhizobium caulinodans</i> ORS 571	158425342	PAS Gen MCPsignal
<i>Bradyrhizobium</i> sp. BTAi1	148255342	PAS Gen MCPsignal
<i>Bradyrhizobium</i> sp. ORS278	146340816	PAS Gen MCPsignal



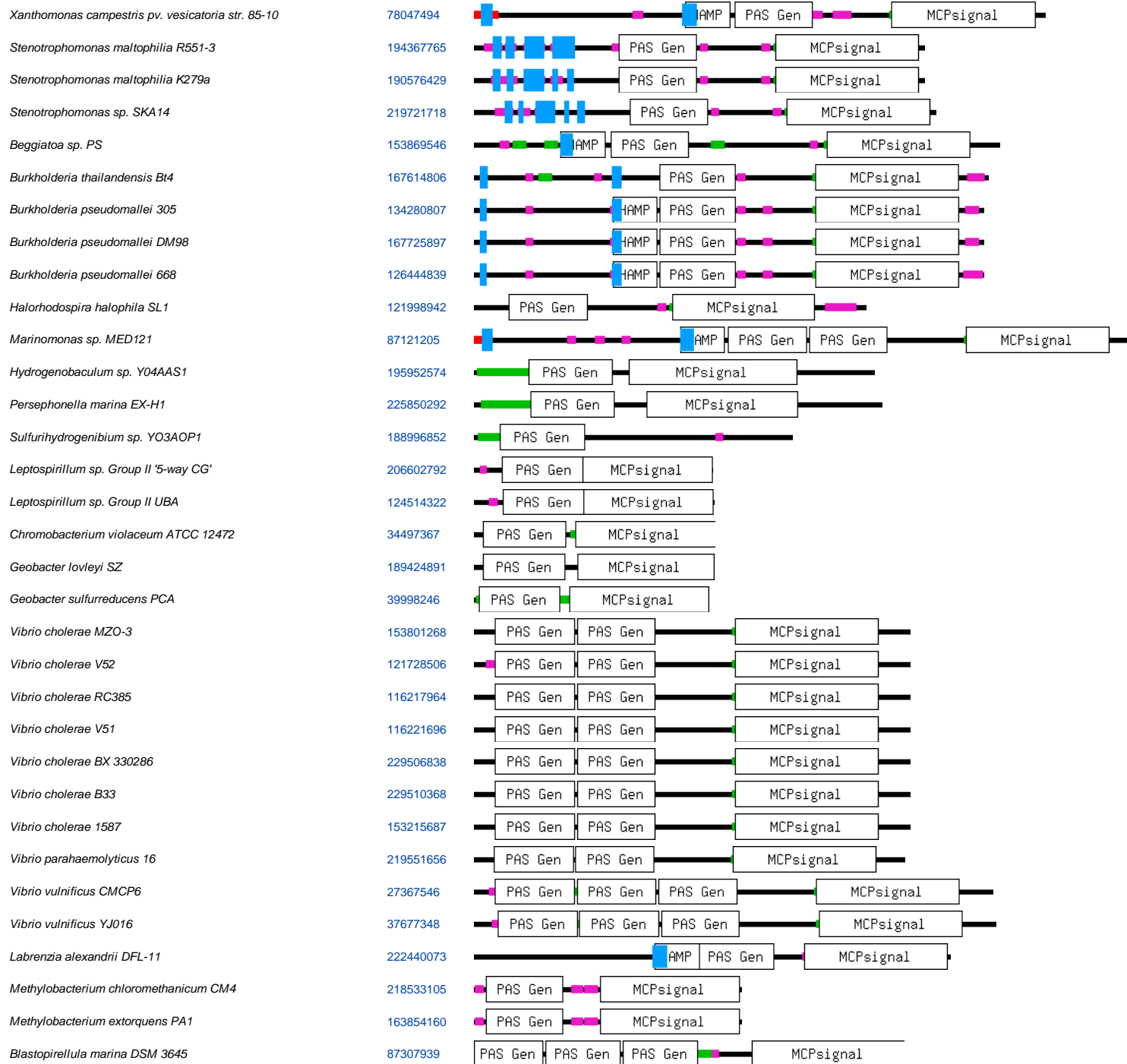














Pseudomonas aeruginosa UCBPP-PA14

116053897



Aeromonas hydrophila subsp. *hydrophila* ATCC 7966

117618911



Aeromonas salmonicida subsp. *salmonicida* A449

145300164

