

Additional File 1. Metadata associated with the 181 strains used in this study to reconstruct the *P. aeruginosa* pangenome. All the information regarding the genome size, ORF predicted, RNA genes, host, geographic location, virulence, and resistance genes were recovered from PATRIC database. NA indicates no information available.

Strain	Assembly length (bp)	CDS- PATRIC (Genes)	rRNAs PATRIC	tRNAs PATRIC	Isolation Country	Host	ARDB Genes	VFDB Genes	Human Homologues	Antimicrobial Resistance
<i>Pseudomonas aeruginosa</i> 138244	6,295,127	6,015	10	55	Portugal	Homo sapiens	18	180	73	NA
<i>Pseudomonas aeruginosa</i> 152504	6,778,878	6,298	9	63	Portugal	Homo sapiens	17	180	82	NA
<i>Pseudomonas aeruginosa</i> 18A	6,076,446	5,690	15	59		Homo sapiens	16	182	82	NA
<i>Pseudomonas aeruginosa</i> 19660	6,733,087	6,286	12	65	USA	Homo sapiens	17	188	80	Susceptible
<i>Pseudomonas aeruginosa</i> 19BR	6,742,964	6,316	12	64			19	189	85	NA
<i>Pseudomonas aeruginosa</i> 213BR	6,719,211	6,282	12	64			20	188	84	NA
<i>Pseudomonas aeruginosa</i> 2192	6,905,121	6,490	1	44		Homo sapiens	19	195	92	NA
<i>Pseudomonas aeruginosa</i> 39016	6,866,064	6,266	3	58		Homo sapiens	18	174	77	NA
<i>Pseudomonas aeruginosa</i> 6077	6,967,437	6,503	20	67	USA	Homo sapiens	24	185	81	Resistant / Susceptible
<i>Pseudomonas aeruginosa</i> 62	6,497,693	6,086	17	65	USA		17	188	80	Susceptible
<i>Pseudomonas aeruginosa</i> 9BR	6,849,861	6,424	12	64			21	189	84	NA
<i>Pseudomonas aeruginosa</i> AES-1R	5,957,086	5,705	3	44		Homo sapiens	17	170	78	NA
<i>Pseudomonas aeruginosa</i> AH16	6,746,091	6,364	7	59	China	Homo sapiens	14	181	77	NA
<i>Pseudomonas aeruginosa</i> ATCC 14886	6,345,206	5,942	3	50			17	183	80	NA
<i>Pseudomonas aeruginosa</i> ATCC 15442	6,729,708	6,349	12	63			17	190	85	NA
<i>Pseudomonas aeruginosa</i> ATCC 25324	6,886,445	6,597	2	53			17	187	76	NA
<i>Pseudomonas aeruginosa</i> ATCC 700888	6,700,836	6,318	3	53			17	182	75	NA
<i>Pseudomonas aeruginosa</i> B136-33	6,421,010	5,952	12	63			17	185	80	NA
<i>Pseudomonas aeruginosa</i> B3-1811	6,593,639	6,203	5	53			17	185	78	NA
<i>Pseudomonas aeruginosa</i> B3-208	6,627,380	6,248	4	47			17	186	78	NA
<i>Pseudomonas aeruginosa</i> B3-20M	6,533,291	6,165	2	49			17	173	76	NA
<i>Pseudomonas aeruginosa</i> B3-CFI	6,677,338	6,297	5	49			17	185	76	NA
<i>Pseudomonas aeruginosa</i> BL01	6,389,649	5,936	12	61	USA	Homo sapiens	17	176	80	Susceptible
<i>Pseudomonas aeruginosa</i> BL02	6,897,031	6,467	16	66	USA	Homo sapiens	17	188	79	Susceptible
<i>Pseudomonas aeruginosa</i> BL03	7,004,011	6,552	12	65	USA	Homo sapiens	17	182	87	Resistant / Susceptible
<i>Pseudomonas aeruginosa</i> BL04	7,319,902	6,872	16	68	USA	Homo sapiens	17	190	90	Susceptible
<i>Pseudomonas aeruginosa</i> BL05	6,354,419	5,887	11	59	USA	Homo sapiens	17	184	81	Susceptible/Intermediate
<i>Pseudomonas aeruginosa</i> BL06	6,979,166	6,543	12	58	USA	Homo sapiens	17	193	90	Susceptible
<i>Pseudomonas aeruginosa</i> BL07	6,486,089	6,061	12	63	USA	Homo sapiens	17	188	79	Resistant/Susceptible/Intermediate
<i>Pseudomonas aeruginosa</i> BL08	6,944,998	6,479	12	64	USA	Homo sapiens	18	184	82	Susceptible
<i>Pseudomonas aeruginosa</i> BL09	6,864,557	6,391	15	68	USA	Homo sapiens	17	188	79	Susceptible
<i>Pseudomonas aeruginosa</i> BL10	6,489,224	6,023	11	61	USA	Homo sapiens	17	180	81	Susceptible
<i>Pseudomonas aeruginosa</i> BL11	6,994,234	6,563	12	64	USA	Homo sapiens	17	193	90	Susceptible
<i>Pseudomonas aeruginosa</i> BL12	7,406,748	6,998	12	65	USA	Homo sapiens	17	193	80	Resistant / Susceptible
<i>Pseudomonas aeruginosa</i> BL13	7,168,867	6,715	11	63	USA	Homo sapiens	17	187	80	Susceptible
<i>Pseudomonas aeruginosa</i> BL14	7,099,468	6,532	15	65	USA	Homo sapiens	17	186	82	Susceptible/Intermediate
<i>Pseudomonas aeruginosa</i> BL15	6,300,060	5,825	14	65	USA	Homo sapiens	17	178	79	Susceptible
<i>Pseudomonas aeruginosa</i> BL16	6,777,576	6,337	15	66	USA	Homo sapiens	17	184	80	Susceptible
<i>Pseudomonas aeruginosa</i> BL17	6,865,653	6,385	12	63	USA	Homo sapiens	19	184	81	Resistant/Susceptible/Intermediate
<i>Pseudomonas aeruginosa</i> BL18	6,482,158	6,059	12	60	USA	Homo sapiens	17	186	79	Susceptible/Intermediate
<i>Pseudomonas aeruginosa</i> BL19	6,359,545	5,917	12	64	USA	Homo sapiens	17	185	80	Susceptible
<i>Pseudomonas aeruginosa</i> BL20	6,696,209	6,201	15	65	USA	Homo sapiens	16	187	81	Susceptible
<i>Pseudomonas aeruginosa</i> BL21	6,806,078	6,344	12	64	USA	Homo sapiens	17	184	85	Susceptible
<i>Pseudomonas aeruginosa</i> BL22	6,936,403	6,490	17	65	USA	Homo sapiens	18	187	81	Susceptible
<i>Pseudomonas aeruginosa</i> BL23	7,080,433	6,621	13	65	USA	Homo sapiens	17	188	83	Susceptible
<i>Pseudomonas aeruginosa</i> BL24	6,900,257	6,425	11	63	USA	Homo sapiens	17	181	80	Susceptible
<i>Pseudomonas aeruginosa</i> BL25	6,526,145	6,075	15	65	USA	Homo sapiens	17	185	80	Susceptible
<i>Pseudomonas aeruginosa</i> BWHPA001	6,406,943	5,990	14	61	USA	Homo sapiens	17	188	79	Resistant/Susceptible/Intermediate
<i>Pseudomonas aeruginosa</i> BWHPA002	6,915,491	6,426	13	67	USA	Homo sapiens	17	180	81	Resistant / Susceptible
<i>Pseudomonas aeruginosa</i> BWHPA003	6,819,419	6,339	15	64	USA	Homo sapiens	17	181	81	Resistant/Susceptible/Intermediate

Pseudomonas_aeruginosa_BWHPSA004	6,273,839	5,811	12	63	USA	Homo sapiens	17	180	80	Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA006	6,930,020	6,478	12	65	USA	Homo sapiens	17	186	80	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA007	6,749,180	6,336	13	62	USA	Homo sapiens	18	189	91	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA008	6,466,249	6,076	12	61	USA	Homo sapiens	17	182	79	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA009	6,409,965	5,960	13	63	USA	Homo sapiens	17	186	79	Susceptible
Pseudomonas_aeruginosa_BWHPSA010	6,854,990	6,483	18	70	USA	Homo sapiens	17	183	79	Susceptible
Pseudomonas_aeruginosa_BWHPSA011	7,042,470	6,613	12	63	USA	Homo sapiens	18	185	79	Susceptible
Pseudomonas_aeruginosa_BWHPSA012	6,475,264	6,020	12	63	USA	Homo sapiens	17	179	80	Resistant / Susceptible
Pseudomonas_aeruginosa_BWHPSA013	6,678,338	6,216	12	63	USA	Homo sapiens	17	180	85	Susceptible
Pseudomonas_aeruginosa_BWHPSA014	6,279,266	5,824	12	65	USA	Homo sapiens	17	181	80	Susceptible
Pseudomonas_aeruginosa_BWHPSA015	6,413,511	5,956	12	61	USA	Homo sapiens	17	184	80	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA016	6,438,821	6,056	14	64	USA	Homo sapiens	17	192	79	Susceptible
Pseudomonas_aeruginosa_BWHPSA017	6,904,019	6,409	12	65	USA	Homo sapiens	17	181	81	Resistant / Susceptible
Pseudomonas_aeruginosa_BWHPSA018	6,599,115	6,165	12	63	USA	Homo sapiens	17	182	79	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA019	6,407,594	5,964	12	61	USA	Homo sapiens	17	179	80	Resistant / Susceptible
Pseudomonas_aeruginosa_BWHPSA020	6,522,963	6,048	15	60	USA	Homo sapiens	17	185	80	Susceptible
Pseudomonas_aeruginosa_BWHPSA021	6,478,964	6,019	14	63	USA	Homo sapiens	17	180	80	Resistant / Susceptible
Pseudomonas_aeruginosa_BWHPSA022	6,858,313	6,502	15	68	USA	Homo sapiens	17	186	79	Susceptible
Pseudomonas_aeruginosa_BWHPSA023	6,893,268	6,449	12	60	USA	Homo sapiens	17	185	79	Susceptible
Pseudomonas_aeruginosa_BWHPSA024	6,743,186	6,335	12	61	USA	Homo sapiens	17	183	80	Susceptible
Pseudomonas_aeruginosa_BWHPSA025	6,322,238	5,860	15	65	USA	Homo sapiens	17	182	81	Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA026	6,792,144	6,327	15	65	USA	Homo sapiens	18	184	80	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_BWHPSA027	6,865,043	6,405	14	66	USA	Homo sapiens	17	185	80	Susceptible
Pseudomonas_aeruginosa_BWHPSA028	7,423,732	6,881	12	68	USA	Homo sapiens	17	189	81	Susceptible
Pseudomonas_aeruginosa_C20	6,877,672	6,459	12	58	USA	Homo sapiens	17	185	79	Susceptible
Pseudomonas_aeruginosa_C23	6,877,237	6,453	12	60	USA	Homo sapiens	17	185	79	Susceptible
Pseudomonas_aeruginosa_C3719	6,222,097	5,950	3	40	USA	Homo sapiens	20	184	86	NA
Pseudomonas_aeruginosa_C40	6,600,279	6,183	13	61	USA	Homo sapiens	17	187	80	Susceptible
Pseudomonas_aeruginosa_C41	6,774,357	6,351	12	64	USA	Homo sapiens	17	188	79	Susceptible
Pseudomonas_aeruginosa_C48	6,384,855	5,942	11	63	USA	Homo sapiens	17	184	80	Susceptible
Pseudomonas_aeruginosa_C51	6,901,793	6,409	12	63	USA	Homo sapiens	17	185	80	Susceptible
Pseudomonas_aeruginosa_C52	7,070,139	6,569	13	64	USA	Homo sapiens	17	186	81	Susceptible
Pseudomonas_aeruginosa_c7447m	6,262,305	5,805	13	63		Homo sapiens	17	192	81	NA
Pseudomonas_aeruginosa_CF127	6,997,351	6,471	14	66	USA	Homo sapiens	17	184	81	Susceptible
Pseudomonas_aeruginosa_CF18	6,486,304	6,053	14	63	USA	Homo sapiens	17	185	81	Susceptible
Pseudomonas_aeruginosa_CF27	6,495,953	6,008	9	61	USA	Homo sapiens	17	187	81	Resistant / Susceptible
Pseudomonas_aeruginosa_CF5	6,330,289	5,931	12	61	USA	Homo sapiens	18	186	81	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_CF614	6,760,825	6,314	16	67	USA	Homo sapiens	17	190	87	NA
Pseudomonas_aeruginosa_CF77	7,009,645	6,481	12	65	USA	Homo sapiens	17	184	80	NA
Pseudomonas_aeruginosa_C127	6,743,776	6,329	4	59		Homo sapiens	17	179	78	NA
Pseudomonas_aeruginosa_C1G1	6,439,387	6,130	2	51		Homo sapiens	18	186	77	NA
Pseudomonas_aeruginosa_DHS01	6,946,419	6,604	5	62	France	Homo sapiens	20	181	79	NA
Pseudomonas_aeruginosa_DHS29	7,080,737	6,702	4	56	France	Homo sapiens	19	190	79	NA
Pseudomonas_aeruginosa_DK2	6,402,658	5,984	12	63		Homo sapiens	18	183	79	NA
Pseudomonas_aeruginosa_DQ8	6,703,078	6,425	2	54	China		18	193	79	NA
Pseudomonas_aeruginosa_E2	6,319,612	5,870	3	51		Tomato	17	186	80	NA
Pseudomonas_aeruginosa_JD303	6,032,077	5,782	9	28			15	182	80	NA
Pseudomonas_aeruginosa_JD304	6,116,697	5,919	7	31			17	186	80	NA
Pseudomonas_aeruginosa_JD306	6,167,835	6,048	11	26			17	179	77	NA
Pseudomonas_aeruginosa_JD310	6,096,124	5,923	8	32			18	181	82	NA
Pseudomonas_aeruginosa_JD312	5,992,607	5,804	11	31			17	185	80	NA
Pseudomonas_aeruginosa_JD313	5,957,709	5,715	8	30			15	178	83	NA
Pseudomonas_aeruginosa_JD314	5,864,640	5,657	9	29			15	181	78	NA
Pseudomonas_aeruginosa_JD315	6,108,864	5,917	7	29			18	185	85	NA
Pseudomonas_aeruginosa_JD316	5,933,692	5,681	8	32			17	182	79	NA
Pseudomonas_aeruginosa_JD317	6,220,844	5,996	9	31			19	187	82	NA
Pseudomonas_aeruginosa_JD318	5,905,973	5,680	8	28			15	183	81	NA
Pseudomonas_aeruginosa_JD320	6,108,204	5,829	5	29			16	177	83	NA

Pseudomonas_aeruginosa_JD322	6,196,416	5,983	6	31			18	188	83	NA
Pseudomonas_aeruginosa_JD323	5,689,853	5,504	8	31			16	184	79	NA
Pseudomonas_aeruginosa_JD324	6,070,901	5,939	6	31			14	185	76	NA
Pseudomonas_aeruginosa_JD325	5,943,714	5,707	8	31			17	181	78	NA
Pseudomonas_aeruginosa_JD326	6,146,463	5,951	9	30			18	184	84	NA
Pseudomonas_aeruginosa_JD328	6,067,306	5,802	9	31			17	180	86	NA
Pseudomonas_aeruginosa_JD329	6,113,201	5,936	8	29			19	189	87	NA
Pseudomonas_aeruginosa_JD331	5,948,930	5,691	4	30			17	176	85	NA
Pseudomonas_aeruginosa_JD332	5,853,818	5,642	9	30			14	180	81	NA
Pseudomonas_aeruginosa_JD333	6,052,680	5,802	7	30			18	181	82	NA
Pseudomonas_aeruginosa_JD334	6,374,685	6,137	7	27			15	183	87	NA
Pseudomonas_aeruginosa_JD335	6,108,256	5,897	5	30			17	185	81	NA
Pseudomonas_aeruginosa_JJ692	6,734,255	6,256	13	62			18	184	80	NA
Pseudomonas_aeruginosa_LCT-PA102	6,695,513	6,283	2	53			14	184	78	NA
Pseudomonas_aeruginosa_LCT-PA220	6,700,845	6,305	3	53	China	Homo sapiens	14	183	78	NA
Pseudomonas_aeruginosa_LCT-PA41	6,699,635	6,311	2	51	China	Homo sapiens	14	183	78	NA
Pseudomonas_aeruginosa_LES431	6,550,070	6,135	12	66			18	190	80	NA
Pseudomonas_aeruginosa_LESB58	6,601,757	6,137	8	68	United Kingdom		18	189	80	NA
Pseudomonas_aeruginosa_M18	6,327,754	5,892	12	64			17	184	79	NA
Pseudomonas_aeruginosa_M8A1	6,347,003	5,885	12	63			17	187	80	Susceptible
Pseudomonas_aeruginosa_M8A2	6,344,408	5,906	15	66			17	185	81	Susceptible
Pseudomonas_aeruginosa_M8A3	6,330,876	5,882	12	64			17	184	81	Susceptible
Pseudomonas_aeruginosa_M8A4	6,346,902	5,929	9	60			17	188	80	Susceptible
Pseudomonas_aeruginosa_M9A1	6,391,987	5,943	12	64			17	183	80	Susceptible
Pseudomonas_aeruginosa_MPAO1P1	6,231,994	5,845	7	62			17	190	78	NA
Pseudomonas_aeruginosa_MPAO1P2	6,207,826	5,831	10	57			17	190	79	NA
Pseudomonas_aeruginosa_MRW441	6,250,825	5,867	9	57			18	191	77	NA
Pseudomonas_aeruginosa_MSH-10	6,464,013	6,041	14	66			17	188	79	NA
Pseudomonas_aeruginosa_MSH10	6,462,049	6,049	14	62	USA		17	187	79	Susceptible
Pseudomonas_aeruginosa_MSH3	6,467,380	6,059	13	64	USA		17	188	79	Susceptible
Pseudomonas_aeruginosa_N002	5,634,227	6,581	3	28	India		22	197	104	NA
Pseudomonas_aeruginosa_NCGM2S1	6,764,661	6,325	12	66	Japan	Homo sapiens	19	185	80	NA
Pseudomonas_aeruginosa_NCMG1179	6,688,270	6,254	4	58	Japan	Homo sapiens	19	196	78	NA
Pseudomonas_aeruginosa_PA14	6,508,740	6,039	12	62			17	184	80	NA
Pseudomonas_aeruginosa_PA1	6,528,877	6,117	12	65			17	184	79	NA
Pseudomonas_aeruginosa_PA1R	6,309,305	5,916	12	65			14	183	71	NA
Pseudomonas_aeruginosa_PA21_ST175	6,853,852	6,490	4	58	Spain	Homo sapiens	18	191	77	NA
Pseudomonas_aeruginosa_PA45	6,592,856	6,171	3	57	Italy	Homo sapiens	17	183	80	NA
Pseudomonas_aeruginosa_PA7	6,588,339	6,064	8	65		Homo sapiens	17	141	82	NA
Pseudomonas_aeruginosa_PAb1	5,984,633	5,745	10	63		Homo sapiens	16	177	81	NA
Pseudomonas_aeruginosa_PABL056	7,225,986	6,813	7	61	USA	Homo sapiens	20	183	80	NA
Pseudomonas_aeruginosa_PACS2	6,492,423	6,016	8	65			17	184	81	NA
Pseudomonas_aeruginosa_PADK2_CF510	6,683,163	6,315	12	63	Demark	Homo sapiens	18	185	82	NA
Pseudomonas_aeruginosa_PAK	6,381,849	5,929	15	65			17	187	79	NA
Pseudomonas_aeruginosa_PAO1-CipR	5,512,595	5,382	8	55			14	165	86	NA
Pseudomonas_aeruginosa_PAO1	6,264,404	5,836	8	64			17	192	79	NA
Pseudomonas_aeruginosa_PAO1-VE13	6,265,484	5,833	13	63			17	191	79	NA
Pseudomonas_aeruginosa_PAO1-VE2	6,265,484	5,837	13	63			17	191	79	NA
Pseudomonas_aeruginosa_PAO579	6,012,534	5,658	14	63	Australia	Homo sapiens	15	185	78	NA
Pseudomonas_aeruginosa_PAO581	6,043,974	5,655	13	63			16	185	78	NA
Pseudomonas_aeruginosa_PFK10	6,033,935	6,083	10	54	India		21	190	94	NA
Pseudomonas_aeruginosa_PGPR2	6,687,777	6,648	12	68	India		22	188	89	NA
Pseudomonas_aeruginosa_PK6	6,038,536	5,955	4	55	India		19	175	84	NA
Pseudomonas_aeruginosa_RP73	6,342,034	5,940	12	63		Homo sapiens	18	150	79	NA
Pseudomonas_aeruginosa_S35004	6,962,206	6,446	12	64	USA	Homo sapiens	17	184	81	Resistant/Susceptible/Intermediate
Pseudomonas_aeruginosa_S54485	7,002,166	6,618	12	63	USA	Homo sapiens	17	184	78	Resistant / Susceptible
Pseudomonas_aeruginosa_SCV20265	6,725,183	6,312	12			Homo sapiens	17	182	79	NA

Pseudomonas aeruginosa SJTD-1	6,063,872	5,676	12	63	China		17	180	79	NA
Pseudomonas aeruginosa str Stone 130	7,420,589	6,999	9	65			20	191	81	NA
Pseudomonas aeruginosa U2504	7,046,941	6,631	12	64	USA	Homo sapiens	21	184	80	Resistant / Susceptible
Pseudomonas aeruginosa UCBPP-PA14	6,537,648	6,022	8	63		Homo sapiens	17	185	80	NA
Pseudomonas aeruginosa UDL	6,286,208	5,843	12	64	USA	Homo sapiens	17	190	80	Susceptible/Intermediate
Pseudomonas aeruginosa VRFPA01	5,929,762	6,682	3	54	India	Homo sapiens	28	138	111	NA
Pseudomonas aeruginosa VRFPA02	6,474,922	6,496	5	58	India	Homo sapiens	19	189	90	NA
Pseudomonas aeruginosa VRFPA03	7,037,729	7,170	9	57	India	Homo sapiens	28	188	90	NA
Pseudomonas aeruginosa VRFPA04	6,998,695	6,654	16	58	India	Homo sapiens	21	181	83	NA
Pseudomonas aeruginosa VRFPA05	7,050,363	6,802	18	66	India	Homo sapiens	21	192	89	NA
Pseudomonas aeruginosa VRFPA07	7,177,216	6,848	11	57	India	Homo sapiens	17	190	87	NA
Pseudomonas aeruginosa VRFPA08	7,023,037	6,666	14	65	India	Homo sapiens	20	184	82	NA
Pseudomonas aeruginosa WC55	6,775,564	6,425	2	30	USA		17	185	79	NA
Pseudomonas aeruginosa X13273	7,037,692	6,634	11	63	USA	Homo sapiens	17	184	76	Resistant / Susceptible
Pseudomonas aeruginosa X24509	6,415,963	5,954	14	64	USA	Homo sapiens	17	189	80	Resistant / Susceptible
Pseudomonas aeruginosa XMG	6,413,604	5,960	3	58	China		17	183	79	NA