**SUPPLIMENTARY MATERIAL**

**Table S1:** The*P. putida* strains genomes retrieved from NCBI and IMG databases in March, 2016.

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| --- | --- | --- | --- | --- | --- |
| [**Organism/Name**](http://www.ncbi.nlm.nih.gov/genome/genomes/174) | [**Strain**](http://www.ncbi.nlm.nih.gov/genome/genomes/174) | [**BioProject**](http://www.ncbi.nlm.nih.gov/genome/genomes/174) | [**Assembly**](http://www.ncbi.nlm.nih.gov/genome/genomes/174) | [**Size (Mb)**](http://www.ncbi.nlm.nih.gov/genome/genomes/174) | [**Replicons**](http://www.ncbi.nlm.nih.gov/genome/genomes/174) |
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| [*P.* *putida* NBRC 14164](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164172) | [NBRC 14164](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164172) | [PRJDB191](http://www.ncbi.nlm.nih.gov/bioproject/PRJDB191) | [GCA\_000412675.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000412675.1) | 6.1567 | |  | | --- | | NC021505.1/[AP013070.1](http://www.ncbi.nlm.nih.gov/nuccore/AP013070.1) | |
| [*P.* *putida* F1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164163) | [F1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164163) | [PRJNA13909](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA13909) | [GCA\_000016865.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000016865.1) | 5.95996 | |  | | --- | | NC009512.1/[CP000712.1](http://www.ncbi.nlm.nih.gov/nuccore/CP000712.1) | |
| [*P.* *putida* GB-1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164164) | [GB-1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164164) | [PRJNA17629](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA17629) | [GCA\_000019125.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000019125.1) | 6.07843 | |  | | --- | | chromosome:[NC\_010322.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010322.1)/[CP000926.1](http://www.ncbi.nlm.nih.gov/nuccore/CP000926.1) | |
| [*P.* *putida* W619](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164165) | [W619](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164165) | [PRJNA17053](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA17053) | [GCA\_000019445.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000019445.1) | 5.77433 | |  | | --- | | chromosome:[NC\_010501.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010501.1)/[CP000949.1](http://www.ncbi.nlm.nih.gov/nuccore/CP000949.1) | |
| [*P.* *putida* BIRD-1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164166) | [BIRD-1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164166) | [PRJNA54033](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA54033) | [GCA\_000183645.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000183645.1) | 5.73154 | |  | | --- | | chromosome:[NC\_017530.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_017530.1)/[CP002290.1](http://www.ncbi.nlm.nih.gov/nuccore/CP002290.1) | |
| [*P.* *putida* S16](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164167) | [S16](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164167) | [PRJNA67881](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA67881) | [GCA\_000219705.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000219705.1) | 5.98479 | |  | | --- | | chromosome:[NC\_015733.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_015733.1)/[CP002870.1](http://www.ncbi.nlm.nih.gov/nuccore/CP002870.1) | |
| [*P.* *putida* ND6](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164168) | [ND6](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164168) | [PRJNA162897](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA162897) | [GCA\_000264665.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000264665.1) | 6.20245 | |  | | --- | | chromosome:[NC\_017986.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_017986.1)/[CP003588.1](http://www.ncbi.nlm.nih.gov/nuccore/CP003588.1) | | plasmid pND6-2:[NC\_018746.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_018746.1)/[CP003589.1](http://www.ncbi.nlm.nih.gov/nuccore/CP003589.1) | |
| [*P.* *putida* HB3267](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164170) | [PC9](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164170) | [PRJNA171349](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA171349) | [GCA\_000325725.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000325725.1) | 5.95611 | |  | | --- | | chromosome:[NC\_019905.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_019905.1)/[CP003738.1](http://www.ncbi.nlm.nih.gov/nuccore/CP003738.1) | | plasmid pPC9:[NC\_019906.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_019906.1)/[CP003739.1](http://www.ncbi.nlm.nih.gov/nuccore/CP003739.1) | |
| [*P.* *putida* H8234](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164171) | [H8234](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164171) | [PRJNA202087](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA202087) | [GCA\_000410575.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000410575.1) | 6.87083 | |  | | --- | | chromosome:[NC\_021491.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_021491.1)/[CP005976.1](http://www.ncbi.nlm.nih.gov/nuccore/CP005976.1) | |
| [*P.* *putida* S12](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=218050) | [S12](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=218050) | [PRJNA222630](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA222630) | [GCA\_000495455.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_000495455.2) | 6.38243 | |  | | --- | | chromosome:[NZ\_CP009974.1](http://www.ncbi.nlm.nih.gov/nuccore/NZ_CP009974.1)/[CP009974.1](http://www.ncbi.nlm.nih.gov/nuccore/CP009974.1) | | plasmid pTTS12:[NZ\_CP009975.1](http://www.ncbi.nlm.nih.gov/nuccore/NZ_CP009975.1)/[CP009975.1](http://www.ncbi.nlm.nih.gov/nuccore/CP009975.1) | |
| [*P.* *putida* S13.1.2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231423) | [S13.1.2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231423) | [PRJNA214610](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA214610) | [GCA\_000498395.3](http://www.ncbi.nlm.nih.gov/assembly/GCA_000498395.3) | 6.62185 | |  | | --- | | chromosome:[NZ\_CP010979.1](http://www.ncbi.nlm.nih.gov/nuccore/NZ_CP010979.1)/[CP010979.1](http://www.ncbi.nlm.nih.gov/nuccore/CP010979.1) | |
| [*P.* putida](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164173) | [DLL-E4](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164173) | [PRJNA244741](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA244741) | [GCA\_000691565.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000691565.1) | 6.48406 | |  | | --- | | chromosome:[NZ\_CP007620.1](http://www.ncbi.nlm.nih.gov/nuccore/NZ_CP007620.1)/[CP007620.1](http://www.ncbi.nlm.nih.gov/nuccore/CP007620.1) | |
| [*P.* putida](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=265623) | [1A00316](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=265623) | [PRJNA307468](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA307468) | [GCA\_001515585.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_001515585.2) | 5.71582 | |  | | --- | | chromosome:[NZ\_CP014343.1](http://www.ncbi.nlm.nih.gov/nuccore/NZ_CP014343.1)/[CP014343.1](http://www.ncbi.nlm.nih.gov/nuccore/CP014343.1) | |
| [*P.* putida](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=274641) | [PC2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=274641) | [PRJNA286152](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA286152) | [GCA\_001636055.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001636055.1) | 5.80862 | |  | | --- | | chromosome:[NZ\_CP011789.1](http://www.ncbi.nlm.nih.gov/nuccore/NZ_CP011789.1)/[CP011789.1](http://www.ncbi.nlm.nih.gov/nuccore/CP011789.1) | |
| [*P.* putida](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=214136) | [PD1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=214136) | [PRJNA247591](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA247591) | [GCA\_000799625.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000799625.1) | 5.99714 | - |
| [*P.* putida](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=216119) | [PA14H7](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=216119) | [PRJNA236584](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA236584) | [GCA\_000800615.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000800615.1) | 5.87875 | - |
| [*P.* *putida* B6-2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164174) | [B6-2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164174) | [PRJNA72885](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA72885) | [GCA\_000226035.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_000226035.2) | 6.2396 | - |
| [*P.* *putida* str. Idaho](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164175) | [Idaho](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164175) | [PRJNA72621](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA72621) | [GCA\_000226475.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_000226475.2) | 6.36307 | - |
| [*P.* *putida* SJTE-1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164176) | [SJTE-1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164176) | [PRJNA167271](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA167271) | [GCA\_000271965.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000271965.1) | 5.5515 | - |
| [*P.* *putida* B001](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164177) | [B001](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164177) | [PRJEA68177](http://www.ncbi.nlm.nih.gov/bioproject/PRJEA68177) | [GCA\_000285395.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000285395.1) | 5.74094 | - |
| [*P.* *putida* S12](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164178) | [S12](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164178) | [PRJNA171340](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA171340) | [GCA\_000287915.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000287915.1) | 6.28466 | - |
| [*P.* *putida* LS46](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164180) | [LS46](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164180) | [PRJNA167222](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA167222) | [GCA\_000294445.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_000294445.2) | 5.87476 | - |
| [*P.* *putida* CSV86](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164181) | [CSV86](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164181) | [PRJNA65243](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA65243) | [GCA\_000319305.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000319305.1) | 6.46978 | - |
| [*P.* *putida* TRO1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164182) | [TRO1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164182) | [PRJNA174070](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA174070) | [GCA\_000367825.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000367825.1) | 6.31521 | - |
| [*P.* *putida* MTCC 5279](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=201869) | [MTCC5279](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=201869) | [PRJNA176888](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA176888) | [GCA\_000411615.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000411615.1) | 5.21579 | - |
| [*P.* *putida* SJ3](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164184) | [SJ3](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164184) | [PRJNA215701](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA215701) | [GCA\_000478865.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000478865.1) | 6.33139 | - |
| [*P.* *putida* S610](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164186) | [S610](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164186) | [PRJNA218557](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA218557) | [GCA\_000497385.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000497385.1) | 4.59635 | - |
| [*P.* *putida* OUS82](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164188) | [OUS82](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164188) | [PRJNA223432](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA223432) | [GCA\_000507325.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000507325.1) | 6.63331 | - |
| [*P.* *putida* W15Oct28](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=262752) | [W15Oct28](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=262752) | [PRJNA235256](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA235256) | [GCA\_000708715.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_000708715.2) | 6.32051 | - |
| [*P.* *putida* T2-2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=203439) | [T2-2](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=203439) | [PRJNA235245](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA235245) | [GCA\_000710785.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000710785.1) | 5.52423 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=204395) | [MC4-5222](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=204395) | [PRJNA253005](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA253005) | [GCA\_000729805.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000729805.1) | 6.8581 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=213546) | [YKD221](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=213546) | [PRJDB2892](http://www.ncbi.nlm.nih.gov/bioproject/PRJDB2892) | [GCA\_000787655.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000787655.1) | 5.87071 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=214311) | [SQ1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=214311) | [PRJNA266268](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA266268) | [GCA\_000802565.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000802565.1) | 5.32094 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=220192) | [KF703](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=220192) | [PRJDB3352](http://www.ncbi.nlm.nih.gov/bioproject/PRJDB3352) | [GCA\_000875995.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000875995.1) | 6.4349 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=222554) | [UASWS0946](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=222554) | [PRJNA268580](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA268580) | [GCA\_000878325.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000878325.1) | 6.0013 | - |
| [*P.* *putida* KG-4](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=230391) | [KG-4](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=230391) | [PRJNA223514](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA223514) | [GCA\_000987155.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000987155.1) | 5.58691 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231409) | [CBB5](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231409) | [PRJNA267498](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA267498) | [GCA\_001006135.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001006135.1) | 6.81706 | - |
| [*P.* *putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=232280) | [SF1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=232280) | [PRJNA284837](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA284837) | [GCA\_001027965.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001027965.1) | 5.80588 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=234377) | [791\_PPUT](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=234377) | [PRJNA267549](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA267549) | [GCA\_001066335.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001066335.1) | 6.24298 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=248036) | [PCL1760](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=248036) | [PRJNA289510](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA289510) | [GCA\_001282125.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001282125.1) | 5.77208 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=248287) | [IOFA1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=248287) | [PRJNA289292](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA289292) | [GCA\_001293025.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001293025.1) | 5.7088 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249475) | [HB13667](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249475) | [PRJNA287247](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA287247) | [GCA\_001306495.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001306495.1) | 6.3255 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249476) | [HB4184](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249476) | [PRJNA287249](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA287249) | [GCA\_001306515.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001306515.1) | 5.93051 | - |
| [*P.* *putida* JCM 18452](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249753) | [JCM 18452](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249753) | [PRJDB837](http://www.ncbi.nlm.nih.gov/bioproject/PRJDB837) | [GCA\_001312165.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001312165.1) | 6.28482 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=259935) | [FDAARGOS\_121](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=259935) | [PRJNA231221](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA231221) | [GCA\_001471435.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001471435.1) | 6.95803 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=274392) | [JQ581](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=274392) | [PRJNA316053](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA316053) | [GCA\_001630725.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001630725.1) | 6.56391 | - |
| [*P. putida* LF54](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164183) | [LF54](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164183) | [PRJNA190835](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA190835) | [GCA\_000390005.2](http://www.ncbi.nlm.nih.gov/assembly/GCA_000390005.2) | 5.62502 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231359) | [ATH-43](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231359) | [PRJNA278654](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA278654) | [GCA\_001005285.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001005285.1) | 5.83022 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=234378) | [H](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=234378) | [PRJNA287355](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA287355) | [GCA\_001077495.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001077495.1) | 6.0599 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=239811) | [JLR11](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=239811) | [PRJNA284264](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA284264) | [GCA\_001183585.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001183585.1) | 6.10037 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=259682) | [ABAC8](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=259682) | [PRJNA296832](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA296832) | [GCA\_001467305.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001467305.1) | 5.5438 | - |
| [*P. putida*](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=265074) | [BW11M1](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=265074) | [PRJNA311277](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA311277) | [GCA\_001562525.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001562525.1) | 5.45688 | - |
| [*P.* *putida* DOT-T1E](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164169) | [DOT-T1E](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164169) | [PRJNA167844](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA167844) | [GCA\_000281215.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000281215.1) | 6.2607 | |  | | --- | | chromosome:[CP003734.1](http://www.ncbi.nlm.nih.gov/nuccore/CP003734.1) | |
| [*P.* *putida* S11](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164179) | [S11](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164179) | [PRJNA171810](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA171810) | [GCA\_000292775.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000292775.1) | 5.97075 | - |
| [*P.* *putida* JCM 9802](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249752) | [JCM 9802](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249752) | [PRJDB836](http://www.ncbi.nlm.nih.gov/bioproject/PRJDB836) | [GCA\_001312145.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001312145.1) | 6.03523 | - |
| [*P.* *putida* JCM 18798](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249754) | [JCM 18798](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=249754) | [PRJDB838](http://www.ncbi.nlm.nih.gov/bioproject/PRJDB838) | [GCA\_001312185.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001312185.1) | 6.57759 | - |
| [*P.* putida](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=259681) | [ABAC63](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=259681) | [PRJNA295871](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA295871) | [GCA\_001467195.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_001467195.1) | 5.13991 | - |
| [*P.* *putida* MR3](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=27118) | [MR3](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=27118) | [PRJNA195540](http://www.ncbi.nlm.nih.gov/bioproject/PRJNA195540) | [GCA\_000390445.1](http://www.ncbi.nlm.nih.gov/assembly/GCA_000390445.1) partial | 2.99472 | - |

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**Table S2:** The biosynthetic gene clusters for each *P. putida* strain and predicted chemical structures.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Strains** | **Clusters with Ref ID** | **Most similar known cluster with MIBiG BGC-ID** | **Predicted Structure** |
| **1** | [**KT2440**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164162) | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_002947.3 | N.A | Putative chemical scaffold for cluster 3E:\pseudomonas putida\p.putida\complete\NC_002947.3\genecluster3.png  Putative chemical scaffold for cluster 4E:\pseudomonas putida\p.putida\complete\NC_002947.3\genecluster4.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_002947.3 | N.A |
| Cluster3 Nrps  NC\_002947.3 | [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Nrps  NC\_002947.3 | [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_002947.3 | N.A |
| **2** | **F1** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_009512.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_009512.1) | N.A | Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\NC_009512.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NC_009512.1\genecluster3.png |
| Cluster2 Nrps  [NC\_009512.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_009512.1) | BGC0000413 |
| Cluster3 Nrps  [NC\_009512.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_009512.1) | BGC0000413 |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_009512.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_009512.1) | - |
| Cluster5 [T1pks](http://antismash.secondarymetabolites.org/help#bacteriocin) [NC\_009512.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_009512.1) | BGC0000774 |
| **3** | **GB-1** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_010322.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010322.1) | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NC_010322.1\genecluster3.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\complete\NC_010322.1\genecluster4.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_010322.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010322.1) | - |
| Cluster3 Nrps  [NC\_010322.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010322.1) | Pyoverdine\_biosynthetic\_gene\_cluster (8% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Nrps [NC\_010322.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010322.1) | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **4** | **W619** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_010501.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010501.1) | - | Structure from Cluster 4  E:\pseudomonas putida\p.putida\complete\NC_010501.1\genecluster4.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) [NC\_010501.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010501.1) | Oxazolomycin\_biosynthetic\_gene\_cluster(6% of genes show similarity) [BGC0001106\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 [Phenazine](http://antismash.secondarymetabolites.org/help#phenazine)  [NC\_010501.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010501.1) | - |
| Cluster4 Nrps  [NC\_010501.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_010501.1) | Pyoverdine\_biosynthetic\_gene\_cluster (17% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **5** | **BIRD-1** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [CP002290.1](http://www.ncbi.nlm.nih.gov/nuccore/CP002290.1) | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\CP002290.1\genecluster2.png |
| Cluster2 Nrps  [CP002290.1](http://www.ncbi.nlm.nih.gov/nuccore/CP002290.1) | Pyoverdine\_biosynthetic\_gene\_cluster (17% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [CP002290.1](http://www.ncbi.nlm.nih.gov/nuccore/CP002290.1) | - |
| Cluster4 [T1pks](http://antismash.secondarymetabolites.org/help#bacteriocin)  [CP002290.1](http://www.ncbi.nlm.nih.gov/nuccore/CP002290.1) | O-antigen\_ biosynthetic\_gene\_cluster (17% of genes show similarity)  [BGC0000784\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **6** | **S16** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_015733.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_015733.1) | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\NC_015733.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NC_015733.1\genecluster3.png |
| Cluster2 Nrps  [NC\_015733.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_015733.1) | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  [NC\_015733.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_015733.1) | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **7** | **ND6** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_017986.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NC_017986.1\genecluster3.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\complete\NC_017986.1\genecluster4.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_017986.1 | - |
| Cluster3 Nrps  NC\_017986.1 | Pyoverdine\_biosynthetic\_gene\_cluster (6% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Nrps  NC\_017986.1 | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **8** | **PC9** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_019905.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\NC_019905.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NC_019905.1\genecluster3.png |
| Cluster2 Nrps  NC\_019905.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  NC\_019905.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **9** | [**H8234**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164171) | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_021491.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NC_021491.1\genecluster3.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NC\_021491.1 | - |
| Cluster3 Nrps  NC\_021491.1 | Pyoverdine\_biosynthetic\_gene\_cluster (19% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **10** | [**NBRC 14164**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164172) | Cluster1 Nrps  [NC\_021505.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_021505.1) | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\complete\NC_021505.1\genecluster1.png  Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\NC_021505.1\genecluster2.png |
| Cluster2 Nrps  [NC\_021505.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_021505.1) | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_021505.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_021505.1) | - |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  [NC\_021505.1](http://www.ncbi.nlm.nih.gov/nuccore/NC_021505.1) | - |
| **11** | [**DLL-E4**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164173) | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP007620.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\NZ_CP007620.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\NZ_CP007620.1\genecluster3.png |
| Cluster2 Nrps  NZ\_CP007620.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  NZ\_CP007620.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **12** | [**S13.1.2**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=231423) | Cluster1 Nrps  NZ\_CP010979.1 | Pyoverdine\_biosynthetic\_gene\_cluster (18% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\complete\NZ_CP010979.1\genecluster1.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\complete\NZ_CP010979.1\genecluster4.png |
| Cluster2 Other  NZ\_CP010979.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP010979.1 | - |
| Cluster4 Nrps  NZ\_CP010979.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 [T1pks](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP010979.1 | O-antigen\_ biosynthetic\_gene\_cluster (22% of genes show similarity)  [BGC0000784\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **13** | [**S12**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=218050) | Cluster1 Nrps  NZ\_CP009974.1 | Pyoverdine\_biosynthetic\_gene\_cluster (18% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\complete\NZ_CP009974.1\genecluster1.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP009974.1 | - |
| Cluster3  [T1pks](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP009974.1 | O-antigen\_ biosynthetic\_gene\_cluster (27% of genes show similarity)  [BGC0000784\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP009974.1 | - |
| **14** | [**DOT-T1E**](http://www.ncbi.nlm.nih.gov/genome/174?genome_assembly_id=164169) | Cluster1 Nrps  CP003734.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 2  E:\pseudomonas putida\p.putida\complete\CP003734.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\complete\CP003734.1\genecluster3.png |
| Cluster2 Nrps  CP003734.1 | Pyoverdine\_biosynthetic\_gene\_cluster (1% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  CP003734.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  CP003734.1 | - |
| Cluster5 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  CP003734.1 | - |
| **15** | **1A00316** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP014343.1 | - | Structure from Cluster 2  E:\pseudomonas putida\Results\p.putida\complete\1A00316\antiSMASH-NZ_CP014343.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\Results\p.putida\complete\1A00316\antiSMASH-NZ_CP014343.1\genecluster3-b.png  Structure from Cluster 4  E:\pseudomonas putida\Results\p.putida\complete\1A00316\antiSMASH-NZ_CP014343.1\genecluster4.png |
| Cluster2 Nrps  NZ\_CP014343.1 | Xatholysin\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000463\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  NZ\_CP014343.1 | Pseudomonine\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000410\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Nrps  NZ\_CP014343.1 | Entolysin\_biosynthetic\_gene\_cluster (47% of genes show similarity)  [BGC0000344\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 Nrps  NZ\_CP014343.1 | Pyoverdine\_biosynthetic\_gene\_cluster (13% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_CP014343.1 | Pseudopyronine\_A\_/\_ Pseudopyronine \_B\_biosynthetic\_gene\_cluster (18% of genes show similarity)  [BGC0001285\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 Nrps  NZ\_CP014343.1 | Pyoverdine\_biosynthetic\_gene\_cluster (11% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Structure from Cluster 5  E:\pseudomonas putida\Results\p.putida\complete\1A00316\antiSMASH-NZ_CP014343.1\genecluster5.png |
| Cluster8 Other  NZ\_CP014343.1 | Mangotoxin\_biosynthetic\_gene\_cluster (57% of genes show similarity)  [BGC0000387\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **16** | **PC2** | Cluster1 Other  NZ\_CP011789.1 | Mangotoxin\_biosynthetic\_gene\_cluster (57% of genes show similarity)  [BGC0000387\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 2  E:\pseudomonas putida\Results\p.putida\complete\PC2\antiSMASH-NZ_CP011789.1\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\Results\p.putida\complete\PC2\antiSMASH-NZ_CP011789.1\genecluster3.png  Structure from Cluster 4  E:\pseudomonas putida\Results\p.putida\complete\PC2\antiSMASH-NZ_CP011789.1\genecluster4.png  Structure from Cluster 5  E:\pseudomonas putida\Results\p.putida\complete\PC2\antiSMASH-NZ_CP011789.1\genecluster5.png |
| Cluster2 Nrps  NZ\_CP011789.1 | Pyoverdine\_biosynthetic\_gene\_cluster (10% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  NZ\_CP011789.1 | WLIP\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000462\_c2](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)-Nrps  NZ\_CP011789.1 | WLIP\_biosynthetic\_gene\_cluster (83% of genes show similarity)  [BGC0000462\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 Nrps  NZ\_CP011789.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 Butyrolactone-Hserlactone  NZ\_CP011789.1 | - |
| **17** | **ABAC8** | Cluster1 Nrps  NZ\_LKGZ01000010.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |  |
| Cluster2 Nrps  NZ\_LKGZ01000011.1 | - |
| Cluster3 Nrps  NZ\_LKGZ01000013.1 | - |
| Cluster4 Nrps  NZ\_LKGZ01000016.1 | - |
| **18** | **ATH-43** | Cluster1 nrps  NZ\_LBME01000004.1 | Pyoverdine\_biosynthetic\_gene\_cluster (17% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\scafold\ATH-43-NZ_LBME00000000.1\antiSMASH\genecluster1.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_LBME01000005.1 | - |
| Cluster3 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_LBME01000006.1 | - |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_LBME01000015.1 | - |
| **19** | **H** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_LFYQ01000023.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\scafold\H-NZ_LFYQ00000000.1\antiSMASH\genecluster2.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\scafold\H-NZ_LFYQ00000000.1\antiSMASH\genecluster3.png |
| Cluster2  Nrps  NZ\_LFYQ01000044.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Nrps  NZ\_LFYQ01000044.1 | Pyoverdine\_biosynthetic\_gene\_cluster (16% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **20** | **JLR11** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_LDJF01000005.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\scafold\JLR11-NZ_LDJF00000000.1\antiSMASH\genecluster3.png  Structure from Cluster 4 E:\pseudomonas putida\p.putida\scafold\JLR11-NZ_LDJF00000000.1\antiSMASH\genecluster4.png |
| Cluster2  [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_LDJF01000018.1 | - |
| Cluster3 nrps  NZ\_LDJF01000027.1 | Pyoverdine\_biosynthetic\_gene\_cluster (16% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps  NZ\_LDJF01000027.1 | Pyoverdine\_biosynthetic\_gene\_cluster (6% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **21** | **LF54** | Cluster1  [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_AOUR02000011.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\scafold\LF54-NZ_AOUR00000000.2\antiSMASH\genecluster3.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\scafold\LF54-NZ_AOUR00000000.2\antiSMASH\genecluster4.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\scafold\LF54-NZ_AOUR00000000.2\antiSMASH\genecluster5.png  Structure from Cluster 6  E:\pseudomonas putida\p.putida\scafold\LF54-NZ_AOUR00000000.2\antiSMASH\genecluster6.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_AOUR02000030.1 | - |
| Cluster3 nrps  NZ\_AOUR02000098.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps  NZ\_AOUR02000109.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_AOUR02000126.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 nrps  NZ\_AOUR02000139.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **22** | **PA14H7** | Cluster1 nrps NZ\_KN639176.1 | Pyoverdine\_biosynthetic\_gene\_cluster (16% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\scafold\PA14H7-NZ_JBOP00000000.1\genecluster1.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\scafold\PA14H7-NZ_JBOP00000000.1\genecluster3.png |
| Cluster2 [Other](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_KN639176.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps  NZ\_KN639176.1 | Pyoverdine\_biosynthetic\_gene\_cluster (12% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Arylpolyene  NZ\_KN639176.1 | APE\_Vf\_biosynthetic\_gene\_cluster (35% of genes show similarity)  [BGC0000837\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 [Other](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_KN639176.1 | Mangotoxin\_biosynthetic\_gene\_cluster (57% of genes show similarity)  [BGC0000387\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **23** | **PD1** | Cluster1 [Hserlactone](http://antismash.secondarymetabolites.org/help#hserlactone)  NZ\_JUHC01000011.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\scafold\PD1-NZ_JUHC00000000.1\genecluster3.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\scafold\PD1-NZ_JUHC00000000.1\genecluster5.png |
| Cluster2 nrps  NZ\_JUHC01000037.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps  NZ\_JUHC01000043.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_KN549113.1 | - |
| Cluster5 nrps NZ\_KN549114.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 nrps NZ\_KN549114.1 | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 6  E:\pseudomonas putida\p.putida\scafold\PD1-NZ_JUHC00000000.1\genecluster6.png |
| Cluster7 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_KN549120.1 | - |
| Cluster8 T1pks NZ\_KN549123.1 | O-antigen\_biosynthetic\_gene\_cluster (35% of genes show similarity)  [BGC0000781\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **24** | **BW11M1** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_LSLE01000001.1 | Pseudopyronine\_A\_/\_pseudopyronine\_B\_biosynthetic\_gene\_cluster (18% of genes show similarity)  [BGC0001285\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 4  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster4.png  Structure from Cluster 5  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster5.png  Structure from Cluster 6  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster6.png  Structure from Cluster 7  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster7-b.png  Structure from Cluster 8  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster8.png  Structure from Cluster 9  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster9.png  Structure from Cluster 11  E:\pseudomonas putida\Results\p.putida\scafold\BW11M1_NZ_LSLE01000003.1\antiSMASH\genecluster11.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_LSLE01000002.1 | - |
| Cluster3 nrps NZ\_LSLE01000005.1 | Entolysin\_biosynthetic\_gene\_cluster (39% of genes show similarity)  [BGC0000344\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps NZ\_LSLE01000008.1 | Xantholysin\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000463\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_LSLE01000010.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 nrps NZ\_LSLE01000018.1 | - |
| Cluster7 nrps NZ\_LSLE01000021.1 | Pseudomonine\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000410\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster8 nrps NZ\_LSLE01000021.1 | Pyoverdine\_biosynthetic\_gene\_cluster (11% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster9 nrps NZ\_LSLE01000025.1 | Xantholysin\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000463\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster10 nrps NZ\_LSLE01000035.1 | Orfamide\_biosynthetic\_gene\_cluster (17% of genes show similarity)  [BGC0000399\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster11 nrps NZ\_LSLE01000043.1 | Pyoverdine\_biosynthetic\_gene\_cluster (10% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster12 Others  NZ\_LSLE01000045.1 | Mangotoxin\_biosynthetic\_gene\_cluster (57% of genes show similarity)  [BGC0000387\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster13 nrps  NZ\_LSLE01000055.1 | - |
| **25** | **791\_PPUT** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_JUST01000014.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\791_PPUT\antiSMASH\genecluster2.png  Structure from Cluster 6  E:\pseudomonas putida\p.putida\contig\791_PPUT\antiSMASH\genecluster6.png |
| Cluster2 nrps NZ\_JUST01000014.1 | - |
| Cluster3 nrps NZ\_JUST01000224.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JUST01000259.1 | - |
| Cluster5 nrps NZ\_JUST01000519.1 | - |
| Cluster6 nrps NZ\_JUST01000529.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 nrps NZ\_JUST01000548.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **26** | **B001** | Cluster1 nrps NZ\_CAED01000008.1 | Pyoverdine\_biosynthetic\_gene\_cluster (8% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\contig\B001-NZ_CAED00000000.1\antiSMASH\genecluster1.png |
| Cluster2 nrps NZ\_CAED01000053.1 | Pyoverdine\_biosynthetic\_gene\_cluster (6% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\B001-NZ_CAED00000000.1\antiSMASH\genecluster3.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\contig\B001-NZ_CAED00000000.1\antiSMASH\genecluster5.png |
| Cluster3 nrps NZ\_CAED01000071.1 | Delftibactin\_biosynthetic\_gene\_cluster (42% of genes show similarity)  [BGC0000984\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_CAED01000149.1 | - |
| Cluster5 nrps NZ\_CAED01000260.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **27** | **B6-2** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AGCS01000005.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\B6-2-NZ_AGCS00000000.1\antiSMASH\genecluster2.png    Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\B6-2-NZ_AGCS00000000.1\antiSMASH\genecluster3.png |
| Cluster2 nrps NZ\_AGCS01000009.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps NZ\_AGCS01000009.1 | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AGCS01000013.1 | - |
| **28** | **CBB5** | Cluster1 [Other](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JTEN01000003.1 | Mangotoxin\_biosynthetic\_gene\_cluster (57% of genes show similarity)  [BGC0000387\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\CBB5\antiSMASH\genecluster2.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\contig\CBB5\antiSMASH\genecluster5.png |
| Cluster2 nrps NZ\_JTEN01000021.1 | Pyoverdine\_biosynthetic\_gene\_cluster (10% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Bacteriocin NZ\_JTEN01000026.1 | - |
| Cluster4 [Other](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JTEN01000028.1 | - |
| Cluster5 nrps NZ\_JTEN01000083.1 | Pyoverdine\_biosynthetic\_gene\_cluster (22% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 T1pks NZ\_JTEN01000116.1 | - |
| Cluster7 [Arylpolyene](http://antismash.secondarymetabolites.org/help#arylpolyene) NZ\_JTEN01000129.1 | APE\_Vf\_biosynthetic\_gene\_cluster (40% of genes show similarity)  [BGC0000837\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **29** | **CSV86** | Cluster1 Bacteriocin NZ\_AMWJ01000017.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\CSV86-NZ_AMWJ01000014.1\antiSMASH\genecluster3.png |
| Cluster2 [Arylpolyene](http://antismash.secondarymetabolites.org/help#arylpolyene) NZ\_AMWJ01000053.1 | APE\_Vf\_biosynthetic\_gene\_cluster (40% of genes show similarity)  [BGC0000837\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps  NZ\_AMWJ01000133.1 | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Other](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_AMWJ01000197.1 | Mangotoxin\_biosynthetic\_gene\_cluster (57% of genes show similarity)  [BGC0000387\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **30** | **HB4184** | Cluster1 nrps NZ\_LKKT01000070.1 | Pyoverdine\_biosynthetic\_gene\_cluster (10% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure frm Cluster 1  E:\pseudomonas putida\p.putida\contig\HB4184\antiSMASH\genecluster1.png  Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\HB4184\antiSMASH\genecluster2.png |
| Cluster2 nrps  NZ\_LKKT01000076.1 | Pyoverdine\_biosynthetic\_gene\_cluster (11% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Bacteriocin  NZ\_LKKT01000085.1 | - |
| Cluster4 nrps  NZ\_LKKT01000116.1 | Cyanopeptin\_biosynthetic\_gene\_cluster (75% of genes show similarity)  [BGC0000331\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **31** | **HB13667** | Cluster1 nrps  NZ\_LKKS01000006.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster4.png |
| Cluster2 Bacteriocin  NZ\_LKKS01000017.1 | - |
| Cluster3 Bacteriocin  NZ\_LKKS01000070.1 | - |
| Cluster4 nrps NZ\_LKKS01000137.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **32** | **Idaho** | Cluster1 Bacteriocin  NZ\_AGFJ01000011.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\Idaho-NZ_AGFJ00000000.1\antiSMASH\genecluster2.png  Structure from Cluster 8  E:\pseudomonas putida\p.putida\contig\Idaho-NZ_AGFJ00000000.1\antiSMASH\genecluster8.png |
| Cluster2 nrps NZ\_AGFJ01000212.1 | Pyoverdine\_biosynthetic\_gene\_cluster (1% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps NZ\_AGFJ01000428.1 | Pyoverdine\_biosynthetic\_gene\_cluster (1% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Bacteriocin  NZ\_AGFJ01000473.1 | - |
| Cluster5 nrps  NZ\_AGFJ01000703.1 | - |
| Cluster6 nrps  NZ\_AGFJ01000727.1 | - |
| Cluster7 Other  NZ\_AGFJ01000835.1 | Pyoverdine\_biosynthetic\_gene\_cluster (11% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster8 nrps NZ\_AGFJ01000838.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **33** | **IOFA1** | Cluster1 Bacteriocin NZ\_LGRH01000003.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\IOFA1\antiSMASH\genecluster3.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 Bacteriocin  NZ\_LGRH01000007.1 | - |
| Cluster3 nrps NZ\_LGRH01000032.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps NZ\_LGRH01000059.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_LGRH01000079.1 | - |
| Cluster6 nrps NZ\_LGRH01000095.1 | Nostopeptolide\_biosynthetic\_gene\_cluster (25% of genes show similarity)  [BGC0001028\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 nrps NZ\_LGRH01000104.1 | - |
| **34** | **KF703** | Cluster1 Bacteriocin NZ\_BBQL01000026.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\KF703\antiSMASH\genecluster2.png  Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\KG-4\antiSMASH\genecluster4.png |
| Cluster2 nrps NZ\_BBQL01000046.1 | Pyoverdine\_biosynthetic\_gene\_cluster (19% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Bacteriocin NZ\_BBQL01000063.1 | - |
| **35** | **KG-4** | Cluster1 [Phenazine](http://antismash.secondarymetabolites.org/help#phenazine) NZ\_AYRY01000007.1 | - |
| Cluster2 nrps  NZ\_AYRY01000008.1 | Pyoverdine\_biosynthetic\_gene\_cluster (8% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Bacteriocin NZ\_AYRY01000014.1 | - |
| Cluster4 nrps  NZ\_AYRY01000014.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_AYRY01000058.1 | - |
| **36** | **LS46** | Cluster1 nrps  NZ\_ALPV02000004.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\contig\LS46-NZ_ALPV00000000.2\antiSMASH\genecluster1.png  Structure from Cluster 6  E:\pseudomonas putida\p.putida\contig\LS46-NZ_ALPV00000000.2\antiSMASH\genecluster6.png  Structure from Cluster 7  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png  Structure from Cluster 9  E:\pseudomonas putida\p.putida\contig\LS46-NZ_ALPV00000000.2\antiSMASH\genecluster9.png |
| Cluster2 Bacteriocin NZ\_ALPV02000010.1 | - |
| Cluster3 Bacteriocin  NZ\_ALPV02000011.1 | - |
| Cluster4 nrps  NZ\_ALPV02000012.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 T1pks  NZ\_ALPV02000014.1 | Lipopolysaccharide\_biosynthetic\_gene\_cluster (25% of genes show similarity)  [BGC0000773\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 nrps  NZ\_ALPV02000017.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 nrps NZ\_ALPV02000017.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster8 Bacteriocin NZ\_ALPV02000017.1 | - |
| Cluster9 nrps NZ\_ALPV02000030.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **37** | **MC4-5222** | Cluster1 nrps NZ\_JOJW01000483.1 | Pyoverdine\_biosynthetic\_gene\_cluster (1% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\MC4-5222-NZ_JOJW00000000.1\antiSMASH\genecluster3.png |
| Cluster2 [Lantipeptide](http://antismash.secondarymetabolites.org/help#lantipeptide)-[Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JOJW01000588.1 | - |
| Cluster3 nrps NZ\_JOJW01000601.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 T1pks NZ\_JOJW01000708.1 | - |
| Cluster5 [Arylpolyene](http://antismash.secondarymetabolites.org/help#arylpolyene) NZ\_JOJW01000740.1 | APE\_Vf\_biosynthetic\_gene\_cluster (20% of genes show similarity)  [BGC0000837\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 Other NZ\_JOJW01000803.1 | - |
| Cluster7 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JOJW01000991.1 | - |
| **38** | **MTCC5279** | Cluster1 Other NZ\_AMZE01000004.1 | - | Structure from Cluster 5E:\pseudomonas putida\p.putida\contig\MTCC 5279-NZ_AMZE00000000.1\antiSMASH\genecluster5.png |
| Cluster2 [Arylpolyene](http://antismash.secondarymetabolites.org/help#arylpolyene) NZ\_AMZE01000012.1 | APE\_Vf\_biosynthetic\_gene\_cluster (25% of genes show similarity)  [BGC0000837\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps NZ\_AMZE01000033.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AMZE01000035.1 | - |
| Cluster5 nrps NZ\_AMZE01000040.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 nrps NZ\_AMZE01000064.1 | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 nrps NZ\_AMZE01000123.1 | - |
| Cluster8 nrps NZ\_AMZE01000131.1 | - |
| Cluster9 nrps NZ\_AMZE01000142.1 | - |
| **39** | **OUS82** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AZBL01000047.1 | - | Structure from Cluster 2E:\pseudomonas putida\p.putida\contig\OUS82-NZ_AZBL00000000.1\antiSMASH\genecluster2.png |
| Cluster2 nrps NZ\_AZBL01000064.1 | Pyoverdine\_biosynthetic\_gene\_cluster (18% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AZBL01000100.1 | - |
| **40** | **PCL1760** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_LIYM01000002.1 | - | Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\PCL1760\antiSMASH\genecluster4.png  Structure from Cluster 5E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_LIYM01000007.1 | - |
| Cluster3 T1pks NZ\_LIYM01000009.1 | O-antigen\_biosynthetic\_gene\_cluster (22% of genes show similarity)  [BGC0000784\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps NZ\_LIYM01000010.1 | Pyoverdine\_biosynthetic\_gene\_cluster (13% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_LIYM01000044.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **41** | **S610** | Cluster1 [Arylpolyene](http://antismash.secondarymetabolites.org/help#arylpolyene) NZ\_AYJQ01000001.1 | APE\_Vf\_biosynthetic\_gene\_cluster (40% of genes show similarity)  [BGC0000837\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\S610-NZ_AYJQ00000000.1\antiSMASH\genecluster2.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\contig\S610-NZ_AYJQ00000000.1\antiSMASH\genecluster5.png  Structure from Cluster 6  E:\pseudomonas putida\p.putida\contig\S610-NZ_AYJQ00000000.1\antiSMASH\genecluster6.png  Structure from Cluster 7 E:\pseudomonas putida\p.putida\contig\S610-NZ_AYJQ00000000.1\antiSMASH\genecluster7.png  Structure from Cluster 8  E:\pseudomonas putida\p.putida\contig\S610-NZ_AYJQ00000000.1\antiSMASH\genecluster8.png  Structure from Cluster 9  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 nrps NZ\_AYJQ01000010.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps NZ\_AYJQ01000018.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Terpene](http://antismash.secondarymetabolites.org/help#terpene) NZ\_AYJQ01000027.1 | Carotenoid\_biosynthetic\_gene\_cluster (85% of genes show similarity)  [BGC0000642\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_AYJQ01000048.1 | - |
| Cluster6 nrps NZ\_AYJQ01000049.1 | - |
| Cluster7 nrps NZ\_AYJQ01000050.1 | Orfamide\_biosynthetic\_gene\_cluster (40% of genes show similarity)  [BGC0000398\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster8 nrps NZ\_AYJQ01000058.1 | Vulnibactin\_biosynthetic\_gene\_cluster (12% of genes show similarity)  [BGC0000460\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster9 nrps NZ\_AYJQ01000065.1 | Pyoverdine\_biosynthetic\_gene\_cluster (6% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **42** | **SF1** | Cluster1 Bacteriocin NZ\_LDPF01000002.1 | - | Structure from Cluster 2  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\SF1\antiSMASH\genecluster3.png |
| Cluster2 nrps NZ\_LDPF01000033.1 | - |
| Cluster3 nrps NZ\_LDPF01000042.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **43** | **SJ3** | Cluster1 nrps NZ\_AXDX01000183.1 | Pyoverdine\_biosynthetic\_gene\_cluster (7% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1 E:\pseudomonas putida\p.putida\contig\SJ3-NZ_AXDX00000000.1\antiSMASH\genecluster1.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AXDX01000326.1 | - |
| Cluster3 nrps  NZ\_AXDX01000364.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **44** | **SJTE-1** | Cluster1 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin)  NZ\_AKCL01000027.1 | - | Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\SJTE-1-NZ_AKCL00000000.1\antiSMASH\genecluster4.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_AKCL01000161.1 | - |
| Cluster3 nrps NZ\_AKCL01000175.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps NZ\_AKCL01000177.1 | Pyoverdine\_biosynthetic\_gene\_cluster (9% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **45** | **SQ1** | Cluster1 nrps NZ\_JTCJ01000026.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 6E:\pseudomonas putida\p.putida\contig\SQ1-NZ_JTCJ00000000.1\antiSMASH\genecluster6.png |
| Cluster2 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JTCJ01000080.1 | - |
| Cluster3 nrps NZ\_JTCJ01000102.1 | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps NZ\_JTCJ01000113.1 | - |
| Cluster5 [Bacteriocin](http://antismash.secondarymetabolites.org/help#bacteriocin) NZ\_JTCJ01000122.1 | - |
| Cluster6 nrps NZ\_JTCJ01000162.1 | - |
| Cluster7 nrps NZ\_JTCJ01000193.1 | - |
| Cluster8 nrps NZ\_JTCJ01000304.1 | Pyoverdine\_biosynthetic\_gene\_cluster (1% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster9 nrps NZ\_JTCJ01000377.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster10 nrps NZ\_JTCJ01000568.1 | - |
| Cluster11 [Phenazine](http://antismash.secondarymetabolites.org/help#phenazine) NZ\_JTCJ01000681.1 | - |
| **46** | **T2-2** | Cluster1 Other NZ\_JALX01000036.1 | - | Structure from Cluster3  E:\pseudomonas putida\p.putida\contig\T2-2-NZ_JALX00000000.1\antiSMASH\genecluster3.png  Structure from Cluster4  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 nrps NZ\_JALX01000040.1 | - |
| Cluster3 nrps NZ\_JALX01000096.1 | Pyoverdine\_biosynthetic\_gene\_cluster (10% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 nrps NZ\_JALX01000127.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **47** | **TRO1** | Cluster1 nrps NZ\_APBQ01000003.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\contig\TRO1-NZ_APBQ00000000.1\antiSMASH\genecluster1.png  Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 Bacteriocin NZ\_APBQ01000004.1 | - |
| Cluster3 Bacteriocin NZ\_APBQ01000057.1 | - |
| Cluster4 nrps NZ\_APBQ01000108.1 | Pyoverdine\_biosynthetic\_gene\_cluster (3% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 T1pks NZ\_APBQ01000148.1 | - |
| Cluster6 nrps NZ\_APBQ01000161.1 | - |
| Cluster7 nrps NZ\_APBQ01000169.1 | - |
| Cluster8 Bacteriocin  NZ\_APBQ01000207.1 | - |
| **48** | **UASWS0946** | Cluster1 nrps NZ\_JXOG01000093.1 | Delftibactin\_biosynthetic\_gene\_cluster (28% of genes show similarity)  [BGC0000984\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\UASWS0946\antiSMASH\genecluster3.png  Structure from Cluster 5E:\pseudomonas putida\p.putida\contig\UASWS0946\antiSMASH\genecluster5.png |
| Cluster2 [Hserlactone](http://antismash.secondarymetabolites.org/help#hserlactone) NZ\_JXOG01000161.1 | - |
| Cluster3 nrps NZ\_JXOG01000175.1 | Pyoverdine\_biosynthetic\_gene\_cluster 17% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 [Ectoine](http://antismash.secondarymetabolites.org/help#ectoine) NZ\_JXOG01000181.1 | - |
| Cluster5 nrps NZ\_JXOG01000182.1 | Pyoverdine\_biosynthetic\_gene\_cluster (11% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **49** | **W15Oct28** | Cluster1 nrps NZ\_JENB01000006.1 | Putisolvin\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000411\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 1  E:\pseudomonas putida\p.putida\contig\W15Oct28-NZ_JENB00000000.1\antiSMASH\genecluster1.png  Structure from Cluster 3  E:\pseudomonas putida\p.putida\contig\W15Oct28-NZ_JENB00000000.1\antiSMASH\genecluster3.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 nrps NZ\_JENB01000023.1 | Safracin\_biosynthetic\_gene\_cluster (40% of genes show similarity)  [BGC0000421\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 nrps NZ\_JENB01000032.1 | Pyoverdine\_biosynthetic\_gene\_cluster (11% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Bacteriocin NZ\_JENB01000034.1 | - |
| Cluster5 nrps NZ\_JENB01000063.1 | Pyoverdine\_biosynthetic\_gene\_cluster (5% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 Bacteriocin NZ\_JENB01000085.1 | - |
| **50** | **YKD221** | Cluster1 nrps NZ\_BBNC01000011.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) | Structure from Cluster 4  E:\pseudomonas putida\p.putida\contig\YKD221-NZ_BBNC00000000.1\antiSMASH\genecluster4.png  Structure from Cluster 5  E:\pseudomonas putida\p.putida\contig\HB13667\antiSMASH\genecluster1.png |
| Cluster2 Bacteriocin NZ\_BBNC01000024.1 | - |
| Cluster3 Bacteriocin NZ\_BBNC01000032.1 | - |
| Cluster4 nrps NZ\_BBNC01000042.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster5 nrps NZ\_BBNC01000043.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 T1kps NZ\_BBNC01000050.1 | Lipopolysaccharide\_biosynthetic\_gene\_cluster (17% of genes show similarity)  [BGC0000774\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 nrps NZ\_BBNC01000071.1 | Pyoverdine\_biosynthetic\_gene\_cluster (4% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| **51** | **FDAARGOS\_121** | Cluster1 Other | - | Structure from Cluster 2  E:\pseudomonas putida\Results\p.putida\contig\FDAARGOS_121\antiSMASH\genecluster2.png  Structure from Cluster 6  E:\pseudomonas putida\Results\p.putida\contig\FDAARGOS_121\antiSMASH\genecluster6.png  Structure from Cluster 7  E:\pseudomonas putida\Results\p.putida\contig\FDAARGOS_121\antiSMASH\genecluster7.png  Structure from Cluster 8  E:\pseudomonas putida\Results\p.putida\contig\FDAARGOS_121\antiSMASH\genecluster8.png  Structure from Cluster 10  E:\pseudomonas putida\Results\p.putida\contig\FDAARGOS_121\antiSMASH\genecluster10-b.png |
| Cluster2 Phenazine-Nrps | Pyocheline\_ biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000412\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster3 Other | Pyoverdine\_biosynthetic\_gene\_cluster (2% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster4 Hserlactone | - |
| Cluster5 Phenazine | Pyocyanine\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000936\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster6 Nrps | 2-amino-4-methoxy-trans-3-butenoic\_acid\_biosynthetic\_gene\_cluster (100% of genes show similarity)  [BGC0000287\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster7 Nrps | Pyoverdine\_biosynthetic\_gene\_cluster (23% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster8 Nrps | Pyoverdine\_biosynthetic\_gene\_cluster (14% of genes show similarity)  [BGC0000413\_c1](http://mibig.secondarymetabolites.org/repository/BGC0000413/index.html) |
| Cluster9 Bacteriocin | N.A |
| Cluster10 Nrps | N.A |
| Cluster11 Hserlactone | N.A |
| **52** | **MR3** | Cluster1 Bacteriocin | N.A |  |

N.A = not available

**Table S3:** The Bacteriocin type metabolites identified for different *P. putida* strains.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Strains** | **AOI\*** | **Gene start and End position** | **Type** | **Blast hit in bactericin database (BAGL3)** |
| 1 | KT2440 | AOI\_1;orf009 | 5000-6421 | Class III | Zoocin\_A[6e-23] |
| AOI\_2;orf006 | 5000-7258 | Class III | Colicin[3e-36] |
| 2 | F1 | AOI\_1;orf009 | 5000-6421 | Class III | Zoocin\_A[6e-23] |
| AOI\_2;orf009 | 7295-7438 | - | Bottromycin |
| 3 | GB-1 | AOI\_1;orf008 | 5000-6736 | Class III | Carocin\_D[2e-53] |
| 4 | BIRD-1 | AOI\_1;orf009 | 5000-6370 | Class III | Zoocin\_A[4e-23] |
| 5 | S16 | AOI\_1;orf011 | 5000-7192 | Class III | Colicin[2e-30] |
| 6 | ND6 | AOI\_1;orf009 | 5000-7258 | Class III | Colicin[2e-36] |
| AOI\_2;orf009 | 5000-6370 | Class III | Zoocin\_A[5e-23] |
| 7 | PC9 | AOI\_1;orf009 | 5000-7015 | Class III | Colicin\_E9[3e-32] |
| AOI\_1;orf012 | 5000-7258 | Class III | Colicin[2e-38] |
| 8 | H8234 | AOI\_1;smallORF\_31 | 7517-7687 |  | Bottromycin |
| 9 | DLL-E4 | AOI\_1;orf013 | 5000-7192 | Class III | Colicin[2e-30] |
| 10 | S13.1.2 | AOI\_1;orf012 | 5000-7321 | Class III | Colicin[2e-37] |
| 11 | S12 | AOI\_1;orf005 | 5000-6421 | Class III | Zoocin\_A[7e-23] |
| AOI\_2;orf010 | 5000-6268 | Class III | Colicin[8e-39] |
| 12 | DOT-T1E | AOI\_1;smallORF\_44 | 1323-1424 |  | Bottromycin |
| AOI\_2;orf009 | 5000-6370 | Class III | Zoocin\_A[5e-23] |
| 13 | 1A00316 | AOI\_1;smallORF\_37 | 2921-3040 |  | Microcin |
| AOI\_2;orf008 | 5000-5830 | Class III | Putidacin\_L1[0.0] |
| 14 | PC2 | AOI\_1;orf005 | 5000-6259 | Class II | Propionicin\_SM1[4e-08] |
| 15 | ABAC8 | AOI\_1;orf011 | 5000-5461 | Class II | Propionicin\_SM1[2e-08] |
| 16 | OUS82 | AOI\_1;smallORF\_51 | 928-1092 |  | Bottromycin |
| 17 | PCL1760 | AOI\_1;orf012 | 5000-6268 | Class III | Colicin[8e-39] |
| 18 | SJTE-1 | AOI\_1;orf008 | 5000-7258 | Class III | Colicin[2e-36] |

**\*** AOI**=** Area of Interest

**Table S4:** The NRPs/PKs metabolites annotated for *P. putida* strains.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Strains** | **Clusters** | **Clusters Type** | **Product** | **Homologous Clusters** |
| 1 | 1A00316 | 1 | Nrp | Unknown | Fusaricidin |
| 2 | Nrp | Unknown | Plipastatin |
| 3 | Nrp | Unknown | Arthrofactin |
| 4 | Nrp | Unknown | Acinetobactin |
| 5 | Nrp | Unknown | Entolysin |
| 6 | Unknown thiotemplated cluster type | Unknown | Enacyloxin |
| 7 | Nrp | Unknown | Pyoverdin |
| 8 | Nrp | Unknown | Spumigin |
| 2 | KT2440 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 3 | Nrp | Unknown | Thailandamide |
| 4 | Nrp | Unknown | Pyoverdin |
| 5 | Nrp | Unknown | Spumigin |
| 3 | F1 | 1 | Nrp | Unknown | Spumigin |
| 2 | Nrp | Unknown | Paenibacterin |
| 3 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 4 | T1Pks | Unknown | Fusaricidin |
| 5 | T1Pks | Propionic acid | Nostophycin |
| 4 | GB-1 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Unknown thiotemplated cluster type | Unknown | Asukamycin |
| 3 | Nrp | Unknown | Spumigin |
| 4 | Nrp | Unknown | Pyoverdin |
| 5 | W619 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Penicillin | Unknown | Penicillin |
| 3 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 4 | Nrp | Unknown | Lysobactin |
| 6 | BIRD-1 | 1 | Nrp | Unknown | Polymyxin |
| 2 | Unknown thiotemplated cluster type | Unknown | Asukamycin |
| 3 | T1Pks | Unknown | Fusaricidin |
| 4 | T1Pks | Unknown | Nostophycin |
| 7 | S16 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 3 | Nrp | Unknown | Spumigin |
| 4 | Nrp | Unknown | Pyoverdin |
| 8 | ND6 | 1 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 2 | T1Pks | Unknown | Fusaricidin |
| 3 | Nrp | Unknown | Spumigin |
| 4 | Nrp | Unknown | Pyoverdin |
| 9 | PC9 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 3 | Nrp | Unknown | Spumigin |
| 4 | Nrp | Unknown | Pyoverdin |
| 10 | H8234 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Nrp | Unknown | Tolaasin |
| 11 | NBRC-14164 | 1 | Nrp | Unknown | Pyoverdin |
| 2 | Nrp | Unknown | Spumigin |
| 3 | Unknown thiotemplated cluster type | Unknown | Asukamycin |
| 4 | T1Pks | Unknown | Fusaricidin |
| 12 | DLL-E4 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 3 | Nrp | Unknown | Spumigin |
| 4 | Nrp | Unknown | Pyoverdin |
| 13 | S13.1.2 | 1 | Nrp | Unknown | Sessilin |
| 2 | Unknown thiotemplated cluster type | Unknown | Asukamycin |
| 3 | Nrp | Unknown | Thanamycin |
| 4 | T1Pks | Unknown | Fusaricidin |
| 5 | T1Pks | Propionic acid | Nostophycin |
| 14 | S12 | 1 | Nrp | Unknown | Polymyxin |
| 2 | T1Pks | Propionic acid | Nostophycin |
| 3 | T1Pks | Unknown | Fusaricidin |
| 4 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 15 | DOT-T1E | 1 | Nrp | Aspartic acid (s)-form | Pyoverdin |
| 2 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 3 | Nrp | Unknown | Spumigin |
| 4 | Nrp | Unknown | Anabaenopeptilide |
| 5 | Nrp | Unknown | Hassallidin |
| 6 | T1Pks | Unknown | Fusaricidin |
| 16 | PC2 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Nrp | Unknown | Gramicidin |
| 3 | Nrp | Unknown | Tolaasin |
| 4 | Nrp | Unknown | Massetolide |
| 5 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 6 | Nrp | Unknown | Spumigin |
| 17 | ATH-43 | 1 | Nrp | Unknown | Enterocin |
| 18 | H | 1 | Nrp | Unknown | Thailandamide |
| 19 | JLR11 | 1 | Nrp | Unknown | Thailandamide |
| 20 | PA14H7 | 1 | T1Pks | Unknown | Fusaricidin |
| 2 | Nrp | Unknown | Pyoverdin |
| 3 | Nrp | Unknown | Pyoverdin |
| 21 | CSV86 | 1 | Unknown thiotemplated cluster type | Unknown | Plipastatin |
| 22 | FDAARGOS\_121 | 1 | Nrp | Unknown | Pyochelin |
| 2 | T1Pks | Unknown | Ravidomycin |
| 3 | Nrp | Unknown | Teixobactin |
| 4 | Nrp | Unknown | Pyoverdin |
| 5 | Nrp | Unknown | Spumigin |
| 6 | Nrp | Unknown | Octacosamicin |
| 7 | T1Pks | Unknown | Fusaricidin |
| 8 | Nrp | Unknown | Tyrocydine |
| 23 | LS46 | 1 | Nrp | Unknown | Pyoverdin |
| 2 | Nrp | Unknown | Spumigin |