**Table S1.** Comparison against S4-7 conprimycin synthetic gene clusters

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S4-7 (Query) | | |  | | TFH56 (subject) | | | Anti-smash results | Protein BLAST coverage | | Protein BLAST Identity |
| RASTtk annotation | Location in contig 1 (bp) | strand | | RASTtk annotation | | Location in chromosome (bp) | strand |
| ABC transporter, ATP-binding protein | 4514373 - 4515161 | + | | ABC transporter, ATP-binding protein | | 4508351 - 4509139 | + | Transport-related gene | 100 % | 100 % | |
| ABC transporter, ATP-binding protein | 4515158 - 4517743 | + | | ABC transporter, ATP-binding protein | | 5609136 - 4511424 | + | Transport-related gene | 99 % | 99 % | |
| Hypothetical protein | 4518015 - 1518263 | + | | Hypothetical protein | | 4511994 - 4512242 | + | Other gene | 100 % | 100 % | |
| Transcrptional regulator, AfsR family | 4518317 – 4520326 | + | | Transcrptional regulator, AfsR family | | 4512296 - 4514305 | + | Regulatory gene | 100 % | 100 % | |
| Hypothetical protein | 4520322 - 4522623 | + | | Hypothetical protein | | 4514311 - 4516602 | + | Other gene | 100 % | 100 % | |
| Thiazole- oxazole-modified microcin (TOMM) biosynthesis cyclodehydratase,  TOMM biosynthesis docking scaffold | 4516592 - 4518613 | + | | TOMM biosynthesis cyclodehydratase,  TOMM biosynthesis docking scaffold | | 4522613 - 4524634 | + | Core biosynthetic gene | 100 % | 100 % | |
| TOMM biosynthesis dehydrogenase | 4524740 - 4526326 | + | | TOMM biosynthesis dehydrogenase | | 4578719 - 4520305 | + | Core biosynthetic gene | 100 % | 100 % | |
| Lanthionine biosynthesis protein LanB | 4526341 - 4529097 | + | | Lanthionine biosynthesis protein LanB | | 4520320 - 4523076 | + | Core biosynthetic gene | 100 % | 100 % | |
| Lantibiotic biosynthesis dihydropyridine synthase, TsrD family | 4529094 - 4530176 | + | | Lantibiotic biosynthesis dihydropyridine synthase, TsrD family | | 4523073 - 4624155 | + | Core biosynthetic gene | 100 % | 100 % | |
| Hypothetical protein | 4530173 - 4531309 | + | | Hypothetical protein | | 4524152 - 4525288 | + | Other gene | 100 % | 100 % | |
| Continued | | | | | | | | | | | |

**Table S1.** (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S4-7 (Query) | | |  | | TFH56 (subject) | | | Anti-smash results | Protein BLAST coverage | | Protein BLAST Identity | |
| RASTtk annotation | Location in contig 1 (bp) | strand | | RASTtk annotation | | Location in chromosome (bp) | strand |
| TOMM export ABC transporter, ATP-binding protein | 4534353 - 4532315 | + | | TOMM export ABC transporter, ATP-binding protein | | 4525332 - 4526294 | + | Transport-related gene | 100 % | 100 % | |
| TOMM export ABC transporter, permease protein | 4532404 - 4533159 | + | | TOMM export ABC transporter, permease protein | | 4526383 - 4527138 | + | Transport-related gene | 100 % | 100 % | |
| TOMM biosynthesis cyclodehydratase,  TOMM biosynthesis docking scaffold | 4533156 - 4535183 | + | | TOMM biosynthesis cyclodehydratase,  TOMM biosynthesis docking scaffold | | 4527135 - 4529162 | + | Core biosynthetic gene | 100 % | 100 % | |
| TOMM biosynthesis precursor peptide | 4535437 - 4535261 | - | | TOMM biosynthesis precursor peptide | | 4529416 - 4529240 | - | Core biosynthetic gene | 100 % | 100 % | |
| TOMM biosynthesis zinc protease | 4535622 - 4537145 | + | | TOMM biosynthesis zinc protease | | 4529601 - 4531124 | + | Additional biosynthetic gene | 100 % | 100 % | |
| Hypothetical protein | 4537142 – 4537414 | + | | Hypothetical protein | | 4531121 - 4531393 | + | Other gene | 100 % | 100 % | |
| Transcriptional regulator, LuxR family | 4538473 – 4537466 | - | | Transcriptional regulator, LuxR family | | 4532452 – 4531445 | - | Regulatory gene | 100 % | 100 % | |
| Transcription-repair coupling factor | 4538891 - 4542424 | + | | Transcription-repair coupling factor | | 4532870 - 4536403 | + | Other gene | 100 % | 100 % | |
| Hypothetical protein | 4512585 - 4543175 | + | | Hypothetical protein | | 4536564 - 4537154 | + | Other gene | 100 % | 100 % | |
| Transcriptional regulator, AcrR family | 4543822 - 4543235 | - | | Transcriptional regulator, AcrR family | | 4537801 - 4537214 | - | Transport-related gene | 100 % | 100 % | |
| hypothetical protein | 4543949 - 4544818 | + | | hypothetical protein | | 4537928 - 4538797 | + | Other gene | 100 % | 100 % | |