**Supplemental Table 6 - Glutarimide gene clusters found in public databases**.

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| Organism | Abbreviation | Gene Cluster Identifier | Glutaramide Type |
| *Streptomyces* sp. 2AW | 2AW | Ga0065883\_112411-Ga0065883\_112407 / Ga0065883\_1121714 - Ga0065883 a | Cycloheximide |
| *Streptomyces* sp. YIM56141 | YIM56141 | AFO59862 - AFO59871 | Cycloheximide |
| *Streptomyces griseus* subsp. *griseus* NBRC 13350 | NBRC13350 | BAG23610 - BAG23619 | Cycloheximide |
| *Streptomyces* sp. W007 | Woo7 | WP\_007451490 - WP\_007451508 | Cycloheximide-like |
| Streptomyces griseus subspecies griseus WC3480 | WC3480 | P212\_03591 - P212\_03600 b | Cycloheximide-like |
| *Streptomyces* sp. ACT-1 | ACT-1 | WP\_003971101 - WP\_003971111 | Cycloheximide-like |
| *Streptomyces* sp. MNU77 | MNU77 | KIZ26038 - KIZ26047 | Cycloheximide-like |
| *Streptomyce*s sp. MnatMP-M77 | MnatMP | YW3DRAFT\_03469 - YW3DRAFT\_03478 a | Cycloheximide-like |
| *Streptomyces* sp. 769 | 769 | WP\_039638735 - WP\_039638744 | Cycloheximide-like |
| *Streptomyces noursei* ATCC 11455 | ATCC11455 | S.\_noursei\_presub\_7394 - S.noursei\_presub\_7401 a | Cycloheximide-like |
| *Saccharopolyspora flava* DSM 44771 | DSM44771 | Ga0056047\_04090 - Ga0056047\_04098 a | Cycloheximide-like |
| *Streptomyces himastatinicus* ATCC 53653 | 9SPD | CCC21119 - CCC21125 | 9-methylstreptimidone |
| *Streptomyces monomycini* | B-24309 | WP\_030019158 - WP\_030019163 | 9-methylstreptimidone-like |
| *Streptomyces* sp. NRRL WC-3773 | WC3773 | WP\_031001628 - WP\_031001625 | 9-methylstreptimidone-like |
| *Streptomyces thermotolerans* strain NRRL WC-3628 | WC3628 | P228\_05703 - P228\_05706 b | 9-methylstreptimidone-like |
| *Streptomyces amphibiosporus* ATCC 53964 | LTM | ACY01397 - ACY01405 | Lactimidomycin |
| *Streptomyces* sp. Amel2xB2 | Amel2xB2 | K378DRAFT\_02575 - K378DRAFT\_02579 a | Lactimidomycin-like |
| *Streptomyces platensis* NRRL 18993 | MGS | ACY01386 - ACY01395 | iso-migrastatin |
| *Streptomyces auratus* AGR0001 | AGR001 | WP\_006606836 - WP\_006606847 | iso-migrastatin-like |
| *Streptomyces* sp. SceaMP-e96 | SceaMP | YWIDRAFT\_03980 - YWIDRAFT03984 | iso-migrastatin-like |
| *Amycolatopsis rifamycinica* strain DSM 46095 | DSM46095 | DV20\_12310 - DV20\_12325 a | Unknown |
| *Kitasatospora mediocidica* | Kmed | BS80DRAFT\_02834 - BS80DRAFT\_02838 a | Unknown |
| Uncultured bacterium clone CONC1 | CONC1 | KJ604852 | Unknown |
| *Burkholderia mallei* strain gladioli DM48 | DM48 | KGC12726 - KGC12967 | Unknown |
| *Burkholderia andropogonis* Ba3549 | Ba3549 | W813DRAFT\_05119 - W813DRAFT05123 a | Unknown |
| a JGI Genome Portal (http://genome.jgi.doe.gov) | | | |
| b Natural Products Genomics (http://www.igb.illinois.edu/labs/metcalf/gcf/index.html) | | | |