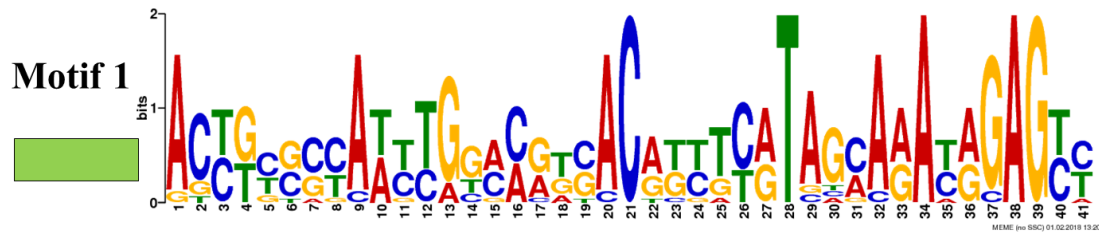


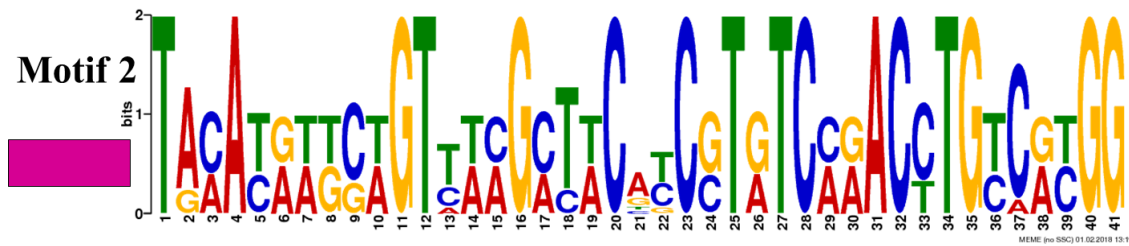
## Supplementary dataset 5

Dataset for Figure 4 [include part 1 (motif logos and sequences in each gene) and part 2 (the promoter sequences of *Pks1* and *Pks2* genes)]

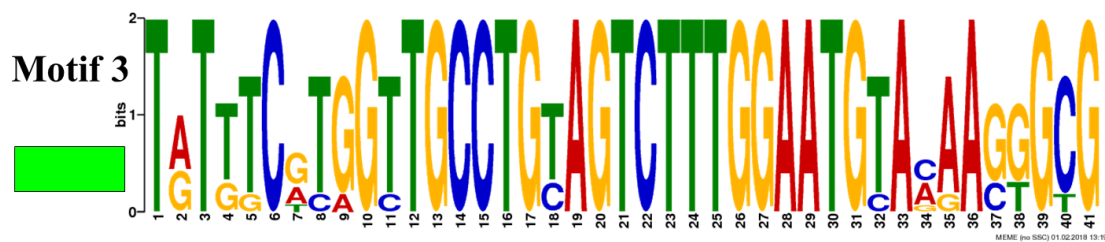
### Part 1: Motif logos and motif sequences in each gene



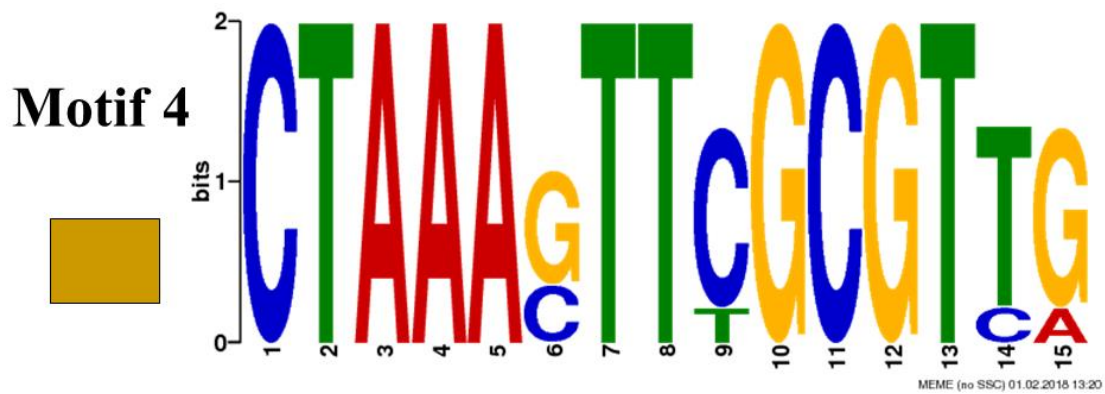
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<b>PKS1</b> <i>Metarhizium brunneum</i>	ACTTTGGTAATTGTAAAGCACATTCGTAGCAAATAGAGTT
<b>PKS1</b> <i>Metarhizium robertsii</i>	ACTTTGGCAATTGTAAAGCACATTCGTAGCAAATAGAGTT
<b>PKS1</b> <i>Metarhizium guizhouense</i>	ACTTTGCTAATTGCACAACACATCTCGTAGCAAATAGAGTT
<b>PKS1</b> <i>Metarhizium majus</i>	ACTTTGGTAATTGCAACACACATCTCGTAGCAAATAGAGTT
<b>PKS1</b> <i>Metarhizium acridum</i>	AGCGGGCCCATCAGGCGGCCCTGCTCATCAGCAATAGAGCA
<b>PKS2</b> <i>Metarhizium acridum</i>	GTTGGTGGATGCAGAAGTTACATGTCATGTCAAAAACAGTC
<b>PKS2</b> <i>Metarhizium guizhouense</i>	ACCGCCCCATCTGGCCGTGACGGTGTATAGAAGACGGAGCC
<b>PKS2</b> <i>Metarhizium majus</i>	ACCGCCCCATCTGGCCGTGACGGTGTATAGAAGACGGAGCC
<b>PKS2</b> <i>Metarhizium brunneum</i>	AGCGCCCCATCCGGCCGTGACGGTGTATACCAGACGGAGCC
<b>PKS2</b> <i>Metarhizium robertsii</i>	ACCGCCCCATCCGGCCGTGACAGCATATAGAAGACGGAGCC
<b>PKS2</b> <i>Metarhizium anisopliae</i>	ACCGCCCCATCTGGCCGTGACGCCTCATAGAAGACGGAGCC



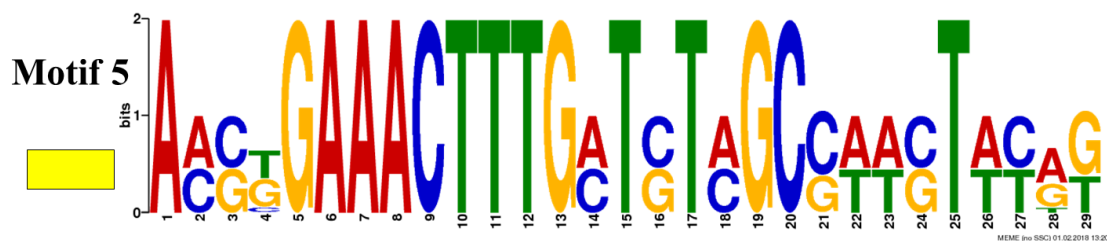
Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	TAAACGTGGTGTCAAGATACGTCCTATCCAACCTGCCACGG
<i>PKS1 Metarhizium robertsii</i>	TGAACGTGGTGTCAAGATACCTCCTATCCAACCTGCCACGG
<i>PKS1 Metarhizium guizhouense</i>	TAAACGTGGTGTCAAGATACTTCCTATCCAACCTGCCACGG
<i>PKS2 Metarhizium acridum</i>	TGCATGTGCTGTAAAGCTACATCGTATCCAACCTGTAACGG
<i>PKS2 Metarhizium guizhouense</i>	TACATAATCAGTTTCGCTTCACCGTGTGACACCTGTCGTGG
<i>PKS2 Metarhizium majus</i>	TACATAATCAGTTTCGCTTCACCGTGTGACACCTGTCGTGG
<i>PKS2 Metarhizium brunneum</i>	TACATAATCAGTTTCGCTTCACCGTGTGACACCTGTCGTGG
<i>PKS2 Metarhizium robertsii</i>	TACATAATCAGTTTCGCTTCACCGTGTGACACCTGTCGTGG
<i>PKS2 Metarhizium anisopliae</i>	TACATAATCAGTTTCGCTTCACCGTGTGACACCTGTCGTGG



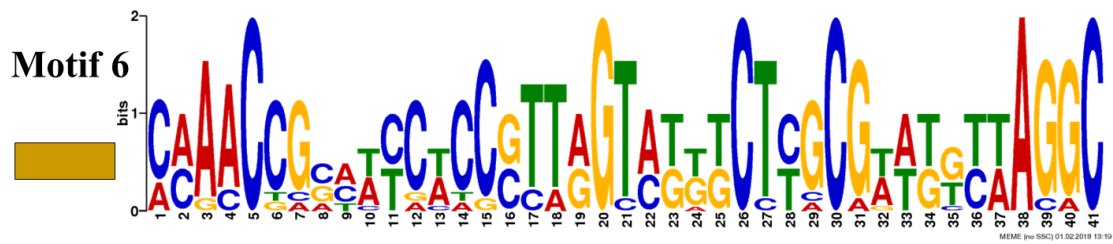
Gene Name	Sequences
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<i>PKS1 Metarhizium robertsii</i>	TGTTGCGTGGTTGCCTGTAGTCTTTGGAATGTACAAGGGCG
<i>PKS1 Metarhizium guizhouense</i>	TATTTTCATGGTTGCCTGTAGTCTTTGGAATGTAAAAGGGCG
<i>PKS1 Metarhizium majus</i>	TATTTTCATGGTTGCCTGTAGTCTTTGGAATGTAAAAGGGCG
<i>PKS1 Metarhizium album</i>	TATGTCTCAGTTGCCTGCAGTCTTTGGAATGCAAACTGTG
<i>PKS2 Metarhizium acridum</i>	TATGTCGTGGCTGCCTGCAGTCTTTGGAATGTAGGACTGCG



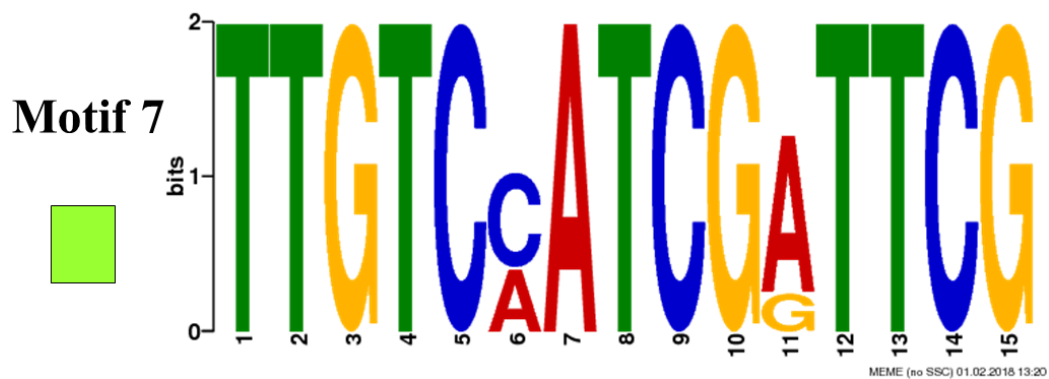
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<i>PKS1 Metarhizium robertsii</i>	CTAAAGTTCGCGTTG
<i>PKS1 Metarhizium guizhouense</i>	CTAAACTTCGCGTTG
<i>PKS1 Metarhizium majus</i>	CTAAAGTTCGCGTTG
<i>PKS2 Metarhizium acridum</i>	CTAAACTTTGCGTCA



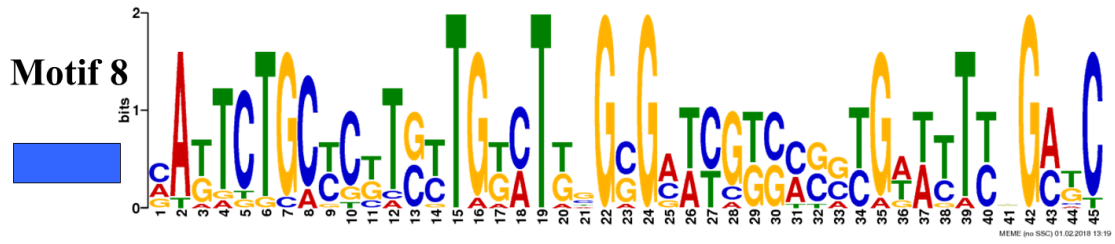
Gene Name	Sequences
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<i>PKS1 Metarhizium robertsii</i>	AAGGGAACTTTGATCTAGCCAACACTACAG
<i>PKS1 Metarhizium guizhouense</i>	AAGGGAACTTTGATCTAGCCAACACTACAG
<i>PKS1 Metarhizium majus</i>	AAGGGAACTTTGATCTAGCCAACACTACAG
<i>PKS2 Metarhizium acridum</i>	AACCGAACTTTGATCTAGCCAACACTACAG
<i>PKS2 Metarhizium guizhouense</i>	ACCTGAACTTTGCTGTCGCGTTGTTTGT
<i>PKS2 Metarhizium majus</i>	ACCTGAACTTTGCTGTCGCCTTGTTTGT
<i>PKS2 Metarhizium brunneum</i>	ACCTGAACTTTGCTGTCGCGTTGTTTGT
<i>PKS2 Metarhizium robertsii</i>	ACCTGAACTTTGCTGTCGCGTTGTTTGT
<i>PKS2 Metarhizium anisopliae</i>	ACCTGAACTTTGCTGTCGCGTTGTTTTG



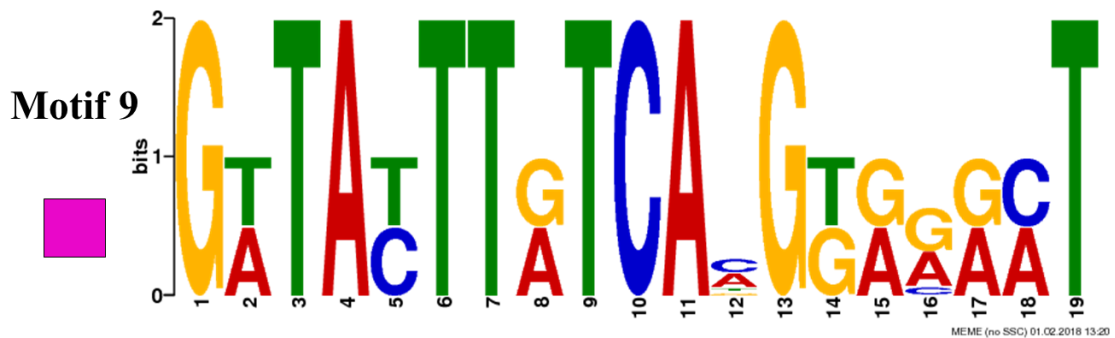
Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	CAAACCGGAATCACCCTTAGTATGTCTTGCGAATTTTAGGC
<i>PKS1 Metarhizium robertsii</i>	CAAACCGGAATCACCCTTAGCATGTCTTGCGAATTTTAGGC
<i>PKS1 Metarhizium guizhouense</i>	AAAACCGAAATCACCCCTAGTATGTCTTGCGAATTTTAGGC
<i>PKS1 Metarhizium majus</i>	AAACCGAAATCACCCCTAGTATGTCTTGCGAATTTTACGC
<i>PKS2 Metarhizium acridum</i>	AAAACCGGAATCAACGTTAGTATATCTTGCGAGATCTTAGAC
<i>PKS2 Metarhizium guizhouense</i>	CCAACCGCCTCCTCCGTTGGTCGTGCCACGTTGGCAAGGC
<i>PKS2 Metarhizium majus</i>	CCAACCGCCTCCTCCGTTGGTCGTGCTCGCGTTGGCAAGGC
<i>PKS2 Metarhizium brunneum</i>	CCGCTCCTCCGTTGGTTGGTAGTGCTCCGTTGGCAAGGC
<i>PKS2 Metarhizium robertsii</i>	CCAACCGCCTCCTCCGTAGGTCGTGCTCGCGTTGGCAAGGC
<i>PKS2 Metarhizium anisopliae</i>	CCAACCGCCTCCTCCGTAGGTCGTGCTCGCGTTGGCAAGGC



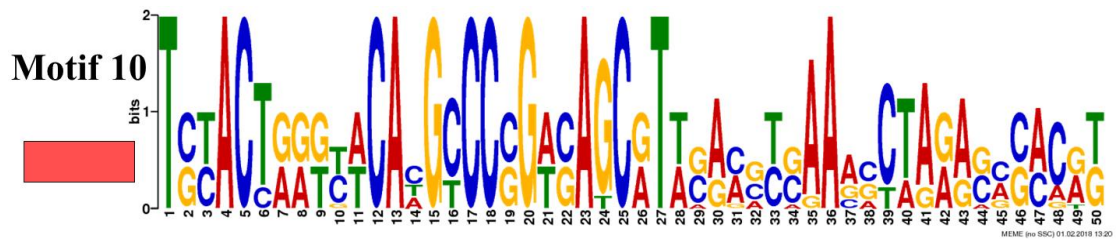
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<i>PKS1 Metarhizium robertsii</i>	TTGTCCATCGATTTCG
<i>PKS1 Metarhizium guizhouense</i>	TTGTCAATCGATTTCG
<i>PKS1 Metarhizium majus</i>	TTGTCAATCGATTTCG



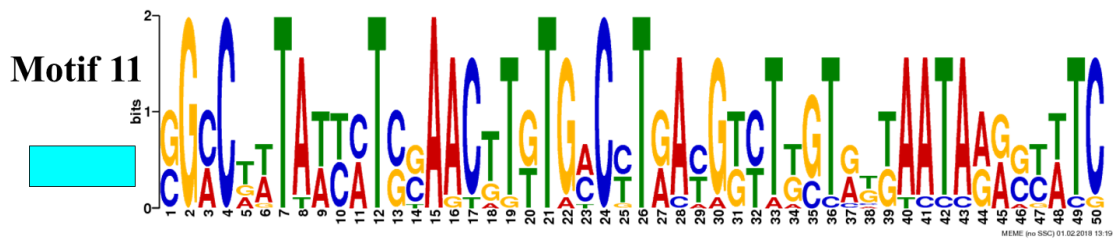
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<i>PKS1 Metarhizium robertsii</i>	GATTCTGCCCCTGTTGTCTTGGCGATCGTGCCGTGATCTTGGATC
<i>PKS1 Metarhizium guizhouense</i>	AATTCTGCCCCTGTTGTCTTAGCGATCGTGCCGTGAATTTTCGATC
<i>PKS1 Metarhizium majus</i>	AATTCTGCCCCTGTTGTCTTGGCGATCGTGCCGTGAATTTTCGATC
<i>PKS1 Metarhizium acridum</i>	AAAAC TGATGCAGTTGGCTTGGAGGTCCGCTGATAGTGA CTGAAT
<i>PKS1 Metarhizium album</i>	CATGGTGCGGCTCCTGACTAGGCGGTCATCCCATGGACTTGGACC
<i>PKS2 Metarhizium acridum</i>	ATTTTGCACTTGTGTCTGAGCGATCCTGCTGTGAATTTTCGATC
<i>PKS2 Metarhizium guizhouense</i>	CAGTCTGCTCGTCTGGATGCGGGCATGGCAGCCGTTTTCTGCGC
<i>PKS2 Metarhizium majus</i>	CAGTCTGCTCGCCCTGGATGCGGGAATGGCAGCCGTTTTCTGCGC
<i>PKS2 Metarhizium brunneum</i>	CAGTCTGCTCGTCTGGATGCGGGCATGGCAGCCGTTTTCTGCGC
<i>PKS2 Metarhizium robertsii</i>	CAGTCTGCTCGTCTGGATGTGGGCATGGCAGCCGTTTTCTGCGC
<i>PKS2 Metarhizium anisopliae</i>	CAGTCTGCTCGTCTGGATGTGGGCATGGCAGCCGTTTTCTGCGC



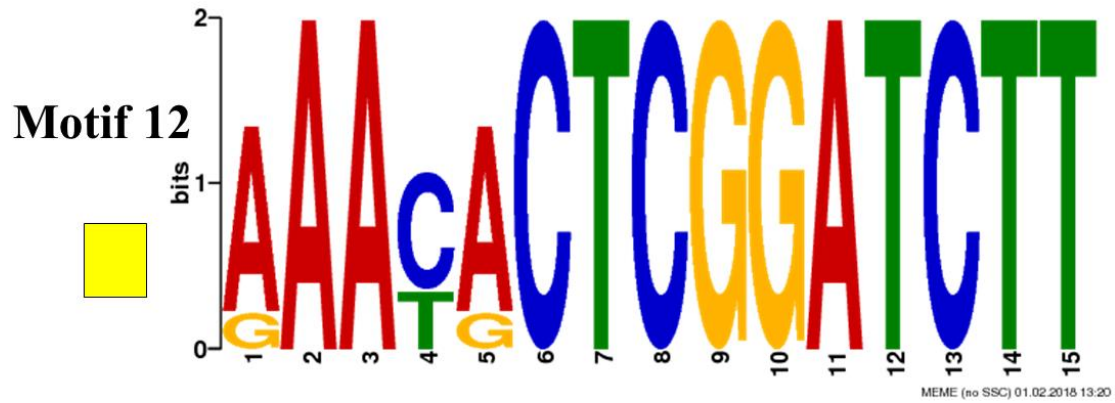
Gene Name	Sequences
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<i>PKS1 Metarhizium robertsii</i>	GTTACTTGTCACGTAGAAT
<i>PKS1 Metarhizium guizhouense</i>	GTTACTTGTCATGTAGAAT
<i>PKS1 Metarhizium majus</i>	GTTACTTGTCACGTAGAAT
<i>PKS2 Metarhizium guizhouense</i>	GATATTTATCAAGGGAGCT
<i>PKS2 Metarhizium majus</i>	GATATTTATCAGGGGCGCT
<i>PKS2 Metarhizium brunneum</i>	GATATTTATCAAGGGAGCT
<i>PKS2 Metarhizium robertsii</i>	GATATTTATCAAGGGAGCT
<i>PKS2 Metarhizium anisopliae</i>	GATATTTATCAAGGGAGCT



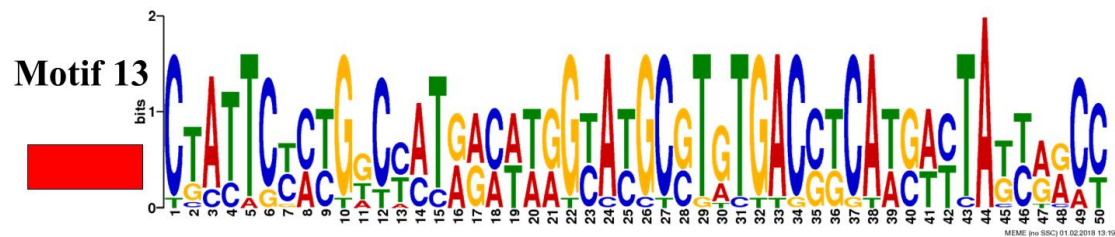
Gene Name	Sequences
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<i>PKS1 Metarhizium robertsii</i>	TCTACTAAGCACAAGCCCCGACAGCGTTGACGCCAAACCTAGACCGACGT
<i>PKS1 Metarhizium guizhouense</i>	TCTACTAAGCACATGCCCGACAGCGTTGACGCCAAACCTAGACCGACGT
<i>PKS1 Metarhizium majus</i>	TCTACCAAGCACATGCCCGACAGCGTTGACGCCAAACCTAGACCGACGT
<i>PKS1 Metarhizium album</i>	TCTACCGGGGACACGTCCCGACATCGTTAAGCTAAAAGCTAGAAACCGTT
<i>PKS2 Metarhizium guizhouense</i>	TGCACTGGTTTCACGCCCGTGAGCATACAACCTGAAGGCCAAAGGACCCAG
<i>PKS2 Metarhizium majus</i>	TGCACTGGTTTCATGCCCGTGAGCATACAACCTGGAGGCCAAAGGACCCAG
<i>PKS2 Metarhizium brunneum</i>	TGCACTGGTTTCACGCCCGTGAGCATACGACTGAAGGCCAAAGGACCCAG
<i>PKS2 Metarhizium robertsii</i>	TGCACTGGTTTCACGTCCGGTGAGCATACGAATGAACATTGAAGGCCAAAG
<i>PKS2 Metarhizium anisopliae</i>	TGCACTGGTTTCACGTCCGGTGAGCATACGAATGAACATTGAAGGCCAAAG



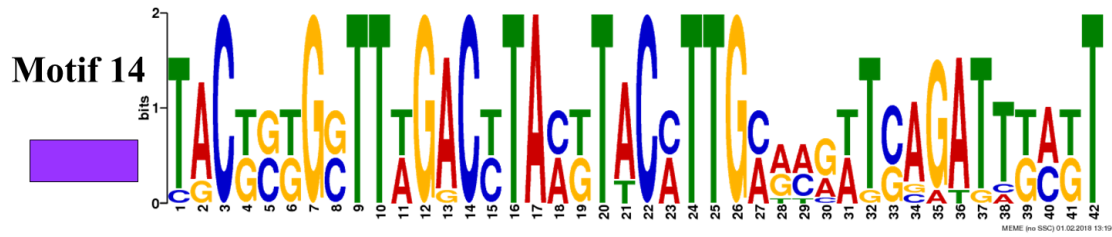
Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	GGCCGTTATTCTCGAACTGTGACCTAACGTCTTGTAGTAATAAAGTTTC
<i>PKS1 Metarhizium robertsii</i>	GGCCGTTATTCTCGAACTGTGACCTAACGTCTTGTAGTAATAAAGTTTC
<i>PKS1 Metarhizium guizhouense</i>	GGCCATTATTCTCGAACGTGTGACCTAACGTCTTCTAGTAATAAAGTTTC
<i>PKS1 Metarhizium majus</i>	GGCCATTATTCTCGAACGTGTGACCTAACGTCTTCCAGTAATAAAGTTTC
<i>PKS1 Metarhizium acridum</i>	GGCCTGTTTCATCTAGTAGGTGTCGTGAAATCAAGTCCTTCCCAGAGACG
<i>PKS2 Metarhizium acridum</i>	GGCCATTATTCTCGAACGTGTAACCTGCCGTCTTCTGATAATAAAGTTTC
<i>PKS2 Metarhizium guizhouense</i>	CGACTATAACATGCAACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATC
<i>PKS2 Metarhizium majus</i>	CGACTATAACATGCAACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATC
<i>PKS2 Metarhizium brunneum</i>	CGACTATAACATGCAACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATC
<i>PKS2 Metarhizium robertsii</i>	CGACTATAACATGCAACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATC
<i>PKS2 Metarhizium anisopliae</i>	CGACTATAACATGCAACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATC



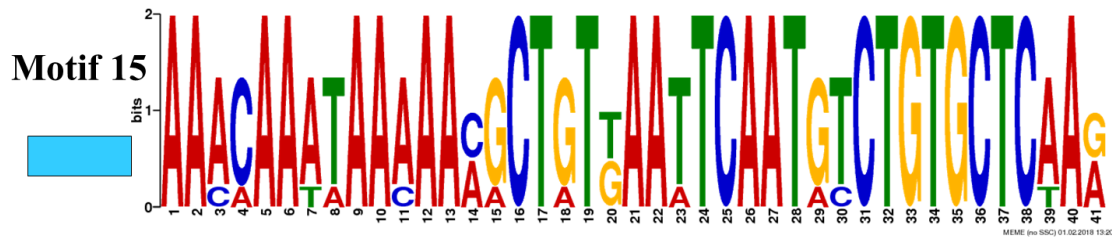
Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	AAACACTCGGATCTT
<i>PKS1 Metarhizium robertsii</i>	AAACACTCGGATCTT
<i>PKS1 Metarhizium guizhouense</i>	AAATACTCGGATCTT
<i>PKS1 Metarhizium majus</i>	AAATACTCGGATCTT
<i>PKS2 Metarhizium acridum</i>	GAACGCTCGGATCTT



Gene Name	Sequences
<i>PKS1 Metarhizium anisopliae</i>	CTATTCCTGGCCATGACATGGTATGCGTGTGACCTCATGATTATTAACC
<i>PKS1 Metarhizium brunneum</i>	CTATTCCTGGCCATGACATGGTATGCGTGTGACCTCATGATTATTAACC
<i>PKS1 Metarhizium robertsii</i>	CTATTCCTGGCCATGACATGGTATGCGTGTGACCTCATGATTATTAACC
<i>PKS1 Metarhizium guizhouense</i>	CTATTCCTGGCCCTGAAATGGTATGCGTGTGACCTCATGATTATTAACC
<i>PKS1 Metarhizium majus</i>	CTATTCCTGGCCCTGAAATGGTATGCGTGTGACCTCATGATTATTAACC
<i>PKS1 Metarhizium acridum</i>	TCACAGTCTGTTAACGAATTGTCTCCGTTCTTGCTGTTGACCACCACAC
<i>PKS1 Metarhizium album</i>	CTACTGGCTTGTCCAAAATGGCATGCGGGTGACCTCATGACTATCTGAC
<i>PKS2 Metarhizium acridum</i>	CTACTCCCTGGCCCTGGAATGGTATGTGTGTGACCTCATGATTATTAACC
<i>PKS2 Metarhizium guizhouense</i>	CGATTCTACGTCTATAGCTAAGCACGCCTGTGACGGCAACTCTAGCGGCC
<i>PKS2 Metarhizium majus</i>	CGATTCTACGTCTATAGCTAAGCACGCCTGTGACGGCAACTCTAGCGGCC
<i>PKS2 Metarhizium brunneum</i>	CTCTTCTACGACTATAGCTAAGCACGCCTATGACGGCAACTCTAGCGGCC
<i>PKS2 Metarhizium robertsii</i>	CTCTTCTACGACTATAGCTAAGCACGCCTATGACGGCAACTCTAGCGGCC
<i>PKS2 Metarhizium anisopliae</i>	CGATTCTACGTCTATAGCTAAGCACGCCTATGACGGCAACTCTAGTGGCC

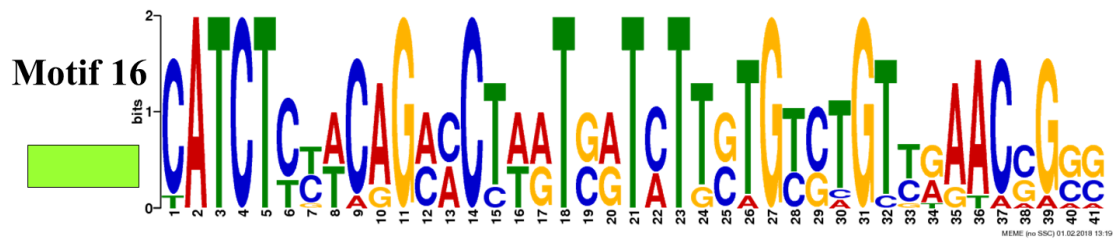


Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	TACTCGGGTTGACTTAAGTACATTGAGCAATGAGATTGCTT
<i>PKS1 Metarhizium robertsii</i>	TACTCGGGTTGACTTAAGTACATTGAGCAATGAGATTGCTT
<i>PKS1 Metarhizium guizhouense</i>	TGCTCGGGTTGACTTAAGTACATTGAGCCATGAGATTGCTT
<i>PKS1 Metarhizium majus</i>	TGCTCGGGTTGACTTAAGTACATTGATTGAGCCATGAGATT
<i>PKS2 Metarhizium guizhouense</i>	TACGGTGCTTAGACCTACTTACCTTGCAAGTTCAGATTTAGT
<i>PKS2 Metarhizium majus</i>	CACGGTGCTTAGACCTACTTACCTTGCAAGTTCAGATTTAGT
<i>PKS2 Metarhizium brunneum</i>	TACGGTGCTTAGACCTACTTACCTTGCAAGTTCGGATCTAGT
<i>PKS2 Metarhizium robertsii</i>	TACGGTGCTTAGACCTACTTTCCTTGCAAGTTCAGATTTAGT
<i>PKS2 Metarhizium anisopliae</i>	TACGGTGCTTAGACCTACTTTCCTTGCAAGTTCAGATTTAGT



Gene Name	Sequences
<i>PKS1 Metarhizium anisopliae</i>	AAACAAATAAAAACGCTGTGAATTCAATGTCTGTGCTCAAG
<i>PKS1 Metarhizium brunneum</i>	AAACAAATAAAAACGCTGTGAATTCAATGTCTGTGCTCAAG
<i>PKS1 Metarhizium robertsii</i>	AAACAAATAAAAACGCTGTGAATTCAATGTCTGTGCTCAAG
<i>PKS1 Metarhizium guizhouense</i>	AAACAAATAAAAAAGCTGTTAATTCAATGTCTGTGCTCAAA
<i>PKS1 Metarhizium majus</i>	AACAAATAAAAAAAGCTGTTAATTCAATGCCTGTGCTCAAA
<i>PKS2 Metarhizium acridum</i>	AAACAAATAACAAAACCTATTAAATCAATATCTGTGCTCTAA

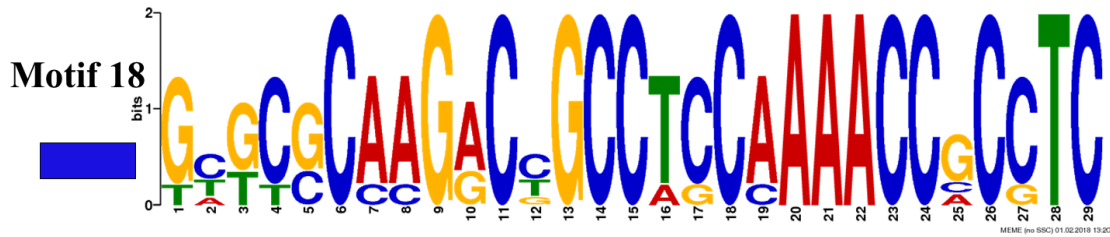




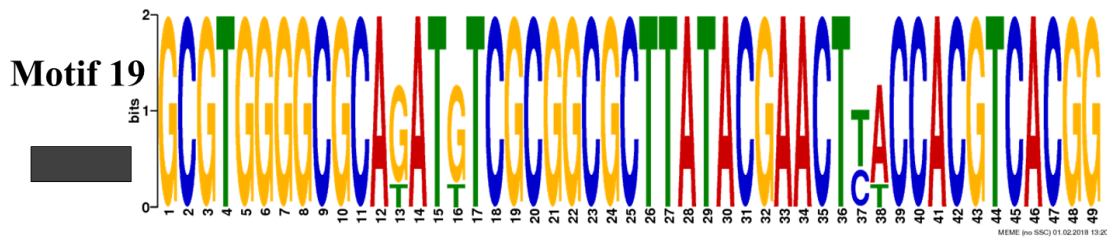
Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	CATCTCTACAGACCTAATGATCTTGTGTCTGTTGAACCGGG
<i>PKS1 Metarhizium robertsii</i>	CATCTCTACAGACCTAATGATCTTGTGTCTGTTGAACCGGG
<i>PKS1 Metarhizium guizhouense</i>	CATCTTTACAGACCTAATGATCTTGTGTCTGTTGAACCGGG
<i>PKS1 Metarhizium majus</i>	CATCTTTACGGACCCAATGATCTTGTGTCTGTTGAACCGGG
<i>PKS2 Metarhizium acridum</i>	TATCTTCAAGGACCTAATGATCTTGAGTCCGTTGGACCGGA
<i>PKS2 Metarhizium guizhouense</i>	CATCTCCTCAGCACTTGTTCGTATGCTGCGTGTCAAAGGCC
<i>PKS2 Metarhizium majus</i>	CATCTCCTCAGCACCTGTCGTCTGCTGCCAGCGTGTCAAAG
<i>PKS2 Metarhizium brunneum</i>	CATCTCGTCAGCACTTGTTCGTATTCTGCGTGTCAAACGGCC
<i>PKS2 Metarhizium robertsii</i>	CATCTCCTCAGCACTTGTTCGTATTCTGTGTGTCAAACGGCC
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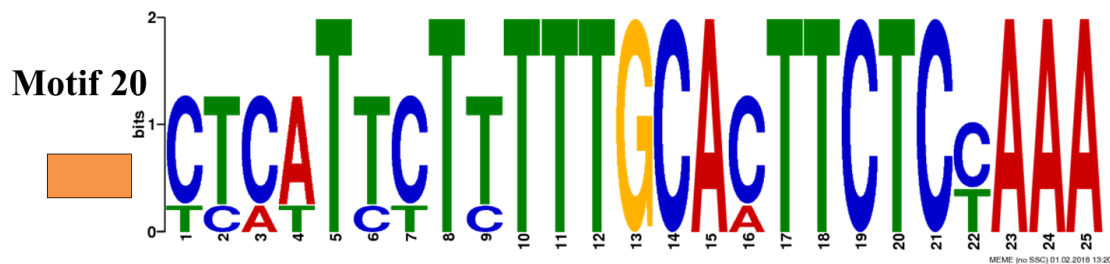
Gene Name	Sequences
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<i>PKS1 Metarhizium brunneum</i>	GCAGCCTTCGGATCA
<i>PKS1 Metarhizium robertsii</i>	GCAACCTTCGGATCA
<i>PKS1 Metarhizium guizhouense</i>	GCAACCTTCGGATCA
<i>PKS1 Metarhizium majus</i>	GCAACCTTCGGATCA
<i>PKS1 Metarhizium album</i>	GAAACCTTGGTACCA
<i>PKS2 Metarhizium acridum</i>	GCAACGTTTCAGATCA



Gene Name	Sequences
<i>PKS1 Metarhizium album</i>	TCTTCCCCGACGGCCAGCCAAACCCCGTC
<i>PKS2 Metarhizium guizhouense</i>	GTGCGCAAGACTGCCTCCAAAACCGCCTC
<i>PKS2 Metarhizium majus</i>	GTGCGCAAGACTGCCTCCAAAACCGCCTC
<i>PKS2 Metarhizium brunneum</i>	GAGCCAAGACCGCCTCCAAAACCACCTC
<i>PKS2 Metarhizium robertsii</i>	GCGCGCAAGGCCGCCTCCAAAACCGCCTC
<i>PKS2 Metarhizium anisopliae</i>	GCTCGCAAGGCCGCCTCCAAAACCGCCTC



Gene Name	Sequences
<i>PKS2 Metarhizium guizhouense</i>	GCGTGGGGCGCAGATGTCGGGGCGCTTATACGAACTTACCACGTCACGG
<i>PKS2 Metarhizium majus</i>	GCGTGGGGCGCATATGTCGGGGCGCTTATACGAACTTACCACGTCACGG
<i>PKS2 Metarhizium brunneum</i>	GCGTGGGGCGCAGATTTTCGGGGCGCTTATACGAACTTTCACGTCACGG
<i>PKS2 Metarhizium robertsii</i>	GCGTGGGGCGCAGATGTCGGGGCGCTTATACGAACTCACCACGTCACGG
<i>PKS2 Metarhizium anisopliae</i>	GCGTGGGGCGCAGATGTCGGGGCGCTTATACGAACTCACCACGTCACGG



Gene Name	Sequences
<i>PKS2 Metarhizium guizhouense</i>	CTCATTCTTTTGGCACTTCTCCAAA
<i>PKS2 Metarhizium majus</i>	TCATTCTTCTTTGGCACTTCTCCAAA
<i>PKS2 Metarhizium brunneum</i>	CTCATTCTTTTGGCACTTCTCTAAA
<i>PKS2 Metarhizium robertsii</i>	CTCATTCTTTTGGCACTTCTCTAAA
<i>PKS2 Metarhizium anisopliae</i>	CTCATTCTTTTGGCAATTCTCCAAA

## **Part 2: Promoter sequences of *Pks1* and *Pks2* genes**

### **>MAA\_PKS1 [Metarhizium robertsii ARSEF 23]**

GCAAGTTTACTTTGGCAATTGTAAAGCACATTTCTAGCAAATAGAGTTTGAACGTGGTGTCAAGATACCTC  
CTATCCAACCTGCCACGGTGTGCTTGTGTTGCGTGGTTGCCTGTAGTCTTTGGAATGTACAAGGGCGCTA  
AAGTTCGCGTTGGACAAGGGAAACTTTGATCTAGCCAACTACAGCAAACCGGAATCACCTTAGCATGTCTT  
GCGAATTTTAGGCTATTGTCCATCGATTCTGATTCTGCCCTTGTGCTTGGCGATCGTGCCGTGATCTTGGG  
TCCATTCTACGTGACAAGTAACTTCTGCTATCTACTAAGCACAAGCCCCGACAGCGTTGACGCCAAACCTAGA  
CCGACGTTCCAGGCCGTTATTCTCGAACTTGTGACCTAACGTCTTGTAGTAATAAAGTTTCAAACACTCGGAT  
CTTACTATTCCCTGGCCATGACATGGTATGCGTGTGACCTCATGATTATTAAGTGTGACCACTTGGTAAGCAAT  
CTCATTGCTCAATGTACTTAAGTCAAACCCGAGTAAAACAAATAAAAACGCTGTGAATTCAATGTCTGTGCTC  
AAGCATCTCTACAGACCTAATGATCTTGTGTCTGTTGAACCGGGTGCAACCTTCGGATCAAC

### **>MAN\_PKS1 [Metarhizium anisopliae ARSEF 549]**

GCAAGTTTACTTCGATAATTGTAAAGCACATTTCTAGCAAATAGAGTTTAAACGTGCTGTAAAGATACGTCC  
TGTCCAACCTGCCACGGTGTGCTTGTGTTTCGTGGTTGCCTGTAGTCTTTGGAATGTACAAGGGCGCTAA  
AGTTCGCGTTGGACAAGGGAAACTTTGATCTAGCCAACTACAGCAAACCGGTATCACCTTAGTATGTCTCG  
CGAATGTTAGGCTATTGTCCATCGTTCTGTGATTCTGCCCTTGTATCTTGGCGATCGTGCCGTGAACCTGGAT  
CCATTCTACGTGACAAGTAACTTCTGCCATCTACTAAGCACAAGCCCCGACAGCGTTGACGCCAAACCTAGA  
CCGACGTTCCAGGCCGTTATTCTCGAACTTGTGACCTAACGTCTTGTAGTAATAAAGTTTCAAACACTCGGAT  
CTTACTATTCCCTGGCCATGACATGGTATGCGTGTGACCTCATGATTATTAACCGTGACCACTTGGTAAGCAAT  
CTCATTGCTCAATGTACTTAAGTCAAACCCGAGTAAAACAAATAAAAACGCTGTGAATTCAATGTCTGTGCTC  
AAGCATCTCTACAGACCTAATGATCTTGTGTCTGTTGAACCGGGTGCAACCTTCGGATCAAC

### **>MBR\_PKS1 [Metarhizium brunneum ARSEF 3297]**

GCAAGTTTACTTTGGTAATTGTAAAGCACATTTCTAGCAAATAGAGTTTAAACGTGGTGTCAAGATACGTCC  
TATCCAACCTGCCACGGTGTGCTTGTGTTTCGTGGTTGCCTGTAGTCTTTGGAATGTACAAGGGCGCTAA  
AGTTCGCGTTGGACAAGGGAAACTTTGATCTAGCCAACTACAGCAAACCGGAATCACCTTAGTATGTCTTG  
CGAATTTTAGGCTATTGTCCATCGATTCTGATTCTGCCCTTGTGCTTGGCGATCGTGCCGTGAACCTGGAT  
CCATTCTACGTGACAAGTAACTTCTGCTATCTACTAAGCACAAGCCCCGACAGCGTTGACGCCAAACCTAGA  
CCGACGTTCCAGGCCGTTATTCTCGAACTTGTGACCTAACGTCTTGTAGTAATAAAGTTTCAAACACTCGGAT  
CTTACTATTCCCTGGCCATGACATGGTATGCGTGTGACCTCATGATTATTAACCGTGACCACTTGGTAAGCAAT  
CTCATTGCTCAATGTACTTAAGCCAAACCCGAGTAAAACAAATAAAAACGCTGTGAATTCAATGTCTGTGCTC  
AAGCATCTCTACAGACCTAATGATCTTGTGTCTGTTGAACCGGGTGCAACCTTCGGATCAAC

### **>MGU\_PKS1 [Metarhizium guizhouense ARSEF 977]**

CAAGTTTACTTTGCTAATTGCACAACACATCTCGTAGCAAATAGAGTTTAAACGTGGTGTCAAGATACTTCCTA  
TCCAACCTGCCACGGTGTGCTTACTTATTTTCATGGTTGCCTGTAGTCTTTGGAATGTAAAAGGGCGCTAACT  
TCGCGTTGGATAAAGGGAAACTTTGATCTAGCCAACTACAGAAAACCGAAATCACCCCTAGTATGTCTTGGC  
AATTTTAGGCTATTGTCAATCGATTTCGAATTCTGCCCTTGTGCTTACGATCGTGCCGTGAATTCGATCC  
ATTCTACATGACAAGTAACTTCTGCATCTACTAAGCACATGCCCCGACAGCGTTGACGCCAAACCTAGACCGA  
CGTTCCAGGCCATTATTCTCGAACGTGTGACCTAACGTCTTCTAGTAATAAAGTTTCAAATACTCGGATCTTAC  
TATCCCTGGCCCTGAAATGGTATGCGTGTGACCTCATGATTATTAAGTGTGACCGGCCAGAGGGTAAGCAATCTC

ATGGCTCAATGTAAGTCAAACCCGAGCAAACAAATAAAAAAGCTGTTAATTCAATGTCTGTGCTCAA  
CATCTTTACAGACCTAATGATCTTGTGTCTGTTGAACCGGGTGCAACCTTCGGATCAAC

**>MAJ\_PKS1 [Metarhizium majus ARSEF 297]**

AGAGCACTCAAATCATAGCGTGGCAATAAAGCTTCCAGCAAGTTTACTTTGGTAATTGCAACACACATCTCGT  
AGCAAATAGAGTTTTAAACATATTTTCATGGTTGCTGTAGTCTTTGGAATGTAAAAGGGCGCTAAAGTTCCG  
GTTGGATAAAGGGAAACTTTGATCTAGCCAACCTACAGAAAACCGAAATCACCCCTAGTATGTCTTGCGAAT  
TTTACGCTATTGTCAATCGATTTCGAATTCTGCCCTTGTGTCTTGGCGATCGTGCCGTGAATTCGATCCATT  
CTACGTGACAAGTAACCTTCTGCATCTACCAAGCACATGCCCCGACAGCGTTGACGCCAACCTAGACCGACG  
TTCCAGGCCATTATTCTCGAACGTGTGACCTAACGTCTTCCAGTAATAAAGTTTCAAATACTCGGATCTTACTA  
TTCCCTGGCCCTGAAATGGTATGCGTGTGACCTCATGATTATTAAGTCCACCAGAAGGGTAAGCAATCTCAT  
GGCTCAATCAATGTAAGTCAAACCCGAGCAAACAAATAAAAAAGCTGTTAATTCAATGCCTGTGCT  
CAAACATCTTACGGACCCAATGATCTTGTGTCTGTTGAACCGGGTGCAACCTTCGGATCAAC

**>MAC\_PKS1 [Metarhizium acridum CQMa 102]**

CAAAACAAATCACATCTTGAAGCAAACAGAGTTTGCATGTGCTGTTAAGCTACATCGTATCCAACCTGTAACG  
GTGTGCTTACTTATGTCGTGGCTGCCTGCAGTCTTTGGAATGTAGGACTGCGCTAAACTTTGCGTCAGATAAC  
CGAAACTTTGATCTAGCCAACCTACAGAAAACCGGAATCAACGTTAGTATATCTTGCAGATCTTAGACCATTCT  
GAATTGCGCTATTTGCACTTTGTTGTCTGAGCGATCCTGCTGTGAATTCGATCCATTGACTGTTTTTGACA  
TGACATGTAACCTTCTGCATCCACCAACAGCGTTAACCCAAAGTTAGACCGACGTTCCAGGCCATTATTCTCGA  
ACGTGTAACCTGCCGCTTCTGATAATAAAGTTTGAACGCTCGGATCTTGTACTCCCTGGCCCTGGAATGG  
TATGTGTGTGACCTCATGATTATTAAGTACGGCCACTTTTTAAGCAATCTCATCGCTGGAAGCGGATTTGTAA  
TCTTTCTGCAGTACTTAAGTCAACTCTAAGGAAAACAAATAACAAACTATTAATCAATATCTGTGCTCAAT  
ATCTTCAAGGACCTAATGATCTTGTGAGTCCGTTGGACCGGACGCAACGTTTCAGATCAAC

**>MAM\_PKS1 [Metarhizium album ARSEF 1941]**

ACTTGCCGGTCCGATGCTTACATATGCTCAGTTGCCTGCAGTCTTTGGAATGCAAACTGTGGCTTTTAAAG  
GTTACAGTGGCCTGCTGTCTTTGGAATGCACAACCGCGTTGTTAAAGTTGACCTGAATGGGCGAAACTTT  
GAATAGATGGAGCCAAGAAGGAAAAATCCCCGAACACTCCACGGCACGCCGTGTACATTCCGGGCAAGA  
AAAGTCCATTGCCATGGTGC GGCTCCTGACTAGGCGGTCATCCCATGGACTTGGACCACTCTGCGTGAAT  
ATACAACCTTCTGTTTCTACCGGGGACACGTCCCGACATCGTTAAGCTAAAAGCTAGAAACCGTTCTAGACCA  
CTCTTCCCGACGGCCAGCCAAACCCGCTGTGGTACCAAGGTTTCAAACGCTTCGCTTTCACTACTGGCTTG  
TCCAAAATGGCATGCGGGTGACCTCATGACTATCTGACCATGGACAAAGTAATCTCGCATTATATAGTTTGT  
CCTAGTACTTAAGTAAAAGTAAAGCAAGAAAAGTGAATTGCGGCGTGTGAATACATATCTTGTATCCT  
CTAGGGCCCAACTACCTCGCGTCTGTACATTGTTGGCTTCGAGTCTCGACGCCTGCCTGCATCAAC

**>MAA\_PKS2 [Metarhizium robertsii ARSEF 23]**

TGTTGATATTTATCAAGGGAGCTGCACGTACGGTGCTTAGACCTACTTTCCTTGCAAGTTCAGATTTAGTGCG  
TGGGGCGCAGATGTCGCGGCGCTTATACGAACTACCACGTACGGCGCTTCGTATACAAACAACGCGACA  
GCAAAGTTTCAGGTGCGGCGCTGAAAACGGCTGCCATGCCACATCCAGGACGAGCAGACTGCCTACATAAT  
CAGTTTGCCTCACCGTGCAGACCTGTCGTGGACTAACCTGATCCAACCGCCTCCTCGTAGGTCGTGCTC  
GCGTTGGCAAGGCTGAGCAACATGCGCGCAAGGCCGCTCCAAAACCGCCTCCTGCACTGGTTTACGTCC  
GGTGAGCATACGAATGAACATTGAAGGCAAAGGACCCAGTGTGCGGTGTGCCGGCCGCTAGAGTTGCCG  
TCATAGGCGTGCTTAGCTATAGTCGTAGAAGAGAATCGACAGGGTTGGCTCCGCTTCTATATGCTGTACGG

CCGGATGGGGCGGTGGCCGTTTGACACACAGAATACGACAAGTGCTGAGGAGATGACGACTATAACATGC  
AACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATCTTTCCTCATTCTTTTTGCACTTCTCTAAACCTTGCGAC

**>MAN\_PKS2 [Metarhizium anisopliae ARSEF 549]**

TTTTGTTGATATTTATCAAGGGAGCTGCACGTACGGTGCTTAGACCTACTTTCCTTGCAAGTTCAGATTTAGT  
GCGTGGGGCGCAGATGTCGCGGCGCTTATACGAACTCACACGTACGGCGCTTCGTATACAAAACAACGC  
GACAGCAAAGTTTCAGGTGCGGCGCTGAAAACGGCTGCCATGCCACATCCAGGACGAGCAGACTGCCTAC  
ATAATCAGTTTCGCTTACCCTGTCAGACCTGTCGTGGGCTAACCTGATCCAACCGCTCCTCCGTAGTTCGT  
GCTCGCGTTGGCAAGGCTGAGCAACATGCTCGCAAGGCCCTCCAAAACCGCTCCTGCACTGGTTTCAC  
GTCCGGTGAGCATAACGAATGAACATTGAAGCAAAGGACCCAGTGTTCGGTGTACCGGCCACTAGAGTTG  
CCGTCATAGGCGTGTAGCTATAGACGTAGAATCGACAGGGTTGGCTCCGTCTTCTATGAGGCGTACGGC  
CAGATGGGGCGGTGGCCGTTTGACACGCAGAATACGACAAGTGCTGAGGAGATGACGACTATAACATGCA  
ACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATCTTTCCTCATTCTTTTTGCAATTCTCCAAAACCTTGCGAC

**>MBR\_PKS2 [Metarhizium brunneum ARSEF 3297]**

TTTTGTTGATATTTATCAAGGGAGCTGCACGTACGGTGCTTAGACCTACTTACCTTGCAAGTTCGGATCTAGT  
GCGTGGGGCGCAGATTTTCGCGGCGCTTATACGAACTTTCACGTACGGTGCTTCGTATACAAAACAACGC  
ACAGCAAAGTTTCAGGTGCGGCGCAGAAAACGGCTGCCATGCCCGCATCCACGACGAGCAGACTGCCTACAT  
AATCAGTTTCGCCTACCCTGTCAGACCTGTCGTGGACTAACCTGATCCAACCGCTCCTCCGTTGGTTGGTA  
GTGCTCCCGTTGGCAAGGCTGAGCAACATGAGCCAAAGACCGCTCCAAAACCGCTCCTGCACTGGTTTC  
ACGCCCGGTGAGCATAACGACTGAAGCAAAGGACCCAGTGTTCGGTGTGCCGGCCGCTAGAGTTGCCGT  
CATAGGCGTGTAGCTATAGTCGTAGAAGAGAATCGACAGGGTTGGCTCCGTCTGGTATACACCGTACGG  
CCGGATGGGGCGCTGGCCGTTTGACACGCAGAATACGACAAGTGCTGACGAGATGACGACTATAACATGCA  
ACTTTTGCCTTGATGGTTGGTGTGAATAGGCCATCTTTCCTCATTCTTTTTGCACTTCTCTAAACCTTGCGAC

**>MGU\_PKS2 [Metarhizium guizhouense ARSEF 977]**

GACTTGGCTTTTGTGATATTTATCAAGGGAGCTGCACGTACGGTGCTTAGACCTACTTACCTTGCAAGTTCA  
GATTTAGTGCGTGGGGCGCAGATGTCGCGGCGCTTATACGAACTTACCACGTACGGTGCTTCGTATACAAA  
CAACGCGACAGCAAAGTTTCAGGTGCGGCGCAGAAAACGGCTGCCATGCCCGCATCCAGGACGAGCAGACT  
GCCTACATAATCAGTTTCGCTTACCCTGTCAGACCTGTCGTGGACTAACCTGATCCAACCGCTCCTCCGTT  
GGTCGTGCCACGTTGGCAAGGCTGAGCAACATGTGCGCAAGACTGCCTCCAAAACCGCTCCTGCACTGG  
TTTACGCCCGGTGAGCATACAACTGAAGCAAAGGACCCAGTGTTCGGTGTACCGGCCGCTAGAGTTGC  
CGTCACAGGCGTGTAGCTATAGACGTAGAATCGACAGGGTTGGCTCCGTCTTCTATACACCGTACGGCC  
AGATGGGGCGGTGGCCTTTTGACACGCAGCATAACGACAAGTGCTGAGGAGATGACGACTATAACATGCAAC  
TTTTGCCTTGATGGTTGGTGTGAATAGGCCATCTTTCCTCATTCTTTTTGCACTTCTCCAAAACCTCGCGAC

**>MAJ\_PKS2 [Metarhizium majus ARSEF 297]**

GGCTTTTGTGATATTTATCAGGGGCGCTGCACGCACGGTGCTTAGACCTACTTACCTTGCAAGTTCAGATTT  
AGTGCGTGGGGCGCATATGTCGCGGCGCTTATACGAACTTACCACGTACGGTGCTTCGTATACAAAACAAGG  
CGACAGCAAAGTTTCAGGTGCGGCGCAGAAAACGGCTGCCATTCCCGCATCCAGGGCGAGCAGACTGCCTA  
CATAATCAGTTTCGCTTACCCTGTCAGACCTGTCGTGGACTAACCTGATCCAACCGCTCCTCCGTTGGTC  
GTGCTCGCGTTGGCAAGGCTGAGCAACACGTGCGCAAGACTGCCTCCAAAACCGCTCCTGCACTGGTTTC  
ATGCCCGGTGAGCATACAACTGGAGGCAAAGGACCCAGTATTGCGGTGTACCGGCCGCTAGAGTTGCCGTC  
ACAGGCGTGTAGCTATAGACGTAGAATCGGCAGGGTTGGCTCCGTCTTCTATACACCGTACGGCCAGAT

GGGGCGGTGGCCTTTGACACGCTGGCAGCAGACGACAGGTGCTGAGGAGATGACGACTATAACATGCAAC  
TTTTGCCTTGATGGTTGGTGTGAATAGGCCATCTTTCCTCATTCTTCTTTGCACTTCTCCAAAACCTCGCGAC

**>MAC\_PKS2 [Metarhizium acridum CQMa 102]**

CGGTTTCATCATTTGGCCTGTTTCATCTAGTAGGTGTCGTGAAATCAAGTCCTTCCCAGAGACGGCTGTACTAA  
CAAGCTCAGCAAATATGGCAACGCGGGATGCCGCTACCCCAATGGGCAAGATATCCATGTGGCGGGAATGT  
GCGTGGGCTCGTTGGCAGCAGCAGCAGTCAGTTGCTCCCGCTCCATAGGAGATCTAATAATAACTGGCATCG  
TTGCCATCCGGGCCGCCTTGAGAGTAGGCCAGCGGGCCCATCAGGCGGCCCTGCTCATCAGCAATAGAGCA  
GTACCTCCCACACATTGGTTCGTACGCCGTTTCAACCGAGTCACTGCCGCTGGACTTGATAACCGATGCACTT  
GCAAAGTTTGCAGAAAACATGGTATAGTGTGGTGGTCAACAGCAAGAACGGAGAACAATTCGTTAACAGA  
CTGTGACAGGATACCTCTCCTAAGTAATCCCTATATCAGCGCTATCGGTTTAGATTAGTCACTATCAGCGG  
ACCTCCAAGCCAACCTGCATCAGTTTTGGCAAGAAAACACACCTTCACACAAACCAATCTCTATCCCCATCTGG  
GCTCCATATCATGGACCTCACATTTTTGGGGATATTGATATCGAAACCATTATAAAGAGTCTACATCCA