

Additional File 10: Overview of the BGCs in *M. anisopliae* E6, their domain structures, and conservation among six *Metarhizium* species.

Cluster/ Backbone gene	MAR	MAC	MAM	MAJ	MGU	MBR	Product/Alt. names	Locus tag	48hCx48hl	48hlx144hl	Backbone gene domains
MaNRPS1							Destruxin	MANI_024437	Up	Down	A C A E C A C A C A M C A M C
MaNRPS2							Serinocyclin	MANI_020119	ND	Down	A C C A C A C A C A E C A C A E C A C
MaNRPS3								MANI_011572	NA	NA	C A E C A
MaNRPS4								MANI_020971	NA	NA	A C A E C
MaNRPS5								MANI_004659	NA	NA	C A C
MaNRPS6								MANI_004647	ND	ND	A C A C A E C A C A E C A C A E C A C
MaNRPS7								MANI_010631	Up	ND	C A C
MaNRPS8							Metachelin	MANI_003049	Down	NA	A C C
MaNRPS9							Ferricrocin	MANI_117325	Up	ND	C A C C C
MaNRPS10								MANI_003902	NA	NA	A C A E C C
MaNRPS11								MANI_006947	ND	Down	A C A C A E C A C A E C A E C A C A C
MaNRPS12								MANI_006155	NA	NA	A E C A C A C A E C
MaNRPS13								MANI_008843	NA	NA	A C A C A C A
MaPKS1							Tropolone /citrinin-related compound	MANI_014762	Up	ND	KS AT AC MT TD
MaPKS2							Aurovertin	MANI_004781	NA	NA	KS AT DH MT KR AC
MaPKS3								MANI_011575	NA	NA	KS AT DH AC TE
MaPKS4								MANI_110051	NA	NA	KS AT DH MT ER KR
MaPKS5*								MANI_027199	NA	NA	KS DH AT DH
MaPKS6*								MANI_010100	NA	NA	KS AT DH
MaPKS7								MANI_020125	NA	NA	KS AT DH MT ER KR AC
MaPKS8							MrPKS2	MANI_028434	NA	NA	KS AT DH AC AC TE
MaPKS9							Viridicatumtoxin	MANI_003768	NA	NA	KS AT AC
MaPKS10								MANI_019155	Down	Down	A AC KS AT KR AC TD
MaPKS11								MANI_006783	NA	NA	KS AT DH MT KR AC
MaPKS12								MANI_110978	NA	NA	KS AT DH MT ER KR
MaPKS13								MANI_006250	ND	ND	KS AT DH MT ER KR AC
MaPKS14								MANI_018879	Up	Down	KS AT DH AC

MaPKS15							MANI_021529	NA	NA	KS AT DH ER KR AC
MaPKS16							MANI_029455	NA	NA	KS AT DH ER KR AC
MaPKS17							MANI_025650	Up	Down	KS AT DH ER KR
MaPKS18							MANI_010451	Up	Down	KS AT AC
MaPKS19							MANI_012054	ND	ND	KS AT DH ER KR AC
MaPKS20						MrPKS1	MANI_122426	NA	NA	KS AT AC AC TE
MaPKS21							MANI_006397/ MANI_006388	NA	NA	ER KR AC DH ER
MaPKS22							MANI_017297	ND	ND	AT KS AC
MaNRPS-PKS1						NG39x	MANI_020791	Up	Down	KS AT DH MT KR AC C A TD
MaNRPS-PKS2						Pseurotin-related compound	MANI_018878	Up	Down	KS AT DH KR C A TD
MaNRPS-PKS3						Xenolozoyenone-related compound	MANI_023437	Down	Down	KS AT DH ER KR C A TD
MaNRPS-PKS4							MANI_022470/ MANI_022473	ND	ND	KS AT DH MT ER KR AC C A G
MaNRPS-PKS5							MANI_006158	NA	NA	KS AT DH MT KR C A
MaNRPS-PKS6							MANI_010456/ MANI_121659	NA	NA	A C A KS AT DH MT ER
MaNRPS-PKS7							MANI_001951/ MANI_001950	NA	NA	AT DH MT KR C A TD
MaTERP1						Helvolic acid	MANI_010532/ MANI_010527/ MANI_010530/ MANI_010531	Up	Down	
MaTERP2						Lanosterol cyclase	MANI_002110	Up	ND	
MaTERP3							MANI_027216	NA	NA	
MaTERP4							MANI_116096	ND	ND	
MaTERP5						GGPP synthase	MANI_024139	ND	ND	
MaTERP6							MANI_020049	ND	ND	
MaTERP7							MANI_020253	NA	NA	
MaTERP8							MANI_027397	NA	NA	
MaTERP9							MANI_022959	ND	Down	
MaIND1							MANI_023817	Up	Down	
MaIND2							MANI_004342	NA	NA	
MaIND3							MANI_024963	NA	NA	
MaSID1							MANI_004303	NA	NA	
MaIND-TERP1						Terpendole E/ Lolitrein-related	MANI_011022	NA	NA	

							compound				
MaIND-NRPS1							Elymoclavine/ Ergovaline-related compound	MANI_029655	NA	NA	A C TD
MaIND-NRPS2								MANI_122478	NA	NA	C A C
MaTERP-PKS1								MANI_006324	NA	NA	KS AT MT
MaOTHER1								MANI_007147	Down	ND	
MaOTHER2								MANI_109737	ND	ND	
MaOTHER3								MANI_004951	ND	ND	
MaOTHER4								MANI_019946	ND	ND	
MaOTHER5								MANI_018009	NA	NA	
MaOTHER6								MANI_117972	ND	ND	
MaOTHER7								MANI_000865	NA	NA	
MaOTHER8								MANI_000852	Up	ND	
MaOTHER9								MANI_024071	NA	NA	
MaOTHER10								MANI_011653	NA	NA	
MaOTHER11								MANI_026624	Down	ND	
MaOTHER12								MANI_010482	Up	Down	
MaOTHER13								MANI_025168	Up	ND	
MaOTHER14								MANI_122490	NA	NA	
TOTAL= 73	69	35	30	61	64	70					
A Adenylation				 Peptidyl carrier protein			AT Acyltransferase		ER Enoylreductase		TD Thioester reductase
C Condensation				M N-Methylation			AC Acyl carrier protein		MT Methyltransferase O- or C-		KR Ketoreductase
E Epimerization				KS Keto-synthase			DH Dehydratase		TE Thioesterase		

M. robertsii ARSEF23 (MAR), *M. acridum* CQMa102 (MAC), *M. album* ARSEF1941 (MAM), *M. majus* ARSEF297 (MAJ), *M. guizhouense* ARSEF977 (MGU) and *M. brunneum* ARSEF3297 (MBR). Known products as well as alternative names and locus tags of the backbone genes are also listed. Relative changes in expression levels were estimated after 48 hours for the control condition (hC) and both 48 and 144 hours for infection conditions (hI). NA: Not Available. ND: No Difference. * The backbone gene appears to be truncated.