

B

iii.

Frame 1

<i>Aspergillus_oryzae</i>	GGG	GGG	GGG	GTT	CCC	ATA	TTG
<i>Trichophyton_touarsense</i>	GGT	OCT	OCT	ATA	ATA	TTG	TTG
<i>Myceliophthora_thermophila</i>	GGG	GGG	CCT	GTT	ATA	TTG	TTG
<i>Gaeumannomyces_graminis</i>	GGG	GGG	OCT	ATA	ATA	TTG	TTG
<i>Daldinia_escscholzii</i>	GGG	GGG	GGG	OCT	ATA	TTG	TTG
<i>Trichoderma_atroviride</i>	GGG	GGG	GGG	OCT	ATA	TTG	TTT
<i>Fusarium_oxysporum</i>	AGG	OCT	OCT	GTT	ATA	TTG	TTT
<i>Thielavia_terrestris</i>	GGG	GGG	GGG	GTT	ATA	TTG	TTT
<i>Claviceps_fusiformis</i>	GGT	OCT	OCT	ATA	ATA	TTG	TTT
<i>Periglandula_ipomoeae</i>	GGG	OCT	GGG	GGG	CCC	TTG	TTG
<i>Neosartorya_fischeri</i>	GGT	GGG	OCT	GTT	ATA	TTG	TTT
<i>Ophiostoma_piliferum</i>	GGT	OCT	OCT	ATA	ATA	TTG	TTT
<i>Gibberella_zeae</i>	GGG	GGG	GGG	GGG	GGG	ATA	TTG
<i>Beauveria_bassiana</i>	GGG	GGG	GGG	GGG	GGG	ATA	TTG
<i>Cordyceps_militaris</i>	GGG	GGG	GGG	GTT	CCC	ATA	TTG
<i>Arthroderma_benhamiae</i>	GGT	OCT	OCT	ATA	ATA	TTG	TTT
<i>Aspergillus_niger</i>	GGG	GGG	GGG	GGG	CCC	ATA	TTT
<i>Verticillium_dahliae</i>	GGG	GGG	GGG	GTT	ATA	TTA	TTG
<i>Fusarium_pseudograminearum</i>	GGG	GGG	GGG	GGG	GGG	ATA	TTG
<i>Tuber_melanosporum</i>	GAG	GAA	GAA	GAG	ATA	ATT	CTT
<i>Ophiostoma_novo-ulmi</i>	GGT	GGG	GGG	GGG	GGG	GGG	GGG
<i>Ajellomyces_dermatitidis</i>	OCT	GGG	GGG	GTT	ATA	TTG	TTT
<i>Phaeosphaeria_nodorum</i>	GAC	OCT	GGG	GGG	GGG	GGG	GGG
<i>Hypocrea_jecorina</i>	GGG	GGG	GGG	GGG	GGG	TTG	TTT
<i>Colletotrichum_higginsianum</i>	GGG	GGG	GGG	GGG	GGG	TTG	TTT
<i>Amorphotheca_resinae</i>	GGG	OCT	GAA	GGG	GGG	GGG	GGG
<i>Coccidioides_posadasii</i>	GGT	OCT	GGG	GTT	CCC	ATA	TTT
<i>Marsominia_brunnea</i>	GGT	OCT	GGG	GGG	GGG	GGG	GGG
<i>Glomerella_graminicola</i>	GGG	GGG	OCT	GGG	GGG	TTG	TTT
<i>Botryotinia_fuckeliana</i>	GGT	OCT	GAA	GGG	GGG	TTG	TTT
<i>Cryphonectria_parasitica</i>	GGT	GGG	OCT	GTT	ATA	TTA	TTG
<i>Magnaporthe_roseae</i>	GGT	GGG	OCT	GGG	GGG	GGG	GGG
<i>Pyrenophora_terres</i>	GGT	GGG	OCT	GTT	ATA	TTG	TTT
<i>Septoria_passerinii</i>	GGG	OCT	GGG	GGG	GGG	GGG	GGG
<i>Geomyces_panorum</i>	GGG	GGG	GAA	GGG	GGG	GGG	GGG
<i>Aspergillus_sojae</i>	GGG	GGG	GGG	GTT	CCC	ATA	TTG
<i>Penicillium_chrysogenum</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Neurospora_crassa</i>	GGG	OCT	OCT	GTT	CCC	TTG	TTT
<i>Epichloe_brachyelytri</i>	GGT	GGG	OCT	GTT	CCC	TTG	TTT
<i>Pyrenophora_tritici-repentis</i>	GGT	OCT	GGG	GTT	ATA	TTG	TTT
<i>Coccidioides_immutis</i>	OCT	OCT	GGG	GTT	CCC	TTG	TTT
<i>Aspergillus_fumigatus</i>	GGT	GGG	OCT	GTT	ATA	TTG	TTT
<i>Hypocrea_vizens</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Hypocrea_litii</i>	GGG	GGG	GGG	GGG	GGG	TTG	TTT
<i>Ascocoryne_sarcoides</i>	GGT	GGG	GAA	GGG	GGG	TTG	TTT
<i>Epichloe_festucae</i>	GGT	GGG	OCT	GGG	GGG	TTG	TTT
<i>Magnaporthe_grisea</i>	GGG	GGG	OCT	GGG	GGG	GGG	GGG
<i>Cordyceps_bassiana</i>	GGT	GGG	OCT	GGG	GGG	GGG	GGG
<i>Arthroderma_gypseum</i>	GGT	OCT	GGG	GGG	GGG	TTG	TTT
<i>Aspergillus_nubilans</i>	GGT	GGG	OCT	GGG	GGG	GGG	GGG
<i>Trichoderma_reesei</i>	GGG	GGG	GGG	GGG	GGG	TTG	TTT
<i>Mycosphaerella_fijiensis</i>	GGG	GGG	OCT	GGG	GGG	GGG	GGG
<i>Claviceps_paspali</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Epichloe_glyceriae</i>	GGT	GGG	OCT	GGG	GGG	TTG	TTT
<i>Cochliobolus_heterostrophus</i>	GGT	GGG	OCT	GGG	GGG	GGG	GGG
<i>Aspergillus_terreus</i>	GGG	GGG	OCT	GTT	ATA	TTG	TTT
<i>Chaetomium_globosum</i>	GGG	GGG	OCT	GGG	GGG	GGG	GGG
<i>Gibberella_moniliformis</i>	GGG	OCT	GGG	GGG	GGG	GGG	GGG
<i>Podospora_anserina</i>	GGG	GGG	GGG	GTT	CCC	TTG	TTT
<i>Arthrobotrys_oligospora</i>	ATT	GGG	ATT	ATT	CCC	ATT	ATT
<i>Gosmania_clavigera</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Metarhizium_acridum</i>	GGG	OCT	OCT	GGG	GGG	TTG	TTT
<i>Aciculosporium_takei</i>	GGT	OCT	OCT	GTT	ATA	TTG	TTT
<i>Sordaria_macrospora</i>	GGG	OCT	OCT	GGG	GGG	TTG	TTT
<i>Neotyphodium_ganuense</i>	GGT	GGG	OCT	GGG	GGG	TTG	TTT
<i>Passalora_fulva</i>	GGG	GGG	OCT	GGG	GGG	GGG	GGG
<i>Mycosphaerella_populorum</i>	GGT	GGG	OCT	GGG	GGG	GGG	GGG
<i>Aspergillus_kawachii</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Chaetomium_thermophilum</i>	GGG	ATT	GGG	GGG	GGG	GGG	GGG
<i>Epichloe_amarillans</i>	GGT	GGG	OCT	GGG	GGG	TTG	TTT
<i>Microsporium_canis</i>	GGT	GGG	GGG	GGG	GGG	GGG	GGG
<i>Trichophyton_verrucosum</i>	GGT	OCT	OCT	GGG	GGG	TTG	TTT
<i>Trichophyton_rubrum</i>	GGT	OCT	OCT	GGG	GGG	TTG	TTT
<i>Talaromyces_stipitatus</i>	GGT	OCT	GGG	GTT	ATA	TTG	TTT
<i>Cladosporium_sphaerospermm</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Mycosphaerella_graminicola</i>	GGG	OCT	GGG	GTT	ATA	TTG	TTT
<i>Penicillium_digitatum</i>	GGG	OCT	OCT	GGG	GGG	GGG	GGG
<i>Neurospora_tetrasperma</i>	GGG	OCT	OCT	GTT	CCC	TTG	TTT
<i>Metarhizium_anisopliae</i>	GGG	OCT	OCT	GGG	GGG	GGG	GGG
<i>Geomyces destructans</i>	GGT	OCT	GAG	GGG	GGG	GGG	GGG
<i>Penicillium_mamefiei</i>	GGT	OCT	GGG	GTT	ATA	TTG	TTT
<i>Nectria_haematococca</i>	GGG	OCT	OCT	GTT	ATA	TTG	TTT
<i>Verticillium_albo-atrum</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Paracoccidioides_brasiliensis</i>	GGT	GGG	OCT	GTT	ATA	TTG	TTT
<i>Leptosphaeria_maculans</i>	GGG	OCT	GGG	GTT	CCC	TTG	TTT
<i>Aspergillus clavatus</i>	GGT	OCT	GGG	GGG	GGG	TTG	TTT
<i>Glarea_lozoyensis</i>	GGG	GGG	OCT	GGG	GGG	GGG	GGG
<i>Colletotrichum_gloeosporioides</i>	GGG	OCT	GGG	GTT	ATA	TTG	TTT
<i>Gibberella_fujikuroi</i>	GGT	OCT	GGG	GTT	ATA	TTG	TTT
<i>Alternaria_aboroscens</i>	GGT	OCT	GGG	GTT	ATA	TTG	TTT
<i>Macrophomina_phaseolina</i>	GGT	OCT	GGG	GTT	ATA	TTG	TTT
<i>Epichloe_typhina</i>	GGG	GGG	OCT	GGG	GGG	TTG	TTT

363 synonymous
30 non-synonymous

iv.

Frame 2

<i>Aspergillus_oryzae</i>	GGG	GGG	GGG	TTC	GGG	TAT	TCA
<i>Trichophyton_touarsense</i>	GTC	CTC	CTG	TAG	CAT	TGT	GGG
<i>Myceliophthora_thermophila</i>	GGG	GGG	CTG	TTC	TTT	TTT	TTT
<i>Gaeumannomyces_graminis</i>	GGG	GGG	CTG	TTC	GGG	TAT	GGG
<i>Daldinia_escscholzii</i>	GGG	GAG	CTG	TAG	CAT	TGT	TCA
<i>Trichoderma_atroviride</i>	GAG	CAC	GAG	TGC	TTT	TGT	TTT
<i>Fusarium_oxysporum</i>	GGG	CTC	GAG	TTC	TTT	TTT	TTT
<i>Thielavia_terrestris</i>	GGG	GGG	GGG	TTC	TTT	TTT	TTT
<i>Claviceps_fusiformis</i>	GTC	CTC	CTG	TGC	OCT	TAT	GGG
<i>Periglandula_ipomoeae</i>	GAG	CTC	GGG	TAG	OCT	TGT	TCA
<i>Neosartorya_fischeri</i>	GTC	GGG	CTG	TTC	CAT	TGT	TTT
<i>Ophiostoma_piliferum</i>	GTC	CTC	CTG	TGC	GGT	TGT	TTT
<i>Gibberella_zeae</i>	GAG	CCC	GAG	TAG	CTC	TTT	TTT
<i>Beauveria_bassiana</i>	GGG	GGG	GGG	TGC	TTC	TTT	TCA
<i>Cordyceps_militaris</i>	GGG	GGG	GGG	TTC	GGG	TTT	TCA
<i>Arthroderma_benhamiae</i>	GTC	CTC	CTG	TAG	OCT	TGT	TTT
<i>Aspergillus_niger</i>	GGG	CAC	GGG	TTC	TAT	TTA	TTA
<i>Verticillium_dahliae</i>	GGG	CAC	GAG	TTC	CAT	TGT	GGG
<i>Fusarium_pseudograminearum</i>	GGG	CAC	GGG	TAG	CTC	TAT	TTT
<i>Tuber_melanosporum</i>	AGC	AAC	AAC	AGG	ATA	TTC	TTG
<i>Ophiostoma_novo-ulmi</i>	GTC	GGG	GGG	TGC	GGG	GGG	GGG
<i>Ajellomyces_dermatitidis</i>	GTC	GGG	GAG	TTC	CAT	TGT	TTA
<i>Phaeosphaeria_nodorum</i>	GGG	CTC	GGG	TAG	CAT	TGT	TTT
<i>Hypocrea_jecorina</i>	GGG	CAC	GGG	TAG	OCT	TGT	TTT
<i>Colletotrichum_higginsianum</i>	GGG	CAC	GGG	TAG	OCT	TGT	TTT
<i>Amorphotheca_resinae</i>	GGG	CTC	AAG	TTC	GGG	TGT	GGG
<i>Coccidioides_posadasii</i>	GTC	CTC	GAG	TTC	GGG	TGT	TTT
<i>Marsominia_brunnea</i>	GTC	CTC	AAG	TTC	GGG	TGT	TTT
<i>Glomerella_graminicola</i>	GGG	GGG	CTG	TGC	GGT	TGT	TTT
<i>Botryotinia_fuckeliana</i>	GTC	CTC	AAG	TTC	OCT	TGT	TTT
<i>Cryphonectria_parasitica</i>	GTC	CAC	CTG	TTC	TTT	TAT	TCA
<i>Magnaporthe_roseae</i>	GTC	GGG	CTG	TTC	GGG	TTT	TTT
<i>Pyrenophora_terres</i>	GTC	GGG	CTG	TTC	AAC	TGT	TTT
<i>Septoria_passerinii</i>	GGG	CTC	GAG	TTC	GAG	TGT	TTT
<i>Geomyces_panorum</i>	GAG	GGG	AAG	TTC	GGG	TGT	TTT
<i>Aspergillus_sojae</i>	GGG	GGG	GGG	TTC	TAT	TCA	TCA
<i>Penicillium_chrysogenum</i>	GGG	CAC	CCA	TGC	GGG	TTT	TTA
<i>Neurospora_crassa</i>	GGG	CTC	CTG	TTC	OCT	TGT	TTT
<i>Epichloe_brachyelytri</i>	GTC	GGG	CTG	TTC	OCT	TGT	TTA
<i>Pyrenophora_tritici-repentis</i>	GTC	CTC	GGG	TTC	CAT	TGT	TTT
<i>Coccidioides_immutis</i>	GTC	CTC	GAG	TTC	GGG	TGT	TTT
<i>Aspergillus_fumigatus</i>	GTC	GGG	CTG	TTC	TAT	TGT	TTT
<i>Hypocrea_vizens</i>	GGG	CAC	GAG	TAG	GGG	TGT	TTA
<i>Hypocrea_litii</i>	GGG	CAC	GAG	TAG	OCT	TGT	TTA
<i>Ascocoryne_sarcoides</i>	GTC	GGG	AAG	TTC	CAT	TGT	TTT
<i>Epichloe_festucae</i>	GTC	GGG	CTG	TAG	OCT	TGT	TTA
<i>Magnaporthe_grisea</i>	GAG	GGG	CTG	TGC	GGT	TTT	TTT
<i>Cordyceps_bassiana</i>	GTC	GGG	GGG	TGC	GGT	TTT	TCA
<i>Arthroderma_gypseum</i>	GTC	CTC	GAG	TAG	OCT	TGT	TCA
<i>Aspergillus_nubilans</i>	GTC	GAG	CTG	TTC	GGG	TGT	TCA
<i>Trichoderma_reesei</i>	GGG	CAC	GAG	CTG	OCT	TGT	TTT
<i>Mycosphaerella_fijiensis</i>	GGG	CAC	CTG	TTC	GGT	TTT	TTT
<i>Claviceps_paspali</i>	GTC	GGG	GGG	TTC	CAT	TGT	TCA
<i>Epichloe_glyceriae</i>	GTC	GGG	CTG	TAG	OCT	TGT	TTA
<i>Cochliobolus_heterostrophus</i>	GTC	GGG	GGG	TTC	GGG	TTT	TTT
<i>Aspergillus_terreus</i>	GGG	GGG	CTG	TTC	TTT	TAT	TCA
<i>Chaetomium_globosum</i>	GAG	GAG	CTG	TTC	GGG	TTT	TTT
<i>Gibberella_moniliformis</i>	GGG	CTC	GAG	TTC	GGG	TTT	TTT
<i>Podospora_anserina</i>	GGG	CAC	GGG	TTC	GGG	TTT	TTT
<i>Arthrobotrys_oligospora</i>	TTT	CCA	TTT	TTT	TTA	TTT	TTT
<i>Gosmania_clavigera</i>	GGG	GGG	GGG	GGG	GGG	GGG	GGG
<i>Metarhizium_acridum</i>	GGG	CTC	CTG	TAG	CAT	TGT	TCA
<i>Aciculosporium_takei</i>	GTC	CTC	CTG	TTC	TTT	TAT	TTA
<i>Sordaria_macrospora</i>	GGG	CTC	CTG	TTC	OCT	TGT	TTT
<i>Neotyphodium_ganuense</i>	GTC	GGG	CTG	TAG	OCT	TGT	TTT
<i>Passalora_fulva</i>	GAG	CAC	CTG	TGC	GGT	TTT	TTT
<i>Mycosphaerella_populorum</i>	GTC	CAC	CTG	TAG	CAT	TGT	TCA
<i>Aspergillus_kawachii</i>	GGG	CAC	GGG	TTC	GGG	TGT	TCA
<i>Chaetomium_thermophilum</i>	GGG	ATT	GGG	TTC	GGG	TGT	TCA
<i>Epichloe_amarillans</i>	GTC	GGG	CTG	TAG	OCT	TGT	TTA
<i>Microsporium_canis</i>	GTC	GGG	GAG	TTC	GGG	TGT	TTT
<i>Trichophyton_verrucosum</i>	GTC	CTC	CTG	TAG	OCT	TGT	GGG
<i>Trichophyton_rubrum</i>	GTC	CTC	CTG	TAG	OCT	TGT	GGG
<i>Talaromyces_stipitatus</i>	GTC	CTC	GGG	TTC	TTT	TAT	TTA
<i>Cladosporium_sphaerospermm</i>	GAG	CAC	GGG	TTC	GGG	TTT	TTT
<i>Mycosphaerella_graminicola</i>	GGG	CTC	GAG	TTC	CAT	TGT	TTT
<i>Penicillium_digitatum</i>	GGG	CTC	TTC	TGC	GGG	TTT	TCA
<i>Neurospora_tetrasperma</i>	GGG	CTC	CTG	TTC	OCT	TGT	TTT
<i>Metarhizium_anisopliae</i>	GGG	GGG	CTG	TAG	CAT	TGT	TCA
<i>Geomyces destructans</i>	GTC	GGG	GGG	GGG	GGG	GGG	GGG
<i>Penicillium_mamefiei</i>	GTC	CTC	GGG	TTC	TTT	TAT	TTA
<i>Nectria_haematococca</i>	GGG	CTC	CTG	TTC	TTT	TTT	TTT
<i>Verticillium_albo-atrum</i>	GGG	CAC	GAG	TTC	GGG	TGT	TTT
<i>Paracoccidioides_brasiliensis</i>	GTC	GGG	GAG	TTC	TAT	TGT	TCA
<i>Sclerotinia_homoecarpa</i>	GTC	CTC	AAG	TTC	GGG	TTT	TTT
<i>Leptosphaeria_maculans</i>	GGG	GGG	GGG	TTC	GGG	TTT	TTT
<i>Aspergillus clavatus</i>	GTC	CTC	GGG	TTC	GGG	TGT	TTT

C

vi.

Serpula_lacrymans	GTT	GCT	GCC	GAA	TAT	GGC	ATA	CCC	CAG	TCT	ATA	CCA	CCA	CCT	CGT	ACA	ACT
Heterobasidion_irregulare	ATA	GCT	GCC	CAT	CAT	GGG	ATA	CCC	GAA	GAA	ATA	CCC	CCA	CCA	CGT	ACA	ACT
Lenitula_edodes	ATA	GCT	GCC	GAG	TAT	GGG	ATT	CCC	GAA	GAA	ATA	CCC	CCA	CCA	CGT	ACA	TCA
Coprinopsis_cinerea	GTT	GCA	GCC	GAA	TAT	GGC	ATC	CCC	GAA	GTT	ATA	CCA	CCA	CCT	GTT	ACA	ACA
Dichomitus_squalens	ATA	GCT	GCC	CAT	CAT	GGG	ATC	CCC	GAA	GAA	ATA	CCC	CCA	CCA	CGT	ACA	ACA
Ganoderma_lucidum	ATG	GCT	GCT	CAT	CAT	GGG	ATC	CCC	GAA	GAA	ATA	CCC	CCA	CCA	CGT	ACA	TCC
Piriformospora_indica	CTC	CCC	GCC	CAT	TTC	ATA	CCC	CCC	ACT	ACC	ACA	TCC	CCA	CCA	GTT	TCC	BCC
Ceriporiopsis_subvermispora	ATA	GCT	GCT	CAT	CAT	GGC	ATA	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Schizophyllum_commune	ATG	CCC	GGC	CAA	CAT	SCC	CTG	CCG	ATG	ACC	CTT	CCA	CCA	CCA	CGT	ACC	ACT
Phanerochaete_chrysosporium	CTC	GCT	GCC	GAA	CAT	GAA	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Fibroporia_radiculosa	ATA	GCT	GCT	GAA	CAT	GGC	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Omphalotus_olearius	GTT	CCC	GCC	GAG	TAT	GGG	ATT	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Stereum_hirsutum	CTC	CCC	GCT	CAT	CAT	GGG	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Coniophora_puteana	CTC	CCC	GCC	CAT	TAT	GGC	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Pleurotus_ostreatus	ATG	CCA	AAT	CAT	TAT	GGC	ATC	CCC	AGG	ATT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Gloeophyllum_trabeum	CTC	GCT	AGT	GAA	TAT	GGC	ATC	CCC	CAG	GAA	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Fomitiporia_mediterranea	ATG	CCC	GCA	GAG	CAT	GAA	CTG	CCC	ACT	AAG	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Heterobasidion_annosum	ATA	GCT	GCC	CAT	CAT	GGG	ATA	CCC	GAA	GAA	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Phanerochaete_carnosa	CTC	GCT	GCT	GAA	CAT	GAA	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Laccaria_bicolor	ATA	CCC	GCC	GAG	TAT	GGG	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Postia_placenta	ATA	GCT	GCT	CAT	CAT	GGC	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Rhizoctonia_solani	ACT	CAA	TAT	GGT	ATA	AAT	ATC	CCC	ACA	GAA	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Antrodia_cinnanomea	ATA	GCT	GCA	CAT	CAT	GGC	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Punctularia_strigosozonata	CTC	CCC	GGC	GAA	CAT	GGC	ATA	CCC	CAG	TCT	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Trametes_versicolor	ATA	GCT	GCT	CAT	CAT	GGG	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	GTT	ACT	ACT
Agaricus_bisporus	ATA	GCA	GCT	CAT	CAT	GGC	ATA	CCC	ACA	ACA	ATA	CCA	CCA	CCA	CGT	ACA	ACT
Pinus_taeda_cont	ATA	GCT	GCT	CAT	CAT	GGG	ATC	CCC	CAG	TCT	ATA	CCA	CCA	CCA	CGT	ACA	ACT

193 synonymous
85 non-synonymous

uORF (long) AUG

vii.

Serpula_lacrymans	TTG	CTG	CCC	ACT	ATG	GCA	TAC	CCC	AGT	CTC	TGC	CTC	CAG	CAC	CTC	GTA	CAA	CTC
Heterobasidion_irregulare	TAG	CTG	CCC	ATC	ATG	GGA	TAC	CCC	AAG	AAC	TGC	CCC	CAC	CAC	CTC	GTA	CAA	CTC
Lenitula_edodes	TAG	CTG	CCC	ACT	ATG	GCA	TTC	GAG	AAG	CAE	TGC	CTC	GGC	GGC	GAG	GTA	DAT	CAC
Coprinopsis_cinerea	TTG	CAG	CCC	ACT	ATG	GCA	TCC	CAC	AAC	TTC	TGC	GGC	CAG	GGC	CTC	GCA	CAA	CAC
Dichomitus_squalens	TAG	CTG	CCC	ATC	ATG	GAA	TCC	CCC	AAT	GGC	ATC	CCC	GGG	TTC	CTC	GAA	CAA	CCA
Ganoderma_lucidum	TGG	CTG	CTC	ATC	ATG	GAA	TCC	CCC	AAT	GGC	ATC	CTC	CAG	TTC	CTC	BAA	DAT	CCA
Piriformospora_indica	TCC	CCG	CCC	ACT	ATG	GTC	GGC	GGA	ATA	CCA	CAT	CCC	CTT	CAC	CCG	TTC	CCG	CCA
Ceriporiopsis_subvermispora	TAG	CTG	CTC	ATC	ATG	GCA	TTC	CTG	AGT	CTC	TGC	CCC	CAG	GGC	CTC	GTA	CAA	CTC
Schizophyllum_commune	TGG	CCG	GGG	AAG	ATG	CTC	TGC	GGA	TGC	CTC	CAC	GGC	GGC	CTC	GTT	DCA	CTT	
Phanerochaete_chrysosporium	TGG	CTG	CCC	ACC	ATG	GAA	TCC	GTC	AGT	CTC	TGC	CCC	GGG	TTC	CTC	GAA	GTA	CTC
Fibroporia_radiculosa	TAG	CTG	CTC	ACC	ATG	GCA	TCC	CCC	AGT	TTC	TGC	GGC	GGC	TCC	CTC	GTA	CAA	CTC
Omphalotus_olearius	TTG	CCG	CCC	ACT	ATG	GGA	TTC	CTC	AGT	CTC	TTC	CAA	GAC	CCG	GAG	GTA	CAA	GTA
Stereum_hirsutum	TGG	CCG	CTC	ATC	ATG	GAA	TCC	GGC	AAT	CTC	TGC	GGC	GGC	CAC	GAG	GCA	CAA	CAC
Coniophora_puteana	TGG	CCG	CCC	ACT	ATG	GCA	TCC	CTC	AGT	CTC	TGC	GGC	GGC	CAC	CTC	GTA	CAA	CTC
Pleurotus_ostreatus	TGG	GAA	ATC	ACT	ATG	GCA	TCC	GGC	GGA	TTC	TGC	GGC	CAG	CTC	CAC	GAG	GTA	GTA
Gloeophyllum_trabeum	TGG	GTA	CTC	AAT	ATG	GCA	TCC	CCC	AGG	AAT	TGC	CTC	CAG	TCC	CTC	GTA	CAA	GGC
Fomitiporia_mediterranea	TGG	CCG	CAC	ACC	ATG	GAC	TCC	GTA	GTA	AGC	TGC	GGC	GTA	TTC	CCG	GTT	TCA	ACA
Heterobasidion_annosum	TAG	CTG	CCC	ATC	ATG	GGA	TAC	CCC	AAG	AAG	TGC	CCC	CAC	CAC	CTC	GTA	CAA	CTC
Phanerochaete_carnosa	TGG	CTG	CTC	ACC	ATG	GAA	TCC	CTC	AAT	CCC	TTC	CCC	GGG	TTC	CTC	GCA	GTA	CTC
Laccaria_bicolor	TAG	CCG	CCC	ACT	ATG	GTA	TCC	GAG	ATA	TTC	TGC	CAG	CAG	GGC	CCG	GAA	CTG	TAC
Postia_placenta	TAG	CTG	CTC	ATC	ATG	GCA	TCC	CCC	AGT	TTC	TGC	CCC	CTG	TAC	CTC	BAA	CAA	CTC
Rhizoctonia_solani	CTC	AAT	ATG	GTA	TAA	ATA	TCC	GGC	CAG	AAC	TGC	CTC	CCG	CTC	CCG	GCA	GTA	CTC
Antrodia_cinnanomea	TAG	CTG	GAG	ATC	ATG	GCA	TCC	CTC	AGT	TCT	TAC	CCC	CTG	TGC	CCG	GTA	GTA	CTC
Punctularia_strigosozonata	TGG	CCG	GGC	ACC	ATG	GCA	TAC	GGC	AGT	TCC	TTC	CTC	GGG	GGC	CAG	BAA	CAT	ATC
Trametes_versicolor	TAG	CTG	CTC	ATC	ATG	GAA	TCC	CCC	AGT	GGC	TTC	CAC	CAG	TAC	CTC	BAA	CAA	CCA
Agaricus_bisporus	TAG	CAG	CTC	ATC	ATG	GCA	TTC	GGC	CAG	ATC	GAG	CAC	TGC	CCG	AAA	DAT	CAT	
Pinus_taeda_cont	TAG	CTG	CTC	ATC	ACT	GTA	TCC	GGA	TGT	CCT	TAC	CCC	GAA	CAC	CCG	GTA	CAG	TGA

15 synonymous
275 non-synonymous

viii.

Serpula_lacrymans	TGC	TGC	CCA	CTA	TGG	CAT	ACC	CCA	GTC	TCT	GCC	TCC	AGC	ACC	TCG	TAC	AAC	TCC
Heterobasidion_irregulare	AGC	TGC	CCA	TCA	TGG	GAT	ACC	CCA	ACA	AGT	GCC	CCC	AGC	ACC	TCG	TAC	AAC	TCC
Lenitula_edodes	AGC	TGC	CCA	CTA	TGG	CAT	TCC	ACA	AGC	ACT	GCC	TGG	GGC	GGC	ACC	TAC	ATC	ACC
Coprinopsis_cinerea	TGC	AGC	CCA	CTA	TGG	CAT	CCC	ACA	ACT	TTC	GCC	GGC	AGC	GGC	TCG	CAC	AAC	ACC
Dichomitus_squalens	AGC	TGC	CCA	TCA	TGG	AAT	CCC	CCA	ATC	GCT	CCC	CCC	GGT	TCC	TCG	AAC	AAC	GAA
Ganoderma_lucidum	GGC	TGC	TCA	TCA	TGG	AAT	CCC	CCA	ATC	GCT	TCC	TCC	AGT	TCC	TCG	AAC	ATC	CAA
Piriformospora_indica	CCG	GGC	CCA	TTC	GGG	TCC	GGC	GAG	TAC	CAC	ATC	CCC	TTC	ACC	DCT	TTC	GGC	GAA
Ceriporiopsis_subvermispora	AGC	TGC	TCA	TCA	TGG	CAT	TCC	TCA	GTC	TCT	GCC	CCC	AGC	GGC	TCG	TAC	AAC	TGG
Schizophyllum_commune	GGC	GGC	GCA	ACA	TGC	TCT	GGC	GAT	GAC	DCT	TCC	ACC	GGC	CCC	TCG	TCC	SAC	TTC
Phanerochaete_chrysosporium	GGC	TGC	CCA	GCA	TGG	AAT	CCC	TCA	GTC	TCT	GGC	CCC	GGT	TCC	TCG	AAC	TAC	TCG
Fibroporia_radiculosa	AGC	TGC	TCA	GCA	TGG	CAT	CCC	CCA	GTT	TTC	GCC	ACC	GGT	CCC	TCG	TAC	AAC	TGG
Omphalotus_olearius	TGC	GGC	CCA	CTA	TGG	GAT	TCC	TCA	GTC	TCT	TCC	AAG	ACC	CCG	ACC	TAC	AAC	TAC
Stereum_hirsutum	GGC	GGC	TCA	TCA	TGG	AAT	CCC	GCA	ATC	TTC	GCC	GGC	GGC	ACC	GGC	CAC	AAC	AGC
Coniophora_puteana	GGC	GGC	CCA	TTA	TGG	CAT	CCC	TCA	GTC	TCT	GCC	TGG	GGC	ACC	TCG	TAC	TAC	CCC
Pleurotus_ostreatus	GGC	AAA	TCA	TTA	TGG	CAT	CCC	GAC	BAT	TCT	CCC	ACC	GGC	ACC	GGC	TAC	TAC	ACC
Gloeophyllum_trabeum	GGC	TAG	TCA	ATA	TGG	CAT	CCC	CCA	GCA	ATT	GCC	TCC	GGT	GGC	TCG	TAC	AAC	GGC
Fomitiporia_mediterranea	GGC	GGC	ACA	CCA	TGG	ACT	CCC	TAC	TAA	GCT	CCC	GGC	TAT	TCC	CCG	TGT	SAA	GAG
Heterobasidion_annosum	AGC	TGC	CCA	TCA	TGG	GAT	ACC	CCA	ACA	ACT	GCC	CCC	AGC	ACC	TCG	TAC	AAC	TCC
Phanerochaete_carnosa	GGC	TGC	TCA	GCA	TGG	AAT	CCC	TCA	ATC	DCT	TCC	CCC	GGT	TCC	TCG	SAC	TAC	TGG
Laccaria_bicolor	AGC	GGC	CCA	CTA	TGG	TAT	CCC	ACA	TAT	TCT	GCC	ACC	AGC	GGC	CCG	AAC	TGT	ACC
Postia_placenta	AGC	TGC	TCA	TCA	TGG	CAT	CCC	CCA	GTT	TTC	GCC	CCC	TGT	ACC	TCG	AAC	AAC	TCG
Rhizoctonia_solani	TCA	ATA	TGG	TAT	AAA	TAT	CCC	CAC	ACA	ACT	GCC	TCC	GGC	TCC	CCG	SAC	TAC	CTC
Antrodia_cinnanomea	AGC	TGC	ACA	TCA	TGG	CAT	CCC	TCA	GTT	TTC	ACC	CCC	GGT	GGC	CCG	TAC	TAC	TGG
Punctularia_strigosozonata	GGC	GGC	GCA	GCA	TGG	CAT	ACC	GCA	GTT	DCT	TCC	TCC	GGC	GGC	ACC	ATA	TCC	
Trametes_versicolor	AGC	TGC	TCA	TCA	TGG	AAT	CCC	CCA	GTC	GCT	TCC	ACC	GGT	ACC	TCG	AAC	AAC	CAG
Agaricus_bisporus	AGC	GGC	TCA	TCA	TGG	CAT	TCC	GAC	AAC	ACT	TCC	ACC	ACT	GGC	CAA	AAT	AGC	ATC
Pinus_taeda_cont	AGC	TGC	TCA	TCA	GGG	TAT	CCC	GAT	GTC	CTT	ACC	CCC	AAG	ACC	CCG	TAC	AGT	GAG

13 synonymous
270 non-synonymous

Supplementary Figure 3. Regions upstream of mAUG show coding conservation in-frame with the

mORF. (A) Conservation in the N-terminal extension of *N. crassa cpc-1*. Nucleotide and codon alignments of the region corresponding to uORF2 of *cpc-1* in *N. crassa* is shown in: (i) in-frame with the main ORF (frame 1 in Figure 1B); (ii) in frame with uORF2 (frame 3 in Figure 1B). (iii-v) A proline-rich region (residues 218-224, red dashed bracket in Figure 1K) upstream of the *cpc-1* mAUG shows high conservation in the mORF reading frame. Nucleotide and codon alignments of this region are shown for: (iii) frame 1 (in-frame with the mORF); (iv) frame 2; and (v) frame 3. In these alignments consensus codons (and gaps) are highlighted in white, synonymous codons in green, non-synonymous codons in brown and stop codons in magenta. Species identifiers of the sequences used are indicated on the left. The numbers of synonymous and non-synonymous substitutions are summed below each panel. The additional numbers in parentheses below panel “i” indicate the number of synonymous and non-synonymous substitutions in-frame with the mORF in the small patch of sequence marked a dashed orange bracket above the aligned sequences. This patch represents the conserved peptide region indicated by the corresponding dashed orange bracket in Figure 1K. The alignments were generated by a custom script that conceptually translated the main ORF frame into peptide sequence, then performed ClustalX alignment of peptide sequence, then converted this alignment back to nucleotides. The most common codon in each column was then designated as the consensus codon; synonymous and non-synonymous substitutions were determined relative to it. (C) The region corresponding to the beginning of uORF3 of *Coprinus cinerea cpc-1* is conserved at the amino acid level in-frame with the mORF in Agaricomycetes homologs. Nucleotide and codon alignments of the region including the beginning of uORF3 of *C. cinerea cpc-1* (indicated by red dashed lines in Supplementary Figure 5F) are shown for: (vi) frame 1 (in-frame with the main ORF); (vii) frame 2 (in-frame with uORF3); and (viii) frame 3. Species identifiers of the sequences used are indicated on the left. “Pinus_taeda_cont” indicates a sequence coming from an unknown Agaricomycetes species contaminating the *Pinus taeda* EST library. The numbers of synonymous and non-synonymous substitutions are indicated on the right of each panel. The position of the AUG start codon of uORF3 is indicated by an inverted red triangle. Coloring scheme, alignment generation and display are the same as in other panels.