ภาคผนวก ก

อาหารเลี้ยงเชื้อ

Nutrient agar (NA) (Merck) อาหาร 1 L ประกอบด้วย

Meat peptone	3.45	g
Casein peptone	3.45	g
Sodium chloride	5.1	g
Agar	13	g

Nutrient broth (NB) (Merck) อาหาร 1 L ประกอบด้วย

Meat peptone	3.45	g
Casein peptone	3.45	g
Sodium chloride	5.1	g

Mueller Hinton agar (MHA) (Difco) อาหาร 1 L ประกอบด้วย

Meat infusion	2.0	g
Casein hydrolysate	17.5	g
Starch	1.5	g
Agar	15	g

Mueller Hinton broth (MHB) (Difco) อาหาร 1 L ประกอบด้วย

Meat infusion	2.0	g
Casein hydrolysate	17.5	g
Starch	1.5	g

Sabouraud dextrose agar (SDA) (Difco) อาหาร 1 L ประกอบด้วย

Peptone	10	g
D(+) glucose	40	g
Agar	15	g

Sabouraud dextrose broth (SDB) (Difco) อาหาร 1 L ประกอบด้วย

Peptone	10	g
D(+) glucose	40	g

Potato dextrose agar (PDA) (Difco) อาหาร 1 L ประกอบด้วย

Potato infusion	200	g
Bacto dextrose	20	g
Agar	15	g

Potato dextrose broth (PDB) (Difco) อาหาร 1 L ประกอบด้วย

Potato infusion	200	g
Bacto dextrose	20	g

Corn meal agar (CMA) (Difco) ที่เติมยาปฏิชีวนะ อาหาร 1 L ประกอบด้วย

Corn meal infusion	2.0	g
Agar	15	g
Ampicilin	50	g
Tetracycline	50	g

ทำการเติมยาปฏิชีวนะ หลังจากฆ่าเชื้ออาหาร โดยรอให้อุณหภูมิของอาหารเย็นลงเหลือประมาณ 45-50 ^{0}C แล้วจึงเติมยาปฏิชีวนะลงไป เขย่าให้เข้ากัน แล้วจึงเทลงในจานเลี้ยงเชื้อ

อาหารทุกชนิดจะทำการฆ่าเชื้อที่อุณหภูมิ 121 ^{0}C นาน 15 นาที ที่ความดัน 15 ปอนด์/ตารางนิ้ว

การเตรียมยาปฏิชีวนะ amplicilin ความเข้มข้นสุดท้าย 50 µg/ml

การเตรียม stock solution

ชั่งยา 1 g ละลายใน 0.1 M phosphate buffer pH 7.9 ประมาตร 4 ml จะได้ความเข้มข้นของยา 250 mg/ml นำไปเก็บรักษาที่ตู้แช่แข็ง อุณหภูมิ -20 ^{0}C

การใส่ยา amplicilin ลงในอาหาร CMA

ดูดยา 1 ml จาก stock solution ผสมกับน้ำกลั่นไร้เชื้อ 4 ml จะได้ความเข้มข้นของยา 50 mg/ml แล้วจึงดูดยา 0.5 ml ผสมกับ CMA ที่ผ่านการฆ่าเชื้อแล้ว ปริมาร 500 ml

การเตรียมยาปฏิชีวนะ tetracycline ความเข้มข้นสุดท้าย 50 µg/ml

การเตรียม stock solution

ชั่งยา 1 g ละลายใน 0.1 N HCl ปริมาตร 12 ml ทำให้ได้ความเข้มข้นเท่ากับ 83.33 mg/ml นำไปเก็บรักษาที่ตู้แช่แข็ง อุณหภูมิ -20 ^{0}C

การใส่ยา tetracycline ลงในอาหาร CMA

ดูดยา 1 ml จาก stock solution ผสมกับน้ำกลั่นไร้เชื้อ 9 ml จะทำให้ได้ความเข้มข้นของยาเท่ากับ 8.33 mg/ml ผสมยา 3 ml ลงในอาหาร CMA ที่ผ่านการฆ่าเชื้อแล้วปริมาตร 500 ml

0.1 M Phosphate buffer pH 7.9

K_2HPO_4	16.73	g
KH_2PO_4	0.523	g
น้ำกลั่น	1	L

การเตรียมแผ่นยา amphotericin B

ละลายยา amphotericin B น้ำหนัก 50 mg ในน้ำกลั่นไร้เชื้อปริมาตร 10 ml ทำให้ได้ความเข้มข้น 5 mg/ml เจือจางยาต่อให้ได้ความเข้มข้น 1 mg/ml หลังจากนั้นใช้ pipette ดูดสารละลายยา 10 µl หยดลงบนแผ่น disc ขนาดเส้นผ่านศูนย์กลาง 6 mm ทิ้งไว้ให้แห้ง จะได้แผ่นยาที่มีความเข้มข้น 10 µg/ml

McFarland Standard

ตารางส่วนผสมของ 0.048 $BaCl_2$ (1.175% W/V $BaCl_2 2H_2O$) และ 0.36 N H_2SO_4 (1%V/V) เพื่อเตรียม $BaSO_4$ standard หรือ McFarland เบอร์ต่างๆ

McFaland Standard	0.5	1	2	3	4	5	6	7	8	9	10
BaCl2	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
H2SO4	9.95	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.1	9.0
Approx. Cell density (x10^8 cfu/ml)	1.5	3	6	9	12	15	18	21	24	27	30

ภาคผนวก ข

สารเคมีสำหรับการวิเคราะห์ทางชีวโมเลกุล

Tris EDTA (TE) buffer

เติม 1 M Tris HCl stock, pH 8.0 ปริมาตร 1 ml และ 0.5 M EDTA, pH 8.0 ปริมาตร 0.2 ml ลงใน น้ำกลั่นปริมาตร 50 ml แล้วปรับปริมาตรสุดท้ายให้ได้ 100 ml แล้วนำไปฆ่าเชื้อที่ 121 ^{0}C นาน 15 นาที จากการเตรียมจะทำให้ได้ ความเข้มข้นสุดท้ายคือ 10 mM Tris HCl, pH 8.0 และ 1 mM EDTA, pH 8.0

50X TAE buffer (Tris Acetate EDTA buffer)

เติม Tris base 242 g และ glacial acetic acid ปริมาตร 57.1 ml และ 0.5 M EDTA, pH 8.0 ปริมาตร 100 ml ลงในน้ำกลั่นปริมาตร 500 ml แล้วปรับปริมาตรสุดท้ายให้ได้ 1,000 ml

7.5 M Ammonium acetate

ละลาย ammonium acetate 11.562 g ใน nanopure water ปริมาตร 20 ml แล้วทำการฆ่าเชื้อที่ 121 ^{0}C นาน 15 นาที

Cetyl Trimethyl Ammonium Bromide (CTAB) lysis buffer

เติม 5M NaCl ปริมาตร 28 ml, 10%CTAB ปริมาตร 20 ml, 5 M Tris HCl ปริมาตร 2 ml และ 0.5 M EDTA ปริมาตร 5 ml แล้วปรับ pH ให้ได้ 8.4 หลังจากนั้นปรับปริมาตรสุดท้ายให้ได้ 100 ml นำไปฆ่าเชื้อที่ 121 ^{0}C นาน 15 นาที จะทำให้ได้ความเข้มข้นสุดท้ายคือ 100 mM Tris HCl, 1.4 M NaCl, 25 mM EDTA และ 2% CTAB.

1% Agarose gel

เติม agarose 1 g ลงใน 1X TAE buffer 100 ml แล้วนำไปต้มจน agarose ละลาย แล้วจึงเท agarose ลงในถาดที่เตรียมไว้เพื่อให้ได้ gel ขนาดที่ต้องการ

การตรวจสอบด้วย agarose gel

ผสม DNA ปริมาตร 3 µl กับ 6X loading dye ปริมาตร 3 µl ผสมให้เข้ากัน แล้วหยอดลงในแต่ละหลุมของ agarose gel ที่วางอยู่ใน gel tank ที่เติม TAE buffer จนท่วมแผ่น agarose gel เปิดกระแสไฟฟ้า 100 volts นานเป็นเวลา 30-45 นาที

การตรวจหาชิ้นส่วน DNA

ย้อม agarose gel ในสารละลาย ethidium bromide (ความเข้มข้นสุดท้าย $2.5x10^{-5}$ mg/ml) เป็นเวลา 10-15 นาที ตรวจหาชิ้นส่วน DNA ภายใต้แสง UV ด้วยเครื่อง UV light transilluminator, Gel Documentation (Syngene Gene Genius) บันทึกความเข้ม และแถบที่เกิดขึ้น

6X Loading dye

ผสม 0.25% bromophenol blue กับ 0.25% xylene cyanol FF และ 30% glycerol เขย่าให้เข้ากัน แล้วเก็บรักษาในที่อุณหภูมิ 4 ^{0}C

ภาคผนวก ค

การจัดเรียงลำดับเบส DNA ของส่วน ITS1-5.8S-ITS2 (ITS) ของราเอนโดไฟท์ 22 isolates ที่สร้างสารต้านจุลินทรีย์ และสารที่มี NMR profile น่าสนใจ เปรียบเทียบกับลำดับเบส DNA ใน order ต่างๆ จาก GenBank (ตารางที่ 13, รูปที่ 33)

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                                  ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|....|....| ....|....| ....|....| ....|....|
                                           10         20         30         40         50         60         70         80         90        100
A1                                ---------- ---------- ---------- ---------- ---------- ---------- ---------- A------TTG TTGCCTCGGC G--GATCAGC
N24                               GGTGAACCAG CGGAG-GGAT CATTACAGAG TTATCC-AAC TCCCAAACC- --CATGTGAA CCTATCTCT- -------TTG TTGCCTCGGC GCAAGCTA--
M41                               TGAACCAGCG GAGGGATCAT TACCGAGTTT ACAAC----T CCCAAACCC- --CTG-TGAA CATA---CCA A------TTG TTGCCTCGGC G--GATCAGC
Metarhizium_anisopliae_AY75551    ---------- ---------- --CCGAGTTA TCCAA---CT CCCAACCCC- --TGT-GAAT TATACCTTTA A------TTG TTGCTTCGGC G--GGACTTC
Hypomyces_microspermus_AY34480    ---------- ---------- -------CGA GTTTACAACT CCCAAACCC- --CATGTGAA CCT-TACCAA A------ACG TTGCTTCGGC G--GGATGCC
Fusarium_sp_AJ222809              ---------- ---------- ---------- -------AAC TCCCAAACC- --CATGTGAA CTTATCTCT- -------TTG TTGCCTCGGC GCAAGTA---
Pythium_ultimum_AF452163          TGAACCAGCG GAGGGATCAT TACCGAGTTT ACAAC----T CCCAAACCC- --CTG-TGAA CATA---CCA A------TTG TTGCCTCGGC G--GATCAGC
A2                                ---------- ---------- ---------- -----TCGGG GCCCAACCT- --CCCAC--C CGTGT-TGCC CGAACCTATG TTGCCTCGGC GGGCCC----
A67                               -GGAAGGATC ATTACCGAGT GA-GGGCCC- -----TCTGG GTCCAACCT- --CCCAC--C CGTGTTTAAC TGTACCT-TG TTGCTTCGGC GGGCCCGCCT
A71                               CGGAAGGATC ATTACCGAGT GA-GGGCCC- -----TCTGG GTCCAACCT- --CCCAC--C CGTGTTTAAC TGTACCT-TG TTGCTTCGGC GGGCCCGCCT
D2                                CGGAAGGATC ATTACCGAGT GCTGGGTCCT -----TCGGG GCCCAACCT- --CCCAC--C CGTGCTTA-C CGTACCC-TG TTGCTTCGGC GGGCCCGCCC
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Penicillium_citrinum_AY373904     CGGAAGGATC ATTACCGAGT GC-GGGCCCC -----TCGGG GCCCAACCT- --CCCAC--C CGTGT-TGCC CGAACCTATG TTGCCTCGGC GGGCCC----
Aschersonia_s_AY225333            CGGAAGGATC ATTACCGAGT GC-GGGCCCC -----TCGGG GCCCAACCT- --CCCAC--C CGTGT-TGCC CGAACCTATG TTGCCTCGGC GGGCCC----
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A59                               TGGTGAACCA GCGGAGGGAT CATTAAAGAG TTCTA-TAAC TCCC-AACC- --CATGTGAA CATACCT-T- -------ACG TTGCCTCGGC AG--------
D14                               AAGAGGGGAT AATGCTTTAC GAACGTACCT CCGATGCGAG TGTTACAAC- --TGACTGCA TTATCCC-C- -------TTG TAAGGTTAAA AGCTTTAAGA
D44                               ---------- ---------- ------TGAG TTTTC-TAAC TCC--AACC- --CTTGAGAA CATACCT-A- ---------G TTGCCTCGGC GG----ACTT
D50                               TGGTGAACCA GCGGAGGGAT CATTAAAGAG TTTTTACAAC TCC--AAAC- --CCTGTGAA CATACCC-T- -------ACG TTGCCTCGGC AGGTGCACCT
D55                               ---------- ---------- ---------- ----AAAAAA CTCCCAACC- --CATGTGAA CTTACTT-T- --------TG TTGCCTCGGC AGGA------
D65                               ---------- ---------- ---------- ---------- ----AAACC- --CATGTGAA CATACCC-A- -------ACG TTGCCTCGGC AGGT------
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Pestalosphae_elaeidis_AF009815    CTCGTGTGAC CAGCGAGGAT CATTACAGAG TTTTCTAAAC TCCCAA-CC- --CATGTGAA CTTACCT-T- -------TTG TTGCCTCGG- GCAAGGAAG-
Monograph_albescens_AJ132509      ---------- ---------- ---------- -------AAC TCTCCAAAC- --CATGTGAA CTTACCA-C- --------TG TTGCCTCGGT GGTT------
D15                               ---------- ---------- ---------- ---------- ---------- -------GAA CTTATACCTA T------CTG TTGCCTCGGC GCAGGCCGGC
D53                               CAGCGGAGGG ATCATTGCTG GAACGCGCTT C-GGCGCACC CAGAAACCC- --TTTGTGAA CTTATACCTA T------TTG TTGCCTCGGC GTAGGCCGGC
Podospora_austro_AY999124         GTGAACCA-- GCGGAGGGAT CATGAAAGGG TTGCAAGACT CCCCTAAACC --ATCGTGAA CCCACCTCTG AA-----CAG TTGCTTC--- ----------
Leucostoma_kunzei_AY347320        ---------G ATCATTGCTG GACGCGCCGC AAGGCGCACC CAGAAACCC- --TTTGTGAA CTTATACCTA C-----ATCG TTGCCTCGGC GCTGGCTGCC
Cryphonectria_cubensis_AY26342    ---------- ---------- ---------- --------CC CAGATACCC- --TTGGTGAA CTTATACCTT TTT---ATCG TTGCCTCGGC GCCGA--GCC
Diaporthe_phaseolorum_AY577815    CAGCGGAGGG ATCATTGCTG GAACGCGCTT C-GGCGCACC CAGAAACCC- --TTTGTGAA CTTATACCTA T------TTG TTGCCTCGGC GTAGGCCGGC
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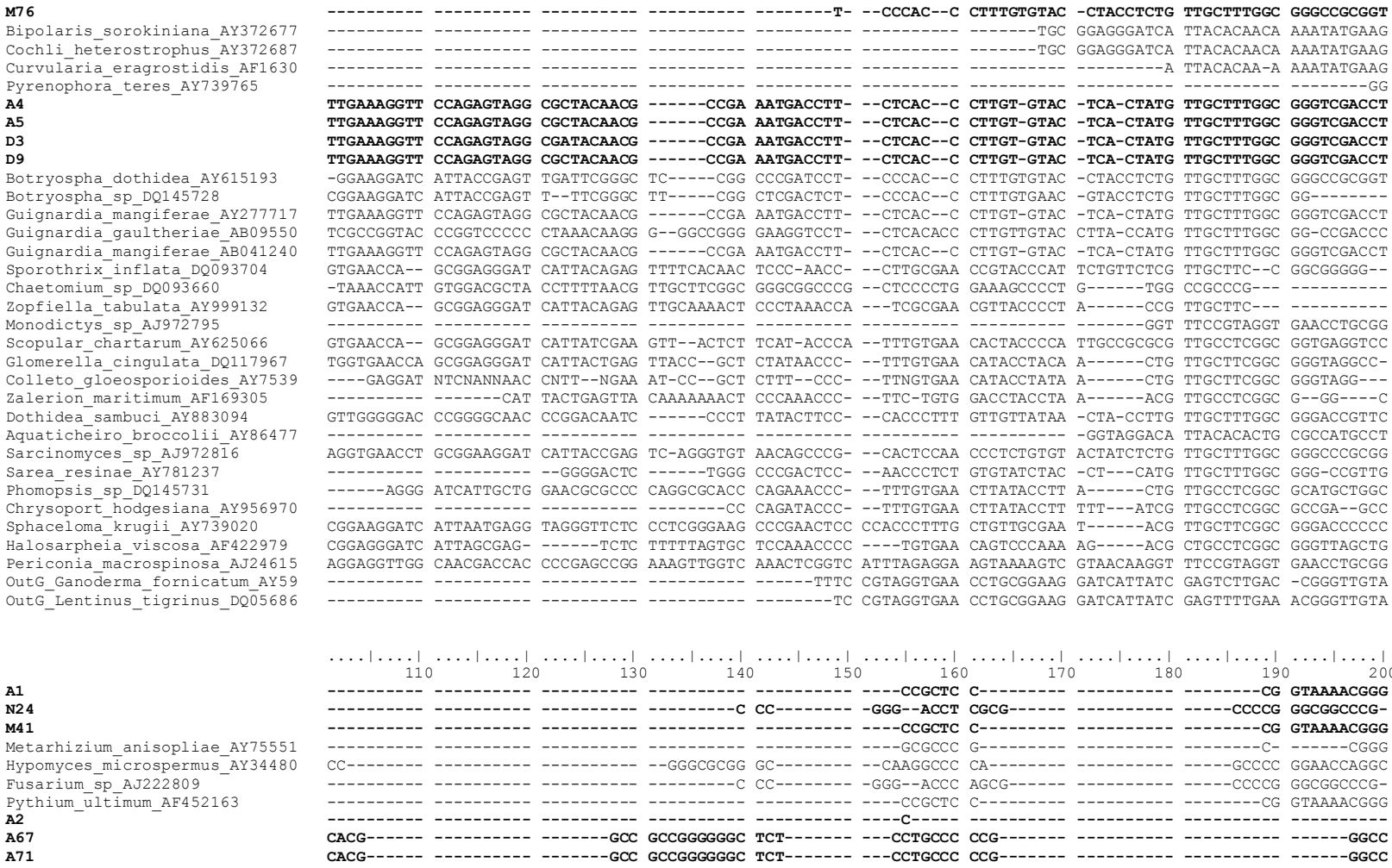
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A4
A5
D3
D9
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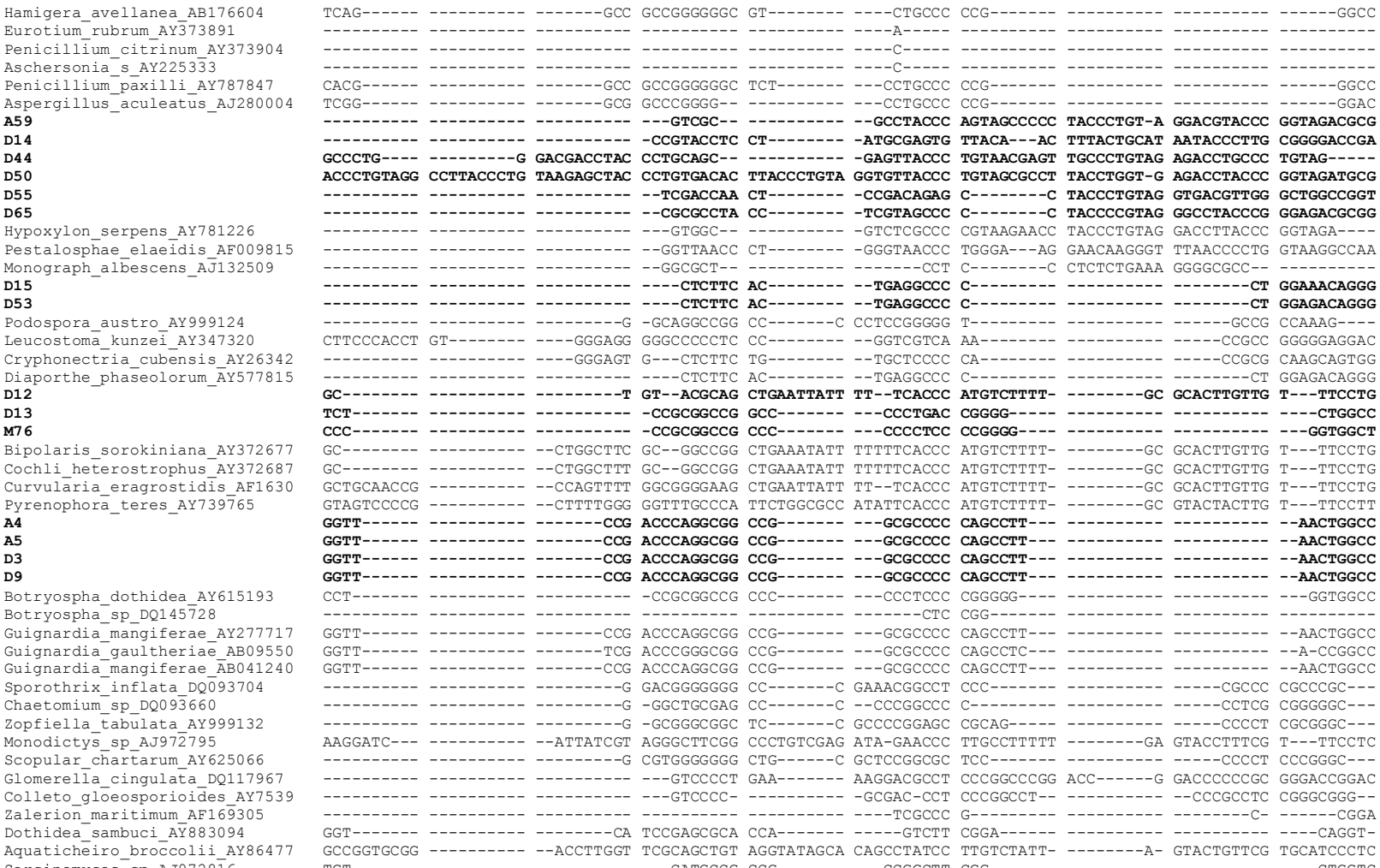
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Penicillium_citrinum_AY373904 ---------- ---------- ---------- ---------- ---------- ----C----- ---------- ---------- ---------- ----------
Aschersonia_s_AY225333 ---------- ---------- ---------- ---------- ---------- ----C----- ---------- ---------- ---------- ----------
Penicillium_paxilli_AY787847 CACG------ ---------- -------GCC GCCGGGGGGC TCT------- ---CCTGCCC CCG------- ---------- ---------- ------GGCC
Aspergillus_aculeatus_AJ280004 TCGG------ ---------- -------GCG GCCCGGGG-- ---------- ---CCTGCCC CCG------- ---------- ---------- ------GGAC
A59 ---------- ---------- ---------- ---GTCGC-- ---------- --GCCTACCC AGTAGCCCCC TACCCTGT-A GGACGTACCC GGTAGACGCG
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D44 GCCCTG---- ---------G GACGACCTAC CCTGCAGC-- ---------- -GAGTTACCC TGTAACGAGT TGCCCTGTAG AGACCTGCCC TGTAG-----
D50 ACCCTGTAGG CCTTACCCTG TAAGAGCTAC CCTGTGACAC TTACCCTGTA GGTGTTACCC TGTAGCGCCT TACCTGGT-G AGACCTACCC GGTAGATGCG
D55 ---------- ---------- ---------- --TCGACCAA CT-------- -CCGACAGAG C--------C TACCCTGTAG GTGACGTTGG GCTGGCCGGT
D65 ---------- ---------- ---------- --CGCGCCTA CC-------- -TCGTAGCCC C--------C TACCCCGTAG GGCCTACCCG GGAGACGCGG
Hypoxylon_serpens_AY781226 ---------- ---------- ---------- ---GTGGC-- ---------- -GTCTCGCCC CGTAAGAACC TACCCTGTAG GACCTTACCC GGTAGA----
Pestalosphae_elaeidis_AF009815 ---------- ---------- ---------- --GGTTAACC CT-------- -GGGTAACCC TGGGA---AG GAACAAGGGT TTAACCCCTG GTAAGGCCAA
Monograph_albescens_AJ132509 ---------- ---------- ---------- --GGCGCT-- ---------- -------CCT C--------C CTCTCTGAAA GGGGCGCC-- ----------
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Podospora_austro_AY999124 ---------- ---------- ---------G -GCAGGCCGG CC-------C CCTCCGGGGG T--------- ---------- ------GCCG CCAAAG----
Leucostoma_kunzei_AY347320 CTTCCCACCT GT-------- ----GGGAGG GGGCCCCCTC CC-------- --GGTCGTCA AA-------- ---------- -----CCGCC GGGGGAGGAC
Cryphonectria_cubensis_AY26342 ---------- ---------- ----GGGAGT G---CTCTTC TG-------- --TGCTCCCC CA-------- ---------- -----CCGCG CAAGCAGTGG
Diaporthe_phaseolorum_AY577815 ---------- ---------- ---------- ----CTCTTC AC-------- --TGAGGCCC C--------- ---------- ---------CT GGAGACAGGG
D12 GC-------- ---------- ---------T GT--ACGCAG CTGAATTATT TT--TCACCC ATGTCTTTT- --------GC GCACTTGTTG T---TTCCTG
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Curvularia_eragrostidis_AF1630 GCTGCAACCG ---------- --CCAGTTTT GGCGGGGAAG CTGAATTATT TT--TCACCC ATGTCTTTT- --------GC GCACTTGTTG T---TTCCTG
Pyrenophora_teres_AY739765 GTAGTCCCCG ---------- --CTTTTGGG GGTTTGCCCA TTCTGGCGCC ATATTCACCC ATGTCTTTT- --------GC GTACTACTTG T---TTCCTT
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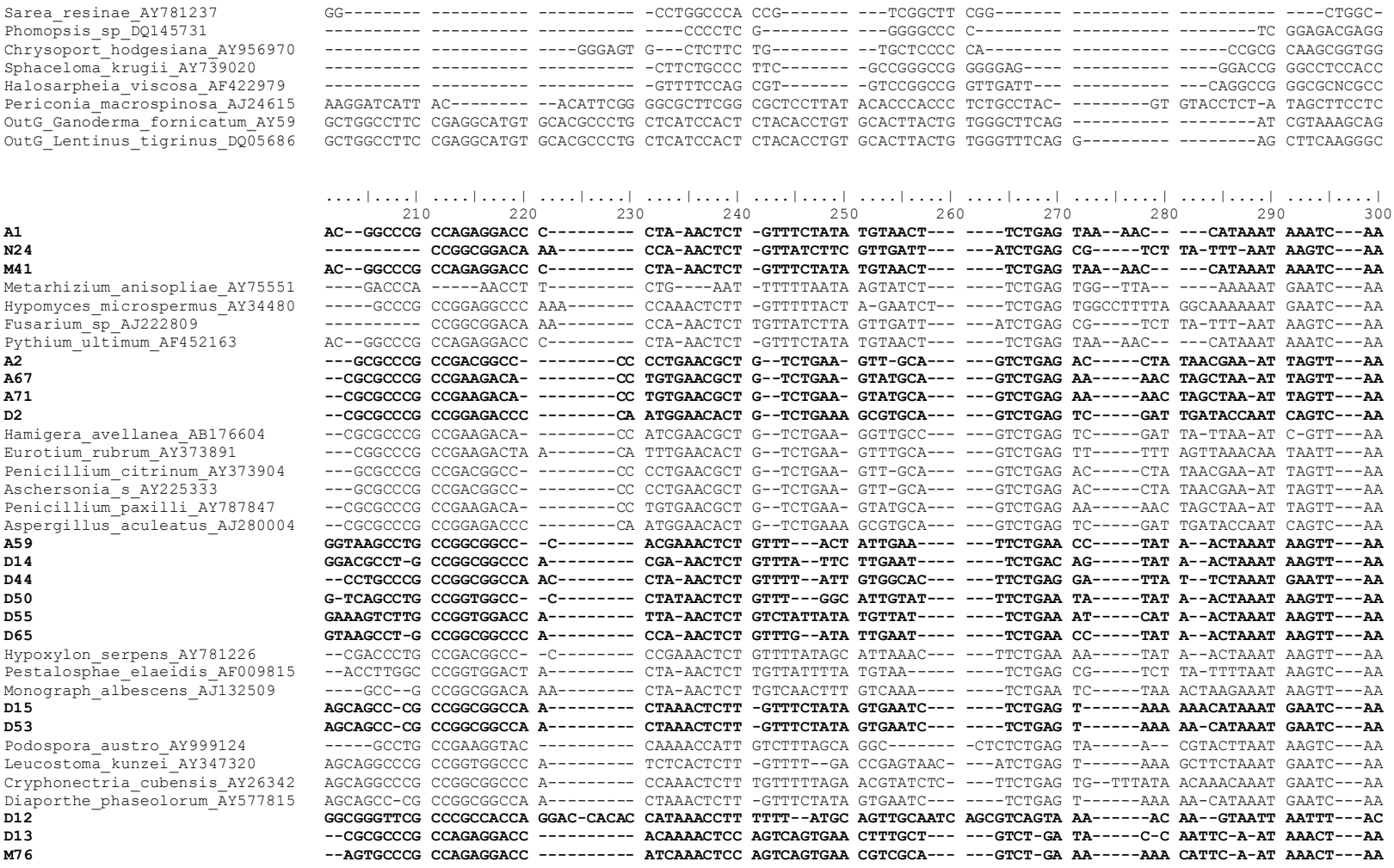
Zopfiella_tabulata_AY999132 ---------- ---------- ---------G -GCGGGCGGC TC-------C GCCCCGGAGC CGCAG----- ---------- -----CCCCT CGCGGGC---
Monodictys_sp_AJ972795 AAGGATC--- ---------- --ATTATCGT AGGGCTTCGG CCCTGTCGAG ATA-GAACCC TTGCCTTTTT --------GA GTACCTTTCG T---TTCCTC
Scopular_chartarum_AY625066 ---------- ---------- ---------G CGTGGGGGGG CTG------C GCTCCGGCGC TCC------- ---------- -----CCCCT CCCGGGC---
Glomerella_cingulata_DQ117967 ---------- ---------- ---------- ---GTCCCCT GAA------- AAGGACGCCT CCCGGCCCGG ACC------G GACCCCCCGC GGGACCGGAC
Colleto_gloeosporioides_AY7539 ---------- ---------- ---------- ----GTCCCC- ---------- -GCGAC-CCT CCCGGCCT-- ---------- --CCCGCCTC CGGGCGGG--
Zalerion_maritimum_AF169305 ---------- ---------- ---------- ---------- ---------- ----TCGCCC G--------- ---------- --------C- ------CGGA
Dothidea_sambuci_AY883094 GGT------- ---------- --------CA TCCGAGCGCA CCA------- -----GTCTT CGGA------ ---------- ---------- ----CAGGT-
Aquaticheiro_broccolii_AY86477 GCCGGTGCGG ---------- --ACCTTGGT TCGCAGCTGT AGGTATAGCA CAGCCTATCC TTGTCTATT- --------A- GTACTGTTCG TGCATCCCTC
Sarcinomyces_sp_AJ972816 TGT------- ---------- ---------- ---CATGCCG CCG------- ---CCGGCTT CGG------- ---------- ---------- ----CTGGTC


Sarea_resinae_AY781237 GG-------- ---------- ---------- -CCTGGCCCA CCG------- ---TCGGCTT CGG------- ---------- ---------- ----CTGGC-
Phomopsis_sp_DQ145731 ---------- ---------- ---------- ----CCCCTC G--------- ---GGGGCCC C--------- ---------- --------TC GGAGACGAGG
Chrysoport_hodgesiana_AY956970 ---------- ---------- ----GGGAGT G---CTCTTC TG-------- --TGCTCCCC CA-------- ---------- -----CCGCG CAAGCGGTGG
Sphaceloma_krugii_AY739020 ---------- ---------- ---------- -CTTCTGCCC TTC------- -GCCGGGCCG GGGGAG---- ---------- ----GGACCG GGCCTCCACC
Halosarpheia_viscosa_AF422979 ---------- ---------- ---------- -GTTTTCCAG CGT------- -GTCCGGCCG GTTGATT--- ---------- ---CAGGCCG GGCGCNCGCC
Periconia_macrospinosa_AJ24615 AAGGATCATT AC-------- --ACATTCGG GGCGCTTCGG CGCTCCTTAT ACACCCACCC TCTGCCTAC- --------GT GTACCTCT-A TAGCTTCCTC
OutG_Ganoderma_fornicatum_AY59 GCTGGCCTTC CGAGGCATGT GCACGCCCTG CTCATCCACT CTACACCTGT GCACTTACTG TGGGCTTCAG ---------- --------AT CGTAAAGCAG
OutG_Lentinus_tigrinus_DQ05686 GCTGGCCTTC CGAGGCATGT GCACGCCCTG CTCATCCACT CTACACCTGT GCACTTACTG TGGGTTTCAG G--------- --------AG CTTCAAGGGC
....|....| ....|....| ....|....| ....|....| ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
210 220 230 240 250 260 270 280 290 300
A1 AC--GGCCCG CCAGAGGACC C--------- CTA-AACTCT -GTTTCTATA TGTAACT--- ----TCTGAG TAA--AAC-- ---CATAAAT AAATC---AA
N24 ---------- CCGGCGGACA AA-------- CCA-AACTCT -GTTATCTTC GTTGATT--- ---ATCTGAG CG-----TCT TA-TTT-AAT AAGTC---AA
M41 AC--GGCCCG CCAGAGGACC C--------- CTA-AACTCT -GTTTCTATA TGTAACT--- ----TCTGAG TAA--AAC-- ---CATAAAT AAATC---AA
Metarhizium_anisopliae_AY75551 ----GACCCA -----AACCT T--------- CTG----AAT -TTTTTAATA AGTATCT--- ----TCTGAG TGG--TTA-- ----AAAAAT GAATC---AA
Hypomyces_microspermus_AY34480 -----GCCCG CCGGAGGCCC AAA------- CCAAACTCTT -GTTTTTACT A-GAATCT-- ----TCTGAG TGGCCTTTTA GGCAAAAAAT GAATC---AA
Fusarium_sp_AJ222809 ---------- CCGGCGGACA AA-------- CCA-AACTCT TGTTATCTTA GTTGATT--- ---ATCTGAG CG-----TCT TA-TTT-AAT AAGTC---AA
Pythium_ultimum_AF452163 AC--GGCCCG CCAGAGGACC C--------- CTA-AACTCT -GTTTCTATA TGTAACT--- ----TCTGAG TAA--AAC-- ---CATAAAT AAATC---AA
A2 ---GCGCCCG CCGACGGCC- --------CC CCTGAACGCT G--TCTGAA- GTT-GCA--- ---GTCTGAG AC-----CTA TAACGAA-AT TAGTT---AA
A67 --CGCGCCCG CCGAAGACA- --------CC TGTGAACGCT G--TCTGAA- GTATGCA--- ---GTCTGAG AA-----AAC TAGCTAA-AT TAGTT---AA
A71 --CGCGCCCG CCGAAGACA- --------CC TGTGAACGCT G--TCTGAA- GTATGCA--- ---GTCTGAG AA-----AAC TAGCTAA-AT TAGTT---AA
D2 --CGCGCCCG CCGGAGACCC --------CA ATGGAAACACT G--TCTGAAA GCGTGCA--- ---GTCTGAG TC-----GAT TGATACCAAT CAGTC---AA
Hamigera_avellanea_AB176604 --CGCGCCCG CCGAAGACA- --------CC ATCGAACGCT G--TCTGAA- GGTTGCC--- ---GTCTGAG TC-----GAT TA-TTAA-AT C-GTT---AA
Eurotium_rubrum_AY373891 ---CGGCCCG CCGAAGACTA A-------CA TTTGAACACT G--TCTGAA- GTTTGCA--- ---GTCTGAG TT-----TTT AGTTAAACAA TAATT---AA
Penicillium_citrinum_AY373904 ---GCGCCCG CCGACGGCC- --------CC CCTGAACGCT G--TCTGAA- GTT-GCA--- ---GTCTGAG AC-----CTA TAACGAA-AT TAGTT---AA
Aschersonia_s_AY225333 ---GCGCCCG CCGACGGCC- --------CC CCTGAACGCT G--TCTGAA- GTT-GCA--- ---GTCTGAG AC-----CTA TAACGAA-AT TAGTT---AA
Penicillium_paxilli_AY787847 --CGCGCCCG CCGAAGACA- --------CC TGTGAACGCT G--TCTGAA- GTATGCA--- ---GTCTGAG AA-----AAC TAGCTAA-AT TAGTT---AA
Aspergillus_aculeatus_AJ280004 --CGCGCCCG CCGGAGACCC --------CA ATGGAACACT G--TCTGAAA GCGTGCA--- ---GTCTGAG TC-----GAT TGATACCAAT CAGTC---AA
A59 GGTAAGCCTG CCGGCGGCC- -C-------- ACGAAACTCT GTTT---ACT ATTGAA---- ---TTCTGAA CC-----TAT A--ACTAAAT AAGTT---AA
D14 GGACGCCT-G CCGGCGGCCC A--------- CGA-AACTCT GTTTA--TTC TTGAAT---- ----TCTGAC AG-----TAT A--ACTAAAT AAGTT---AA
D44 --CCTGCCCG CCGGCGGCCA AC-------- CTA-AACTCT GTTTT--ATT GTGGCAC--- ---TTCTGAG GA-----TTA T--TCTAAAT GAATT---AA
D50 G-TCAGCCTG CCGGTGGCC- -C-------- CTATAACTCT GTTT---GGC ATTGTAT--- ---TTCTGAA TA-----TAT A--ACTAAAT AAGTT---AA
D55 GAAAGTCTTG CCGGTGGACC A--------- TTA-AACTCT GTCTATTATA TGTTAT---- ----TCTGAA AT-----CAT A--ACTAAAT AAGTT---AA
D65 GTAAGCCT-G CCGGCGGCCC A--------- CCA-AACTCT GTTTG--ATA TTGAAT---- ----TCTGAA CC-----TAT A--ACTAAAT AAGTT---AA
Hypoxylon_serpens_AY781226 --CGACCCTG CCGACGGCC- -C-------- CCGAAACTCT GTTTTATAGC ATTAAAC--- ---TTCTGAA AA-----TAT A--ACTAAAT AAGTT---AA
Pestalosphae_elaeidis_AF009815 --ACCTTGGC CCGGTGGACT A--------- CTA-AACTCT TGTTATTTTA TGTAA----- ----TCTGAG CG-----TCT TA-TTTTAAT AAGTC---AA
Monograph_albescens_AJ132509 ----GCC--G CCGGCGGACA AA-------- CTA-AACTCT TGTCAACTTT GTCAAA---- ----TCTGAA TC-----TAA ACTAAGAAAT AAGTT---AA
D15 AGCAGCC-CG CCGGCGGCCA A--------- CTAAACTCTT -GTTTCTATA GTGAATC--- ----TCTGAG T------AAA AAACATAAAT GAATC---AA
D53 AGCAGCC-CG CCGGCGGCCA A--------- CTAAACTCTT -GTTTCTATA GTGAATC--- ----TCTGAG T------AAA AA-CATAAAT GAATC---AA
Podospora_austro_AY999124 -----GCCTG CCGAAGGTAC ---------- CAAAACCATT GTCTTTAGCA GGC------- -CTCTCTGAG TA-----A-- CGTACTTAAT AAGTC---AA
Leucostoma_kunzei_AY347320 AGCAGGCCCG CCGGTGGCCC A--------- TCTCACTCTT -GTTTT--GA CCGAGTAAC- ---ATCTGAG T------AAA GCTTCTAAAT GAATC---AA
Cryphonectria_cubensis_AY26342 AGCAGGCCCG CCGGCGGCCC A--------- CCAAACTCTT TGTTTTTAGA ACGTATCTC- ---TTCTGAG TG--TTTATA ACAAACAAAT GAATC---AA
Diaporthe_phaseolorum_AY577815 AGCAGCC-CG CCGGCGGCCA A--------- CTAAACTCTT -GTTTCTATA GTGAATC--- ----TCTGAG T------AAA AA-CATAAAT GAATC---AA
D12 GGCGGGTTCG CCCGCCACCA GGAC-CACAC CATAAACCTT TTTT--ATGC AGTTGCAATC AGCGTCAGTA AA------AC AA--GTAATT AATTT---AC
D13 --CGCGCCCG CCAGAGGACC ---------- ACAAAACTCC AGTCAGTGAA CTTTGCT--- ---GTCT-GA TA-----C-C AATTC-A-AT AAACT---AA
M76 --AGTGCCCG CCAGAGGACC ---------- ATCAAACTCC AGTCAGTGAA CGTCGCA--- ---GTCT-GA AA-----AAA CATTC-A-AT AAACT---AA
Bipolaris_sorokiniana_AY372677 GGCGGGTTCG CCCGCCACCA GGAC-CAAAC CATAAACCTT TTTTTTATGC AGTTGCAATC AGCGTCAGTA AA------AA CAATGTAATT A--TT---AC

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Cochli_heterostrophus_AY372687   GGCGGGTTCG CCCGCCACCA GGAC-CAAAC CATAAACCTT TTTTTTATGC AGTTGCAATC AGCGTCAGTA TA------AA CAATGTAATT A--TT---AC
Curvularia_eragrostidis_AF1630   GGCGGGTTCG CCCGCCACCA GGAC-CACAC CATAAACCTT TTTTT-ATGC AGTTGCAATC AGCGTCAGTA TA------AC AAATGTAAAT CATTT---AC
Pyrenophora_teres_AY739765       GGGGGGCTCG CCCGCCAATT GGAC-TTTAT T-CAAACCTT TTTTC----- -ATTGCAATC AGCGTCAGCA AA------AC AA-TGTAATC AA-TT---AC
A4                               AGGACGCCCG GCTAAGTGCC CGCC-AGTAT ACAAAACTCA AGAATTCATA TTGTGAA--- ---GTCCTGA TA-----TAT CATTT-A-AT TGATTT--AA
A5                               AGGACGCCTG GCTAAGTGCC CGCC-AGTAT ACAAAACTCA AGAATTCATT TTGTGAA--- ---GTCCTGA TA-----TAT CATTT-A-AT TGATT---AA
D3                               AGGACGCCCG GCTAAGTGCC CGCC-AGTAT ACAAAACTCA AGAATTCATT TTGTGAA--- ---GTCCTGA TA-----TAT CATTT-A-AT TGATT---AA
D9                               AGGACGCCCG GCTAAGTGCC CGCC-AGTAT ACAAAACTCA AGAATTCATT TTGTGAA--- ---GTCCTGA TA-----TAT CATTT-A-AT TGATT---AA
Botryospha_dothidea_AY615193     --AGCGCCCG CCAGAGGACC ---------- ATCAAACTCC AGTCAGTAAA CGATGCA--- ---GTCT-GA AA-----AAC AT-TT-A-AT AAACT---AA
Botryospha_sp_DQ145728           -------CCG CCAAAGGACC ---------- TCCAAACTCC AGTCAGTAAA CGCAGAC--- ---GTCT-GA TA-----AAC AAGTT-A-AT AAACT---AA
Guignardia_mangiferae_AY277717   AGGACGCCCG GCTAAGTGCC CGCC-AGTAT ACAAAACTCA AGAATTCATT TTGTGAA--- ---GTCCTGA TA-----TAT CATTT-A-AT TGATT---AA
Guignardia_gaultheriae_AB09550   AGGACGTCAG GCTAAGCGCC CGCC-AGTAT ACAAAACTCC AGCGATTATT TCGTGCA--- ---GTTCTGA TA-----AAT TATTC-A-AT TAATT---AA
Guignardia_mangiferae_AB041240   AGGACGCCTG GCTAAGTGCC CGCC-AGTAT ACAAAACTCA AGAATTCATT TTGTGAA--- ---GTCCTGA TA-----TAT CATTT-A-AT TGATT---AA
Sporothrix_inflata_DQ093704      -----CGGGG GCGGCGG-GC C--------- CTACGAACCT TTATATCTCA ACCACCAGAA ACCGTCTGAG AA-----AAC A-AAC-AAAA TAATC---AA
Chaetomium_sp_DQ093660           -----GCCCG CCGGAGG-AT A--------- CCCAACTCTT GATTATTTTA GGC------- -CTCTCTGAG TC-----TTC TGTACTGAAT AAGTC---AA
Zopfiella_tabulata_AY999132      -----GCCCG CCGGCGGCAC T--------- ACAAACTCTT TTTTATTACA GGC------- -CTCTCTGAG TA-----ATT TATAC-AAAT AAGTT---AA
Monodictys_sp_AJ972795           GGCAGCCTCG GCTGCCAATG GGGG-ACCCC AAAAAACACT TTGC------ AGTACCTGTA ACAGTCTGAA CA------AA CAA-ACAAAA A--TT---AA
Scopular_chartarum_AY625066      -----CCCCG CCGGCCGCGC C--------- TTAC---TCT TAATTTGCAA AGCGGACTGT ACGATCTGAT TA-----ATC TTGAT-AAAC AAGTC---AA
Glomerella_cingulata_DQ117967    CCGGCGCCCG CCGGAGGATA A--------- CCA-AACTCT ATTGTAACGA CGTTTCT--- ----TCTGAG TG------GC ATAAGCAAAA TAATC---AA
Colleto_gloeosporioides_AY7539   TCGGCGCCCG CCGGAGGATA A--------- CCA-AACTCT GATTTAACGA CGTTTCT--- ----TCTGAG TG------GT ACAAGCAAA- TAATC---AA
Zalerion_maritimum_AF169305      ----GGCCCA CCAAAAATCC T--------- ATGCAGAAAC -GAATCTCTG AGTGGCT--- ----TCAGGC CTA--TTTTG AAACAAAAAT AAGTC---AA
Dothidea_sambuci_AY883094        -GAGCGCCTG CCAGAGT--- --CC-A---- ACCAAACTCT TGTTTTTAAC CAGTC----- ---GTCTGAG TA-----TAA AATTTTA-AT TAAATT--AA
Aquaticheiro_broccolii_AY86477   GGCAGGGACG CCTGCCGTCG GGAC-C---C CCAAAACCTA TTGT--ATGC AAGCATCATA ATAATCTGAA TC------AT AA---CAATT A--TT---AC
Sarcinomyces_sp_AJ972816         --AGCGCCCG CCAGAGGATT TTCA-A---- ACCAAACTCT TG---TCATA TCAGTGA--- ---TTGTCTG AG-----CAA AAATC-A-AT TAATC---AA
Sarea_resinae_AY781237           -GTGCGCCCG CCAGAGA--- --CC-A---- CCAAAACTCT TGTTTATCAA T-GTC----- ---GTCTGAG TA-----CTA --TGCAA-AT --AGTT--AA
Phomopsis_sp_DQ145731            AGCAGGCACG CCGGCGGCCA A--------- GTTAACTCTT -GTTTTTACA CTGAAAC--- ----TCTGAG A------AAA AA-CACAAAT GAATC---AA
Chrysoport_hodgesiana_AY956970   AGCAGGCCCG CCGGCGGCCC A--------- CCAAACTCTT TGTTTTTAGA ACGTATCTC- ---TTCTGAG TG--TTTATA ACAAACAAAT GAATC---AA
Sphaceloma_krugii_AY739020       GGCCCGGGCA GCGCCCGCCG GGGG-A---- CCGAACCAAC TCTTTTGTCA AACAATGAA- ---GTCGGAG TAC---AATG TACAAAATCA AATTT---AA
Halosarpheia_viscosa_AF422979    GG---AGGCA GCA------- -----A---- CCAAA---AC TCTTATGTTA AA-AATTAT- ---TTCAAAA -AC---TTTA TAAAAAAAAA TAAGC---AA
Periconia_macrospinosa_AJ24615   GGCGGGCTCG CCCGCCGCCA GGAA-CCCAC G--AAACCCC TTGC----AT TATACGCGAA AACTTCTG-A TA------AC AAACCTAAAT TA-TC---AC
OutG_Ganoderma_fornicatum_AY59   GGCCCTT-CA CCGGGCTTTG CAGGACGTGT CTGTGCCTGC GTTTATCACA AACTCTATAA AGTATCGGAA TGTGTATTGC GATGTAACGC ATCTACATAC
OutG_Lentinus_tigrinus_DQ05686   GTTTCTTACG CCGGAGTT-- ------GTGA CTGGGCCTAC GTTTACTACA AACTCTTACA AGTATCAGAA TGTGTATTGC GATGTAACGC ATCTCTATAC

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                                       310        320        330        340        350        360        370        380        390        400
A1                               AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CAAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
N24                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
M41                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CAAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Metarhizium_anisopliae_AY75551   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Hypomyces_microspermus_AY34480   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Fusarium_sp_AJ222809             AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Pythium_ultimum_AF452163         AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CAAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
A2                               AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAACTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
A67                              AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAATTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
A71                              AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAATTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
D2                               AACTTTCAAC AATGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAACTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
Hamigera_avellanea_AB176604      AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
Eurotium_rubrum_AY373891         AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAATTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
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Penicillium_citrinum_AY373904    AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAACTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
Aschersonia_s_AY225333           AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAACTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
Penicillium_paxilli_AY787847     AACTTTCAAC AACGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAATTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
Aspergillus_aculeatus_AJ280004   AACTTTCAAC AATGGATC-- TCTTGGTTCC GGCATCGATG AAGAACGCAG CGAAATGCGA TAACTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAGTC
A59                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D14                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
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D50                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D55                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D65                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Hypoxylon_serpens_AY781226       AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Pestalosphae_elaeidis_AF009815   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Monograph_albescens_AJ132509     AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D15                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D53                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Podospora_austro_AY999124        AACTTTCAAC AACGGATC-- TCTTGGCTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATCCAGTGAA TCATCGAATC
Leucostoma_kunzei_AY347320       AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Cryphonectria_cubensis_AY26342   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Diaporthe_phaseolorum_AY577815   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D12                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TACGTAGTGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D13                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
M76                              AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Bipolaris_sorokiniana_AY372677   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TACGTAGTGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Cochli_heterostrophus_AY372687   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TACGTAGTGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Curvularia_eragrostidis_AF1630   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TACGTAGTGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Pyrenophora_teres_AY739765       AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAGTGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
A4                               AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
A5                               AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D3                               AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
D9                               AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Botryospha_dothidea_AY615193     AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Botryospha_sp_DQ145728           AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Guignardia_mangiferae_AY277717   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Guignardia_gaultheriae_AB09550   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Guignardia_mangiferae_AB041240   AACTTTCAAC AACGGATC-- TCTTGGTTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TAAGTAATGT GAATTGCAGA ATTCAGTGAA TCATCGAATC
Sporothrix_inflata_DQ093704      AACTTTCAAC AACGGATC-- TCTTGGCTCT GGCATCGATG AAGAACGCAG CGAAATGCGA TACGTAATGT GAATTGCAGA ATTCAGCGAA CCATCGAATC
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                                         410        420        430        440        450        460        470        480        490        500
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Pythium_ultimum_AF452163         TTTGAACGCA CATTGCGCCC GCCAGTATTC TGGCGGGC-- -ATGCCTGTT CGAGCGTCAT TTCAA--CCC TCAAGCCCCC ---------- --G--GGTTT
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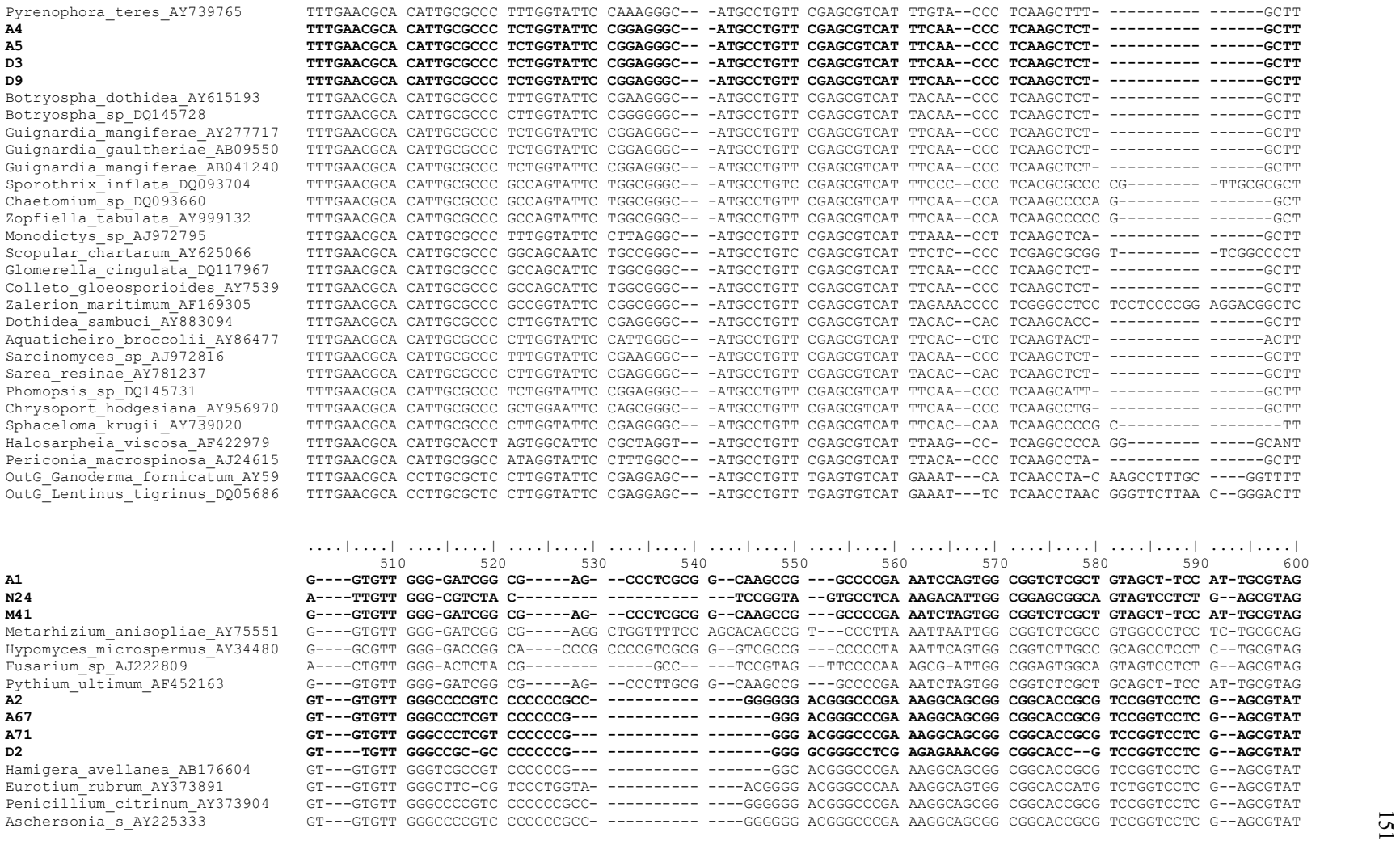
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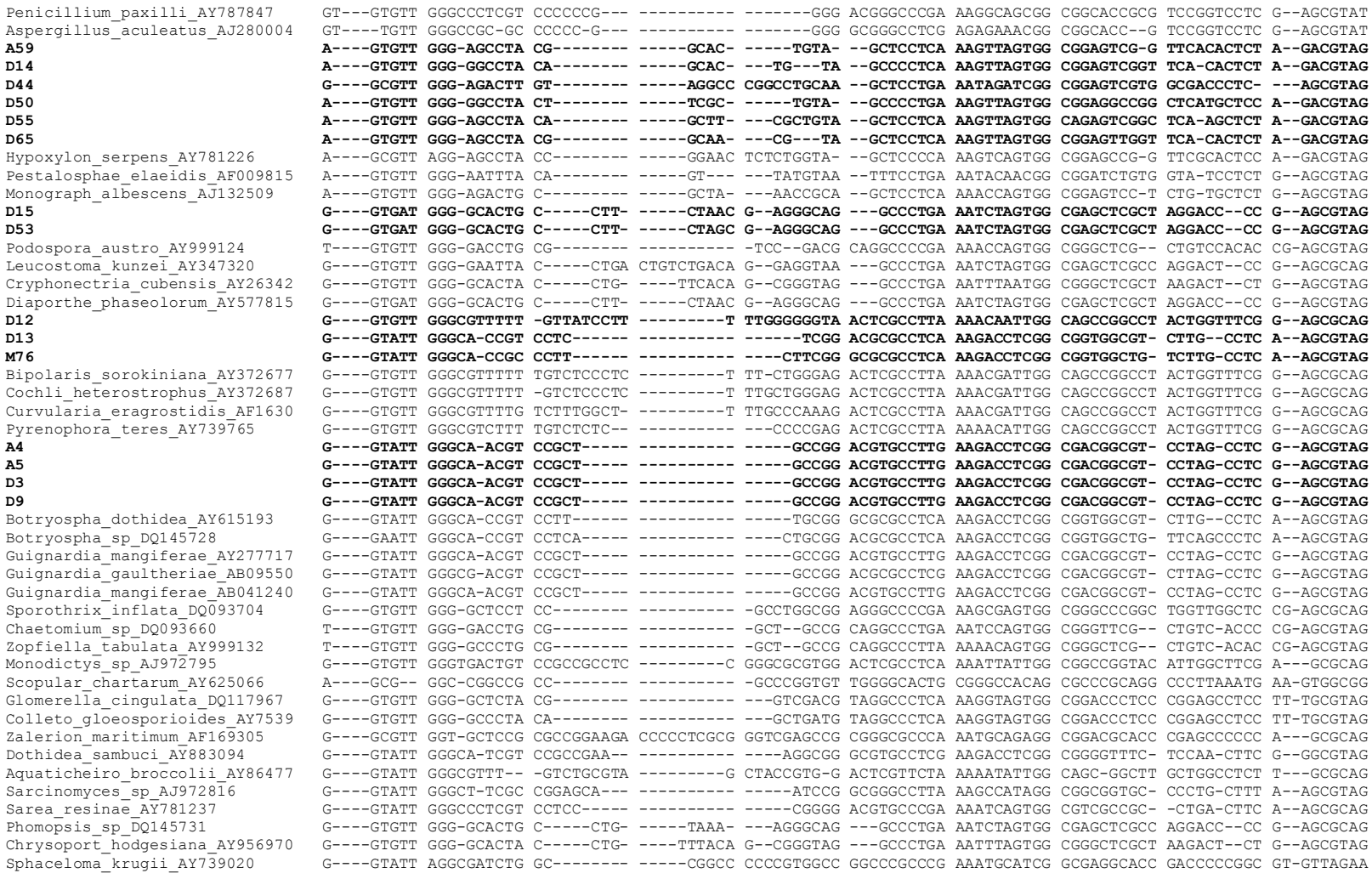
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Pyrenophora_teres_AY739765 G----GTGTT GGGCGTCTTT TGTCTCTC-- ---------- ---CCCCGAG ACTCGCCTTA AAAACATTGG CAGCCGGCCT ACTGGTTTCG G--AGCGCAG
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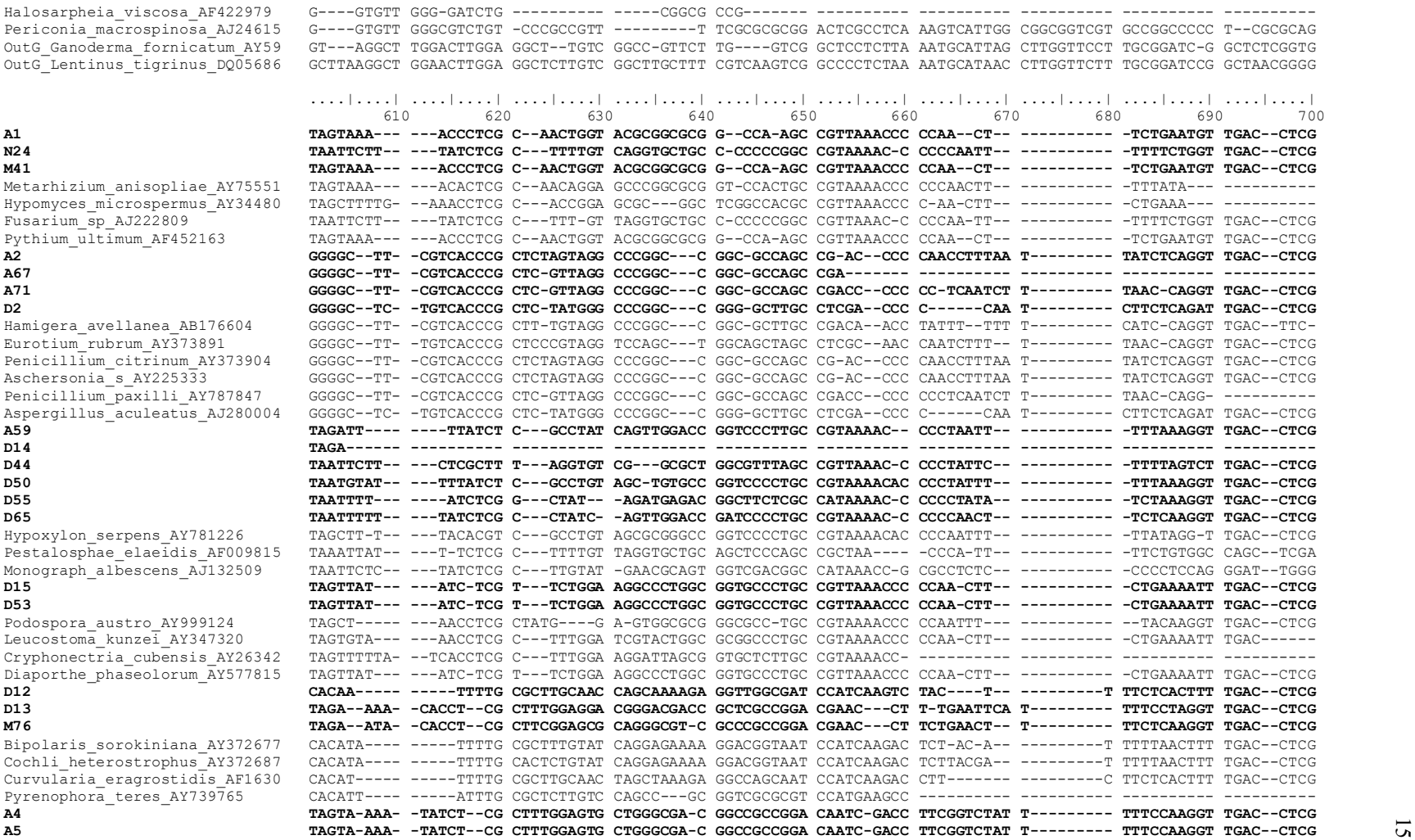
Guignardia_gaultheriae_AB09550 G----GTATT GGGCG-ACGT CCGCT----- ---------- -----GCCGG ACGCGCCTCG AAGACCTCGG CGACGGCGT- CTTAG-CCTC G--AGCGTAG
Guignardia_mangiferae_AB041240 G----GTATT GGGCA-ACGT CCGCT----- ---------- -----GCCGG ACGTGCCTTG AAGACCTCGG CGACGGCGT- CCTAG-CCTC G--AGCGTAG
Sporothrix_inflata_DQ093704 G----GTGTT GGG-GCTCCT CC-------- ---------- -GCCTGGCGG AGGGCCCCGA AAGCGAGTGG CGGGCCCGGC TGGTTGGCTC CG-AGCGCAG
Chaetomium_sp_DQ093660 T----GTGTT GGG-GACCTG CG-------- ---------- -GCT--GCCG CAGGCCCTGA AATCCAGTGG CGGGTTCG-- CTGTC-ACCC CG-AGCGTAG
Zopfiella_tabulata_AY999132 T----GTGTT GGG-GCCCTG CG-------- ---------- -GCT--GCCG CAGGCCCTTA AAAACAGTGG CGGGCTCG-- CTGTC-ACAC CG-AGCGTAG
Monodictys_sp_AJ972795 G----GTGTT GGGTGACTGT CCGCCGCCTC ---------C GGGCGCGTGG ACTCGCCTCA AAATTATTGG CGGCCGGTAC ATTGGCTTCG A---GCGCAG
Scopular_chartarum_AY625066 A----GCG-- GGC-CGGCCG CC-------- ---------- -GCCCGGTGT TGGGGCACTG CGGGCCACAG CGCCCGCAGG CCCTTAAATG AA-GTGGCGG
Glomerella_cingulata_DQ117967 G----GTGTT GGG-GCTCTA CG-------- ---------- ---GTCGACG TAGGCCCTCA AAGGTAGTGG CGGACCCTCC CGGAGCCTCC TT-TGCGTAG
Colleto_gloeosporioides_AY7539 G----GTGTT GGG-GCCCTA CA-------- ---------- ---GCTGATG TAGGCCCTCA AAGGTAGTGG CGGACCCTCC CGGAGCCTCC TT-TGCGTAG
Zalerion_maritimum_AF169305 G----GCGTT GGT-GCTCCG CGCCGGAAGA CCCCCTCGCG GGTCGAGCCG CGGGCGCCCA AATGCAGAGG CGGACGCACC CGAGCCCCCC A---GCGCAG
Dothidea_sambuci_AY883094 G----GTATT GGGCA-TCGT CCGCCGAA-- ---------- ----AGGCGG GCGTGCCTCG AAGACCTCGG CGGGGTTTC- TCCAA-CTTC G--GGCGTAG
Aquaticheiro_broccolii_AY86477 G----GTATT GGGCGTTT-- -GTCTGCGTA ---------G CTACCGTG-G ACTCGTTCTA AAAATATTGG CAGC-GGCTT GCTGGCCTCT T---GCGCAG
Sarcinomyces_sp_AJ972816 G----GTATT GGGCT-TCGC CGGAGCA--- ---------- -----ATCCG GCGGGCCTTA AAGCCATAGG CGGCGGTGC- CCCTG-CTTT A--AGCGTAG
Sarea_resinae_AY781237 G----GTATT GGGCCCTCGT CCTCC----- ---------- -----CGGGG ACGTGCCCGA AAATCAGTGG CGTCGCCGC- -CTGA-CTTC A--AGCGCAG
Phomopsis_sp_DQ145731 G----GTGTT GGG-GCACTG C-----CTG- -----TAAA- ---AGGGCAG ---GCCCTGA AATCTAGTGG CGAGCTCGCC AGGACC--CC G--AGCGCAG
Chrysoport_hodgesiana_AY956970 G----GTGTT GGG-GCACTA C-----CTG- ----TTTACA G--CGGGTAG ---GCCCTGA AATTTAGTGG CGGGCTCGCT AAGACT--CT G--AGCGTAG
Sphaceloma_krugii_AY739020 G----GTATT AGGCGATCTG GC-------- -----CGGCC CCCCGTGGCC GGCCCGCCCG AAATGCATCG GCGAGGCACC GACCCCCGGC GT-GTTAGAA


Halosarpheia_viscosa_AF422979 G----GTGTT GGG-GATCTG ---------- -----CGGCG CCG------- ---------- ---------- ---------- ----------
Periconia_macrospinosa_AJ24615 G----GTGTT GGGCGTCTGT -CCCGCCGTT ---------T TCGCGCGCGG ACTCGCCTCA AAGTCATTGG CGGCGGTCGT GCCGGCCCCC T--CGCGCAG
OutG_Ganoderma_fornicatum_AY59 GT---AGGCT TGGACTTGGA GGCT--TGTC GGCC-GTTCT TG----GTCG GCTCCTCTTA AATGCATTAG CTTGGTTCCT TGCGGATC-G GCTCTCGGTG
OutG_Lentinus_tigrinus_DQ05686 GCTTAAGGCT GGAACTTGGA GGCTCTTGTC GGCTTGCTTT CGTCAAGTCG GCCCCTCTAA AATGCATAAC CTTGGTTCTT TGCGGATCCG GCTAACGGGG
610 620 630 640 650 660 670 680 690 700
A1 TAGTAAA--- ---ACCCTCG C--AACTGGT ACGCGGCGCG G--CCA-AGC CGTTAAACCC CCAA--CT-- ---------- -TCTGAATGT TGAC--CTCG
N24 TAATTCTT-- ---TATCTCG C---TTTTGT CAGGTGCTGC C-CCCCCGGC CGTAAAAC-C CCCCAATT-- ---------- -TTTTCTGGT TGAC--CTCG
M41 TAGTAAA--- ---ACCCTCG C--AACTGGT ACGCGGCGCG G--CCA-AGC CGTTAAACCC CCAA--CT-- ---------- -TCTGAATGT TGAC--CTCG
Metarhizium_anisopliae_AY75551 TAGTAAA--- ---ACACTCG C--AACAGGA GCCCGGCGCG GT-CCACTGC CGTAAAACCC CCCAACTT-- ---------- -TTTATA--- ----------
Hypomyces_microspermus_AY34480 TAGCTTTTG- --AAACCTCG C---ACCGGA GCGC---GGC TCGGCCACGC CGTTAAACCC C-AA-CTT-- ---------- -CTGAAA--- ----------
Fusarium_sp_AJ222809 TAATTCTT-- ---TATCTCG C---TTT-GT TAGGTGCTGC C-CCCCCGGC CGTTAAAC-C CCCAA-TT-- ---------- -TTTTCTGGT TGAC--CTCG
Pythium_ultimum_AF452163 TAGTAAA--- ---ACCCTCG C--AACTGGT ACGCGGCGCG G--CCA-AGC CGTTAAACCC CCAA--CT-- ---------- -TCTGAATGT TGAC--CTCG
A2 GGGGC--TT- -CGTCACCCG CTCTAGTAGG CCCGGC---C GGC-GCCAGC CG-AC--CCC CAACCTTTAA T--------- TATCTCAGGT TGAC--CTCG
A67 GGGGC--TT- -CGTCACCCG CTC-GTTAGG CCCGGC---C GGC-GCCAGC CGA------- ---------- ---------- ---------- ----------
A71 GGGGC--TT- -CGTCACCCG CTC-GTTAGG CCCGGC---C GGC-GCCAGC CGACC--CCC CC-TCAATCT T--------- TAAC-CAGGT TGAC--CTCG
D2 GGGGC--TC- -TGTCACCCG CTC-TATGGG CCCGGC---C GGG-GCTTGC CTCGA--CCC C------CAA T--------- CTTCTCAGAT TGAC--CTCG
Hamigera_avellanea_AB176604 GGGGC--TT- -CGTCACCCG CTT-TGTAGG CCCGGC---C GGC-GCTTGC CGACA--ACC TATTT--TTT T---------- CATC-CAGGT TGAC--TTC-
Eurotium_rubrum_AY373891 GGGGC--TT- -TGTCACCCG CTCCCGTAGG TCCAGC---T GGCAGCTAGC CTCGC--AAC CAATCTTT-- T---------- TAAC-CAGGT TGAC--CTCG
Penicillium_citrinum_AY373904 GGGGC--TT- -CGTCACCCG CTCTAGTAGG CCCGGC---C GGC-GCCAGC CG-AC--CCC CAACCTTTAA T---------- TATCTCAGGT TGAC--CTCG
Aschersonia_s_AY225333 GGGGC--TT- -CGTCACCCG CTCTAGTAGG CCCGGC---C GGC-GCCAGC CG-AC--CCC CAACCTTTAA T---------- TATCTCAGGT TGAC--CTCG
Penicillium_paxilli_AY787847 GGGGC--TT- -CGTCACCCG CTC-GTTAGG CCCGGC---C GGC-GCCAGC CGACC--CCC CCCTCAATCT T---------- TAAC-CAGG- ----------
Aspergillus_aculeatus_AJ280004 GGGGC--TC- -TGTCACCCG CTC-TATGGG CCCGGC---C GGG-GCTTGC CTCGA--CCC C------CAA T---------- CTTCTCAGAT TGAC--CTCG
A59 TAGATT---- ----TTATCT C---GCCTAT CAGTTGGACC GGTCCCTTGC CGTAAAAC-- CCCTAATT-- ---------- -TTTAAAGGT TGAC--CTCG
D14 TAGA------ ---------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
D44 TAATTCTT-- ---CTCGCTT T---AGGTGT CG---GCGCT GGCGTTTAGC CGTTAAAC-C CCCTATTC-- ---------- -TTTTAGTCT TGAC--CTCG
D50 TAATGTAT-- ---TTTATCT C---GCCTGT AGC-TGTGCC GGTCCCCTGC CGTAAAACAC CCCTATTT-- ---------- -TTTAAAGGT TGAC--CTCG
D55 TAATTTT--- ----ATCTCG G---CTAT-- -AGATGAGAC GGCTTCTCGC CATAAAAC-C CCCCTATA-- ---------- -TCTAAAGGT TGAC--CTCG
D65 TAATTTTT-- ---TATCTCG C---CTATC- -AGTTGGACC GATCCCCTGC CGTAAAAC-C CCCCAACT-- ---------- -TCTCAAGGT TGAC--CTCG
Hypoxylon_serpens_AY781226 TAGCTT-T-- ---TACACGT C---GCCTGT AGCGCGGGCC GGTCCCCTGC CGTAAAACAC CCCAATTT-- ---------- -TTATAGG-T TGAC--CTCG
Pestalosphae_elaeidis_AF009815 TAAATTAT-- ---T-TCTCG C---TTTTGT TAGGTGCTGC AGCTCCCAGC CGCTAA---- -CCCA-TT-- ---------- -TTCTGTGGC CAGC--TCGA
Monograph_albescens_AJ132509 TAATTCTC-- ---TATCTCG C---TTGTAT -GAACGCAGT GGTCGACGGC CATAAACC-G CGCCTCTC-- ---------- -CCCCTCCAG GGAT--TGGG
D15 TAGTTAT--- ---ATC-TCG T---TCTGGA AGGCCCTGGC GGTGCCCTGC CGTTAAACCC CCAA-CTT-- ---------- -CTGAAAATT TGAC--CTCG
D53 TAGTTAT--- ---ATC-TCG T---TCTGGA AGGCCCTGGC GGTGCCCTGC CGTTAAACCC CCAA-CTT-- ---------- -CTGAAAATT TGAC--CTCG
Podospora_austro_AY999124 TAGCT----- ---AACCTCG CTATG----G A-GTGGCGCG GGCGCC-TGC CGTAAAACCC CCAATTT--- ---------- --TACAAGGT TGAC--CTCG
Leucostoma_kunzei_AY347320 TAGTGTA--- ---AACCTCG C---TTTGGA TCGTACTGGC GCGGCCCTGC CGTAAAACCC CCAA-CTT-- ---------- -CTGAAAATT TGAC------
Cryphonectria_cubensis_AY26342 TAGTTTTTA- --TCACCTCG C---TTTGGA AGGATTAGCG GTGCTCTTGC CGTAAAACC- ---------- ---------- ---------- ----------
Diaporthe_phaseolorum_AY577815 TAGTTAT--- ---ATC-TCG T---TCTGGA AGGCCCTGGC GGTGCCCTGC CGTTAAACCC CCAA-CTT-- ---------- -CTGAAAATT TGAC--CTCG
D12 CACAA----- -----TTTTG CGCTTGCAAC CAGCAAAAGA GGTTGGCGAT CCATCAAGTC TAC----T-- ---------T TTCTCACTTT TGAC--CTCG
D13 TAGA--AAA- -CACCT--CG CTTTGGAGGA CGGGACGACC GCTCGCCGGA CGAAC---CT T-TGAATTCA T--------- TTTCCTAGGT TGAC--CTCG
M76 TAGA--ATA- -CACCT--CG CTTCGGAGCG CAGGGCGT-C GCCCGCCGGA CGAAC---CT TCTGAACT-- T--------- TTCTCAAGGT TGAC--CTCG
Bipolaris_sorokiniana_AY372677 CACATA---- -----TTTTG CGCTTTGTAT CAGGAGAAAA GGACGGTAAT CCATCAAGAC TCT-AC-A-- ---------T TTTTAACTTT TGAC--CTCG
Cochli_heterostrophus_AY372687 CACATA---- -----TTTTG CACTCTGTAT CAGGAGAAAA GGACGGTAAT CCATCAAGAC TCTTACGA-- ---------T TTTTAACTTT TGAC--CTCG
Curvularia_eragrostidis_AF1630 CACAT----- -----TTTTG CGCTTGCAAC TAGCTAAAGA GGCCAGCAAT CCATCAAGAC CTT------- ---------C TTCTCACTTT TGAC--CTCG
Pyrenophora_teres_AY739765 CACATT---- -----ATTTG CGCTCTTGTC CAGCC---GC GGTCGCGCGT CCATGAAGCC ---------- ---------- ---------- ----------
A4 TAGTA-AAA- -TATCT--CG CTTTGGAGTG CTGGGCGA-C GGCCGCCGGA CAATC-GACC TTCGGTCTAT T--------- TTTCCAAGGT TGAC--CTCG
A5 TAGTA-AAA- -TATCT--CG CTTTGGAGTG CTGGGCGA-C GGCCGCCGGA CAATC-GACC TTCGGTCTAT T--------- TTTCCAAGGT TGAC--CTCG

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D3                              TAGTA-AAA- -TATCT--CG CTTTGGAGTG CTGGGCGA-C GGCCGCCGGA CAATC-GACC TTCGGTCTAT T--------- TTTCCAAGGT TGAC--CTCG
D9                              TAGTA-AAA- -TATCT--CG CTTTGGAGTG CTGGGCGA-C GGCCGCCGGA CAATC-GACC TTCGGTCTAT T--------- TTTCCAAGGT TGAC--CTCG
Botryospha_dothidea_AY615193    TAGAACATA- -CATCT--CG CTTCGGAGCG CAGGGCGT-C GCCCGCCGGA CGAAC---CT TCTGAACT-- T--------- TTCTCAAGGT TGAC--CTCG
Botryospha_sp_DQ145728          TAGA--ATA- -CACCT--CG CTTTGGAGTG GTTGGCGTGC GCCCGCCGGA CGAAC---CT TCTGAACT-- T--------- TTCTCAAGGT -GAC--CTCG
Guignardia_mangiferae_AY277717  TAGTA-AAA- -TATCT--CG CTTTGGAGTG CTGGGCGA-C GGCCGCCGGA CAATC-GACC TTCGGTCTAT T--------- TTTCCAAGGT TGAC--CTCG
Guignardia_gaultheriae_AB09550  TAGTA---A- -CATCT--CG CTTTGGAGTG CTAGGCGT-T GGCCGCCGGA CAATC-GACC TTTGGTCTAT TA-------- CTTCCAAGGT TGAC--CTCG
Guignardia_mangiferae_AB041240  TAGTA-AAA- -TATCT--CG CTTTGGAGTG CTGGGCGA-C GGCCGCCGGA CAATC-GACC TTCGGTCTAT T--------- TTTCCAAGGT TGAC--CTCG
Sporothrix_inflata_DQ093704     TACCGA-ACG CAAGTTCTCC CCTCGCCCGG ACGCCCCGCC GGCGCCCTGC CGTCAAAACG CGCATGACGT GCAACTCTTT TTTACAAGGT TGAC--CTCG
Chaetomium_sp_DQ093660          TAGCAA---- ---TATCTCG CTCAG----G GCGTGCTGCG GGCACC-GGC CGTTAAAAGC TGCCTTCTGG CAA------- CACCCAAGGT TGAC--CTCG
Zopfiella_tabulata_AY999132     TAATA----- ---CATCTCG CTTTG----G ACGTGCAGCG GGTTCT-TGC CGTGAAACAC CCCCCTT--- ---------- --CTCAAGGT TGAC--CTCG
Monodictys_sp_AJ972795          CAGAA----- ---------- -ACGCGAACT CGGGCCCGTC GTATTGGCTC CCAGAAGCTA TCT------- ---------- -TCACAATTT TGAC--CTCG
Scopular_chartarum_AY625066     TCCCGCCGCG GCGCCCCCTG CGTAGTAGTA AAGCACCTCG CATCGGGTCC CGGCGAAGAC CAGCCGTCGA AC--CTTTCT CTTGATGGTT TGAC--CTCG
Glomerella_cingulata_DQ117967   TAACATTT-- ---CGTCTCG C---ACTGG- -GATCCGGAG GGACTCTTGC CGTAAAACCC CCCAATTT-- ---------- -TCCAAAGGT TGAC--CTCG
Colleto_gloeosporioides_AY7539  TAACTTTA-- ---CGTCTCG C---ACTGG- -GATCCGGAG GGACTCTTGC CGTAAAACCC CCCAATTT-- ---------- -TCCAAAGGT TGAC--CTCG
Zalerion_maritimum_AF169305     TACAACT--- ---GTCTTCG CT-GACGGCG GACGGGAGCG GTACCACAGC CCCCCCAACC ACACTTCT-- ---------- -TTTGAACTT TGAC--CTCG
Dothidea_sambuci_AY883094       TAGAG-TTA- -AATCGAACG TCTTATAA-G CTTGGTGG-G ACTCCATTGC C-GTT-AAAC CT---TTTAT T--------- TT-CTA-GGT TGAC--C---
Aquaticheiro_broccolii_AY86477  TAC------- ------TTTG CGCTCCTTGA -GGCACCGGC GTGCTTGCGT CCATCCAAGA TCA------- ---------- -CCACCAGTT TGAC--CTCG
Sarcinomyces_sp_AJ972816        TAAAA-CAA- -TCTTT--CG CTTAGAAGCA G-AGGTGT-T GCTTGCCGAA TAACCCGGGC TATGCCCCAC C--------- -TCTCAGG-- ----------
Sarea_resinae_AY781237          TAATT-CT-- ---TCT--CG CTTTGGAA-G GAAGG-GT-C GGTCGACCGC CAGAC-AAAC CC---ATTAT T--------- TTTCTATGGT TGAC--CTCG
Phomopsis_sp_DQ145731           TAGTTAA--- ---ACCCTCG C---TTTGGA AGGCCCTGGC GGTGCCCTGC CGTTAAACCC CCAA-CTT-- ---------- -CTGAAAATT TGAC--CTCG
Chrysoport_hodgesiana_AY956970  TAGTTTTTA- --TCACCTCG C---TTTGGA AGGATTAGCG GTGCTCTTGC CGTAAAACC- ---------- ---------- ---------- ----------
Sphaceloma_krugii_AY739020      TTTCTTTAAC GTCGAGAGCA CCGGTGAACC TCCGCCCGTG AAACCTTTTT AATAAATTTC TTAAGGGTGA CCTCGGATCA GGTAGGAATA CCCG--CTGA
Halosarpheia_viscosa_AF422979   ---------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
Periconia_macrospinosa_AJ24615  CACAT----- -------TTG CGCTTCTCGG AGGCCCGGCG GATCCGCGCT CCAGCAAGAC CTT------- ---------- -TCACGA-CT TGAC--CTCG
OutG_Ganoderma_fornicatum_AY59  TGATAAT--- GTCTACGCCG CGACCGT-GA AGCGTTT--- ---GGCAAGC TTCTAACGGT CTCAGTTGGA GACAGC--TT TAT-GACCTC TGAC--CTCA
OutG_Lentinus_tigrinus_DQ05686  TGAAAATT-- GTCTACCCCG CGCCCGTTGA ACCGTTTTAA TGGGACTAGC TTCTAACCGT CTCCTCGCGA GAAAGCA-TT CATCGAACTC TGAC--CTCA

                                ....|....| ....|....| ....|....| ...
                                       710        720        730
A1                              GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
N24                             GATCA----- ---------- ---------- ---
M41                             GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
Metarhizium_anisopliae_AY75551  ---------- ---------- ---------- ---
Hypomyces_microspermus_AY34480  ---------- ---------- ---------- ---
Fusarium_sp_AJ222809            GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
Pythium_ultimum_AF452163        GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
A2                              GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
A67                             ---------- ---------- ---------- ---
A71                             GATCAGGTAG GG-ATACCCG CTG------- ---
D2                              GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Hamigera_avellanea_AB176604     ---------- ---------- ---------- ---
Eurotium_rubrum_AY373891        GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Penicillium_citrinum_AY373904   GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Aschersonia_s_AY225333          GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Penicillium_paxilli_AY787847    ---------- ---------- ---------- ---
Aspergillus_aculeatus_AJ280004  GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
A59                             GATCAGGTAG GA-ATACCCG CTGAACT--- ---
D14                             ---------- ---------- ---------- ---
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D44                              GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
D50                              GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
D55                              GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
D65                              AATCGGTTCA GACAAACTCG CTAAATTGAA GCA
Hypoxylon_serpens_AY781226       GATCAGGTAG GA-ATACC-- ---------- ---
Pestalosphae_elaeidis_AF009815   TAGTAGATA- -------CCG CTGA-CTTAC G-A
Monograph_albescens_AJ132509     CACCTTTT-- ---------- ---------- ---
D15                              GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
D53                              GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
Podospora_austro_AY999124        GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
Leucostoma_kunzei_AY347320       ---------- ---------- ---------- ---
Cryphonectria_cubensis_AY26342   ---------- ---------- ---------- ---
Diaporthe_phaseolorum_AY577815   GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
D12                              GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
D13                              GATCA----- ---------- ---------- ---
M76                              GATCAGGTAG GGATACCCGC TGAACTTAAG CA-
Bipolaris_sorokiniana_AY372677   GATCAAGTAG GG-ATACCCG CTGAACTTAA GCA
Cochli_heterostrophus_AY372687   GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Curvularia_eragrostidis_AF1630   GA-------- ---------- ---------- ---
Pyrenophora_teres_AY739765       ---------- ---------- ---------- ---
A4                               GATCAGGTAG GG-ATACCCG CTGAACTTAA GC-
A5                               GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
D3                               GATCAGGTAG GG-ATACCCG CTGAACTTA- ---
D9                               GATCAGGTAG GG-ATACCCG CTGAA----- ---
Botryospha_dothidea_AY615193     GAT------- ---------- ---------- ---
Botryospha_sp_DQ145728           GATCA----- ---------- ---------- ---
Guignardia_mangiferae_AY277717   GATCAGGTAG GGGATACCCG CTGAACTTAA GCA
Guignardia_gaultheriae_AB09550   ---------- ---------- ---------- ---
Guignardia_mangiferae_AB041240   GATCAGGTAG GG-ATACCCG CTGAACTT-- ---
Sporothrix_inflata_DQ093704      GATCAGGTAG GA-CTACCCG ---------- ---
Chaetomium_sp_DQ093660           GATCAGGTAG GA-AGACCCG CTGAACTAA- ---
Zopfiella_tabulata_AY999132      GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
Monodictys_sp_AJ972795           GATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Scopular_chartarum_AY625066      GATCAGGTAG GG-ATACCCG CTGAACTTAA ---
Glomerella_cingulata_DQ117967    GATCAGGTAG GA-ATACCCG CTGAACTTAA ---
Colleto_gloeosporioides_AY7539   GATCANGTAG GA-ATACCCG CTGAACTTAA GCA
Zalerion_maritimum_AF169305      GATCAGGTAG GA-CTACCCG CTGAACTTAA GCA
Dothidea_sambuci_AY883094        ---------- ---------- ---------- ---
Aquaticheiro_broccolii_AY86477   AATCAGGTAG GG-ATACCCG CTGAACTTAA GCA
Sarcinomyces_sp_AJ972816         ---------- ---------- ---------- ---
Sarea_resinae_AY781237           G--------- ---------- ---------- ---
Phomopsis_sp_DQ145731            GATCAGGTAG GA-ATACCCG CTGAACTTAA GCA
Chrysoport_hodgesiana_AY956970   ---------- ---------- ---------- ---
Sphaceloma_krugii_AY739020       CTTAACATAT CAATACGC-- ---------- ---
Halosarpheia_viscosa_AF422979    ---------- ---------- ---------- ---
Periconia_macrospinosa_AJ24615   GATCAGG--- ---------- ---------- ---
OutG_Ganoderma_fornicatum_AY59   AATCAGGTAG GA-CTACCCG CTGAACTTAA GCA
OutG_Lentinus_tigrinus_DQ05686   AATCAGGTAG GA-CWACCCG CTGAACTTAA CCA
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