

Supplementary Table1.

Cluster sets of identified undiscovered multicopy regions from *Mycobacterium tuberculosis*, *Mycobacterium Africanum*, *Mycobacterium bovis*, *Tuberculosis complex*.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster195	0(3) 1(51) 2(40) 3(35) 4(21) 5(4) 6(3) 7(5) 8(5) 9(9) 10(7) 11(11) 12(19) 13(21) 14(19) 15(20) 16(24) 17(13) 18(6) 19(3) 20(2) 21(7) 22(3) 23(2) 24(2) 25(2) 27(1) 28(1)	*	99.1%[336/339]	8.831858407
Cluster102	0(3) 1(51) 2(40) 3(35) 4(21) 5(4) 6(3) 7(5) 8(5) 9(9) 10(7) 11(11) 12(19) 13(21) 14(19) 15(21) 16(23) 17(13) 18(6) 19(3) 20(2) 21(7) 22(4) 23(1) 24(2) 25(2) 27(1) 28(1)	*	99.1%[336/339]	8.825958702
Cluster454	0(3) 1(51) 2(40) 3(35) 4(21) 5(4) 6(3) 7(6) 8(5) 9(8) 10(7) 11(14) 12(16) 13(21) 14(19) 15(21) 16(23) 17(12) 18(7) 19(3) 20(2) 21(7) 22(3) 23(2) 24(2) 25(2) 27(1) 28(1)	*	99.1%[336/339]	8.817109145
Cluster170	0(3) 1(51) 2(41) 3(34) 4(21) 5(4) 6(3) 7(6) 8(5) 9(8) 10(7) 11(14) 12(17) 13(20) 14(19) 15(21) 16(24) 17(11) 18(7) 19(3) 20(2) 21(7) 22(3) 23(2) 24(2) 25(2) 27(1) 28(1)	*	99.1%[336/339]	8.808259587
Cluster439	0(3) 1(52) 2(43) 3(33) 4(20) 5(4) 6(3) 7(7) 8(6) 9(6) 10(9) 11(11) 12(17) 13(20) 14(19) 15(20) 16(25) 17(11) 18(6) 19(4) 20(2) 21(7) 22(3) 23(1) 24(3) 25(2) 27(1) 28(1)	*	99.1%[336/339]	8.764011799
Cluster128	0(3) 1(51) 2(40) 3(36) 4(20) 5(4) 6(3) 7(7) 8(5) 9(8) 10(9) 11(13) 12(16) 13(22) 14(18) 15(22) 16(20) 17(14) 18(5) 19(3) 20(2) 21(8) 22(3) 23(1) 24(2) 25(2) 27(1) 28(1)	*	99.1%[336/339]	8.749262537
Cluster363	0(3) 1(54) 2(41) 3(33) 4(20) 5(4) 6(4) 7(6) 8(6) 9(6) 10(9) 11(11) 12(18) 13(20) 14(18) 15(22) 16(23) 17(12) 18(5) 19(4) 20(2) 21(7) 22(3) 23(1) 24(4) 25(1) 27(1) 28(1)	*	99.1%[336/339]	8.737463127
Cluster289	0(3) 1(54) 2(41) 3(32) 4(21) 5(4) 6(4) 7(6) 8(6) 9(6) 10(9) 11(12) 12(16) 13(22) 14(17) 15(22) 16(23) 17(12) 18(5) 19(4) 20(2) 21(7) 22(3) 23(2) 24(3) 25(1) 27(1) 28(1)	*	99.1%[336/339]	8.734513274
Cluster76	0(3) 1(52) 2(43) 3(33) 4(20) 5(4) 6(3) 7(7) 8(6) 9(6) 10(10) 11(11) 12(17) 13(21) 14(19) 15(23) 16(20) 17(12) 18(6) 19(3) 20(2) 21(7) 22(4) 23(1) 24(3) 25(1) 27(1) 28(1)	*	99.1%[336/339]	8.713864307
Cluster599	0(3) 1(58) 2(42) 3(32) 4(22) 5(4) 6(3) 7(8) 8(3) 9(7) 10(8) 11(11) 12(14) 13(19) 14(17) 15(23) 16(24) 17(11) 18(5) 19(4) 20(2) 21(8) 22(2) 23(1) 24(4) 25(1) 26(1) 27(1) 28(1)	*	99.1%[336/339]	8.613569322

Cluster532	0(3) 1(58) 2(49) 3(22) 4(25) 5(7) 6(1) 7(5) 8(3) 9(14) 10(5) 11(11) 12(16) 13(17) 14(14) 15(24) 16(17) 17(13) 18(9) 19(4) 20(1) 21(9) 22(3) 23(2) 24(3) 25(3) 26(1)	*	99.1%[336/339]	8.592920354
Cluster160	0(3) 1(58) 2(49) 3(22) 4(26) 5(6) 6(1) 7(5) 8(4) 9(13) 10(5) 11(11) 12(16) 13(17) 14(15) 15(23) 16(17) 17(14) 18(8) 19(4) 20(1) 21(10) 22(2) 23(2) 24(3) 25(3) 26(1)	*	99.1%[336/339]	8.578171091
Cluster606	0(3) 1(58) 2(49) 3(22) 4(26) 5(6) 6(1) 7(5) 8(4) 9(13) 10(5) 11(11) 12(16) 13(17) 14(14) 15(24) 16(17) 17(15) 18(8) 19(3) 20(2) 21(9) 22(2) 23(2) 24(3) 25(3) 26(1)	*	99.1%[336/339]	8.572271386
Cluster537	0(3) 1(58) 2(49) 3(22) 4(27) 5(5) 6(1) 7(5) 8(3) 9(14) 10(6) 11(11) 12(16) 13(18) 14(13) 15(23) 16(17) 17(13) 18(9) 19(4) 20(1) 21(9) 22(3) 23(2) 24(3) 25(3) 26(1)	*	99.1%[336/339]	8.569321534
Cluster101	0(3) 1(58) 2(49) 3(22) 4(27) 5(5) 6(1) 7(5) 8(4) 9(13) 10(6) 11(11) 12(16) 13(18) 14(13) 15(23) 16(17) 17(13) 18(9) 19(4) 20(1) 21(9) 22(3) 23(2) 24(3) 25(3) 26(1)	*	99.1%[336/339]	8.566371681
Cluster615	0(4) 1(57) 2(49) 3(23) 4(25) 5(6) 6(2) 7(5) 8(5) 9(12) 10(5) 11(12) 12(14) 13(17) 14(14) 15(24) 16(17) 17(15) 18(8) 19(3) 20(2) 21(9) 22(2) 23(3) 24(3) 25(2) 26(1)	*	98.8%[335/339]	8.536873156
Cluster2	0(4) 1(57) 2(42) 3(33) 4(21) 5(4) 6(3) 7(9) 8(3) 9(8) 10(6) 11(11) 12(15) 13(19) 14(18) 15(25) 16(21) 17(12) 18(5) 19(3) 20(3) 21(7) 22(3) 23(1) 24(3) 25(1) 26(1) 28(1)	*	98.8%[335/339]	8.525073746
Cluster535	0(3) 1(59) 2(47) 3(31) 4(22) 5(4) 6(2) 7(9) 8(2) 9(9) 10(6) 11(11) 12(11) 13(20) 14(16) 15(23) 16(20) 17(14) 18(5) 19(4) 20(3) 21(6) 22(4) 23(1) 24(3) 25(1) 26(2) 28(1)	*	99.1%[336/339]	8.454277286
Cluster397	0(3) 1(59) 2(47) 3(31) 4(22) 5(4) 6(2) 7(9) 8(2) 9(9) 10(6) 11(11) 12(11) 13(20) 14(16) 15(23) 16(20) 17(14) 18(5) 19(4) 20(3) 21(6) 22(4) 23(1) 24(3) 25(1) 26(2) 28(1)	*	99.1%[336/339]	8.454277286
Cluster396	0(3) 1(59) 2(47) 3(31) 4(22) 5(4) 6(2) 7(9) 8(2) 9(9) 10(6) 11(11) 12(11) 13(20) 14(16) 15(23) 16(20) 17(14) 18(5) 19(4) 20(3) 21(6) 22(4) 23(1) 24(3) 25(1) 26(2) 28(1)	*	99.1%[336/339]	8.454277286
Cluster182	0(3) 1(60) 2(46) 3(32) 4(21) 5(4) 6(2) 7(9) 8(2) 9(11) 10(5) 11(11) 12(10) 13(20) 14(17) 15(22) 16(23) 17(11) 18(5) 19(4) 20(3) 21(6) 22(4) 23(1) 24(3) 25(1) 26(2) 28(1)	*	99.1%[336/339]	8.424778761
Cluster605	0(2) 1(65) 2(45) 3(28) 4(24) 5(5) 6(1) 7(5) 8(4) 9(15) 10(4) 11(6) 12(13) 13(19) 14(16) 15(23) 16(19) 17(14) 18(6) 19(4) 20(3) 21(6) 22(3) 23(2) 24(3) 25(1) 26(3)	*	99.4%[337/339]	8.392330383
Cluster290	0(4) 1(57) 2(44) 3(35) 4(21) 5(2) 6(6) 7(6) 8(4) 9(8) 10(7) 11(10) 12(14) 13(21) 14(17) 15(26) 16(18) 17(12) 18(5) 19(2) 20(4) 21(6) 22(4) 23(1) 24(2) 25(1) 26(1) 28(1)	*	98.8%[335/339]	8.374631268

Cluster246	0(7) 1(63) 2(43) 3(23) 4(25) 5(4) 6(3) 7(6) 8(5) 9(11) 10(7) 11(11) 12(14) 13(17) 14(14) 15(23) 16(17) 17(13) 18(8) 19(4) 20(1) 21(9) 22(2) 23(3) 24(4) 25(2)	*	97.9%[332/339]	8.374631268
Cluster315	0(4) 1(64) 2(47) 3(28) 4(24) 5(3) 6(2) 7(4) 8(7) 9(11) 10(5) 11(8) 12(12) 13(16) 14(15) 15(23) 16(16) 17(20) 18(5) 19(3) 21(10) 22(2) 23(3) 24(3) 25(2) 26(2)	*	98.8%[335/339]	8.356932153
Cluster67	0(3) 1(66) 2(46) 3(27) 4(24) 5(4) 6(1) 7(6) 8(4) 9(13) 10(5) 11(6) 12(14) 13(18) 14(15) 15(23) 16(18) 17(16) 18(5) 19(3) 20(2) 21(8) 22(2) 23(3) 24(3) 25(2) 26(2)	*	99.1%[336/339]	8.339233038
Cluster395	0(3) 1(66) 2(46) 3(27) 4(24) 5(4) 6(1) 7(6) 8(4) 9(13) 10(5) 11(6) 12(14) 13(18) 14(15) 15(23) 16(18) 17(16) 18(5) 19(3) 20(2) 21(8) 22(2) 23(3) 24(3) 25(2) 26(2)	*	99.1%[336/339]	8.339233038
Cluster317	0(3) 1(66) 2(47) 3(27) 4(24) 5(3) 6(2) 7(5) 8(6) 9(12) 10(6) 11(7) 12(11) 13(17) 14(14) 15(25) 16(15) 17(19) 18(5) 19(3) 21(10) 22(2) 23(3) 24(3) 25(2) 26(2)	*	99.1%[336/339]	8.327433628
Cluster212	0(5) 1(62) 2(45) 3(28) 4(24) 5(5) 6(1) 7(5) 8(4) 9(15) 10(4) 11(6) 12(14) 13(18) 14(16) 15(25) 16(17) 17(16) 18(6) 19(4) 20(6) 21(2) 22(3) 23(1) 24(4) 25(3)	*	98.5%[334/339]	8.324483776
Cluster514	0(3) 1(66) 2(47) 3(27) 4(23) 5(4) 6(2) 7(5) 8(6) 9(12) 10(5) 11(6) 12(13) 13(18) 14(15) 15(23) 16(18) 17(16) 18(5) 19(3) 20(1) 21(9) 22(2) 23(3) 24(3) 25(2) 26(2)	*	99.1%[336/339]	8.318584071
Cluster88	0(5) 1(62) 2(46) 3(27) 4(24) 5(5) 6(2) 7(5) 8(4) 9(14) 10(4) 11(7) 12(13) 13(17) 14(16) 15(26) 16(17) 17(16) 18(6) 19(4) 20(6) 21(2) 22(3) 23(1) 24(4) 25(3)	*	98.5%[334/339]	8.315634218
Cluster667	0(3) 1(66) 2(47) 3(27) 4(24) 5(3) 6(2) 7(5) 8(6) 9(12) 10(5) 11(7) 12(12) 13(17) 14(16) 15(23) 16(18) 17(16) 18(5) 19(3) 20(1) 21(9) 22(2) 23(3) 24(3) 25(2) 26(2)	*	99.1%[336/339]	8.315634218
Cluster581	0(5) 1(67) 2(46) 3(27) 4(25) 5(3) 6(1) 7(4) 8(8) 9(10) 10(5) 11(8) 12(12) 13(14) 14(15) 15(23) 16(17) 17(19) 18(5) 19(3) 21(11) 22(1) 23(3) 24(3) 25(2) 26(2)	*	98.5%[334/339]	8.259587021
Cluster556	0(4) 1(64) 2(45) 3(33) 4(19) 5(3) 6(6) 7(5) 8(4) 9(13) 10(7) 11(8) 12(10) 13(20) 14(16) 15(25) 16(19) 17(11) 18(6) 19(1) 20(5) 21(6) 22(3) 23(1) 24(2) 25(1) 26(1) 27(1)	*	98.8%[335/339]	8.14159292
Cluster84	0(3) 1(7) 2(2) 3(25) 4(3) 5(20) 6(263) 7(15) 9(1)	*	99.1%[336/339]	5.575221239
Cluster83	0(3) 1(7) 2(2) 3(25) 4(3) 5(20) 6(263) 7(15) 9(1)	*	99.1%[336/339]	5.575221239
Cluster82	0(3) 1(7) 2(2) 3(25) 4(3) 5(20) 6(263) 7(15) 9(1)	*	99.1%[336/339]	5.575221239
Cluster294	0(3) 1(7) 2(2) 3(25) 4(3) 5(20) 6(263) 7(15) 9(1)	*	99.1%[336/339]	5.575221239

Cluster460	0(19) 1(23) 2(36) 3(31) 4(13) 5(37) 6(159) 7(8) 8(1) 9(1) 10(1) 11(10)	*	94.4%[320/339]	4.637168142
Cluster410	0(1) 1(2) 2(6) 3(28) 4(65) 5(236) 7(1)	*	99.7%[338/339]	4.557522124
Cluster459	0(2) 1(6) 2(27) 3(290) 4(14)	*	99.4%[337/339]	2.908554572
Cluster523	0(2) 1(8) 2(39) 3(272) 4(18)	*	99.4%[337/339]	2.873156342
Cluster652	0(2) 1(8) 2(40) 3(272) 4(17)	*	99.4%[337/339]	2.867256637
Cluster586	0(1) 1(8) 2(40) 3(283) 4(6) 5(1)	*	99.7%[338/339]	2.849557522
Cluster634	0(2) 1(8) 2(51) 3(261) 4(17)	*	99.4%[337/339]	2.83480826
Cluster16	1(7) 2(45) 3(286) 4(1)	*	100.0%[339/339]	2.828908555
Cluster187	0(2) 1(9) 2(53) 3(262) 4(13)	*	99.4%[337/339]	2.81120944
Cluster245	0(2) 1(39) 2(69) 3(178) 4(39) 5(12)	*	99.4%[337/339]	2.734513274
Cluster372	0(8) 1(15) 2(62) 3(241) 4(9) 5(2) 6(2)	*	97.6%[331/339]	2.713864307
Cluster474	0(4) 1(21) 2(60) 3(239) 4(14) 5(1)	*	98.8%[335/339]	2.710914454
Cluster604	0(3) 1(25) 2(101) 3(156) 4(54)	*	99.1%[336/339]	2.687315634
Cluster339	0(5) 1(39) 2(81) 3(179) 4(23) 5(11) 6(1)	*	98.5%[334/339]	2.628318584
Cluster510	0(5) 1(41) 2(83) 3(178) 4(19) 5(12) 6(1)	*	98.5%[334/339]	2.604719764
Cluster117	0(1) 1(20) 2(97) 3(220) 4(1)	*	99.7%[338/339]	2.589970501
Cluster295	0(13) 1(51) 2(76) 3(177) 4(11) 5(10) 6(1)	*	96.2%[326/339]	2.460176991
Cluster32	0(11) 1(58) 2(81) 3(166) 4(13) 5(9) 6(1)	*	96.8%[328/339]	2.421828909
Cluster98	0(4) 1(25) 2(224) 3(3) 4(83)	*	98.8%[335/339]	2.401179941
Cluster56	0(10) 1(60) 2(86) 3(163) 4(10) 5(9) 6(1)	*	97.1%[329/339]	2.395280236
Cluster139	0(4) 1(31) 2(217) 3(4) 4(83)	*	98.8%[335/339]	2.386430678
Cluster248	0(4) 1(31) 2(218) 3(3) 4(83)	*	98.8%[335/339]	2.383480826
Cluster258	0(1) 1(29) 2(225) 3(24) 4(60)	*	99.7%[338/339]	2.333333333
Cluster526	0(1) 1(22) 2(233) 3(35) 4(48)	*	99.7%[338/339]	2.315634218
Cluster354	0(1) 1(22) 2(233) 3(35) 4(48)	*	99.7%[338/339]	2.315634218

Cluster564	0(2) 1(35) 2(221) 3(21) 4(60)	*	99.4%[337/339]	2.300884956
Cluster654	0(1) 1(15) 2(255) 3(18) 4(50)	*	99.7%[338/339]	2.297935103
Cluster231	1(20) 2(255) 3(13) 4(51)	*	100.0%[339/339]	2.280235988
Cluster49	1(20) 2(258) 3(10) 4(51)	*	100.0%[339/339]	2.271386431
Cluster573	0(2) 1(42) 2(158) 3(137)	*	99.4%[337/339]	2.268436578
Cluster681	0(1) 1(25) 2(246) 3(17) 4(50)	*	99.7%[338/339]	2.265486726
Cluster651	0(2) 1(60) 2(196) 3(8) 4(73)	*	99.4%[337/339]	2.265486726
Cluster255	1(24) 2(251) 3(14) 4(50)	*	100.0%[339/339]	2.265486726
Cluster87	0(13) 1(29) 2(216) 3(21) 4(60)	*	96.2%[326/339]	2.253687316
Cluster105	0(13) 1(31) 2(214) 3(21) 4(60)	*	96.2%[326/339]	2.247787611
Cluster261	0(2) 1(30) 2(243) 3(14) 4(50)	*	99.4%[337/339]	2.235988201
Cluster80	1(32) 2(249) 3(7) 4(51)	*	100.0%[339/339]	2.227138643
Cluster21	1(31) 2(251) 3(6) 4(51)	*	100.0%[339/339]	2.227138643
Cluster17	0(5) 1(28) 2(242) 3(14) 4(50)	*	98.5%[334/339]	2.224188791
Cluster1	0(3) 1(32) 2(240) 3(14) 4(50)	*	99.1%[336/339]	2.224188791
Cluster125	0(2) 1(31) 2(247) 3(8) 4(51)	*	99.4%[337/339]	2.221238938
Cluster59	0(3) 1(31) 2(245) 3(9) 4(51)	*	99.1%[336/339]	2.218289086
Cluster345	0(3) 1(31) 2(245) 3(9) 4(51)	*	99.1%[336/339]	2.218289086
Cluster650	0(4) 1(33) 2(238) 3(14) 4(50)	*	98.8%[335/339]	2.215339233
Cluster557	0(3) 1(31) 2(247) 3(7) 4(51)	*	99.1%[336/339]	2.212389381
Cluster547	0(5) 1(32) 2(238) 3(14) 4(50)	*	98.5%[334/339]	2.212389381
Cluster269	0(5) 1(32) 2(238) 3(14) 4(50)	*	98.5%[334/339]	2.212389381
Cluster570	0(8) 1(27) 2(241) 3(13) 4(50)	*	97.6%[331/339]	2.206489676
Cluster583	0(1) 1(32) 2(253) 3(3) 4(50)	*	99.7%[338/339]	2.203539823
Cluster453	0(23) 1(29) 2(206) 3(23) 4(58)	*	93.2%[316/339]	2.18879056

Cluster50	0(11) 1(28) 2(237) 3(13) 4(50)	*	96.8%[328/339]	2.185840708
Cluster292	0(11) 1(28) 2(237) 3(13) 4(50)	*	96.8%[328/339]	2.185840708
Cluster70	0(3) 1(38) 2(246) 3(2) 4(50)	*	99.1%[336/339]	2.171091445
Cluster657	0(24) 1(29) 2(227) 3(8) 4(51)	*	92.9%[315/339]	2.097345133
Cluster633	0(3) 1(61) 2(183) 3(90) 4(2)	*	99.1%[336/339]	2.079646018
Cluster366	0(29) 1(25) 2(226) 3(8) 4(51)	*	91.4%[310/339]	2.079646018
Cluster356	0(2) 1(71) 2(172) 3(87) 4(7)	*	99.4%[337/339]	2.076696165
Cluster399	0(1) 1(130) 2(53) 3(154) 4(1)	*	99.7%[338/339]	2.07079646
Cluster48	0(32) 1(25) 2(223) 3(8) 4(51)	*	90.6%[307/339]	2.061946903
Cluster447	0(32) 1(25) 2(223) 3(8) 4(51)	*	90.6%[307/339]	2.061946903
Cluster282	0(32) 1(25) 2(223) 3(8) 4(51)	*	90.6%[307/339]	2.061946903
Cluster179	0(32) 1(26) 2(222) 3(8) 4(51)	*	90.6%[307/339]	2.05899705
Cluster361	0(4) 1(63) 2(184) 3(86) 4(2)	*	98.8%[335/339]	2.056047198
Cluster408	1(45) 2(248) 3(30) 4(16)	*	100.0%[339/339]	2.050147493
Cluster458	0(3) 1(42) 2(247) 3(31) 4(16)	*	99.1%[336/339]	2.044247788
Cluster52	0(19) 1(44) 2(228) 3(2) 4(46)	*	94.4%[320/339]	2.03539823
Cluster608	0(1) 1(49) 2(244) 3(29) 4(16)	*	99.7%[338/339]	2.029498525
Cluster436	0(1) 1(50) 2(243) 3(29) 4(16)	*	99.7%[338/339]	2.026548673
Cluster369	0(10) 1(71) 2(165) 3(86) 4(7)	*	97.1%[329/339]	2.026548673
Cluster402	0(3) 1(47) 2(245) 3(28) 4(16)	*	99.1%[336/339]	2.020648968
Cluster73	0(2) 1(54) 2(239) 3(28) 4(16)	*	99.4%[337/339]	2.005899705
Cluster69	1(4) 2(332) 3(3)	*	100.0%[339/339]	1.997050147
Cluster466	1(4) 2(332) 3(3)	*	100.0%[339/339]	1.997050147
Cluster528	0(1) 1(1) 2(336) 3(1)	*	99.7%[338/339]	1.994100295
Cluster613	0(6) 1(76) 2(173) 3(83) 4(1)	*	98.2%[333/339]	1.991150442

Cluster94	0(1) 1(139) 2(70) 3(124) 4(4) 5(1)	*	99.7%[338/339]	1.982300885
Cluster448	0(10) 1(77) 2(163) 3(88) 4(1)	*	97.1%[329/339]	1.979351032
Cluster120	0(2) 1(8) 2(328) 4(1)	*	99.4%[337/339]	1.970501475
Cluster565	0(10) 1(75) 2(171) 3(82) 4(1)	*	97.1%[329/339]	1.967551622
Cluster401	0(2) 1(8) 2(329)	*	99.4%[337/339]	1.96460177
Cluster631	0(3) 1(8) 2(327) 3(1)	*	99.1%[336/339]	1.961651917
Cluster230	0(4) 1(15) 2(316) 3(4)	*	98.8%[335/339]	1.943952802
Cluster412	0(1) 1(20) 2(316) 3(2)	*	99.7%[338/339]	1.94100295
Cluster538	0(2) 1(133) 2(91) 3(110) 4(3)	*	99.4%[337/339]	1.938053097
Cluster374	1(24) 2(315)	*	100.0%[339/339]	1.92920354
Cluster334	0(4) 1(17) 2(317) 3(1)	*	98.8%[335/339]	1.92920354
Cluster497	0(1) 1(23) 2(315)	*	99.7%[338/339]	1.926253687
Cluster664	0(1) 1(24) 2(314)	*	99.7%[338/339]	1.923303835
Cluster39	0(2) 1(141) 2(86) 3(105) 4(5)	*	99.4%[337/339]	1.911504425
Cluster267	0(8) 1(15) 2(315) 3(1)	*	97.6%[331/339]	1.911504425
Cluster656	0(4) 1(30) 2(301) 3(4)	*	98.8%[335/339]	1.899705015
Cluster542	0(9) 1(32) 2(285) 3(12) 4(1)	*	97.3%[330/339]	1.89380531
Cluster227	0(9) 1(32) 2(284) 3(14)	*	97.3%[330/339]	1.89380531
Cluster472	0(6) 1(41) 2(281) 3(10) 4(1)	*	98.2%[333/339]	1.879056047
Cluster367	0(11) 1(21) 2(305) 3(2)	*	96.8%[328/339]	1.879056047
Cluster569	0(3) 1(108) 2(186) 3(12) 4(30)	*	99.1%[336/339]	1.876106195
Cluster333	0(3) 1(108) 2(186) 3(12) 4(30)	*	99.1%[336/339]	1.876106195
Cluster679	0(7) 1(38) 2(286) 3(7) 4(1)	*	97.9%[332/339]	1.873156342
Cluster207	0(7) 1(42) 2(278) 3(12)	*	97.9%[332/339]	1.87020649
Cluster232	0(6) 1(35) 2(296) 3(2)	*	98.2%[333/339]	1.867256637

Cluster443	0(6) 1(44) 2(280) 3(8) 4(1)	*	98.2%[333/339]	1.864306785
Cluster166	0(3) 1(111) 2(184) 3(11) 4(30)	*	99.1%[336/339]	1.864306785
Cluster438	0(30) 1(100) 2(110) 3(85) 4(14)	*	91.2%[309/339]	1.861356932
Cluster389	0(3) 1(56) 2(267) 3(12) 4(1)	*	99.1%[336/339]	1.85840708
Cluster568	0(14) 1(49) 2(261) 3(2) 4(13)	*	95.9%[325/339]	1.855457227
Cluster165	0(4) 1(112) 2(183) 3(10) 4(30)	*	98.8%[335/339]	1.852507375
Cluster159	0(4) 1(52) 2(275) 3(7) 4(1)	*	98.8%[335/339]	1.849557522
Cluster321	0(8) 1(41) 2(288) 3(2)	*	97.6%[331/339]	1.837758112
Cluster663	0(5) 1(113) 2(182) 3(11) 4(28)	*	98.5%[334/339]	1.83480826
Cluster461	0(5) 1(112) 2(184) 3(10) 4(28)	*	98.5%[334/339]	1.83480826
Cluster673	0(5) 1(63) 2(260) 3(11)	*	98.5%[334/339]	1.817109145
Cluster414	0(7) 1(49) 2(283)	*	97.9%[332/339]	1.814159292
Cluster670	0(8) 1(61) 2(257) 3(13)	*	97.6%[331/339]	1.81120944
Cluster624	0(10) 1(59) 2(256) 3(14)	*	97.1%[329/339]	1.808259587
Cluster585	0(11) 1(56) 2(260) 3(12)	*	96.8%[328/339]	1.805309735
Cluster578	0(7) 1(120) 2(175) 3(9) 4(28)	*	97.9%[332/339]	1.796460177
Cluster590	0(14) 1(56) 2(257) 3(12)	*	95.9%[325/339]	1.787610619
Cluster609	0(7) 1(89) 2(216) 3(27)	*	97.9%[332/339]	1.775811209
Cluster601	0(13) 1(63) 2(252) 3(11)	*	96.2%[326/339]	1.769911504
Cluster299	0(7) 1(91) 2(215) 3(26)	*	97.9%[332/339]	1.766961652
Cluster118	0(11) 1(62) 2(264) 3(2)	*	96.8%[328/339]	1.758112094
Cluster473	0(3) 1(94) 2(232) 3(8) 4(2)	*	99.1%[336/339]	1.740412979
Cluster218	0(31) 1(109) 2(123) 3(70) 4(5) 5(1)	*	90.9%[308/339]	1.740412979
Cluster303	0(3) 1(95) 2(231) 3(8) 4(2)	*	99.1%[336/339]	1.737463127
Cluster384	1(93) 2(245) 3(1)	*	100.0%[339/339]	1.728613569

Cluster268	0(21) 1(110) 2(156) 3(45) 4(6) 5(1)	*	93.8%[318/339]	1.728613569
Cluster558	0(41) 1(30) 2(256) 3(12)	*	87.9%[298/339]	1.705014749
Cluster119	0(40) 1(31) 2(257) 3(11)	*	88.2%[299/339]	1.705014749
Cluster632	0(16) 1(82) 2(240) 3(1)	*	95.3%[323/339]	1.666666667
Cluster446	0(10) 1(129) 2(186) 3(3) 4(11)	*	97.1%[329/339]	1.634218289
Cluster40	0(13) 1(131) 2(182) 3(2) 4(11)	*	96.2%[326/339]	1.607669617
Cluster91	0(34) 1(102) 2(175) 3(27) 4(1)	*	90.0%[305/339]	1.584070796
Cluster359	0(14) 1(117) 2(208)	*	95.9%[325/339]	1.572271386
Cluster310	0(9) 1(231) 2(13) 3(79) 4(3) 5(4)	*	97.3%[330/339]	1.551622419
Cluster44	0(23) 1(137) 2(151) 3(27) 4(1)	*	93.2%[316/339]	1.545722714
Cluster320	0(14) 1(139) 2(182) 3(2) 4(2)	*	95.9%[325/339]	1.525073746
Cluster416	0(13) 1(138) 2(187) 3(1)	*	96.2%[326/339]	1.519174041
Cluster636	0(30) 1(142) 2(139) 3(27) 4(1)	*	91.2%[309/339]	1.489675516
Cluster612	0(4) 1(189) 2(133) 3(2) 4(11)	*	98.8%[335/339]	1.489675516
Cluster431	0(3) 1(171) 2(163) 3(2)	*	99.1%[336/339]	1.483775811
Cluster440	0(50) 1(103) 2(160) 3(25) 4(1)	*	85.3%[289/339]	1.480825959
Cluster683	0(36) 1(133) 2(143) 3(26) 4(1)	*	89.4%[303/339]	1.477876106
Cluster592	0(5) 1(183) 2(145) 3(4) 4(2)	*	98.5%[334/339]	1.454277286
Cluster72	0(5) 1(191) 2(137) 3(4) 4(2)	*	98.5%[334/339]	1.430678466
Cluster539	0(42) 1(137) 2(152) 3(8)	*	87.6%[297/339]	1.371681416
Cluster296	0(12) 1(194) 2(129) 3(3) 4(1)	*	96.5%[327/339]	1.371681416
Cluster193	0(20) 1(196) 2(121) 3(1) 4(1)	*	94.1%[319/339]	1.312684366
Cluster403	0(12) 1(216) 2(108) 3(3)	*	96.5%[327/339]	1.300884956
Cluster36	0(6) 1(232) 2(97) 3(4)	*	98.2%[333/339]	1.292035398
Cluster192	0(20) 1(210) 2(105) 3(4)	*	94.1%[319/339]	1.274336283

Cluster279	0(36) 1(216) 2(52) 3(31) 4(3) 5(1)	*	89.4%[303/339]	1.268436578
Cluster580	0(3) 1(249) 2(84) 4(3)	*	99.1%[336/339]	1.265486726
Cluster167	0(3) 1(249) 2(84) 4(3)	*	99.1%[336/339]	1.265486726
Cluster441	0(19) 1(215) 2(104) 3(1)	*	94.4%[320/339]	1.256637168
Cluster336	0(9) 1(239) 2(86) 3(5)	*	97.3%[330/339]	1.256637168
Cluster276	0(46) 1(165) 2(124) 3(4)	*	86.4%[293/339]	1.253687316
Cluster260	0(1) 1(260) 2(76) 3(2)	*	99.7%[338/339]	1.233038348
Cluster548	0(9) 1(251) 2(76) 3(3)	*	97.3%[330/339]	1.215339233
Cluster387	0(11) 1(247) 2(78) 3(3)	*	96.8%[328/339]	1.215339233
Cluster291	0(13) 1(244) 2(78) 3(4)	*	96.2%[326/339]	1.215339233
Cluster71	0(58) 1(155) 2(124) 3(2)	*	82.9%[281/339]	1.206489676
Cluster545	0(25) 1(222) 2(90) 3(2)	*	92.6%[314/339]	1.203539823
Cluster53	0(23) 1(229) 2(84) 3(1) 4(2)	*	93.2%[316/339]	1.203539823
Cluster168	0(39) 1(232) 2(37) 3(28) 4(1) 5(2)	*	88.5%[300/339]	1.191740413
Cluster467	1(297) 2(37) 3(5)	*	100.0%[339/339]	1.138643068
Cluster191	0(3) 1(286) 2(50)	*	99.1%[336/339]	1.138643068
Cluster587	1(300) 2(39)	*	100.0%[339/339]	1.115044248
Cluster172	1(300) 2(39)	*	100.0%[339/339]	1.115044248
Cluster455	0(41) 1(225) 2(73)	*	87.9%[298/339]	1.09439528
Cluster531	0(9) 1(303) 2(21) 4(6)	*	97.3%[330/339]	1.088495575
Cluster562	1(317) 2(22)	*	100.0%[339/339]	1.064896755
Cluster371	0(17) 1(290) 2(30) 3(1) 4(1)	*	95.0%[322/339]	1.053097345
Cluster206	0(9) 1(309) 2(18) 4(3)	*	97.3%[330/339]	1.053097345
Cluster20	0(10) 1(308) 2(18) 4(3)	*	97.1%[329/339]	1.050147493
Cluster465	0(51) 1(232) 2(45) 3(11)	*	85.0%[288/339]	1.04719764

Cluster158	0(51) 1(232) 2(45) 3(11)	*	85.0%[288/339]	1.04719764
Cluster490	0(42) 1(240) 2(57)	*	87.6%[297/339]	1.044247788
Cluster198	0(11) 1(308) 2(17) 4(3)	*	96.8%[328/339]	1.044247788
Cluster157	0(52) 1(233) 2(43) 3(11)	*	84.7%[287/339]	1.038348083
Cluster541	1(331) 2(8)	*	100.0%[339/339]	1.02359882
Cluster420	0(1) 1(336) 3(1) 7(1)	*	99.7%[338/339]	1.020648968
Cluster591	0(19) 1(295) 2(25)	*	94.4%[320/339]	1.017699115
Cluster506	0(1) 1(332) 2(5) 3(1)	*	99.7%[338/339]	1.017699115
Cluster346	0(4) 1(326) 2(9)	*	98.8%[335/339]	1.014749263
Cluster121	1(337) 2(1) 5(1)	*	100.0%[339/339]	1.014749263
Cluster677	1(338) 4(1)	*	100.0%[339/339]	1.008849558
Cluster674	0(2) 1(332) 2(5)	*	99.4%[337/339]	1.008849558
Cluster661	1(336) 2(3)	*	100.0%[339/339]	1.008849558
Cluster35	0(2) 1(333) 2(3) 3(1)	*	99.4%[337/339]	1.008849558
Cluster671	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster653	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster561	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster525	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster46	0(4) 1(329) 2(6)	*	98.8%[335/339]	1.005899705
Cluster383	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster358	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster264	1(337) 2(2)	*	100.0%[339/339]	1.005899705
Cluster194	0(1) 1(335) 2(3)	*	99.7%[338/339]	1.005899705
Cluster162	0(1) 1(335) 2(3)	*	99.7%[338/339]	1.005899705
Cluster13	1(337) 2(2)	*	100.0%[339/339]	1.005899705

Cluster112	0(1) 1(335) 2(3)	*	99.7%[338/339]	1.005899705
Cluster9	0(1) 1(337) 3(1)	*	99.7%[338/339]	1.002949853
Cluster643	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster639	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster627	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster598	0(2) 1(334) 2(3)	*	99.4%[337/339]	1.002949853
Cluster501	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster499	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster486	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster468	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster463	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster38	0(1) 1(336) 2(2)	*	99.7%[338/339]	1.002949853
Cluster343	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster34	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster33	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster325	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster265	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster174	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster146	0(1) 1(336) 2(2)	*	99.7%[338/339]	1.002949853
Cluster133	1(338) 2(1)	*	100.0%[339/339]	1.002949853
Cluster645	1(339)	*	100.0%[339/339]	1
Cluster641	0(2) 1(335) 2(2)	*	99.4%[337/339]	1
Cluster524	0(51) 1(237) 2(51)	*	85.0%[288/339]	1
Cluster502	0(2) 1(335) 2(2)	*	99.4%[337/339]	1
Cluster498	1(339)	*	100.0%[339/339]	1

Cluster487	0(1) 1(337) 2(1)	*	99.7%[338/339]	1
Cluster430	1(339)	*	100.0%[339/339]	1
Cluster423	1(339)	*	100.0%[339/339]	1
Cluster286	0(1) 1(337) 2(1)	*	99.7%[338/339]	1
Cluster285	0(1) 1(337) 2(1)	*	99.7%[338/339]	1
Cluster254	1(339)	*	100.0%[339/339]	1
Cluster23	0(1) 1(337) 2(1)	*	99.7%[338/339]	1
Cluster228	0(2) 1(335) 2(2)	*	99.4%[337/339]	1
Cluster199	0(3) 1(333) 2(3)	*	99.1%[336/339]	1
Cluster156	0(4) 1(331) 2(4)	*	98.8%[335/339]	1
Cluster142	1(339)	*	100.0%[339/339]	1
Cluster141	1(339)	*	100.0%[339/339]	1
Cluster124	0(1) 1(337) 2(1)	*	99.7%[338/339]	1
Cluster11	0(1) 1(337) 2(1)	*	99.7%[338/339]	1
Cluster669	0(2) 1(336) 2(1)	*	99.4%[337/339]	0.997050147
Cluster644	0(2) 1(336) 2(1)	*	99.4%[337/339]	0.997050147
Cluster610	0(3) 1(334) 2(2)	*	99.1%[336/339]	0.997050147
Cluster504	0(2) 1(336) 2(1)	*	99.4%[337/339]	0.997050147
Cluster188	0(2) 1(336) 2(1)	*	99.4%[337/339]	0.997050147
Cluster186	0(3) 1(334) 2(2)	*	99.1%[336/339]	0.997050147
Cluster540	0(3) 1(335) 2(1)	*	99.1%[336/339]	0.994100295
Cluster533	0(3) 1(335) 2(1)	*	99.1%[336/339]	0.994100295
Cluster527	0(2) 1(337)	*	99.4%[337/339]	0.994100295
Cluster505	0(3) 1(335) 2(1)	*	99.1%[336/339]	0.994100295
Cluster476	0(2) 1(337)	*	99.4%[337/339]	0.994100295

Cluster421	0(2) 1(337)	*	99.4%[337/339]	0.994100295
Cluster409	0(4) 1(333) 2(2)	*	98.8%[335/339]	0.994100295
Cluster293	0(2) 1(337)	*	99.4%[337/339]	0.994100295
Cluster151	0(2) 1(337)	*	99.4%[337/339]	0.994100295
Cluster617	0(4) 1(334) 2(1)	*	98.8%[335/339]	0.991150442
Cluster362	0(5) 1(332) 2(2)	*	98.5%[334/339]	0.991150442
Cluster332	0(3) 1(336)	*	99.1%[336/339]	0.991150442
Cluster259	0(25) 1(292) 2(22)	*	92.6%[314/339]	0.991150442
Cluster655	0(4) 1(335)	*	98.8%[335/339]	0.98820059
Cluster534	0(4) 1(335)	*	98.8%[335/339]	0.98820059
Cluster427	0(4) 1(335)	*	98.8%[335/339]	0.98820059
Cluster185	0(19) 1(305) 2(15)	*	94.4%[320/339]	0.98820059
Cluster626	0(5) 1(334)	*	98.5%[334/339]	0.985250737
Cluster434	0(6) 1(332) 2(1)	*	98.2%[333/339]	0.985250737
Cluster386	0(5) 1(334)	*	98.5%[334/339]	0.985250737
Cluster340	0(5) 1(334)	*	98.5%[334/339]	0.985250737
Cluster225	0(5) 1(334)	*	98.5%[334/339]	0.985250737
Cluster19	0(5) 1(334)	*	98.5%[334/339]	0.985250737
Cluster428	0(6) 1(333)	*	98.2%[333/339]	0.982300885
Cluster477	0(8) 1(330) 2(1)	*	97.6%[331/339]	0.979351032
Cluster432	0(8) 1(330) 2(1)	*	97.6%[331/339]	0.979351032
Cluster425	0(8) 1(330) 2(1)	*	97.6%[331/339]	0.979351032
Cluster597	0(8) 1(331)	*	97.6%[331/339]	0.97640118
Cluster422	0(19) 1(313) 2(5) 4(2)	*	94.4%[320/339]	0.97640118
Cluster236	0(11) 1(326) 2(1) 3(1)	*	96.8%[328/339]	0.97640118

Cluster183	0(9) 1(329) 2(1)	*	97.3%[330/339]	0.97640118
Cluster687	0(9) 1(330)	*	97.3%[330/339]	0.973451327
Cluster216	0(11) 1(326) 2(2)	*	96.8%[328/339]	0.973451327
Cluster579	0(49) 1(253) 2(35) 3(2)	*	85.5%[290/339]	0.970501475
Cluster110	0(12) 1(325) 2(2)	*	96.5%[327/339]	0.970501475
Cluster549	0(15) 1(320) 2(4)	*	95.6%[324/339]	0.967551622
Cluster147	0(17) 1(316) 2(6)	*	95.0%[322/339]	0.967551622
Cluster308	0(14) 1(323) 2(2)	*	95.9%[325/339]	0.96460177
Cluster407	0(13) 1(326)	*	96.2%[326/339]	0.961651917
Cluster364	0(14) 1(324) 2(1)	*	95.9%[325/339]	0.961651917
Cluster355	0(16) 1(320) 2(3)	*	95.3%[323/339]	0.961651917
Cluster415	0(16) 1(321) 2(2)	*	95.3%[323/339]	0.958702065
Cluster92	0(17) 1(321) 2(1)	*	95.0%[322/339]	0.95280236
Cluster3	0(26) 1(303) 2(10)	*	92.3%[313/339]	0.95280236
Cluster244	0(16) 1(323)	*	95.3%[323/339]	0.95280236
Cluster114	0(21) 1(313) 2(5)	*	93.8%[318/339]	0.95280236
Cluster31	0(51) 1(256) 2(30) 3(2)	*	85.0%[288/339]	0.949852507
Cluster323	0(19) 1(319) 2(1)	*	94.4%[320/339]	0.946902655
Cluster256	0(40) 1(277) 2(22)	*	88.2%[299/339]	0.946902655
Cluster419	0(20) 1(318) 2(1)	*	94.1%[319/339]	0.943952802
Cluster234	0(28) 1(302) 2(9)	*	91.7%[311/339]	0.943952802
Cluster220	0(30) 1(299) 2(10)	*	91.2%[309/339]	0.94100295
Cluster616	0(23) 1(315) 3(1)	*	93.2%[316/339]	0.938053097
Cluster418	0(22) 1(316) 2(1)	*	93.5%[317/339]	0.938053097
Cluster113	0(27) 1(306) 2(6)	*	92.0%[312/339]	0.938053097

Cluster237	0(22) 1(317)	*	93.5%[317/339]	0.935103245
Cluster215	0(26) 1(309) 2(4)	*	92.3%[313/339]	0.935103245
Cluster57	0(29) 1(304) 2(6)	*	91.4%[310/339]	0.932153392
Cluster509	0(24) 1(314) 2(1)	*	92.9%[315/339]	0.932153392
Cluster375	0(30) 1(303) 2(6)	*	91.2%[309/339]	0.92920354
Cluster123	0(27) 1(309) 2(3)	*	92.0%[312/339]	0.92920354
Cluster278	0(27) 1(310) 2(2)	*	92.0%[312/339]	0.926253687
Cluster224	0(27) 1(310) 2(2)	*	92.0%[312/339]	0.926253687
Cluster43	0(36) 1(296) 2(6) 5(1)	*	89.4%[303/339]	0.923303835
Cluster214	0(27) 1(311) 2(1)	*	92.0%[312/339]	0.923303835
Cluster14	0(27) 1(311) 2(1)	*	92.0%[312/339]	0.923303835
Cluster456	0(29) 1(308) 2(2)	*	91.4%[310/339]	0.920353982
Cluster106	0(28) 1(310) 2(1)	*	91.7%[311/339]	0.920353982
Cluster481	0(33) 1(301) 2(5)	*	90.3%[306/339]	0.91740413
Cluster108	0(38) 1(295) 2(5) 4(1)	*	88.8%[301/339]	0.911504425
Cluster378	0(32) 1(306) 2(1)	*	90.6%[307/339]	0.908554572
Cluster127	0(37) 1(297) 2(4) 3(1)	*	89.1%[302/339]	0.908554572
Cluster536	0(39) 1(295) 2(4) 4(1)	*	88.5%[300/339]	0.90560472
Cluster479	0(37) 1(298) 2(4)	*	89.1%[302/339]	0.902654867
Cluster342	0(55) 1(264) 2(19) 3(1)	*	83.8%[284/339]	0.899705015
Cluster470	0(37) 1(301) 2(1)	*	89.1%[302/339]	0.89380531
Cluster603	0(47) 1(283) 2(9)	*	86.1%[292/339]	0.887905605
Cluster270	0(40) 1(297) 2(2)	*	88.2%[299/339]	0.887905605
Cluster503	0(50) 1(280) 2(9)	*	85.3%[289/339]	0.879056047
Cluster660	0(51) 1(281) 2(7)	*	85.0%[288/339]	0.87020649

Cluster445	0(49) 1(285) 2(5)	*	85.5%[290/339]	0.87020649
Cluster444	0(49) 1(285) 2(5)	*	85.5%[290/339]	0.87020649
Cluster219	0(45) 1(293) 2(1)	*	86.7%[294/339]	0.87020649
Cluster301	0(47) 1(291) 2(1)	*	86.1%[292/339]	0.864306785
Cluster614	0(48) 1(290) 2(1)	*	85.8%[291/339]	0.861356932
Cluster566	0(51) 1(286) 2(2)	*	85.0%[288/339]	0.855457227
Cluster331	0(53) 1(284) 2(1) 4(1)	*	84.4%[286/339]	0.855457227
Cluster388	0(52) 1(285) 2(2)	*	84.7%[287/339]	0.852507375
Cluster529	0(54) 1(283) 2(2)	*	84.1%[285/339]	0.84660767
Cluster607	0(64) 1(268) 2(7)	*	81.1%[275/339]	0.831858407
Cluster341	0(66) 1(265) 2(8)	*	80.5%[273/339]	0.8289085545

Supplementary Table2.

Cluster sets of identified undiscovered multicopy regions from *B. pertussis*, *B. parapertussis*, *B. holmesii*.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster43	32(84)	*	100.0%[84/84]	32
Cluster38	32(84)	*	100.0%[84/84]	32
Cluster33	31(1) 32(83)	*	100.0%[84/84]	31.98809524
Cluster159	31(1) 32(83)	*	100.0%[84/84]	31.98809524
Cluster198	19(1) 32(83)	*	100.0%[84/84]	31.8452381
Cluster59	18(1) 32(83)	*	100.0%[84/84]	31.83333333
Cluster208	18(1) 32(83)	*	100.0%[84/84]	31.83333333
Cluster90	14(1) 32(83)	*	100.0%[84/84]	31.78571429
Cluster57	8(1) 32(83)	*	100.0%[84/84]	31.71428571
Cluster73	4(1) 32(83)	*	100.0%[84/84]	31.66666667
Cluster25	4(1) 32(83)	*	100.0%[84/84]	31.66666667
Cluster160	2(1) 32(83)	*	100.0%[84/84]	31.64285714
Cluster37	1(1) 32(83)	*	100.0%[84/84]	31.63095238
Cluster24	1(1) 32(83)	*	100.0%[84/84]	31.63095238
Cluster64	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster63	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster62	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster60	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster58	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster49	0(1) 32(83)	*	98.8%[83/84]	31.61904762

Cluster48	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster45	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster44	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster40	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster39	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster35	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster34	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster29	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster28	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster26	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster22	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster21	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster207	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster199	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster167	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster164	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster161	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster16	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster15	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster14	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster13	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster12	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster120	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster113	0(1) 32(83)	*	98.8%[83/84]	31.61904762
Cluster53	0(1) 31(4) 32(79)	*	98.8%[83/84]	31.57142857

Cluster27	0(1) 30(2) 31(71) 32(10)	*	98.8%[83/84]	30.72619048
Cluster80	2(1) 17(83)	*	100.0%[84/84]	16.82142857
Cluster77	2(1) 17(83)	*	100.0%[84/84]	16.82142857
Cluster119	2(1) 17(83)	*	100.0%[84/84]	16.82142857
Cluster215	15(1) 16(83)	*	100.0%[84/84]	15.98809524
Cluster181	15(2) 16(82)	*	100.0%[84/84]	15.97619048
Cluster1	15(2) 16(82)	*	100.0%[84/84]	15.97619048
Cluster10	15(2) 16(82)	*	100.0%[84/84]	15.97619048
Cluster23	0(1) 15(1) 16(82)	*	98.8%[83/84]	15.79761905
Cluster17	0(1) 15(1) 16(82)	*	98.8%[83/84]	15.79761905
Cluster20	0(1) 8(1) 9(1) 10(4) 11(9) 12(18) 13(16) 14(20) 15(7) 16(5) 18(2)	*	98.8%[83/84]	12.86904762
Cluster19	0(1) 8(1) 9(2) 10(7) 11(14) 12(22) 13(21) 14(10) 15(3) 16(2) 18(1)	*	98.8%[83/84]	12.16666667
Cluster79	4(1) 5(2) 6(81)	*	100.0%[84/84]	5.952380952
Cluster122	4(1) 5(2) 6(81)	*	100.0%[84/84]	5.952380952
Cluster95	2(1) 5(2) 6(81)	*	100.0%[84/84]	5.928571429
Cluster74	2(1) 5(2) 6(81)	*	100.0%[84/84]	5.928571429
Cluster41	2(1) 5(2) 6(81)	*	100.0%[84/84]	5.928571429
Cluster200	2(1) 5(2) 6(81)	*	100.0%[84/84]	5.928571429
Cluster156	2(1) 5(2) 6(81)	*	100.0%[84/84]	5.928571429
Cluster36	2(1) 4(2) 5(81)	*	100.0%[84/84]	4.94047619
Cluster91	3(84)	*	100.0%[84/84]	3
Cluster46	3(84)	*	100.0%[84/84]	3
Cluster30	3(84)	*	100.0%[84/84]	3
Cluster219	3(84)	*	100.0%[84/84]	3
Cluster194	3(84)	*	100.0%[84/84]	3

Cluster193	3(84)	*	100.0%[84/84]	3
Cluster192	3(84)	*	100.0%[84/84]	3
Cluster191	3(84)	*	100.0%[84/84]	3
Cluster176	3(84)	*	100.0%[84/84]	3
Cluster155	3(84)	*	100.0%[84/84]	3
Cluster154	3(84)	*	100.0%[84/84]	3
Cluster140	3(84)	*	100.0%[84/84]	3
Cluster137	3(84)	*	100.0%[84/84]	3
Cluster135	3(84)	*	100.0%[84/84]	3
Cluster131	3(84)	*	100.0%[84/84]	3
Cluster118	3(84)	*	100.0%[84/84]	3
Cluster110	3(84)	*	100.0%[84/84]	3
Cluster108	3(84)	*	100.0%[84/84]	3
Cluster123	0(1) 1(15) 2(38) 3(27) 4(3)	*	98.8%[83/84]	2.19047619
Cluster98	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster97	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster96	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster3	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster2	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster210	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster201	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster169	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster158	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster127	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster124	2(83) 4(1)	*	100.0%[84/84]	2.023809524

Cluster115	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster100	2(83) 4(1)	*	100.0%[84/84]	2.023809524
Cluster190	2(83) 3(1)	*	100.0%[84/84]	2.011904762
Cluster153	2(83) 3(1)	*	100.0%[84/84]	2.011904762
Cluster84	2(84)	*	100.0%[84/84]	2
Cluster71	2(84)	*	100.0%[84/84]	2
Cluster52	2(84)	*	100.0%[84/84]	2
Cluster31	1(1) 2(82) 3(1)	*	100.0%[84/84]	2
Cluster217	2(84)	*	100.0%[84/84]	2
Cluster195	2(84)	*	100.0%[84/84]	2
Cluster177	2(84)	*	100.0%[84/84]	2
Cluster175	2(84)	*	100.0%[84/84]	2
Cluster168	2(84)	*	100.0%[84/84]	2
Cluster163	2(84)	*	100.0%[84/84]	2
Cluster126	2(84)	*	100.0%[84/84]	2
Cluster117	2(84)	*	100.0%[84/84]	2
Cluster109	2(84)	*	100.0%[84/84]	2
Cluster72	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster54	0(1) 1(1) 2(80) 3(2)	*	98.8%[83/84]	1.988095238
Cluster47	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster216	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster18	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster178	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster142	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster141	0(1) 1(1) 2(80) 3(2)	*	98.8%[83/84]	1.988095238

Cluster138	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster136	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster114	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster111	1(1) 2(83)	*	100.0%[84/84]	1.988095238
Cluster81	0(1) 2(83)	*	98.8%[83/84]	1.976190476
Cluster42	0(1) 2(83)	*	98.8%[83/84]	1.976190476
Cluster89	0(1) 1(1) 2(82)	*	98.8%[83/84]	1.964285714
Cluster88	0(1) 1(1) 2(82)	*	98.8%[83/84]	1.964285714
Cluster197	0(1) 1(1) 2(82)	*	98.8%[83/84]	1.964285714
Cluster87	1(5) 2(79)	*	100.0%[84/84]	1.94047619
Cluster206	1(6) 2(78)	*	100.0%[84/84]	1.928571429
Cluster174	1(9) 2(75)	*	100.0%[84/84]	1.892857143
Cluster61	1(22) 2(62)	*	100.0%[84/84]	1.738095238
Cluster92	1(61) 2(23)	*	100.0%[84/84]	1.273809524
Cluster56	1(65) 2(19)	*	100.0%[84/84]	1.226190476
Cluster182	1(70) 2(14)	*	100.0%[84/84]	1.166666667
Cluster205	1(80) 2(4)	*	100.0%[84/84]	1.047619048
Cluster86	1(82) 2(2)	*	100.0%[84/84]	1.023809524
Cluster75	1(83) 2(1)	*	100.0%[84/84]	1.011904762
Cluster165	1(83) 2(1)	*	100.0%[84/84]	1.011904762
Cluster139	1(83) 2(1)	*	100.0%[84/84]	1.011904762
Cluster112	1(83) 2(1)	*	100.0%[84/84]	1.011904762
Cluster99	1(84)	*	100.0%[84/84]	1
Cluster94	1(84)	*	100.0%[84/84]	1
Cluster93	1(84)	*	100.0%[84/84]	1

Cluster9	1(84)	*	100.0%[84/84]	1
Cluster85	1(84)	*	100.0%[84/84]	1
Cluster83	1(84)	*	100.0%[84/84]	1
Cluster82	1(84)	*	100.0%[84/84]	1
Cluster8	1(84)	*	100.0%[84/84]	1
Cluster78	1(84)	*	100.0%[84/84]	1
Cluster76	1(84)	*	100.0%[84/84]	1
Cluster70	1(84)	*	100.0%[84/84]	1
Cluster69	1(84)	*	100.0%[84/84]	1
Cluster67	1(84)	*	100.0%[84/84]	1
Cluster66	1(84)	*	100.0%[84/84]	1
Cluster65	1(84)	*	100.0%[84/84]	1
Cluster6	1(84)	*	100.0%[84/84]	1
Cluster55	1(84)	*	100.0%[84/84]	1
Cluster5	1(84)	*	100.0%[84/84]	1
Cluster51	1(84)	*	100.0%[84/84]	1
Cluster50	0(1) 1(82) 2(1)	*	98.8%[83/84]	1
Cluster4	1(84)	*	100.0%[84/84]	1
Cluster32	1(84)	*	100.0%[84/84]	1
Cluster222	1(84)	*	100.0%[84/84]	1
Cluster221	1(84)	*	100.0%[84/84]	1
Cluster220	1(84)	*	100.0%[84/84]	1
Cluster218	1(84)	*	100.0%[84/84]	1
Cluster213	1(84)	*	100.0%[84/84]	1
Cluster212	1(84)	*	100.0%[84/84]	1

Cluster211	1(84)	*	100.0%[84/84]	1
Cluster209	1(84)	*	100.0%[84/84]	1
Cluster204	1(84)	*	100.0%[84/84]	1
Cluster203	1(84)	*	100.0%[84/84]	1
Cluster202	1(84)	*	100.0%[84/84]	1
Cluster196	1(84)	*	100.0%[84/84]	1
Cluster189	1(84)	*	100.0%[84/84]	1
Cluster188	1(84)	*	100.0%[84/84]	1
Cluster187	1(84)	*	100.0%[84/84]	1
Cluster186	1(84)	*	100.0%[84/84]	1
Cluster185	1(84)	*	100.0%[84/84]	1
Cluster184	1(84)	*	100.0%[84/84]	1
Cluster183	1(84)	*	100.0%[84/84]	1
Cluster179	1(84)	*	100.0%[84/84]	1
Cluster173	1(84)	*	100.0%[84/84]	1
Cluster172	1(84)	*	100.0%[84/84]	1
Cluster171	1(84)	*	100.0%[84/84]	1
Cluster170	1(84)	*	100.0%[84/84]	1
Cluster166	0(1) 1(82) 2(1)	*	98.8%[83/84]	1
Cluster162	1(84)	*	100.0%[84/84]	1
Cluster157	1(84)	*	100.0%[84/84]	1
Cluster152	1(84)	*	100.0%[84/84]	1
Cluster151	1(84)	*	100.0%[84/84]	1
Cluster150	1(84)	*	100.0%[84/84]	1
Cluster149	1(84)	*	100.0%[84/84]	1

Cluster148	1(84)	*	100.0%[84/84]	1
Cluster147	1(84)	*	100.0%[84/84]	1
Cluster146	1(84)	*	100.0%[84/84]	1
Cluster145	1(84)	*	100.0%[84/84]	1
Cluster144	1(84)	*	100.0%[84/84]	1
Cluster143	1(84)	*	100.0%[84/84]	1
Cluster134	1(84)	*	100.0%[84/84]	1
Cluster133	1(84)	*	100.0%[84/84]	1
Cluster132	1(84)	*	100.0%[84/84]	1
Cluster130	1(84)	*	100.0%[84/84]	1
Cluster129	1(84)	*	100.0%[84/84]	1
Cluster128	1(84)	*	100.0%[84/84]	1
Cluster125	1(84)	*	100.0%[84/84]	1
Cluster116	1(84)	*	100.0%[84/84]	1
Cluster11	1(84)	*	100.0%[84/84]	1
Cluster107	1(84)	*	100.0%[84/84]	1
Cluster106	1(84)	*	100.0%[84/84]	1
Cluster105	1(84)	*	100.0%[84/84]	1
Cluster104	1(84)	*	100.0%[84/84]	1
Cluster103	1(84)	*	100.0%[84/84]	1
Cluster102	1(84)	*	100.0%[84/84]	1
Cluster101	1(84)	*	100.0%[84/84]	1
Cluster0	1(84)	*	100.0%[84/84]	1
Cluster7	0(7) 1(77)	*	91.7%[77/84]	0.916666667
Cluster68	0(7) 1(77)	*	91.7%[77/84]	0.916666667

Cluster214	0(39) 1(45)			53.6%[45/84]
Cluster180	0(73) 1(9) 2(2)			13.1%[11/84]
Cluster121	0(69) 1(13) 2(2)			17.9%[15/84]

Supplementary Table3.

Cluster sets of identified undiscovered multicopy regions from *B. parapertussis*, *B. bronchiseptica*.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster9	22(16) 24(1) 25(1)	*	100.0%[18/18]	22.27777778
Cluster8	22(16) 24(1) 25(1)	*	100.0%[18/18]	22.27777778
Cluster25	22(16) 24(1) 25(1)	*	100.0%[18/18]	22.27777778
Cluster10	22(16) 24(1) 25(1)	*	100.0%[18/18]	22.27777778
Cluster19	22(16) 24(2)	*	100.0%[18/18]	22.22222222
Cluster18	22(16) 24(2)	*	100.0%[18/18]	22.22222222
Cluster1	22(16) 23(1) 24(1)	*	100.0%[18/18]	22.16666667
Cluster0	22(16) 23(1) 24(1)	*	100.0%[18/18]	22.16666667
Cluster40	2(1) 3(17)	*	100.0%[18/18]	2.944444444
Cluster3	2(1) 3(17)	*	100.0%[18/18]	2.944444444
Cluster28	2(1) 3(17)	*	100.0%[18/18]	2.944444444
Cluster27	2(1) 3(17)	*	100.0%[18/18]	2.944444444
Cluster4	1(1) 2(5) 3(12)	*	100.0%[18/18]	2.611111111
Cluster37	2(11) 3(7)	*	100.0%[18/18]	2.388888889
Cluster32	2(15) 3(3)	*	100.0%[18/18]	2.166666667
Cluster26	2(15) 3(3)	*	100.0%[18/18]	2.166666667
Cluster63	2(18)	*	100.0%[18/18]	2

Supplementary Table4.

Cluster sets of identified undiscovered multicopy regions from *M. pneumoniae* strain M129.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster22	11(10)	*	100.0%[10/10]	11
Cluster164	11(10)	*	100.0%[10/10]	11
Cluster141	11(10)	*	100.0%[10/10]	11
Cluster9	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster472	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster468	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster188	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster187	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster182	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster0	10(2) 11(8)	*	100.0%[10/10]	10.8
Cluster66	10(10)	*	100.0%[10/10]	10
Cluster16	10(10)	*	100.0%[10/10]	10
Cluster92	9(2) 10(8)	*	100.0%[10/10]	9.8
Cluster512	9(2) 10(8)	*	100.0%[10/10]	9.8
Cluster43	8(1) 10(9)	*	100.0%[10/10]	9.8
Cluster446	8(2) 10(8)	*	100.0%[10/10]	9.6
Cluster421	9(10)	*	100.0%[10/10]	9
Cluster34	9(10)	*	100.0%[10/10]	9
Cluster6	8(10)	*	100.0%[10/10]	8
Cluster51	8(10)	*	100.0%[10/10]	8

Cluster457	8(10)	*	100.0%[10/10]	8
Cluster413	8(10)	*	100.0%[10/10]	8
Cluster35	8(10)	*	100.0%[10/10]	8
Cluster299	8(10)	*	100.0%[10/10]	8
Cluster198	8(10)	*	100.0%[10/10]	8
Cluster19	8(10)	*	100.0%[10/10]	8
Cluster18	8(10)	*	100.0%[10/10]	8
Cluster13	8(10)	*	100.0%[10/10]	8
Cluster241	7(1) 8(9)	*	100.0%[10/10]	7.9
Cluster156	7(1) 8(9)	*	100.0%[10/10]	7.9
Cluster420	7(2) 8(8)	*	100.0%[10/10]	7.8
Cluster189	7(2) 8(8)	*	100.0%[10/10]	7.8
Cluster149	7(2) 8(8)	*	100.0%[10/10]	7.8
Cluster134	7(2) 8(8)	*	100.0%[10/10]	7.8
Cluster21	6(1) 7(1) 8(8)	*	100.0%[10/10]	7.7
Cluster27	7(8) 8(2)	*	100.0%[10/10]	7.2
Cluster82	7(10)	*	100.0%[10/10]	7
Cluster67	7(10)	*	100.0%[10/10]	7
Cluster54	7(10)	*	100.0%[10/10]	7
Cluster532	7(10)	*	100.0%[10/10]	7
Cluster509	7(10)	*	100.0%[10/10]	7
Cluster388	7(10)	*	100.0%[10/10]	7
Cluster257	7(10)	*	100.0%[10/10]	7
Cluster247	7(10)	*	100.0%[10/10]	7
Cluster239	7(10)	*	100.0%[10/10]	7

Cluster232	7(10)	*	100.0%[10/10]	7
Cluster230	7(10)	*	100.0%[10/10]	7
Cluster204	7(10)	*	100.0%[10/10]	7
Cluster173	7(10)	*	100.0%[10/10]	7
Cluster125	7(10)	*	100.0%[10/10]	7
Cluster102	7(10)	*	100.0%[10/10]	7
Cluster248	6(1) 7(9)	*	100.0%[10/10]	6.9
Cluster343	6(2) 7(8)	*	100.0%[10/10]	6.8
Cluster100	6(2) 7(8)	*	100.0%[10/10]	6.8
Cluster491	5(1) 6(1) 7(8)	*	100.0%[10/10]	6.7
Cluster205	5(2) 7(8)	*	100.0%[10/10]	6.6
Cluster351	5(1) 6(5) 7(4)	*	100.0%[10/10]	6.3
Cluster131	6(8) 7(2)	*	100.0%[10/10]	6.2
Cluster77	6(10)	*	100.0%[10/10]	6
Cluster531	6(10)	*	100.0%[10/10]	6
Cluster497	6(10)	*	100.0%[10/10]	6
Cluster426	6(10)	*	100.0%[10/10]	6
Cluster416	6(10)	*	100.0%[10/10]	6
Cluster377	6(10)	*	100.0%[10/10]	6
Cluster328	6(10)	*	100.0%[10/10]	6
Cluster226	6(10)	*	100.0%[10/10]	6
Cluster20	6(10)	*	100.0%[10/10]	6
Cluster120	6(10)	*	100.0%[10/10]	6
Cluster119	6(10)	*	100.0%[10/10]	6
Cluster53	5(1) 6(9)	*	100.0%[10/10]	5.9

Cluster319	5(2) 6(8)	*	100.0%[10/10]	5.8
Cluster317	5(2) 6(8)	*	100.0%[10/10]	5.8
Cluster305	5(2) 6(8)	*	100.0%[10/10]	5.8
Cluster126	5(2) 6(8)	*	100.0%[10/10]	5.8
Cluster11	5(2) 6(8)	*	100.0%[10/10]	5.8
Cluster144	5(3) 6(7)	*	100.0%[10/10]	5.7
Cluster65	5(4) 6(6)	*	100.0%[10/10]	5.6
Cluster2	4(2) 6(8)	*	100.0%[10/10]	5.6
Cluster190	5(4) 6(6)	*	100.0%[10/10]	5.6
Cluster60	5(8) 6(2)	*	100.0%[10/10]	5.2
Cluster5	5(8) 6(2)	*	100.0%[10/10]	5.2
Cluster264	5(8) 6(2)	*	100.0%[10/10]	5.2
Cluster124	5(8) 6(2)	*	100.0%[10/10]	5.2
Cluster52	5(10)	*	100.0%[10/10]	5
Cluster506	5(10)	*	100.0%[10/10]	5
Cluster499	5(10)	*	100.0%[10/10]	5
Cluster46	4(3) 5(4) 6(3)	*	100.0%[10/10]	5
Cluster453	5(10)	*	100.0%[10/10]	5
Cluster414	5(10)	*	100.0%[10/10]	5
Cluster40	5(10)	*	100.0%[10/10]	5
Cluster384	5(10)	*	100.0%[10/10]	5
Cluster357	5(10)	*	100.0%[10/10]	5
Cluster352	5(10)	*	100.0%[10/10]	5
Cluster315	5(10)	*	100.0%[10/10]	5
Cluster306	5(10)	*	100.0%[10/10]	5

Cluster289	5(10)	*	100.0%[10/10]	5
Cluster246	5(10)	*	100.0%[10/10]	5
Cluster24	5(10)	*	100.0%[10/10]	5
Cluster176	5(10)	*	100.0%[10/10]	5
Cluster167	5(10)	*	100.0%[10/10]	5
Cluster138	5(10)	*	100.0%[10/10]	5
Cluster123	4(1) 5(8) 6(1)	*	100.0%[10/10]	5
Cluster293	4(1) 5(9)	*	100.0%[10/10]	4.9
Cluster174	4(1) 5(9)	*	100.0%[10/10]	4.9
Cluster386	4(2) 5(8)	*	100.0%[10/10]	4.8
Cluster345	4(2) 5(8)	*	100.0%[10/10]	4.8
Cluster298	4(2) 5(8)	*	100.0%[10/10]	4.8
Cluster282	4(2) 5(8)	*	100.0%[10/10]	4.8
Cluster8	3(2) 5(8)	*	100.0%[10/10]	4.6
Cluster56	4(5) 5(5)	*	100.0%[10/10]	4.5
Cluster543	4(6) 5(4)	*	100.0%[10/10]	4.4
Cluster522	4(8) 5(1) 6(1)	*	100.0%[10/10]	4.3
Cluster489	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster395	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster387	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster346	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster312	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster287	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster197	4(8) 5(2)	*	100.0%[10/10]	4.2
Cluster191	4(8) 5(2)	*	100.0%[10/10]	4.2

Cluster97	4(9) 5(1)	*	100.0%[10/10]	4.1
Cluster549	4(9) 5(1)	*	100.0%[10/10]	4.1
Cluster208	4(9) 5(1)	*	100.0%[10/10]	4.1
Cluster166	4(9) 5(1)	*	100.0%[10/10]	4.1
Cluster153	4(9) 5(1)	*	100.0%[10/10]	4.1
Cluster148	4(9) 5(1)	*	100.0%[10/10]	4.1
Cluster71	4(10)	*	100.0%[10/10]	4
Cluster57	4(10)	*	100.0%[10/10]	4
Cluster544	4(10)	*	100.0%[10/10]	4
Cluster537	4(10)	*	100.0%[10/10]	4
Cluster533	4(10)	*	100.0%[10/10]	4
Cluster527	4(10)	*	100.0%[10/10]	4
Cluster473	4(10)	*	100.0%[10/10]	4
Cluster465	4(10)	*	100.0%[10/10]	4
Cluster463	4(10)	*	100.0%[10/10]	4
Cluster450	4(10)	*	100.0%[10/10]	4
Cluster443	4(10)	*	100.0%[10/10]	4
Cluster438	4(10)	*	100.0%[10/10]	4
Cluster424	4(10)	*	100.0%[10/10]	4
Cluster417	4(10)	*	100.0%[10/10]	4
Cluster391	4(10)	*	100.0%[10/10]	4
Cluster390	4(10)	*	100.0%[10/10]	4
Cluster385	4(10)	*	100.0%[10/10]	4
Cluster37	4(10)	*	100.0%[10/10]	4
Cluster370	4(10)	*	100.0%[10/10]	4

Cluster367	4(10)	*	100.0%[10/10]	4
Cluster365	4(10)	*	100.0%[10/10]	4
Cluster360	4(10)	*	100.0%[10/10]	4
Cluster355	4(10)	*	100.0%[10/10]	4
Cluster326	4(10)	*	100.0%[10/10]	4
Cluster32	4(10)	*	100.0%[10/10]	4
Cluster316	4(10)	*	100.0%[10/10]	4
Cluster296	4(10)	*	100.0%[10/10]	4
Cluster284	4(10)	*	100.0%[10/10]	4
Cluster271	4(10)	*	100.0%[10/10]	4
Cluster262	4(10)	*	100.0%[10/10]	4
Cluster240	4(10)	*	100.0%[10/10]	4
Cluster236	4(10)	*	100.0%[10/10]	4
Cluster228	4(10)	*	100.0%[10/10]	4
Cluster217	4(10)	*	100.0%[10/10]	4
Cluster215	4(10)	*	100.0%[10/10]	4
Cluster210	4(10)	*	100.0%[10/10]	4
Cluster206	4(10)	*	100.0%[10/10]	4
Cluster186	4(10)	*	100.0%[10/10]	4
Cluster184	4(10)	*	100.0%[10/10]	4
Cluster118	4(10)	*	100.0%[10/10]	4
Cluster112	4(10)	*	100.0%[10/10]	4
Cluster104	4(10)	*	100.0%[10/10]	4
Cluster72	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster64	3(2) 4(8)	*	100.0%[10/10]	3.8

Cluster492	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster474	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster448	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster33	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster324	3(4) 4(4) 5(2)	*	100.0%[10/10]	3.8
Cluster295	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster14	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster12	3(2) 4(8)	*	100.0%[10/10]	3.8
Cluster242	3(3) 4(7)	*	100.0%[10/10]	3.7
Cluster29	2(2) 4(8)	*	100.0%[10/10]	3.6
Cluster216	2(2) 4(8)	*	100.0%[10/10]	3.6
Cluster76	3(8) 5(2)	*	100.0%[10/10]	3.4
Cluster336	3(8) 5(2)	*	100.0%[10/10]	3.4
Cluster23	3(8) 4(1) 6(1)	*	100.0%[10/10]	3.4
Cluster441	0(2) 1(1) 2(1) 5(6)	*	80.0%[8/10]	3.3
Cluster95	3(8) 4(2)	*	100.0%[10/10]	3.2
Cluster91	3(8) 4(2)	*	100.0%[10/10]	3.2
Cluster513	3(8) 4(2)	*	100.0%[10/10]	3.2
Cluster3	3(8) 4(2)	*	100.0%[10/10]	3.2
Cluster151	3(8) 4(2)	*	100.0%[10/10]	3.2
Cluster111	3(8) 4(2)	*	100.0%[10/10]	3.2
Cluster78	3(9) 4(1)	*	100.0%[10/10]	3.1
Cluster529	2(2) 3(5) 4(3)	*	100.0%[10/10]	3.1
Cluster393	3(9) 4(1)	*	100.0%[10/10]	3.1
Cluster196	3(9) 4(1)	*	100.0%[10/10]	3.1

Cluster165	3(9) 4(1)	*	100.0%[10/10]	3.1
Cluster96	3(10)	*	100.0%[10/10]	3
Cluster63	3(10)	*	100.0%[10/10]	3
Cluster58	3(10)	*	100.0%[10/10]	3
Cluster540	3(10)	*	100.0%[10/10]	3
Cluster539	3(10)	*	100.0%[10/10]	3
Cluster535	2(1) 3(8) 4(1)	*	100.0%[10/10]	3
Cluster482	3(10)	*	100.0%[10/10]	3
Cluster47	3(10)	*	100.0%[10/10]	3
Cluster456	3(10)	*	100.0%[10/10]	3
Cluster455	3(10)	*	100.0%[10/10]	3
Cluster451	3(10)	*	100.0%[10/10]	3
Cluster449	3(10)	*	100.0%[10/10]	3
Cluster439	3(10)	*	100.0%[10/10]	3
Cluster42	3(10)	*	100.0%[10/10]	3
Cluster415	3(10)	*	100.0%[10/10]	3
Cluster404	3(10)	*	100.0%[10/10]	3
Cluster39	3(10)	*	100.0%[10/10]	3
Cluster383	3(10)	*	100.0%[10/10]	3
Cluster382	3(10)	*	100.0%[10/10]	3
Cluster376	3(10)	*	100.0%[10/10]	3
Cluster361	3(10)	*	100.0%[10/10]	3
Cluster358	3(10)	*	100.0%[10/10]	3
Cluster348	3(10)	*	100.0%[10/10]	3
Cluster335	3(10)	*	100.0%[10/10]	3

Cluster333	3(10)	*	100.0%[10/10]	3
Cluster332	3(10)	*	100.0%[10/10]	3
Cluster329	3(10)	*	100.0%[10/10]	3
Cluster265	2(2) 3(6) 4(2)	*	100.0%[10/10]	3
Cluster260	3(10)	*	100.0%[10/10]	3
Cluster243	3(10)	*	100.0%[10/10]	3
Cluster227	3(10)	*	100.0%[10/10]	3
Cluster223	3(10)	*	100.0%[10/10]	3
Cluster214	3(10)	*	100.0%[10/10]	3
Cluster212	3(10)	*	100.0%[10/10]	3
Cluster207	3(10)	*	100.0%[10/10]	3
Cluster193	3(10)	*	100.0%[10/10]	3
Cluster170	3(10)	*	100.0%[10/10]	3
Cluster163	3(10)	*	100.0%[10/10]	3
Cluster145	3(10)	*	100.0%[10/10]	3"

Supplementary Table5.

Cluster sets of identified undiscovered multicopy regions from *Streptococcus agalactiae*.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster99	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster89	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster87	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster86	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster81	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster80	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster74	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster7	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster68	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster19	0(1) 1(2) 3(2) 4(1) 7(1)	*	85.7%[6/7]	2.714285714
Cluster67	0(1) 1(2) 3(3) 4(1)	*	85.7%[6/7]	2.142857143
Cluster53	0(1) 1(2) 3(3) 4(1)	*	85.7%[6/7]	2.142857143

Supplementary Table6.

Cluster sets of identified undiscovered multicopy regions from H. pylori UA802, H. pylori strain PMSS1, H. pylori strain 7.13.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster8	1(3) 2(8) 3(6) 4(3) 5(1)	*	100.0%[21/21]	2.571428571
Cluster107	1(6) 2(9) 3(6)	*	100.0%[21/21]	2
Cluster66	1(5) 2(15) 3(1)	*	100.0%[21/21]	1.80952381
Cluster24	1(6) 2(13) 3(2)	*	100.0%[21/21]	1.80952381
Cluster42	0(3) 1(2) 2(13) 3(3)	*	85.7%[18/21]	1.761904762
Cluster299	0(2) 1(4) 2(12) 3(3)	*	90.5%[19/21]	1.761904762
Cluster133	0(4) 1(3) 2(11) 3(3)	*	81.0%[17/21]	1.619047619
Cluster55	1(13) 2(5) 3(3)	*	100.0%[21/21]	1.523809524
Cluster40	0(4) 1(5) 2(9) 3(3)	*	81.0%[17/21]	1.523809524
Cluster262	1(10) 2(11)	*	100.0%[21/21]	1.523809524
Cluster236	0(4) 1(7) 2(6) 3(4)	*	81.0%[17/21]	1.476190476
Cluster109	0(4) 1(5) 2(11) 3(1)	*	81.0%[17/21]	1.428571429
Cluster333	0(1) 1(13) 2(7)	*	95.2%[20/21]	1.285714286
Cluster3	0(3) 1(11) 2(5) 3(2)	*	85.7%[18/21]	1.285714286
Cluster211	0(4) 1(10) 2(4) 3(3)	*	81.0%[17/21]	1.285714286
Cluster158	0(3) 1(12) 2(3) 3(3)	*	85.7%[18/21]	1.285714286
Cluster354	0(1) 1(14) 2(6)	*	95.2%[20/21]	1.238095238
Cluster25	0(4) 1(9) 2(7) 3(1)	*	81.0%[17/21]	1.238095238
Cluster214	1(17) 2(4)	*	100.0%[21/21]	1.19047619
Cluster2	0(4) 1(10) 2(6) 3(1)	*	81.0%[17/21]	1.19047619

Cluster20	0(4) 1(10) 2(6) 3(1)	*	81.0%[17/21]	1.19047619
Cluster150	0(3) 1(11) 2(7)	*	85.7%[18/21]	1.19047619
Cluster41	0(1) 1(16) 2(4)	*	95.2%[20/21]	1.142857143
Cluster355	0(4) 1(11) 2(5) 3(1)	*	81.0%[17/21]	1.142857143
Cluster32	0(3) 1(13) 2(4) 3(1)	*	85.7%[18/21]	1.142857143
Cluster250	1(18) 2(3)	*	100.0%[21/21]	1.142857143
Cluster227	1(18) 2(3)	*	100.0%[21/21]	1.142857143
Cluster201	1(19) 2(1) 3(1)	*	100.0%[21/21]	1.142857143
Cluster141	0(3) 1(12) 2(6)	*	85.7%[18/21]	1.142857143
Cluster62	1(19) 2(2)	*	100.0%[21/21]	1.095238095
Cluster53	0(4) 1(12) 2(4) 3(1)	*	81.0%[17/21]	1.095238095
Cluster373	0(3) 1(13) 2(5)	*	85.7%[18/21]	1.095238095
Cluster350	0(4) 1(12) 2(4) 3(1)	*	81.0%[17/21]	1.095238095
Cluster287	0(3) 1(13) 2(5)	*	85.7%[18/21]	1.095238095
Cluster216	1(19) 2(2)	*	100.0%[21/21]	1.095238095
Cluster205	0(4) 1(12) 2(4) 3(1)	*	81.0%[17/21]	1.095238095
Cluster200	0(4) 1(12) 2(4) 3(1)	*	81.0%[17/21]	1.095238095
Cluster19	0(4) 1(12) 2(4) 3(1)	*	81.0%[17/21]	1.095238095
Cluster155	1(19) 2(2)	*	100.0%[21/21]	1.095238095
Cluster135	0(1) 1(17) 2(3)	*	95.2%[20/21]	1.095238095
Cluster134	0(3) 1(13) 2(5)	*	85.7%[18/21]	1.095238095
Cluster117	0(1) 1(18) 2(1) 3(1)	*	95.2%[20/21]	1.095238095
Cluster95	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster85	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster84	1(20) 2(1)	*	100.0%[21/21]	1.047619048

Cluster83	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster81	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster77	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster72	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster68	0(4) 1(12) 2(5)	*	81.0%[17/21]	1.047619048
Cluster6	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster5	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster44	0(2) 1(16) 2(3)	*	90.5%[19/21]	1.047619048
Cluster4	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster374	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster341	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster338	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster316	0(2) 1(16) 2(3)	*	90.5%[19/21]	1.047619048
Cluster313	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster310	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster309	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster306	0(1) 1(18) 2(2)	*	95.2%[20/21]	1.047619048
Cluster298	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster292	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster283	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster258	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster254	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster253	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster204	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster202	1(20) 2(1)	*	100.0%[21/21]	1.047619048

Cluster198	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster185	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster179	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster177	0(4) 1(12) 2(5)	*	81.0%[17/21]	1.047619048
Cluster149	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster143	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster11	1(20) 2(1)	*	100.0%[21/21]	1.047619048
Cluster70	1(21)	*	100.0%[21/21]	1
Cluster375	1(21)	*	100.0%[21/21]	1
Cluster301	1(21)	*	100.0%[21/21]	1
Cluster284	0(1) 1(19) 2(1)	*	95.2%[20/21]	1
Cluster273	1(21)	*	100.0%[21/21]	1
Cluster256	0(1) 1(19) 2(1)	*	95.2%[20/21]	1
Cluster223	0(1) 1(19) 2(1)	*	95.2%[20/21]	1
Cluster212	0(1) 1(19) 2(1)	*	95.2%[20/21]	1
Cluster146	1(21)	*	100.0%[21/21]	1
Cluster98	0(2) 1(18) 2(1)	*	90.5%[19/21]	0.952380952
Cluster45	0(4) 1(15) 2(1) 3(1)	*	81.0%[17/21]	0.952380952
Cluster362	0(2) 1(18) 2(1)	*	90.5%[19/21]	0.952380952
Cluster359	0(2) 1(18) 2(1)	*	90.5%[19/21]	0.952380952
Cluster344	0(1) 1(20)	*	95.2%[20/21]	0.952380952
Cluster339	0(2) 1(18) 2(1)	*	90.5%[19/21]	0.952380952
Cluster336	0(4) 1(14) 2(3)	*	81.0%[17/21]	0.952380952
Cluster286	0(1) 1(20)	*	95.2%[20/21]	0.952380952
Cluster249	0(4) 1(14) 2(3)	*	81.0%[17/21]	0.952380952

Cluster240	0(1) 1(20)	*	95.2%[20/21]	0.952380952
Cluster232	0(1) 1(20)	*	95.2%[20/21]	0.952380952
Cluster187	0(1) 1(20)	*	95.2%[20/21]	0.952380952
Cluster144	0(2) 1(18) 2(1)	*	90.5%[19/21]	0.952380952
Cluster129	0(1) 1(20)	*	95.2%[20/21]	0.952380952
Cluster100	0(2) 1(18) 2(1)	*	90.5%[19/21]	0.952380952
Cluster57	0(4) 1(15) 2(2)	*	81.0%[17/21]	0.904761905
Cluster377	0(3) 1(17) 2(1)	*	85.7%[18/21]	0.904761905
Cluster308	0(3) 1(17) 2(1)	*	85.7%[18/21]	0.904761905
Cluster293	0(4) 1(15) 2(2)	*	81.0%[17/21]	0.904761905
Cluster243	0(3) 1(17) 2(1)	*	85.7%[18/21]	0.904761905
Cluster191	0(4) 1(16) 3(1)	*	81.0%[17/21]	0.904761905
Cluster170	0(4) 1(15) 2(2)	*	81.0%[17/21]	0.904761905
Cluster108	0(3) 1(17) 2(1)	*	85.7%[18/21]	0.904761905
Cluster378	0(3) 1(18)	*	85.7%[18/21]	0.857142857
Cluster285	0(4) 1(16) 2(1)	*	81.0%[17/21]	0.857142857
Cluster241	0(3) 1(18)	*	85.7%[18/21]	0.857142857
Cluster221	0(4) 1(16) 2(1)	*	81.0%[17/21]	0.857142857
Cluster219	0(4) 1(16) 2(1)	*	81.0%[17/21]	0.857142857
Cluster151	0(4) 1(16) 2(1)	*	81.0%[17/21]	0.857142857
Cluster99	0(16) 1(2) 2(3)			23.8%[5/21]
Cluster97	0(17) 1(3) 2(1)			19.0%[4/21]
Cluster96	0(20) 2(1)			4.8%[1/21]
Cluster94	0(17) 1(3) 2(1)			19.0%[4/21]
Cluster93	0(20) 2(1)			4.8%[1/21]

Cluster92	0(20) 3(1)			4.8%[1/21]
Cluster91	0(20) 3(1)			4.8%[1/21]
Cluster9	0(8) 1(12) 2(1)			61.9%[13/21]
Cluster90	0(9) 1(11) 2(1)			57.1%[12/21]
Cluster89	0(15) 1(3) 4(2) 5(1)			28.6%[6/21]
Cluster88	0(20) 2(1)			4.8%[1/21]
Cluster87	0(20) 5(1)			4.8%[1/21]
Cluster86	0(17) 1(3) 2(1)			19.0%[4/21]
Cluster82	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster80	0(5) 1(15) 2(1)			76.2%[16/21]
Cluster79	0(6) 1(12) 2(2) 3(1)			71.4%[15/21]
Cluster78	0(14) 1(6) 2(1)			33.3%[7/21]
Cluster76	0(12) 1(8) 2(1)			42.9%[9/21]
Cluster75	0(20) 2(1)			4.8%[1/21]
Cluster74	0(16) 1(5)			23.8%[5/21]
Cluster73	0(19) 1(2)			9.5%[2/21]
Cluster71	0(11) 1(5) 2(5)			47.6%[10/21]
Cluster7	0(20) 2(1)			4.8%[1/21]
Cluster69	0(14) 1(4) 2(3)			33.3%[7/21]
Cluster67	0(14) 1(7)			33.3%[7/21]
Cluster65	0(13) 1(7) 2(1)			38.1%[8/21]
Cluster64	0(5) 1(14) 2(2)			76.2%[16/21]
Cluster63	0(5) 1(12) 2(4)			76.2%[16/21]
Cluster61	0(18) 1(3)			14.3%[3/21]
Cluster60	0(19) 1(1) 2(1)			9.5%[2/21]

Cluster59	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster58	0(5) 1(12) 2(4)			76.2%[16/21]
Cluster56	0(18) 1(2) 3(1)			14.3%[3/21]
Cluster54	0(5) 1(5) 2(9) 3(2)			76.2%[16/21]
Cluster52	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster51	0(20) 2(1)			4.8%[1/21]
Cluster50	0(21)			0.0%[0/21]
Cluster49	0(5) 1(8) 2(5) 3(3)			76.2%[16/21]
Cluster48	0(9) 1(5) 2(3) 3(4)			57.1%[12/21]
Cluster47	0(20) 1(1)			4.8%[1/21]
Cluster46	0(20) 3(1)			4.8%[1/21]
Cluster43	0(20) 1(1)			4.8%[1/21]
Cluster39	0(15) 1(5) 2(1)			28.6%[6/21]
Cluster38	0(15) 1(4) 2(1) 3(1)			28.6%[6/21]
Cluster380	0(5) 1(6) 2(7) 3(1) 4(2)			76.2%[16/21]
Cluster379	0(17) 1(4)			19.0%[4/21]
Cluster376	0(8) 1(11) 2(2)			61.9%[13/21]
Cluster372	0(16) 1(5)			23.8%[5/21]
Cluster371	0(19) 1(1) 3(1)			9.5%[2/21]
Cluster37	0(13) 1(8)			38.1%[8/21]
Cluster370	0(12) 1(8) 2(1)			42.9%[9/21]
Cluster369	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster368	0(20) 2(1)			4.8%[1/21]
Cluster367	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster366	0(20) 2(1)			4.8%[1/21]

Cluster365	0(16) 1(5)			23.8%[5/21]
Cluster364	0(18) 1(1) 2(2)			14.3%[3/21]
Cluster363	0(5) 1(16)			76.2%[16/21]
Cluster361	0(12) 1(1) 2(6) 4(2)			42.9%[9/21]
Cluster36	0(20) 1(1)			4.8%[1/21]
Cluster360	0(20) 3(1)			4.8%[1/21]
Cluster358	0(19) 2(2)			9.5%[2/21]
Cluster357	0(19) 1(2)			9.5%[2/21]
Cluster356	0(12) 1(8) 2(1)			42.9%[9/21]
Cluster353	0(20) 2(1)			4.8%[1/21]
Cluster352	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster351	0(9) 1(9) 2(3)			57.1%[12/21]
Cluster35	0(20) 2(1)			4.8%[1/21]
Cluster349	0(20) 2(1)			4.8%[1/21]
Cluster348	0(5) 1(15) 2(1)			76.2%[16/21]
Cluster347	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster346	0(10) 1(10) 2(1)			52.4%[11/21]
Cluster345	0(20) 2(1)			4.8%[1/21]
Cluster343	0(8) 1(12) 2(1)			61.9%[13/21]
Cluster342	0(8) 1(12) 2(1)			61.9%[13/21]
Cluster34	0(8) 1(6) 2(7)			61.9%[13/21]
Cluster340	0(20) 2(1)			4.8%[1/21]
Cluster337	0(12) 1(7) 2(2)			42.9%[9/21]
Cluster335	0(17) 1(3) 2(1)			19.0%[4/21]
Cluster334	0(20) 3(1)			4.8%[1/21]

Cluster332	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster331	0(7) 1(13) 2(1)			66.7%[14/21]
Cluster33	0(10) 1(8) 2(3)			52.4%[11/21]
Cluster330	0(15) 1(2) 2(3) 3(1)			28.6%[6/21]
Cluster329	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster328	0(17) 1(4)			19.0%[4/21]
Cluster327	0(20) 1(1)			4.8%[1/21]
Cluster326	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster325	0(12) 1(9)			42.9%[9/21]
Cluster324	0(20) 3(1)			4.8%[1/21]
Cluster323	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster322	0(13) 1(5) 2(3)			38.1%[8/21]
Cluster321	0(17) 1(4)			19.0%[4/21]
Cluster320	0(15) 1(2) 2(1) 3(1) 4(1) 5(1)			28.6%[6/21]
Cluster319	0(20) 4(1)			4.8%[1/21]
Cluster318	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster317	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster315	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster314	0(7) 1(13) 2(1)			66.7%[14/21]
Cluster312	0(8) 1(12) 2(1)			61.9%[13/21]
Cluster311	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster31	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster307	0(5) 1(15) 2(1)			76.2%[16/21]
Cluster305	0(9) 1(8) 2(3) 3(1)			57.1%[12/21]
Cluster304	0(16) 1(4) 2(1)			23.8%[5/21]

Cluster303	0(7) 1(14)			66.7%[14/21]
Cluster302	0(10) 1(9) 2(2)			52.4%[11/21]
Cluster30	0(18) 3(1) 4(1) 5(1)			14.3%[3/21]
Cluster300	0(20) 1(1)			4.8%[1/21]
Cluster297	0(15) 1(3) 3(1) 4(1) 5(1)			28.6%[6/21]
Cluster296	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster295	0(19) 2(2)			9.5%[2/21]
Cluster294	0(7) 1(13) 2(1)			66.7%[14/21]
Cluster291	0(20) 3(1)			4.8%[1/21]
Cluster29	0(20) 2(1)			4.8%[1/21]
Cluster290	0(21)			0.0%[0/21]
Cluster289	0(20) 3(1)			4.8%[1/21]
Cluster288	0(16) 1(2) 2(3)			23.8%[5/21]
Cluster282	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster281	0(9) 1(11) 2(1)			57.1%[12/21]
Cluster28	0(10) 1(10) 2(1)			52.4%[11/21]
Cluster280	0(5) 1(11) 2(5)			76.2%[16/21]
Cluster279	0(5) 1(6) 2(7) 3(2) 4(1)			76.2%[16/21]
Cluster278	0(16) 1(5)			23.8%[5/21]
Cluster277	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster276	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster275	0(13) 1(8)			38.1%[8/21]
Cluster274	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster272	0(5) 1(13) 2(3)			76.2%[16/21]
Cluster271	0(21)			0.0%[0/21]

Cluster27	0(5) 1(11) 2(4) 3(1)			76.2%[16/21]
Cluster270	0(14) 1(4) 2(3)			33.3%[7/21]
Cluster269	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster268	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster267	0(16) 1(5)			23.8%[5/21]
Cluster266	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster265	0(20) 2(1)			4.8%[1/21]
Cluster264	0(13) 1(3) 2(5)			38.1%[8/21]
Cluster263	0(12) 1(7) 2(2)			42.9%[9/21]
Cluster261	0(5) 1(14) 2(2)			76.2%[16/21]
Cluster26	0(12) 1(4) 2(3) 4(2)			42.9%[9/21]
Cluster260	0(20) 4(1)			4.8%[1/21]
Cluster259	0(20) 2(1)			4.8%[1/21]
Cluster257	0(6) 1(14) 2(1)			71.4%[15/21]
Cluster255	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster252	0(20) 2(1)			4.8%[1/21]
Cluster251	0(10) 1(6) 2(4) 3(1)			52.4%[11/21]
Cluster248	0(11) 1(10)			47.6%[10/21]
Cluster247	0(6) 1(13) 2(2)			71.4%[15/21]
Cluster246	0(9) 1(9) 2(3)			57.1%[12/21]
Cluster245	0(14) 1(5) 2(2)			33.3%[7/21]
Cluster244	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster242	0(20) 3(1)			4.8%[1/21]
Cluster239	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster238	0(18) 1(2) 2(1)			14.3%[3/21]

Cluster237	0(20) 2(1)			4.8%[1/21]
Cluster235	0(16) 1(3) 2(2)			23.8%[5/21]
Cluster234	0(5) 1(15) 2(1)			76.2%[16/21]
Cluster233	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster231	0(13) 1(7) 3(1)			38.1%[8/21]
Cluster23	0(17) 1(1) 2(1) 4(2)			19.0%[4/21]
Cluster230	0(20) 2(1)			4.8%[1/21]
Cluster229	0(15) 1(5) 2(1)			28.6%[6/21]
Cluster228	0(19) 1(1) 5(1)			9.5%[2/21]
Cluster226	0(5) 1(14) 2(2)			76.2%[16/21]
Cluster225	0(20) 5(1)			4.8%[1/21]
Cluster224	0(20) 1(1)			4.8%[1/21]
Cluster222	0(20) 2(1)			4.8%[1/21]
Cluster22	0(19) 2(1) 3(1)			9.5%[2/21]
Cluster220	0(5) 1(12) 2(4)			76.2%[16/21]
Cluster218	0(19) 2(2)			9.5%[2/21]
Cluster217	0(18) 1(3)			14.3%[3/21]
Cluster215	0(12) 1(6) 2(3)			42.9%[9/21]
Cluster213	0(9) 1(9) 2(3)			57.1%[12/21]
Cluster21	0(20) 2(1)			4.8%[1/21]
Cluster210	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster209	0(14) 1(6) 2(1)			33.3%[7/21]
Cluster208	0(14) 1(6) 2(1)			33.3%[7/21]
Cluster207	0(10) 1(9) 2(2)			52.4%[11/21]
Cluster206	0(20) 3(1)			4.8%[1/21]

Cluster203	0(19) 1(2)			9.5%[2/21]
Cluster199	0(20) 2(1)			4.8%[1/21]
Cluster197	0(20) 2(1)			4.8%[1/21]
Cluster196	0(8) 1(10) 2(3)			61.9%[13/21]
Cluster195	0(8) 1(9) 2(4)			61.9%[13/21]
Cluster194	0(8) 1(11) 2(2)			61.9%[13/21]
Cluster193	0(20) 2(1)			4.8%[1/21]
Cluster192	0(8) 1(11) 2(2)			61.9%[13/21]
Cluster190	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster189	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster188	0(20) 2(1)			4.8%[1/21]
Cluster186	0(18) 2(1) 4(1) 5(1)			14.3%[3/21]
Cluster184	0(9) 1(7) 2(5)			57.1%[12/21]
Cluster183	0(14) 1(6) 2(1)			33.3%[7/21]
Cluster182	0(20) 2(1)			4.8%[1/21]
Cluster181	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster18	0(20) 2(1)			4.8%[1/21]
Cluster180	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster178	0(9) 1(11) 2(1)			57.1%[12/21]
Cluster176	0(7) 1(12) 2(2)			66.7%[14/21]
Cluster175	0(5) 1(12) 2(4)			76.2%[16/21]
Cluster174	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster173	0(12) 1(7) 2(2)			42.9%[9/21]
Cluster172	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster171	0(6) 1(14) 4(1)			71.4%[15/21]

Cluster17	0(15) 1(3) 2(1) 3(1) 5(1)			28.6%[6/21]
Cluster169	0(7) 1(13) 2(1)			66.7%[14/21]
Cluster168	0(20) 2(1)			4.8%[1/21]
Cluster167	0(15) 1(5) 2(1)			28.6%[6/21]
Cluster166	0(20) 2(1)			4.8%[1/21]
Cluster165	0(8) 1(8) 2(4) 3(1)			61.9%[13/21]
Cluster164	0(8) 1(8) 2(5)			61.9%[13/21]
Cluster163	0(13) 1(6) 2(2)			38.1%[8/21]
Cluster162	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster161	0(7) 1(11) 2(3)			66.7%[14/21]
Cluster16	0(9) 1(11) 2(1)			57.1%[12/21]
Cluster160	0(19) 2(2)			9.5%[2/21]
Cluster159	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster157	0(20) 2(1)			4.8%[1/21]
Cluster156	0(8) 1(9) 2(4)			61.9%[13/21]
Cluster154	0(16) 1(3) 2(2)			23.8%[5/21]
Cluster153	0(5) 1(3) 2(11) 3(2)			76.2%[16/21]
Cluster152	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster15	0(12) 1(3) 2(4) 4(2)			42.9%[9/21]
Cluster148	0(18) 1(3)			14.3%[3/21]
Cluster147	0(18) 1(2) 2(1)			14.3%[3/21]
Cluster145	0(20) 2(1)			4.8%[1/21]
Cluster142	0(19) 1(1) 2(1)			9.5%[2/21]
Cluster14	0(14) 1(4) 2(3)			33.3%[7/21]
Cluster140	0(20) 2(1)			4.8%[1/21]

Cluster139	0(9) 1(8) 2(4)			57.1%[12/21]
Cluster138	0(12) 1(7) 2(2)			42.9%[9/21]
Cluster137	0(16) 1(5)			23.8%[5/21]
Cluster136	0(5) 1(6) 2(7) 3(1) 4(2)			76.2%[16/21]
Cluster132	0(13) 1(6) 2(2)			38.1%[8/21]
Cluster131	0(9) 1(5) 2(4) 3(3)			57.1%[12/21]
Cluster13	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster130	0(12) 1(1) 2(6) 3(2)			42.9%[9/21]
Cluster128	0(12) 1(3) 2(5) 3(1)			42.9%[9/21]
Cluster127	0(6) 1(15)			71.4%[15/21]
Cluster126	0(17) 1(3) 3(1)			19.0%[4/21]
Cluster125	0(17) 1(3) 3(1)			19.0%[4/21]
Cluster124	0(20) 3(1)			4.8%[1/21]
Cluster123	0(20) 3(1)			4.8%[1/21]
Cluster122	0(7) 1(11) 2(3)			66.7%[14/21]
Cluster121	0(20) 3(1)			4.8%[1/21]
Cluster12	0(20) 2(1)			4.8%[1/21]
Cluster120	0(11) 1(9) 2(1)			47.6%[10/21]
Cluster119	0(14) 1(5) 2(2)			33.3%[7/21]
Cluster118	0(15) 1(5) 2(1)			28.6%[6/21]
Cluster116	0(12) 1(7) 2(2)			42.9%[9/21]
Cluster115	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster114	0(20) 2(1)			4.8%[1/21]
Cluster113	0(20) 2(1)			4.8%[1/21]
Cluster112	0(7) 1(13) 2(1)			66.7%[14/21]

Cluster111	0(16) 1(4) 2(1)			23.8%[5/21]
Cluster110	0(20) 5(1)			4.8%[1/21]
Cluster106	0(5) 1(4) 2(11) 3(1)			76.2%[16/21]
Cluster105	0(14) 1(6) 2(1)			33.3%[7/21]
Cluster104	0(18) 2(1) 3(2)			14.3%[3/21]
Cluster103	0(16) 1(2) 2(3)			23.8%[5/21]
Cluster102	0(12) 1(1) 2(6) 3(1) 4(1)			42.9%[9/21]
Cluster1	0(13) 1(7) 2(1)			38.1%[8/21]
Cluster101	0(16) 1(3) 2(2)			23.8%[5/21]
Cluster10	0(12) 1(8) 2(1)			42.9%[9/21]
Cluster0	0(10) 1(10) 2(1)			52.4%[11/21]

Supplementary Table7.

Cluster sets of identified undiscovered multicopy regions from *Legionella pneumophila*.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster66	7(1) 12(1) 23(1) 28(1) 30(4) 31(1)	*	100.0%[9/9]	24.55555556
Cluster67	5(1) 12(1) 21(1) 27(1) 28(2) 29(2) 30(1)	*	100.0%[9/9]	23.22222222
Cluster491	4(1) 11(1) 20(1) 26(1) 27(2) 29(2) 30(1)	*	100.0%[9/9]	22.55555556
Cluster65	6(1) 9(1) 19(1) 26(2) 28(4)	*	100.0%[9/9]	22
Cluster351	5(1) 10(1) 18(1) 23(2) 24(1) 27(2) 29(1)	*	100.0%[9/9]	20.66666667
Cluster180	0(1) 2(1) 13(1) 15(1) 19(1) 20(1) 21(2) 22(1)	*	88.9%[8/9]	14.77777778
Cluster280	4(2) 6(1) 8(1) 9(2) 11(1) 12(2)	*	100.0%[9/9]	8.333333333
Cluster111	3(1) 4(1) 6(1) 7(3) 9(3)	*	100.0%[9/9]	6.777777778
Cluster253	3(2) 4(2) 5(5)	*	100.0%[9/9]	4.333333333
Cluster208	1(1) 2(1) 3(1) 4(2) 5(4)	*	100.0%[9/9]	3.777777778
Cluster185	1(1) 2(3) 3(1) 4(1) 5(2) 6(1)	*	100.0%[9/9]	3.333333333
Cluster250	1(2) 3(4) 4(2) 6(1)	*	100.0%[9/9]	3.111111111
Cluster364	0(1) 2(2) 3(3) 4(1) 5(2)	*	88.9%[8/9]	3
Cluster100	1(3) 3(5) 4(1)	*	100.0%[9/9]	2.444444444
Cluster186	1(2) 2(2) 3(5)	*	100.0%[9/9]	2.333333333
Cluster678	1(4) 3(4) 4(1)	*	100.0%[9/9]	2.222222222
Cluster31	1(3) 2(1) 3(5)	*	100.0%[9/9]	2.222222222
Cluster137	1(1) 2(5) 3(3)	*	100.0%[9/9]	2.222222222
Cluster120	2(7) 3(2)	*	100.0%[9/9]	2.222222222
Cluster60	1(2) 2(4) 3(3)	*	100.0%[9/9]	2.111111111

Cluster54	1(2) 2(4) 3(3)	*	100.0%[9/9]	2.111111111
Cluster631	1(5) 3(3) 4(1)	*	100.0%[9/9]	2
Cluster533	2(9)	*	100.0%[9/9]	2

Supplementary Table8.

Cluster sets of identified undiscovered multicopy regions from *Candida auris*.

ClusterID	Distribution	Marker	Percent_of_strains	Weighted_Average_Copy
Cluster538	6(1) 7(2) 10(1) 13(1)	*	100.0%[5/5]	8.6
Cluster151	6(2) 7(1) 8(1) 12(1)	*	100.0%[5/5]	7.8
Cluster206	2(1) 7(2) 9(1) 12(1)	*	100.0%[5/5]	7.4
Cluster843	1(1) 2(1) 3(1) 10(1) 20(1)	*	100.0%[5/5]	7.2
Cluster236	0(1) 2(1) 4(1) 10(1) 20(1)	*	80.0%[4/5]	7.2
Cluster28	4(1) 5(1) 6(1) 9(1) 11(1)	*	100.0%[5/5]	7
Cluster16	5(1) 6(2) 7(1) 11(1)	*	100.0%[5/5]	7
Cluster896	1(2) 4(1) 8(1) 20(1)	*	100.0%[5/5]	6.8
Cluster706	1(2) 4(1) 8(1) 20(1)	*	100.0%[5/5]	6.8
Cluster39	1(2) 4(1) 8(1) 20(1)	*	100.0%[5/5]	6.8
Cluster959	1(2) 3(1) 8(1) 20(1)	*	100.0%[5/5]	6.6
Cluster544	1(2) 2(1) 9(1) 19(1)	*	100.0%[5/5]	6.4
Cluster960	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster895	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster86	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster802	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster731	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster36	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster11	1(2) 2(1) 8(1) 19(1)	*	100.0%[5/5]	6.2
Cluster649	1(2) 2(1) 7(1) 19(1)	*	100.0%[5/5]	6

Cluster569	1(2) 2(1) 7(1) 19(1)	*	100.0%[5/5]	6
Cluster349	1(3) 8(1) 19(1)	*	100.0%[5/5]	6
Cluster962	0(1) 1(2) 8(1) 19(1)	*	80.0%[4/5]	5.8
Cluster905	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster893	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster735	1(2) 2(1) 6(1) 19(1)	*	100.0%[5/5]	5.8
Cluster72	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster71	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster65	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster554	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster550	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster545	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster352	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster234	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster226	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster223	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster219	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster215	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster214	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster213	1(3) 7(1) 19(1)	*	100.0%[5/5]	5.8
Cluster91	0(1) 1(2) 7(1) 19(1)	*	80.0%[4/5]	5.6
Cluster902	1(3) 7(1) 18(1)	*	100.0%[5/5]	5.6
Cluster82	1(3) 7(1) 18(1)	*	100.0%[5/5]	5.6
Cluster803	0(1) 1(2) 8(1) 18(1)	*	80.0%[4/5]	5.6
Cluster738	1(3) 6(1) 19(1)	*	100.0%[5/5]	5.6

Cluster454	1(2) 2(1) 6(1) 18(1)	*	100.0%[5/5]	5.6
Cluster377	0(1) 1(2) 7(1) 19(1)	*	80.0%[4/5]	5.6
Cluster360	0(1) 1(2) 7(1) 19(1)	*	80.0%[4/5]	5.6
Cluster356	1(3) 6(1) 19(1)	*	100.0%[5/5]	5.6
Cluster354	1(2) 2(1) 6(1) 18(1)	*	100.0%[5/5]	5.6
Cluster350	1(3) 7(1) 18(1)	*	100.0%[5/5]	5.6
Cluster211	0(1) 1(2) 7(1) 19(1)	*	80.0%[4/5]	5.6
Cluster210	1(3) 7(1) 18(1)	*	100.0%[5/5]	5.6
Cluster801	1(3) 7(1) 17(1)	*	100.0%[5/5]	5.4
Cluster73	0(1) 1(1) 2(1) 5(1) 19(1)	*	80.0%[4/5]	5.4
Cluster521	1(2) 2(1) 7(1) 16(1)	*	100.0%[5/5]	5.4
Cluster452	0(1) 1(2) 7(1) 18(1)	*	80.0%[4/5]	5.4
Cluster353	0(1) 1(2) 5(1) 19(1)	*	80.0%[4/5]	5.2
Cluster208	1(1) 5(1) 6(2) 8(1)	*	100.0%[5/5]	5.2
Cluster165	2(1) 4(2) 7(1) 9(1)	*	100.0%[5/5]	5.2
Cluster967	0(1) 1(2) 4(1) 19(1)	*	80.0%[4/5]	5
Cluster645	0(1) 1(2) 7(1) 16(1)	*	80.0%[4/5]	5
Cluster346	0(1) 1(2) 4(1) 17(1)	*	80.0%[4/5]	4.6
Cluster361	0(1) 1(2) 6(1) 14(1)	*	80.0%[4/5]	4.4
Cluster968	0(1) 1(3) 18(1)	*	80.0%[4/5]	4.2
Cluster647	0(1) 1(3) 18(1)	*	80.0%[4/5]	4.2
Cluster63	0(1) 1(1) 2(1) 4(1) 14(1)	*	80.0%[4/5]	4.2
Cluster644	0(1) 1(3) 17(1)	*	80.0%[4/5]	4
Cluster87	0(1) 1(2) 7(1) 10(1)	*	80.0%[4/5]	3.8
Cluster772	0(1) 4(2) 5(1) 6(1)	*	80.0%[4/5]	3.8

Cluster400	0(1) 4(2) 5(1) 6(1)	*	80.0%[4/5]	3.8
Cluster813	1(1) 3(1) 4(2) 6(1)	*	100.0%[5/5]	3.6
Cluster778	0(1) 4(2) 5(2)	*	80.0%[4/5]	3.6
Cluster585	2(1) 3(1) 4(2) 5(1)	*	100.0%[5/5]	3.6
Cluster523	1(3) 2(1) 13(1)	*	100.0%[5/5]	3.6
Cluster125	0(1) 3(1) 5(3)	*	80.0%[4/5]	3.6
Cluster7	2(1) 3(1) 4(3)	*	100.0%[5/5]	3.4
Cluster204	2(1) 3(1) 4(3)	*	100.0%[5/5]	3.4
Cluster804	0(1) 3(1) 4(2) 5(1)	*	80.0%[4/5]	3.2
Cluster715	0(1) 1(1) 3(1) 5(1) 6(1)	*	80.0%[4/5]	3
Cluster620	0(1) 2(1) 4(2) 5(1)	*	80.0%[4/5]	3
Cluster414	0(1) 2(1) 4(2) 5(1)	*	80.0%[4/5]	3
Cluster966	0(1) 1(1) 4(2) 5(1)	*	80.0%[4/5]	2.8
Cluster398	1(1) 2(1) 3(2) 5(1)	*	100.0%[5/5]	2.8
Cluster865	1(3) 2(1) 8(1)	*	100.0%[5/5]	2.6
Cluster435	1(1) 2(2) 3(1) 5(1)	*	100.0%[5/5]	2.6
Cluster235	0(1) 1(2) 3(1) 8(1)	*	80.0%[4/5]	2.6
Cluster660	0(1) 1(1) 3(1) 4(2)	*	80.0%[4/5]	2.4
Cluster518	0(1) 2(1) 3(2) 4(1)	*	80.0%[4/5]	2.4
Cluster51	1(2) 3(2) 4(1)	*	100.0%[5/5]	2.4
Cluster899	0(1) 1(1) 2(1) 4(2)	*	80.0%[4/5]	2.2
Cluster595	1(2) 2(2) 5(1)	*	100.0%[5/5]	2.2
Cluster388	0(1) 1(2) 4(1) 5(1)	*	80.0%[4/5]	2.2
Cluster205	1(1) 2(2) 3(2)	*	100.0%[5/5]	2.2
Cluster199	0(1) 1(1) 2(1) 4(2)	*	80.0%[4/5]	2.2

Cluster173	1(3) 3(1) 5(1)	*	100.0%[5/5]	2.2
Cluster640	0(1) 1(2) 3(1) 5(1)	*	80.0%[4/5]	2
Cluster52	0(1) 2(3) 4(1)	*	80.0%[4/5]	2
Cluster460	0(1) 1(2) 3(1) 5(1)	*	80.0%[4/5]	2
Cluster321	0(1) 1(2) 3(1) 5(1)	*	80.0%[4/5]	2
Cluster104	0(1) 1(2) 3(1) 5(1)	*	80.0%[4/5]	2
Cluster953	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster941	1(3) 2(1) 4(1)	*	100.0%[5/5]	1.8
Cluster869	0(1) 1(2) 2(1) 5(1)	*	80.0%[4/5]	1.8
Cluster8	0(1) 1(1) 2(1) 3(2)	*	80.0%[4/5]	1.8
Cluster769	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster708	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster707	0(1) 1(1) 2(1) 3(2)	*	80.0%[4/5]	1.8
Cluster700	0(1) 1(2) 2(1) 5(1)	*	80.0%[4/5]	1.8
Cluster675	0(1) 1(1) 2(1) 3(2)	*	80.0%[4/5]	1.8
Cluster540	0(1) 1(2) 2(1) 5(1)	*	80.0%[4/5]	1.8
Cluster539	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster42	0(1) 1(1) 2(1) 3(2)	*	80.0%[4/5]	1.8
Cluster337	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster313	0(1) 2(3) 3(1)	*	80.0%[4/5]	1.8
Cluster200	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster17	1(1) 2(4)	*	100.0%[5/5]	1.8
Cluster168	0(1) 1(2) 3(1) 4(1)	*	80.0%[4/5]	1.8
Cluster995	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster994	0(1) 1(1) 2(2) 3(1)	*	80.0%[4/5]	1.6

Cluster961	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster957	0(1) 1(2) 2(1) 4(1)	*	80.0%[4/5]	1.6
Cluster949	1(3) 2(1) 3(1)	*	100.0%[5/5]	1.6
Cluster934	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster874	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster812	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster782	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster774	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster724	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster676	0(1) 1(1) 2(2) 3(1)	*	80.0%[4/5]	1.6
Cluster433	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster424	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster330	0(1) 1(2) 3(2)	*	80.0%[4/5]	1.6
Cluster292	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster170	1(2) 2(3)	*	100.0%[5/5]	1.6
Cluster990	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster988	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster986	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster984	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster978	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster977	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster973	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster951	0(1) 1(1) 2(3)	*	80.0%[4/5]	1.4
Cluster926	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster925	1(4) 3(1)	*	100.0%[5/5]	1.4

Cluster924	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster919	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster917	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster910	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster909	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster901	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster878	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster875	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster847	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster846	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster844	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster836	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster832	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster831	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster830	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster828	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster827	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster824	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster821	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster811	0(1) 1(1) 2(3)	*	80.0%[4/5]	1.4
Cluster786	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster760	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster756	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster754	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster749	1(4) 3(1)	*	100.0%[5/5]	1.4

Cluster745	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster727	0(1) 1(3) 4(1)	*	80.0%[4/5]	1.4
Cluster714	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster673	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster672	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster671	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster658	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster655	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster654	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster653	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster642	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster622	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster584	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster578	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster577	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster574	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster573	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster570	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster563	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster562	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster560	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster559	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster558	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster556	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster511	0(1) 1(3) 4(1)	*	80.0%[4/5]	1.4

Cluster505	0(1) 1(1) 2(3)	*	80.0%[4/5]	1.4
Cluster480	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster479	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster475	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster474	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster472	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster471	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster466	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster465	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster464	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster463	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster43	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster425	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster422	0(1) 1(1) 2(3)	*	80.0%[4/5]	1.4
Cluster412	0(1) 1(1) 2(3)	*	80.0%[4/5]	1.4
Cluster383	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster382	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster381	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster380	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster375	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster308	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster297	0(1) 1(3) 4(1)	*	80.0%[4/5]	1.4
Cluster29	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster259	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster247	1(4) 3(1)	*	100.0%[5/5]	1.4

Cluster241	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster240	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster238	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster237	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster202	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster183	0(1) 1(1) 2(3)	*	80.0%[4/5]	1.4
Cluster180	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster164	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster132	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster130	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster128	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster127	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster122	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster12	1(3) 2(2)	*	100.0%[5/5]	1.4
Cluster121	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster120	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster119	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster108	1(4) 3(1)	*	100.0%[5/5]	1.4
Cluster101	0(1) 1(2) 2(1) 3(1)	*	80.0%[4/5]	1.4
Cluster989	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster987	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster985	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster983	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster981	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster980	1(4) 2(1)	*	100.0%[5/5]	1.2

Cluster976	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster975	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster972	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster963	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster947	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster923	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster922	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster918	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster913	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster911	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster908	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster897	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster885	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster884	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster883	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster882	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster848	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster845	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster837	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster826	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster808	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster787	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster775	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster759	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster755	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2

Cluster753	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster751	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster744	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster743	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster742	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster725	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster722	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster720	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster716	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster709	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster667	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster665	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster664	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster657	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster652	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster630	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster616	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster587	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster583	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster576	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster575	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster571	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster568	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster567	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster565	1(4) 2(1)	*	100.0%[5/5]	1.2

Cluster564	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster561	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster55	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster531	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster528	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster526	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster516	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster514	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster512	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster5	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster49	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster482	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster478	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster477	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster469	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster467	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster434	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster418	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster397	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster396	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster387	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster379	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster373	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster372	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster371	1(4) 2(1)	*	100.0%[5/5]	1.2

Cluster368	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster367	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster366	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster340	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster332	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster329	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster318	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster314	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster312	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster31	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster301	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster269	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster267	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster260	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster255	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster254	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster253	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster252	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster250	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster248	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster244	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster242	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster198	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster197	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster182	1(4) 2(1)	*	100.0%[5/5]	1.2

Cluster161	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster160	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster152	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster147	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster146	0(1) 1(2) 2(2)	*	80.0%[4/5]	1.2
Cluster129	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster126	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster115	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster113	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster111	0(1) 1(3) 3(1)	*	80.0%[4/5]	1.2
Cluster110	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster107	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster1002	1(4) 2(1)	*	100.0%[5/5]	1.2
Cluster982	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster979	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster955	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster952	1(5)	*	100.0%[5/5]	1
Cluster948	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster937	1(5)	*	100.0%[5/5]	1
Cluster932	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster929	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster912	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster900	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster898	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster876	1(5)	*	100.0%[5/5]	1

Cluster864	1(5)	*	100.0%[5/5]	1
Cluster853	1(5)	*	100.0%[5/5]	1
Cluster840	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster838	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster809	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster805	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster798	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster768	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster767	1(5)	*	100.0%[5/5]	1
Cluster746	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster702	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster697	1(5)	*	100.0%[5/5]	1
Cluster695	1(5)	*	100.0%[5/5]	1
Cluster687	1(5)	*	100.0%[5/5]	1
Cluster683	1(5)	*	100.0%[5/5]	1
Cluster682	1(5)	*	100.0%[5/5]	1
Cluster681	1(5)	*	100.0%[5/5]	1
Cluster678	1(5)	*	100.0%[5/5]	1
Cluster670	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster656	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster638	1(5)	*	100.0%[5/5]	1
Cluster637	1(5)	*	100.0%[5/5]	1
Cluster635	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster634	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster631	0(1) 1(3) 2(1)	*	80.0%[4/5]	1

Cluster614	1(5)	*	100.0%[5/5]	1
Cluster612	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster608	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster604	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster589	1(5)	*	100.0%[5/5]	1
Cluster579	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster572	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster541	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster515	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster508	1(5)	*	100.0%[5/5]	1
Cluster488	1(5)	*	100.0%[5/5]	1
Cluster486	1(5)	*	100.0%[5/5]	1
Cluster485	1(5)	*	100.0%[5/5]	1
Cluster473	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster468	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster449	1(5)	*	100.0%[5/5]	1
Cluster444	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster443	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster430	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster429	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster415	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster405	1(5)	*	100.0%[5/5]	1
Cluster404	1(5)	*	100.0%[5/5]	1
Cluster394	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster385	0(1) 1(3) 2(1)	*	80.0%[4/5]	1

Cluster316	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster309	1(5)	*	100.0%[5/5]	1
Cluster283	1(5)	*	100.0%[5/5]	1
Cluster278	1(5)	*	100.0%[5/5]	1
Cluster273	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster271	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster27	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster266	1(5)	*	100.0%[5/5]	1
Cluster264	1(5)	*	100.0%[5/5]	1
Cluster263	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster258	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster249	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster245	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster176	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster154	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster123	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster118	0(1) 1(3) 2(1)	*	80.0%[4/5]	1
Cluster1003	1(5)	*	100.0%[5/5]	1
Cluster1000	1(5)	*	100.0%[5/5]	1
Cluster944	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster943	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster933	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster930	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster877	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster863	0(1) 1(4)	*	80.0%[4/5]	0.8

Cluster781	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster770	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster713	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster712	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster680	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster677	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster632	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster615	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster599	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster591	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster537	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster446	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster426	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster417	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster406	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster392	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster336	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster279	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster277	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster265	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster207	0(1) 1(4)	*	80.0%[4/5]	0.8
Cluster177	0(1) 1(4)	*	80.0%[4/5]	0.8