fetA

```
                             -35                                              -10      +1
Ref1Ng12C(16)5'ATA ATC AGC TTT ACA CAA --C CCC CCC CCC CC- -GC TAA TAT AAA CAA AAA
Ref1Ng11C(15)5'ATA ATC AGC TTT ACA CAA --C CCC CCC CCC C-- -GC TAA TAT AAA CAA AAA
Ref2Nm10C(17)5'ATA ATC AGC TTT GCA AAA ATC CCC CCC CCC --- TGT TAA TAT AAA TAA AAA
Ref2Nm11C(18)5'ATA ATC AGC TTT GCA AAA ATC CCC CCC CCC C-- TGT TAA TAT AAA TAA AAA
cc174 11C(18)5'ATA ATC AGC TTT GCA AAA ATC CCC CCC CCC C-- TGT TAA TAT AAA TAA AAA
cc174 10C(17)5'ATA ATC AGC TTT GCA AAA ATC CCC CCC CCC --- TGT TAA TAT AAA TAA AAA
cc174 9C (16)5'ATA ATC AGC TTT GCA AAA ATC CCC CCC CC- --- TGT TAA TAT AAA TAA AAA
cc174 8C (15)5'ATA ATC AGC TTT GCA AAA ATC CCC CCC C-- --- TGT TAA TAT AAA TAA AAA
cc60  6C (16)5'ATA ATC AGC TTT ACA CAA ATC CCC CCT CTC --- -GT TAA TAT AAA CAA AAA
```

porA

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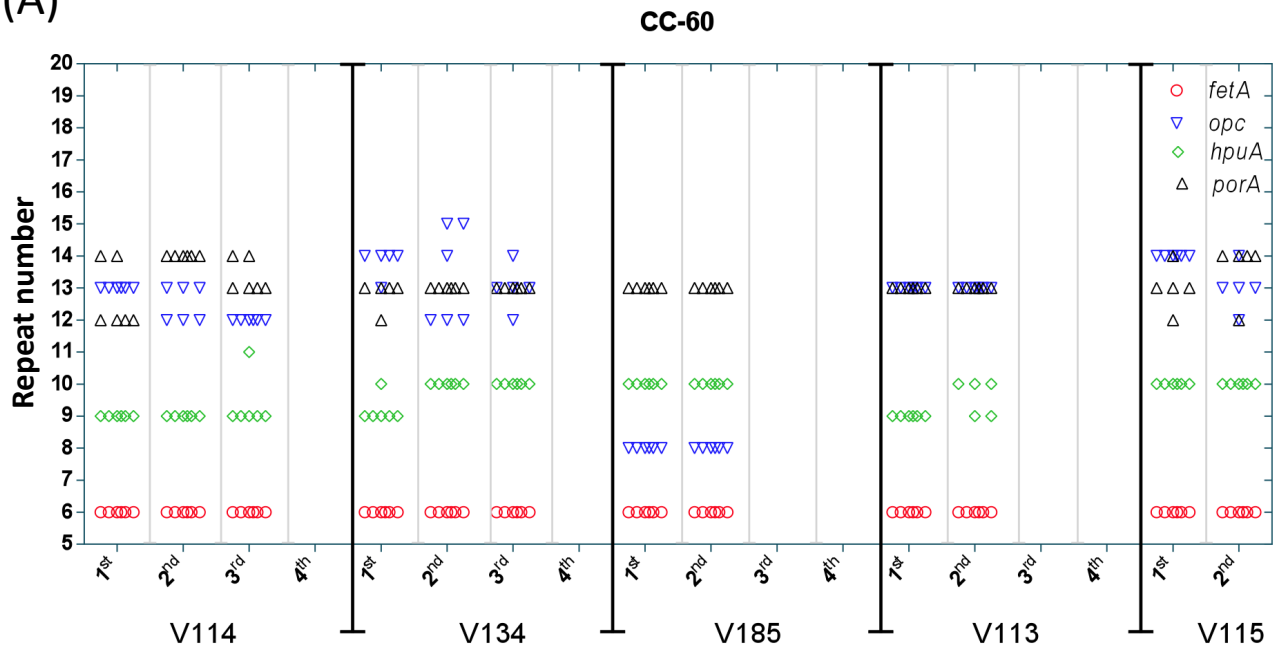
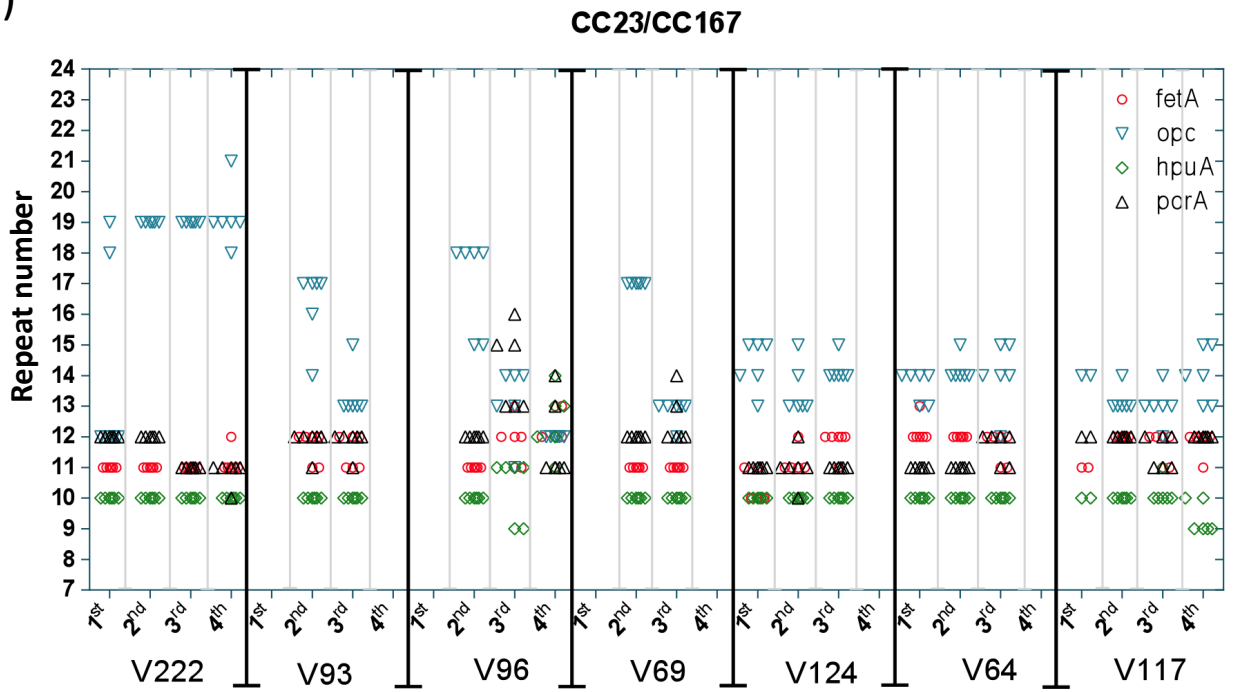
Ref3  12G(18)5'NNN NNA AAA TGG TTT TTT GCG GGG GGG GGG GG- TAT AAT GGG ATN NNN NN
cc174 12G(18)5'NNN GAA AAA TGG TTT TTT GCG GGG GGG GGG GG- TAT AAT TGA AGA CGT AT
cc60  13G(18)5'NNN GAA AAA TGG TTT TTT GCG GGG GGG GGG GG- GAT AAT TGA AGA CGT AT
```

Figure A1. Promoter sequences of *fetA* and *porA* genes. Sequences of the promoter regions were obtained for each clonal complex from sequencing of PCR products spanning the promoters and repeat tracts. Sequences were aligned with published sequences for variants in which expression had been assessed. The predicted -10/-35 regions are highlighted in red, the transcriptional start is highlighted in green, the lengths of the repeat tract (e.g. 12C or 12G) and the spacer (shown in the brackets as the number of bp) are indicated. Note that the Delaney *et al.* (2006) definitions for the -35 and -10 elements of the *fetA* promoter were utilised herein. For *fetA* (*frpB*) sequences were aligned to *Neisseria gonorrhoeae* FA1090 sequences (Ref1Ng) derived from Carson *et al.* (2000; Mol. Micro. **36**:585-593; who found that a spacer of 12C/16 bp spacer is associated with high expression and one of 11C/15 bp with low expression) and to *N. meningitidis* sequences (Ref2Nm) derived from Delaney *et al.* (2006; J. Bact. **188**:2483-2492; who found a 10C/17 bp spacer tract has high expression whilst an 11C/18 bp spacer has low expression). For porA, sequences were aligned to the porA sequence for an allele of a *N. meningitidis* strain exhibiting a non-interrupted G-tract and the highest expression as observed by van der Ende et al. (2000; Infect. Imm. **68**: 6685-6690).

(A)


CC-60
Repeat number
fetA
opc
hpuA
porA
V114
V134
V185
V113
V115

(B)


CC23/CC167
Repeat number
fetA
opc
hpuA
porA
V222
V93
V96
V69
V124
V64
V117

(C)

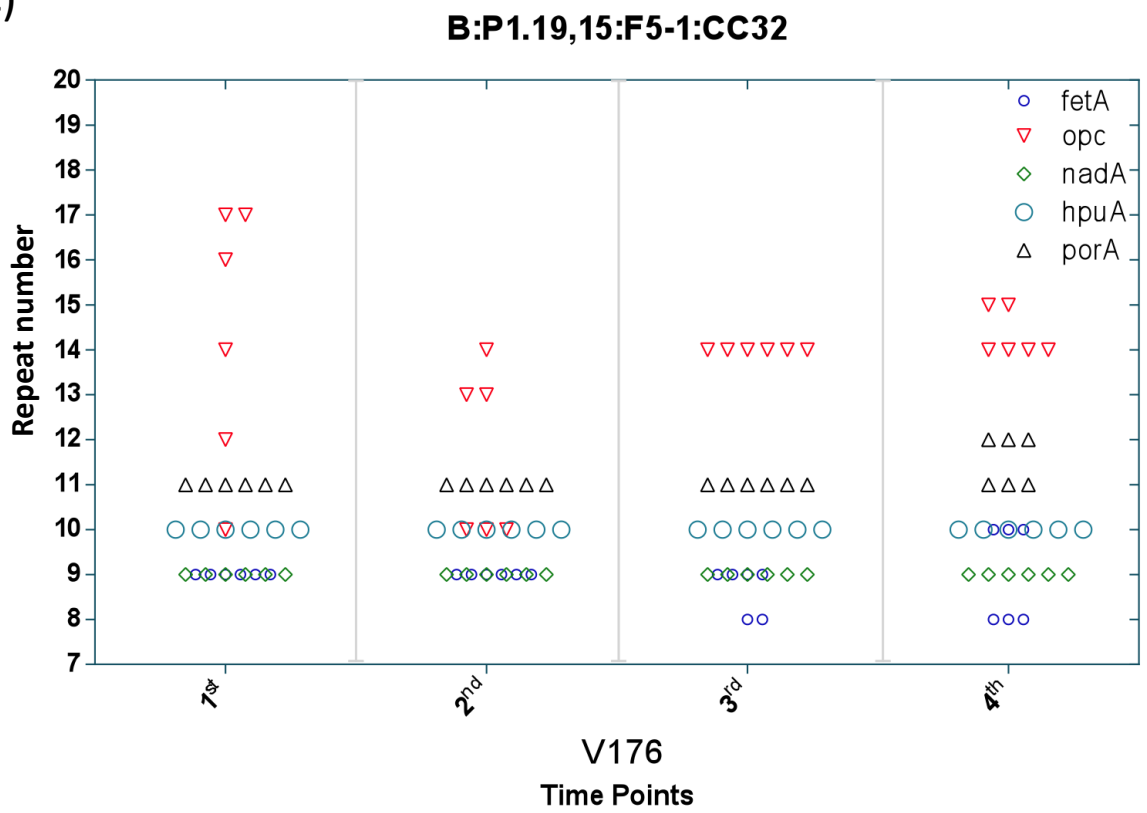


Figure A2. Changes in repeat tract length of five genes during persistent carriage of cc60, cc167, cc23 and cc32 strains. Meningococcal isolates were collected from volunteers (V) persistently colonised with a single strain. Up to six isolates were analysed for up to four time points (1^{st}-4^{th} which were separated by 1, 2, or 3 months respectively) for the number of simple sequence repeats in four/five phase variable genes. Panel (A), cc60 strains; panel (B), cc167 and cc23 strains; (C), a cc32 strain.

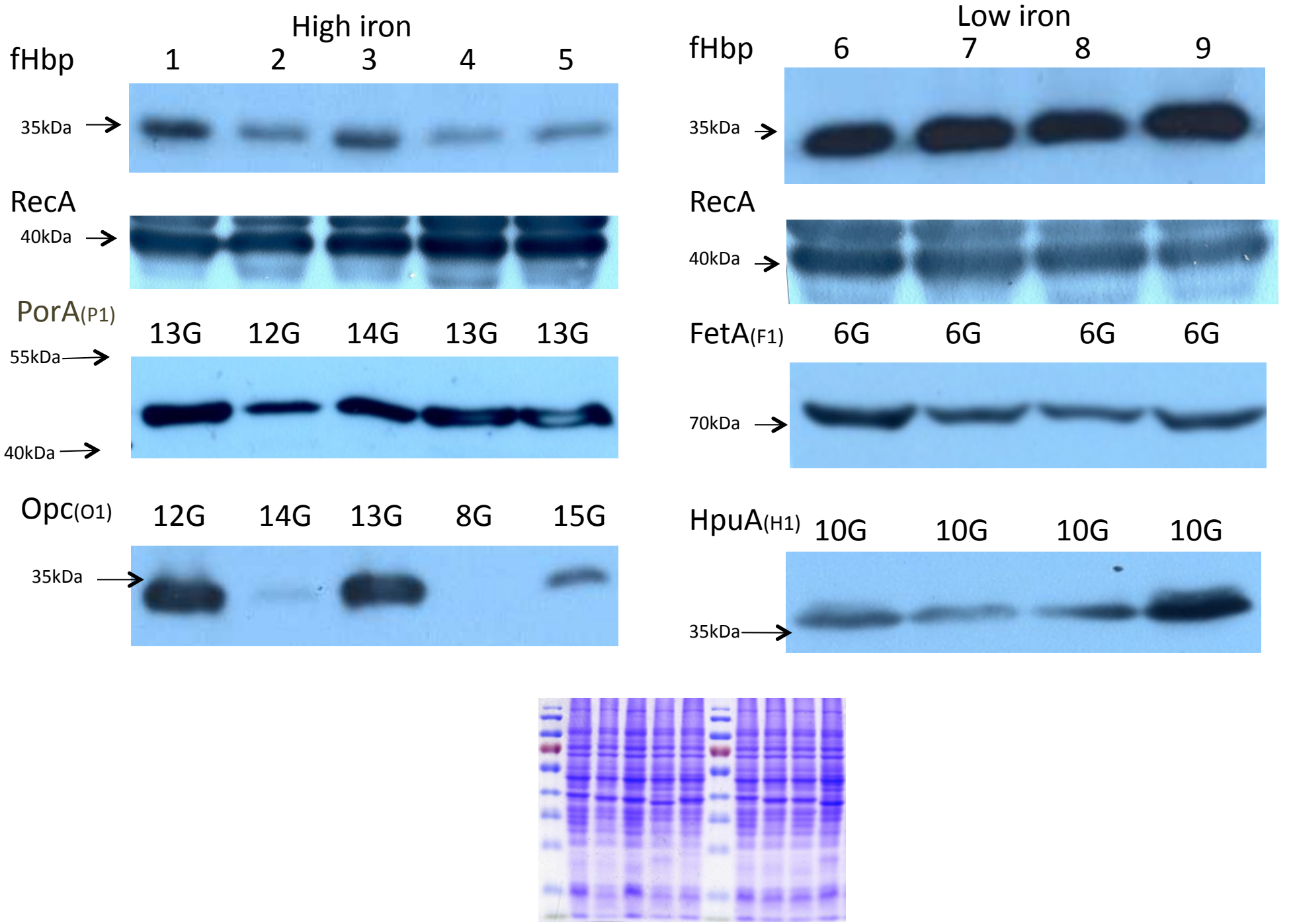

High iron
fHbp
1
2
3
4
5
35kDa
RecA
40kDa
PorA(P1)
13G
12G
14G
13G
13G
55kDa
40kDa
Opc(O1)
12G
14G
13G
8G
15G
35kDa
Low iron
fHbp
6
7
8
9
35kDa
RecA
40kDa
FetA(F1)
6G
6G
6G
6G
70kDa
HpuA(H1)
10G
10G
10G
10G
35kDa

Figure A3. Protein expression levels for cc60 (29E:P1.5,2:F1-7:ST1655:cc60) strains. Whole cells lysates were prepared from meningococcal cells grown to mid-log phase with or without induction of iron-repressed genes. Induction was performed by the addition of desferal to a mid-log phase culture and incubation for an additional 1-2 hours. Equivalents amounts of lysate were loaded onto a 10% PAGE gel and subjected to electrophoresis. Gels were then stained with a Coomasie blue solution (lower panel). Western blots were probed with a 1:1,000-1:2,000 dilution of primary antibody followed by a 1:2,000 dilution of a goat anti-mouse IgG horseradish peroxidase-conjugated antibody. Primary antibodies were as follows:- RecA, anti-*E. coli* RecA mouse polyclonal sera; fHBP, a polyclonal mouse sera specific for variant 1 of fHBP; FetA, an anti-F1-3 FetA variant mouse polyclonal sera; HpuA, an anti-HpuA-8047 polyclonal mouse sera; PorA, anti-meningococcal serotype P1.5 mAb; Opc, B306, an anti-Opc mouse mAb. The repeat tract lengths for the phase variable genes of each isolate are indicated above the relevant lane as the number of 'G's present in the polyG tract. Lanes 1 and 6, N134.1; lanes 2 and 7, N282.3; lanes 3 and 8, N306.1; lanes 4 and 9, N295.3; lane 5, N295.1. Lanes 1-5, no induction; lanes 6-9, induction of iron-repressed genes.

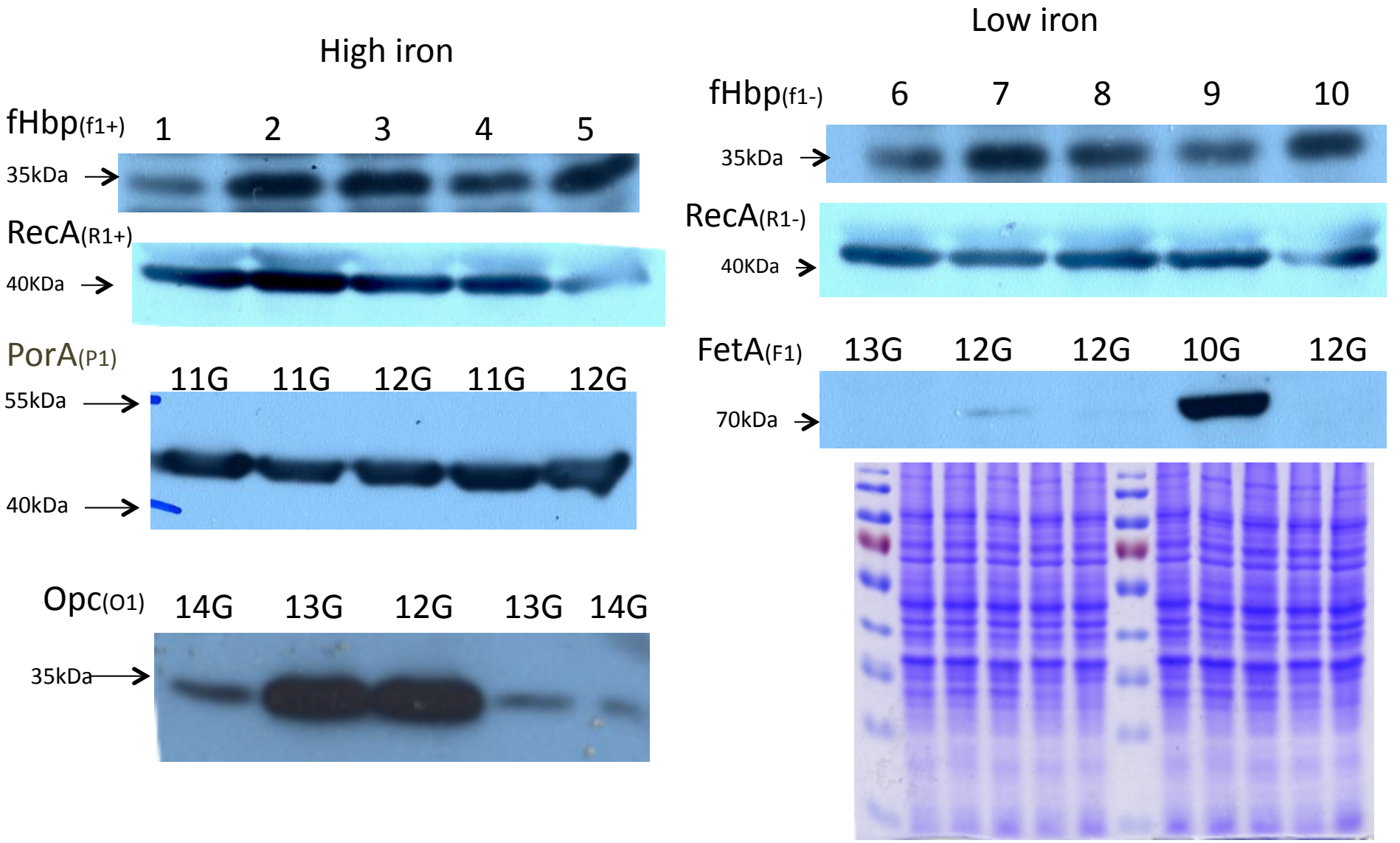


Figure A4. Protein expression levels for cc167 (Y:P1.5-1,10-1:F1-3:ST767:cc167) strains. Sample preparation and Western blots were as described in Figures 2 and 3 except that the FetA Western blot was performed with an anti-F1-5 antisera. Lanes 1 and 6, N64.1; lanes 2 and 7, N332.2; lanes 3 and 8, N332.3; lanes 4 and 9, N124.3; lanes 5 and 10, N348.4. Lanes 1-5, no induction; lanes 6-10, induction of iron-repressed genes.

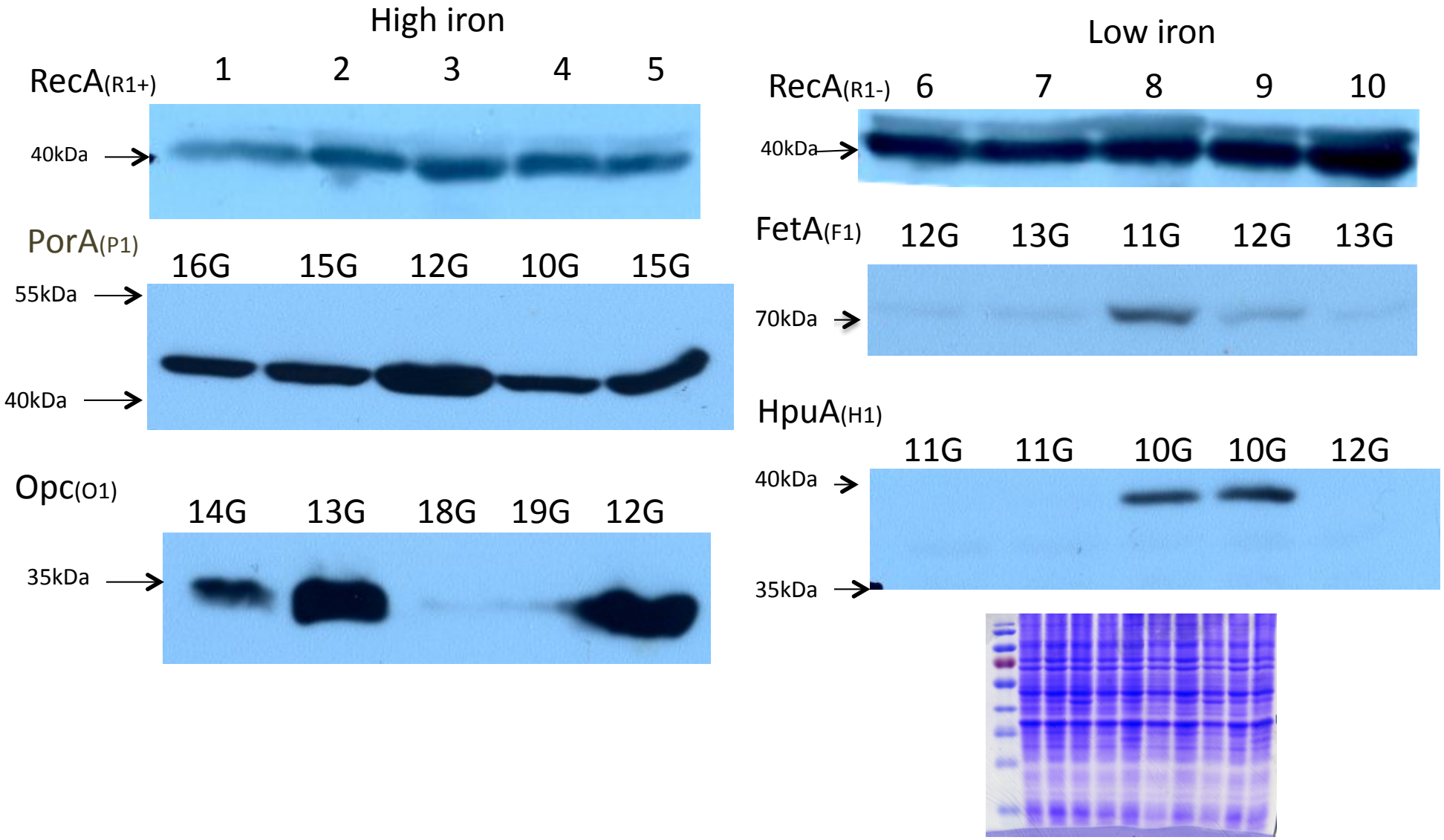


Figure A5. Protein expression levels for cc23 (Y:P1.5-1,10-1:F4-1:ST1655:cc23) strains. Sample preparation and Western blots were as described in Figures 2 and 3 except that the FetA Western blot was performed with an anti-F5-5 antisera. Lanes 1 and 6, N370.5; lanes 2 and 7, N370.4; lanes 3 and 8, N259.4; lanes 4 and 9, N459.6; lanes 5 and 10, N445.6. Lanes 1-5, no induction; lanes 6-10, induction of iron-repressed genes.

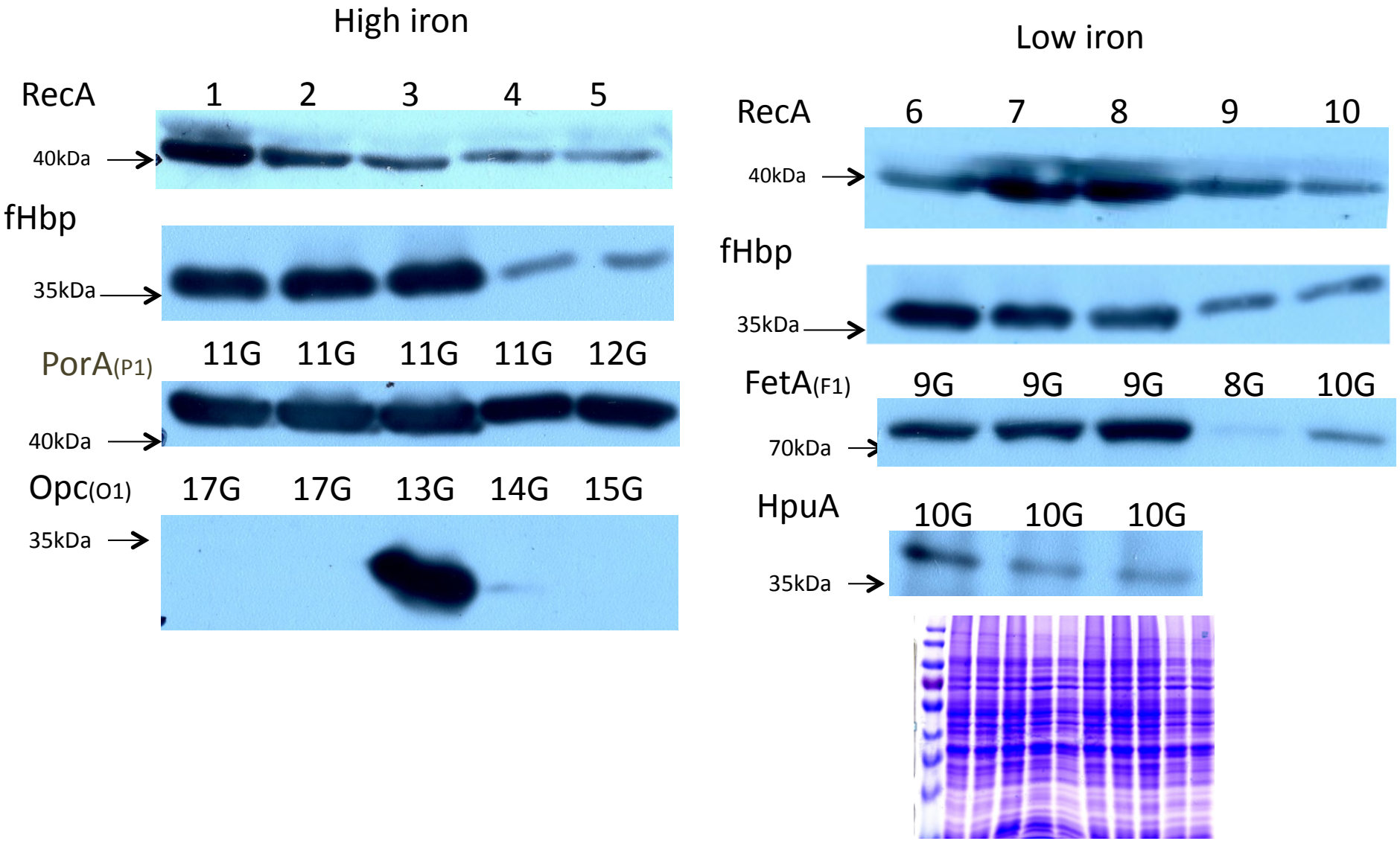


Figure A6. Protein expression levels for cc32 (B:P1.19,15:F5-1:ST5682:cc32) strains. Sample preparation and Western blots were as described in Figures 2 and 3 except that the FetA Western blot was performed with an anti-F5-5 antisera. Lanes 1 and 6, N176.3; lanes 2 and 7, N176.6; lanes 3 and 8, N318.6; lanes 4 and 9, N399.2; lanes 5 and 10, N408.3. Lanes 1-5, no induction; lanes 6-10, induction of iron-repressed genes.

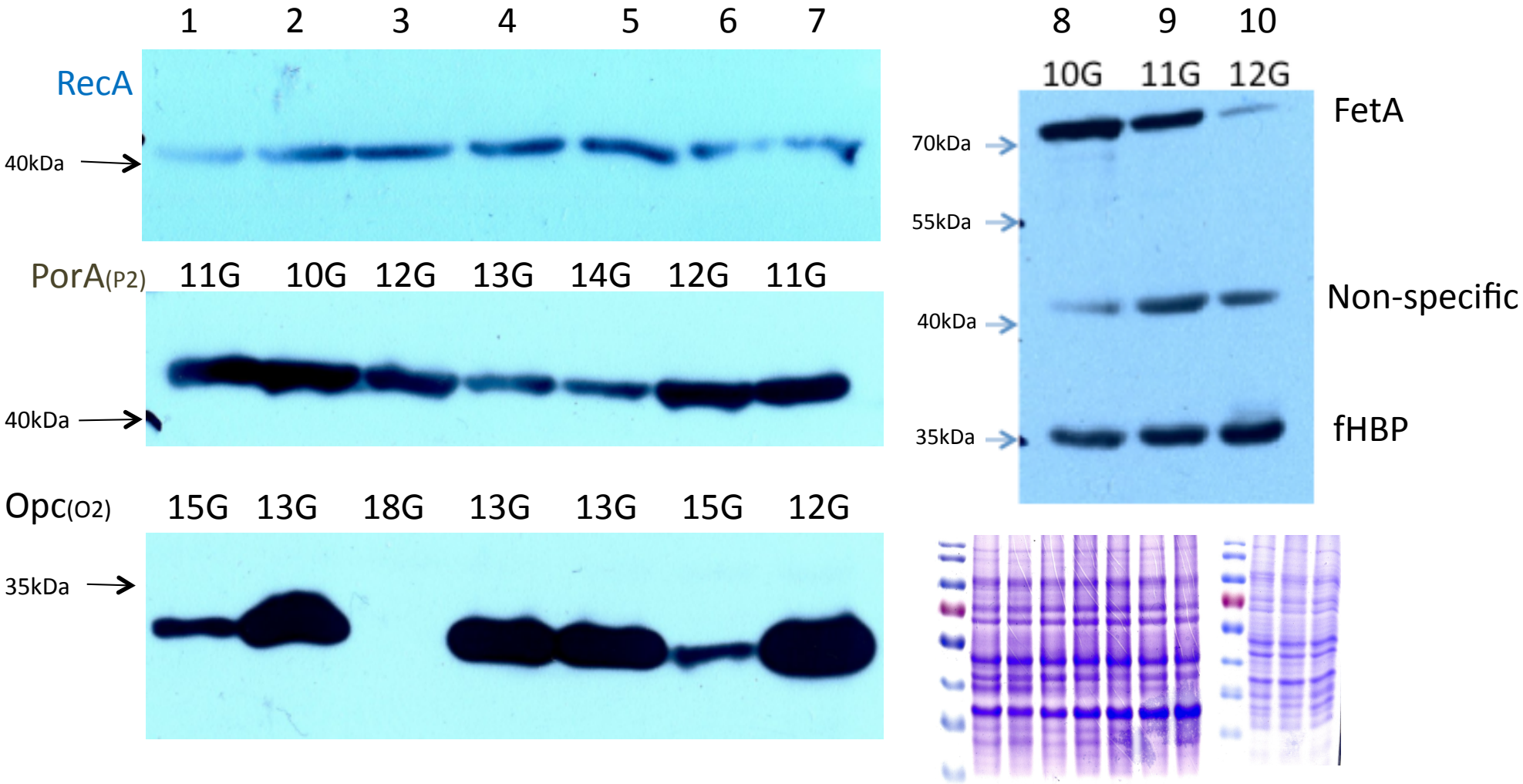
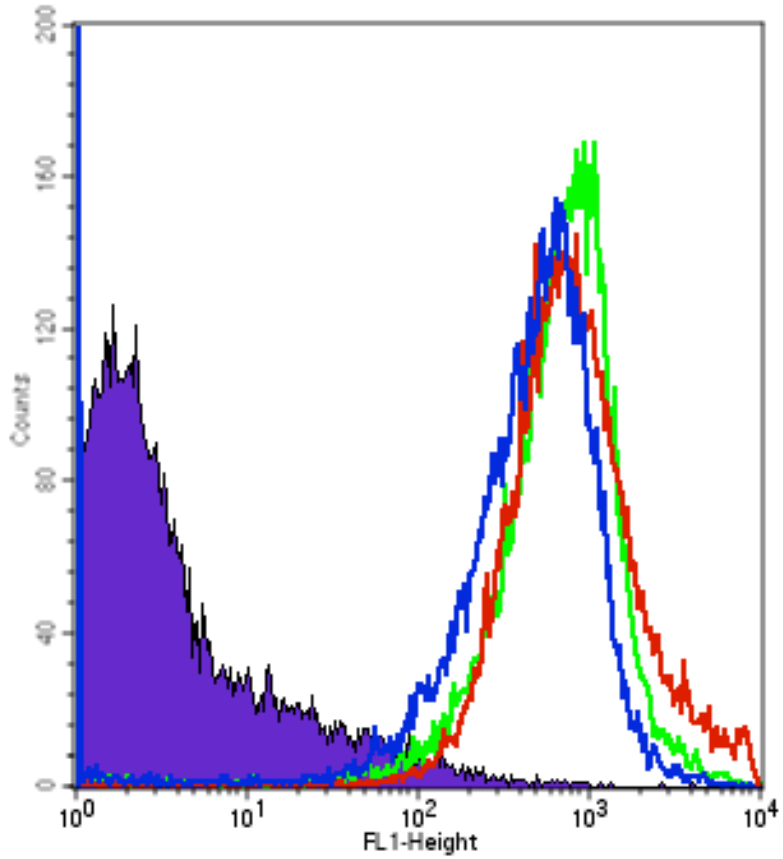


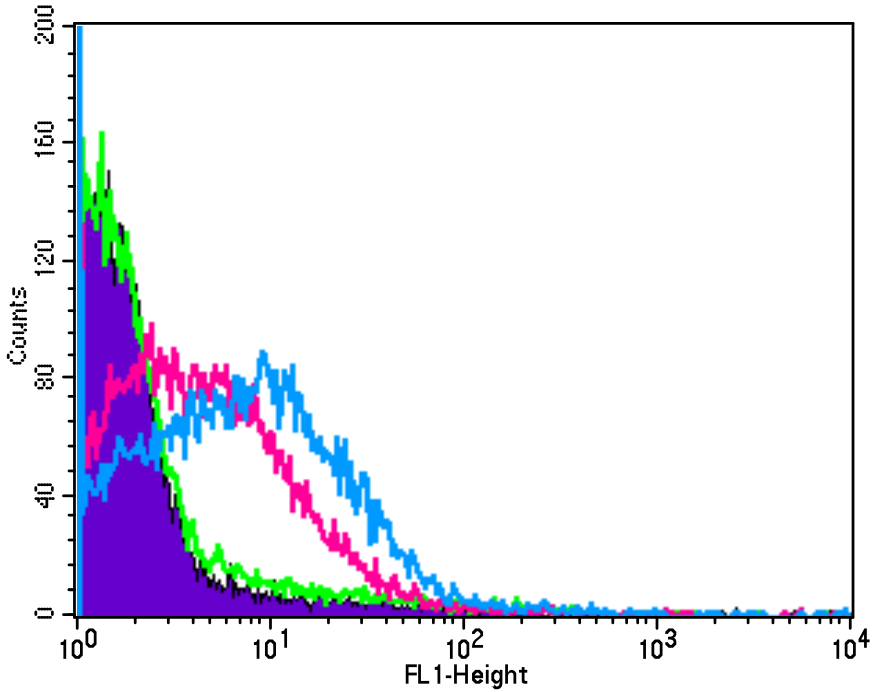
Figure A7. Protein expression levels for additional cc167 (N124, N290) and cc23 (N258, N431, N259 and N445) isolates. Sample preparation and Western blots were as described in Figures 2, 3 and 4. Primary antibodies were as follows:- RecA, anti-*E. coli* RecA mouse polyclonal sera; PorA, anti-meningococcal serotype P1.5 mAb; Opc, B306, an anti-Opc mouse mAb. Lane 1, N124.1; lanes 2, N290.5; lane 3, N258.1; lane 4, N431.5; lane 5, N431.6; lane 6, N259.3; lane 7, N445.1, lane 8, N369.1; lane 9, N352.3; lane 10, N438.3. Lanes 1-7, no induction; lanes 8-10, induction of iron-repressed genes.

(A) PorA – cc174 isolates



Key	Name	Parameter	Gate
	Por A negative control.001	FL1-H	No Gate
	Por A (11G).001	FL1-H	No Gate
	Por A (12G).001	FL1-H	No Gate
	Por A (13G).001	FL1-H	No Gate

(B) FetA – cc32 isolates



Key	Name	Parameter	Gate
	Fet-A negative control.001	FL1-H	No Gate
	Fet-A (1) 2.001	FL1-H	No Gate
	Fet-A (2) 2.001	FL1-H	No Gate
	Fet-A (3) 3.001	FL1-H	No Gate

Figure A8. Relative surface expression levels for PorA in cc174 isolates and FetA in cc32 isolates. Meningococcal cells were harvested from mid-log phase cultures and fixed in formaldehyde. Cells were probed with either mAb P1.16 (specific for one of the variable regions of the P1.16 variant of the PorA protein) or anti-FetA polyclonal mouse sera followed by a anti-mouse FITC conjugated-goat antibodies. Menigococcal cells incubated with the secondary antibody alone were utilised as the negative control. Fluorescent cells were detected in FACs Scanner. Panel (A), PorA:- green line, isolate N369.1, 11G tract; red line, isolate N438.3, 12G tract; blue line, isolate N288.5, 13G tract; blue block, negative control. Panel (B), FetA:- green line, isolate N399.2, 8C tract; red line, isolate N408.3, 10C tract; blue line, isolate N176.3, 9C tract; blue block, negative control. The geometric mean fluorescent intensities for the FetA samples after subtraction of background were:- 0.23 (8G), 2.12 (10C) and 4.22 (9C).

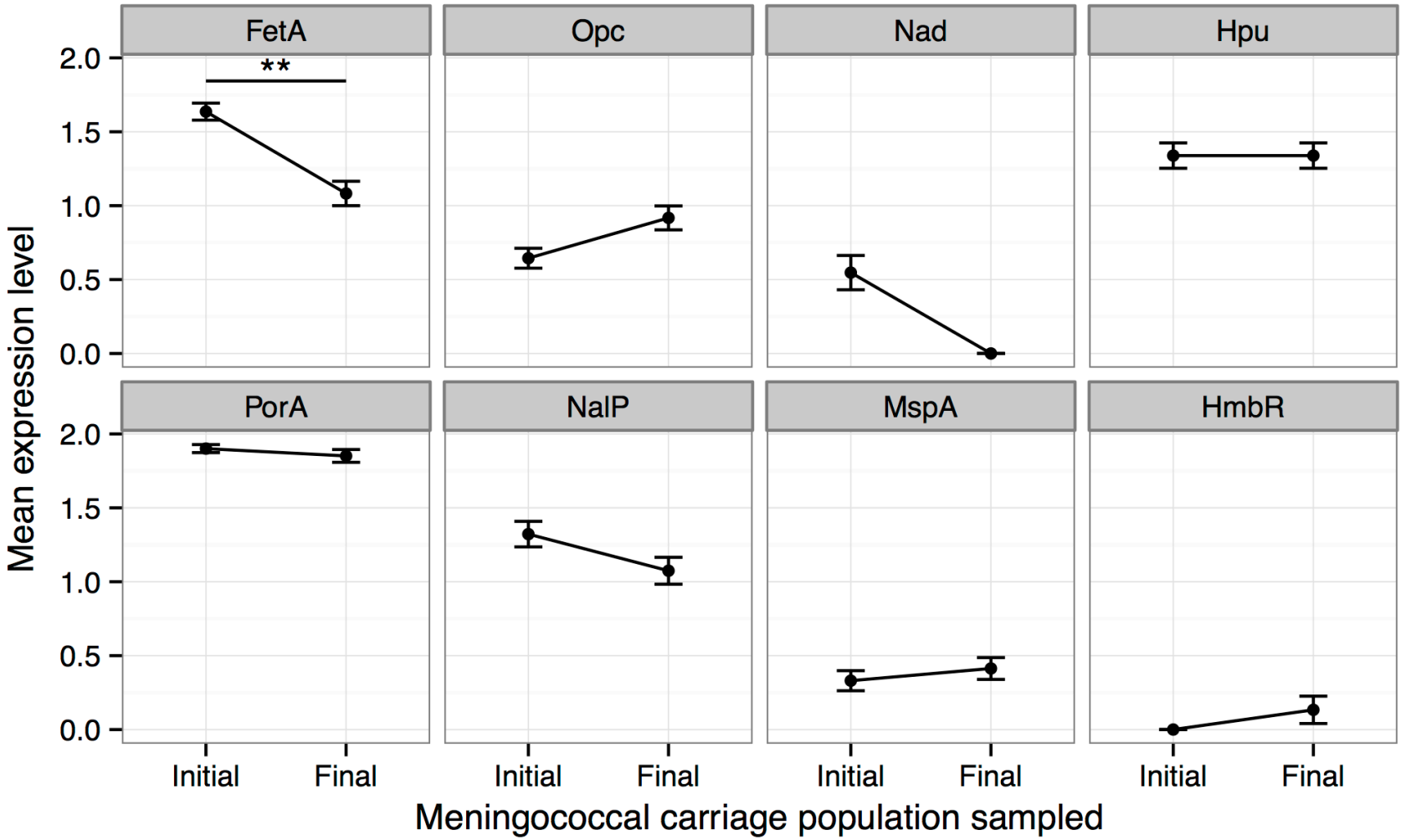


Figure A9. Changes in the mean expression scores of individual genes. Graphs show the changes in mean expression score for each phase variable gene. The mean expression was determined from the expression scores of up to six isolates per time point. The change in mean expression score was calculated between the initial and final time points when carriage was detected. The significance of these changes was determined by analysis in a Wilcoxon rank signed test with continuity correction (**, P>0.01).

Table A1. Oligonucleotide primers and antibodies

Oligonucleotide Name	Oligonucleotide Sequence	Primer Use
Primers for Typing of PorA and FetA Variable Regions		
PorAVR2T10-1 REV	CGGAACGAGAGTAGGCGGCT	For amplification from a PorA VR2 with a 10-1 type
PorAVR215 REV	CATCAGCATTGTTCTGCCTAG	For amplification from a PorA VR2 with a 15 type
fetA 1-7 for	AGATGCAACTGATGAAGAGA	For amplification from a FetA VR with a 1-7 type
fetA 3-7 for	ACGGCGAATTCTCCATCCCGA	For amplification from a FetA VR with a 3-7 type
fetA 1-3 for	AGCTAGTGCATCCGCGACAG	For amplification from a FetA VR with a 1-3 type
fetA 4-1 for	GAAGTCGACGTAGATGATGCAC	For amplification from a FetA VR with a 4-1 type
fetA 5-1 for	CGGCGAATTTGAGATCTCCGG	For amplification from a FetA VR with a 5-1 type
Primers for SSR repeat tract analysis		
FetApro-for2	TTACATTTCCGACAAAACCT	For amplification and sequencing or GeneScan of FetA SSR
FetApro-rev	AGAGTTCGCGCATATCGGTT	
FetApro-rev-FAM	(FAM)AGAGTTCGCGCATATCGGTT	
Opc-for-FAM	(FAM)GAGAATAACAATTCGTTGTA	Used with opc-revS for amplification of opc SSR
NadA-for-FAM	(FAM)TCGACGTCCTCGATTACGAAGGC	Used with nadA-rev for amplification of nadA SSR

PilE primers		
pilE-B	TAATCCGAGTGGCCGTGGAA	Primers for amplification and sequencing of *pilE* gene
pilE-B-rev	TAATACACAGGTATCGCAAC	
Primers for RT qPCR		
Gdh350F	5'-TCGCCATTAAAGCCGAAATC	Primers for quantitative RT PCR of the *porA* phase variants
Gdh417R	5'-CTTGCCGGTACGCAGGTAGA	
Gdh374T	5'-6JOE-ACGAACGCTGGAAGGGCGTTC-BBQ	
PorA984F	5'-ACCGATCCCTTGAAAAACCAT	
PorA1050R	5'-ATTCAAGCCGCCTTCCTCAT	
PorA1006T	5'-Cy5-AGGTACACCGCCTGACGGGCG-BBQ	
Antibody Name	Antibody Target and Type	Source
Anti-RecA	*E. coli* RecA, mouse polyclonal antisera	Sigma
Anti-fHBP	Variant 1 of Nm fHBP, mouse polyclonal antisera	Christopher Tang, personal comm.
Anti-F1-3 FetA	Variant F1-3 of Nm FetA, mouse polyclonal antisera	Ian Feavers, personal comm.
Anti-F1-5 FetA	Variant F1-5 of Nm FetA, mouse polyclonal antisera	Ian Feavers, personal comm.
Anti-F5-5 FetA	Variant F5-5 of Nm FetA, mouse polyclonal antisera	Ian Feavers, personal comm.
Anti-NadA	Nm strain MC58 NadA, mouse polyclonal antisera	Ian Feavers, personal comm.
Anti-HpuA-8047	Nm strain 8047 HpuA, mouse polyclonal antisera	Chris Bayliss, personal comm.
P1.16 (MN5C11G)	Serosubtype P1.16 of Nm PorA, mouse monoclonal antibody	NIBSC, Poolman *et al.*[1]
P1.5 (MN22A9.19)	Serosubtype P1.5 of Nm PorA, mouse monoclonal antibody	NIBSC, Poolman *et al.*[1]
B306	Nm Opc, mouse monoclonal antibody	Mumthaz Virji, personal

		comm.

[1]Poolman *et al.* (1995) Clin. Diagn. Lab. Immunol. 2: 69-72.

Table A2. Repeat Tract Data for Carriage Isolates for Genes – FetA, PorA, Opc and NadA.

Volunteer /time pt	Isolate	Phase Variable Gene											
		fetA			*porA*			*opc*			*nadA*		
cc174		Size[1]	Tract[2]	Exp. State[3]	Size[1]	Tract[2]	Exp. State[3]	Size[1,4]	Tract[2]	Exp. State[3]	Size[1]	Tract[2]	Exp. State[3]
V43/1st	N43.1.1	382.7	10C*	2	317.8	12G	2	247.2	11C*	1	395.9	12TAAA	0
	N43.1.2	381.7	9C*	2	317.8	12G	2	247.1	11C	1	395.7	12TAAA	0
	N43.1.3	381.8	9C	2	317.8>316.7(1.2)	12G*	2	246.7	11C	1	396.0	12TAAA	0
	N43.1.4	381.8	9C	2	317.8	12G	2	246.7	11	1	396.9	12TAAA	0
	N43.1.5	381.6	9C	2	317.8	12G	2	246.9	11C	1	396.0	12TAAA	0
	N43.1.6	381.8	9C	2	317.9	12G	2	247.0	11C	1	395.7	12TAAA	0
	N43.1.7	381.7	9C	2	317.8	12G	2	246.7	11C	1	396.1	12TAAA	0
	N43.1.8	381.7	9C	2	317.8	12G	2				395.8	12TAAA	0
	N43.1.9	381.6	9C	2	317.8	12G	2	246.7	11C	1	396.0	12TAAA	0
	N43.1.10	382.7	10C	2	317.8	12G	2	247.1	11C	1	395.7	12TAAA	0
	N43.1.11	381.6	9C	2	317.8	12G	2	246.7	11C	1	397.0	12TAAA	0
	N43.1.12	381.6	9C	2	318.0	12G	2	247.3	11C	1	395.6	12TAAA	0
	N43.2	381.7	9C	2	318.0	12G	2	247.1	11C	1	395.7	12TAAA	0
	N43.3	381.7	9C	2	317.8>316.8(1.2)	12G	2	247.0	11C	1	395.9	12TAAA	0
	N43.4	381.7	9C	2	318.0	12G	2	247.1	11C	1	395.8	12TAAA	0
	N43.5				317.8	12G	2	246.7	11C	1	396.0	12TAAA	0
	N43.6	381.8	9C	2	317.7	12G	2	246.5	11C	1			
	N43.7	381.7	9C	2	317.8	12G	2	247.0	11C	1	396.1	12TAAA	0
	N43.8	381.7	9C	2	317.8	12G	2	246.6	11C	1			
	N43.9				317.8	12G	2	246.6	11C	1	396.1	12TAAA	0
V43/2nd	N241.1	381.7	9C	2	317.8	12G	2	244.7/242.5	9C	0	397.0	12TAAA	0
	N241.2	381.7	9C	2	317.8	12G	2	242.5	9C	0	396.8	12TAAA	0
V43/3rd	N349.1	381.6	9C*	2	317.7	12G	2	244.6	9C*	0	396.9	12TAAA	0
	N349.2	381.8	9C	2	317.8	12G	2	244.8	9C	0	396.0	12TAAA	0
	N349.3	381.7	9C	2	317.7	12G	2	245.0	9C	0	395.7	12TAAA	0
	N349.4	381.7	9C	2	317.8	12G	2	244.7	9C	0	396.0	12TAAA	0
	N349.5	381.6	9C	2	317.8	12G	2	245.0	9C	0	395.7	12TAAA	0
	N349.6	381.6	9C	2	317.8	12G	2	244.7	9C	0	396.0	12TAAA	0
	N349.7				317.7	12G	2				397.0	12TAAA	0
	N349.8				316.7	11G	2	244.6	9C	0	396.1	12TAAA	0
	N349.9	381.6	9C	2	317.8	12G	2	245.0	9C	0	395.7	12TAAA	0
	N349.10	381.7	9C	2	317.8	12G	2	245.4	9C	0	396.0	12TAAA	0
	N349.11	381.7	9C	2	319.0=317.9(1.0)	13G	2	247.7	12C	2	397.0	12TAAA	0

	N349.12				317.8	12G	2	246.3	10C	0	395.9	12TAAA	0
	N349.13	381.8	9C	2	318.0	12G	2	245.3	9C	0	395.7	12TAAA	0
	N349.14	381.7	9C	2	317.7	12G	2	244.9	9C	0	395.9	12TAAA	0
	N349.15	381.7	9C	2	317.9	12G	2	245.1	9C	0	395.7	12TAAA	0
	N349.16	380.7	8C	0	318.8	13G	2	247.8	12C	2	396.0	12TAAA	0
	N349.17				316.7	11G	2	245.0	9C	0	395.7	12TAAA	0
	N349.18				317.7	12G	2	244.8	9C	0	395.9	12TAAA	0
	N349.19				318.0	12G	2	245.1	9C	0	395.7	12TAAA	0
	N349.20				317.8	12G	2	244.8	9C	0	396.0	12TAAA	0
V43/4th	Cleared												
V51/1st	N51.1	381.6	9C	2	317.9	12G*	2	244.9	9C	0	395.8	12TAAA	0
	N51.2	381.7	9C	2	317.9	12G	2	242.6	9C	0	396.8	12TAAA	0
	N51.3	381.7	9C	2	317.9	12G	2	242.6	9C	0	396.6	12TAAA	0
	N51.4	381.6	9C	2	317.9>316.8(1.1)	12G	2	242.6	9C	0	396.9	12TAAA	0
	N51.5	381.7	9C	2	317.8>316.8(1.2)	12G	2	242.6	9C	0	396.6	12TAAA	0
	N51.6				317.9	12G	2				396.9	12TAAA	0
V51/2nd	N236.1	382.5	10C*	2	317.9	12G	2	242.5/244.6	9C	0	396.6	12TAAA*	0
	N236.2	382.7	10C	2	317.9	12G	2	242.5	9C	0	396.9	12TAAA	0
	N236.3	381.7	9C	2	317.9	12G	2	241.8	9C*	0	397.0	12TAAA	0
	N236.4	381.6	9C	2	317.8	12G	2	242.4	9C	0	396.9	12TAAA	0
	N236.5	381.6	9C	2	317.8	12G	2	242.5	9C	0	396.9	12TAAA	0
	N236.6	381.6	9C	2	317.8	12G	2	242.4	9C	0	396.6	12TAAA	0
V51/3rd	N354.1	383.5??	10C*	2	317.0>316.0(1.1)	11G*	2	244.5/242.4	9C*	0	397.0	12TAAA	0
	N354.2	383.7	11C*	1	316.9	11G	2	242.5	9C	0	396.9	12TAAA	0
	N354.3	383.7	11C	1	316.8	11G	2	242.5	9C	0	396.9	12TAAA	0
	N354.4	383.6	11C	1	316.8	11G	2	242.6	9C	0	396.7	12TAAA	0
	N354.5	381.6	9C	2	317.8	12G	2	242.4	9C	0	396.8	12TAAA	0
	N354.6	383.6	11C	1	316.8	11G	2	242.5	9C	0	396.8	12TAAA	0
V51/4th	N424.1	380.6	8C	0	317.0	11G	2	242.4	9C	0	396.8	12TAAA	0
	N424.2	380.8	8C	0	316.8	11G	2	242.4	9C	0	396.8	12TAAA	0
	N424.3	380.7	8C	0	316.9	11G	2	242.5	9C	0	396.8	12TAAA	0
	N424.4	380.6	8C	0	316.8	11G	2	242.4	9C	0	396.8	12TAAA	0
	N424.5	380.6	8C	0	316.8	11G	2	242.5	9C	0	396.8	12TAAA	0
	N424.6	380.6	8C	0	316.7	11G	2	242.4	9C	0	396.9	12TAAA	0
V52/1st	N52.1	381.6	9C	2	318	12G	2	242.6	9C	0	396.6	12TAAA	0
	N52.2	381.7	9C	2	317.8	12G*	2	242.6	9C	0	396.9	12TAAA	0
	N52.3	381.7	9C	2	317.9	12G	2	242.8	9C	0	396.6	12TAAA	0
	N52.4	381.7	9C	2	317.8>316.8(1.2)	12G	2	242.5	9C	0	396.8	12TAAA	0

	N52.5	381.7	9C	2	317.8>316.8(1.2)	12G	2	243.2	9C	0	396.4	12TAAA	0
	N52.6	381.7	9C	2	317.9	12G	2	242.6	9C	0	396.7	12TAAA	0
V52/2nd	N238.1	381.7	9C	2	316.8	11G	2	242.4	9C	0	396.9	12TAAA	0
	N238.2	381.7	9C	2	316.8	11G	2	242.5	9C	0	396.7	12TAAA	0
	N238.3	381.7	9C	2	319.0>317.9(1.1)	13G*	2	242.5	9C	0	396.8	12TAAA	0
	N238.4	381.6	9C	2	316.7	11G	2	242.4	9C	0	404.6	14TAAA	2
	N238.5	381.6	9C	2	316.8	11G	2	242.7	9C	0	396.8	12TAAA	0
	N238.6	381.7	9C	2	317.9	12G	2	242.5	9C	0	396.9	12TAAA	0
V52/3rd	N342.1	380.6	8C	0	317.8	12G	2	242.5	9C	0	396.9	12TAAA	0
V52/4th	Cleared												
V54/1st	N54.1.1	381.8	9C	2#	320.2	14G*	1#	247.1	11C	1#	404.8	14TAAA*	2#
	N54.1.2	381.7	9C	2	322.0>321.1(1.2)	16G	0	246.9	11C	1	403.7/407.6(1.2)	14TAAA>15TAAA	2
	N54.1.3	381.7	9C	2	323.0>321.9(1.1)	17G	0	247.0	11C	1	403.8	14TAAA	2
	N54.1.4	381.6	9C	2	320.0>319.0(1.1)	14G	1	245.7	10C	0	403.7	14TAAA	2
	N54.1.5				319.8	14G	1	246.7	11C	1	403.8	14TAAA	2
	N54.1.6	381.8	9C	2	322.1>321.1(1.1)	16G	0	247.3	11C	1	403.5	14TAAA	2
	N54.1.7				322.0>321.0(1.2)	16G	0	246.9	11C	1	403.7	14TAAA	2
	N54.1.8				323.0>321.9(1.1)	17G	0	247.1	11C	1	403.6	14TAAA	2
	N54.1.9	381.7	9C	2	319.9>318.8(1.0)	14G	1	246.1	10C	0	403.9	14TAAA	2
	N54.1.10	381.8	9C	2	318.8>317.7(1.2)	13G	2	246.7	11C	1	404.8	14TAAA	2
	N54.1.11	381.7	9C	2	319.8>320.9(1.0)	15G	1?	246.9	11C	1	403.9	14TAAA	2
	N54.1.12	381.8	9C	2	321.0>320.0(1.1)	15G	1?	246.5	11C	1	403.6	14TAAA	2
	N54.2	381.7	9C	2	320.9>319.9(1.1)	15G	1?	246.8	11C	1	403.7	14TAAA	2
	N54.3	381.7	9C	2	319.9>320.9(1.1)	15G	1?	247.1	11C	1	404.7	14TAAA	2
	N54.4	381.7	9C	2	321.1>320.0(1.1)	15G	1?	246.7	11C	1	403.6	14TAAA	2
	N54.5	381.8	9C	2	321.0>319.9(1.1)	15G	1?	247.1	11C	1	403.8	14TAAA	2
	N54.6	381.7	9C	2	320.8>319.8(1.1)	15G	1?	246.8	11C	1	403.6	14TAAA	2
	N54.7	381.7	9C	2	321.0=319.9(1.0)	15G	1?	247.4	11C	1	403.8	14TAAA	2
	N54.8	381.6	9C	2	321.0>319.9(1.2)	15G	1?				403.5	14TAAA	2
	N54.9	381.7	9C	2	321.0>320.0(1.1)	15G	1?	246.8	11C	1	403.8	14TAAA	2
V54/2nd	N237.1	381.6	9C	2	323.3>322.3(1.1)	17G	0	243.4 (245.8)	10C	0	404.8	14TAAA*	2
	N237.2	381.7	9C	2	325.2=326.3(1.0)	20G (19G*)	0	243.4	10C	0	400.7	13TAAA*	2
	N237.3	381.7	9C	2	324.0>323.0(1.1)	18G*	0	243.4	10C	0	404.8	14TAAA	2
	N237.4	382.5	10C*	2	324.0>323.0(1.1)	18G*	0	243.3	10C	0	396.9	12TAAA	0
	N237.5	381.6	9C	2	325.1>324.1(1.1)	19G*	0	244.4	11C*	1	404.6	14TAAA	2
	N237.6	381.7	9C	2	319.9>320.9(1.2)	15G (14G*)	1?	244.5	11C*	1	404.5	14TAAA	2
V54/3rd	N343.1	380.6	8C	0	323.0=322.0(1.0)	17G*	0	247.2	11C	1	397.0	12TAAA*	0

	N343.2	380.8	8C	0#	322.1>321.0(1.1)	16G	0#	245.7	10C*	0#	396.8	12TAAA	0#
	N343.3	380.7	8C	0	321.0=322.0(1.0)	16G	0	246.0	10C	0	396.9	12TAAA	0
	N343.4	381.8	9C	2	324.1>323.2(1.2)	18G	0	247.3	11C	1	395.8	12TAAA	0
	N343.5	380.7	8C	0#	326.1>325.1(1.1)	20G	0#	247.8	12C	2#	396.9	12TAAA	0#
	N343.6	380.8	8C	0	325.3>324.2(1.2)	19G	0	247.2	11C	1	395.7	12TAAA	0
	N343.7	380.7	8C	0	321.9=322.9(1.0)	17G	0	245.7	10C	0	396.0	12TAAA	0
	N343.8	380.8	8C	0	319.8=320.8(1.0)	15G	1?	247.1	11C	1	396.7	12TAAA	0
	N343.9	380.6	8C	0	324.0=325.0(1.0)	19G	0	246.8	11C	1	396.0	12TAAA	0
	N343.10	380.8	8C	0	320.0.321.1(1.3)	15G	1?	246.9	11C	1	396.9	12TAAA	0
	N343.11	380.7	8C	0	322.9=321.9(1.0)	17G	0	246.6	11C	1	397.1	12TAAA	0
	N343.12	380.7	8C	0	320.9=321.9(1.0)	16G	0						
	N343.13	380.7	8C	0	323.0>322.0(1.1)	17G	0	246.9	11C	1	397.1	12TAAA	0
	N343.14	380.7	8C	0	322.0=323.0(1.0)	17G	0	247.0	11C	1	395.8	12TAAA	0
	N343.15	380.7	8C	0	321.9=320.9(1.0)	16G	0	246.6	11C	1	396.1	12TAAA	0
	N343.16	380.8	8C	0	322.2=321.2(1.0)	17G	0	246.5	11C	1	395.8	12TAAA	0
	N343.17	380.7	8C	0	321.9=320.9(1.0)	16G	0	246.5	11C	1	396.0	12TAAA	0
	N343.18	380.9	8C	0	322.1=321.1(1.0)	16G	0	245.5	10C	0	396.7	12TAAA	0
	N343.19	380.7	8C	0	324.0>322.9(1.2)	18G	0	246.7	11C	1	397.0	12TAAA	0
	N343.20	380.8	8C	0	321.1>320.1(1.2)	15G	1?	247.1	11C	1	395.8	12TAAA	0
V54/4th	Replaced												
V58/1st	N58.1	381.6	9C	2	317.0	11G	2	242.3	9C	0	396.9	12TAAA	0
	N58.2	381.7	9C	2	316.8	11G	2	242.4	9C	0	396.9	12TAAA	0
	N58.3	381.6	9C	2	317.8	12G	2	242.0	9C*	0	396.6	12TAAA	0
	N58.4	381.7	9C	2	316.9	11G	2	242.5	9C	0	396.8	12TAAA	0
	N58.5	381.6	9C	2	316.8	11G	2	242.6	9C*	0	396.7	12TAAA	0
	N58.6	381.6	9C	2	317.8	12G	2	242.6	9C	0	397.0	12TAAA	0
V58/2nd	N240.1	381.6	9C	2	317.8	12G	2	242.3	9C	0	396.8	12TAAA	0
	N240.2	381.6	9C	2	317.7	12G	2	242.5	9C	0	400.7	13TAAA	2
V58/3rd	Cleared												
V58/4th	N429.1	381.6	9C	2	317.0	11G	2	244.5	9C	0	395.8	12TAAA	0
	N429.2	381.7	9C	2	316.9	11G	2	241.6	8C	0	396.6	12TAAA	0
	N429.3	381.7	9C	2	316.8	11G	2	242.6	9C	0	396.7	12TAAA	0
	N429.4	381.6	9C	2	316.8	11G	2	242.6	9C	0	396.7	12TAAA	0
	N429.5	381.7	9C	2	316.7	11G	2	242.5	9C	0	396.9	12TAAA	0
	N429.6	381.5	9C	2	316.7	11G	2	242.7	9C*	0	396.6	12TAAA	0
V59/1st	N59.1	381.6	9C	2	317.7	12G	2	245.2	9C	0	400.8	13TAAA*	2
	N59.2	381.6	9C	2	317.8	12G	2	244.8	9C	0	403.5	14TAAA	2

	N59.3	381.6	9C	2	317.7	12G	2	245.0	9C	0	400.6	13TAAA	2
	N59.4	382.6	10C	2	318.0	12G	2	245.1	9C	0	400.9	13TAAA	2
	N59.5	381.6	9C	2	317.9	12G	2	244.7	9C	0	400.8	13TAAA	2
	N59.6	381.6	9C	2	317.8	12G	2	244.5	9C	0	401.0	13TAAA	2
	N59.7	381.7	9C	2	317.9	12G	2	244.9	9C	0	400.7	13TAAA	2
	N59.8				317.8	12G	2	244.6	9C	0	400.9	13TAAA	2
	N59.9				317.7	12G	2	245.0	9C	0	397.0	12TAAA	0
	N59.10				317.8	12G	2	244.7	9C	0	399.8	13TAAA	2
	N59.11				317.8	12G	2	245.0	9G	0	400.7	13TAAA	2
	N59.12	381.8	9C	2	317.8	12G	2	244.6	9C	0	400.9	13TAAA	2
	N59.13				318.0	12G	2	245.0	9C	0	400.6	13TAAA	2
	N59.14				317.7	12G	2	244.8	9C	0	400.8	13TAAA	2
	N59.15	381.6	9C	2	317.9	12G	2	245.0	9C	0	400.6	13TAAA	2
	N59.16	381.7	9C	2	317.7	12G	2	244.8	9C	0	400.8	13TAAA	2
	N59.17	381.6	9C	2	317.9	12G	2	244.7	9C	0	400.7	13TAAA	2
	N59.18				317.8	12G	2	244.5	9C	0	401.0	13TAAA	2
	N59.19	381.7	9C	2	317.9	12G	2	244.8	9C	0	400.7	13TAAA	2
	N59.20				317.7	12G	2	244.6	9C	0	397.1	12TAAA	0
V59/2nd	N253.1	381.6	9C	2	318.0=317.0(1.0)	12G*	2	244.5/242.5	9C	0	396.9	12TAAA	0
	N253.2	381.7	9C	2	317.9	12G	2	242.7	9C	0	396.6	12TAAA	0
	N253.3	381.7	9C	2	317.9	12G	2	242.6	9C	0	396.8	12TAAA	0
	N253.4	381.6	9C	2	317.8	12G	2	242.7	9C	0	396.4	12TAAA	0
	N253.5	381.5	9C	2	317.8	12G	2	242.5	9C	0	396.8	12TAAA	0
	N253.6	381.6	9C	2	317.7	12G	2	242.6	9C	0	396.6	12TAAA	0
V59/3rd	N352.1	382.7	10C	2	318.0	12G*	2	244.6	9C	0	396.9	12TAAA*	0
	N352.2	381.7	9C	2	317.8	12G	2	244.7	9C	0	396.9	12TAAA	0
	N352.3	383.5	11C	1#	317.8	12G	2#	244.7	9C	0#	400.8	13TAAA	2#
	N352.4	382.5	10C	2	317.9	12G	2	245.1	9C	0	400.6	13TAAA	2
	N352.5	383.6	11C	1	317.8	12G	2	244.6	9C	0	401.0	13TAAA	2
	N352.6	383.5	11C	1	316.8	11G	2	245.1	9C	0	400.6	13TAAA	2
	N352.7				318.8	13G	2	244.6	9C	0	393.3	11TAAA	1
	N352.8				318.1	12G	2	245.4	9C?	0	400.6	13TAAA	2
	N352.9				317.9	12G	2	244.7	9C	0	397.0	12TAAA	0
	N352.10				317.8	12G	2	245.1	9C	0	392.9	11TAAA	1
	N352.11	384.6	12C	0	317.8	12G	2	244.7	9C	0	400.8	13TAAA	2
	N352.12				317.9	12G	2	245.0	9C	0	396.7	12TAAA	0
	N352.13				317.8	12G	2	244.5	9C	0	400.9	13TAAA	2
	N352.14				317.7	12G	2	244.9	9C	0	396.7	12TAAA	0
	N352.15				317.8	12G	2	244.5	9C	0	401.0	13TAAA	2
	N352.16	383.7	11C	1	317.9	12G	2	245.0	9C	0	396.7	12TAAA	0

	N352.17				317.8	12G	2	244.5	9C	0	397.1	12TAAA	0
	N352.18				318.0	12G	2	245.1	9C	0	400.6	13TAAA	2
	N352.19				317.7	12G	2	244.6	9C	0	397.1	12TAAA	0
	N352.20				318.0	12G	2	245.2	9C	0	400.5	13TAAA	2
V59/4th	N438.1	382.5	10C	2	317.0=318.0 (1.0)	12G	2	244.7/242.6	9C	0	396.9	12TAAA	0
	N438.2	382.6	10C	2	317.9	12G	2	242.4	9C*	0	397.0	12TAAA	0
	N438.3	384.7	12C	0#	316.8	11G	2#	243.3	10C	0#	396.9	12TAAA	0#
	N438.4	383.7	11C	1	317.8	12G	2	242.5	9C	0	396.8	12TAAA	0
	N438.5	382.7	10C	2	317.8	12G	2	242.6	9C	0	396.6	12TAAA	0
	N438.6	383.5	11C*	1	317.8	12G	2	242.5	9C	0	396.9	12TAAA	0
V88/1st	N88.1.1	381.7	9C	2	316.7	11G	2	244.7	9C	0	393.2	11TAAA	1
	N88.1.2	381.8	9C	2	316.7	11G	2	244.7	9C	0	393.2	11TAAA	1
	N88.1.3	381.8	9C	2	316.8	11G	2	244.7	9C	0	393.1	11TAAA	1
	N88.1.4	381.8	9C	2				244.8	9C	0			
	N88.1.5	381.7	9C	2	316.7	11G	2	244.5	9C	0	393.3	11TAAA	1
	N88.1.6	381.8	9C	2	316.9	11G	2	245.0	9C	0	393.0	11TAAA	1
	N88.1.7	381.7	9C	2	316.8	11G	2	244.6	9C	0	393.3	11TAAA	1
	N88.1.8	381.7	9C	2	316.7	11G	2	245.1	9C	0	392.9	11TAAA	1
	N88.1.9	381.8	9C	2	316.7	11G	2	244.7	9C	0	393.2	11TAAA	1
	N88.1.10	381.8	9C	2	316.8	11G	2	245.2	9C	0	392.9	11TAAA	1
	N88.2	381.8	9C	2	317.0	11G	2	245.0	9C	0	392.9	11TAAA	1
	N88.3	381.7	9C	2	316.7	11G	2	244.7	9C	0	393.2	11TAAA	1
	N88.4	381.7	9C	2	317.0	11G	2	245.4	9C?	0	392.8	11TAAA	1
	N88.5	381.7	9C	2	316.8	11G	2	244.8	9C	0	393.2	11TAAA	1
	N88.6	381.8	9C	2	317.0	11G	2	244.8	9C	0	393.1	11TAAA	1
	N88.7				317.0	11G	2	245.0	9C	0	393.3	11TAAA	1
	N88.8	381.8	9C	2				245.0	9C	0			
	N88.9	381.8	9C	2	316.9	11G	2	245.1	9C	0	393.3	11TAAA	1
V88/2nd	N272.1	381.5	9C	2	317.0>316.0 (1.2)	11G	2	244.7/242.6	9C	0	385.5	9TAAA	0
	N272.2	381.7	9C	2	316.8	11G	2	242.5	9C	0	385.3	9TAAA	0
	N272.3	381.7	9C	2	316.8	11G	2	242.7	9C	0	385.4	9TAAA	0
	N272.4	381.6	9C	2	316.8	11G	2	242.5	9C	0	385.6	9TAAA	0
	N272.5	381.7	9C	2	316.8	11G	2	242.7	9C	0	385.3	9TAAA	0
	N272.6	381.6	9C	2	316.8	11G	2	242.6	9C	0	385.6	9TAAA	0
V88/3rd	N369.1	382.6	10C	2#	316.7	11G	2#	244.7	9C	0#	385.6	9TAAA	0#
	N369.2	382.8	10C	2	316.7	11G	2	245.0	9C	0	385.5	9TAAA	0
	N369.3	381.8	9C	2	316.9	11G	2	245.1	9C	0	385.3	9TAAA	0
	N369.4	381.9	9C	2	316.8	11G	2	244.7	9C	0	385.6	9TAAA	0
	N369.5	382.8	10C	2	316.9	11G	2	245.1	9C	0	385.3	9TAAA	0

	N369.6	382.6	10C	2	316.7	11G	2	244.6	9C	0	385.7	9TAAA	0
	N369.7	381.6	9C	2	316.9	11G	2	245.0	9C	0	385.4	9TAAA	0
	N369.8	381.7	9C	2	316.7	11G	2	244.7	9C	0	385.7	9TAAA	0
	N369.9	381.7	9C	2	316.9	11G	2	245.0	9C	0	385.4	9TAAA	0
	N369.10	382.7	10C	2	316.7	11G	2	244.5	9C	0	385.7	9TAAA	0
	N369.11	381.8	9C	2	317.0	11G	2	245.1	9C	0	385.3	9TAAA	0
	N369.12	382.8	10C	2	316.7	11G	2	244.5	9C	0	385.7	9TAAA	0
	N369.13	381.8	9C	2	317.0	11G	2	245.2	9C	0	385.2	9TAAA	0
	N369.14	381.7	9C	2	316.8	11G	2	244.7	9C	0	385.6	9TAAA	0
	N369.15	381.8	9C	2	316.9	11G	2	245.2	9C	0	385.3	9TAAA	0
	N369.16	382.7	10C	2	316.8	11G	2	244.8	9C	0	385.6	9TAAA	0
	N369.17	381.8	9C	2	316.9	11G	2	244.5	9C	0	396.7	12TAAA	0
	N369.18	381.8	9C	2	316.8	11G	2	244.7	9C	0	385.6	9TAAA	0
	N369.19	381.7	9C	2	316.9	11G	2	245.2	9C	0	385.3	9TAAA	0
	N369.20	381.7	9C	2	317.0	11G	2	245.4	9C	0	385.6	9TAAA	0
V88/4th	N449.1	380.6	8C	0	317.0>316.0(1.2)	11G	2	244.5/242.6	9C	0	385.2	9TAAA*	0
	N449.2	380.7	8C	0	316.8	11G*	2	242.6	9C	0	385.5	9TAAA	0
	N449.3	380.7	8C	0	316.8	11G	2	242.6	9C	0	385.2	9TAAA	0
	N449.4	380.7	8C	0	316.8	11G	2	242.4	9C	0	385.2	9TAAA	0
	N449.5	380.6	8C	0	317.8	12G*	2	242.6	9C	0	385.4	9TAAA	0
	N449.6	380.7	8C	0	316.8	11G	2	242.6	9C	0	385.6	9TAAA	0
V138/1st	N138.1	381.5	9C	2	318.0	12G	2	242.5	9C	0	397.0	12TAAA	0
	N138.2	381.7	9C	2	317.9	12G*	2	242.5	9C	0	397.0	12TAAA	0
	N138.3	382.7/381.8(1.0)	10C=9C*	2	317.9	12G	2	242.4	9G	0	397.0	12TAAA	0
	N138.4	382.6	10C	2	317.8	12G	2	242.7	9C	0	396.6	12TAAA	0
	N138.5	381.6	9C	2	316.8	11G	2	242.6	9C	0	396.9	12TAAA	0
	N138.6	381.6	9C	2	317.9	12G	2	242.7	9C	0	396.6	12TAAA	0
V138/2nd	N288.1	380.6	8C	0	318.1>317.1 (1.2)	12G	2	242.5	9C	0	396.9	12TAAA	0
	N288.2	381.8	9C	2	317.9	12G	2	242.4	9C	0	397.0	12TAAA	0
	N288.3	381.8	9C	2	317.9	12G	2	242.5	9C	0	396.9	12TAAA	0
	N288.4	381.7	9C	2	317.8	12G	2	242.6	9C	0	397.0	12TAAA	0
	N288.5	381.6	9C	2#	318.9	13G*	2#	242.7	9C	0#	396.6	12TAAA	0
	N288.6	381.6	9C	2	317.8	12G	2	242.6	9C	0	396.9	12TAAA	0
V138/3rd	N331.1	381.6	9C	2	318.1	12G	2	243.6	10C	0	396.5	12TAAA	0
	N331.2	381.7	9C	2	317.9	12G	2	243.6	10C	0	396.8	12TAAA	0
	N331.3	381.7	9C	2	317.9	12G	2	243.6	10C	0	396.5	12TAAA	0
	N331.4	381.7	9C	2	317.8>316.8(1.2)	12G	2	242.6>243.6	9C/10C	0	396.8	12TAAA	0

	N331.5	381.7	9C	2	316.8	11G	2	243.6	10C	0	396.7	12TAAA	0
	N331.6	381.6	9C	2	317.8	12G	2	243.5	10C	0	396.9	12TAAA	0
V138/4th	Replaced												
cc60													
V114/1st	N114.1	377.0	6C	2	316.7	12G*	1	249.1	13C*	2			
	N114.2	377.0	6C	2	316.8	12G	1	248.8	13C	2			
	N114.3				318.8>317.8(1.1)	14G	2	248.9	13C	2			
	N114.4				317.8>318.8(1.1)	14G	2	248.6	13C	2			
	N114.5	377.0	6C	2	317.0	12G	1	249.0	13C	2			
	N114.6	377.0	6C	2	316.9	12G	1	249.1	13C	2			
	N114.7	376.9	6C	2	317.8=318.9(1.0)	14G	2	249.6>248.6(1.2)	14C	1			
	N114.8	377.0	6C	2	316.9	12G	1	249.2	13C	2			
	N114.9	376.9	6C	2	316.7	12G	1	248.8	13C	2			
	N114.10	376.9	6C	2				250.1	14C	1			
	N114.11							248.6	13C	2			
	N114.12							248.9	13C	2			
	N114.13	376.9	6C	2	318.8	14G	2						
	N114.14	377.0	6C	2				248.9	13C	2			
	N114.15	377.1	6C	2	316.9	12G	1	249.1	13C	2			
	N114.16	377.1	6C	2	316.8	12G	1	248.9	13C	2			
	N114.17	376.9	6C	2	316.8	12G	1	247.6	12C	2			
	N114.18	377.1	6C	2	316.9	12G	1	249.0	13C	2			
V114/2nd	N283.1	377.2	6C	2	318.9	14G*	2	248.6/246.3	13C	2			
	N283.2	377.8	6C	2	318.9	14G*	2	246.3	13C	2			
	N283.3	377.7	6C	2	318.9	14G*	2#	245.3	12C	2#			
	N283.4	377.7	6C	2	318.8>317.8(1.1)	14G	2	246.5	13C	2			
	N283.5	377.2	6C	2	318.8>317.8(1.1)	14G	2	245.4	12C	2			
	N283.6	377.5	6C	2	318.8>317.8(1.0)	14G	2	245.5	12C*	2			
V114/3rd	N330.1	376.9	6C	2	317.8	13G*	2	247.7	12C*	2			
	N330.2	377.0	6C	2	317.7	13G	2	247.6	12C	2			
	N330.3	376.9	6C	2	318.8	14G	2	248.1	12C	2			
	N330.4	377.0	6C	2	317.7	13G	2	247.6	12C	2			
	N330.5				317.9	13G	2	248.0	12C	2			
	N330.6				318.8>317.7(1.1)	14G	2	247.6	12C	2			
	N330.7	376.9	6C	2	317.7	13G	2	247.8	12C	2			
	N330.8							247.8	12C	2			
	N330.9	377.1	6C	2				247.9	12C	2			
	N330.10	377.1	6C	2	315.6	11G	0?	247.5	12C	2			

	N330.11	377.0	6C	2	316.8	12G	1	247.9	12C	2			
	N330.12	377.1	6C	2									
	N330.13	376.8	6C	2	318.9>317.9(1.2)	14G	2	248.0	12C	2			
	N330.14	377.0	6C	2	318.1>317.0(1.1)	13G	2	248.4	12C?	2			
	N330.15	377.0	6C	2	318.0>319.0(1.1)	14G	2	248.1	12C	2			
	N330.16	377.0	6C	2				247.6	12C	2			
	N330.17	376.8	6C	2	318.8	14G	2	248.1	12C	2			
	N330.18	377.0	6C	2				247.6	12C	2			
	N330.19	376.9	6C	2	317.7=316.8(1.0)	13G	2	248.6	13C	2			
	N330.20	377.0	6C	2	317.8>318.9(1.13)	14G	2	247.4	12C?	2			
V134/1st	N134.1	377.0	6C*	2#	316.7	12G	1#	248.6(249.7)	14C?	1#			
	N134.2	377.1	6C	2	317.8	13G	2	250.0>249.0(1.2)	14C	1			
	N134.3	376.9	6C	2	317.8	13G	2	249.8	14C	1			
	N134.4	377.1	6C	2	318.0	13G	2	249.9>248.9(1.1)	14C*	1			
	N134.5	377.0	6C	2	317.8	13G	2	248.9	13C	2			
	N134.6	377.1	6C	2	318.0	13G	2	249.5	14C	1			
	N134.7	376.9	6C	2	317.7	13G	2	249.5>248.6(1.2)	14C	1			
	N134.8	377.1	6C	2	318.0	13G	2	250.0	14C	1			
	N134.9				317.7	13G	2	249.5	14C	1			
	N134.10				318.0	13G	2	250.1>249.1(1.1)	14C	1			
	N134.11	376.8	6C	2	317.8	13G	2	249.7	14C	1			
	N134.12	376.9	6C	2	317.8	13G	2	249.6	14C	1			
	N134.13	376.9	6C	2	317.9	13G	2	249.6>248.7(1.2)	14C	1			
	N134.14	376.9	6C	2	317.7	13G	2	250.1	14C	1			
	N134.15	377.0	6C	2	317.8	13G	2	249.6>248.7(1.2)	14C	1			
	N134.16	377.0	6C	2	317.9	13G	2	250.8>249.8(1.0)	15C	1			
	N134.17	376.9	6C	2	316.7	12G	1	249.5>248.5(1.2)	14C	1			
	N134.18	377.0	6C	2	317.9	13G	2	249.9	14C	1			
V134/2nd	N295.1	377.4	6C*	2#	318.0	13G	2#	245.4 (247.7)	12C	2#			
	N295.2	377.7	6C	2	317.9	13G	2	245.3	12C	2			
	N295.3	377.7	6C	2#	317.9	13G	2#	248.1>247.2	15C*	1#			
	N295.4	377.3	6C	2	317.8	13G	2	245.4	12C	2			
	N295.5	377.7	6C	2	317.9	13G	2	248.4>247.5	15C	1			
	N295.6	377.5	6C	2	317.8	13G	2	247.3	14C	1			
V134/3rd	N333.1	376.8	6C*	2	317.8	13G	2	247.7	12C	2			
	N333.2	377.0	6C	2	318.1	13G	2	249.9	14C	1			
	N333.3	376.8	6C	2	317.8	13G	2	248.6	13C	2			
	N333.4	377.0	6C	2	317.9	13G	2	248.8	13C	2			
	N333.5	376.8	6C	2	317.8	13G	2	249.0	13C	2			

	N333.6	376.9	6C	2	318.2>317.1(1.2)	13G	2	246.3	13G	2			
	N333.7	376.9	6C	2	317.7	13G	2	248.5	13C	2			
	N333.8	377.0	6C	2	318.0	13G	2	249.0	13C	2			
	N333.9	376.9	6C*	2	317.8	13G	2	248.5	13C	2			
	N333.10	377.0	6C	2	318.0>317.0(1.2)	13G	2	248.5	13C?	2			
	N333.11	376.8	6C	2	317.8	13G	2	248.5	13C	2			
	N333.12	377.0	6C	2	318.0	13G	2	248.1	12C	2			
	N333.13	376.9	6C	2	317.8	13G	2	248.7	13C	2			
	N333.14	377.0	6C	2	318.0	13G	2	248.1	12C	2			
	N333.15	376.7	6C	2	317.9>316.8(1.2)	13G	2	250.1	14C	1			
	N333.16	376.7	6C	2	317.8	13G	2	248.6	13C	2			
	N333.17				317.8	13G	2	248.5	13C?	2			
	N333.18				318.1	13G	2	249.6	14C	1			
	N333.19	376.9	6C	2	317.7	13G	2	248.4	13C?	2			
	N333.20	376.9	6C	2	317.9	13G	2	249.2	13C	2			
V185/1st	N185.1	376.9	6C	2	318.0	13G	2	243.8	8C	0			
	N185.2	376.8	6C	2	317.8	13G	2	243.5	8C	0			
	N185.3	376.9	6C	2	317.9	13G	2	244.1	8C	0			
	N185.4	376.8	6C	2	317.7	13G	2	243.7	8C	0			
	N185.5	376.8	6C	2	317.9	13G	2	244.2	8C	0			
	N185.6	376.7	6C	2	317.8	13G	2	243.9	8C	0			
	N185.7	376.7	6C	2	318.0	13G	2	244.2	8C	0			
	N185.8	376.8	6C	2	317.8	13G	2	243.9	8C	0			
	N185.9				318.0	13G	2	244.1	8C	0			
	N185.10				317.8	13G	2	243.7	8C	0			
	N185.11	376.9	6C	2				243.9	8C	0			
	N185.12	377.0	6C	2	317.8	13G	2	243.6	8C	0			
	N185.13	376.8	6C	2	318.1	13G	2	243.9	8C	0			
	N185.14	376.9	6C	2	317.8	13G	2	243.5	8C	0			
	N185.15	376.9	6C	2	317.9	13G	2	244.1	8C	0			
	N185.16	376.9	6C	2	317.7	13G	2	243.6	8C	0			
	N185.17	376.8	6C	2	317.8	13G	2	243.9	8C	0			
	N185.18	376.9	6C	2				243.6	8C	0			
	N185.19	376.7	6C	2	318.0	13G	2	244.2	8C	0			
	N185.20	377.0	6C	2	317.8	13G	2	243.7	8C	0			
V185/2nd	N306.1	377.3	6C	2	318.0	13G	2#	243.7/241.5	8C	0#			
	N306.2	377.7	6C	2	317.9	13G*	2	241.6	8C*	0			
	N306.3	377.7	6C	2	317.8	13G	2	241.3	8C	0			
	N306.4	377.7	6C	2	317.8>316.8(1.2)	13G	2	241.6	8C	0			

	N306.5	377.4	6C	2	317.8	13G	2	241.8	8C	0			
	N306.6	377.7	6C	2	317.8	13G	2	241.7	8C	0			
V185/4th	N456.1				317.8	13G	2	243.7	8C	0			
	N456.2				317.8	13G	2	243.6	8C	0			
	N456.3				318.0	13G	2	244.1	8C	0			
	N456.4				317.7	13G	2	243.6	8C	0			
	N456.5				318.0	13G	2	244.3	8C	0			
	N456.6				317.9	13G	2	243.8	8C	0			
	N456.7				318.0	13G	2	244.2	8C	0			
	N456.8				317.8	13G	2	243.8	8C	0			
	N456.9				317.9	13G	2	244.1	8C	0			
	N456.10				317.8	13G	2	243.7	8C	0			
	N456.11				317.9	13G	2	243.9	8C	0			
	N456.12				317.7	13G	2	243.5	8C	0			
	N456.13				317.9	13G	2	244.0	8C	0			
	N456.14				317.8	13G	2	243.6	8C	0			
	N456.15				317.8	13G	2	243.6	8C	0			
	N456.16				317.8	13G	2	243.9	8C	0			
	N456.17				318.0	13G	2	244.3	8C	0			
	N456.18				317.8	13G	2	243.8	8C	0			
	N456.19				318.0	13G	2	244.3	8C	0			
	N456.20				317.8	13G	2	243.9	8C	0			
V113/1st	N113.1	377.7	6C	2	317.9	13G	2	246.3	13C	2			
	N113.2	377.8	6C	2	317.9	13G	2	246.3	13C	2			
	N113.3	377.7	6C	2	317.9	13G	2	246.3	13C*	2			
	N113.4	377.3	6C	2	317.7	13G	2	246.5	13C	2			
	N113.5	377.7	6C	2	317.8	13G	2	246.3	13C	2			
	N113.6	377.3	6C	2	317.7>316.8(1.2)	13G	2	246.5	13C	2			
V113/2nd	N281.1	377.7	6C	2	317.9	13G	2	246.2	13C	2			
	N281.2	377.7	6C	2	317.8	13G	2	246.2	13C	2			
	N281.3	377.7	6C	2	317.9	13G	2	246.3	13C	2			
	N281.4	377.6	6C	2	317.7	13G	2	246.3	13C	2			
	N281.5	377.2	6C	2	317.8	13G	2	246.5	13C	2			
	N281.6	377.6	6C	2	317.8	13G	2	246.3	13C	2			
V115/1st	N115.1	377.8	6C	2	317.9	13G	2	247.2	14C	1			
	N115.2	377.7	6C	2	317.9	13G	2	247.3	14C	1			
	N115.3	377.8	6C	2	317.8	13G	2	247.2	14C	1			
	N115.4	377.3	6C	2	316.8	12G	1	247.4	14C	1			

	N115.5	377.6	6C	2	317.8>316.8(1.2)	13G	2	247.3	14C	1			
	N115.6	377.4	6C	2	318.9>317.8(1.0)	14G	2	247.6	14C	1			
V115/2nd	N282.1	377.8	6C	2	318.9	14G*	2	247.2	14C	1			
	N282.2	377.6	6C	2	316.8	12G	1	246.3>245.38	13C*	2			
	N282.3	377.8	6C	2#	318.9	14G	2#	246.3	13C	2#			
	N282.4	377.6	6C	2	318.8>317.8(1.0)	14G	2	246.3	13C	2			
	N282.5	377.4	6C	2	318.8>317.8(1.0)	14G	2	246.3>245.4	13C	2			
	N282.6	377.7	6C	2	318.8>317.8(1.0)	14G	2	245.5	12C	2			
cc167													
V64/1st	N64.1	384.9	13C	0#	315.8	11G	2#	247.3	14C	1#			
	N64.2	384.0	12C	0	315.7	11G	2	246.4>247.3(1.1)	14C(13C*)	1			
	N64.3	383.8	12C	0	315.8	11G	2	246.4>247.4(1.1)	14C(13C*)	1			
	N64.4	384.2	12C	0	315.7	11G	2	247.3=246.2(1.0)	14C*	1			
	N64.5	383.7	12C	0	315.7	11G	2	246.0>246.9(1.0)	14C	1			
	N64.6	384.1	12C	0	315.7	11G	2	246.3>247.2(1.1)	14C	1			
V64/2nd	N257.1	383.7	12C	0	315.7	11G	2	247.2	14C	1			
	N257.2	384.0	12C	0	315.7	11G	2	247.3>248.2(1.1)	15C(14C*)	1			
	N257.3	383.7	12C	0	315.7	11G	2	247.3	14C	1			
	N257.4	384.1	12C	0	315.7	11G	2	248.3>247.4(1.2)	15C	1			
	N257.5	383.7	12C	0	315.7	11G	2	247.3>246.4(1.1)	14C	1			
	N257.6	384.0	12C	0	315.7	11G	2	247.4	14C*	1			
V64/3rd	N348.1	382.7	11C	1	315.8	11G	2	245.4	12C	2			
	N348.2	384.0	12C	0	316.8	12G	2	247.3	14C	1			
	N348.3	383.8	12C	0	316.8	12G	2	247.2>246.3(1.2)	14C	1			
	N348.4	384.1	12C	0#	316.8	12G	2#	247.3	14C	1#			
	N348.5	383.8	12C	0	316.8	12G	2	248.2>247.2(1.1)	15C	1			
	N348.6	383.1	11C	1	315.7	11G	2	248.3>247.3(1.1)	15C	1			
V117/1st	N117.1	382.7	11C	1	316.8	12G	2	247.3	14C	1			
	N117.2	383.1	11C	1	316.8	12G	2	247.3	14C	1			
V117/2nd	N284.1	383.7	12C	0	316.9	12G	2	246.3	13C	2			
	N284.2	384.1	12C	0	316.8	12G	2	246.2	13C	2			
	N284.3	383.7	12C	0	316.8	12G	2	246.3	13C	2			
	N284.4	384.2	12C	0	316.8	12G	2	247.2	14C	1			
	N284.5	383.8	12C	0	316.8	12G	2	246.3	13C	2			
	N284.6	384.1	12C	0	316.8	12G	2	246.3	13C	2			
V117/3rd	N332.1	383.7	12C	0	*316.7*	*12G*	2	246.3	13C	2			

	N332.2	384.0	12C	0#	*315.8*	*11G**	2#	246.4	13C	2#			
	N332.3	383.6	12C	0#	*316.7*	*12G*	2#	245.3	12C	2#			
	N332.4	384.0	12C	0	*315.7*	*11G*	2	246.3	13C	2			
	N332.5	382.6	11C	1	*315.7*	*11G*	2	246.2	13C	2			
	N332.6	383.0	11C	1	*316.7*	*12G*	2	247.4	14C	1			
V117/4th	N417.1	383.7	12C	0	*316.8*	*12G*	2	246.3	13C	2			
	N417.2	384.0	12C	0	*316.8*	*12G*	2	246.4	13C	2			
	N417.3	383.7	12C	0	*316.8*	*12G*	2	247.2	14C	1			
	N417.4	383.1	11C	1	*316.8*	*12G*	2	247.4	14C	1			
	N417.5	383.7	12C	0	*316.8*	*12G*	2	248.3>247.3(1.1)	15C	1			
	N417.6	384.0	12C	0	*316.8*	*12G*	2	248.3>247.4(1.2)	15C	1			
V124/1st	N124.1	381.8	10C*	2#	315.7	11G	2#	248.5>247.5(1.2)	15C	1#			
	N124.2	383.1	11C*	1	315.8	11G*	2	248.3>247.3(1.2)	15C*	1			
	N124.3	381.9	10C	2#	315.8	11G	2#	246.3	13C	2#?			
	N124.4	383.1	11C	1	315.8	11G	2	247.4	14C	1			
	N124.5	381.8	10C	2	315.8	11G	2	248.2>247.2(1.2)	15C	1			
	N124.6	381.9	10C	2	315.8	11G	2	247.4	14C*	1			
V124/2nd	N290.1	382.7	11C	1	315.8	11G	2	246.3	13C	2			
	N290.2	384.1	12C	0	315.8	11G	2	247.4>246.4(1.2)	14C*	1			
	N290.3	382.7	11C	1	315.7	11G	2	246.3	13C	2			
	N290.4	383.1	11C	1	315.8	11G	2	246.5	13C	2			
	N290.5	382.6	11C*	1#	314.7	10G	1#	246.3	13C	2#			
	N290.6	382.0	10C	2	316.8	12G	2	248.3>247.4(1.1)	15C*	1			
V124/3rd	N336.1	383.7	12C	0	315.8	11G	2	247.4	14C	1			
	N336.2	384.1	12C	0	315.7	11G	2	247.3>246.3(1.2)	14C	1			
	N336.3	382.9	11C	1	315.8	11G	2	247.3>246.4(1.2)	14C	1			
	N336.4	384.2	12C	0	315.7	11G	2	248.2>247.2(1.1)	15C*	1			
	N336.5	383.9	12C	0	315.8	11G	2	247.5	14C	1			
	N336.6	384.2	12C	0	315.7	11G	2	247.3>246.3(1.1)	14C*	1			
cc23													
V69/1st	Non-carrier												
V69/2nd	N258.1	382.8	11C	1	316.0	12G	2#	251.1>250.1(1.2)	18C*	0#			
	N258.2	383.2	11C	1	316.0	12G	2	251.1>250.1(1.2)	18C	0			
	N258.3	382.9	11C	1	316.0	12G	2	251.0>250.1(1.2)	18C	0			
	N258.4	383.2	11C	1	315.9	12G	2	251.2>250.2(1.3)	18C	0			
	N258.5	382.9	11C	1	316.0	12G	2	251.2>250.1(1.3)	18C	0			
	N258.6	383.2	11C	1	316.0	12G	2	251.2>250.2(1.3)	18C	0			

V69/3rd	No sample												
V69/4th	N431.1	382.9	11C	1	315.9	12G	2	246.3	13C	2			
	N431.2	383.3	11C	1	316.0	12G	2	246.4	13C	2			
	N431.3	382.8	11C	1	316.1	12G*	2	246.3	13C	2			
	N431.4	383.2	11C	1	316.0	12G	2	245.5	12C	2			
	N431.5	382.6	11C	1	317>316	13G*	1#	246.3	13C	2#			
	N431.6	383.1	11C	1	316.9>318	14G*	1#	246.4	13C	2#			
V93/1st	Non-carrier												
V93/2nd	N264.1	384.1	12C	0	315.9>314.9	12G*	2	249.2>250.1(1.1)	17C	0			
	N264.2	384.1	12C	0	315.9	12G	2	249.3>250.2(1.1)	17C	0			
	N264.3	383.2	11C	1	316.0	12G	2	249.2>248.2(1.0)	16C	0			
	N264.4	384.4	12C	0	316.0	12G	2	249.3>250.3(1.2)	17C	0			
	N264.5	384.3	12C	0	316.0	12G	2	249.2>250.1(1.2)	17C	0			
	N264.6	383.4	11C	1	315.0	11G	2	247.5	14C	1			
V93/3rd	N359.1	384.3	12C	0	316.0	12G	2	246.3	13C	2			
	N359.2	384.4	12C	0	316.0>315.0	12G*	2	246.4	13C	2			
	N359.3	383.2	11C	1	316.0	12G	2	246.3	13C	2			
	N359.4	383.3	11C	1	316.0	12G	2	246.4	13C	2			
	N359.5	383.2	11C	1	315.0	11G	2	248.2>247.2(1.2)	15C	1			
	N359.6	384.3	12C	0	316.0	12G	2	246.4	13C	2			
V96/1st	Non-carrier												
V96/2nd	N259.1	383.2	11C	1	315.9	12G	2	250.9>250.0(1.0)	18C*	0			
	N259.2	383.3	11C	1	315.9>314.8	12G*	2	250.9>250.0(1.0)	18C	0			
	N259.3	383.3	11C	1	316.0	12G#	2	248>247.1(1.0)	15C	1#			
	N259.4	383.3	11C	1#	316.0	12G	2#	251>250.1(1.1)	18C	0#			
	N259.5	383.4	11C	1	316.0	12G	2	251>250(1.1)	18C	0			
	N259.6	383.4	11C	1	316.0>314.9	12G*	2	248>247.1(1.0)	15C	1			
V96/3rd	N370.1	383.3	11C	1	317.0>318.0	14G (13G*)	1	246.3	13C	2			
	N370.2	384.3>383	12C*	0	319.0>318.0	15G*	1	247.2>248.1(1.1)	15C (14C*)	1			
	N370.3	384.2	12C	0	317.0>316.0	13G*	1	244.4	11C	1			
	N370.4	385.3	13C	0#	319.0>318.0	15G*	1#	246.2	13C	2#			
	N370.5	384.2	12C	0#	320.0>319.0	16G*	1#	247.1>246.2(1.1)	14C	1#			
	N370.6	383.4	11C	1	317.0>318.0	14G (13G*)	1	247.2	14C	1			

V96/4th	N445.1	384.1	12C	0	314.9	11G	2#	245.3	12C	2#			
	N445.2	383.3	11C	1	314.9	11G	2	245.2	12C	2			
	N445.3	384.2	12C	0	315.0	11G	2	245.3	12C	2			
	N445.4	384.3	12C	0	314.9	11G	2	245.3	12C	2			
	N445.5	385.3	13C	0	317.0>316.0	13G*	2	245.3	12C	2			
	N445.6	385.4	13C	0#	318.0>319.0	15G (14G*)	1#	245.2	12C	2#			
V222/1st	N222.1	382.8	11C	1	316.0	12G	2	245.3	12C	2			
	N222.2	383.2	11C	1	315.9	12G	2	251.1>252.1(1.01)	19C	0			
	N222.3	382.7	11C	1	315.9	12G	2	245.4	12C	2			
	N222.4	383.1	11C	1	315.9	12G	2	245.3	12C	2			
	N222.5	382.7	11C	1	315.9	12G	2	245.4	12C	2			
	N222.6	383.0	11C	1	315.9	12G	2	250.1>251.1(1.2)	18C	0			
V222/2nd	N309.1	382.8	11C	1	315.9	12G	2	251.9>251.1(1.1)	19C	0			
	N309.2	383.2	11C	1	315.9	12G	2	252.1>251.2(1.1)	19C	0			
	N309.3	382.8	11C	1	316.0	12G	2	252>251.0(1.1)	19C	0			
	N309.4	383.1	11C	1	315.9	12G	2	252.2>251.2(1.0)	19C	0			
	N309.5	382.8	11C	1	316.0	12G	2	251.0>251.9(1.1)	19C	0			
	N309.6	383.1	11C	1	315.9	12G	2	252.0>251.1(1.0)	19C	0			
V222/3rd	N391.1	382.8	11C	1	314.9	11G	2	252.1>251(1.1)	19C	0			
	N391.2	383.2	11C	1	314.9	11G	2	251.9>250.9(1.1)	19C	0			
	N391.3	383.2	11C	1	315.0	11G	2	250.9>251.9(1.2)	19C (18C*)	0			
	N391.4	383.3	11C	1	314.9	11G	2	250.9>251.9(1.1)	19C	0			
	N391.5	383.2	11C	1	314.9	11G	2	251>251.9(1.1)	19C	0			
	N391.6	383.3	11C	1	315.0	11G	2	250.9>251.9(1.1)	19C	0			
V222/4th	N459.1	383.2	11C	1	315.0	11G	2	250.9>250.1(1.1)	18C	0			
	N459.2	383.3	11C	1	315.0	11G	2	250.9>251.9(1.1)	19C	0			
	N459.3	383.3	11C	1	314.9	11G	2	253>253.9(1.1)	21C	0			
	N459.4	383.3	11C	1	314.9	11G	2	251>251.9(1.1)	19C	0#			
	N459.5	383.2	11C	1	315.0	11G	2	251.8>250.9(1.1)	19C	0			
	N459.6	384.3	12C*	0#	313.9	10G*	1	251>251.9(1.0)	19C	0			
cc32													
V176/1st	N176.1	379.7	9C	2	316.9	11G*	2	245.5	10C?	0	385.9	9TAAA	0
	N176.2	379.6	9C	2	316.8	11G	2	249.2>250.1(1.1)	17C	0	385.5	9TAAA	0
	N176.3	379.7	9C	2#	316.9	11G#	2	251.3=252.3(1.0)	17C#	0	385.5	9TAAA	0
	N176.4	379.7	9C	2	316.8	11G	2	248.4	12C	2			

	N176.5	379.6	9C	2	316.8	11G	2	249.6	14C	1	385.6	9TAAA	0
	N176.6	379.6	9C	2#	316.8	11G#	2	252.2=251.3(1.0)	17C#	0	385.7	9TAAA	0
	N176.7				316.9	11G	2	252.3=251.4(1.0)	17C	0	385.6	9TAAA	0
	N176.8				316.8	11G	2	250.8=251.7(1.0)	17C	0	385.7	9TAAA	0
	N176.9				317.8	12G	2	249.7	14C	1	385.6	9TAAA	0
	N176.10							251.4=252.3(1.0)	17C	0	385.7	9TAAA	0
	N176.11				316.9	11G	2	252.4=251.6(1.0)	17C	0	385.6	9TAAA	0
	N176.12				316.8	11G	2	249.6	14C	1	385.6	9TAAA	0
	N176.13				316.9	11G	2	251.3>252.2(1.1)	17C	0	385.4	9TAAA	0
	N176.14				316.8	11G	2	251.1=252.1(1.0)	16C	0	385.6	9TAAA	0
	N176.15				316.8	11G	2	251.3>252.3(1.1)	16C	0	385.6	9TAAA	0
	N176.16				316.8	11G	2	245.3	10C	0	385.6	9TAAA	0
	N176.17				318.9	13G	2	252.3=251.3(1.0)	16C	0	385.6	9TAAA	0
	N176.18				316.8	11G	2	245.4	10C	0	385.7	9TAAA	0
	N176.19				316.8	11G	2	245.6	10C	0	385.7	9TAAA	0
	N176.20				316.9	11G	2	249.4	14C	1	385.7	9TAAA	0
V176/2nd	N318.1	379.6	9C	2	316.8	11G	2	243.6	10C	0	385.3	9TAAA	0
	N318.2	379.7	9C	2	316.8	11G	2	246.3	13C	2	385.5	9TAAA	0
	N318.3	379.5	9C	2	316.8	11G	2	243.5	10C	0	385.3	9TAAA	0
	N318.4	379.6	9C	2	316.8	11G	2	243.4	10C*	0	385.5	9TAAA	0
	N318.5	379.5	9C	2	316.7	11G*	2	247.4	14C	1	385.4	9TAAA	0
	N318.6	379.6	9C	2#	316.8	11G#	2	246.3	13C*	2#	385.5	9TAAA	0
V176/3rd	N399.1	379.6	9C	2	316.8	11G	2	247.4	14C	1	385.3	9TAAA	0
	N399.2	378.7	8C	0#	316.8	11G	2#	247.2	14C	1#	385.6	9TAAA	0
	N399.3	379.6	9C*	2	316.8	11G	2	247.4	14C	1	385.3	9TAAA	0
	N399.4	379.7	9C	2	316.8	11G	2	247.1>246.3(1.0)	14C	1	385.4	9TAAA	0
	N399.5	378.6	8C	0	316.8	11G	2	247.5	14C	1	385.1	9TAAA	0
	N399.6	379.7	9C	2	316.8	11G	2	247.3	14C	1	385.4	9TAAA	0
V176/4th	N408.1	380.6	10C	2	317.9	12G	2		14C	1	384.8	9TAAA	0
	N408.2	378.7	8C	0	316.8	11G	2	249.6	14C	1	385.6	9TAAA	0
	N408.3	380.7	10C	2#	317.8	12G	2#	250.5	15C	0#	385.8	9TAAA*	0
	N408.4	378.5	8C	0	316.8	11G	2	249.7	14C	1	385.6	9TAAA	0
	N408.5	378.7	8C*	0	316.8	11G	2	249.6	14C	1	385.6	9TAAA	0
	N408.6	380.6	10C	2	317.9	12G	2	250.4/249.4(1.1)	15C	0	385.5	9TAAA	0
	N408.7				317.8	12G	2				385.7	9TAAA	0
	N408.8				317.9	12G	2	250.4	15C	0	385.6	9TAAA	0
	N408.9				317.9	12G	2	250.3>249.3(1.1)	15C	0	385.6	9TAAA	0
	N408.10				317.9	12G	2	250.4	15C	0	385.8	9TAAA	0

	N408.11				317.8	12G	2	250.3>249.3(1.1)	15C	0	385.8	9TAAA	0
	N408.12				316.8	11G	2	249.4	14C	1	385.7	9TAAA	0
	N408.13				316.8	11G	2	249.3	14C	1	385.8	9TAAA	0
	N408.14				317.8	12G	2	249.7>250.6(1.1)	15C	0	385.7	9TAAA	0
	N408.15				317.8	12G	2	250.5>249.5(1.1)	15C	0	385.7	9TAAA	0
	N408.16				317.9	12G	2	250.7	15C	0	385.6	9TAAA	0
	N408.17				317.8	12G	2	250.5>249.6(1.1)	15C	0	385.8	9TAAA	0
	N408.18				316.8	11G	2	250.6	15C	0	385.5	9TAAA	0
	N408.19				317.8	12G	2	250.5	15C	0	385.6	9TAAA	0
	N408.20				316.8	11G	2	248.6	13C	2	385.6	9TAAA	0
	N408.21				316.8	11G	2	248.5	13C	2	385.6	9TAAA	0
	N408.22				317.8	12G	2	250.5	15C	0			

[1]Fragment size is given for the primary peak where the ratio of primary to secondary peak was >1.2. Where the ratio was <1.2 then the sizes of both peaks are given with the ratio in brackets and the size of the largest peak was utilised for determing tract length; [2]Asterisks indicates that the tract length was confirmed by sequencing; [3]Expression states were determined by Western blotting for marked (#) isolates. For genes with tracts within the reading frame, the coding was 1 for ON and 0 for OFF. For genes with tracts within the promoter, the coding was 2 for high, 1 for intermediate and 0 for low/undetectable; [4]GeneScan sizes were determined using one of two PeakScanner alogorithms resulting in different sizes for the same tract length. Blue, GS500LIZ3130. Black, GS500LIZ. Shading indicates genes that have different GeneScan sizes/tract lengths relative to the majority type in the first time point.

Table A3. Repeat Tract Data for Carriage Isolates for Genes – *hpuA, hmbR, nalP* and *mspA*

Volunteer /time pt	Isolate	Phase Variable Gene											
		hpuA			***hmbR***			***nalP***			***mspA***		
cc174		Size[1]	Tract[2]	Exp. State	Size[1]	Tract[2]	Exp. State	Size[1]	Tract[2]	Exp. State	Size[1]	Tract[2]	Exp. State
V43/1st	N43.1.1	308.2	13G*	1				316.3	10C	1	375.2	8C	0
	N43.1.2	307.1	12G	0				316.3	10C	1	375.0	8C	0
	N43.1.3	309.0	14G	0				316.3	10C	1	375.1	8C	0
	N43.1.4	309.1	14G	0				316.3	10C	1	375.1	8C	0
	N43.1.5	307.9	13G	1				316.2	10C	1	375.1	8C	0
	N43.1.6	308.1	13G	1				316.2	10C	1	375.2	8C	0
	N43.1.7	308	13G	1									
	N43.1.8	309.0>308.0(1.1)	14G	0									
	N43.1.9	308.0	13G	1									
	N43.1.10	308.1	13G	1									
	N43.1.11	308.0	13G	1									
	N43.1.12	308.2	13G	1									
	N43.2	308.2	13G	1									
	N43.3	308.1	13G	1									
	N43.4	308.1	13G	1									
	N43.5	308.0	13G	1									
	N43.6	308.0	13G	1									
	N43.7	308.0	13G	1									
	N43.8	308.0	13G	1									
	N43.9	307.9	13G	1									
V43/2nd	N241.1	307.0	12G	0				316.1	10C	1	378.0	11C	0
	N241.2	306.9	12G	0				316.2	10C	1	378.0	11C	0
V43/3rd	N349.1	306.9	12G	0				316.2	10C	1	377.9	11C	0
	N349.2	307.0	12G	0				316.1	10C	1	378.1	11C	0
	N349.3	307.1	12G	0				316.2	10C	1	378.0	11C	0
	N349.4	306.9	12G	0				316.2	10C	1	378.0	11C	0
	N349.5	307.0	12G	0				316.2	10C	1	378.0	11C	0
	N349.6	306.9	12G	0				316.2	10C	1	378.1	11C	0
	N349.7	304.8	10G	1									
	N349.8	306.9	12G	0									
	N349.9	304.9>307(1.1)	mix										
	N349.10	306.9	12G	0									
	N349.11	307.1	12G	0									

	N349.12	306.9	12G	0									
	N349.13	307.1	12G	0									
	N349.14	307.1	12G	0									
	N349.15	306.9	12G	0									
	N349.16	306.9	12G	0									
	N349.17	306.9	12G	0									
	N349.18	306.9	12G	0									
	N349.19	307.1	12G	0									
	N349.20	307.0	12G	0									
V43/4th	Cleared												
V51/1st	N51.1	309.6	12G*	0				316.2	10C	1	378.0	11C	0
	N51.2	306.9	12G	0				316.2	10C	1	377.9	11C	0
	N51.3	306.9	12G	0				316.2	10C	1	378.0	11C	0
	N51.4	307.0	12G	0				316.1	10C	1	378.2	11C	0
	N51.5	307.0	12G	0				316.0	10C	1	378.2	11C	0
	N51.6							316.1	10C	1	378.2	11C	0
V51/2nd	N236.1	307.0	12G	0				316.2	10C	1	377.9	11C	0
	N236.2	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N236.3	307.9	13G	1				316.2	10C	1	378.0	11C	0
	N236.4	305.9	11G	0				316.1	10C	1	378.2	11C	0
	N236.5	308.0	13G	1				316.0	10C	1	378.2	11C	0
	N236.6	308.0	13G	1				316.1	10C	1	378.3	11C	0
V51/3rd	N354.1		13G*	1				316.2	10C	1	378.0	11C	0
	N354.2	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N354.3	308.0	13G	1				316.3	10C	1	378.0	11C	0
	N354.4	308.0	13G	1				316.1	10C	1	378.1	11C	0
	N354.5	307.9	13G	1				316.0	10C	1	378.3	11C	0
	N354.6	308.0	13G	1				316.1	10C	1	378.3	11C	0
V51/4th	N424.1		13G*	1				316.2	10C	1	377.9	11C	0
	N424.2	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N424.3	308.0	13G	1				316.3	10C	1	378.0	11C	0
	N424.4	308.0	13G	1				316.0	10C	1	378.2	11C	0
	N424.5	308.0	13G	1				316.0	10C	1	378.2	11C	0
	N424.6	307.9	13G	1				316.0	10C	1	378.3	11C	0
V52/1st	N52.1		13G*	1				316.2	10C*	1	378.0	11C*	0
	N52.2	308.0	13G*	1				316.2	10C	1	377.9	11C	0
	N52.3	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N52.4	308.0	13G	1				316.1	10C	1	378.2	11C	0

	N52.5	308.1	13G	1				316.1	10C	1	378.2	11C	0
	N52.6	308.0	13G	1				316.1	10C	1	378.2	11C	0
V52/2nd	N238.1	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N238.2	307.9	13G	1				316.2	10C	1	378.0	11C	0
	N238.3	305.9	11G	0				316.2	10C	1	378.0	11C	0
	N238.4	305.9	11G	0				316.2	10C	1	378.2	11C	0
	N238.5	308.1	13G	1				316.1	10C	1	378.2	11C	0
	N238.6	305.9	11G	0				316.1	10C	1	378.3	11C	0
V52/3rd	N342.1	305.9	11G	0				316.2	10C	1	378.0	11C	0
V52/4th	Cleared												
V54/1st	N54.1.1	309.0>308.0	14G*	0				316.2	10C	1	375.3	8C	0
	N54.1.2	307.0	12G	0									
	N54.1.3	307.0	12G	0									
	N54.1.4	307.0	12G	0									
	N54.1.5	306.9	12G	0									
	N54.1.6	308.2	13G	1									
	N54.1.7	305.9	11G	0									
	N54.1.8	308.1	13G	1									
	N54.1.9	310.1	15G	0									
	N54.1.10	306.0	11G	0									
	N54.1.11	306.9	12G	0									
	N54.1.12	306.9	12G	0									
	N54.2	306.9	12G	0				316.2	10C	1	375.2	8C	0
	N54.3	306.9	12G	0				316.2	10C	1	375.3	8C	0
	N54.4	307.0	12G	0				316.2	10C	1	375.3	8C	0
	N54.5	306.9	12G	0				316.2	10C	1	375.3	8C	0
	N54.6	306.9	12G	0				316.2	10C	1	375.2	8C	0
	N54.7	306.9	12G	0									
	N54.8	307.0	12G	0									
	N54.9	307.0	12G	0									
V54/2nd	N237.1	308.0	13G	1				316.2	10C	1#	375.3	8C	0
	N237.2	307.9	13G	1				316.1	10C	1	375.2	8C	0
	N237.3	308.0	13G	1				316.2	10C	1	375.3	8C	0
	N237.4	308.1	13G	1				316.0	10C	1	375.5	8C	0
	N237.5	305.9	11G	0				316.1	10C	1	375.5	8C	0
	N237.6	307.9	13G	1				316.1	10C	1	375.5	8C	0
V54/3rd	N343.1	305.9	11G	0				318.0	12C	0#	375.4	8C	0
	N343.2	306.9	12G	0				317.1	11C	0	375.4	8C	0
	N343.3	305.9	11G	0				317.1	11C	0	375.3	8C	0

	N343.4	306.0	11G	0				318.0	12C	0	375.4	8C	0
	N343.5	305.8	11G	0				317.0	11C	0	375.4	8C	0
	N343.6	308.1	13G	1				317.0	11C	0	376.4	9C	1
	N343.7	305.8	11G	0									
	N343.8	304.9	10G	1									
	N343.9	305.9	11G	0									
	N343.10	307.0	12G	0									
	N343.11	308.0	13G	1									
	N343.12	304.9	10G	1									
	N343.13	305.9	11G	0									
	N343.14	304.8	10G	1									
	N343.15	304.8	10G	1									
	N343.16	308.0	13G	1									
	N343.17	304.8	10G	1									
	N343.18	306.0	11G	0									
	N343.19	304.9	10G	1									
	N343.20	305.8	11G	0									
V54/4th	Replaced												
V58/1st	N58.1		13G*	1				316.2	10C	1	377.9	11C	0
	N58.2	307.9	13G	1				316.2	10C	1	378.0	11C	0
	N58.3	308.0	13G	1				316.1	10C	1	378.0	11C	0
	N58.4	308.0/307.0(1.2)	13G*	1				316.1	10C	1	378.3	11C	0
	N58.5	307.9	13G	1				316.0	10C	1	378.2	11C	0
	N58.6	306.9=308.0(1.0)	13G(12G*)	1				316.1	10C	1	378.2	11C	0
V58/2nd	N240.1	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N240.2	307.9	13G	1				316.3	10C	1	377.8	11C	0
V58/3rd	Cleared												
V58/4th	N429.1	306.9	12G	0				316.2	10C	1	378.0	11C	0
	N429.2	307.0	12G	0				316.2	10C	1	378.0	11C	0
	N429.3	306.9	12G	0				316.2	10C	1	378.0	11C	0
	N429.4	307.0	12G	0				316.0	10C	1	378.3	11C	0
	N429.5	306.9	12G	0				316.2	10C	1	378.2	11C	0
	N429.6	307.0	12G	0				316.1	10C	1	378.2	11C	0
V59/1st	N59.1	307.9	13G	1				316.2	10C*	1#	378.0	11C	0#
	N59.2	308.2	13G	1				316.2	10C	1	378.0	11C	0
	N59.3	307.0	12G	0				316.2	10C	1	378.0	11C	0

	N59.4	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N59.5	308.1	13G	1				316.2	10C	1	378.0	11C	0
	N59.6	308.0	13G	1				316.2	10C	1	378.0	11C	0
	N59.7	307.1	12G	0									
	N59.8	308.0	13G	1									
	N59.9	307.0	12G	0									
	N59.10	307.9	13G	1									
	N59.11	308.1>307(1.1)	13G	1									
	N59.12	308.0	13G	1									
	N59.13	308.1	13G	1									
	N59.14	306.9	12G	0									
	N59.15	308.1	13G	1									
	N59.16	306.9	12G	0									
	N59.17	308.0	13G	1									
	N59.18	308.0	13G	1									
	N59.19	308.0	13G	1									
	N59.20	307.9	13G	1									
V59/2nd	N253.1	308.0	13G	1				317.3	11C*	0#	378.0	11C	0
	N253.2	308.0	13G	1				315.1>317.16(1.2)	9C+ 11C	0	378.0	11C	0
	N253.3	308.0	13G	1				317.1	11C	0	378.0	11C	0
	N253.4	308.0	13G	1				317.1	11C	0	378.2	11C	0
	N253.5	308.1	13G	1				317.1	11C	0	378.3	11C	0
	N253.6	308.0	13G	1				317.1	11C	0	378.2	11C	0
V59/3rd	N352.1	307.0	12G	0				317.2	11C	0	378.0	11C	0
	N352.2	306.9	12G	0				317.2	11C	0	378.0	11C	0
	N352.3	308.0	13G	1				317.2	11C	0	378.0	11C	0
	N352.4	306.9	12G	0				317.2	11C	0	378.1	11C	0
	N352.5	308.0	13G	1				317.1	11C	0	378.0	11C	0
	N352.6	308.0	13G	1				317.2	11C	0	378.0	11C	0
	N352.7	308.0	13G	1									
	N352.8	308.3	13G	1									
	N352.9	307.0	12G	0									
	N352.10	308.2	13G	1									
	N352.11	308.0	13G	1									
	N352.12	307.0	12G	0									
	N352.13	306.9	12G	0									
	N352.14	306.9	12G	0									
	N352.15	308.0	13G	1									
	N352.16	307.1	12G	0									

	N352.17	307.9	13G	1									
	N352.18	307.1	12G	0									
	N352.19	307.9	13G	1									
	N352.20	308.2	13G	1									
V59/4th	N438.1	308.0	13G	1				317.3	11C	0	378.0	11C	0
	N438.2	307.9	13G	1				317.2	11C	0	378.0	11C	0
	N438.3	308.0	13G	1				317.2	11C	0	378.0	11C	0
	N438.4	308.0	13G	1				317.1	11C	0	378.2	11C	0
	N438.5	308.0	13G	1				317.1	11C	0	378.1	11C	0
	N438.6	308.0	13G	1				317.1	11C	0	378.2	11C	0
V88/1st	N88.1.1	303.8	9G*	0				316.2	10C	1	375.3	8C	0
	N88.1.2	303.9	9G	0				316.1	10C	1	375.3	8C	0
	N88.1.3	303.8	9G	0				316.2	10C	1	375.3	8C	0
	N88.1.4	304.0	9G	0				316.2	10C	1	375.3	8C	0
	N88.1.5	303.8	9G	0				316.1	10C	1	375.3	8C	0
	N88.1.6	303.9	9G	0				316.2	10C	1	375.2	8C	0
	N88.1.7	303.8	9G	0									
	N88.1.8	303.8	9G	0									
	N88.1.9	303.8	9G	0									
	N88.1.10	303.7	9G	0									
	N88.2	304.0	9G	0									
	N88.3	303.8	9G	0									
	N88.4	304.0	9G	0									
	N88.5	303.9	9G	0									
	N88.6	303.8	9G	0									
	N88.7	304.0	9G	0									
	N88.8												
	N88.9	303.9	9G	0									
V88/2nd	N272.1	304.9	10G	1				316.2	10C	1	375.3	8C	0
	N272.2	304.9	10G	1				316.2	10C	1	375.3	8C	0
	N272.3	304.8	10G	1				316.2	10C	1	375.3	8C	0
	N272.4	304.9	10G	1				316.0	10C	1	375.3	8C	0
	N272.5	304.9	10G	1				316.0	10C	1	375.3	8C	0
	N272.6	304.9	10G	1				316.1	10C	1	375.2	8C	0
V88/3rd	N369.1	305.0	10G	1				316.2	10C	1	375.2	8C	0
	N369.2	304.9	10G	1				316.3	10C	1	375.1	8C	0
	N369.3	304.9	10G	1				316.3	10C	1	375.1	8C	0
	N369.4	304.9	10G	1				316.3	10C	1	375.2	8C	0
	N369.5	304.9	10G	1				316.3	10C	1	375.2	8C	0

	N369.6	304.9	10G	1				316.2	10C	1	375.2	8C	0
	N369.7	304.9	10G	1									
	N369.8	305.0	10G	1									
	N369.9	304.8	10G	1									
	N369.10	304.9	10G	1									
	N369.11	304.8	10G	1									
	N369.12	305.0	10G	1									
	N369.13	304.8	10G	1									
	N369.14	305.1	10G	1									
	N369.15	304.9	10G	1									
	N369.16	305.0	10G	1									
	N369.17	304.9	10G	1									
	N369.18												
	N369.19	304.9	10G	1									
	N369.20	305.0	10G	1									
V88/4th	N449.1	303.8	9G	0				316.3	10C	1	375.4	8C	0
	N449.2	303.7	9G*	0				316.3	10C	1	375.2	8C	0
	N449.3	303.7	9G	0				316.2	10C	1	375.2	8C	0
	N449.4	303.8	9G	0				316.1	10C	1	375.3	8C	0
	N449.5	303.8	9G	0				316.0	10C	1	375.5	8C	0
	N449.6	303.8	9G	0				316.1	10C	1	375.5	8C	0
V138/1st	N138.1		13G	1				316.1	10C	1	378.1	11C	0
	N138.2	307.9	13G*	1				316.2	10C	1	378.0	11C	0
	N138.3	308.0	13G	1				316.3	10C	1	378.0	11C	0
	N138.4	308.1>306.9(1.1)	13G*	1				316.0	10C	1	378.2	11C	0
	N138.5	307.0	12G	0				316.1	10C	1	378.2	11C	0
	N138.6	307.9=306.9(1.0)	13G*	1				316.1	10C	1	378.2	11C	0
V138/2nd	N288.1	308.1	13G	1				316.2	10C	1	378.0	11C	0
	N288.2	307.9	13G	1				316.2	10C	1	378.0	11C	0
	N288.3	308.0	13G	1				316.3	10C	1	378.1	11C	0
	N288.4	306.9	12G	0				316.1	10C	1	378.2	11C	0
	N288.5	307.9/306.9(1.2)	13G*	1				316.1	10C	1	378.2	11C	0
	N288.6	308.0	13G	1				316.2	10C	1	378.2	11C	0
V138/3rd	N331.1	308.1	13G	1				316.2	10C	1	378.1	11C	0
	N331.2	307.9	13G	1				316.2	10C	1	378.0	11C	0
	N331.3	308.0	13G	1				316.3	10C	1	378.0	11C	0
	N331.4	308.0	13G	1				316.0	10C	1	378.2	11C	0
	N331.5	308.0	13G	1				316.1	10C	1	378.3	11C	0
	N331.6	308.0	13G	1				316.1	10C	1	378.2	11C	0

V138	Replaced ?												
Cc60													
V114/1st	N114.1	354.6	9G	0	428.9	10G	0	314.0	8C*	0#	374.4	7C*	0#
	N114.2	354.7	9G	0	428.8	10G	0	314.2	8C	0	374.2	7C	0
	N114.3	354.7	9G	0	428.7	10G	0	314.1	8C	0	374.3	7C	0
	N114.4		9G*	0	428.8	10G	0	314.1	8C	0	374.3	7C	0
	N114.5	354.7	9G	0	429.0	10G	0	314.1	8C	0	374.2	7C	0
	N114.6	354.7	9G	0	428.8	10G	0	314.2	8C	0	374.2	7C	0
	N114.7	354.7	9G	0									
	N114.8	354.7	9G	0									
	N114.9	354.5	9G	0									
	N114.10												
	N114.11	354.7	9G	0									
	N114.12	354.4	9G	0									
	N114.13	354.7	9G	0									
	N114.14	354.6	9G	0									
	N114.15	354.6	9G	0									
	N114.16	354.6	9G	0									
	N114.17	354.7	9G	0									
	N114.18	354.6	9G	0									
V114/2nd	N283.1	354.7	9G	0	428.9	10G	0	314.2	8C	0	374.2	7C	0
	N283.2	354.7	9G*	0	428.9	10G	0	314.1	8C	0	374.3	7C	0
	N283.3	354.6	9G	0	428.7	10G	0	314.1	8C	0	374.3	7C	0
	N283.4	354.8	9G	0	429.0	10G	0	314.0	8C	0	374.4	7C	0
	N283.5	354.8	9G	0	428.9	10G	0	314.0	8C	0	374.5	7C	0
	N283.6	354.7	9G	0	428.9	10G	0	313.8	8C	0	374.6	7C	0
V114/3rd	N330.1	354.7	9G	0	428.7	10G	0	314.1	8C	0	374.4	7C	0
	N330.2	354.7	9G	0	427.9	9G	1	314.2	8C	0	374.1	7C	0
	N330.3	354.7	9G	0	428.9	10G	0	314.2	8C	0	374.2	7C	0
	N330.4	356.6	11G	0	427.8	9G	1	314.2	8C	0	374.2	7C	0
	N330.5	354.7	9G	0	428.9	10G	0	314.2	8C	0	374.3	7C	0
	N330.6	354.5	9G	0	427.8	9G	1	314.1	8C	0	374.2	7C	0
	N330.7	354.7	9G	0									
	N330.8	354.7	9G	0									
	N330.9	354.7	9G	0									
	N330.10	354.6	9G	0									
	N330.11	354.7	9G	0									
	N330.12												

	N330.13	354.7	9G	0									
	N330.14	354.7	9G	0									
	N330.15	354.6	9G	0									
	N330.16	354.7	9G	0									
	N330.17	354.6	9G	0									
	N330.18	354.7	9G	0									
	N330.19	354.8	9G	0									
	N330.20	354.7	9G	0									
V134/1st	N134.1	355.7	10G*	1#	428.9	10G*	0	314.1	8C	0	374.2	7C	0
	N134.2	354.7	9G	0	428.8	10G	0	314.1	8C	0	374.3	7C	0
	N134.3		9G*	0	429.0	10G	0	314.1	8C	0	374.3	7C	0
	N134.4	354.7	9G	0	429.0	10G	0	314.0	8C	0	374.4	7C	0
	N134.5	354.7	9G	0	428.9	10G	0	314.0	8C	0	374.3	7C	0
	N134.6	354.7	9G	0	429.0	10G	0	314.0	8C	0	374.3	7C	0
	N134.7	354.7	9G	0									
	N134.8	354.6	9G	0									
	N134.9	354.8	9G	0									
	N134.10	354.7	9G	0									
	N134.11	354.8	9G	0									
	N134.12	354.7	9G	0									
	N134.13	354.6	9G	0									
	N134.14	354.6	9G	0									
	N134.15	354.7	9G	0									
	N134.16	354.7	9G	0									
	N134.17	354.7	9G	0									
	N134.18	355.6	10G	1									
V134/2nd	N295.1	355.7	10G	1	428.9	10G	0	314.2	8C	0	374.2	7C	0
	N295.2	355.7	10G*	1	428.9	10G	0	314.0	8C	0	374.3	7C	0
	N295.3	355.7	10G	1#	429.0	10G	0	314.0	8C	0	374.3	7C	0
	N295.4	355.7	10G	1	428.6	10G	0	314.0	8C	0	374.6	7C	0
	N295.5	355.8	10G	1	428.9	10G	0	313.9	8C	0	374.5	7C	0
	N295.6	355.7	10G	1	429.0	10G	0	314.0	8C	0	374.5	7C	0
V134/3rd	N333.1	355.7	10G	1	428.8	10G	0	314.2	8C	0	374.2	7C	0
	N333.2	355.6	10G	1	428.8	10G	0	314.0	8C	0	374.4	7C	0
	N333.3	355.7	10G	1	428.9	10G	0	314.0	8C	0	374.5	7C	0
	N333.4	355.7	10G	1	428.9	10G	0	314.1	8C	0	374.3	7C	0
	N333.5	355.7	10G	1	429.0	10G	0	314.0	8C	0	374.4	7C	0
	N333.6	355.6	10G	1	428.8	10G	0	314.0	8C	0	374.3	7C	0
	N333.7	355.7	10G	1									

	N333.8	355.7	10G	1									
	N333.9	355.7	10G	1									
	N333.10	355.6	10G	1									
	N333.11	355.8	10G	1									
	N333.12	355.6	10G	1									
	N333.13	355.7	10G	1									
	N333.14	355.6	10G	1									
	N333.15	355.7	10G	1									
	N333.16	355.7	10G	1									
	N333.17	355.7	10G	1									
	N333.18	355.5	10G	1									
	N333.19	355.6	10G	1									
	N333.20	355.7	10G	1									
V185/1st	N185.1	300.6	10G*	1	428.9	10G	0	316.0	10C	1#	374.3	7C	0#
	N185.2	300.6	10G	1	428.9	10G	0	315.9	10C	1	374.4	7C	0
	N185.3	300.6	10G	1	428.8	10G	0	316.0	10C	1	374.5	7C	0
	N185.4	300.6	10G	1	428.8	10G	0	315.9	10C	1	374.5	7C	0
	N185.5	300.6	10G	1	428.8	10G	0	316.0	10C	1	374.5	7C	0
	N185.6	300.7	10G	1	428.9	10G	0	316.0	10C	1	374.4	7C	0
	N185.7	300.6	10G	1									
	N185.8	300.6	10G	1									
	N185.9	300.7	10G	1									
	N185.10	300.6	10G	1									
	N185.11	300.6	10G	1									
	N185.12	300.6	10G	1									
	N185.13	300.6	10G	1									
	N185.14	300.6	10G	1									
	N185.15	300.6	10G	1									
	N185.16	300.6	10G	1									
	N185.17	300.6	10G	1									
	N185.18	300.6	10G	1									
	N185.19	300.7	10G	1									
	N185.20	300.5	10G	1									
V185/2nd	N306.1	300.5	10G	1#	428.9	10G	0	316.1	10C	1	374.3	7C	0
	N306.2	300.5	10G*	1	428.8	10G	0	315.9	10C	1	374.5	7C	0
	N306.3	300.6	10G	1	428.8	10G	0	316.0	10C	1	374.5	7C	0
	N306.4	300.6	10G	1	428.9	10G	0	316.0	10C	1	374.5	7C	0
	N306.5	300.5	10G	1	429.0	10G	0	316.0	10C	1	374.5	7C	0
	N306.6	300.6	10G	1	428.8	10G	0	316.0	10C	1	374.4	7C	0

V185/4th	N456.1	300.5	10G	1	428.8	10G	0	316.1	10C	1	374.4	7C	0
	N456.2	300.6	10G	1	429.0	10G	0	316.0	10C	1	374.4	7C	0
	N456.3	300.7	10G	1	428.8	10G	0	316.0	10C	1	374.4	7C	0
	N456.4	300.6	10G	1	428.9	10G	0	315.9	10C	1	374.5	7C	0
	N456.5	300.6	10G	1	428.9	10G	0	315.9	10C	1	374.5	7C	0
	N456.6	300.7	10G	1	428.9	10G	0	316.0	10C	1	374.5	7C	0
	N456.7	300.6	10G	1									
	N456.8	300.6	10G	1									
	N456.9	300.7	10G	1									
	N456.10	300.6	10G	1									
	N456.11	300.6	10G	1									
	N456.12	300.6	10G	1									
	N456.13	300.6	10G	1									
	N456.14	300.6	10G	1									
	N456.15	300.5	10G	1									
	N456.16	300.7	10G	1									
	N456.17	300.7	10G	1									
	N456.18	300.6	10G	1									
	N456.19	300.7	10G	1									
	N456.20	300.6	10G	1									
V113/1st	N113.1	354.8	9G*	0	428.9	10G*	0	314.0	8C	0	374.3	7C	0
	N113.2	354.7	9G	0	428.9	10G	0	314.1	8C	0	374.1	7C	0
	N113.3	354.7	9G	0	428.8	10G	0	314.1	8C	0	374.1	7C	0
	N113.4	354.7	9G	0	428.9	10G	0	313.9	8C	0	374.6	7C	0
	N113.5	354.8	9G	0	429.0	10G	0	313.9	8C	0	374.5	7C	0
	N113.6	354.8	9G	0	428.9	10G	0	314.0	8C	0	374.5	7C	0
V113/2nd	N281.1	355.7	10G	1	429.0	10G	0	314.1	8C	0	374.2	7C	0
	N281.2	355.7	10G	1	428.9	10G	0	314.0	8C	0	374.1	7C	0
	N281.3	355.7	10G	1	428.9	10G	0	314.1	8C	0	374.2	7C	0
	N281.4	355.8	10G	1	428.8	10G	0	314.0	8C	0	374.4	7C	0
	N281.5	354.7	9G	0	428.8	10G	0	314.0	8C	0	374.5	7C	0
	N281.6	354.8	9G	0	428.9	10G	0	314.0	8C	0	374.4	7C	0
V115/1st	N115.1	355.7	10G	1	428.8	10G	0	314.0	8C	0	374.3	7C	0
	N115.2	355.7	10G	1	428.9	10G	0	314.0	8C	0	374.2	7C	
	N115.3	355.7	10G	1	429.0	10G	0	314.0	8C	0	374.2	7C	
	N115.4	355.7	10G	1	428.9	10G	0	314.0	8C	0	374.5	7C	0
	N115.5	355.7	10G	1	429.0	10G	0	314.0	8C	0	374.5	7C	0
	N115.6	355.7	10G	1	428.8	10G	0	313.9	8C	0	374.5	7C	0

V115/2nd	N282.1	355.7	10G	1	428.9	10G	0	314.1	8C	0	374.3	7C	0
	N282.2	355.7	10G	1	428.9	10G	0	314.0	8C	0	374.3	7C	0
	N282.3	355.8	10G	1#	428.8	10G	0	314.0	8C	0	374.2	7C	0
	N282.4	355.7	10G	1	428.9	10G	0	313.9	8C	0	374.5	7C	0
	N282.5	355.7	10G	1	428.9	10G	0	314.0	8C	0	374.4	7C	0
	N282.6	355.7	10G	1	428.8	10G	0	314.0	8C	0	374.5	7C	0
Cc167													
V64/1st	N64.1	352.9	10G*	1				316.0	10C	1	373.4	6C	1
	N64.2	352.8	10G	1				316.0	10C	1	373.4	6C	1
	N64.3	352.8	10G	1				316.0	10C	1	373.3	6C	1
	N64.4	352.7	10G	1				315.9	10C	1	373.7	6C	1
	N64.5	352.8	10G	1				315.9	10C	1	373.6	6C	1
	N64.6	352.7	10G	1				316.0	10C	1	373.6	6C	1
V64/2nd	N257.1	352.8	10G	1				316.1	10C	1	373.4	6C	1
	N257.2	352.7	10G	1				316.1	10C	1	373.3	6C	1
	N257.3	352.7	10G	1				316.0	10C	1	373.3	6C	1
	N257.4	352.8	10G	1				315.9	10C	1	373.6	6C	1
	N257.5	352.8	10G	1				316.0	10C	1	373.6	6C	1
	N257.6	352.8	10G	1				316.0	10C	1	373.5	6C	1
V64/3rd	N348.1	352.8	10G	1				316.1	10C	1	373.4	6C	1
	N348.2	352.7	10G	1				316.0	10C	1	373.4	6C	1
	N348.3	352.7	10G	1				316.1	10C	1	373.3	6C	1
	N348.4	352.8	10G	1				316.0	10C	1	373.6	6C	1
	N348.5	352.8	10G	1				316.0	10C	1	373.6	6C	1
	N348.6	352.7	10G	1				316.0	10C	1	373.6	6C	1
V117/1st	N117.1	352.8	10G	1				316.1	10C*	1#	373.5	6C*	1#
	N117.2	352.8	10G	1				316.1	10C	1	373.3	6C	1
V117/2nd	N284.1	352.8	10G	1				316.1	10C	1	373.3	6C	1
	N284.2	352.8	10G	1				316.0	10C	1	373.4	6C	1
	N284.3	352.7	10G	1				316.0	10C	1	373.3	6C	1
	N284.4	352.8	10G	1				316.0	10C	1	373.5	6C	1
	N284.5	352.8	10G	1				315.9	10C	1	373.7	6C	1
	N284.6	352.7	10G	1				315.9	10C	1	373.7	6C	1
V117/3rd	N332.1	352.8	10G	1				316.1	10C	1	373.4	6C	1
	N332.2	352.7	10G	1				316.1	10C	1	373.3	6C	1
	N332.3	353.8	10G	1				316.1	10C	1	373.3	6C	1
	N332.4	352.8	10G	1				316.0	10C	1	373.6	6C	1
	N332.5	352.8	10G	1				315.9	10C	1	373.6	6C	1

	N332.6	352.8	10G	1				315.9	10C	1	373.7	6C	1
V117/4th	N417.1	352.8	10G	1				315.0	9C*	0#	373.4	6C	1
	N417.2	352.7	10G	1				315.0	9C	0	373.4	6C	1
	N417.3	351.8	9G*	0				315.1	9C	0	373.4	6C	1
	N417.4	351.8	9G	0				315.1	9C	0	373.5	6C	1
	N417.5	351.8	9G	0				315.0	9C	0	373.6	6C	1
	N417.6	351.8	9G	0				314.9	9C	0	373.6	6C	1
V124/1st	N124.1	352.8	10G	1				316.0	10C	1	373.4	6C	1
	N124.2	352.8	10G	1				316.0	10C	1	373.3	6C	1
	N124.3	352.8	10G	1				316.0	10C	1	373.4	6C	1
	N124.4	352.8	10G	1				315.9	10C	1	373.7	6C	1
	N124.5	352.8	10G	1				316.0	10C	1	373.6	6C	1
	N124.6	352.8	10G	1				316.0	10C	1	373.6	6C	1
V124/2nd	N290.1	352.8	10G	1				316.0	10C	1	373.4	6C	1
	N290.2	352.8	10G	1				315.9	10C	1	373.4	6C	1
	N290.3	352.8	10G	1				316.1	10C	1	373.3	6C	1
	N290.4	352.8	10G	1				315.9	10C	1	373.6	6C	1
	N290.5	352.7	10G	1				315.9	10C	1	373.7	6C	1
	N290.6	352.8	10G	1				315.9	10C	1	373.6	6C	1
V124/3rd	N336.1	352.8	10G	1				316.1	10C	1	373.3	6C	1
	N336.2	352.7	10G	1				316.0	10C	1	373.3	6C	1
	N336.3	352.7	10G	1				315.9	10C	1	373.4	6C	1
	N336.4	352.8	10G	1				315.9	10C	1	373.6	6C	1
	N336.5	352.8	10G	1				316.0	10C	1	373.6	6C	1
	N336.6	352.8	10G	1				316.0	10C	1	373.6	6C	1
cc23													
V69/1st	Non-carrier												
V69/2nd	N258.1	352.8	10G	1				318.0	12C	0#	374.3	7C	0
	N258.2	352.8	10G	1				318.0	12C	0	374.4	7C	0
	N258.3	352.8	10G	1				318.0	12C	0	374.3	7C	0
	N258.4	352.7	10G	1				317.9	12C	0	374.5	7C	0
	N258.5	352.8	10G	1				318.0	12C	0	374.5	7C	0
	N258.6	352.8	10G	1				318.0	12C	0	374.5	7C	0
V69/3rd	No sample												
V69/4th	N431.1	352.8	10G	1				319.0>318.1(1.2)	13C	1#	374.3	7C	0
	N431.2	352.8	10G	1				318.0>319.0(1.0)	12C	0	374.3	7C	0

	N431.3	352.8	10G	1				318.0>318.9(1.1)	12C	0	374.4	7C	0
	N431.4	352.8	10G	1				319.0>317.9(1.1)	13C	1	374.4	7C	0
	N431.5	352.8	10G	1				318.9>318.0(1.1)	13C	1	374.5	7C	0
	N431.6	352.8	10G	1				318.9>317.9(1.2)	13C	1	374.6	7C	0
V93/1st	Non-carrier												
V93/2nd	N264.1	352.8	10G	1				316.1	10C	1	374.3	7C	0
	N264.2	352.8	10G	1				316.1	10C	1	374.2	7C	0
	N264.3	352.6	10G	1				316.1	10C	1	374.3	7C	0
	N264.4	352.6	10G	1				315.9	10C	1	374.6	7C	0
	N264.5	352.7	10G	1				315.9	10C	1	374.6	7C	0
	N264.6	352.7	10G	1				315.9	10C	1	374.6	7C	0
V93/3rd	N359.1	352.5	10G	1				316.1	10C	1	374.3	7C	0
	N359.2	352.7	10G	1				316.1	10C	1	374.3	7C	0
	N359.3	352.6	10G	1				316.1	10C	1	374.3	7C	0
	N359.4	352.8	10G	1				315.9	10C	1	374.5	7C	0
	N359.5	352.7	10G	1				315.9	10C	1	374.6	7C	0
	N359.6	352.6	10G	1				315.9	10C	1	374.6	7C	0
								316.1	10C	1	374.3	7C	0
V96/1st	Non-carrier												
V96/2nd	N259.1	352.8	10G	1				318.1	12C	0	374.2	7C	0
	N259.2	352.7	10G	1				318.1	12C	0	374.2	7C	0
	N259.3	352.8	10G	1				315.1	9C	0	374.2	7C	0
	N259.4	352.7	10G	1#				317.8	12C	0	374.6	7C	0
	N259.5	352.7	10G	1				318.0	12C	0	374.6	7C	0
	N259.6	352.7	10G	1				316.0	10C	1	374.6	7C	0
V96/3rd	N370.1	353.7	11G	0				316.1	10C	1	374.3	7C	0
	N370.2	351.7	9G*	0				317.1>316.1(1.2)	11C	0	374.3	7C	0
	N370.3	351.7	9G	0				316.0	10C	1	374.3	7C	0
	N370.4	353.7	11G	0#				316.0	10C	1	374.6	7C	0
	N370.5	353.7	11G	0#				315.9	10C	1	374.6	7C	0
	N370.6	353.8	11G	0				316.0	10C	1	374.6	7C	0
V96/4th	N445.1	356.6>355.6	14G*	0				315.2	9C	0#	374.4	7C	0
	N445.2	355.6>354.6	13G*	1				315.0	9C	0	374.3	7C	0
	N445.3	355.6>354.6	13G*	1				315.0	9C	0	374.3	7C	0
	N445.4	354.7>353.6	12G*	0				315.0	9C	0	374.6	7C	0
	N445.5	353.7	11G	0				315.0	9C	0	374.5	7C	0
	N445.6	354.6	12G	0#				314.9	9C	0	374.6	7C	0

V222/1st	N222.1	352.8	10G	1				317.9	12C*	0#	374.4	7C*	0
	N222.2	352.7	10G	1				318.1	12C	0	374.3	7C	0
	N222.3	352.8	10G	1				318.0	12C	0	374.2	7C	0
	N222.4	352.9	10G	1				317.9	12C	0	374.5	7C	0
	N222.5	352.8	10G	1				318.0	12C	0	374.5	7C	0
	N222.6	352.8	10G	1				318.0	12C	0	374.4	7C	0
V222/2nd	N309.1	352.8	10G	1				318.0	12C	0	374.3	7C	0
	N309.2	352.8	10G	1				318.0	12C	0	374.3	7C	0
	N309.3	352.8	10G	1				318.1	12C	0	374.2	7C	0
	N309.4	352.8	10G	1				317.9	12C	0	374.6	7C	0
	N309.5	352.8	10G	1				317.9	12C	0	374.6	7C	0
	N309.6	352.7	10G	1				317.9	12C	0	374.4	7C	0
V222/3rd	N391.1	352.9	10G	1				318.0	12C	0	374.3	7C	0
	N391.2	352.8	10G	1				318.1	12C	0	374.2	7C	0
	N391.3	352.7	10G	1				318.0	12C	0	374.3	7C	0
	N391.4	352.7	10G	1				318.0	12C	0	374.5	7C	0
	N391.5	352.7	10G	1				317.9	12C	0	374.5	7C	0
	N391.6	352.7	10G	1				318.0	12C	0	374.5	7C	0
V222/4th	N459.1	352.7	10G	1				318.0	12C	0	374.4	7C	0
	N459.2	352.7	10G	1				318.0	12C	0	374.3	7C	0
	N459.3	352.8	10G	1				318.1	12C	0	374.2	7C	0
	N459.4	352.8	10G	1				317.9	12C	0	374.5	7C	0
	N459.5	352.7	10G	1				317.9	12C	0	374.5	7C	0
	N459.6	352.7	10G	1#				317.9	12C	0	374.6	7C	0
cc													
V176/1st	N176.1	304.6	10G*	1	427.9	9G*	1	316.0	10C*	1#	376.2	9C*	1#
	N176.2	304.6	10G	1	428.4	9G	1	316.1	10C	1	376.1	9C	1
	N176.3	304.5	10G	1#	428.1	9G	1	316.1	10C	1	376.1	9C	1
	N176.4	304.6	10G	1	428.3	9G	1	316.0	10C	1	376.2	9C	1
	N176.5	304.5	10G	1	428.3	9G	1	315.9	10C	1	376.4	9C	1
	N176.6	304.6	10G	1#	428.2	9G	1	316.0	10C	1	376.4	9C	1
	N176.7	304.6	10G	1									
	N176.8	304.6	10G	1									
	N176.9	304.6	10G	1									
	N176.10	304.5	10G	1									
	N176.11	304.7	10G	1									
	N176.12	304.5	10G	1									
	N176.13	304.7	10G	1									

	N176.14	304.6	10G	1									
	N176.15	304.6	10G	1									
	N176.16	304.6	10G	1									
	N176.17	304.6	10G	1									
	N176.18	304.6	10G	1									
	N176.19	304.6	10G	1									
	N176.20	304.6	10G	1									
V176/2nd	N318.1	304.5	10G	1	428.4	9G	1	316.1	10C	1	376.2	9C	1
	N318.2	304.6	10G	1	428.3	9G	1	316.1	10C	1	376.1	9C	1
	N318.3	304.5	10G	1	428.3	9G	1	316.1	10C	1	376.1	9C	1
	N318.4	304.5	10G	1	428.4	9G	1	No PRODUCT			No PRODUCT		
	N318.5	304.6	10G	1	428.3	9G	1	316.0	10C	1	376.3	9C	1
	N318.6	304.5	10G	1#	428.3	9G	1	315.9	10C	1	376.4	9C	1
V176/3rd	N399.1	304.6	10G	1	428.3	9G	1	316.0	10C	1	376.1	9C	1
	N399.2	304.6	10G	1	428.2	9G	1	316.1	10C	1	376.1	9C	1
	N399.3	304.5	10G	1	428.1	9G	1	316.0	10C	1	376.1	9C	1
	N399.4	304.6	10G	1	428.3	9G	1	316.0	10C	1	376.2	9C	1
	N399.5	304.6	10G	1	428.3	9G	1	316.0	10C	1	376.4	9C	1
	N399.6	304.5	10G	1	428.3	9G	1	315.9	10C	1	376.4	9C	1
V176/4th	N408.1	304.5	10G	1	428.2	9G	1	316.1	10C	1	376.1	9C	1
	N408.2	304.5	10G	1	428.3	9G	1	316.1	10C	1	376.2	9C	1
	N408.3	304.6	10G	1	428.1	9G	1	316.1	10C	1	376.0	9C	1
	N408.4	304.6	10G	1	428.4	9G	1	315.9	10C	1	376.4	9C	1
	N408.5	304.6	10G	1	428.3	9G	1	315.9	10C	1	376.5	9C	1
	N408.6	304.6	10G	1	428.2	9G	1	315.9	10C	1	376.4	9C	1

[1]Fragment size is given for the primary peak where the ratio of primary to secondary peak was >1.2. Where the ratio was <1.2 then the sizes of both peaks are given with the ratio in brackets and the size of the largest peak was utilised for determing tract length; [2]Asterisks indicates that the tract length was confirmed by sequencing. [3]Expression states were determined by Western blotting for marked (#) isolates. For genes with tracts within the reading frame, the coding was 2 for ON and 0 for OFF. Shading indicates genes that have different GeneScan sizes/tract lengths relative to the majority type in the first time point.

Table A4. Overview of Expression States of for the Phase Variable Genes

Repeat Tract	*fetA*[1]				
	cc174	cc60	cc23	cc167	cc32
	F3-7	F1-7	F4-1	F1-3	F5-1
6C(modified)[2]		2 (4)			
8C	0 (2)				0 (1)
9C	2 (2)				2 (3)
10C	2 (1)			2 (2)	2 (1)
11C	1 (1)		1 (1)	1 (1)	
12C	0 (1)		0 (2)	0 (3)	
13C			0 (2)	0 (1)	
14C					

	porA[1]				
	cc174	cc60	cc23	cc167	cc32
	P1.21,16	P1.5,2	P1.5-1,10-1	P1.5-1,10-1	P1.19,15
10G			1 (1)	1	
11G	2 (1)	0?	2 (1)	2 (3)	2 (4)
12G	2 (2)	1 (1)	2 (2)	2 (2)	2 (1)
13G	2 (1)	2 (3)	1 (1)		2
14G	1 (1)	2 (1)	1 (1)		
15G	1		1 (1)		
16G	0 (1)		1 (1)		
>17G	0 (1)				

	opc[1]				
	cc174	cc60	cc23	cc167	cc32
8C		0 (1)			
9C	0 (3)				
10C	0 (2)				0
11C	1 (1)				
12C	2 (2)	2 (1)	2 (1)	2 (1)	
13C		2 (1)	2 (2)	2 (2)	2 (1)
14C		1 (1)	1 (1)	1 (2)	1 (1)
15C		1 (1)	1 (1)	1 (1)	0 (1)

>15C			0 (2)	0 (2)
			nadA[1]	
	cc174	cc32		
9TAAA	0 (1)	0 (1)		
10TAAA				
11TAAA	1			
12TAAA	0 (4)			
13TAAA	2 (1)			
14TAAA	2 (1)			
			hpuA[1]	
	cc174	cc60	cc167/cc23	cc32
9G	0	0	0	
10G	2(1)	2(4)	2(2)	2(3)
11G	0(1)	0	0(2)	
12G	0(1)		0(1)	
13G	2(3)		2	
14G	0(1)		0	
15G	0			

[1]Expression states were determined on the basis of Western blots probed with antigen specific antisera. For promoter located repeats (i.e. *fetA, porA and opc*), three relative expression states were coded as follows:- 2, high; 1, intermediate; 0, low or undetectable. For tracts in the reading frame (i.e. *hpu*) expression states were coded as:- 2, ON; 0, OFF. numbers in brackets are the numbers of samples analysed;[2] the tract in this gene is 6G but the spacing of the promoter elements is equivalent to a tract with a high level expression.

Table A5. Quantification of Protein Expression

Data source		Repeat Number										
Western blots[2]	Strain	6	7	8	9	10	11	12	13	14	15	>15
						FetA[1]						
Fig.2$	cc174			0.0(2)	0.8(1)	1.0(1)		0.1(1)				
F2[3]	cc174				1.0(1)							
F3[3]	cc174											
Fig.S3$	cc60	0.9(4)										
Fig.S4$	cc167					1.0(1)		0.1(3)	0.0(1)			
Fig.S5$	cc23						1.0(1)	0.2(2)	0.1(2)			
Fig.S6$	cc32			0.1(1)	1.2(3)	1.0(1)						
F2	cc167					1.0(1)	0.3(1)					
						PorA						
Fig.2$	cc174						1.0(1)	0.9(2)	0.6(1)	0.6(1)		0.3(2)
P2[3]	cc174						1.0(1)	1.1(1)		0.7(1)		0.2(1)
Fig.S3$	cc60							0.4(1)	0.7(3)	0.6(1)		
P2[3]	cc60								1.1(3)			
P3[3]	cc60							0.2(2)	1.1(2)			
Fig.S4$	cc167						1.1(3)	1.1(2)				
Fig.S5£	cc32						1.0(3)					
Fig.S6$	cc32						1.0(1)	1.0(1)				
Fig.S7$	cc167/23					1.2(1)	1.0(2)	0.9(2)	0.5(1)	0.5(1)		
P3	cc23					0.8(1)	1.0(1)					
						Opc						
Fig.2$	cc174				0.0(2)	0.0(3)	0.6(1)	1.0(1)				
O2[3]	cc174				0.1(3)	0.1(2)	0.7(1)	1.0(1)				
Fig.S3$	cc60			0.0(1)				1.0(1)	0.7(1)	0.1(1)	0.1(1)	
Fig.S4$	cc 167							1.0(1)	0.7(1)	0.3(2)		
Fig.S6£	cc 32								1.0(1)	0.1(1)	0.0(1)	0.0(2)
Fig.S6$	cc167/23							1.0(1)	0.7(3)		0.0(2)	0.0(1)
						NadA						
Fig2$	cc174				0.0(1)			0.1(4)	0.7(1)	1.0(1)		
N2[3]	cc174				0.0(1)		0.6(1)	0.3(1)		1.0(1)		

[1]Fold expression levels are provided relative to the sample with the highest value and are an average of all samples with an identical tract length on that particular gel (n, number of samples of each type); [2]data from these blots has been adjusted for loading relative to RecA ($) or fHBP (£); [3]from data not shown.

Table A6. Expression States for Individual Phase Variable Genes

Gene	Expression State[1]	Time Point				Total (%)
		1st	2nd	3rd	4th	
Hpu	ON(2)	11	16	10	6	43(66%)
	OFF(0)	6	2	4	2	14(22%)
	Mix	1	3	2	2	8(12%)
HmbR	ON(2)	1	1	1	1	4(24%)
	OFF(0)	5	5	1	1	12(71%)
	Mix	0	0	1	0	1(5%)
PorA	High(2)	16	20	14	9	59(91%)
	Int(1)	2	0	0	0	2(3%)
	Low(0)	0	1	1	0	2(3%)
	Mix	0	0	1	1	2(3%)
PorA (11G Int)	High(2)	11	15	7	4	37(57%)
	Int(1)	5	4	6	5	20(31%)
	Low(0)	0	1	0	0	1(2%)
	Mix	2	1	3	1	7(11%)
FetA[2]	High(2)	9	9	3	1	22(42%)
	Int(1)	2	3	1	2	8(15%)
	Low(0)	1	2	3	4	10(19%)
	Mix	1	2	7	2	12(23%)
Opc	High(2)	2	4	4	2	12(18%)
	Int(1)	7	1	2	0	10(15%)
	Low(0)	7	12	8	7	34(52%)
	Mix	2	4	2	1	9(14%)
NadA	High(2)	2	0	0	0	2(7%)
	Int(1)	1	0	0	0	1(4%)
	Low(0)	5	6	6	4	21(78%)
	Mix	0	2	1	0	3(11%)
NalP	ON(1)	13	13	11	5	42(65%)
	OFF(0)	5	7	5	4	21(32%)
	Mix	0	1	0	1	2(3%)

MspA	ON(1)	4	4	4	2	14(22%)
	OFF(0)	14	17	12	8	51(78%)

[1]Strains are considered to be in a particular expression state in a specific sample if 80% or more of the isolates are in the same expression state otherwise a time point is defined as mixed. [2]Excludes the data for the non-variable FetA of the cc60 isolates.

Table A7. Transcriptional Expression Levels for PorA Phase Variants

Volunteer	Isolate (repeat no.)	Individual Experiment[1] A	B	C	D	E	Average	sd	cv
				cc174					
V54	**N54.1 (14G)**	0.6	0.9	0.8	1.0	0.9	0.8	0.1	0.2
V58	**N58.1 (11G)**	1.4	1.4	1.6	2.5	2.1	1.8	0.5	0.3
V59	**N59.1 (12G)**	2.1	2.1	2.5	2.9	2.6	2.4	0.4	0.2
V59	**N352.1(12G)**	4.6	1.7	1.9	2.8	2.2	2.6	1.2	0.4
V58	**N240.1(12G)**	2.5	2.6	1.6	3.3	1.9	2.4	0.7	0.3
V54	**N343.1(17G)**	0.3	0.1	0.1	0.2	0.2	0.2	0.1	0.4
				cc60					
V114	**N114.1(12G)**	1.1	0.2	0.2	0.4	0.2	0.4	0.4	1.0
V114	**N330.1(13G)**	2.1	0.5	0.4	0.9	0.5	0.9	0.7	0.8

[1]Values are relative quantification (RQ) adjusted to a control (H44/76 *porA* 18 bp spacer with a G12 Tract) and with GDH as an internal loading control.

Table A8. Numbers of each phasotype at different time points in persistent carriers of four groups of meningococcal strains

Phasotype Score	Phasotype	Time Point 1st	2nd	3rd	4th
cc174 (FetA-Opc-NadA-Hpu-PorA-NalP-MspA)					
10	2-1-2-2-1-2-0	0	1	0	0
10	2-0-2-2-2-2-0	5	1	0	0
9	2-1-0-2-2-2-0	4	0	0	0
8	2-1-2-0-1-2-0	6	0	0	0
8	2-0-2-2-0-2-0	0	3	0	0
8	2-0-2-0-2-2-0	1	1	0	0
8	2-0-0-2-2-2-0	17	18	14	0
7	2-1-2-0-0-2-0	0	1	0	0
7	2-1-0-0-2-2-0	2	0	0	0
7	2-0-1-0-2-2-0	6	0	0	0
7	1-0-2-2-2-0-0	0	0	3	0
7	1-0-0-2-2-2-0	0	0	4	0
6	2-0-2-0-2-0-0	0	0	1	0
6	2-0-0-2-2-0-0	0	6	0	3
6	2-0-0-2-0-2-0	0	1	0	0
6	2-0-0-0-2-2-0	7	7	6	6
6	0-0-0-2-2-2-0	0	1	0	6
5	1-0-0-2-2-0-0	0	0	0	2
5	0-1-0-2-0-0-2	0	0	1	0
4	2-0-0-0-2-0-0	0	0	2	0
4	0-0-0-2-2-0-0	0	0	0	1
4	0-0-0-0-2-2-0	0	0	1	6
2	2-0-0-0-0-0-0	0	0	1	0
1	0-1-0-0-0-0-0	0	0	1	0
0	0-0-0-0-0-0-0	0	0	2	0
	Total	48	40	36	24
cc60 (FetA-Opc-HmbR-Hpu-PorA-NalP-MspA)					
8	2-2-2-0-2-0-0	0	0	2	0
8	2-2-0-2-2-0-0	0	11	5	0
8	2-0-0-2-2-2-0	6	6	0	6
7	2-2-0-2-1-0-0	0	1	0	0
7	2-1-0-2-2-0-0	5	4	1	0
6	2-2-0-0-2-0-0	9	8	4	0
6	2-1-0-2-1-0-0	2	0	0	0
6	2-0-0-2-2-0-0	0	0	0	0
5	2-2-0-0-1-0-0	4	0	0	0
5	2-1-0-0-2-0-0	4	0	0	0

	Total	30	30	12	6
cc167/cc23 (FetA-Opc-Hpu-PorA-NalP-MspA)					
12	2-2-2-2-2-2	1	0	0	0
11	2-1-2-2-2-2	3	1	0	0
11	1-2-2-2-2-2	0	3	2	0
10	1-2-2-1-2-2	0	1	0	0
10	1-1-2-2-2-2	4	0	3	0
9	1-2-2-2-2-0	0	0	2	2
9	0-1-2-2-2-2	6	8	9	0
8	1-2-2-1-2-0	0	0	0	2
8	1-1-2-2-2-0	0	2	1	0
8	0-2-2-2-2-2	0	5	4	0
8	0-2-2-2-2-0	0	0	3	0
8	0-2-2-2-0-2	0	0	0	2
7	1-2-2-2-0-0	4	0	0	3
7	1-0-2-2-2-0	0	1	0	0
6	1-2-0-1-2-0	0	0	1	0
6	1-1-2-2-0-0	0	1	0	0
6	1-1-0-2-0-2	0	0	0	1
6	0-2-2-2-0-0	0	0	0	1
6	0-0-2-2-2-0	0	4	0	0
5	1-1-0-1-2-0	0	0	1	0
5	1-0-2-2-0-0	2	16	6	5
5	0-2-0-1-2-0	0	0	1	0
5	0-1-0-2-0-2	0	0	0	3
4	0-2-0-2-0-0	0	0	0	2
4	0-1-0-1-2-0	0	0	2	0
3	0-2-0-1-0-0	0	0	0	2
3	0-0-2-1-0-0	0	0	0	1
2	0-1-0-1-0-0	0	0	1	0
	Total	20	42	36	24
cc32 (FetA-Opc-NadA-Hpu-PorA-NalP-MspA)					
12	2-2-0-2-2-2-2	1	2	0	0
11	2-1-0-2-2-2-2	1	1	1	1
10	2-0-0-2-2-2-2	4	2	2	2
9	0-1-0-2-2-2-2	0	0	3	3
6	2-0-0-2-2-0-0	0	1	0	0
	Total	6	6	6	6

Table A9. Antigen-specific antibody concentrations for individual meningococcal carriers

Volunteer/Clone type/PorA type/Other[1]	Antigen/Antibody type	Antibody Concentrations/SBA Titres 1st	2nd	3rd	4th	Change
Persistent/Interrupted						
V51/cc174 /P1.21,16	P1.21,16/IgG	9.32	23.58	76.08	25.07	2.7
	Other P1/IgG	0.44	0.59	1.80	0.91	-
	P1.7,16/IgG	8.97	4.46	12.09	10.22	1.1
	Other P1/IgG	1.54	3.15	6.75	3.36	-
	CapY/IgG	0.9	ND	ND	8.6	9.8
	CapY/SBA	8192	4096	8192	4096	0.5
V58/cc174 /P1.21,16	P1.21,16/IgG	32.75	40.69	29.01	9.12	0.3
	Other P1/IgG	7.57	8.53	5.87	2.59	-
	P1.7,16/IgG	1.34	2.28	1.09	1.58	1.2
	Other P1/IgG	23.01	52.08	31.58	26.35	-
	CapY/IgG	3.5	ND	ND	2.0	0.6
	CapY/SBA	4096	4096	2048	2048	0.5
	fHBP (B)[3]	1.29	23.9	33.04	ND	26.0
V59/cc174 /P1.21,16	P1.21,16/IgG	0	0	0	0	-
	Other P1/IgG	0.06	1.36	2.03	0.4	-
	P1.7,16/IgG	0	ND	ND	0.2	-
	Other P1/IgG	2.88	ND	ND	2.84	-
	CapY/IgG	20.5	ND	ND	6.5	0.3
	CapY/SBA	4096	8192	4096	2048	0.5
V88/cc174 /P1.21,16	P1.21,16/IgG	0.02	0	2.07	4.13	179.3
	Other P1/IgG	0	11.06	0	0.09	-
	P1.7,16/IgG	0.51	0	0	1.45	2.8
	Other P1/IgG	0.51	0	3.09	0.64	-
	CapY/IgG	0.9	ND	ND	27.5	31.2
	CapY/SBA	256	16384	16384	4096	16.0
V114	P1.5,2/IgG	3.47	5.43	1.31	ND	0.4
	P1.5,2-2/IgG	3.01	7.05	1.63	ND	0.5
	Other P1/IgG	2.77	5.93	1.01	ND	-

V115	P1.5,2/IgG	3.74	7.91	7.31	ND	2.0
	P1.5,2-2/IgG	2.01	4.27	3.49	ND	1.7
	Other P1/IgG	9.01	10.15	9.54	ND	-
V117/cc167 /P1.5-1,10-1	P1.5-2,10/IgG	2.18	2.68	2.78	3.11	1.4
	P1.5,2/IgG	1.18	1.05	0.96	1.47	1.2
	Other P1/IgG	0.73	0.42	0.39	0.15	-
	CapY/IgG	11.3	ND	ND	12.6	1.1
	CapY/SBA	4096	4096	4096	2048	0.5
V96/cc23/2nd /P1.5-1,10-1	P1.5-2,10/IgG	ND	0.95	4.28	3.05	3.2
	P1.5,2/IgG	ND	1.92	1.28	1.95	1.0
	Other P1/IgG	ND	1.25	0.49	1.96	-
	CapY/IgG	ND	11.2	13.5	7.8	0.7
	CapY/SBA	ND	4096	2048	1024	0.3
V134						
V222/cc23 /P1.5-1,10-1	P1.5-2,10/IgG	1.52	1.90	1.86	3.32	2.2
	P1.5,2/IgG	1.24	0.23	0.37	1.46	1.2
	Other P1/IgG	1.58	0.26	0.38	2.38	-
	CapY/IgG	14.2	ND	ND	9.9	0.7
	CapY/SBA	4096	2048	2048	1024	0.3
V176/cc32 /P1.19,15	P1.19,15/IgG	0	0.08	0.25	0.27	-
	P1.19-1,15-11/IgG	0	0.13	0.32	0.42	-
	Other P1/IgG	1.02	0.76	0.54	0.38	-
Combined (-V88)	PorA	NR	NR	NR	NR	2.1 (SD 1.2)
	CapY/IgG	6.3	ND	ND	6.9	1.0 (SD 3.7)
	CapY/SBA	4705	4096	3250	1825	0.4 (SD 0.1)
Acquisition of Carriage						
V81/cc174/4th /P1.21,16	P1.7,16/IgG	ND	ND	0.01	1.59	159
	Other P1/IgG	ND	ND	0.33	1.69	

	CapY/IgG	ND	ND	2.2	47.8	21.9
	CapY/SBA	ND	1025	512	2048	2.0
V50/cc60/2nd/ P1.5,2	P1.5,2/IgG	0.37	ND	2.05	12.07	32.6
	P1.5,2-2/IgG	0.11	0.07	0.56	3.16	28.7
	Other P1/IgG	0.49	0.36	0.33	0.52	-
V215/cc174/2nd /P1.21,16	CapY/IgG	0.3	3.0	ND	ND	9.8
	CapY/SBA	512	2048	ND	ND	4.0
V70/cc1157/3rd/ 4thCR	P1.7,16/IgG	0.35	0.20	3.82	1.87	5.3
	Other P1/IgG	0.68	0.97	1.71	2.19	-
	fHBP (B)[3]	2.33	42.85	327.25	ND	141.0
V100/cc1157/3rd	P1.7,16/IgG	0.37	0.29	1.00	3.82	10.3
	Other P1/IgG	0.41	0.37	0.98	1.05	-
V69/cc23/2nd /P1.5-1,10-1	P1.5-2,10/IgG	1.02	0.53	ND	5.09	5.0
	P1.5,2/IgG	0.75	0.34	ND	1.72	2.3
	Other P1/IgG	0.54	0.27	ND	0.59	
	CapY/IgG	8.6	7.5	ND	38.1	4.5
	CapY/SBA	3	128	ND	1024	341
V83/cc23/2nd /P1.5-1,10-1	CapY/IgG	0.1	1.8	ND	ND	15.9
	CapY/SBA	3	8192	ND	ND	2731
	fHBP (A)[3]	2.91	8.22	ND	ND	3.0
V93/cc23/2nd /P1.5-1,10-1	P1.5-2,10/IgG	0.71	0.30	0.30	ND	0.4
	P1.5,2/IgG	0.37	0.26	0.30	ND	0.8
	Other P1/IgG	0.23	0.20	0.21	ND	-
	CapY/IgG	38.5	ND	29.8	ND	0.8
	CapY/SBA	16384	ND	16384	ND	1.0
	fHBP (A)[3]	12.52	10.09	6.72	ND	0.5
V186/cc22 P1.5-1,2-2/4th	P1.5,2/IgG	0.3	ND	0.3	11.3	37.6
	P1.5,2-2/IgG	0.02	ND	0.02	5.30	265.0
	Other P1/IgG	0.33	ND	0.46	8.62	-
	CapY/IgG	ND	ND	0.2	18.3	107.8
	CapY/SBA	3	ND	128	4096	1032
V209/cc103 /P1.5-1,10-46/3rd	CapY/IgG	ND	0.1	ND	7.0	70.0
	CapY/SBA	ND	256	8192	4096	16.0

		Pre-Colonisation		Post-Colonisation		Fold
Combined	PorA	NR		NR		8.2 (SD 6.3)
	CapY/IgG	0.9		10.4		13.6 (SD 35.3)
	CapY/SBA	164		3710		19.8 (SD 544)
Clearance						
V52/cc174 /P1.21,16/4th	P21,16/IgG	15.33	2.34	8.76	ND	0.6
	P1.7,16/IgG	0	ND	15.3	ND	-
	Other P1/IgG	19.9	5.63	2.17	ND	
	CapY/IgG	ND	ND	13.1	5.9	(0.5)
	CapY/SBA	4096	ND	2048	256	0.1
V112/cc1157 /P1.21-7,16/4th	P1.7,16/IgG	10.59	ND	8.23	7.70	0.7 (0.9)
	Other P1/IgG	0.41	ND	0.21	0.10	
V43/cc174 /P1.21,16/4th	P1.21,16/IgG	1.35	2.17	8.26	1.17	0.9 (0.1)
	Other P1/IgG	3.29	1.72	1.23	0.27	
	P1.7,16/IgG	1.95	1.74	5.36	8.86	3.0 (1.2)
	Other P1/IgG	7.14	6.10	2.49	3.22	
	CapY/IgG	0.3	ND	17.1	10.5	35.0 (0.6)
	CapY/SBA	1024	ND	4096	512	0.5 (0.1)
Clonal Replacement						
V54/cc174 /P1.21,16/4th (P1.18-1,3)	P1.21,16/IgG	40.45	11.48	19.62	12.70	0.3 (0.6)
	Other P1/IgG	0	0.13	0	0	
	P1.7,16/IgG	83.71	44.41	41.72	30.76	0.4 (0.7)
	Other P1/IgG	0	0	0.58	0.21	

	CapY/IgG	ND	ND	0.4	0.6	(1.5)
	CapY/SBA	3	ND	128	32	10.7 (0.3)
V138/cc174 /P1.21,16/4th (P1.5,2)	P1.21,16/IgG	0	0.17	0	0	-
	Other P1/IgG	0	0.47	0	0	
	P1.7,16/IgG	0	0.06	0.86	0.77	- (0.9)
	Other P1/IgG	0	0	0.18	0.07	
	CapY/IgG	ND	ND	2.2	2.1	(1.0)
	CapY/SBA	4096	ND	2048	2048	0.5 (1.0)
V64/cc167 /P1.5-1,10-1/4th (P1.17,9)	P1.5-2,10/IgG	0.48	2.21	17.18	8.04	21.7 (0.5)
	P1.5,2/IgG	0.36	0.19	1.30	1.50	4.2 (1.2)
	Other P1/IgG	0.33	0.04	0.36	0.24	-
	CapY/IgG	ND	ND	68.6	67.3	(1.0)
	CapY/SBA	ND	16384	8192	8192	(1.0)
V124/cc167 /P1.5-1,10-1/4th (P1.7,30)	P1.5-2,10/IgG	6.84	2.75	9.76	2.8	0.4 (0.3)
	P1.5,2/IgG	0	0	0	0.28	0
	Other P1/IgG	4.80	4.96	8.80	11.54	-
	CapY/IgG	ND	ND	6.4	4.4	(0.7)
	CapY/SBA	8192	ND	4096	ND	0.5
V140/ST6798 P1.5-1,10-26/4th (P1.22,14)	P1.5-2,10/IgG	0.61	ND	0.55	0.49	0.8 (0.9)
	P1.5,2/IgG	1.24	ND	1.12	1.37	1.1 (1.2)
	Other P1/IgG	1.15	ND	0.85	1.13	

		Titre (1st/2nd)	Titre (3rd)	Titre (4th)	Fold (1st/2nd to 3rd)	Fold (3rd to 4th)
Combined (CI + CR)	PorA	NR	NR	NR	2.5 (SD4.5)	0.6 (SD 0.4)

	CapY/IgG	ND	6.7	5.3	ND	0.7 (SD0.2)
	CapY/SBA	1465	2048	588	1.5 (SD17)	0.3 (SD0.5)
		Non-Carrier				
V41	PorA/Set1/All	ND	ND	ND	ND	ND
	PorA/Set2/All	0.3	ND	ND	ND	ND
	CapY/IgG	0.3	ND	ND	0.2	0.7
	CapY/SBA	3	3	ND	128	43
V42	PorA/Set1/All	0.18	0.09	0.18	ND	1.0
	PorA/Set2/All	ND	ND	ND	0	ND
V57	PorA/Set1/All	0.3	ND	ND	ND	ND
	CapY/IgG	0.1	ND	ND	0.2	1.6
	CapY/SBA	3	ND	ND	4	1.3
V87	PorA/Set1/All	0.45	0.32	0.41	ND	1.0
	CapY/IgG	0.2	ND	ND	0.2	1.2
	CapY/SBA	3	3	ND	3	1.0
V89	CapY/IgG	0.3	ND	ND	0.3	1.0
	CapY/SBA	3	3	ND	3	1.0
V97	CapY/IgG	0.2	ND	ND	0.2	0.9
	CapY/SBA	128	256	ND	512	4.0
V103	PorA/Set1/All	0.16	0.11	0.12	ND	0.8
V125	PorA/Set1/All	ND	ND	ND	0.94	1.1
V135	CapY/IgG	1.3	ND	ND	1.3	1.0
V150	CapY/IgG	9.5	ND	ND	8.4	0.9
V172	PorA/Set1/All	0.19	0.20	ND	0.21	1.0
	CapY/IgG	0.3	ND	ND	0.2	0.7
	CapY/SBA	3	ND	3	3	1.0
V196	CapY/IgG	0.2	ND	ND	0.2	0.7
	CapY/SBA	3	ND	8	3	1.0
V202	PorA/Set1/All	0.07	0.02	0.12	ND	1.7
	CapY/IgG	0.1	ND	ND	0.1	1.0
	CapY/SBA	3	3	ND	3	1.0

V225	PorA/Set1/All	0.41	0.60	0.47	ND	1.1
Combined	PorA	0.23	0.22	0.26	0.21	1.1 (SD 0.3)
	CapY/IgG(-V150)	0.2	ND	ND	0.4	1.0 (SD 0.4)
	CapY/SBA	5	7	5	9	2.0 (SD 15)

[1]Other, time of acquisition or clearance/clonal replacement (CR) are indicated plus the PorA type for CR strain; [2]Data for this carrier was removed from statistical analysis as the CapY IgG and SBA levels were high prior to acquisition indicated a faliure to detect carriage in the earlier time points rather than acquisition of carriage;[3]fHBP data for responses to either variant A or B (as indicated) was taken from Ala'Aldeen *et al.* (2010).

Table A10. Analysis of the specificity of serum antibodies for VR1 and VR2 of PorA

Volunteer/ Serum Sample (PorA type of carriage isolate)	Blocking mAb	Effect of Blocking (Fold change versus unblocked)[2]							
		PorA Variant							
		P1.5-1,2-2	**P1._,_**	**P1.19,15**	**P1.19-1,15-11**	**P1.5,2**	**P1.5-2,10**	**P1.21,16**	**P1.7-2,4**
V43/S426 (P1.21,16)	**Unblocked[1]**	395.6	73.3	337.8	378.1	652.4	256.7	2465.9	239.6
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	1.9	1.1	1.1	1.2	0.8	1.1	1.1	0.9
	P1.5	1.2	1.0	1.1	1.0	0.8	1.0	1.0	0.9
	P1.16	1.3	1.0	1.3	1.3	1.3	1.9	0.2	1.0
	P1.19	1.1	1.0	2.8	2.0	1.1	1.0	1.1	1.0
V51/S354 (P1.21,16)	**Unblocked[1]**	514.9	463.8	621.2	1337.2	573.1	2173.6	25368.5	509.7
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	2.1	1.0	0.7	0.9	1.3	1.1	1.2	0.5
	P1.5	1.7	1.0	0.8	1.1	0.5	1.3	1.3	0.6
	P1.16	0.6	0.8	0.6	0.9	0.6	1.4	0.2	0.5
	P1.19	0.4	0.6	1.5	0.6	0.5	0.9	1.0	0.4
V54/S54 (P1.21,16)	**Unblocked[1]**	1135.3	486.3	1168.3	910.3	762.9	1370.7	4209.5	340.1
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	0.9	0.7	0.7	0.6	0.7	0.7	0.7	0.6
	P1.5	1.1	0.9	1.0	1.0	0.9	1.0	1.0	0.8
	P1.16	0.9	0.9	0.6	0.6	0.7	0.8	0.2	0.9
	P1.19	1.0	0.9	2.0	1.9	0.9	0.9	1.0	0.9
V50/S425 (P1.5,2 to P1.5-1,10-1)	**Unblocked[1]**	1531.2	133.1	349.0	499.2	2513.9	213.9	284.6	246.8
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	0.1	1.0	0.9	0.9	0.1	0.8	0.9	0.9

	P1.5	0.1	0.7	0.5	0.5	0.4	0.4	0.5	0.6
	P1.16	1.0	1.1	1.1	1.0	1.1	1.2	0.5	1.0
	P1.19	1.0	0.8	1.2	0.7	1.0	0.6	0.6	0.7
V114/S238 (P1.5,2)	**Unblocked**[1]	3677.2	296.6	2310.0	3084.8	2233.0	1305.2	309.0	311.4
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	0.4	1.1	1.0	1.0	0.4	1.1	1.1	1.1
	P1.5	0.2	0.8	0.8	0.8	0.5	0.8	0.9	0.9
	P1.16	1.0	1.0	0.9	0.8	0.9	1.0	0.5	0.8
	P1.19	1.0	0.8	0.3	0.2	0.9	0.9	0.9	0.8
V64/S348 (P1.5-1,10-1)	**Unblocked**[1]	1134.9	283.8	437.7	419.4	924.3	4366.8	307.9	308.4
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	1.3	1.0	0.8	0.8	1.0	0.9	1.0	0.9
	P1.5	1.0	1.0	1.0	1.0	0.6	1.0	1.0	0.9
	P1.16	1.1	0.8	0.9	0.9	1.1	1.1	0.6	0.8
	P1.19	1.0	0.9	2.8	2.2	1.0	0.9	0.9	0.8
V176/S318 (P1.19,15)	**Unblocked**[1]	1895.9	614.8	421.7	454.8	854.9	1405.7	267.3	554.2
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	0.4	1.0	1.0	0.9	0.5	1.0	1.1	0.9
	P1.5	0.3	0.9	1.0	0.9	0.6	1.0	1.0	0.9
	P1.16	0.9	0.9	0.9	0.9	0.9	1.0	0.6	0.8
	P1.19	0.9	0.9	1.7	1.2	0.9	0.9	0.9	0.9
V131/S291 (P1.19-1,15-11)	**Unblocked**[1]	25159.0	1221.2	5620.6	6753.2	11347.8	8344.3	1126.9	3365.9
	Unblocked	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	P1.2	0.1	1.0	1.1	1.0	0.2	1.0	1.0	1.1
	P1.5	0.2	1.0	1.1	1.0	0.6	1.0	1.0	1.0
	P1.16	0.9	0.9	0.9	0.9	0.9	1.0	0.3	0.8
	P1.19	0.9	0.9	0.3	0.2	0.9	0.8	0.8	0.8

[1]This row shows the ‘uncorrected AU’ units for each variant without blocking; [2]A decrease of >2-fold is highlighted in dark grey while an increase of >2-fold is highlighted in light grey.