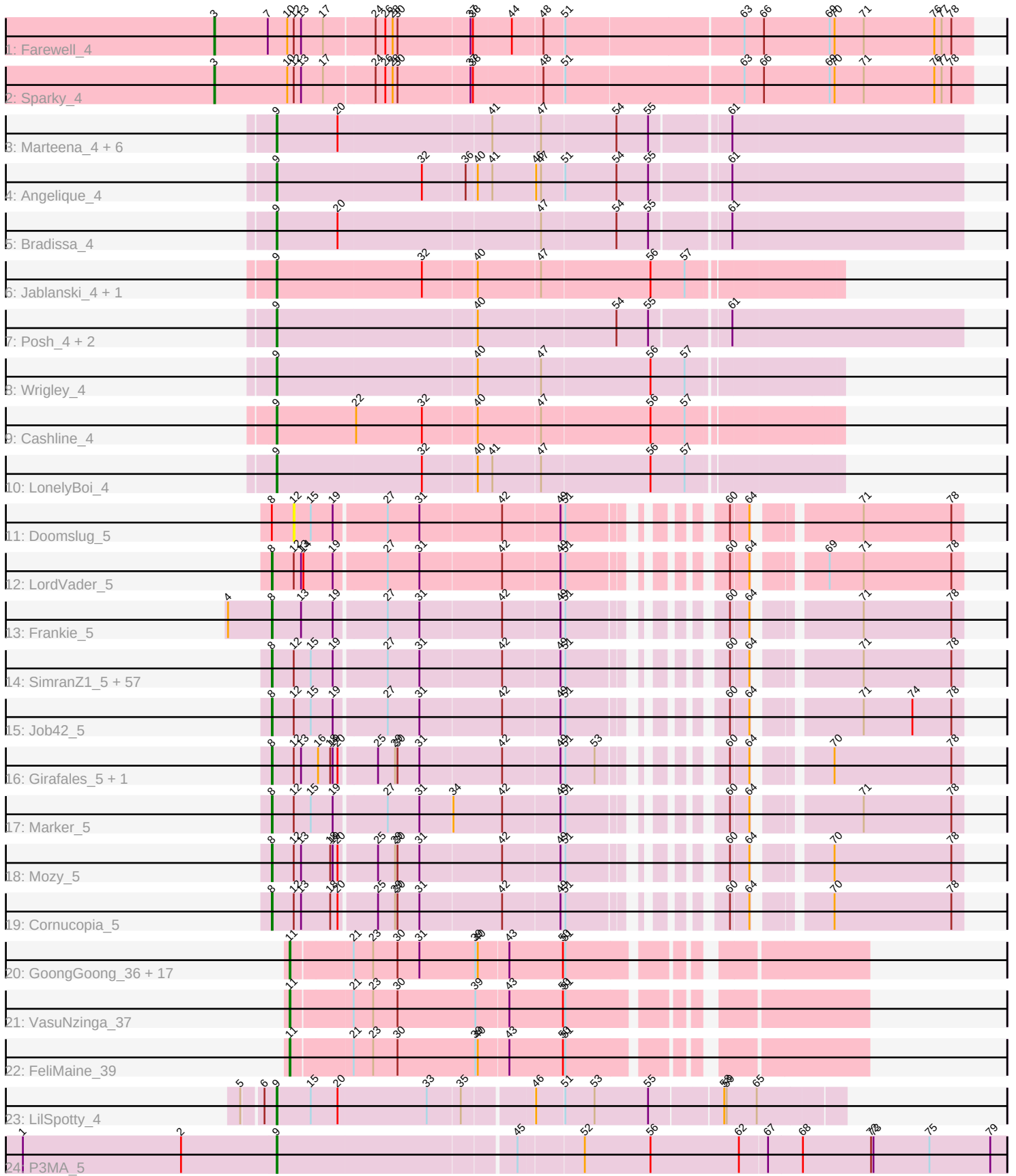


Pham 330668



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 330668 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330668 has 108 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Farewell_4
- Track 2 : Sparky_4
- Track 3 : Marteenä_4, EnalisNailo_4, EMSquaredA_4, Floral_4, BritBrat_4, Lilas_4, Pollux_4
- Track 4 : Angelique_4
- Track 5 : Bradissa_4
- Track 6 : Jablanski_4, Pytheas_4
- Track 7 : Posh_4, Confidence_4, BeeGee_4
- Track 8 : Wrigley_4
- Track 9 : Cashline_4
- Track 10 : LonelyBoi_4
- Track 11 : Doomslug_5
- Track 12 : LordVader_5
- Track 13 : Frankie_5
- Track 14 : SimranZ1_5, TootsiePop_5, Leozinho_5, Spikelee_5, Brookers_5, Plumbus_5, Alexphander_5, Coco12_5, BigPhil_5, Hegedechwinu_5, Bobi_5, Beakin_5, Kingsley_5, Lorde_5, RockyHorror_5, Ramsey_5, Seagreen_5, Boomer_5, Enby_5, BuzzLyseyear_5, Emmaloid_5, Aloeri_5, Rialto_5, Flathead_5, JalFarm20_5, Starcevich_5, MulchExplorer_5, ChickenDinner_5, Slim_5, DirtMcGirt_5, Stap_5, Piper2020_5, Cerasum_5, OwlsT2W_5, Squirty_5, LittleShirley_5, DocMcStuffins_5, Pollywog_5, Madiba_5, Tchotchke_5, Lucia_5, Sarma624_5, DosHalletts_5, Brushbloom_5, Oksu_5, Mova_5, Beanstalk_5, UncleRicky_5, DaWorst_5, Kimberlium_5, Peridot_5, Juice456_5, Awesomesauce_5, Drago_5, Misha28_5, Totinger_5, Velveteen_5, Tootsieroll_5
- Track 15 : Job42_5
- Track 16 : Girafales_5, Quico_5
- Track 17 : Marker_5
- Track 18 : Mozy_5
- Track 19 : Cornucopia_5
- Track 20 : GoongGoong_36, RedRaider77_37, Corazon_35, Huphlepuuff_39, Raela_37, Tesla_36, Poise_37, Pringar_37, Lilbit_36, Beelzebub_41, JoieB_38, Gattaca_36, MosMoris_35, Caprice_36, Clarkson_38, LittleLaf_37, Marvin_35, Blackbeetle_37
- Track 21 : VasuNzinga_37
- Track 22 : FeliMaine_39
- Track 23 : LilSpotty_4
- Track 24 : P3MA_5

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 8, it was called in 64 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander_5, Aloeri_5, Awesomesauce_5, Beakin_5, Beanstalk_5, BigPhil_5, Bobi_5, Boomer_5, Brookers_5, Brushbloom_5, BuzzLyseyear_5, Cerasum_5, ChickenDinner_5, Coco12_5, Cornucopia_5, DaWorst_5, DirtMcgirt_5, DocMcStuffins_5, DosHalletts_5, Drago_5, Emmaloid_5, Enby_5, Flathead_5, Frankie_5, Girafales_5, Hegedechwinu_5, JalFarm20_5, Job42_5, Juice456_5, Kimberlium_5, Kingsley_5, Leozinho_5, LittleShirley_5, LordVader_5, Lorde_5, Lucia_5, Madiba_5, Marker_5, Misha28_5, Mova_5, Mozy_5, MulchExplorer_5, Oksu_5, OwlST2W_5, Peridot_5, Piper2020_5, Plumbus_5, Pollywog_5, Quico_5, Ramsey_5, Rialto_5, RockyHorror_5, Sarma624_5, Seagreen_5, SimranZ1_5, Slim_5, Spikelee_5, Squirty_5, Stap_5, Starceвич_5, Tchotchke_5, TootsiePop_5, Tootsieroll_5, Totinger_5, UncleRicky_5, Velveteen_5,

Genes that have the "Most Annotated" start but do not call it:

- Doomslug_5,

Genes that do not have the "Most Annotated" start:

- Angelique_4, BeeGee_4, Beelzebub_41, Blackbeetle_37, Bradissa_4, BritBrat_4, Caprice_36, Cashline_4, Clarkson_38, Confidence_4, Corazon_35, EMsquaredA_4, EnalisNailo_4, Farewell_4, FeliMaine_39, Floral_4, Gattaca_36, GoongGoong_36, Huphlepuuff_39, Jablanski_4, JoieB_38, LilSpotty_4, Lilas_4, Lilbit_36, LittleLaf_37, LonelyBoi_4, Marteena_4, Marvin_35, MosMoris_35, P3MA_5, Poise_37, Pollux_4, Posh_4, Pringar_37, Pytheas_4, Raela_37, RedRaider77_37, Sparky_4, Tesla_36, VasuNzinga_37, Wrigley_4,

Summary by start number:

Start 3:

- Found in 2 of 108 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell_4 (AF), Sparky_4 (AF),

Start 8:

- Found in 67 of 108 (62.0%) of genes in pham
- Manual Annotations of this start: 64 of 105
- Called 98.5% of time when present
- Phage (with cluster) where this start called: Alexphander_5 (F1), Aloeri_5 (F1), Awesomesauce_5 (F1), Beakin_5 (F1), Beanstalk_5 (F1), BigPhil_5 (F1), Bobi_5 (F1), Boomer_5 (F1), Brookers_5 (F1), Brushbloom_5 (F1), BuzzLyseyear_5 (F1), Cerasum_5 (F1), ChickenDinner_5 (F1), Coco12_5 (F1), Cornucopia_5 (F1), DaWorst_5 (F1), DirtMcgirt_5 (F1), DocMcStuffins_5 (F1), DosHalletts_5 (F1), Drago_5 (F1), Emmaloid_5 (F1), Enby_5 (F1), Flathead_5 (F1), Frankie_5 (F1), Girafales_5 (F1), Hegedechwinu_5 (F1), JalFarm20_5 (F1), Job42_5 (F1),

Juice456_5 (F1), Kimberlium_5 (F1), Kingsley_5 (F1), Leozinho_5 (F1), LittleShirley_5 (F1), LordVader_5 (F), Lorde_5 (F1), Lucia_5 (F1), Madiba_5 (F1), Marker_5 (F1), Misha28_5 (F1), Mova_5 (F1), Mozy_5 (F1), MulchExplorer_5 (F1), Oksu_5 (F1), OwlsT2W_5 (F1), Peridot_5 (F1), Piper2020_5 (F1), Plumbus_5 (F1), Pollywog_5 (F1), Quico_5 (F1), Ramsey_5 (F1), Rialto_5 (F1), RockyHorror_5 (F1), Sarma624_5 (F1), Seagreen_5 (F1), SimranZ1_5 (F1), Slim_5 (F1), Spikelee_5 (F1), Squirty_5 (F3), Stap_5 (F1), Starceвич_5 (F1), Tchotchke_5 (F1), TootsiePop_5 (F1), Tootsieroll_5 (F1), Totinger_5 (F1), UncleRicky_5 (F1), Velveteen_5 (F1),

Start 9:

- Found in 19 of 108 (17.6%) of genes in pham
- Manual Annotations of this start: 19 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique_4 (CY1), BeeGee_4 (CY5), Bradissa_4 (CY1), BritBrat_4 (CY2), Cashline_4 (CY6), Confidence_4 (CY1), EMSquaredA_4 (CY1), EnalisNailo_4 (CY1), Floral_4 (CY1), Jablanski_4 (CY3), LilSpotty_4 (singleton), Lilas_4 (CY1), LonelyBoi_4 (CY7), Marteen_4 (CY1), P3MA_5 (singleton), Pollux_4 (CY1), Posh_4 (CY4), Pytheas_4 (CY3), Wrigley_4 (CY4),

Start 11:

- Found in 20 of 108 (18.5%) of genes in pham
- Manual Annotations of this start: 20 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub_41 (S), Blackbeetle_37 (S), Caprice_36 (S), Clarkson_38 (S), Corazon_35 (S), FeliMaine_39 (S), Gattaca_36 (S), GoongGoong_36 (S), Huphlepuuff_39 (S), JoieB_38 (S), Lilbit_36 (S), LittleLaf_37 (S), Marvin_35 (S), MosMoris_35 (S), Poise_37 (S), Pringar_37 (S), Raela_37 (S), RedRaider77_37 (S), Tesla_36 (S), VasuNzinga_37 (S),

Start 12:

- Found in 68 of 108 (63.0%) of genes in pham
- No Manual Annotations of this start.
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Doomslug_5 (F),

Summary by clusters:

There are 13 clusters represented in this pham: CY3, F1, CY1, F3, CY7, CY6, CY5, AF, F, singleton, S, CY4, CY2,

Info for manual annotations of cluster AF:

- Start number 3 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster CY1:

- Start number 9 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 9 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY3:

- Start number 9 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:

- Start number 9 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY5:

- Start number 9 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:

- Start number 9 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 9 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster F:

- Start number 8 was manually annotated 1 time for cluster F.

Info for manual annotations of cluster F1:

- Start number 8 was manually annotated 62 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 8 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster S:

- Start number 11 was manually annotated 20 times for cluster S.

Gene Information:

Gene: Alexphander_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Alexphander_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Aloeri_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for Aloeri_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Angelique_4 Start: 3707, Stop: 4519, Start Num: 9

Candidate Starts for Angelique_4:

(Start: 9 @3707 has 19 MA's), (32, 3884), (36, 3935), (40, 3947), (41, 3965), (46, 4016), (47, 4022), (51, 4049), (54, 4112), (55, 4151), (61, 4238),

Gene: Awesomesauce_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for Awesomesauce_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Beakin_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for Beakin_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Beanstalk_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Beanstalk_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: BeeGee_4 Start: 3710, Stop: 4522, Start Num: 9

Candidate Starts for BeeGee_4:

(Start: 9 @3710 has 19 MA's), (40, 3950), (54, 4115), (55, 4154), (61, 4241),

Gene: Beelzebub_41 Start: 14720, Stop: 15364, Start Num: 11

Candidate Starts for Beelzebub_41:

(Start: 11 @14720 has 20 MA's), (21, 14792), (23, 14816), (30, 14846), (31, 14873), (39, 14942), (40, 14945), (43, 14981), (50, 15047), (51, 15050),

Gene: BigPhil_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for BigPhil_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Blackbeetle_37 Start: 13739, Stop: 14383, Start Num: 11

Candidate Starts for Blackbeetle_37:

(Start: 11 @13739 has 20 MA's), (21, 13811), (23, 13835), (30, 13865), (31, 13892), (39, 13961), (40, 13964), (43, 14000), (50, 14066), (51, 14069),

Gene: Bobi_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Bobi_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Boomer_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Boomer_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Bradissa_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for Bradissa_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: BritBrat_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for BritBrat_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Brookers_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Brookers_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Brushbloom_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Brushbloom_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: BuzzLyseyear_5 Start: 3603, Stop: 4328, Start Num: 8

Candidate Starts for BuzzLyseyear_5:

(Start: 8 @3603 has 64 MA's), (12, 3630), (15, 3651), (19, 3678), (27, 3738), (31, 3777), (42, 3876), (49, 3945), (51, 3948), (60, 4077), (64, 4098), (71, 4206), (78, 4314),

Gene: Caprice_36 Start: 13809, Stop: 14453, Start Num: 11

Candidate Starts for Caprice_36:

(Start: 11 @13809 has 20 MA's), (21, 13881), (23, 13905), (30, 13935), (31, 13962), (39, 14031), (40, 14034), (43, 14070), (50, 14136), (51, 14139),

Gene: Cashline_4 Start: 3710, Stop: 4375, Start Num: 9

Candidate Starts for Cashline_4:

(Start: 9 @3710 has 19 MA's), (22, 3806), (32, 3887), (40, 3950), (47, 4025), (56, 4157), (57, 4199),

Gene: Cerasum_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Cerasum_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: ChickenDinner_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for ChickenDinner_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Clarkson_38 Start: 14421, Stop: 15065, Start Num: 11

Candidate Starts for Clarkson_38:

(Start: 11 @14421 has 20 MA's), (21, 14493), (23, 14517), (30, 14547), (31, 14574), (39, 14643), (40, 14646), (43, 14682), (50, 14748), (51, 14751),

Gene: Coco12_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Coco12_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Confidence_4 Start: 3710, Stop: 4522, Start Num: 9

Candidate Starts for Confidence_4:

(Start: 9 @3710 has 19 MA's), (40, 3950), (54, 4115), (55, 4154), (61, 4241),

Gene: Corazon_35 Start: 14374, Stop: 15018, Start Num: 11

Candidate Starts for Corazon_35:

(Start: 11 @14374 has 20 MA's), (21, 14446), (23, 14470), (30, 14500), (31, 14527), (39, 14596), (40, 14599), (43, 14635), (50, 14701), (51, 14704),

Gene: Cornucopia_5 Start: 3606, Stop: 4331, Start Num: 8

Candidate Starts for Cornucopia_5:

(Start: 8 @3606 has 64 MA's), (12, 3633), (13, 3642), (18, 3678), (20, 3687), (25, 3729), (29, 3750), (30, 3753), (31, 3780), (42, 3879), (49, 3948), (51, 3951), (60, 4080), (64, 4101), (70, 4173), (78, 4317),

Gene: DaWorst_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for DaWorst_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: DirtMcgirt_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for DirtMcgirt_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: DocMcStuffins_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for DocMcStuffins_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Doomslug_5 Start: 3631, Stop: 4329, Start Num: 12

Candidate Starts for Doomslug_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: DosHalletts_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for DosHalletts_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Drago_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Drago_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: EMSquaredA_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for EMSquaredA_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Emmaloid_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Emmaloid_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: EnalisNailo_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for EnalisNailo_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Enby_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Enby_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Farewell_4 Start: 3759, Stop: 4664, Start Num: 3

Candidate Starts for Farewell_4:

(Start: 3 @3759 has 2 MA's), (7, 3825), (10, 3849), (12, 3855), (13, 3864), (17, 3891), (24, 3951), (26, 3963), (28, 3972), (30, 3978), (37, 4065), (38, 4068), (44, 4113), (48, 4149), (51, 4173), (63, 4383), (66, 4407), (69, 4488), (70, 4494), (71, 4530), (76, 4617), (77, 4626), (78, 4638),

Gene: FeliMaine_39 Start: 14422, Stop: 15066, Start Num: 11

Candidate Starts for FeliMaine_39:

(Start: 11 @14422 has 20 MA's), (21, 14494), (23, 14518), (30, 14548), (39, 14644), (40, 14647), (43, 14683), (50, 14749), (51, 14752),

Gene: Flathead_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Flathead_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Floral_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for Floral_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Frankie_5 Start: 3798, Stop: 4523, Start Num: 8

Candidate Starts for Frankie_5:

(4, 3744), (Start: 8 @3798 has 64 MA's), (13, 3834), (19, 3873), (27, 3933), (31, 3972), (42, 4071), (49, 4140), (51, 4143), (60, 4272), (64, 4293), (71, 4401), (78, 4509),

Gene: Gattaca_36 Start: 13601, Stop: 14245, Start Num: 11

Candidate Starts for Gattaca_36:

(Start: 11 @13601 has 20 MA's), (21, 13673), (23, 13697), (30, 13727), (31, 13754), (39, 13823), (40, 13826), (43, 13862), (50, 13928), (51, 13931),

Gene: Girafales_5 Start: 3602, Stop: 4327, Start Num: 8

Candidate Starts for Girafales_5:

(Start: 8 @3602 has 64 MA's), (12, 3629), (13, 3638), (16, 3659), (18, 3674), (19, 3677), (20, 3683), (25, 3725), (29, 3746), (30, 3749), (31, 3776), (42, 3875), (49, 3944), (51, 3947), (53, 3983), (60, 4076), (64, 4097), (70, 4169), (78, 4313),

Gene: GoongGoong_36 Start: 13641, Stop: 14285, Start Num: 11

Candidate Starts for GoongGoong_36:

(Start: 11 @13641 has 20 MA's), (21, 13713), (23, 13737), (30, 13767), (31, 13794), (39, 13863), (40, 13866), (43, 13902), (50, 13968), (51, 13971),

Gene: Hegedechwinu_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Hegedechwinu_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Huphlebuff_39 Start: 14226, Stop: 14870, Start Num: 11

Candidate Starts for Huphlebuff_39:

(Start: 11 @14226 has 20 MA's), (21, 14298), (23, 14322), (30, 14352), (31, 14379), (39, 14448), (40, 14451), (43, 14487), (50, 14553), (51, 14556),

Gene: Jablanski_4 Start: 3710, Stop: 4375, Start Num: 9

Candidate Starts for Jablanski_4:

(Start: 9 @3710 has 19 MA's), (32, 3887), (40, 3950), (47, 4025), (56, 4157), (57, 4199),

Gene: JalFarm20_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for JalFarm20_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Job42_5 Start: 3603, Stop: 4328, Start Num: 8

Candidate Starts for Job42_5:

(Start: 8 @3603 has 64 MA's), (12, 3630), (15, 3651), (19, 3678), (27, 3738), (31, 3777), (42, 3876), (49, 3945), (51, 3948), (60, 4077), (64, 4098), (71, 4206), (74, 4266), (78, 4314),

Gene: JoieB_38 Start: 14445, Stop: 15089, Start Num: 11

Candidate Starts for JoieB_38:

(Start: 11 @14445 has 20 MA's), (21, 14517), (23, 14541), (30, 14571), (31, 14598), (39, 14667), (40, 14670), (43, 14706), (50, 14772), (51, 14775),

Gene: Juice456_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Juice456_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Kimberlium_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Kimberlium_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Kingsley_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Kingsley_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Leozinho_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Leozinho_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: LilSpotty_4 Start: 3229, Stop: 3888, Start Num: 9

Candidate Starts for LilSpotty_4:

(5, 3193), (6, 3214), (Start: 9 @3229 has 19 MA's), (15, 3271), (20, 3304), (33, 3412), (35, 3451), (46, 3529), (51, 3562), (53, 3598), (55, 3664), (58, 3748), (59, 3751), (65, 3787),

Gene: Lilas_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for Lilas_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Lilbit_36 Start: 14422, Stop: 15066, Start Num: 11

Candidate Starts for Lilbit_36:

(Start: 11 @14422 has 20 MA's), (21, 14494), (23, 14518), (30, 14548), (31, 14575), (39, 14644), (40, 14647), (43, 14683), (50, 14749), (51, 14752),

Gene: LittleLaf_37 Start: 14151, Stop: 14795, Start Num: 11

Candidate Starts for LittleLaf_37:

(Start: 11 @14151 has 20 MA's), (21, 14223), (23, 14247), (30, 14277), (31, 14304), (39, 14373), (40, 14376), (43, 14412), (50, 14478), (51, 14481),

Gene: LittleShirley_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for LittleShirley_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: LonelyBoi_4 Start: 3710, Stop: 4375, Start Num: 9

Candidate Starts for LonelyBoi_4:

(Start: 9 @3710 has 19 MA's), (32, 3887), (40, 3950), (41, 3968), (47, 4025), (56, 4157), (57, 4199),

Gene: LordVader_5 Start: 3599, Stop: 4324, Start Num: 8

Candidate Starts for LordVader_5:

(Start: 8 @3599 has 64 MA's), (12, 3626), (13, 3635), (14, 3638), (19, 3674), (27, 3734), (31, 3773), (42, 3872), (49, 3941), (51, 3944), (60, 4073), (64, 4094), (69, 4160), (71, 4202), (78, 4310),

Gene: Lorde_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Lorde_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Lucia_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Lucia_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Madiba_5 Start: 3603, Stop: 4328, Start Num: 8

Candidate Starts for Madiba_5:

(Start: 8 @3603 has 64 MA's), (12, 3630), (15, 3651), (19, 3678), (27, 3738), (31, 3777), (42, 3876), (49, 3945), (51, 3948), (60, 4077), (64, 4098), (71, 4206), (78, 4314),

Gene: Marker_5 Start: 3603, Stop: 4328, Start Num: 8

Candidate Starts for Marker_5:

(Start: 8 @3603 has 64 MA's), (12, 3630), (15, 3651), (19, 3678), (27, 3738), (31, 3777), (34, 3816), (42, 3876), (49, 3945), (51, 3948), (60, 4077), (64, 4098), (71, 4206), (78, 4314),

Gene: Marteena_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for Marteena_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Marvin_35 Start: 14421, Stop: 15065, Start Num: 11

Candidate Starts for Marvin_35:

(Start: 11 @14421 has 20 MA's), (21, 14493), (23, 14517), (30, 14547), (31, 14574), (39, 14643), (40, 14646), (43, 14682), (50, 14748), (51, 14751),

Gene: Misha28_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for Misha28_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: MosMoris_35 Start: 13601, Stop: 14245, Start Num: 11

Candidate Starts for MosMoris_35:

(Start: 11 @13601 has 20 MA's), (21, 13673), (23, 13697), (30, 13727), (31, 13754), (39, 13823), (40, 13826), (43, 13862), (50, 13928), (51, 13931),

Gene: Mova_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Mova_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Mozy_5 Start: 3603, Stop: 4328, Start Num: 8

Candidate Starts for Mozy_5:

(Start: 8 @3603 has 64 MA's), (12, 3630), (13, 3639), (18, 3675), (19, 3678), (20, 3684), (25, 3726), (29, 3747), (30, 3750), (31, 3777), (42, 3876), (49, 3945), (51, 3948), (60, 4077), (64, 4098), (70, 4170), (78, 4314),

Gene: MulchExplorer_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for MulchExplorer_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Oksu_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Oksu_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: OwlsT2W_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for OwlsT2W_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: P3MA_5 Start: 3858, Stop: 4730, Start Num: 9

Candidate Starts for P3MA_5:

(1, 3546), (2, 3741), (Start: 9 @3858 has 19 MA's), (45, 4140), (52, 4215), (56, 4296), (62, 4404), (67, 4437), (68, 4479), (72, 4563), (73, 4566), (75, 4635), (79, 4710),

Gene: Peridot_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Peridot_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Piper2020_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for Piper2020_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Plumbus_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Plumbus_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Poise_37 Start: 13739, Stop: 14383, Start Num: 11

Candidate Starts for Poise_37:

(Start: 11 @13739 has 20 MA's), (21, 13811), (23, 13835), (30, 13865), (31, 13892), (39, 13961), (40, 13964), (43, 14000), (50, 14066), (51, 14069),

Gene: Pollux_4 Start: 3716, Stop: 4528, Start Num: 9

Candidate Starts for Pollux_4:

(Start: 9 @3716 has 19 MA's), (20, 3791), (41, 3974), (47, 4031), (54, 4121), (55, 4160), (61, 4247),

Gene: Pollywog_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Pollywog_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Posh_4 Start: 3710, Stop: 4522, Start Num: 9
Candidate Starts for Posh_4:
(Start: 9 @3710 has 19 MA's), (40, 3950), (54, 4115), (55, 4154), (61, 4241),

Gene: Pringar_37 Start: 14051, Stop: 14695, Start Num: 11
Candidate Starts for Pringar_37:
(Start: 11 @14051 has 20 MA's), (21, 14123), (23, 14147), (30, 14177), (31, 14204), (39, 14273), (40, 14276), (43, 14312), (50, 14378), (51, 14381),

Gene: Pytheas_4 Start: 3710, Stop: 4375, Start Num: 9
Candidate Starts for Pytheas_4:
(Start: 9 @3710 has 19 MA's), (32, 3887), (40, 3950), (47, 4025), (56, 4157), (57, 4199),

Gene: Quico_5 Start: 3602, Stop: 4327, Start Num: 8
Candidate Starts for Quico_5:
(Start: 8 @3602 has 64 MA's), (12, 3629), (13, 3638), (16, 3659), (18, 3674), (19, 3677), (20, 3683), (25, 3725), (29, 3746), (30, 3749), (31, 3776), (42, 3875), (49, 3944), (51, 3947), (53, 3983), (60, 4076), (64, 4097), (70, 4169), (78, 4313),

Gene: Raela_37 Start: 14294, Stop: 14938, Start Num: 11
Candidate Starts for Raela_37:
(Start: 11 @14294 has 20 MA's), (21, 14366), (23, 14390), (30, 14420), (31, 14447), (39, 14516), (40, 14519), (43, 14555), (50, 14621), (51, 14624),

Gene: Ramsey_5 Start: 3604, Stop: 4329, Start Num: 8
Candidate Starts for Ramsey_5:
(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: RedRaider77_37 Start: 14195, Stop: 14839, Start Num: 11
Candidate Starts for RedRaider77_37:
(Start: 11 @14195 has 20 MA's), (21, 14267), (23, 14291), (30, 14321), (31, 14348), (39, 14417), (40, 14420), (43, 14456), (50, 14522), (51, 14525),

Gene: Rialto_5 Start: 3605, Stop: 4330, Start Num: 8
Candidate Starts for Rialto_5:
(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: RockyHorror_5 Start: 3604, Stop: 4329, Start Num: 8
Candidate Starts for RockyHorror_5:
(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Sarma624_5 Start: 3604, Stop: 4329, Start Num: 8
Candidate Starts for Sarma624_5:
(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Seagreen_5 Start: 3605, Stop: 4330, Start Num: 8
Candidate Starts for Seagreen_5:
(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: SimranZ1_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for SimranZ1_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Slim_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Slim_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Sparky_4 Start: 3760, Stop: 4665, Start Num: 3

Candidate Starts for Sparky_4:

(Start: 3 @3760 has 2 MA's), (10, 3850), (12, 3856), (13, 3865), (17, 3892), (24, 3952), (26, 3964), (28, 3973), (30, 3979), (37, 4066), (38, 4069), (48, 4150), (51, 4174), (63, 4384), (66, 4408), (69, 4489), (70, 4495), (71, 4531), (76, 4618), (77, 4627), (78, 4639),

Gene: Spikelee_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Spikelee_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Squirty_5 Start: 3603, Stop: 4328, Start Num: 8

Candidate Starts for Squirty_5:

(Start: 8 @3603 has 64 MA's), (12, 3630), (15, 3651), (19, 3678), (27, 3738), (31, 3777), (42, 3876), (49, 3945), (51, 3948), (60, 4077), (64, 4098), (71, 4206), (78, 4314),

Gene: Stap_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Stap_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Starcevich_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Starcevich_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Tchotchke_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Tchotchke_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: Tesla_36 Start: 14044, Stop: 14688, Start Num: 11

Candidate Starts for Tesla_36:

(Start: 11 @14044 has 20 MA's), (21, 14116), (23, 14140), (30, 14170), (31, 14197), (39, 14266), (40, 14269), (43, 14305), (50, 14371), (51, 14374),

Gene: TootsiePop_5 Start: 3607, Stop: 4332, Start Num: 8

Candidate Starts for TootsiePop_5:

(Start: 8 @3607 has 64 MA's), (12, 3634), (15, 3655), (19, 3682), (27, 3742), (31, 3781), (42, 3880), (49, 3949), (51, 3952), (60, 4081), (64, 4102), (71, 4210), (78, 4318),

Gene: Tootsieroll_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Tootsieroll_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Totinger_5 Start: 3605, Stop: 4330, Start Num: 8

Candidate Starts for Totinger_5:

(Start: 8 @3605 has 64 MA's), (12, 3632), (15, 3653), (19, 3680), (27, 3740), (31, 3779), (42, 3878), (49, 3947), (51, 3950), (60, 4079), (64, 4100), (71, 4208), (78, 4316),

Gene: UncleRicky_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for UncleRicky_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: VasuNzinga_37 Start: 13628, Stop: 14272, Start Num: 11

Candidate Starts for VasuNzinga_37:

(Start: 11 @13628 has 20 MA's), (21, 13700), (23, 13724), (30, 13754), (39, 13850), (43, 13889), (50, 13955), (51, 13958),

Gene: Velveteen_5 Start: 3604, Stop: 4329, Start Num: 8

Candidate Starts for Velveteen_5:

(Start: 8 @3604 has 64 MA's), (12, 3631), (15, 3652), (19, 3679), (27, 3739), (31, 3778), (42, 3877), (49, 3946), (51, 3949), (60, 4078), (64, 4099), (71, 4207), (78, 4315),

Gene: Wrigley_4 Start: 3707, Stop: 4372, Start Num: 9

Candidate Starts for Wrigley_4:

(Start: 9 @3707 has 19 MA's), (40, 3947), (47, 4022), (56, 4154), (57, 4196),