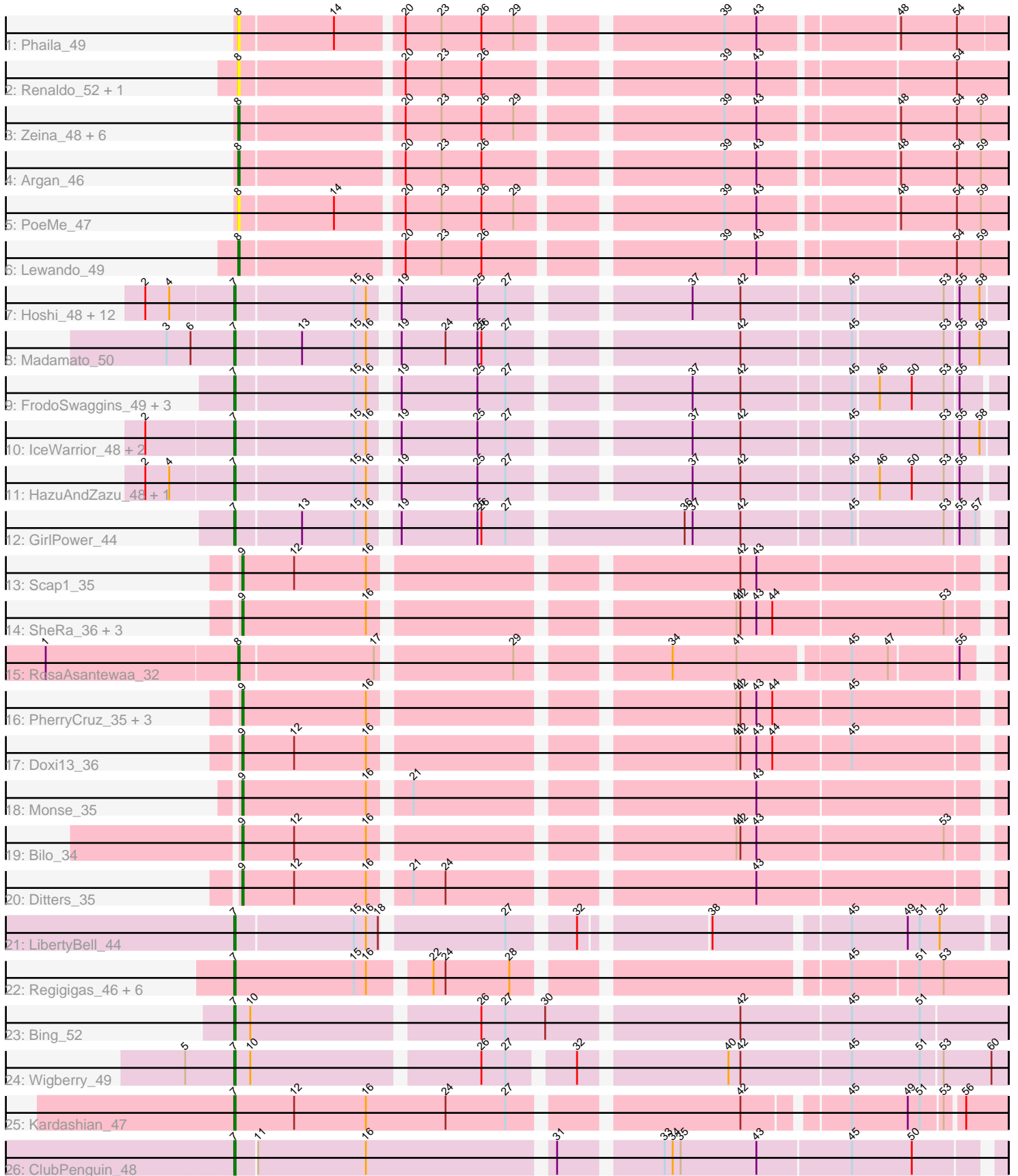


Pham 296574



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 296574 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296574 has 63 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Phaila\_49
- Track 2 : Renaldo\_52, Barbonzobean\_52
- Track 3 : Zeina\_48, Uzumaki\_45, GantcherGoblin\_46, Stardrop\_51, Tenney120\_48, Mardi\_47, KevinMinion\_47
- Track 4 : Argan\_46
- Track 5 : PoeMe\_47
- Track 6 : Lewando\_49
- Track 7 : Hoshi\_48, Rima\_50, FidgetOrca\_49, OlympicHelado\_49, Spectropatronm\_49, TieDye\_48, Indigenous\_49, Esketit\_49, Meibysrarus\_47, Namu\_50, TonyStarch\_48, Jaylociraptor\_49, Maya\_49
- Track 8 : Madamoto\_50
- Track 9 : FrodoSwaggins\_49, Espio\_49, Popy\_49, DrGrey\_48
- Track 10 : IceWarrior\_48, CherryBlossom\_49, TaidaOne\_49
- Track 11 : HazuAndZazu\_48, Soshi\_48
- Track 12 : GirlPower\_44
- Track 13 : Scap1\_35
- Track 14 : SheRa\_36, Moozy\_35, Annihilus\_36, HotFries\_35
- Track 15 : RosaAsantewaa\_32
- Track 16 : PherryCruz\_35, Sangak\_34, GoblinVoyage\_36, RavenPuff\_35
- Track 17 : Doxi13\_36
- Track 18 : Monse\_35
- Track 19 : Bilo\_34
- Track 20 : Ditters\_35
- Track 21 : LibertyBell\_44
- Track 22 : Regigigas\_46, Rainydai\_44, Miek\_44, Thiqqums\_45, CricKo\_45, FromIndy\_45, SendItCS\_43
- Track 23 : Bing\_52
- Track 24 : Wigberry\_49
- Track 25 : Kardashian\_47
- Track 26 : ClubPenguin\_48

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

The start number called the most often in the published annotations is 7, it was called in 34 of the 54 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bing\_52, CherryBlossom\_49, ClubPenguin\_48, CricKo\_45, DrGrey\_48, Esketit\_49, Espio\_49, FidgetOrca\_49, FrodoSwaggins\_49, FromIndy\_45, GirlPower\_44, HazuAndZazu\_48, Hoshi\_48, IceWarrior\_48, Indigenous\_49, Jaylociraptor\_49, Kardashian\_47, LibertyBell\_44, Madamato\_50, Maya\_49, Meibysrarus\_47, Miek\_44, Namu\_50, OlympicHelado\_49, Popy\_49, Rainydai\_44, Regigigas\_46, Rima\_50, SendItCS\_43, Soshi\_48, Spectropatronm\_49, TaidaOne\_49, Thiqqums\_45, TieDye\_48, TonyStarch\_48, Wigberry\_49,

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

- 

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

- Annihilus\_36, Argan\_46, Barbonzobean\_52, Bilo\_34, Ditters\_35, Doxi13\_36, GantcherGoblin\_46, GoblinVoyage\_36, HotFries\_35, KevinMinion\_47, Lewando\_49, Mardi\_47, Monse\_35, Moozy\_35, Phaila\_49, PherryCruz\_35, PoeMe\_47, RavenPuff\_35, Renaldo\_52, RosaAsantewaa\_32, Sangak\_34, Scap1\_35, SheRa\_36, Stardrop\_51, Tenney120\_48, Uzumaki\_45, Zeina\_48,

### Summary by start number:

Start 7:

- Found in 36 of 63 ( 57.1% ) of genes in pham
- Manual Annotations of this start: 34 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bing\_52 (BI5), CherryBlossom\_49 (BI1), ClubPenguin\_48 (BI7), CricKo\_45 (BI4), DrGrey\_48 (BI1), Esketit\_49 (BI1), Espio\_49 (BI1), FidgetOrca\_49 (BI1), FrodoSwaggins\_49 (BI1), FromIndy\_45 (BI4), GirlPower\_44 (BI1), HazuAndZazu\_48 (BI1), Hoshi\_48 (BI1), IceWarrior\_48 (BI1), Indigenous\_49 (BI1), Jaylociraptor\_49 (BI1), Kardashian\_47 (BI6), LibertyBell\_44 (BI3), Madamato\_50 (BI1), Maya\_49 (BI1), Meibysrarus\_47 (BI1), Miek\_44 (BI4), Namu\_50 (BI1), OlympicHelado\_49 (BI1), Popy\_49 (BI1), Rainydai\_44 (BI4), Regigigas\_46 (BI4), Rima\_50 (BI1), SendItCS\_43 (BI4), Soshi\_48 (BI1), Spectropatronm\_49 (BI1), TaidaOne\_49 (BI1), Thiqqums\_45 (BI4), TieDye\_48 (BI1), TonyStarch\_48 (BI1), Wigberry\_49 (BI5),

Start 8:

- Found in 14 of 63 ( 22.2% ) of genes in pham
- Manual Annotations of this start: 8 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argan\_46 (AU6), Barbonzobean\_52 (AU6), GantcherGoblin\_46 (AU6), KevinMinion\_47 (AU6), Lewando\_49 (AU6), Mardi\_47 (AU6), Phaila\_49 (AU6), PoeMe\_47 (AU6), Renaldo\_52 (AU6), RosaAsantewaa\_32 (BI2), Stardrop\_51 (AU6), Tenney120\_48 (AU6), Uzumaki\_45 (AU6), Zeina\_48 (AU6),

Start 9:

- Found in 13 of 63 ( 20.6% ) of genes in pham
- Manual Annotations of this start: 12 of 54
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Annihilus\_36 (BI2), Bilo\_34 (BI2), Ditters\_35 (BI2), Doxi13\_36 (BI2), GoblinVoyage\_36 (BI2), HotFries\_35 (BI2), Monse\_35 (BI2), Moozy\_35 (BI2), PherryCruz\_35 (BI2), RavenPuff\_35 (BI2), Sangak\_34 (BI2), Scap1\_35 (BI2), SheRa\_36 (BI2),

### **Summary by clusters:**

There are 8 clusters represented in this pham: AU6, BI6, BI7, BI4, BI5, BI2, BI3, BI1,

Info for manual annotations of cluster AU6:

- Start number 8 was manually annotated 7 times for cluster AU6.

Info for manual annotations of cluster BI1:

- Start number 7 was manually annotated 24 times for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 8 was manually annotated 1 time for cluster BI2.
- Start number 9 was manually annotated 12 times for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 7 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:

- Start number 7 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:

- Start number 7 was manually annotated 2 times for cluster BI5.

Info for manual annotations of cluster BI6:

- Start number 7 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

- Start number 7 was manually annotated 1 time for cluster BI7.

### **Gene Information:**

Gene: Annihilus\_36 Start: 26356, Stop: 26877, Start Num: 9

Candidate Starts for Annihilus\_36:

(Start: 9 @26356 has 12 MA's), (16, 26449), (41, 26692), (42, 26695), (43, 26707), (44, 26719), (53, 26845),

Gene: Argan\_46 Start: 32018, Stop: 32551, Start Num: 8

Candidate Starts for Argan\_46:

(Start: 8 @32018 has 8 MA's), (20, 32132), (23, 32159), (26, 32189), (39, 32351), (43, 32375), (48, 32471), (54, 32513), (59, 32531),

Gene: Barbonzobean\_52 Start: 33749, Stop: 34282, Start Num: 8

Candidate Starts for Barbonzobean\_52:

(Start: 8 @33749 has 8 MA's), (20, 33863), (23, 33890), (26, 33920), (39, 34082), (43, 34106), (54, 34244),

Gene: Bilo\_34 Start: 26468, Stop: 26989, Start Num: 9

Candidate Starts for Bilo\_34:

(Start: 9 @26468 has 12 MA's), (12, 26507), (16, 26561), (41, 26804), (42, 26807), (43, 26819), (53, 26957),

Gene: Bing\_52 Start: 33497, Stop: 34048, Start Num: 7

Candidate Starts for Bing\_52:

(Start: 7 @33497 has 34 MA's), (10, 33509), (26, 33671), (27, 33689), (30, 33719), (42, 33854), (45, 33935), (51, 33986),

Gene: CherryBlossom\_49 Start: 32728, Stop: 33255, Start Num: 7

Candidate Starts for CherryBlossom\_49:

(2, 32665), (Start: 7 @32728 has 34 MA's), (15, 32815), (16, 32824), (19, 32839), (25, 32896), (27, 32917), (37, 33034), (42, 33070), (45, 33148), (53, 33214), (55, 33223), (58, 33238),

Gene: ClubPenguin\_48 Start: 32048, Stop: 32584, Start Num: 7

Candidate Starts for ClubPenguin\_48:

(Start: 7 @32048 has 34 MA's), (11, 32063), (16, 32144), (31, 32276), (33, 32345), (34, 32351), (35, 32357), (43, 32414), (45, 32483), (50, 32528),

Gene: CricKo\_45 Start: 30767, Stop: 31297, Start Num: 7

Candidate Starts for CricKo\_45:

(Start: 7 @30767 has 34 MA's), (15, 30857), (16, 30866), (22, 30905), (24, 30914), (28, 30962), (45, 31184), (51, 31232), (53, 31250),

Gene: Ditters\_35 Start: 26795, Stop: 27316, Start Num: 9

Candidate Starts for Ditters\_35:

(Start: 9 @26795 has 12 MA's), (12, 26834), (16, 26888), (21, 26912), (24, 26936), (43, 27146),

Gene: Doxi13\_36 Start: 26330, Stop: 26851, Start Num: 9

Candidate Starts for Doxi13\_36:

(Start: 9 @26330 has 12 MA's), (12, 26369), (16, 26423), (41, 26666), (42, 26669), (43, 26681), (44, 26693), (45, 26750),

Gene: DrGrey\_48 Start: 33096, Stop: 33620, Start Num: 7

Candidate Starts for DrGrey\_48:

(Start: 7 @33096 has 34 MA's), (15, 33183), (16, 33192), (19, 33207), (25, 33264), (27, 33285), (37, 33402), (42, 33438), (45, 33516), (46, 33534), (50, 33558), (53, 33582), (55, 33591),

Gene: Esketit\_49 Start: 32839, Stop: 33366, Start Num: 7

Candidate Starts for Esketit\_49:

(2, 32776), (4, 32794), (Start: 7 @32839 has 34 MA's), (15, 32926), (16, 32935), (19, 32950), (25, 33007), (27, 33028), (37, 33145), (42, 33181), (45, 33259), (53, 33325), (55, 33334), (58, 33349),

Gene: Espio\_49 Start: 33491, Stop: 34015, Start Num: 7

Candidate Starts for Espio\_49:

(Start: 7 @33491 has 34 MA's), (15, 33578), (16, 33587), (19, 33602), (25, 33659), (27, 33680), (37, 33797), (42, 33833), (45, 33911), (46, 33929), (50, 33953), (53, 33977), (55, 33986),

Gene: FidgetOrca\_49 Start: 32832, Stop: 33359, Start Num: 7

Candidate Starts for FidgetOrca\_49:

(2, 32769), (4, 32787), (Start: 7 @32832 has 34 MA's), (15, 32919), (16, 32928), (19, 32943), (25, 33000), (27, 33021), (37, 33138), (42, 33174), (45, 33252), (53, 33318), (55, 33327), (58, 33342),

Gene: FrodoSwaggins\_49 Start: 33490, Stop: 34014, Start Num: 7

Candidate Starts for FrodoSwaggins\_49:

(Start: 7 @33490 has 34 MA's), (15, 33577), (16, 33586), (19, 33601), (25, 33658), (27, 33679), (37, 33796), (42, 33832), (45, 33910), (46, 33928), (50, 33952), (53, 33976), (55, 33985),

Gene: FromIndy\_45 Start: 30371, Stop: 30901, Start Num: 7

Candidate Starts for FromIndy\_45:

(Start: 7 @30371 has 34 MA's), (15, 30461), (16, 30470), (22, 30509), (24, 30518), (28, 30566), (45, 30788), (51, 30836), (53, 30854),

Gene: GantcherGoblin\_46 Start: 32217, Stop: 32750, Start Num: 8

Candidate Starts for GantcherGoblin\_46:

(Start: 8 @32217 has 8 MA's), (20, 32331), (23, 32358), (26, 32388), (29, 32412), (39, 32550), (43, 32574), (48, 32670), (54, 32712), (59, 32730),

Gene: GirlPower\_44 Start: 33290, Stop: 33820, Start Num: 7

Candidate Starts for GirlPower\_44:

(Start: 7 @33290 has 34 MA's), (13, 33338), (15, 33377), (16, 33386), (19, 33401), (25, 33458), (26, 33461), (27, 33479), (36, 33602), (37, 33608), (42, 33644), (45, 33722), (53, 33788), (55, 33797), (57, 33809),

Gene: GoblinVoyage\_36 Start: 26330, Stop: 26851, Start Num: 9

Candidate Starts for GoblinVoyage\_36:

(Start: 9 @26330 has 12 MA's), (16, 26423), (41, 26666), (42, 26669), (43, 26681), (44, 26693), (45, 26750),

Gene: HazuAndZazu\_48 Start: 33090, Stop: 33614, Start Num: 7

Candidate Starts for HazuAndZazu\_48:

(2, 33027), (4, 33045), (Start: 7 @33090 has 34 MA's), (15, 33177), (16, 33186), (19, 33201), (25, 33258), (27, 33279), (37, 33396), (42, 33432), (45, 33510), (46, 33528), (50, 33552), (53, 33576), (55, 33585),

Gene: Hoshi\_48 Start: 32436, Stop: 32963, Start Num: 7

Candidate Starts for Hoshi\_48:

(2, 32373), (4, 32391), (Start: 7 @32436 has 34 MA's), (15, 32523), (16, 32532), (19, 32547), (25, 32604), (27, 32625), (37, 32742), (42, 32778), (45, 32856), (53, 32922), (55, 32931), (58, 32946),

Gene: HotFries\_35 Start: 26374, Stop: 26895, Start Num: 9

Candidate Starts for HotFries\_35:

(Start: 9 @26374 has 12 MA's), (16, 26467), (41, 26710), (42, 26713), (43, 26725), (44, 26737), (53, 26863),

Gene: IceWarrior\_48 Start: 32518, Stop: 33045, Start Num: 7

Candidate Starts for IceWarrior\_48:

(2, 32455), (Start: 7 @32518 has 34 MA's), (15, 32605), (16, 32614), (19, 32629), (25, 32686), (27, 32707), (37, 32824), (42, 32860), (45, 32938), (53, 33004), (55, 33013), (58, 33028),

Gene: Indigenous\_49 Start: 32833, Stop: 33360, Start Num: 7

Candidate Starts for Indigenous\_49:

(2, 32770), (4, 32788), (Start: 7 @32833 has 34 MA's), (15, 32920), (16, 32929), (19, 32944), (25, 33001), (27, 33022), (37, 33139), (42, 33175), (45, 33253), (53, 33319), (55, 33328), (58, 33343),

Gene: Jaylociraptor\_49 Start: 32832, Stop: 33359, Start Num: 7

Candidate Starts for Jaylociraptor\_49:

(2, 32769), (4, 32787), (Start: 7 @32832 has 34 MA's), (15, 32919), (16, 32928), (19, 32943), (25, 33000), (27, 33021), (37, 33138), (42, 33174), (45, 33252), (53, 33318), (55, 33327), (58, 33342),

Gene: Kardashian\_47 Start: 32934, Stop: 33467, Start Num: 7

Candidate Starts for Kardashian\_47:

(Start: 7 @32934 has 34 MA's), (12, 32979), (16, 33033), (24, 33093), (27, 33138), (42, 33291), (45, 33360), (49, 33402), (51, 33411), (53, 33426), (56, 33438),

Gene: KevinMinion\_47 Start: 32975, Stop: 33508, Start Num: 8

Candidate Starts for KevinMinion\_47:

(Start: 8 @32975 has 8 MA's), (20, 33089), (23, 33116), (26, 33146), (29, 33170), (39, 33308), (43, 33332), (48, 33428), (54, 33470), (59, 33488),

Gene: Lewando\_49 Start: 33491, Stop: 34024, Start Num: 8

Candidate Starts for Lewando\_49:

(Start: 8 @33491 has 8 MA's), (20, 33605), (23, 33632), (26, 33662), (39, 33824), (43, 33848), (54, 33986), (59, 34004),

Gene: LibertyBell\_44 Start: 30077, Stop: 30595, Start Num: 7

Candidate Starts for LibertyBell\_44:

(Start: 7 @30077 has 34 MA's), (15, 30164), (16, 30173), (18, 30182), (27, 30266), (32, 30308), (38, 30392), (45, 30485), (49, 30527), (51, 30536), (52, 30551),

Gene: Madamoto\_50 Start: 32898, Stop: 33428, Start Num: 7

Candidate Starts for Madamoto\_50:

(3, 32847), (6, 32865), (Start: 7 @32898 has 34 MA's), (13, 32946), (15, 32985), (16, 32994), (19, 33009), (24, 33042), (25, 33066), (26, 33069), (27, 33087), (42, 33240), (45, 33318), (53, 33384), (55, 33393), (58, 33408),

Gene: Mardi\_47 Start: 32309, Stop: 32842, Start Num: 8

Candidate Starts for Mardi\_47:

(Start: 8 @32309 has 8 MA's), (20, 32423), (23, 32450), (26, 32480), (29, 32504), (39, 32642), (43, 32666), (48, 32762), (54, 32804), (59, 32822),

Gene: Maya\_49 Start: 32846, Stop: 33373, Start Num: 7

Candidate Starts for Maya\_49:

(2, 32783), (4, 32801), (Start: 7 @32846 has 34 MA's), (15, 32933), (16, 32942), (19, 32957), (25, 33014), (27, 33035), (37, 33152), (42, 33188), (45, 33266), (53, 33332), (55, 33341), (58, 33356),

Gene: Meibysrurus\_47 Start: 32209, Stop: 32736, Start Num: 7

Candidate Starts for Meibysrurus\_47:

(2, 32146), (4, 32164), (Start: 7 @32209 has 34 MA's), (15, 32296), (16, 32305), (19, 32320), (25, 32377), (27, 32398), (37, 32515), (42, 32551), (45, 32629), (53, 32695), (55, 32704), (58, 32719),

Gene: Miek\_44 Start: 30383, Stop: 30913, Start Num: 7

Candidate Starts for Miek\_44:

(Start: 7 @30383 has 34 MA's), (15, 30473), (16, 30482), (22, 30521), (24, 30530), (28, 30578), (45, 30800), (51, 30848), (53, 30866),

Gene: Monse\_35 Start: 26238, Stop: 26759, Start Num: 9

Candidate Starts for Monse\_35:

(Start: 9 @26238 has 12 MA's), (16, 26331), (21, 26355), (43, 26589),

Gene: Moozy\_35 Start: 26330, Stop: 26851, Start Num: 9

Candidate Starts for Moozy\_35:

(Start: 9 @26330 has 12 MA's), (16, 26423), (41, 26666), (42, 26669), (43, 26681), (44, 26693), (53, 26819),

Gene: Namo\_50 Start: 33177, Stop: 33704, Start Num: 7

Candidate Starts for Namo\_50:

(2, 33114), (4, 33132), (Start: 7 @33177 has 34 MA's), (15, 33264), (16, 33273), (19, 33288), (25, 33345), (27, 33366), (37, 33483), (42, 33519), (45, 33597), (53, 33663), (55, 33672), (58, 33687),

Gene: OlympicHelado\_49 Start: 32860, Stop: 33387, Start Num: 7

Candidate Starts for OlympicHelado\_49:

(2, 32797), (4, 32815), (Start: 7 @32860 has 34 MA's), (15, 32947), (16, 32956), (19, 32971), (25, 33028), (27, 33049), (37, 33166), (42, 33202), (45, 33280), (53, 33346), (55, 33355), (58, 33370),

Gene: Phaila\_49 Start: 32107, Stop: 32637, Start Num: 8

Candidate Starts for Phaila\_49:

(Start: 8 @32107 has 8 MA's), (14, 32176), (20, 32221), (23, 32248), (26, 32278), (29, 32302), (39, 32440), (43, 32464), (48, 32560), (54, 32602),

Gene: PherryCruz\_35 Start: 26326, Stop: 26847, Start Num: 9

Candidate Starts for PherryCruz\_35:

(Start: 9 @26326 has 12 MA's), (16, 26419), (41, 26662), (42, 26665), (43, 26677), (44, 26689), (45, 26746),

Gene: PoeMe\_47 Start: 32476, Stop: 33009, Start Num: 8

Candidate Starts for PoeMe\_47:

(Start: 8 @32476 has 8 MA's), (14, 32545), (20, 32590), (23, 32617), (26, 32647), (29, 32671), (39, 32809), (43, 32833), (48, 32929), (54, 32971), (59, 32989),

Gene: Popy\_49 Start: 33490, Stop: 34014, Start Num: 7

Candidate Starts for Popy\_49:

(Start: 7 @33490 has 34 MA's), (15, 33577), (16, 33586), (19, 33601), (25, 33658), (27, 33679), (37, 33796), (42, 33832), (45, 33910), (46, 33928), (50, 33952), (53, 33976), (55, 33985),

Gene: Rainydai\_44 Start: 30767, Stop: 31297, Start Num: 7

Candidate Starts for Rainydai\_44:

(Start: 7 @30767 has 34 MA's), (15, 30857), (16, 30866), (22, 30905), (24, 30914), (28, 30962), (45, 31184), (51, 31232), (53, 31250),

Gene: RavenPuff\_35 Start: 26326, Stop: 26847, Start Num: 9

Candidate Starts for RavenPuff\_35:

(Start: 9 @26326 has 12 MA's), (16, 26419), (41, 26662), (42, 26665), (43, 26677), (44, 26689), (45, 26746),

Gene: Regigigas\_46 Start: 30768, Stop: 31298, Start Num: 7

Candidate Starts for Regigigas\_46:

(Start: 7 @30768 has 34 MA's), (15, 30858), (16, 30867), (22, 30906), (24, 30915), (28, 30963), (45, 31185), (51, 31233), (53, 31251),

Gene: Renaldo\_52 Start: 33800, Stop: 34333, Start Num: 8

Candidate Starts for Renaldo\_52:

(Start: 8 @33800 has 8 MA's), (20, 33914), (23, 33941), (26, 33971), (39, 34133), (43, 34157), (54, 34295),

Gene: Rima\_50 Start: 33177, Stop: 33704, Start Num: 7

Candidate Starts for Rima\_50:

(2, 33114), (4, 33132), (Start: 7 @33177 has 34 MA's), (15, 33264), (16, 33273), (19, 33288), (25, 33345), (27, 33366), (37, 33483), (42, 33519), (45, 33597), (53, 33663), (55, 33672), (58, 33687),

Gene: RosaAsantewaa\_32 Start: 25470, Stop: 25979, Start Num: 8

Candidate Starts for RosaAsantewaa\_32:

(1, 25332), (Start: 8 @25470 has 8 MA's), (17, 25569), (29, 25662), (34, 25758), (41, 25806), (45, 25884), (47, 25911), (55, 25959),

Gene: Sangak\_34 Start: 25884, Stop: 26405, Start Num: 9

Candidate Starts for Sangak\_34:

(Start: 9 @25884 has 12 MA's), (16, 25977), (41, 26220), (42, 26223), (43, 26235), (44, 26247), (45, 26304),

Gene: Scap1\_35 Start: 26203, Stop: 26724, Start Num: 9

Candidate Starts for Scap1\_35:

(Start: 9 @26203 has 12 MA's), (12, 26242), (16, 26296), (42, 26542), (43, 26554),

Gene: SendItCS\_43 Start: 30371, Stop: 30901, Start Num: 7

Candidate Starts for SendItCS\_43:

(Start: 7 @30371 has 34 MA's), (15, 30461), (16, 30470), (22, 30509), (24, 30518), (28, 30566), (45, 30788), (51, 30836), (53, 30854),

Gene: SheRa\_36 Start: 26372, Stop: 26893, Start Num: 9

Candidate Starts for SheRa\_36:

(Start: 9 @26372 has 12 MA's), (16, 26465), (41, 26708), (42, 26711), (43, 26723), (44, 26735), (53, 26861),

Gene: Soshi\_48 Start: 33109, Stop: 33633, Start Num: 7

Candidate Starts for Soshi\_48:

(2, 33046), (4, 33064), (Start: 7 @33109 has 34 MA's), (15, 33196), (16, 33205), (19, 33220), (25, 33277), (27, 33298), (37, 33415), (42, 33451), (45, 33529), (46, 33547), (50, 33571), (53, 33595), (55, 33604),

Gene: Spectropatronm\_49 Start: 32839, Stop: 33366, Start Num: 7

Candidate Starts for Spectropatronm\_49:

(2, 32776), (4, 32794), (Start: 7 @32839 has 34 MA's), (15, 32926), (16, 32935), (19, 32950), (25, 33007), (27, 33028), (37, 33145), (42, 33181), (45, 33259), (53, 33325), (55, 33334), (58, 33349),

Gene: Stardrop\_51 Start: 32669, Stop: 33202, Start Num: 8

Candidate Starts for Stardrop\_51:

(Start: 8 @32669 has 8 MA's), (20, 32783), (23, 32810), (26, 32840), (29, 32864), (39, 33002), (43, 33026), (48, 33122), (54, 33164), (59, 33182),

Gene: TaidaOne\_49 Start: 33344, Stop: 33871, Start Num: 7

Candidate Starts for TaidaOne\_49:

(2, 33281), (Start: 7 @33344 has 34 MA's), (15, 33431), (16, 33440), (19, 33455), (25, 33512), (27, 33533), (37, 33650), (42, 33686), (45, 33764), (53, 33830), (55, 33839), (58, 33854),

Gene: Tenney120\_48 Start: 32517, Stop: 33050, Start Num: 8

Candidate Starts for Tenney120\_48:

(Start: 8 @32517 has 8 MA's), (20, 32631), (23, 32658), (26, 32688), (29, 32712), (39, 32850), (43, 32874), (48, 32970), (54, 33012), (59, 33030),

Gene: Thiqqums\_45 Start: 30767, Stop: 31297, Start Num: 7

Candidate Starts for Thiqqums\_45:

(Start: 7 @30767 has 34 MA's), (15, 30857), (16, 30866), (22, 30905), (24, 30914), (28, 30962), (45, 31184), (51, 31232), (53, 31250),

Gene: TieDye\_48 Start: 32432, Stop: 32959, Start Num: 7

Candidate Starts for TieDye\_48:

(2, 32369), (4, 32387), (Start: 7 @32432 has 34 MA's), (15, 32519), (16, 32528), (19, 32543), (25, 32600), (27, 32621), (37, 32738), (42, 32774), (45, 32852), (53, 32918), (55, 32927), (58, 32942),

Gene: TonyStarch\_48 Start: 32553, Stop: 33080, Start Num: 7

Candidate Starts for TonyStarch\_48:

(2, 32490), (4, 32508), (Start: 7 @32553 has 34 MA's), (15, 32640), (16, 32649), (19, 32664), (25, 32721), (27, 32742), (37, 32859), (42, 32895), (45, 32973), (53, 33039), (55, 33048), (58, 33063),

Gene: Uzumaki\_45 Start: 32211, Stop: 32744, Start Num: 8

Candidate Starts for Uzumaki\_45:

(Start: 8 @32211 has 8 MA's), (20, 32325), (23, 32352), (26, 32382), (29, 32406), (39, 32544), (43, 32568), (48, 32664), (54, 32706), (59, 32724),

Gene: Wigberry\_49 Start: 32190, Stop: 32729, Start Num: 7

Candidate Starts for Wigberry\_49:

(5, 32154), (Start: 7 @32190 has 34 MA's), (10, 32202), (26, 32364), (27, 32382), (32, 32424), (40, 32526), (42, 32535), (45, 32616), (51, 32667), (53, 32682), (60, 32718),

Gene: Zeina\_48 Start: 32530, Stop: 33063, Start Num: 8

Candidate Starts for Zeina\_48:

(Start: 8 @32530 has 8 MA's), (20, 32644), (23, 32671), (26, 32701), (29, 32725), (39, 32863), (43, 32887), (48, 32983), (54, 33025), (59, 33043),