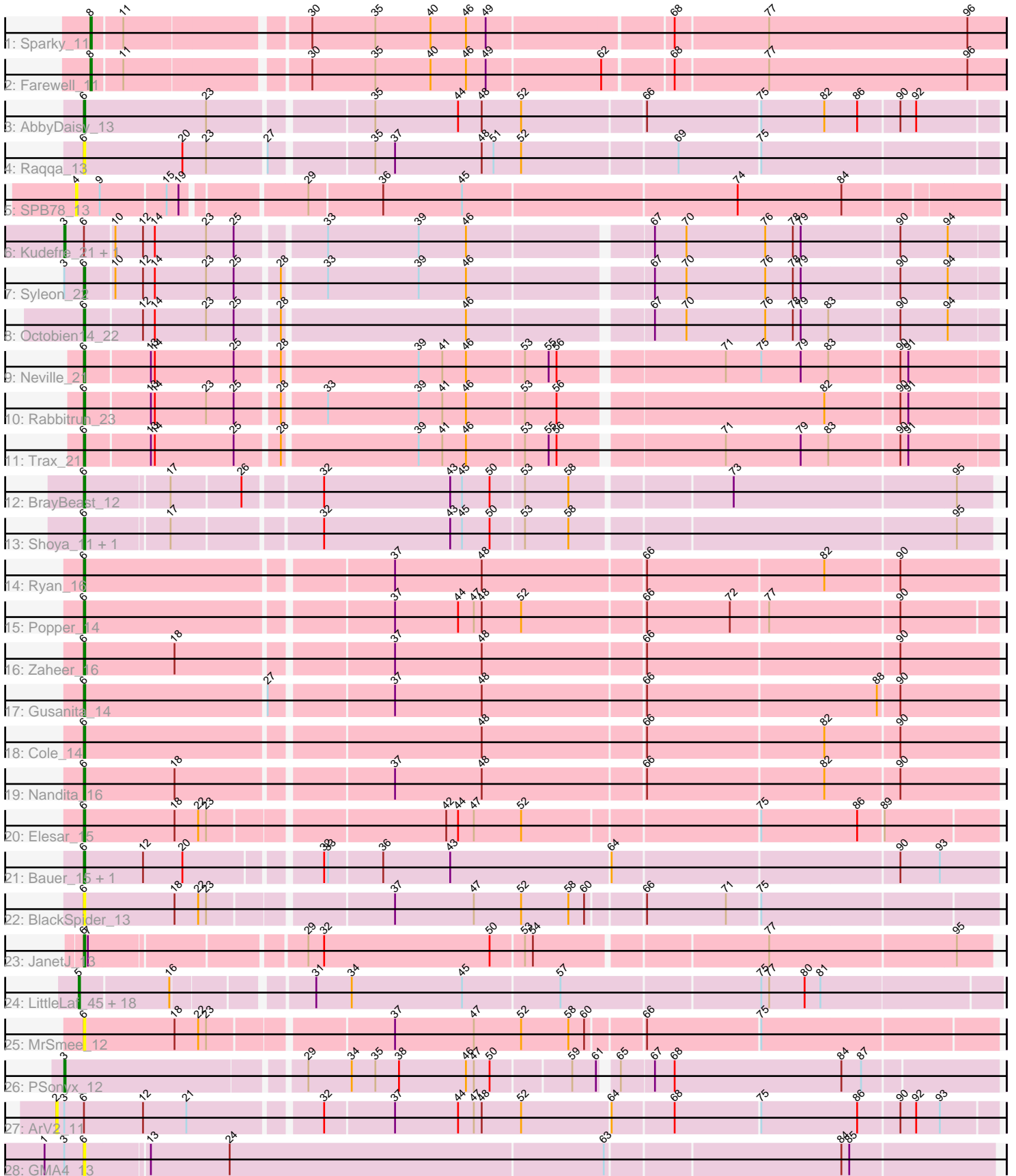


Pham 171538



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 171538 Report

This analysis was run 07/10/24 on database version 566.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 171538 has 49 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Sparky\_11
- Track 2 : Farewell\_11
- Track 3 : AbbyDaisy\_13
- Track 4 : Raqqa\_13
- Track 5 : SPB78\_13
- Track 6 : Kudrefre\_21, Sephiroth\_22
- Track 7 : Syleon\_22
- Track 8 : Octobien14\_22
- Track 9 : Neville\_21
- Track 10 : Rabbitrun\_23
- Track 11 : Trax\_21
- Track 12 : BrayBeast\_12
- Track 13 : Shoya\_11, Sarge\_12
- Track 14 : Ryan\_16
- Track 15 : Popper\_14
- Track 16 : Zaheer\_16
- Track 17 : Gusanita\_14
- Track 18 : Cole\_14
- Track 19 : Nandita\_16
- Track 20 : Elesar\_15
- Track 21 : Bauer\_15, Zucker\_14
- Track 22 : BlackSpider\_13
- Track 23 : JanetJ\_13
- Track 24 : LittleLaf\_45, Corazon\_43, Clarkson\_46, Pringar\_45, Marvin\_43, Lilbit\_46, VasuNzinga\_45, Huphlepuuff\_47, Blackbeetle\_45, Raela\_45, Gattaca\_44, MosMoris\_43, Caprice\_42, FeliMaine\_45, Tesla\_44, RedRaider77\_45, Poise\_45, Beelzebub\_49, JoieB\_46
- Track 25 : MrSmee\_12
- Track 26 : PSonyx\_12
- Track 27 : ArV2\_11
- Track 28 : GMA4\_13

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

The start number called the most often in the published annotations is 6, it was called in 19 of the 40 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbyDaisy\_13, Bauer\_15, BlackSpider\_13, BrayBeast\_12, Cole\_14, Elesar\_15, GMA4\_13, Gusanita\_14, JanetJ\_13, MrSmee\_12, Nandita\_16, Neville\_21, Octobien14\_22, Popper\_14, Rabbitrun\_23, Raqqa\_13, Ryan\_16, Sarge\_12, Shoya\_11, Syleon\_22, Trax\_21, Zaheer\_16, Zucker\_14,

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

- ArV2\_11, Kudefre\_21, Sephiroth\_22,

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

- Beelzebub\_49, Blackbeetle\_45, Caprice\_42, Clarkson\_46, Corazon\_43, Farewell\_11, FeliMaine\_45, Gattaca\_44, Huphlepuuff\_47, JoieB\_46, Lilbit\_46, LittleLaf\_45, Marvin\_43, MosMoris\_43, PSonyx\_12, Poise\_45, Pringar\_45, Raela\_45, RedRaider77\_45, SPB78\_13, Sparky\_11, Tesla\_44, VasuNzinga\_45,

### **Summary by start number:**

Start 2:

- Found in 1 of 49 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArV2\_11 (singleton),

Start 3:

- Found in 6 of 49 ( 12.2% ) of genes in pham
- Manual Annotations of this start: 3 of 40
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kudefre\_21 (DU1), PSonyx\_12 (singleton), Sephiroth\_22 (DU1),

Start 4:

- Found in 1 of 49 ( 2.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SPB78\_13 (BA),

Start 5:

- Found in 19 of 49 ( 38.8% ) of genes in pham
- Manual Annotations of this start: 16 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub\_49 (S), Blackbeetle\_45 (S), Caprice\_42 (S), Clarkson\_46 (S), Corazon\_43 (S), FeliMaine\_45 (S), Gattaca\_44 (S), Huphlepuuff\_47 (S), JoieB\_46 (S), Lilbit\_46 (S), LittleLaf\_45 (S), Marvin\_43 (S), MosMoris\_43 (S), Poise\_45 (S), Pringar\_45 (S), Raela\_45 (S), RedRaider77\_45 (S), Tesla\_44 (S), VasuNzinga\_45 (S),

Start 6:

- Found in 26 of 49 ( 53.1% ) of genes in pham
- Manual Annotations of this start: 19 of 40
- Called 88.5% of time when present
- Phage (with cluster) where this start called: AbbyDaisy\_13 (AY), Bauer\_15 (FN), BlackSpider\_13 (FN), BrayBeast\_12 (FB), Cole\_14 (FF), Elesar\_15 (FF), GMA4\_13 (singleton), Gusanita\_14 (FF), JanetJ\_13 (FO), MrSmee\_12 (UNK), Nandita\_16 (FF), Neville\_21 (DU2), Octobien14\_22 (DU1), Popper\_14 (FF), Rabbitrun\_23 (DU2), Raqqa\_13 (AY), Ryan\_16 (FF), Sarge\_12 (FB), Shoya\_11 (FB), Syleon\_22 (DU1), Trax\_21 (DU2), Zaheer\_16 (FF), Zucker\_14 (FN),

Start 8:

- Found in 2 of 49 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 2 of 40
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell\_11 (AF), Sparky\_11 (AF),

### **Summary by clusters:**

There are 12 clusters represented in this pham: singleton, BA, AF, S, FB, FF, AY, DU1, DU2, UNK, FN, FO,

Info for manual annotations of cluster AF:

- Start number 8 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster AY:

- Start number 6 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster DU1:

- Start number 3 was manually annotated 2 times for cluster DU1.
- Start number 6 was manually annotated 2 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 6 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster FB:

- Start number 6 was manually annotated 3 times for cluster FB.

Info for manual annotations of cluster FF:

- Start number 6 was manually annotated 7 times for cluster FF.

Info for manual annotations of cluster FN:

- Start number 6 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FO:

- Start number 6 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster S:

- Start number 5 was manually annotated 16 times for cluster S.

### **Gene Information:**

Gene: AbbyDaisy\_13 Start: 7857, Stop: 8522, Start Num: 6

Candidate Starts for AbbyDaisy\_13:

(Start: 6 @7857 has 19 MA's), (23, 7950), (35, 8064), (44, 8127), (48, 8145), (52, 8175), (66, 8265), (75, 8349), (82, 8397), (86, 8421), (90, 8451), (92, 8463),

Gene: ArV2\_11 Start: 7388, Stop: 8074, Start Num: 2

Candidate Starts for ArV2\_11:

(2, 7388), (Start: 3 @7394 has 3 MA's), (Start: 6 @7409 has 19 MA's), (12, 7454), (21, 7487), (32, 7580), (37, 7631), (44, 7679), (47, 7691), (48, 7697), (52, 7727), (64, 7793), (68, 7838), (75, 7901), (86, 7973), (90, 8003), (92, 8015), (93, 8033),

Gene: Bauer\_15 Start: 9233, Stop: 9898, Start Num: 6

Candidate Starts for Bauer\_15:

(Start: 6 @9233 has 19 MA's), (12, 9278), (20, 9308), (32, 9401), (33, 9404), (36, 9443), (43, 9494), (64, 9614), (90, 9824), (93, 9854),

Gene: Beelzebub\_49 Start: 19342, Stop: 20007, Start Num: 5

Candidate Starts for Beelzebub\_49:

(Start: 5 @19342 has 16 MA's), (16, 19408), (31, 19501), (34, 19528), (45, 19612), (57, 19684), (75, 19831), (77, 19837), (80, 19864), (81, 19876),

Gene: BlackSpider\_13 Start: 8260, Stop: 8922, Start Num: 6

Candidate Starts for BlackSpider\_13:

(Start: 6 @8260 has 19 MA's), (18, 8329), (22, 8347), (23, 8353), (37, 8482), (47, 8542), (52, 8578), (58, 8614), (60, 8626), (66, 8665), (71, 8725), (75, 8749),

Gene: Blackbeetle\_45 Start: 18361, Stop: 19026, Start Num: 5

Candidate Starts for Blackbeetle\_45:

(Start: 5 @18361 has 16 MA's), (16, 18427), (31, 18520), (34, 18547), (45, 18631), (57, 18703), (75, 18850), (77, 18856), (80, 18883), (81, 18895),

Gene: BrayBeast\_12 Start: 8007, Stop: 8660, Start Num: 6

Candidate Starts for BrayBeast\_12:

(Start: 6 @8007 has 19 MA's), (17, 8067), (26, 8118), (32, 8172), (43, 8268), (45, 8277), (50, 8298), (53, 8322), (58, 8355), (73, 8469), (95, 8634),

Gene: Caprice\_42 Start: 18431, Stop: 19096, Start Num: 5

Candidate Starts for Caprice\_42:

(Start: 5 @18431 has 16 MA's), (16, 18497), (31, 18590), (34, 18617), (45, 18701), (57, 18773), (75, 18920), (77, 18926), (80, 18953), (81, 18965),

Gene: Clarkson\_46 Start: 19043, Stop: 19708, Start Num: 5

Candidate Starts for Clarkson\_46:

(Start: 5 @19043 has 16 MA's), (16, 19109), (31, 19202), (34, 19229), (45, 19313), (57, 19385), (75, 19532), (77, 19538), (80, 19565), (81, 19577),

Gene: Cole\_14 Start: 8911, Stop: 9579, Start Num: 6

Candidate Starts for Cole\_14:

(Start: 6 @8911 has 19 MA's), (48, 9199), (66, 9319), (82, 9451), (90, 9505),

Gene: Corazon\_43 Start: 18996, Stop: 19661, Start Num: 5

Candidate Starts for Corazon\_43:

(Start: 5 @18996 has 16 MA's), (16, 19062), (31, 19155), (34, 19182), (45, 19266), (57, 19338), (75, 19485), (77, 19491), (80, 19518), (81, 19530),

Gene: Elesar\_15 Start: 9307, Stop: 9969, Start Num: 6

Candidate Starts for Elesar\_15:

(Start: 6 @9307 has 19 MA's), (18, 9376), (22, 9394), (23, 9400), (42, 9568), (44, 9577), (47, 9589), (52, 9625), (75, 9796), (86, 9868), (89, 9886),

Gene: Farewell\_11 Start: 8044, Stop: 8706, Start Num: 8

Candidate Starts for Farewell\_11:

(Start: 8 @8044 has 2 MA's), (11, 8065), (30, 8194), (35, 8242), (40, 8284), (46, 8311), (49, 8326), (62, 8410), (68, 8458), (77, 8527), (96, 8677),

Gene: FeliMaine\_45 Start: 19044, Stop: 19709, Start Num: 5

Candidate Starts for FeliMaine\_45:

(Start: 5 @19044 has 16 MA's), (16, 19110), (31, 19203), (34, 19230), (45, 19314), (57, 19386), (75, 19533), (77, 19539), (80, 19566), (81, 19578),

Gene: GMA4\_13 Start: 8955, Stop: 9626, Start Num: 6

Candidate Starts for GMA4\_13:

(1, 8925), (Start: 3 @8940 has 3 MA's), (Start: 6 @8955 has 19 MA's), (13, 9000), (24, 9060), (63, 9342), (84, 9513), (85, 9519),

Gene: Gattaca\_44 Start: 18223, Stop: 18888, Start Num: 5

Candidate Starts for Gattaca\_44:

(Start: 5 @18223 has 16 MA's), (16, 18289), (31, 18382), (34, 18409), (45, 18493), (57, 18565), (75, 18712), (77, 18718), (80, 18745), (81, 18757),

Gene: Gusanita\_14 Start: 9128, Stop: 9796, Start Num: 6

Candidate Starts for Gusanita\_14:

(Start: 6 @9128 has 19 MA's), (27, 9263), (37, 9350), (48, 9416), (66, 9536), (88, 9707), (90, 9722),

Gene: Huphlebuff\_47 Start: 18848, Stop: 19513, Start Num: 5

Candidate Starts for Huphlebuff\_47:

(Start: 5 @18848 has 16 MA's), (16, 18914), (31, 19007), (34, 19034), (45, 19118), (57, 19190), (75, 19337), (77, 19343), (80, 19370), (81, 19382),

Gene: JanetJ\_13 Start: 8928, Stop: 9581, Start Num: 6

Candidate Starts for JanetJ\_13:

(Start: 6 @8928 has 19 MA's), (7, 8931), (29, 9081), (32, 9093), (50, 9219), (53, 9243), (54, 9249), (77, 9417), (95, 9555),

Gene: JoieB\_46 Start: 19067, Stop: 19732, Start Num: 5

Candidate Starts for JoieB\_46:

(Start: 5 @19067 has 16 MA's), (16, 19133), (31, 19226), (34, 19253), (45, 19337), (57, 19409), (75, 19556), (77, 19562), (80, 19589), (81, 19601),

Gene: Kudrefre\_21 Start: 12302, Stop: 12976, Start Num: 3

Candidate Starts for Kudrefre\_21:

(Start: 3 @12302 has 3 MA's), (Start: 6 @12317 has 19 MA's), (10, 12338), (12, 12359), (14, 12368), (23, 12407), (25, 12428), (33, 12488), (39, 12557), (46, 12593), (67, 12722), (70, 12746), (76, 12806), (78, 12827), (79, 12833), (90, 12905), (94, 12941),

Gene: Lilbit\_46 Start: 19044, Stop: 19709, Start Num: 5

Candidate Starts for Lilbit\_46:

(Start: 5 @19044 has 16 MA's), (16, 19110), (31, 19203), (34, 19230), (45, 19314), (57, 19386), (75, 19533), (77, 19539), (80, 19566), (81, 19578),

Gene: LittleLaf\_45 Start: 18773, Stop: 19438, Start Num: 5

Candidate Starts for LittleLaf\_45:

(Start: 5 @18773 has 16 MA's), (16, 18839), (31, 18932), (34, 18959), (45, 19043), (57, 19115), (75, 19262), (77, 19268), (80, 19295), (81, 19307),

Gene: Marvin\_43 Start: 19043, Stop: 19708, Start Num: 5

Candidate Starts for Marvin\_43:

(Start: 5 @19043 has 16 MA's), (16, 19109), (31, 19202), (34, 19229), (45, 19313), (57, 19385), (75, 19532), (77, 19538), (80, 19565), (81, 19577),

Gene: MosMoris\_43 Start: 18223, Stop: 18888, Start Num: 5

Candidate Starts for MosMoris\_43:

(Start: 5 @18223 has 16 MA's), (16, 18289), (31, 18382), (34, 18409), (45, 18493), (57, 18565), (75, 18712), (77, 18718), (80, 18745), (81, 18757),

Gene: MrSmee\_12 Start: 7019, Stop: 7681, Start Num: 6

Candidate Starts for MrSmee\_12:

(Start: 6 @7019 has 19 MA's), (18, 7088), (22, 7106), (23, 7112), (37, 7241), (47, 7301), (52, 7337), (58, 7373), (60, 7385), (66, 7424), (75, 7508),

Gene: Nandita\_16 Start: 9237, Stop: 9905, Start Num: 6

Candidate Starts for Nandita\_16:

(Start: 6 @9237 has 19 MA's), (18, 9306), (37, 9459), (48, 9525), (66, 9645), (82, 9777), (90, 9831),

Gene: Neville\_21 Start: 12158, Stop: 12817, Start Num: 6

Candidate Starts for Neville\_21:

(Start: 6 @12158 has 19 MA's), (13, 12206), (14, 12209), (25, 12269), (28, 12299), (39, 12398), (41, 12416), (46, 12434), (53, 12476), (55, 12494), (56, 12500), (71, 12617), (75, 12644), (79, 12674), (83, 12695), (90, 12746), (91, 12752),

Gene: Octobien14\_22 Start: 13362, Stop: 14021, Start Num: 6

Candidate Starts for Octobien14\_22:

(Start: 6 @13362 has 19 MA's), (12, 13404), (14, 13413), (23, 13452), (25, 13473), (28, 13503), (46, 13638), (67, 13767), (70, 13791), (76, 13851), (78, 13872), (79, 13878), (83, 13899), (90, 13950), (94, 13986),

Gene: PSonyx\_12 Start: 8868, Stop: 9539, Start Num: 3

Candidate Starts for PSonyx\_12:

(Start: 3 @8868 has 3 MA's), (29, 9039), (34, 9072), (35, 9090), (38, 9108), (46, 9159), (47, 9165), (50, 9177), (59, 9234), (61, 9252), (65, 9261), (67, 9285), (68, 9300), (84, 9426), (87, 9441),

Gene: Poise\_45 Start: 18361, Stop: 19026, Start Num: 5

Candidate Starts for Poise\_45:

(Start: 5 @18361 has 16 MA's), (16, 18427), (31, 18520), (34, 18547), (45, 18631), (57, 18703), (75, 18850), (77, 18856), (80, 18883), (81, 18895),

Gene: Popper\_14 Start: 8768, Stop: 9433, Start Num: 6

Candidate Starts for Popper\_14:

(Start: 6 @8768 has 19 MA's), (37, 8990), (44, 9038), (47, 9050), (48, 9056), (52, 9086), (66, 9176), (72, 9239), (77, 9266), (90, 9362),

Gene: Pringar\_45 Start: 18673, Stop: 19338, Start Num: 5

Candidate Starts for Pringar\_45:

(Start: 5 @18673 has 16 MA's), (16, 18739), (31, 18832), (34, 18859), (45, 18943), (57, 19015), (75, 19162), (77, 19168), (80, 19195), (81, 19207),

Gene: Rabbitrun\_23 Start: 12721, Stop: 13380, Start Num: 6

Candidate Starts for Rabbitrun\_23:

(Start: 6 @12721 has 19 MA's), (13, 12769), (14, 12772), (23, 12811), (25, 12832), (28, 12862), (33, 12892), (39, 12961), (41, 12979), (46, 12997), (53, 13039), (56, 13063), (82, 13255), (90, 13309), (91, 13315),

Gene: Raela\_45 Start: 18916, Stop: 19581, Start Num: 5

Candidate Starts for Raela\_45:

(Start: 5 @18916 has 16 MA's), (16, 18982), (31, 19075), (34, 19102), (45, 19186), (57, 19258), (75, 19405), (77, 19411), (80, 19438), (81, 19450),

Gene: Raqqa\_13 Start: 8165, Stop: 8830, Start Num: 6

Candidate Starts for Raqqa\_13:

(Start: 6 @8165 has 19 MA's), (20, 8240), (23, 8258), (27, 8300), (35, 8372), (37, 8387), (48, 8453), (51, 8462), (52, 8483), (69, 8597), (75, 8657),

Gene: RedRaider77\_45 Start: 18817, Stop: 19482, Start Num: 5

Candidate Starts for RedRaider77\_45:

(Start: 5 @18817 has 16 MA's), (16, 18883), (31, 18976), (34, 19003), (45, 19087), (57, 19159), (75, 19306), (77, 19312), (80, 19339), (81, 19351),

Gene: Ryan\_16 Start: 9383, Stop: 10051, Start Num: 6

Candidate Starts for Ryan\_16:

(Start: 6 @9383 has 19 MA's), (37, 9605), (48, 9671), (66, 9791), (82, 9923), (90, 9977),

Gene: SPB78\_13 Start: 8500, Stop: 9165, Start Num: 4

Candidate Starts for SPB78\_13:

(4, 8500), (9, 8518), (15, 8566), (19, 8575), (29, 8659), (36, 8713), (45, 8773), (74, 8977), (84, 9055),

Gene: Sarge\_12 Start: 7918, Stop: 8571, Start Num: 6

Candidate Starts for Sarge\_12:

(Start: 6 @7918 has 19 MA's), (17, 7978), (32, 8083), (43, 8179), (45, 8188), (50, 8209), (53, 8233), (58, 8266), (95, 8545),

Gene: Sephiroth\_22 Start: 12473, Stop: 13147, Start Num: 3

Candidate Starts for Sephiroth\_22:

(Start: 3 @12473 has 3 MA's), (Start: 6 @12488 has 19 MA's), (10, 12509), (12, 12530), (14, 12539), (23, 12578), (25, 12599), (33, 12659), (39, 12728), (46, 12764), (67, 12893), (70, 12917), (76, 12977), (78, 12998), (79, 13004), (90, 13076), (94, 13112),

Gene: Shoya\_11 Start: 7554, Stop: 8207, Start Num: 6

Candidate Starts for Shoya\_11:

(Start: 6 @7554 has 19 MA's), (17, 7614), (32, 7719), (43, 7815), (45, 7824), (50, 7845), (53, 7869), (58, 7902), (95, 8181),



Gene: Sparky\_11 Start: 8045, Stop: 8707, Start Num: 8

Candidate Starts for Sparky\_11:

(Start: 8 @8045 has 2 MA's), (11, 8066), (30, 8195), (35, 8243), (40, 8285), (46, 8312), (49, 8327), (68, 8459), (77, 8528), (96, 8678),

Gene: Syleon\_22 Start: 12411, Stop: 13070, Start Num: 6

Candidate Starts for Syleon\_22:

(Start: 3 @12396 has 3 MA's), (Start: 6 @12411 has 19 MA's), (10, 12432), (12, 12453), (14, 12462), (23, 12501), (25, 12522), (28, 12552), (33, 12582), (39, 12651), (46, 12687), (67, 12816), (70, 12840), (76, 12900), (78, 12921), (79, 12927), (90, 12999), (94, 13035),

Gene: Tesla\_44 Start: 18666, Stop: 19331, Start Num: 5

Candidate Starts for Tesla\_44:

(Start: 5 @18666 has 16 MA's), (16, 18732), (31, 18825), (34, 18852), (45, 18936), (57, 19008), (75, 19155), (77, 19161), (80, 19188), (81, 19200),

Gene: Trax\_21 Start: 12158, Stop: 12817, Start Num: 6

Candidate Starts for Trax\_21:

(Start: 6 @12158 has 19 MA's), (13, 12206), (14, 12209), (25, 12269), (28, 12299), (39, 12398), (41, 12416), (46, 12434), (53, 12476), (55, 12494), (56, 12500), (71, 12617), (79, 12674), (83, 12695), (90, 12746), (91, 12752),

Gene: VasuNzinga\_45 Start: 18250, Stop: 18915, Start Num: 5

Candidate Starts for VasuNzinga\_45:

(Start: 5 @18250 has 16 MA's), (16, 18316), (31, 18409), (34, 18436), (45, 18520), (57, 18592), (75, 18739), (77, 18745), (80, 18772), (81, 18784),

Gene: Zaheer\_16 Start: 9472, Stop: 10140, Start Num: 6

Candidate Starts for Zaheer\_16:

(Start: 6 @9472 has 19 MA's), (18, 9541), (37, 9694), (48, 9760), (66, 9880), (90, 10066),

Gene: Zucker\_14 Start: 8546, Stop: 9211, Start Num: 6

Candidate Starts for Zucker\_14:

(Start: 6 @8546 has 19 MA's), (12, 8591), (20, 8621), (32, 8714), (33, 8717), (36, 8756), (43, 8807), (64, 8927), (90, 9137), (93, 9167),