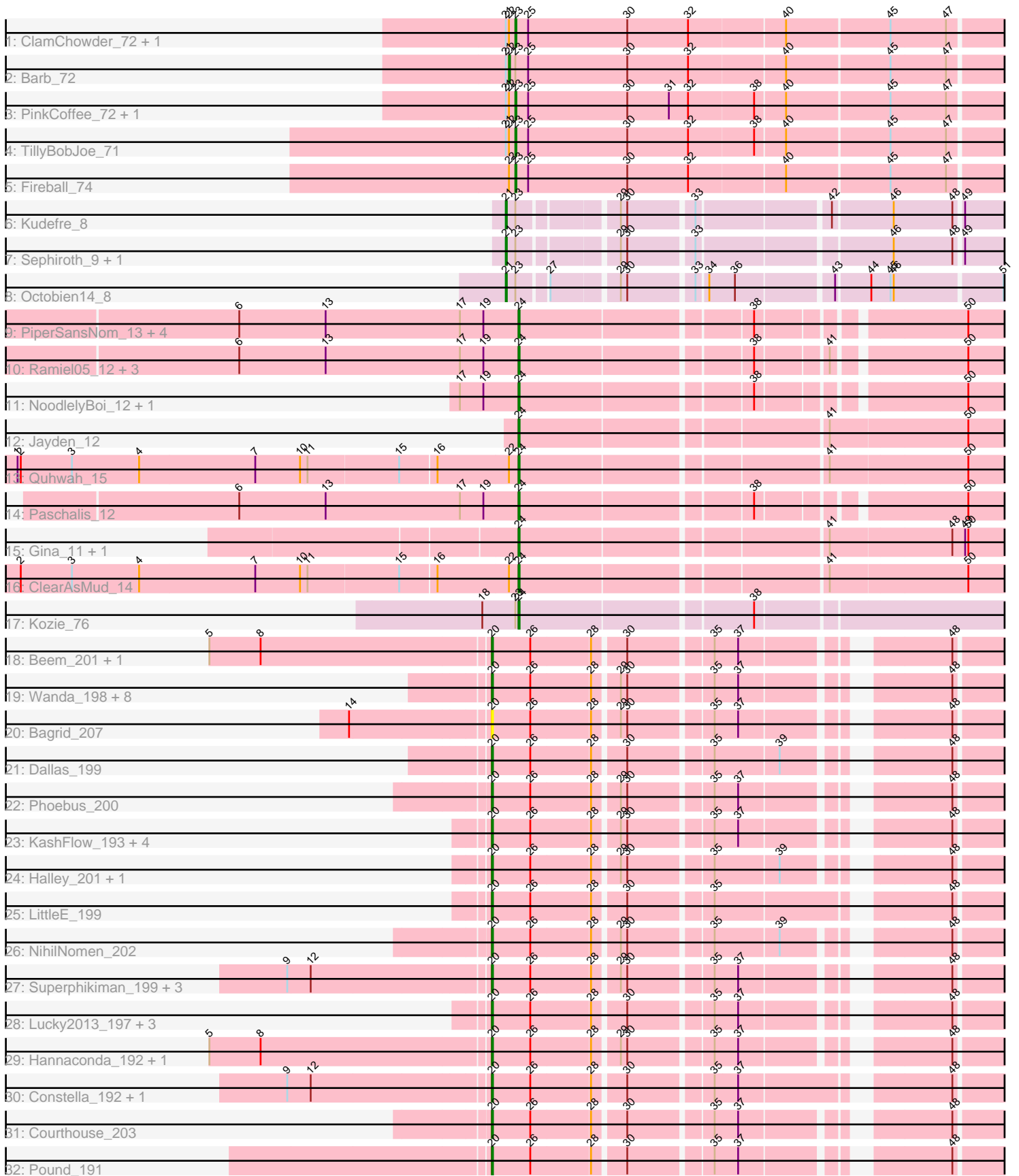


# Zoomed Pham 85564



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 85564 Report

This analysis was run 04/28/24 on database version 559.

Pham number 85564 has 66 members, 7 are drafts.

Phages represented in each track:

- Track 1 : ClamChowder\_72, Fugax\_73
- Track 2 : Barb\_72
- Track 3 : PinkCoffee\_72, Danyall\_71
- Track 4 : TillyBobJoe\_71
- Track 5 : Fireball\_74
- Track 6 : Kudefre\_8
- Track 7 : Sephiroth\_9, Syleon\_9
- Track 8 : Octobien14\_8
- Track 9 : PiperSansNom\_13, Onika\_12, Antares\_13, Jollipop\_12, PierreOrion\_13
- Track 10 : Ramiel05\_12, Kowalski\_12, Savannah\_12, BrazzalePHS\_12
- Track 11 : NoodlelyBoi\_12, CrazyRich\_12
- Track 12 : Jayden\_12
- Track 13 : Quhwah\_15
- Track 14 : Paschalis\_12
- Track 15 : Gina\_11, Teamocil\_11
- Track 16 : ClearAsMud\_14
- Track 17 : Kozie\_76
- Track 18 : Beem\_201, JuicyJay\_194
- Track 19 : Wanda\_198, Hughesyang\_199, EricMillard\_197, BAKA\_207, Duke13\_200, Zelink\_194, Ejimix\_190, Kalah2\_201, ThreeRngTarjay\_200
- Track 20 : Bagrid\_207
- Track 21 : Dallas\_199
- Track 22 : Phoebus\_200
- Track 23 : KashFlow\_193, Bombitas\_185, Minerva\_200, Schatzie\_195, HokkenD\_193
- Track 24 : Halley\_201, Klein\_205
- Track 25 : LittleE\_199
- Track 26 : NihilNomen\_202
- Track 27 : Superphikiman\_199, Gonephishing\_196, Yeet\_190, Redno2\_192
- Track 28 : Lucky2013\_197, DmpstrDiver\_199, Dove\_193, Odette\_204
- Track 29 : Hannaconda\_192, Porcelain\_200
- Track 30 : Constella\_192, Optimus\_194
- Track 31 : Courthouse\_203
- Track 32 : Pound\_191

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

The start number called the most often in the published annotations is 20, it was called in 33 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• BAKA\_207, Bagrid\_207, Beem\_201, Bombitas\_185, Constella\_192, Courthouse\_203, Dallas\_199, DmpstrDiver\_199, Dove\_193, Duke13\_200, Ejimix\_190, EricMillard\_197, Gonephishing\_196, Halley\_201, Hannaconda\_192, HokkenD\_193, Hughesyang\_199, JuicyJay\_194, Kalah2\_201, KashFlow\_193, Klein\_205, LittleE\_199, Lucky2013\_197, Minerva\_200, NihilNomen\_202, Odette\_204, Optimus\_194, Phoebus\_200, Porcelain\_200, Pound\_191, Redno2\_192, Schatzie\_195, Superphikiman\_199, ThreeRngTarjay\_200, Wanda\_198, Yeet\_190, Zelink\_194,

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

•

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

• Antares\_13, Barb\_72, BrazzalePHS\_12, ClamChowder\_72, ClearAsMud\_14, CrazyRich\_12, Danyall\_71, Fireball\_74, Fugax\_73, Gina\_11, Jayden\_12, Jollipop\_12, Kowalski\_12, Kozie\_76, Kudfre\_8, NoodlelyBoi\_12, Octobien14\_8, Onika\_12, Paschalis\_12, PierreOrion\_13, PinkCoffee\_72, PiperSansNom\_13, Quhwah\_15, Ramiel05\_12, Savannah\_12, Sephiroth\_9, Syleon\_9, Teamocil\_11, TillyBobJoe\_71,

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

Start 20:

• Found in 37 of 66 ( 56.1% ) of genes in pham  
• Manual Annotations of this start: 33 of 59  
• Called 100.0% of time when present  
• Phage (with cluster) where this start called: BAKA\_207 (J), Bagrid\_207 (J), Beem\_201 (J), Bombitas\_185 (J), Constella\_192 (J), Courthouse\_203 (J), Dallas\_199 (J), DmpstrDiver\_199 (J), Dove\_193 (J), Duke13\_200 (J), Ejimix\_190 (J), EricMillard\_197 (J), Gonephishing\_196 (J), Halley\_201 (J), Hannaconda\_192 (J), HokkenD\_193 (J), Hughesyang\_199 (J), JuicyJay\_194 (J), Kalah2\_201 (J), KashFlow\_193 (J), Klein\_205 (J), LittleE\_199 (J), Lucky2013\_197 (J), Minerva\_200 (J), NihilNomen\_202 (J), Odette\_204 (J), Optimus\_194 (J), Phoebus\_200 (J), Porcelain\_200 (J), Pound\_191 (J), Redno2\_192 (J), Schatzie\_195 (J), Superphikiman\_199 (J), ThreeRngTarjay\_200 (J), Wanda\_198 (J), Yeet\_190 (J), Zelink\_194 (J),

Start 21:

• Found in 10 of 66 ( 15.2% ) of genes in pham  
• Manual Annotations of this start: 4 of 59  
• Called 40.0% of time when present  
• Phage (with cluster) where this start called: Kudfre\_8 (DU1), Octobien14\_8 (DU1), Sephiroth\_9 (DU1), Syleon\_9 (DU1),

Start 22:

• Found in 9 of 66 ( 13.6% ) of genes in pham

- Manual Annotations of this start: 1 of 59
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Barb\_72 (DC1),

Start 23:

- Found in 12 of 66 ( 18.2% ) of genes in pham
- Manual Annotations of this start: 6 of 59
- Called 50.0% of time when present
- Phage (with cluster) where this start called: ClamChowder\_72 (DC1), Danyall\_71 (DC1), Fireball\_74 (DC1), Fugax\_73 (DC1), PinkCoffee\_72 (DC1), TillyBobJoe\_71 (DC1),

Start 24:

- Found in 18 of 66 ( 27.3% ) of genes in pham
- Manual Annotations of this start: 15 of 59
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antares\_13 (EC), BrazzalePHS\_12 (EC), ClearAsMud\_14 (EC), CrazyRich\_12 (EC), Gina\_11 (EC), Jayden\_12 (EC), Jollipop\_12 (EC), Kowalski\_12 (EC), Kozie\_76 (EI), NoodlelyBoi\_12 (EC), Onika\_12 (EC), Paschalis\_12 (EC), PierreOrion\_13 (EC), PiperSansNom\_13 (EC), Quhwah\_15 (EC), Ramiel05\_12 (EC), Savannah\_12 (EC), Teamocil\_11 (EC),

### **Summary by clusters:**

There are 5 clusters represented in this pham: DU1, J, EI, EC, DC1,

Info for manual annotations of cluster DC1:

- Start number 22 was manually annotated 1 time for cluster DC1.
- Start number 23 was manually annotated 6 times for cluster DC1.

Info for manual annotations of cluster DU1:

- Start number 21 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster EC:

- Start number 24 was manually annotated 14 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 24 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster J:

- Start number 20 was manually annotated 33 times for cluster J.

### **Gene Information:**

Gene: Antares\_13 Start: 5808, Stop: 6263, Start Num: 24

Candidate Starts for Antares\_13:

(6, 5547), (13, 5628), (17, 5754), (19, 5775), (Start: 24 @5808 has 15 MA's), (38, 6012), (50, 6183),

Gene: BAKA\_207 Start: 101547, Stop: 101092, Start Num: 20

Candidate Starts for BAKA\_207:

(Start: 20 @101547 has 33 MA's), (26, 101511), (28, 101457), (29, 101436), (30, 101430), (35, 101358), (37, 101337), (48, 101178), (54, 101106),

Gene: Bagrid\_207 Start: 101730, Stop: 101275, Start Num: 20

Candidate Starts for Bagrid\_207:

(14, 101853), (Start: 20 @101730 has 33 MA's), (26, 101694), (28, 101640), (29, 101619), (30, 101613), (35, 101541), (37, 101520), (48, 101361), (54, 101289),

Gene: Barb\_72 Start: 49541, Stop: 50065, Start Num: 22

Candidate Starts for Barb\_72:

(Start: 21 @49538 has 4 MA's), (Start: 22 @49541 has 1 MA's), (Start: 23 @49547 has 6 MA's), (25, 49559), (30, 49652), (32, 49709), (40, 49796), (45, 49889), (47, 49940), (52, 49991), (58, 50054),

Gene: Beem\_201 Start: 100433, Stop: 99978, Start Num: 20

Candidate Starts for Beem\_201:

(5, 100691), (8, 100643), (Start: 20 @100433 has 33 MA's), (26, 100397), (28, 100343), (30, 100316), (35, 100244), (37, 100223), (48, 100064),

Gene: Bombitas\_185 Start: 97105, Stop: 96650, Start Num: 20

Candidate Starts for Bombitas\_185:

(Start: 20 @97105 has 33 MA's), (26, 97069), (28, 97015), (29, 96994), (30, 96988), (35, 96916), (37, 96895), (48, 96736), (54, 96664),

Gene: BrazzalePHS\_12 Start: 5596, Stop: 6051, Start Num: 24

Candidate Starts for BrazzalePHS\_12:

(6, 5335), (13, 5416), (17, 5542), (19, 5563), (Start: 24 @5596 has 15 MA's), (38, 5800), (41, 5860), (50, 5971),

Gene: ClamChowder\_72 Start: 49547, Stop: 50065, Start Num: 23

Candidate Starts for ClamChowder\_72:

(Start: 21 @49538 has 4 MA's), (Start: 22 @49541 has 1 MA's), (Start: 23 @49547 has 6 MA's), (25, 49559), (30, 49652), (32, 49709), (40, 49796), (45, 49889), (47, 49940), (52, 49991), (58, 50054),

Gene: ClearAsMud\_14 Start: 6154, Stop: 6627, Start Num: 24

Candidate Starts for ClearAsMud\_14:

(2, 5695), (3, 5743), (4, 5806), (7, 5914), (10, 5956), (11, 5962), (15, 6046), (16, 6079), (Start: 22 @6145 has 1 MA's), (Start: 24 @6154 has 15 MA's), (41, 6424), (50, 6550), (56, 6616),

Gene: Constella\_192 Start: 98929, Stop: 98465, Start Num: 20

Candidate Starts for Constella\_192:

(9, 99109), (12, 99088), (Start: 20 @98929 has 33 MA's), (26, 98893), (28, 98839), (30, 98812), (35, 98740), (37, 98719), (48, 98551), (54, 98479),

Gene: Courthouse\_203 Start: 98541, Stop: 98086, Start Num: 20

Candidate Starts for Courthouse\_203:

(Start: 20 @98541 has 33 MA's), (26, 98505), (28, 98451), (30, 98424), (35, 98352), (37, 98331), (48, 98172), (54, 98100),

Gene: CrazyRich\_12 Start: 5596, Stop: 6051, Start Num: 24

Candidate Starts for CrazyRich\_12:

(17, 5542), (19, 5563), (Start: 24 @5596 has 15 MA's), (38, 5800), (50, 5971),

Gene: Dallas\_199 Start: 99453, Stop: 98998, Start Num: 20

Candidate Starts for Dallas\_199:

(Start: 20 @99453 has 33 MA's), (26, 99417), (28, 99363), (30, 99336), (35, 99264), (39, 99207), (48, 99084), (54, 99012),

Gene: Danyall\_71 Start: 49528, Stop: 50046, Start Num: 23

Candidate Starts for Danyall\_71:

(Start: 21 @49519 has 4 MA's), (Start: 22 @49522 has 1 MA's), (Start: 23 @49528 has 6 MA's), (25, 49540), (30, 49633), (31, 49672), (32, 49690), (38, 49750), (40, 49777), (45, 49870), (47, 49921), (52, 49972), (58, 50035),

Gene: DmpstrDiver\_199 Start: 99298, Stop: 98843, Start Num: 20

Candidate Starts for DmpstrDiver\_199:

(Start: 20 @99298 has 33 MA's), (26, 99262), (28, 99208), (30, 99181), (35, 99109), (37, 99088), (48, 98929), (54, 98857),

Gene: Dove\_193 Start: 95713, Stop: 95258, Start Num: 20

Candidate Starts for Dove\_193:

(Start: 20 @95713 has 33 MA's), (26, 95677), (28, 95623), (30, 95596), (35, 95524), (37, 95503), (48, 95344), (54, 95272),

Gene: Duke13\_200 Start: 99722, Stop: 99267, Start Num: 20

Candidate Starts for Duke13\_200:

(Start: 20 @99722 has 33 MA's), (26, 99686), (28, 99632), (29, 99611), (30, 99605), (35, 99533), (37, 99512), (48, 99353), (54, 99281),

Gene: Ejimix\_190 Start: 98856, Stop: 98401, Start Num: 20

Candidate Starts for Ejimix\_190:

(Start: 20 @98856 has 33 MA's), (26, 98820), (28, 98766), (29, 98745), (30, 98739), (35, 98667), (37, 98646), (48, 98487), (54, 98415),

Gene: EricMillard\_197 Start: 100623, Stop: 100168, Start Num: 20

Candidate Starts for EricMillard\_197:

(Start: 20 @100623 has 33 MA's), (26, 100587), (28, 100533), (29, 100512), (30, 100506), (35, 100434), (37, 100413), (48, 100254), (54, 100182),

Gene: Fireball\_74 Start: 50225, Stop: 50743, Start Num: 23

Candidate Starts for Fireball\_74:

(Start: 22 @50219 has 1 MA's), (Start: 23 @50225 has 6 MA's), (25, 50237), (30, 50330), (32, 50387), (40, 50474), (45, 50567), (47, 50618), (52, 50669), (58, 50732),

Gene: Fugax\_73 Start: 49539, Stop: 50057, Start Num: 23

Candidate Starts for Fugax\_73:

(Start: 21 @49530 has 4 MA's), (Start: 22 @49533 has 1 MA's), (Start: 23 @49539 has 6 MA's), (25, 49551), (30, 49644), (32, 49701), (40, 49788), (45, 49881), (47, 49932), (52, 49983), (58, 50046),

Gene: Gina\_11 Start: 4537, Stop: 5013, Start Num: 24

Candidate Starts for Gina\_11:

(Start: 24 @4537 has 15 MA's), (41, 4807), (48, 4918), (49, 4930), (50, 4933), (54, 4996), (56, 5002),

Gene: Gonephishing\_196 Start: 98263, Stop: 97808, Start Num: 20

Candidate Starts for Gonephishing\_196:

(9, 98443), (12, 98422), (Start: 20 @98263 has 33 MA's), (26, 98227), (28, 98173), (29, 98152), (30, 98146), (35, 98074), (37, 98053), (48, 97894), (54, 97822),

Gene: Halley\_201 Start: 99081, Stop: 98626, Start Num: 20

Candidate Starts for Halley\_201:

(Start: 20 @99081 has 33 MA's), (26, 99045), (28, 98991), (29, 98970), (30, 98964), (35, 98892), (39, 98835), (48, 98712), (54, 98640),

Gene: Hannaconda\_192 Start: 99392, Stop: 98937, Start Num: 20

Candidate Starts for Hannaconda\_192:

(5, 99650), (8, 99602), (Start: 20 @99392 has 33 MA's), (26, 99356), (28, 99302), (29, 99281), (30, 99275), (35, 99203), (37, 99182), (48, 99023),

Gene: HokkenD\_193 Start: 100887, Stop: 100432, Start Num: 20

Candidate Starts for HokkenD\_193:

(Start: 20 @100887 has 33 MA's), (26, 100851), (28, 100797), (29, 100776), (30, 100770), (35, 100698), (37, 100677), (48, 100518), (54, 100446),

Gene: Hughesyang\_199 Start: 100132, Stop: 99677, Start Num: 20

Candidate Starts for Hughesyang\_199:

(Start: 20 @100132 has 33 MA's), (26, 100096), (28, 100042), (29, 100021), (30, 100015), (35, 99943), (37, 99922), (48, 99763), (54, 99691),

Gene: Jayden\_12 Start: 5360, Stop: 5833, Start Num: 24

Candidate Starts for Jayden\_12:

(Start: 24 @5360 has 15 MA's), (41, 5630), (50, 5756), (55, 5819), (56, 5822),

Gene: Jollipop\_12 Start: 5596, Stop: 6051, Start Num: 24

Candidate Starts for Jollipop\_12:

(6, 5335), (13, 5416), (17, 5542), (19, 5563), (Start: 24 @5596 has 15 MA's), (38, 5800), (50, 5971),

Gene: JuicyJay\_194 Start: 100385, Stop: 99930, Start Num: 20

Candidate Starts for JuicyJay\_194:

(5, 100643), (8, 100595), (Start: 20 @100385 has 33 MA's), (26, 100349), (28, 100295), (30, 100268), (35, 100196), (37, 100175), (48, 100016),

Gene: Kalah2\_201 Start: 101778, Stop: 101323, Start Num: 20

Candidate Starts for Kalah2\_201:

(Start: 20 @101778 has 33 MA's), (26, 101742), (28, 101688), (29, 101667), (30, 101661), (35, 101589), (37, 101568), (48, 101409), (54, 101337),

Gene: KashFlow\_193 Start: 98855, Stop: 98400, Start Num: 20

Candidate Starts for KashFlow\_193:

(Start: 20 @98855 has 33 MA's), (26, 98819), (28, 98765), (29, 98744), (30, 98738), (35, 98666), (37, 98645), (48, 98486), (54, 98414),

Gene: Klein\_205 Start: 99450, Stop: 98995, Start Num: 20

Candidate Starts for Klein\_205:

(Start: 20 @99450 has 33 MA's), (26, 99414), (28, 99360), (29, 99339), (30, 99333), (35, 99261), (39, 99204), (48, 99081), (54, 99009),

Gene: Kowalski\_12 Start: 5596, Stop: 6051, Start Num: 24

Candidate Starts for Kowalski\_12:

(6, 5335), (13, 5416), (17, 5542), (19, 5563), (Start: 24 @5596 has 15 MA's), (38, 5800), (41, 5860), (50, 5971),

Gene: Kozie\_76 Start: 47320, Stop: 47874, Start Num: 24

Candidate Starts for Kozie\_76:

(18, 47287), (Start: 23 @47317 has 6 MA's), (Start: 24 @47320 has 15 MA's), (38, 47527), (59, 47863),

Gene: Kudfre\_8 Start: 3580, Stop: 3080, Start Num: 21

Candidate Starts for Kudfre\_8:

(Start: 21 @3580 has 4 MA's), (Start: 23 @3571 has 6 MA's), (29, 3490), (30, 3484), (33, 3427), (42, 3313), (46, 3259), (48, 3205), (49, 3199), (53, 3136),

Gene: LittleE\_199 Start: 99079, Stop: 98615, Start Num: 20

Candidate Starts for LittleE\_199:

(Start: 20 @99079 has 33 MA's), (26, 99043), (28, 98989), (30, 98962), (35, 98890), (48, 98701),

Gene: Lucky2013\_197 Start: 96606, Stop: 96151, Start Num: 20

Candidate Starts for Lucky2013\_197:

(Start: 20 @96606 has 33 MA's), (26, 96570), (28, 96516), (30, 96489), (35, 96417), (37, 96396), (48, 96237), (54, 96165),

Gene: Minerva\_200 Start: 98952, Stop: 98497, Start Num: 20

Candidate Starts for Minerva\_200:

(Start: 20 @98952 has 33 MA's), (26, 98916), (28, 98862), (29, 98841), (30, 98835), (35, 98763), (37, 98742), (48, 98583), (54, 98511),

Gene: NihilNomen\_202 Start: 98635, Stop: 98180, Start Num: 20

Candidate Starts for NihilNomen\_202:

(Start: 20 @98635 has 33 MA's), (26, 98599), (28, 98545), (29, 98524), (30, 98518), (35, 98446), (39, 98389), (48, 98266), (54, 98194),

Gene: NoodlelyBoi\_12 Start: 5605, Stop: 6060, Start Num: 24

Candidate Starts for NoodlelyBoi\_12:

(17, 5551), (19, 5572), (Start: 24 @5605 has 15 MA's), (38, 5809), (50, 5980),

Gene: Octobien14\_8 Start: 3942, Stop: 3463, Start Num: 21

Candidate Starts for Octobien14\_8:

(Start: 21 @3942 has 4 MA's), (Start: 23 @3933 has 6 MA's), (27, 3909), (29, 3852), (30, 3846), (33, 3789), (34, 3780), (36, 3756), (43, 3672), (44, 3642), (45, 3624), (46, 3621), (51, 3525), (53, 3504), (57, 3486),

Gene: Odette\_204 Start: 101582, Stop: 101127, Start Num: 20

Candidate Starts for Odette\_204:

(Start: 20 @101582 has 33 MA's), (26, 101546), (28, 101492), (30, 101465), (35, 101393), (37, 101372), (48, 101213), (54, 101141),

Gene: Onika\_12 Start: 5596, Stop: 6051, Start Num: 24

Candidate Starts for Onika\_12:

(6, 5335), (13, 5416), (17, 5542), (19, 5563), (Start: 24 @5596 has 15 MA's), (38, 5800), (50, 5971),

Gene: Optimus\_194 Start: 99043, Stop: 98588, Start Num: 20

Candidate Starts for Optimus\_194:

(9, 99223), (12, 99202), (Start: 20 @99043 has 33 MA's), (26, 99007), (28, 98953), (30, 98926), (35, 98854), (37, 98833), (48, 98674), (54, 98602),



Gene: Paschalis\_12 Start: 5605, Stop: 6060, Start Num: 24

Candidate Starts for Paschalis\_12:

(6, 5344), (13, 5425), (17, 5551), (19, 5572), (Start: 24 @5605 has 15 MA's), (38, 5809), (50, 5980),

Gene: Phoebus\_200 Start: 102404, Stop: 101949, Start Num: 20

Candidate Starts for Phoebus\_200:

(Start: 20 @102404 has 33 MA's), (26, 102368), (28, 102314), (29, 102293), (30, 102287), (35, 102215), (37, 102194), (48, 102035), (54, 101963),

Gene: PierreOrion\_13 Start: 5760, Stop: 6215, Start Num: 24

Candidate Starts for PierreOrion\_13:

(6, 5499), (13, 5580), (17, 5706), (19, 5727), (Start: 24 @5760 has 15 MA's), (38, 5964), (50, 6135),

Gene: PinkCoffee\_72 Start: 49569, Stop: 50087, Start Num: 23

Candidate Starts for PinkCoffee\_72:

(Start: 21 @49560 has 4 MA's), (Start: 22 @49563 has 1 MA's), (Start: 23 @49569 has 6 MA's), (25, 49581), (30, 49674), (31, 49713), (32, 49731), (38, 49791), (40, 49818), (45, 49911), (47, 49962), (52, 50013), (58, 50076),

Gene: PiperSansNom\_13 Start: 5909, Stop: 6364, Start Num: 24

Candidate Starts for PiperSansNom\_13:

(6, 5648), (13, 5729), (17, 5855), (19, 5876), (Start: 24 @5909 has 15 MA's), (38, 6113), (50, 6284),

Gene: Porcelain\_200 Start: 97552, Stop: 97097, Start Num: 20

Candidate Starts for Porcelain\_200:

(5, 97810), (8, 97762), (Start: 20 @97552 has 33 MA's), (26, 97516), (28, 97462), (29, 97441), (30, 97435), (35, 97363), (37, 97342), (48, 97183),

Gene: Pound\_191 Start: 98593, Stop: 98138, Start Num: 20

Candidate Starts for Pound\_191:

(Start: 20 @98593 has 33 MA's), (26, 98557), (28, 98503), (30, 98476), (35, 98404), (37, 98383), (48, 98224), (54, 98152),

Gene: Quhwah\_15 Start: 6097, Stop: 6570, Start Num: 24

Candidate Starts for Quhwah\_15:

(1, 5635), (2, 5638), (3, 5686), (4, 5749), (7, 5857), (10, 5899), (11, 5905), (15, 5989), (16, 6022), (Start: 22 @6088 has 1 MA's), (Start: 24 @6097 has 15 MA's), (41, 6367), (50, 6493), (55, 6556), (56, 6559),

Gene: Ramiel05\_12 Start: 5596, Stop: 6051, Start Num: 24

Candidate Starts for Ramiel05\_12:

(6, 5335), (13, 5416), (17, 5542), (19, 5563), (Start: 24 @5596 has 15 MA's), (38, 5800), (41, 5860), (50, 5971),

Gene: Redno2\_192 Start: 96460, Stop: 96005, Start Num: 20

Candidate Starts for Redno2\_192:

(9, 96640), (12, 96619), (Start: 20 @96460 has 33 MA's), (26, 96424), (28, 96370), (29, 96349), (30, 96343), (35, 96271), (37, 96250), (48, 96091), (54, 96019),

Gene: Savannah\_12 Start: 5620, Stop: 6075, Start Num: 24

Candidate Starts for Savannah\_12:

(6, 5359), (13, 5440), (17, 5566), (19, 5587), (Start: 24 @5620 has 15 MA's), (38, 5824), (41, 5884), (50, 5995),

Gene: Schatzie\_195 Start: 99459, Stop: 99004, Start Num: 20

Candidate Starts for Schatzie\_195:

(Start: 20 @99459 has 33 MA's), (26, 99423), (28, 99369), (29, 99348), (30, 99342), (35, 99270), (37, 99249), (48, 99090), (54, 99018),

Gene: Sephiroth\_9 Start: 3752, Stop: 3252, Start Num: 21

Candidate Starts for Sephiroth\_9:

(Start: 21 @3752 has 4 MA's), (Start: 23 @3743 has 6 MA's), (29, 3662), (30, 3656), (33, 3599), (46, 3431), (48, 3377), (49, 3371), (53, 3308),

Gene: Superphikiman\_199 Start: 97504, Stop: 97049, Start Num: 20

Candidate Starts for Superphikiman\_199:

(9, 97684), (12, 97663), (Start: 20 @97504 has 33 MA's), (26, 97468), (28, 97414), (29, 97393), (30, 97387), (35, 97315), (37, 97294), (48, 97135), (54, 97063),

Gene: Syleon\_9 Start: 3674, Stop: 3174, Start Num: 21

Candidate Starts for Syleon\_9:

(Start: 21 @3674 has 4 MA's), (Start: 23 @3665 has 6 MA's), (29, 3584), (30, 3578), (33, 3521), (46, 3353), (48, 3299), (49, 3293), (53, 3230),

Gene: Teamocil\_11 Start: 4537, Stop: 5013, Start Num: 24

Candidate Starts for Teamocil\_11:

(Start: 24 @4537 has 15 MA's), (41, 4807), (48, 4918), (49, 4930), (50, 4933), (54, 4996), (56, 5002),

Gene: ThreeRngTarjay\_200 Start: 101297, Stop: 100842, Start Num: 20

Candidate Starts for ThreeRngTarjay\_200:

(Start: 20 @101297 has 33 MA's), (26, 101261), (28, 101207), (29, 101186), (30, 101180), (35, 101108), (37, 101087), (48, 100928), (54, 100856),

Gene: TillyBobJoe\_71 Start: 49825, Stop: 50343, Start Num: 23

Candidate Starts for TillyBobJoe\_71:

(Start: 21 @49816 has 4 MA's), (Start: 22 @49819 has 1 MA's), (Start: 23 @49825 has 6 MA's), (25, 49837), (30, 49930), (32, 49987), (38, 50047), (40, 50074), (45, 50167), (47, 50218), (52, 50269), (58, 50332),

Gene: Wanda\_198 Start: 97087, Stop: 96632, Start Num: 20

Candidate Starts for Wanda\_198:

(Start: 20 @97087 has 33 MA's), (26, 97051), (28, 96997), (29, 96976), (30, 96970), (35, 96898), (37, 96877), (48, 96718), (54, 96646),

Gene: Yeet\_190 Start: 98101, Stop: 97646, Start Num: 20

Candidate Starts for Yeet\_190:

(9, 98281), (12, 98260), (Start: 20 @98101 has 33 MA's), (26, 98065), (28, 98011), (29, 97990), (30, 97984), (35, 97912), (37, 97891), (48, 97732), (54, 97660),

Gene: Zelink\_194 Start: 99005, Stop: 98550, Start Num: 20

Candidate Starts for Zelink\_194:

(Start: 20 @99005 has 33 MA's), (26, 98969), (28, 98915), (29, 98894), (30, 98888), (35, 98816), (37, 98795), (48, 98636), (54, 98564),