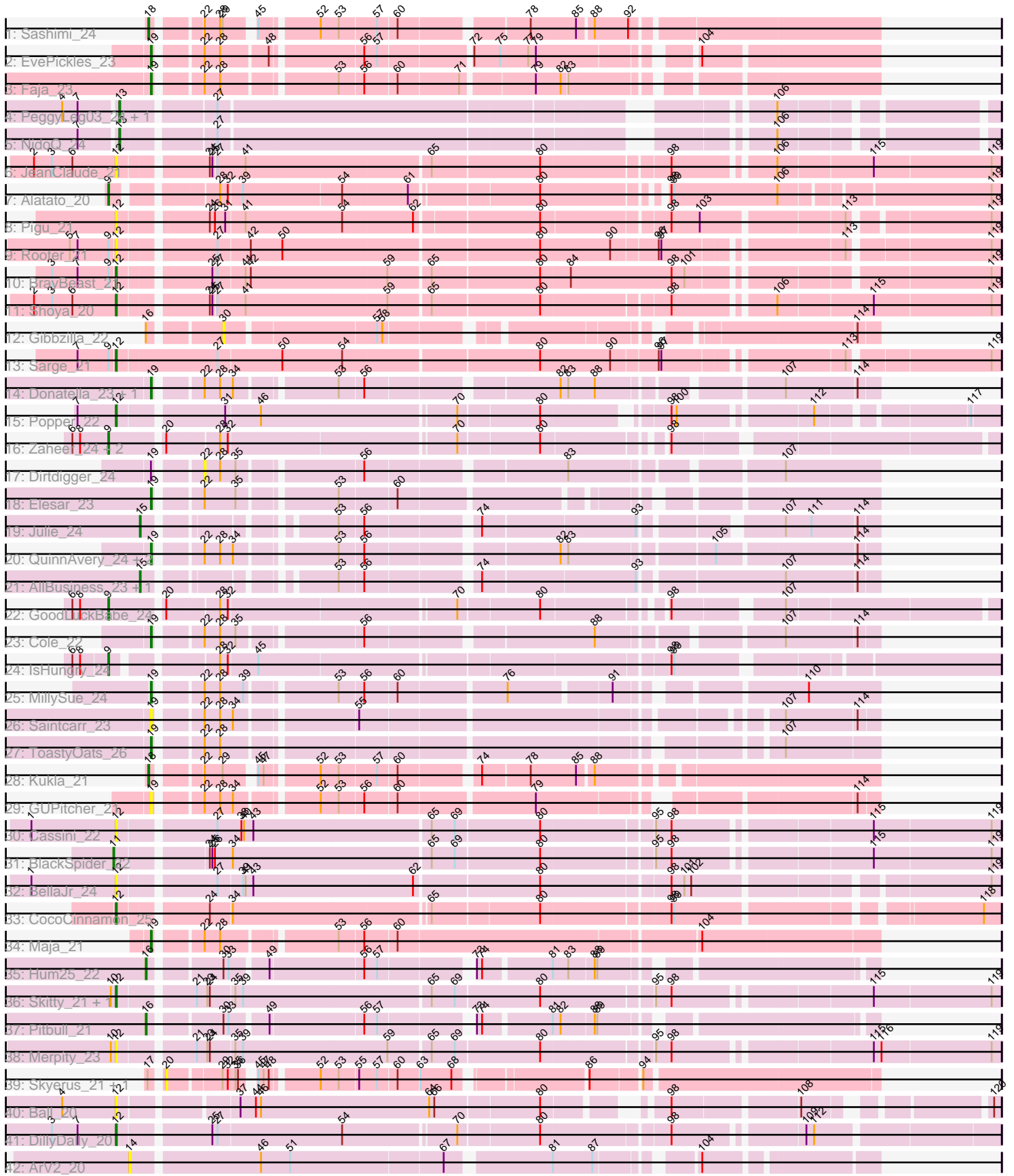


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 311683 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311683 has 51 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Sashimi\_24
- Track 2 : EvePickles\_23
- Track 3 : Faja\_23
- Track 4 : PeggyLeg03\_24, Constance\_24
- Track 5 : NidoQ\_24
- Track 6 : JeanClaude\_21
- Track 7 : Alatato\_20
- Track 8 : Pigu\_21
- Track 9 : Rooter\_21
- Track 10 : BrayBeast\_21
- Track 11 : Shoya\_20
- Track 12 : Gibbzilla\_22
- Track 13 : Sarge\_21
- Track 14 : Donatella\_23, Ichiang\_22
- Track 15 : Popper\_22
- Track 16 : Zaheer\_24, Ryan\_24, Yonex\_24
- Track 17 : Dirdigger\_24
- Track 18 : Elesar\_23
- Track 19 : Julie\_24
- Track 20 : QuinnAvery\_24, Halloweekend\_22, BigSherm\_24
- Track 21 : AllBusiness\_23, Toodles\_24
- Track 22 : GoodLuckBabe\_24
- Track 23 : Cole\_22
- Track 24 : IsHungry\_24
- Track 25 : MillySue\_24
- Track 26 : Saintcarr\_23
- Track 27 : ToastyOats\_26
- Track 28 : Kukla\_21
- Track 29 : GUPitcher\_21
- Track 30 : Cassini\_22
- Track 31 : BlackSpider\_22
- Track 32 : BellaJr\_24
- Track 33 : CocoCinnamon\_25
- Track 34 : Maja\_21
- Track 35 : Hum25\_22
- Track 36 : Skitty\_21, MrSmee\_21
- Track 37 : Pitbull\_21

- Track 38 : Merpity\_23
- Track 39 : Skyerus\_21, Raya\_21
- Track 40 : Ball\_20
- Track 41 : DillyDally\_20
- Track 42 : ArV2\_20

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

The start number called the most often in the published annotations is 19, it was called in 12 of the 36 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BigSherm\_24, Cole\_22, Donatella\_23, Elesar\_23, EvePickles\_23, Faja\_23, GUPitcher\_21, Halloweekend\_22, Ichiang\_22, Maja\_21, MillySue\_24, QuinnAvery\_24, Saintcarr\_23, ToastyOats\_26,

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

- Dirtdigger\_24,

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

- Alatato\_20, AllBusiness\_23, ArV2\_20, Ball\_20, BellaJr\_24, BlackSpider\_22, BrayBeast\_21, Cassini\_22, CocoCinnamon\_25, Constance\_24, DillyDally\_20, Gibbzilla\_22, GoodLuckBabe\_24, Hum25\_22, IsHungry\_24, JeanClaude\_21, Julie\_24, Kukla\_21, Merpity\_23, MrSmee\_21, NidoQ\_24, PeggyLeg03\_24, Pigu\_21, Pitbull\_21, Popper\_22, Raya\_21, Rooter\_21, Ryan\_24, Sarge\_21, Sashimi\_24, Shoya\_20, Skitty\_21, Skyerus\_21, Toodles\_24, Yonex\_24, Zaheer\_24,

**Summary by start number:**

Start 9:

- Found in 9 of 51 ( 17.6% ) of genes in pham
- Manual Annotations of this start: 5 of 36
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Alatato\_20 (FB), GoodLuckBabe\_24 (FF), IsHungry\_24 (FF), Ryan\_24 (FF), Yonex\_24 (FF), Zaheer\_24 (FF),

Start 11:

- Found in 1 of 51 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlackSpider\_22 (FN),

Start 12:

- Found in 15 of 51 ( 29.4% ) of genes in pham
- Manual Annotations of this start: 8 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ball\_20 (singleton), BellaJr\_24 (FN), BrayBeast\_21 (FB), Cassini\_22 (FN), CocoCinnamon\_25 (FO), DillyDally\_20 (singleton), JeanClaude\_21 (FB), Merpity\_23 (FQ1), MrSmee\_21 (FQ1), Pigu\_21 (FB), Popper\_22 (FF), Rooter\_21 (FB), Sarge\_21 (FB), Shoya\_20 (FB), Skitty\_21

(FQ1),

Start 13:

- Found in 3 of 51 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 3 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Constance\_24 (FA), NidoQ\_24 (FA), PeggyLeg03\_24 (FA),

Start 14:

- Found in 1 of 51 ( 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\_20 (singleton),

Start 15:

- Found in 3 of 51 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 3 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AllBusiness\_23 (FF), Julie\_24 (FF), Toodles\_24 (FF),

Start 16:

- Found in 3 of 51 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 2 of 36
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Hum25\_22 (FQ1), Pitbull\_21 (FQ1),

Start 18:

- Found in 2 of 51 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 2 of 36
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kukla\_21 (FJ), Sashimi\_24 (AY),

Start 19:

- Found in 15 of 51 ( 29.4% ) of genes in pham
- Manual Annotations of this start: 12 of 36
- Called 93.3% of time when present
- Phage (with cluster) where this start called: BigSherm\_24 (FF), Cole\_22 (FF), Donatella\_23 (FF), Elesar\_23 (FF), EvePickles\_23 (AY), Faja\_23 (AY), GUPitcher\_21 (FJ), Halloween\_22 (FF), Ichiang\_22 (FF), Maja\_21 (FO), MillySue\_24 (FF), QuinnAvery\_24 (FF), Saintcarr\_23 (FF), ToastyOats\_26 (FF),

Start 20:

- Found in 6 of 51 ( 11.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Raya\_21 (FQ2), Skyerus\_21 (FQ2),

Start 22:

- Found in 17 of 51 ( 33.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 5.9% of time when present

- Phage (with cluster) where this start called: Dirtdigger\_24 (FF),

Start 30:

- Found in 3 of 51 ( 5.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Gibbzilla\_22 (FB),

### **Summary by clusters:**

There are 10 clusters represented in this pham: singleton, FQ2, FA, FB, FF, AY, FJ, FQ1, FN, FO,

Info for manual annotations of cluster AY:

- Start number 18 was manually annotated 1 time for cluster AY.
- Start number 19 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster FA:

- Start number 13 was manually annotated 3 times for cluster FA.

Info for manual annotations of cluster FB:

- Start number 9 was manually annotated 1 time for cluster FB.
- Start number 12 was manually annotated 3 times for cluster FB.

Info for manual annotations of cluster FF:

- Start number 9 was manually annotated 4 times for cluster FF.
- Start number 12 was manually annotated 1 time for cluster FF.
- Start number 15 was manually annotated 3 times for cluster FF.
- Start number 19 was manually annotated 9 times for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 18 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FN:

- Start number 11 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster FO:

- Start number 12 was manually annotated 1 time for cluster FO.
- Start number 19 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster FQ1:

- Start number 12 was manually annotated 2 times for cluster FQ1.
- Start number 16 was manually annotated 2 times for cluster FQ1.

### **Gene Information:**

Gene: Alatato\_20 Start: 15782, Stop: 16714, Start Num: 9

Candidate Starts for Alatato\_20:

(Start: 9 @15782 has 5 MA's), (28, 15884), (32, 15893), (39, 15908), (54, 16019), (61, 16094), (80, 16232), (98, 16355), (99, 16358), (106, 16478), (119, 16703),

Gene: AllBusiness\_23 Start: 18192, Stop: 18935, Start Num: 15

Candidate Starts for AllBusiness\_23:

(Start: 15 @18192 has 3 MA's), (53, 18366), (56, 18393), (74, 18510), (93, 18678), (107, 18831), (114, 18912),

Gene: ArV2\_20 Start: 16169, Stop: 16945, Start Num: 14

Candidate Starts for ArV2\_20:

(14, 16169), (46, 16310), (51, 16343), (67, 16517), (81, 16625), (87, 16670), (104, 16763),

Gene: Ball\_20 Start: 16577, Stop: 17452, Start Num: 12

Candidate Starts for Ball\_20:

(4, 16514), (Start: 12 @16577 has 8 MA's), (37, 16697), (44, 16715), (46, 16721), (64, 16913), (66, 16919), (80, 17036), (98, 17138), (108, 17273), (120, 17444),

Gene: BellaJr\_24 Start: 19206, Stop: 20150, Start Num: 12

Candidate Starts for BellaJr\_24:

(1, 19107), (Start: 12 @19206 has 8 MA's), (27, 19308), (39, 19335), (41, 19338), (43, 19347), (62, 19530), (80, 19668), (98, 19809), (101, 19824), (102, 19830), (119, 20139),

Gene: BigSherm\_24 Start: 18034, Stop: 18771, Start Num: 19

Candidate Starts for BigSherm\_24:

(Start: 19 @18034 has 12 MA's), (22, 18079), (28, 18097), (34, 18112), (53, 18217), (56, 18244), (82, 18445), (83, 18454), (105, 18598), (114, 18748),

Gene: BlackSpider\_22 Start: 18049, Stop: 19008, Start Num: 11

Candidate Starts for BlackSpider\_22:

(Start: 11 @18049 has 1 MA's), (24, 18142), (25, 18145), (26, 18148), (34, 18169), (65, 18391), (69, 18418), (80, 18514), (95, 18634), (98, 18652), (115, 18862), (119, 18997),

Gene: BrayBeast\_21 Start: 16427, Stop: 17380, Start Num: 12

Candidate Starts for BrayBeast\_21:

(3, 16355), (7, 16385), (Start: 9 @16421 has 5 MA's), (Start: 12 @16427 has 8 MA's), (25, 16523), (27, 16529), (41, 16559), (42, 16565), (59, 16721), (65, 16766), (80, 16889), (84, 16922), (98, 17039), (101, 17054), (119, 17369),

Gene: Cassini\_22 Start: 18289, Stop: 19245, Start Num: 12

Candidate Starts for Cassini\_22:

(1, 18190), (Start: 12 @18289 has 8 MA's), (27, 18391), (38, 18418), (40, 18421), (43, 18430), (65, 18628), (69, 18655), (80, 18751), (95, 18871), (98, 18889), (115, 19099), (119, 19234),

Gene: CocoCinnamon\_25 Start: 18021, Stop: 18956, Start Num: 12

Candidate Starts for CocoCinnamon\_25:

(Start: 12 @18021 has 8 MA's), (24, 18114), (34, 18138), (65, 18357), (80, 18477), (98, 18615), (99, 18618), (118, 18936),

Gene: Cole\_22 Start: 17696, Stop: 18433, Start Num: 19

Candidate Starts for Cole\_22:

(Start: 19 @17696 has 12 MA's), (22, 17741), (28, 17759), (35, 17777), (56, 17906), (88, 18146), (107, 18329), (114, 18410),

Gene: Constance\_24 Start: 18878, Stop: 19768, Start Num: 13

Candidate Starts for Constance\_24:

(4, 18818), (7, 18836), (Start: 13 @18878 has 3 MA's), (27, 18974), (106, 19547),

Gene: DillyDally\_20 Start: 17117, Stop: 18055, Start Num: 12

Candidate Starts for DillyDally\_20:

(3, 17042), (7, 17072), (Start: 12 @17117 has 8 MA's), (25, 17213), (27, 17219), (54, 17360), (70, 17483), (80, 17573), (98, 17711), (109, 17846), (112, 17855),

Gene: Dirdigger\_24 Start: 18059, Stop: 18757, Start Num: 22

Candidate Starts for Dirdigger\_24:

(Start: 19 @18014 has 12 MA's), (22, 18059), (28, 18077), (35, 18095), (56, 18224), (83, 18434), (107, 18647),

Gene: Donatella\_23 Start: 18160, Stop: 18897, Start Num: 19

Candidate Starts for Donatella\_23:

(Start: 19 @18160 has 12 MA's), (22, 18205), (28, 18223), (34, 18238), (53, 18343), (56, 18370), (82, 18571), (83, 18580), (88, 18610), (107, 18793), (114, 18874),

Gene: Elesar\_23 Start: 18090, Stop: 18818, Start Num: 19

Candidate Starts for Elesar\_23:

(Start: 19 @18090 has 12 MA's), (22, 18135), (35, 18171), (53, 18273), (60, 18336),

Gene: EvePickles\_23 Start: 17293, Stop: 18039, Start Num: 19

Candidate Starts for EvePickles\_23:

(Start: 19 @17293 has 12 MA's), (22, 17338), (28, 17356), (48, 17407), (56, 17503), (57, 17518), (72, 17617), (75, 17647), (77, 17680), (79, 17689), (104, 17842),

Gene: Faja\_23 Start: 17189, Stop: 17932, Start Num: 19

Candidate Starts for Faja\_23:

(Start: 19 @17189 has 12 MA's), (22, 17234), (28, 17252), (53, 17372), (56, 17399), (60, 17435), (71, 17504), (79, 17579), (82, 17606), (83, 17612),

Gene: GUPitcher\_21 Start: 17047, Stop: 17781, Start Num: 19

Candidate Starts for GUPitcher\_21:

(Start: 19 @17047 has 12 MA's), (22, 17092), (28, 17110), (34, 17125), (52, 17209), (53, 17230), (56, 17257), (60, 17293), (79, 17443), (114, 17758),

Gene: Gibbzilla\_22 Start: 15241, Stop: 15900, Start Num: 30

Candidate Starts for Gibbzilla\_22:

(Start: 16 @15169 has 2 MA's), (30, 15241), (57, 15406), (58, 15412), (114, 15877),

Gene: GoodLuckBabe\_24 Start: 18113, Stop: 19042, Start Num: 9

Candidate Starts for GoodLuckBabe\_24:

(6, 18071), (8, 18080), (Start: 9 @18113 has 5 MA's), (20, 18170), (28, 18227), (32, 18236), (70, 18485), (80, 18575), (98, 18698), (107, 18809),

Gene: Halloweekend\_22 Start: 17660, Stop: 18397, Start Num: 19

Candidate Starts for Halloweekend\_22:

(Start: 19 @17660 has 12 MA's), (22, 17705), (28, 17723), (34, 17738), (53, 17843), (56, 17870), (82, 18071), (83, 18080), (105, 18224), (114, 18374),

Gene: Hum25\_22 Start: 16282, Stop: 17019, Start Num: 16

Candidate Starts for Hum25\_22:

(Start: 16 @16282 has 2 MA's), (30, 16354), (33, 16360), (49, 16399), (56, 16504), (57, 16519), (73, 16612), (74, 16618), (81, 16690), (83, 16708), (88, 16735), (89, 16738),

Gene: Ichiang\_22 Start: 17677, Stop: 18414, Start Num: 19

Candidate Starts for Ichiang\_22:

(Start: 19 @17677 has 12 MA's), (22, 17722), (28, 17740), (34, 17755), (53, 17860), (56, 17887), (82, 18088), (83, 18097), (88, 18127), (107, 18310), (114, 18391),

Gene: IsHungry\_24 Start: 18089, Stop: 19024, Start Num: 9

Candidate Starts for IsHungry\_24:

(6, 18050), (8, 18059), (Start: 9 @18089 has 5 MA's), (28, 18191), (32, 18200), (45, 18233), (98, 18677), (99, 18680),

Gene: JeanClaude\_21 Start: 16337, Stop: 17293, Start Num: 12

Candidate Starts for JeanClaude\_21:

(2, 16241), (3, 16262), (6, 16286), (Start: 12 @16337 has 8 MA's), (24, 16430), (25, 16433), (27, 16436), (41, 16469), (65, 16676), (80, 16799), (98, 16937), (106, 17042), (115, 17147), (119, 17282),

Gene: Julie\_24 Start: 18358, Stop: 19083, Start Num: 15

Candidate Starts for Julie\_24:

(Start: 15 @18358 has 3 MA's), (53, 18532), (56, 18559), (74, 18676), (93, 18844), (107, 18979), (111, 19009), (114, 19060),

Gene: Kukla\_21 Start: 16686, Stop: 17423, Start Num: 18

Candidate Starts for Kukla\_21:

(Start: 18 @16686 has 2 MA's), (22, 16731), (29, 16752), (45, 16779), (47, 16785), (52, 16839), (53, 16860), (57, 16902), (60, 16923), (74, 17004), (78, 17055), (85, 17106), (88, 17121),

Gene: Maja\_21 Start: 16955, Stop: 17737, Start Num: 19

Candidate Starts for Maja\_21:

(Start: 19 @16955 has 12 MA's), (22, 17000), (28, 17018), (53, 17138), (56, 17165), (60, 17201), (104, 17534),

Gene: Merpity\_23 Start: 16139, Stop: 17095, Start Num: 12

Candidate Starts for Merpity\_23:

(10, 16133), (Start: 12 @16139 has 8 MA's), (21, 16217), (23, 16229), (24, 16232), (35, 16259), (39, 16268), (59, 16433), (65, 16478), (69, 16505), (80, 16601), (95, 16721), (98, 16739), (115, 16949), (116, 16958), (119, 17084),

Gene: MillySue\_24 Start: 18036, Stop: 18773, Start Num: 19

Candidate Starts for MillySue\_24:

(Start: 19 @18036 has 12 MA's), (22, 18081), (28, 18099), (39, 18126), (53, 18219), (56, 18246), (60, 18282), (76, 18399), (91, 18507), (110, 18690),

Gene: MrSmee\_21 Start: 16139, Stop: 17095, Start Num: 12

Candidate Starts for MrSmee\_21:

(10, 16133), (Start: 12 @16139 has 8 MA's), (21, 16217), (23, 16229), (24, 16232), (35, 16259), (39, 16268), (65, 16478), (69, 16505), (80, 16601), (95, 16721), (98, 16739), (115, 16949), (119, 17084),

Gene: NidoQ\_24 Start: 18892, Stop: 19782, Start Num: 13

Candidate Starts for NidoQ\_24:

(7, 18850), (Start: 13 @18892 has 3 MA's), (27, 18988), (106, 19561),

Gene: PeggyLeg03\_24 Start: 18878, Stop: 19768, Start Num: 13  
Candidate Starts for PeggyLeg03\_24:  
(4, 18818), (7, 18836), (Start: 13 @18878 has 3 MA's), (27, 18974), (106, 19547),

Gene: Pigu\_21 Start: 16095, Stop: 17036, Start Num: 12  
Candidate Starts for Pigu\_21:  
(Start: 12 @16095 has 8 MA's), (24, 16188), (26, 16194), (31, 16206), (41, 16227), (54, 16338), (62, 16419), (80, 16554), (98, 16692), (103, 16725), (113, 16878), (119, 17025),

Gene: Pitbull\_21 Start: 15912, Stop: 16649, Start Num: 16  
Candidate Starts for Pitbull\_21:  
(Start: 16 @15912 has 2 MA's), (30, 15984), (33, 15990), (49, 16029), (56, 16134), (57, 16149), (73, 16242), (74, 16248), (81, 16320), (82, 16329), (88, 16365), (89, 16368),

Gene: Popper\_22 Start: 17632, Stop: 18537, Start Num: 12  
Candidate Starts for Popper\_22:  
(7, 17587), (Start: 12 @17632 has 8 MA's), (31, 17743), (46, 17782), (70, 17998), (80, 18088), (98, 18208), (100, 18214), (112, 18352), (117, 18505),

Gene: QuinnAvery\_24 Start: 18034, Stop: 18780, Start Num: 19  
Candidate Starts for QuinnAvery\_24:  
(Start: 19 @18034 has 12 MA's), (22, 18079), (28, 18097), (34, 18112), (53, 18217), (56, 18244), (82, 18445), (83, 18454), (105, 18607), (114, 18757),

Gene: Raya\_21 Start: 15690, Stop: 16421, Start Num: 20  
Candidate Starts for Raya\_21:  
(17, 15681), (20, 15690), (29, 15747), (32, 15753), (35, 15762), (36, 15765), (45, 15774), (47, 15780), (48, 15786), (52, 15834), (53, 15855), (55, 15876), (57, 15897), (60, 15918), (63, 15942), (68, 15978), (86, 16104), (94, 16158),

Gene: Rooter\_21 Start: 15971, Stop: 16915, Start Num: 12  
Candidate Starts for Rooter\_21:  
(5, 15920), (7, 15929), (Start: 9 @15965 has 5 MA's), (Start: 12 @15971 has 8 MA's), (27, 16073), (42, 16109), (50, 16145), (80, 16433), (90, 16514), (96, 16565), (97, 16568), (113, 16754), (119, 16904),

Gene: Ryan\_24 Start: 18293, Stop: 19222, Start Num: 9  
Candidate Starts for Ryan\_24:  
(6, 18251), (8, 18260), (Start: 9 @18293 has 5 MA's), (20, 18350), (28, 18407), (32, 18416), (70, 18665), (80, 18755), (98, 18878),

Gene: Saintcarr\_23 Start: 18044, Stop: 18778, Start Num: 19  
Candidate Starts for Saintcarr\_23:  
(Start: 19 @18044 has 12 MA's), (22, 18089), (28, 18107), (34, 18122), (55, 18248), (107, 18674), (114, 18755),

Gene: Sarge\_21 Start: 16338, Stop: 17294, Start Num: 12  
Candidate Starts for Sarge\_21:  
(7, 16296), (Start: 9 @16332 has 5 MA's), (Start: 12 @16338 has 8 MA's), (27, 16452), (50, 16524), (54, 16593), (80, 16812), (90, 16893), (96, 16944), (97, 16947), (113, 17133), (119, 17283),

Gene: Sashimi\_24 Start: 17313, Stop: 18059, Start Num: 18  
Candidate Starts for Sashimi\_24:

(Start: 18 @17313 has 2 MA's), (22, 17358), (28, 17376), (29, 17379), (45, 17406), (52, 17466), (53, 17487), (57, 17529), (60, 17550), (78, 17682), (85, 17733), (88, 17748), (92, 17787),

Gene: Shoya\_20 Start: 15977, Stop: 16933, Start Num: 12

Candidate Starts for Shoya\_20:

(2, 15881), (3, 15902), (6, 15926), (Start: 12 @15977 has 8 MA's), (24, 16070), (25, 16073), (27, 16076), (41, 16109), (59, 16271), (65, 16316), (80, 16439), (98, 16577), (106, 16682), (115, 16787), (119, 16922),

Gene: Skitty\_21 Start: 16139, Stop: 17095, Start Num: 12

Candidate Starts for Skitty\_21:

(10, 16133), (Start: 12 @16139 has 8 MA's), (21, 16217), (23, 16229), (24, 16232), (35, 16259), (39, 16268), (65, 16478), (69, 16505), (80, 16601), (95, 16721), (98, 16739), (115, 16949), (119, 17084),

Gene: Skyerus\_21 Start: 15690, Stop: 16421, Start Num: 20

Candidate Starts for Skyerus\_21:

(17, 15681), (20, 15690), (29, 15747), (32, 15753), (35, 15762), (36, 15765), (45, 15774), (47, 15780), (48, 15786), (52, 15834), (53, 15855), (55, 15876), (57, 15897), (60, 15918), (63, 15942), (68, 15978), (86, 16104), (94, 16158),

Gene: ToastyOats\_26 Start: 18499, Stop: 19236, Start Num: 19

Candidate Starts for ToastyOats\_26:

(Start: 19 @18499 has 12 MA's), (22, 18544), (28, 18562), (107, 19129),

Gene: Toodles\_24 Start: 18331, Stop: 19065, Start Num: 15

Candidate Starts for Toodles\_24:

(Start: 15 @18331 has 3 MA's), (53, 18505), (56, 18532), (74, 18649), (93, 18817), (107, 18961), (114, 19042),

Gene: Yonex\_24 Start: 18293, Stop: 19222, Start Num: 9

Candidate Starts for Yonex\_24:

(6, 18251), (8, 18260), (Start: 9 @18293 has 5 MA's), (20, 18350), (28, 18407), (32, 18416), (70, 18665), (80, 18755), (98, 18878),

Gene: Zaheer\_24 Start: 18382, Stop: 19311, Start Num: 9

Candidate Starts for Zaheer\_24:

(6, 18340), (8, 18349), (Start: 9 @18382 has 5 MA's), (20, 18439), (28, 18496), (32, 18505), (70, 18754), (80, 18844), (98, 18967),