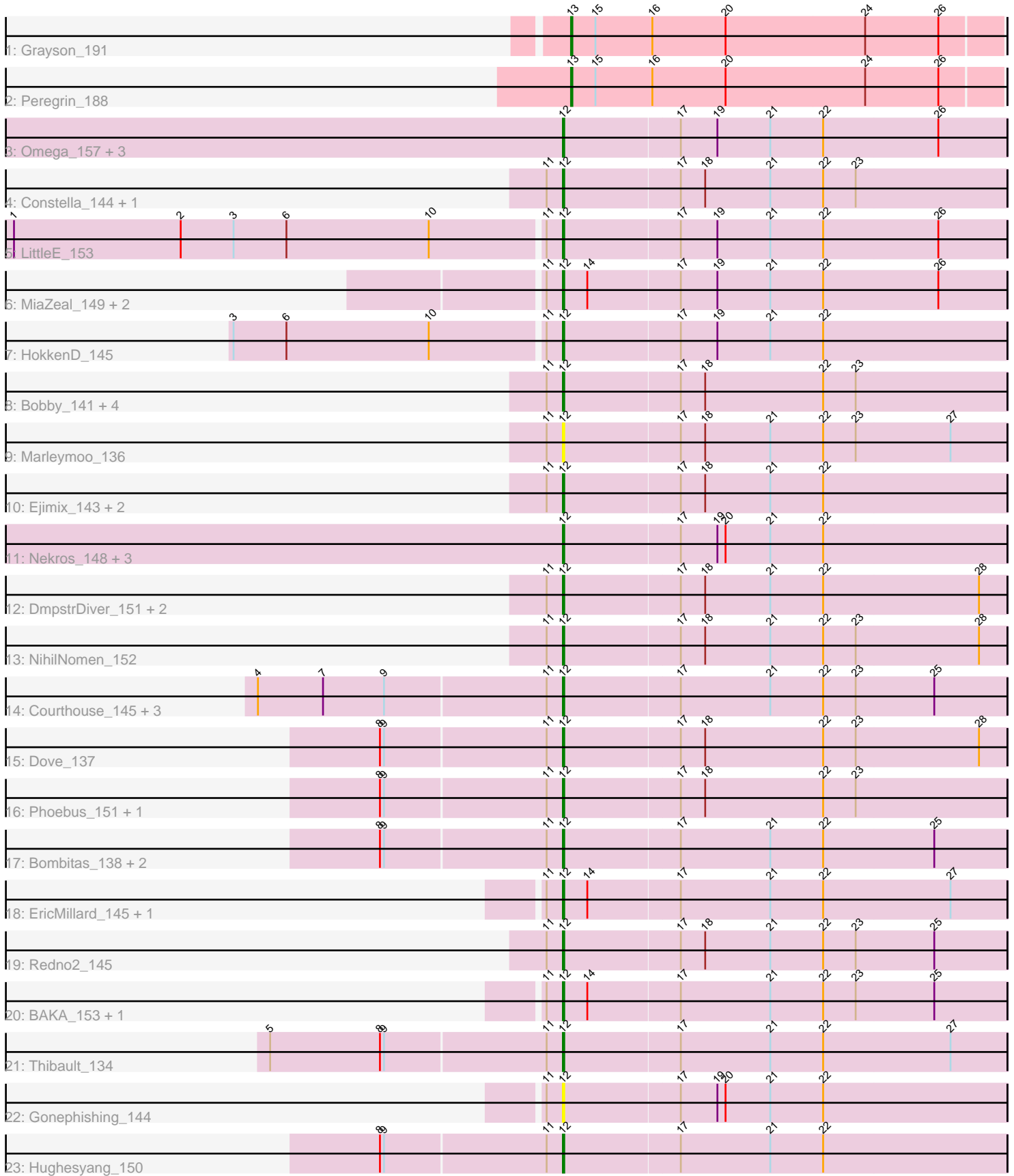


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 224670 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224670 has 48 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Grayson\_191
- Track 2 : Peregrin\_188
- Track 3 : Omega\_157, Odette\_156, Optimus\_144, Shaboozey\_148
- Track 4 : Constella\_144, Bagrid\_154
- Track 5 : LittleE\_153
- Track 6 : MiaZeal\_149, Porcelain\_146, Lucky2013\_142
- Track 7 : HokkenD\_145
- Track 8 : Bobby\_141, Wanda\_150, Zelink\_145, Minerva\_150, Kalah2\_142
- Track 9 : Marleymoo\_136
- Track 10 : Ejimix\_143, Halley\_152, Dallas\_151
- Track 11 : Nekros\_148, Hannaconda\_144, KashFlow\_150, Squint\_142
- Track 12 : DmpstrDiver\_151, Pound\_142, Schatzie\_146
- Track 13 : NihilNomen\_152
- Track 14 : Courthouse\_145, Ariel\_149, Yeet\_144, Superphikiman\_147
- Track 15 : Dove\_137
- Track 16 : Phoebus\_151, ThreeRngTarjay\_146
- Track 17 : Bombitas\_138, JuicyJay\_146, Beem\_153
- Track 18 : EricMillard\_145, Duke13\_149
- Track 19 : Redno2\_145
- Track 20 : BAKA\_153, Klein\_150
- Track 21 : Thibault\_134
- Track 22 : Gonephishing\_144
- Track 23 : Hughesyang\_150

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

The start number called the most often in the published annotations is 12, it was called in 40 of the 42 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ariel\_149, BAKA\_153, Bagrid\_154, Beem\_153, Bobby\_141, Bombitas\_138, Constella\_144, Courthouse\_145, Dallas\_151, DmpstrDiver\_151, Dove\_137, Duke13\_149, Ejimix\_143, EricMillard\_145, Gonephishing\_144, Halley\_152, Hannaconda\_144, HokkenD\_145, Hughesyang\_150, JuicyJay\_146, Kalah2\_142,

KashFlow\_150, Klein\_150, LittleE\_153, Lucky2013\_142, Marleymoo\_136, MiaZeal\_149, Minerva\_150, Nekros\_148, NihilNomen\_152, Odette\_156, Omega\_157, Optimus\_144, Phoebus\_151, Porcelain\_146, Pound\_142, Redno2\_145, Schatzie\_146, Shaboozey\_148, Squint\_142, Superphikiman\_147, Thibault\_134, ThreeRngTarjay\_146, Wanda\_150, Yeet\_144, Zelink\_145,

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

- 

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

- Grayson\_191, Peregrin\_188,

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

Start 12:

- Found in 46 of 48 ( 95.8% ) of genes in pham
- Manual Annotations of this start: 40 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel\_149 (J), BAKA\_153 (J), Bagrid\_154 (J), Beem\_153 (J), Bobby\_141 (J), Bombitas\_138 (J), Constella\_144 (J), Courthouse\_145 (J), Dallas\_151 (J), DmpstrDiver\_151 (J), Dove\_137 (J), Duke13\_149 (J), Ejimix\_143 (J), EricMillard\_145 (J), Gonephishing\_144 (J), Halley\_152 (J), Hannaconda\_144 (J), HokkenD\_145 (J), Hughesyang\_150 (J), JuicyJay\_146 (J), Kalah2\_142 (J), KashFlow\_150 (J), Klein\_150 (J), LittleE\_153 (J), Lucky2013\_142 (J), Marleymoo\_136 (J), MiaZeal\_149 (J), Minerva\_150 (J), Nekros\_148 (J), NihilNomen\_152 (J), Odette\_156 (J), Omega\_157 (J), Optimus\_144 (J), Phoebus\_151 (J), Porcelain\_146 (J), Pound\_142 (J), Redno2\_145 (J), Schatzie\_146 (J), Shaboozey\_148 (J), Squint\_142 (J), Superphikiman\_147 (J), Thibault\_134 (J), ThreeRngTarjay\_146 (J), Wanda\_150 (J), Yeet\_144 (J), Zelink\_145 (J),

Start 13:

- Found in 2 of 48 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Grayson\_191 (CB), Peregrin\_188 (CB),

### **Summary by clusters:**

There are 2 clusters represented in this pham: CB, J,

Info for manual annotations of cluster CB:

- Start number 13 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster J:

- Start number 12 was manually annotated 40 times for cluster J.

### **Gene Information:**

Gene: Ariel\_149 Start: 76661, Stop: 76984, Start Num: 12

Candidate Starts for Ariel\_149:

(4, 76439), (7, 76487), (9, 76532), (11, 76649), (Start: 12 @76661 has 40 MA's), (17, 76745), (21, 76811), (22, 76850), (23, 76874), (25, 76931),

Gene: BAKA\_153 Start: 81330, Stop: 81653, Start Num: 12

Candidate Starts for BAKA\_153:

(11, 81318), (Start: 12 @81330 has 40 MA's), (14, 81348), (17, 81414), (21, 81480), (22, 81519), (23, 81543), (25, 81600),

Gene: Bagrid\_154 Start: 82037, Stop: 82360, Start Num: 12

Candidate Starts for Bagrid\_154:

(11, 82025), (Start: 12 @82037 has 40 MA's), (17, 82121), (18, 82139), (21, 82187), (22, 82226), (23, 82250),

Gene: Beem\_153 Start: 81458, Stop: 81781, Start Num: 12

Candidate Starts for Beem\_153:

(8, 81326), (9, 81329), (11, 81446), (Start: 12 @81458 has 40 MA's), (17, 81542), (21, 81608), (22, 81647), (25, 81728),

Gene: Bobby\_141 Start: 81455, Stop: 81778, Start Num: 12

Candidate Starts for Bobby\_141:

(11, 81443), (Start: 12 @81455 has 40 MA's), (17, 81539), (18, 81557), (22, 81644), (23, 81668),

Gene: Bombitas\_138 Start: 78311, Stop: 78634, Start Num: 12

Candidate Starts for Bombitas\_138:

(8, 78179), (9, 78182), (11, 78299), (Start: 12 @78311 has 40 MA's), (17, 78395), (21, 78461), (22, 78500), (25, 78581),

Gene: Constella\_144 Start: 79520, Stop: 79843, Start Num: 12

Candidate Starts for Constella\_144:

(11, 79508), (Start: 12 @79520 has 40 MA's), (17, 79604), (18, 79622), (21, 79670), (22, 79709), (23, 79733),

Gene: Courthouse\_145 Start: 76519, Stop: 76842, Start Num: 12

Candidate Starts for Courthouse\_145:

(4, 76297), (7, 76345), (9, 76390), (11, 76507), (Start: 12 @76519 has 40 MA's), (17, 76603), (21, 76669), (22, 76708), (23, 76732), (25, 76789),

Gene: Dallas\_151 Start: 80367, Stop: 80690, Start Num: 12

Candidate Starts for Dallas\_151:

(11, 80355), (Start: 12 @80367 has 40 MA's), (17, 80451), (18, 80469), (21, 80517), (22, 80556),

Gene: DmpstrDiver\_151 Start: 80286, Stop: 80609, Start Num: 12

Candidate Starts for DmpstrDiver\_151:

(11, 80274), (Start: 12 @80286 has 40 MA's), (17, 80370), (18, 80388), (21, 80436), (22, 80475), (28, 80589),

Gene: Dove\_137 Start: 76474, Stop: 76797, Start Num: 12

Candidate Starts for Dove\_137:

(8, 76342), (9, 76345), (11, 76462), (Start: 12 @76474 has 40 MA's), (17, 76558), (18, 76576), (22, 76663), (23, 76687), (28, 76777),

Gene: Duke13\_149 Start: 79615, Stop: 79938, Start Num: 12

Candidate Starts for Duke13\_149:

(11, 79603), (Start: 12 @79615 has 40 MA's), (14, 79633), (17, 79699), (21, 79765), (22, 79804), (27, 79897),

Gene: Ejimix\_143 Start: 80435, Stop: 80758, Start Num: 12

Candidate Starts for Ejimix\_143:

(11, 80423), (Start: 12 @80435 has 40 MA's), (17, 80519), (18, 80537), (21, 80585), (22, 80624),

Gene: EricMillard\_145 Start: 80967, Stop: 81290, Start Num: 12

Candidate Starts for EricMillard\_145:

(11, 80955), (Start: 12 @80967 has 40 MA's), (14, 80985), (17, 81051), (21, 81117), (22, 81156), (27, 81249),

Gene: Gonephishing\_144 Start: 78607, Stop: 78930, Start Num: 12

Candidate Starts for Gonephishing\_144:

(11, 78595), (Start: 12 @78607 has 40 MA's), (17, 78691), (19, 78718), (20, 78724), (21, 78757), (22, 78796),

Gene: Grayson\_191 Start: 99709, Stop: 100023, Start Num: 13

Candidate Starts for Grayson\_191:

(Start: 13 @99709 has 2 MA's), (15, 99727), (16, 99769), (20, 99823), (24, 99925), (26, 99979),

Gene: Halley\_152 Start: 80751, Stop: 81074, Start Num: 12

Candidate Starts for Halley\_152:

(11, 80739), (Start: 12 @80751 has 40 MA's), (17, 80835), (18, 80853), (21, 80901), (22, 80940),

Gene: Hannaconda\_144 Start: 79540, Stop: 79863, Start Num: 12

Candidate Starts for Hannaconda\_144:

(Start: 12 @79540 has 40 MA's), (17, 79624), (19, 79651), (20, 79657), (21, 79690), (22, 79729),

Gene: HokkenD\_145 Start: 81876, Stop: 82199, Start Num: 12

Candidate Starts for HokkenD\_145:

(3, 81639), (6, 81678), (10, 81783), (11, 81864), (Start: 12 @81876 has 40 MA's), (17, 81960), (19, 81987), (21, 82026), (22, 82065),

Gene: Hughesyang\_150 Start: 81110, Stop: 81433, Start Num: 12

Candidate Starts for Hughesyang\_150:

(8, 80978), (9, 80981), (11, 81098), (Start: 12 @81110 has 40 MA's), (17, 81194), (21, 81260), (22, 81299),

Gene: JuicyJay\_146 Start: 82036, Stop: 82359, Start Num: 12

Candidate Starts for JuicyJay\_146:

(8, 81904), (9, 81907), (11, 82024), (Start: 12 @82036 has 40 MA's), (17, 82120), (21, 82186), (22, 82225), (25, 82306),

Gene: Kalah2\_142 Start: 80240, Stop: 80563, Start Num: 12

Candidate Starts for Kalah2\_142:

(11, 80228), (Start: 12 @80240 has 40 MA's), (17, 80324), (18, 80342), (22, 80429), (23, 80453),

Gene: KashFlow\_150 Start: 79539, Stop: 79862, Start Num: 12

Candidate Starts for KashFlow\_150:

(Start: 12 @79539 has 40 MA's), (17, 79623), (19, 79650), (20, 79656), (21, 79689), (22, 79728),

Gene: Klein\_150 Start: 80105, Stop: 80428, Start Num: 12

Candidate Starts for Klein\_150:

(11, 80093), (Start: 12 @80105 has 40 MA's), (14, 80123), (17, 80189), (21, 80255), (22, 80294), (23, 80318), (25, 80375),

Gene: LittleE\_153 Start: 80985, Stop: 81308, Start Num: 12

Candidate Starts for LittleE\_153:

(1, 80586), (2, 80709), (3, 80748), (6, 80787), (10, 80892), (11, 80973), (Start: 12 @80985 has 40 MA's), (17, 81069), (19, 81096), (21, 81135), (22, 81174), (26, 81258),

Gene: Lucky2013\_142 Start: 75897, Stop: 76220, Start Num: 12

Candidate Starts for Lucky2013\_142:

(11, 75885), (Start: 12 @75897 has 40 MA's), (14, 75915), (17, 75981), (19, 76008), (21, 76047), (22, 76086), (26, 76170),

Gene: Marleymoo\_136 Start: 77201, Stop: 77524, Start Num: 12

Candidate Starts for Marleymoo\_136:

(11, 77189), (Start: 12 @77201 has 40 MA's), (17, 77285), (18, 77303), (21, 77351), (22, 77390), (23, 77414), (27, 77483),

Gene: MiaZeal\_149 Start: 77044, Stop: 77367, Start Num: 12

Candidate Starts for MiaZeal\_149:

(11, 77032), (Start: 12 @77044 has 40 MA's), (14, 77062), (17, 77128), (19, 77155), (21, 77194), (22, 77233), (26, 77317),

Gene: Minerva\_150 Start: 80059, Stop: 80382, Start Num: 12

Candidate Starts for Minerva\_150:

(11, 80047), (Start: 12 @80059 has 40 MA's), (17, 80143), (18, 80161), (22, 80248), (23, 80272),

Gene: Nekros\_148 Start: 79933, Stop: 80256, Start Num: 12

Candidate Starts for Nekros\_148:

(Start: 12 @79933 has 40 MA's), (17, 80017), (19, 80044), (20, 80050), (21, 80083), (22, 80122),

Gene: NihilNomen\_152 Start: 79960, Stop: 80283, Start Num: 12

Candidate Starts for NihilNomen\_152:

(11, 79948), (Start: 12 @79960 has 40 MA's), (17, 80044), (18, 80062), (21, 80110), (22, 80149), (23, 80173), (28, 80263),

Gene: Odette\_156 Start: 82653, Stop: 82976, Start Num: 12

Candidate Starts for Odette\_156:

(Start: 12 @82653 has 40 MA's), (17, 82737), (19, 82764), (21, 82803), (22, 82842), (26, 82926),

Gene: Omega\_157 Start: 82149, Stop: 82472, Start Num: 12

Candidate Starts for Omega\_157:

(Start: 12 @82149 has 40 MA's), (17, 82233), (19, 82260), (21, 82299), (22, 82338), (26, 82422),

Gene: Optimus\_144 Start: 79658, Stop: 79981, Start Num: 12

Candidate Starts for Optimus\_144:

(Start: 12 @79658 has 40 MA's), (17, 79742), (19, 79769), (21, 79808), (22, 79847), (26, 79931),

Gene: Peregrin\_188 Start: 100106, Stop: 100420, Start Num: 13

Candidate Starts for Peregrin\_188:

(Start: 13 @100106 has 2 MA's), (15, 100124), (16, 100166), (20, 100220), (24, 100322), (26, 100376),

Gene: Phoebus\_151 Start: 82464, Stop: 82787, Start Num: 12

Candidate Starts for Phoebus\_151:

(8, 82332), (9, 82335), (11, 82452), (Start: 12 @82464 has 40 MA's), (17, 82548), (18, 82566), (22, 82653), (23, 82677),

Gene: Porcelain\_146 Start: 76843, Stop: 77166, Start Num: 12

Candidate Starts for Porcelain\_146:

(11, 76831), (Start: 12 @76843 has 40 MA's), (14, 76861), (17, 76927), (19, 76954), (21, 76993), (22, 77032), (26, 77116),

Gene: Pound\_142 Start: 79694, Stop: 80017, Start Num: 12

Candidate Starts for Pound\_142:

(11, 79682), (Start: 12 @79694 has 40 MA's), (17, 79778), (18, 79796), (21, 79844), (22, 79883), (28, 79997),

Gene: Redno2\_145 Start: 77962, Stop: 78285, Start Num: 12

Candidate Starts for Redno2\_145:

(11, 77950), (Start: 12 @77962 has 40 MA's), (17, 78046), (18, 78064), (21, 78112), (22, 78151), (23, 78175), (25, 78232),

Gene: Schatzie\_146 Start: 80543, Stop: 80866, Start Num: 12

Candidate Starts for Schatzie\_146:

(11, 80531), (Start: 12 @80543 has 40 MA's), (17, 80627), (18, 80645), (21, 80693), (22, 80732), (28, 80846),

Gene: Shaboozey\_148 Start: 77632, Stop: 77955, Start Num: 12

Candidate Starts for Shaboozey\_148:

(Start: 12 @77632 has 40 MA's), (17, 77716), (19, 77743), (21, 77782), (22, 77821), (26, 77905),

Gene: Squint\_142 Start: 76328, Stop: 76651, Start Num: 12

Candidate Starts for Squint\_142:

(Start: 12 @76328 has 40 MA's), (17, 76412), (19, 76439), (20, 76445), (21, 76478), (22, 76517),

Gene: Superphikiman\_147 Start: 76801, Stop: 77124, Start Num: 12

Candidate Starts for Superphikiman\_147:

(4, 76579), (7, 76627), (9, 76672), (11, 76789), (Start: 12 @76801 has 40 MA's), (17, 76885), (21, 76951), (22, 76990), (23, 77014), (25, 77071),

Gene: Thibault\_134 Start: 77417, Stop: 77740, Start Num: 12

Candidate Starts for Thibault\_134:

(5, 77204), (8, 77285), (9, 77288), (11, 77405), (Start: 12 @77417 has 40 MA's), (17, 77501), (21, 77567), (22, 77606), (27, 77699),

Gene: ThreeRngTarjay\_146 Start: 81055, Stop: 81378, Start Num: 12

Candidate Starts for ThreeRngTarjay\_146:

(8, 80923), (9, 80926), (11, 81043), (Start: 12 @81055 has 40 MA's), (17, 81139), (18, 81157), (22, 81244), (23, 81268),

Gene: Wanda\_150 Start: 78530, Stop: 78853, Start Num: 12

Candidate Starts for Wanda\_150:

(11, 78518), (Start: 12 @78530 has 40 MA's), (17, 78614), (18, 78632), (22, 78719), (23, 78743),

Gene: Yeet\_144 Start: 79906, Stop: 80229, Start Num: 12

Candidate Starts for Yeet\_144:

(4, 79684), (7, 79732), (9, 79777), (11, 79894), (Start: 12 @79906 has 40 MA's), (17, 79990), (21, 80056), (22, 80095), (23, 80119), (25, 80176),

Gene: Zelink\_145 Start: 81372, Stop: 81695, Start Num: 12

Candidate Starts for Zelink\_145:

(11, 81360), (Start: 12 @81372 has 40 MA's), (17, 81456), (18, 81474), (22, 81561), (23, 81585),