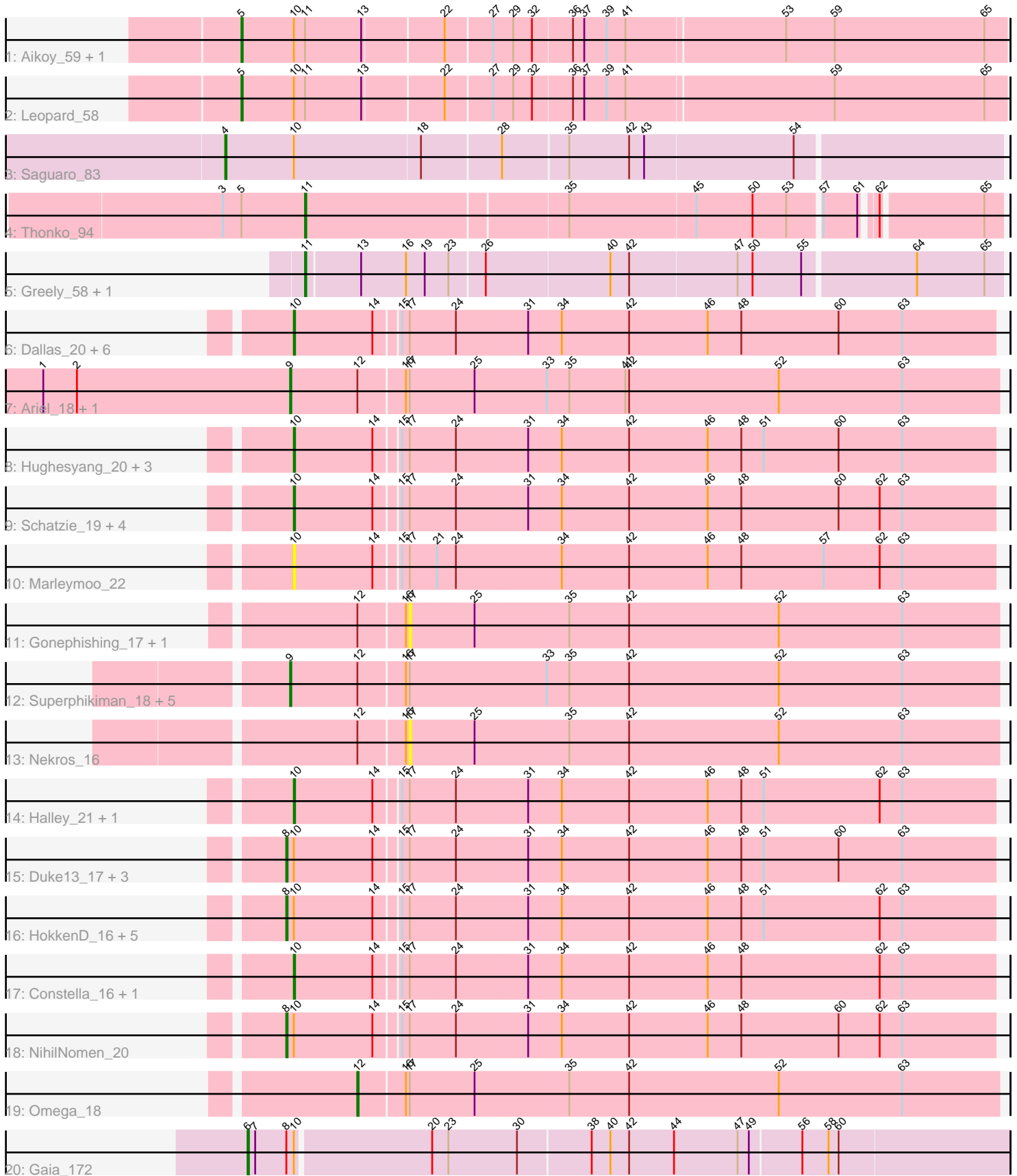


Pham 221497



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 221497 Report

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

Pham number 221497 has 52 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Aikoy_59, Onyinye_59
- Track 2 : Leopard_58
- Track 3 : Saguario_83
- Track 4 : Thonko_94
- Track 5 : Greely_58, Phabba_60
- Track 6 : Dallas_20, Beem_21, Redno2_20, Ejimix_22, Bagrid_19, Kalah2_21, Odette_20
- Track 7 : Ariel_18, Rearden_16
- Track 8 : Hughesyang_20, Bombitas_18, Dove_18, ThreeRngTarjay_20
- Track 9 : Schatzie_19, Wanda_21, Klein_21, JuicyJay_22, Zelink_21
- Track 10 : Marleymoo_22
- Track 11 : Gonephishing_17, Shaboozey_13
- Track 12 : Superphikiman_18, MiaZeal_18, Porcelain_18, Courthouse_18, Hannaconda_15, KashFlow_12
- Track 13 : Nekros_16
- Track 14 : Halley_21, DmpstrDiver_20
- Track 15 : Duke13_17, Minerva_20, Yeet_19, Thibault_17
- Track 16 : HokkenD_16, Optimus_18, Phoebus_21, BAKA_17, Pound_21, EricMillard_21
- Track 17 : Constella_16, Bobby_22
- Track 18 : NihilNomen_20
- Track 19 : Omega_18
- Track 20 : Gaia_172

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

The start number called the most often in the published annotations is 10, it was called in 18 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bagrid_19, Beem_21, Bobby_22, Bombitas_18, Constella_16, Dallas_20, DmpstrDiver_20, Dove_18, Ejimix_22, Halley_21, Hughesyang_20, JuicyJay_22, Kalah2_21, Klein_21, Marleymoo_22, Odette_20, Redno2_20, Schatzie_19, ThreeRngTarjay_20, Wanda_21, Zelink_21,

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

- Aikoy_59, BAKA_17, Duke13_17, EricMillard_21, Gaia_172, HokkenD_16, Leopard_58, Minerva_20, NihilNomen_20, Onyinye_59, Optimus_18, Phoebus_21, Pound_21, Saguaro_83, Thibault_17, Yeet_19,

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

- Ariel_18, Courthouse_18, Gonephishing_17, Greely_58, Hannaconda_15, KashFlow_12, MiaZeal_18, Nekros_16, Omega_18, Phabba_60, Porcelain_18, Rearden_16, Shaboozey_13, Superphikiman_18, Thonko_94,

Summary by start number:

Start 4:

- Found in 1 of 52 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saguaro_83 (B7),

Start 5:

- Found in 4 of 52 (7.7%) of genes in pham
- Manual Annotations of this start: 3 of 44
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Aikoy_59 (AE), Leopard_58 (AE), Onyinye_59 (AE),

Start 6:

- Found in 1 of 52 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gaia_172 (X),

Start 8:

- Found in 12 of 52 (23.1%) of genes in pham
- Manual Annotations of this start: 11 of 44
- Called 91.7% of time when present
- Phage (with cluster) where this start called: BAKA_17 (J), Duke13_17 (J), EricMillard_21 (J), HokkenD_16 (J), Minerva_20 (J), NihilNomen_20 (J), Optimus_18 (J), Phoebus_21 (J), Pound_21 (J), Thibault_17 (J), Yeet_19 (J),

Start 9:

- Found in 8 of 52 (15.4%) of genes in pham
- Manual Annotations of this start: 7 of 44
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel_18 (J), Courthouse_18 (J), Hannaconda_15 (J), KashFlow_12 (J), MiaZeal_18 (J), Porcelain_18 (J), Rearden_16 (J), Superphikiman_18 (J),

Start 10:

- Found in 37 of 52 (71.2%) of genes in pham
- Manual Annotations of this start: 18 of 44
- Called 56.8% of time when present

- Phage (with cluster) where this start called: Bagrid_19 (J), Beem_21 (J), Bobby_22 (J), Bombitas_18 (J), Constella_16 (J), Dallas_20 (J), DmpstrDiver_20 (J), Dove_18 (J), Ejimix_22 (J), Halley_21 (J), Hughesyang_20 (J), JuicyJay_22 (J), Kalah2_21 (J), Klein_21 (J), Marleymoo_22 (J), Odette_20 (J), Redno2_20 (J), Schatzie_19 (J), ThreeRngTarjay_20 (J), Wanda_21 (J), Zelink_21 (J),

Start 11:

- Found in 6 of 52 (11.5%) of genes in pham
- Manual Annotations of this start: 2 of 44
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Greely_58 (C2), Phabba_60 (C2), Thonko_94 (B8),

Start 12:

- Found in 12 of 52 (23.1%) of genes in pham
- Manual Annotations of this start: 1 of 44
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Omega_18 (J),

Start 17:

- Found in 44 of 52 (84.6%) of genes in pham
- No Manual Annotations of this start.
- Called 6.8% of time when present
- Phage (with cluster) where this start called: Gonephishing_17 (J), Nekros_16 (J), Shaboozey_13 (J),

Summary by clusters:

There are 6 clusters represented in this pham: AE, J, B7, X, C2, B8,

Info for manual annotations of cluster AE:

- Start number 5 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster B7:

- Start number 4 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 11 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster C2:

- Start number 11 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster J:

- Start number 8 was manually annotated 11 times for cluster J.
- Start number 9 was manually annotated 7 times for cluster J.
- Start number 10 was manually annotated 18 times for cluster J.
- Start number 12 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster X:

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

Gene Information:

Gene: Aikoy_59 Start: 43154, Stop: 43747, Start Num: 5

Candidate Starts for Aikoy_59:

(Start: 5 @43154 has 3 MA's), (Start: 10 @43196 has 18 MA's), (Start: 11 @43205 has 2 MA's), (13, 43250), (22, 43310), (27, 43346), (29, 43361), (32, 43376), (36, 43406), (37, 43415), (39, 43433), (41, 43448), (53, 43571), (59, 43610), (65, 43730),

Gene: Ariel_18 Start: 11333, Stop: 11896, Start Num: 9

Candidate Starts for Ariel_18:

(1, 11138), (2, 11165), (Start: 9 @11333 has 7 MA's), (Start: 12 @11387 has 1 MA's), (16, 11423), (17, 11426), (25, 11477), (33, 11534), (35, 11552), (41, 11597), (42, 11600), (52, 11720), (63, 11819),

Gene: BAKA_17 Start: 13411, Stop: 13971, Start Num: 8

Candidate Starts for BAKA_17:

(Start: 8 @13411 has 11 MA's), (Start: 10 @13417 has 18 MA's), (14, 13480), (15, 13498), (17, 13504), (24, 13540), (31, 13597), (34, 13624), (42, 13678), (46, 13741), (48, 13768), (51, 13786), (62, 13879), (63, 13897),

Gene: Bagrid_19 Start: 13209, Stop: 13763, Start Num: 10

Candidate Starts for Bagrid_19:

(Start: 10 @13209 has 18 MA's), (14, 13272), (15, 13290), (17, 13296), (24, 13332), (31, 13389), (34, 13416), (42, 13470), (46, 13533), (48, 13560), (60, 13638), (63, 13689),

Gene: Beem_21 Start: 13775, Stop: 14329, Start Num: 10

Candidate Starts for Beem_21:

(Start: 10 @13775 has 18 MA's), (14, 13838), (15, 13856), (17, 13862), (24, 13898), (31, 13955), (34, 13982), (42, 14036), (46, 14099), (48, 14126), (60, 14204), (63, 14255),

Gene: Bobby_22 Start: 13728, Stop: 14282, Start Num: 10

Candidate Starts for Bobby_22:

(Start: 10 @13728 has 18 MA's), (14, 13791), (15, 13809), (17, 13815), (24, 13851), (31, 13908), (34, 13935), (42, 13989), (46, 14052), (48, 14079), (62, 14190), (63, 14208),

Gene: Bombitas_18 Start: 13084, Stop: 13638, Start Num: 10

Candidate Starts for Bombitas_18:

(Start: 10 @13084 has 18 MA's), (14, 13147), (15, 13165), (17, 13171), (24, 13207), (31, 13264), (34, 13291), (42, 13345), (46, 13408), (48, 13435), (51, 13453), (60, 13513), (63, 13564),

Gene: Constella_16 Start: 12598, Stop: 13152, Start Num: 10

Candidate Starts for Constella_16:

(Start: 10 @12598 has 18 MA's), (14, 12661), (15, 12679), (17, 12685), (24, 12721), (31, 12778), (34, 12805), (42, 12859), (46, 12922), (48, 12949), (62, 13060), (63, 13078),

Gene: Courthouse_18 Start: 11735, Stop: 12298, Start Num: 9

Candidate Starts for Courthouse_18:

(Start: 9 @11735 has 7 MA's), (Start: 12 @11789 has 1 MA's), (16, 11825), (17, 11828), (33, 11936), (35, 11954), (42, 12002), (52, 12122), (63, 12221),

Gene: Dallas_20 Start: 13315, Stop: 13869, Start Num: 10

Candidate Starts for Dallas_20:

(Start: 10 @13315 has 18 MA's), (14, 13378), (15, 13396), (17, 13402), (24, 13438), (31, 13495), (34, 13522), (42, 13576), (46, 13639), (48, 13666), (60, 13744), (63, 13795),

Gene: DmpstrDiver_20 Start: 13955, Stop: 14509, Start Num: 10

Candidate Starts for DmpstrDiver_20:

(Start: 10 @13955 has 18 MA's), (14, 14018), (15, 14036), (17, 14042), (24, 14078), (31, 14135), (34, 14162), (42, 14216), (46, 14279), (48, 14306), (51, 14324), (62, 14417), (63, 14435),

Gene: Dove_18 Start: 13083, Stop: 13637, Start Num: 10

Candidate Starts for Dove_18:

(Start: 10 @13083 has 18 MA's), (14, 13146), (15, 13164), (17, 13170), (24, 13206), (31, 13263), (34, 13290), (42, 13344), (46, 13407), (48, 13434), (51, 13452), (60, 13512), (63, 13563),

Gene: Duke13_17 Start: 13339, Stop: 13899, Start Num: 8

Candidate Starts for Duke13_17:

(Start: 8 @13339 has 11 MA's), (Start: 10 @13345 has 18 MA's), (14, 13408), (15, 13426), (17, 13432), (24, 13468), (31, 13525), (34, 13552), (42, 13606), (46, 13669), (48, 13696), (51, 13714), (60, 13774), (63, 13825),

Gene: Ejimix_22 Start: 14525, Stop: 15079, Start Num: 10

Candidate Starts for Ejimix_22:

(Start: 10 @14525 has 18 MA's), (14, 14588), (15, 14606), (17, 14612), (24, 14648), (31, 14705), (34, 14732), (42, 14786), (46, 14849), (48, 14876), (60, 14954), (63, 15005),

Gene: EricMillard_21 Start: 14059, Stop: 14619, Start Num: 8

Candidate Starts for EricMillard_21:

(Start: 8 @14059 has 11 MA's), (Start: 10 @14065 has 18 MA's), (14, 14128), (15, 14146), (17, 14152), (24, 14188), (31, 14245), (34, 14272), (42, 14326), (46, 14389), (48, 14416), (51, 14434), (62, 14527), (63, 14545),

Gene: Gaia_172 Start: 85631, Stop: 86221, Start Num: 6

Candidate Starts for Gaia_172:

(Start: 6 @85631 has 1 MA's), (7, 85637), (Start: 8 @85661 has 11 MA's), (Start: 10 @85667 has 18 MA's), (20, 85772), (23, 85784), (30, 85838), (38, 85895), (40, 85910), (42, 85925), (44, 85961), (47, 86012), (49, 86021), (56, 86060), (58, 86081), (60, 86087),

Gene: Gonephishing_17 Start: 12001, Stop: 12471, Start Num: 17

Candidate Starts for Gonephishing_17:

(Start: 12 @11962 has 1 MA's), (16, 11998), (17, 12001), (25, 12052), (35, 12127), (42, 12175), (52, 12295), (63, 12394),

Gene: Greely_58 Start: 21411, Stop: 21950, Start Num: 11

Candidate Starts for Greely_58:

(Start: 11 @21411 has 2 MA's), (13, 21453), (16, 21489), (19, 21504), (23, 21522), (26, 21549), (40, 21645), (42, 21660), (47, 21744), (50, 21756), (55, 21795), (64, 21882), (65, 21936),

Gene: Halley_21 Start: 13775, Stop: 14329, Start Num: 10

Candidate Starts for Halley_21:

(Start: 10 @13775 has 18 MA's), (14, 13838), (15, 13856), (17, 13862), (24, 13898), (31, 13955), (34, 13982), (42, 14036), (46, 14099), (48, 14126), (51, 14144), (62, 14237), (63, 14255),

Gene: Hannaconda_15 Start: 10415, Stop: 10978, Start Num: 9

Candidate Starts for Hannaconda_15:

(Start: 9 @10415 has 7 MA's), (Start: 12 @10469 has 1 MA's), (16, 10505), (17, 10508), (33, 10616), (35, 10634), (42, 10682), (52, 10802), (63, 10901),

Gene: HokkenD_16 Start: 13342, Stop: 13902, Start Num: 8

Candidate Starts for HokkenD_16:

(Start: 8 @13342 has 11 MA's), (Start: 10 @13348 has 18 MA's), (14, 13411), (15, 13429), (17, 13435), (24, 13471), (31, 13528), (34, 13555), (42, 13609), (46, 13672), (48, 13699), (51, 13717), (62, 13810), (63, 13828),

Gene: Hughesyang_20 Start: 13955, Stop: 14509, Start Num: 10

Candidate Starts for Hughesyang_20:

(Start: 10 @13955 has 18 MA's), (14, 14018), (15, 14036), (17, 14042), (24, 14078), (31, 14135), (34, 14162), (42, 14216), (46, 14279), (48, 14306), (51, 14324), (60, 14384), (63, 14435),

Gene: JuicyJay_22 Start: 14606, Stop: 15160, Start Num: 10

Candidate Starts for JuicyJay_22:

(Start: 10 @14606 has 18 MA's), (14, 14669), (15, 14687), (17, 14693), (24, 14729), (31, 14786), (34, 14813), (42, 14867), (46, 14930), (48, 14957), (60, 15035), (62, 15068), (63, 15086),

Gene: Kalah2_21 Start: 14374, Stop: 14928, Start Num: 10

Candidate Starts for Kalah2_21:

(Start: 10 @14374 has 18 MA's), (14, 14437), (15, 14455), (17, 14461), (24, 14497), (31, 14554), (34, 14581), (42, 14635), (46, 14698), (48, 14725), (60, 14803), (63, 14854),

Gene: KashFlow_12 Start: 9981, Stop: 10544, Start Num: 9

Candidate Starts for KashFlow_12:

(Start: 9 @9981 has 7 MA's), (Start: 12 @10035 has 1 MA's), (16, 10071), (17, 10074), (33, 10182), (35, 10200), (42, 10248), (52, 10368), (63, 10467),

Gene: Klein_21 Start: 13352, Stop: 13906, Start Num: 10

Candidate Starts for Klein_21:

(Start: 10 @13352 has 18 MA's), (14, 13415), (15, 13433), (17, 13439), (24, 13475), (31, 13532), (34, 13559), (42, 13613), (46, 13676), (48, 13703), (60, 13781), (62, 13814), (63, 13832),

Gene: Leopard_58 Start: 43439, Stop: 44032, Start Num: 5

Candidate Starts for Leopard_58:

(Start: 5 @43439 has 3 MA's), (Start: 10 @43481 has 18 MA's), (Start: 11 @43490 has 2 MA's), (13, 43535), (22, 43595), (27, 43631), (29, 43646), (32, 43661), (36, 43691), (37, 43700), (39, 43718), (41, 43733), (59, 43895), (65, 44015),

Gene: Marleymoo_22 Start: 14433, Stop: 14987, Start Num: 10

Candidate Starts for Marleymoo_22:

(Start: 10 @14433 has 18 MA's), (14, 14496), (15, 14514), (17, 14520), (21, 14541), (24, 14556), (34, 14640), (42, 14694), (46, 14757), (48, 14784), (57, 14850), (62, 14895), (63, 14913),

Gene: MiaZeal_18 Start: 11554, Stop: 12117, Start Num: 9

Candidate Starts for MiaZeal_18:

(Start: 9 @11554 has 7 MA's), (Start: 12 @11608 has 1 MA's), (16, 11644), (17, 11647), (33, 11755), (35, 11773), (42, 11821), (52, 11941), (63, 12040),

Gene: Minerva_20 Start: 13829, Stop: 14389, Start Num: 8

Candidate Starts for Minerva_20:

(Start: 8 @13829 has 11 MA's), (Start: 10 @13835 has 18 MA's), (14, 13898), (15, 13916), (17, 13922), (24, 13958), (31, 14015), (34, 14042), (42, 14096), (46, 14159), (48, 14186), (51, 14204), (60, 14264), (63, 14315),

Gene: Nekros_16 Start: 11695, Stop: 12165, Start Num: 17

Candidate Starts for Nekros_16:

(Start: 12 @11656 has 1 MA's), (16, 11692), (17, 11695), (25, 11746), (35, 11821), (42, 11869), (52, 11989), (63, 12088),

Gene: NihilNomen_20 Start: 13828, Stop: 14388, Start Num: 8

Candidate Starts for NihilNomen_20:

(Start: 8 @13828 has 11 MA's), (Start: 10 @13834 has 18 MA's), (14, 13897), (15, 13915), (17, 13921), (24, 13957), (31, 14014), (34, 14041), (42, 14095), (46, 14158), (48, 14185), (60, 14263), (62, 14296), (63, 14314),

Gene: Odette_20 Start: 13317, Stop: 13871, Start Num: 10

Candidate Starts for Odette_20:

(Start: 10 @13317 has 18 MA's), (14, 13380), (15, 13398), (17, 13404), (24, 13440), (31, 13497), (34, 13524), (42, 13578), (46, 13641), (48, 13668), (60, 13746), (63, 13797),

Gene: Omega_18 Start: 13337, Stop: 13846, Start Num: 12

Candidate Starts for Omega_18:

(Start: 12 @13337 has 1 MA's), (16, 13373), (17, 13376), (25, 13427), (35, 13502), (42, 13550), (52, 13670), (63, 13769),

Gene: Onyinye_59 Start: 43321, Stop: 43914, Start Num: 5

Candidate Starts for Onyinye_59:

(Start: 5 @43321 has 3 MA's), (Start: 10 @43363 has 18 MA's), (Start: 11 @43372 has 2 MA's), (13, 43417), (22, 43477), (27, 43513), (29, 43528), (32, 43543), (36, 43573), (37, 43582), (39, 43600), (41, 43615), (53, 43738), (59, 43777), (65, 43897),

Gene: Optimus_18 Start: 13412, Stop: 13972, Start Num: 8

Candidate Starts for Optimus_18:

(Start: 8 @13412 has 11 MA's), (Start: 10 @13418 has 18 MA's), (14, 13481), (15, 13499), (17, 13505), (24, 13541), (31, 13598), (34, 13625), (42, 13679), (46, 13742), (48, 13769), (51, 13787), (62, 13880), (63, 13898),

Gene: Phabba_60 Start: 21463, Stop: 22002, Start Num: 11

Candidate Starts for Phabba_60:

(Start: 11 @21463 has 2 MA's), (13, 21505), (16, 21541), (19, 21556), (23, 21574), (26, 21601), (40, 21697), (42, 21712), (47, 21796), (50, 21808), (55, 21847), (64, 21934), (65, 21988),

Gene: Phoebus_21 Start: 14059, Stop: 14619, Start Num: 8

Candidate Starts for Phoebus_21:

(Start: 8 @14059 has 11 MA's), (Start: 10 @14065 has 18 MA's), (14, 14128), (15, 14146), (17, 14152), (24, 14188), (31, 14245), (34, 14272), (42, 14326), (46, 14389), (48, 14416), (51, 14434), (62, 14527), (63, 14545),

Gene: Porcelain_18 Start: 11554, Stop: 12117, Start Num: 9

Candidate Starts for Porcelain_18:

(Start: 9 @11554 has 7 MA's), (Start: 12 @11608 has 1 MA's), (16, 11644), (17, 11647), (33, 11755), (35, 11773), (42, 11821), (52, 11941), (63, 12040),

Gene: Pound_21 Start: 14147, Stop: 14707, Start Num: 8

Candidate Starts for Pound_21:

(Start: 8 @14147 has 11 MA's), (Start: 10 @14153 has 18 MA's), (14, 14216), (15, 14234), (17, 14240), (24, 14276), (31, 14333), (34, 14360), (42, 14414), (46, 14477), (48, 14504), (51, 14522), (62, 14615), (63, 14633),

Gene: Rearden_16 Start: 10538, Stop: 11101, Start Num: 9

Candidate Starts for Rearden_16:

(1, 10343), (2, 10370), (Start: 9 @10538 has 7 MA's), (Start: 12 @10592 has 1 MA's), (16, 10628), (17, 10631), (25, 10682), (33, 10739), (35, 10757), (41, 10802), (42, 10805), (52, 10925), (63, 11024),

Gene: Redno2_20 Start: 13545, Stop: 14099, Start Num: 10

Candidate Starts for Redno2_20:

(Start: 10 @13545 has 18 MA's), (14, 13608), (15, 13626), (17, 13632), (24, 13668), (31, 13725), (34, 13752), (42, 13806), (46, 13869), (48, 13896), (60, 13974), (63, 14025),

Gene: Saguaro_83 Start: 65057, Stop: 64455, Start Num: 4

Candidate Starts for Saguaro_83:

(Start: 4 @65057 has 1 MA's), (Start: 10 @65003 has 18 MA's), (18, 64904), (28, 64844), (35, 64793), (42, 64745), (43, 64733), (54, 64616),

Gene: Schatzie_19 Start: 13084, Stop: 13638, Start Num: 10

Candidate Starts for Schatzie_19:

(Start: 10 @13084 has 18 MA's), (14, 13147), (15, 13165), (17, 13171), (24, 13207), (31, 13264), (34, 13291), (42, 13345), (46, 13408), (48, 13435), (60, 13513), (62, 13546), (63, 13564),

Gene: Shaboozey_13 Start: 10058, Stop: 10528, Start Num: 17

Candidate Starts for Shaboozey_13:

(Start: 12 @10019 has 1 MA's), (16, 10055), (17, 10058), (25, 10109), (35, 10184), (42, 10232), (52, 10352), (63, 10451),

Gene: Superphikiman_18 Start: 11735, Stop: 12298, Start Num: 9

Candidate Starts for Superphikiman_18:

(Start: 9 @11735 has 7 MA's), (Start: 12 @11789 has 1 MA's), (16, 11825), (17, 11828), (33, 11936), (35, 11954), (42, 12002), (52, 12122), (63, 12221),

Gene: Thibault_17 Start: 13339, Stop: 13899, Start Num: 8

Candidate Starts for Thibault_17:

(Start: 8 @13339 has 11 MA's), (Start: 10 @13345 has 18 MA's), (14, 13408), (15, 13426), (17, 13432), (24, 13468), (31, 13525), (34, 13552), (42, 13606), (46, 13669), (48, 13696), (51, 13714), (60, 13774), (63, 13825),

Gene: Thonko_94 Start: 65409, Stop: 64885, Start Num: 11

Candidate Starts for Thonko_94:

(3, 65472), (Start: 5 @65457 has 3 MA's), (Start: 11 @65409 has 2 MA's), (35, 65208), (45, 65109), (50, 65064), (53, 65037), (57, 65013), (61, 64986), (62, 64977), (65, 64899),

Gene: ThreeRngTarjay_20 Start: 13909, Stop: 14463, Start Num: 10

Candidate Starts for ThreeRngTarjay_20:

(Start: 10 @13909 has 18 MA's), (14, 13972), (15, 13990), (17, 13996), (24, 14032), (31, 14089), (34, 14116), (42, 14170), (46, 14233), (48, 14260), (51, 14278), (60, 14338), (63, 14389),

Gene: Wanda_21 Start: 13352, Stop: 13906, Start Num: 10

Candidate Starts for Wanda_21:

(Start: 10 @13352 has 18 MA's), (14, 13415), (15, 13433), (17, 13439), (24, 13475), (31, 13532), (34, 13559), (42, 13613), (46, 13676), (48, 13703), (60, 13781), (62, 13814), (63, 13832),

Gene: Yeet_19 Start: 13078, Stop: 13638, Start Num: 8

Candidate Starts for Yeet_19:

(Start: 8 @13078 has 11 MA's), (Start: 10 @13084 has 18 MA's), (14, 13147), (15, 13165), (17, 13171), (24, 13207), (31, 13264), (34, 13291), (42, 13345), (46, 13408), (48, 13435), (51, 13453), (60, 13513), (63, 13564),

Gene: Zelink_21 Start: 13937, Stop: 14491, Start Num: 10

Candidate Starts for Zelink_21:

(Start: 10 @13937 has 18 MA's), (14, 14000), (15, 14018), (17, 14024), (24, 14060), (31, 14117), (34, 14144), (42, 14198), (46, 14261), (48, 14288), (60, 14366), (62, 14399), (63, 14417),