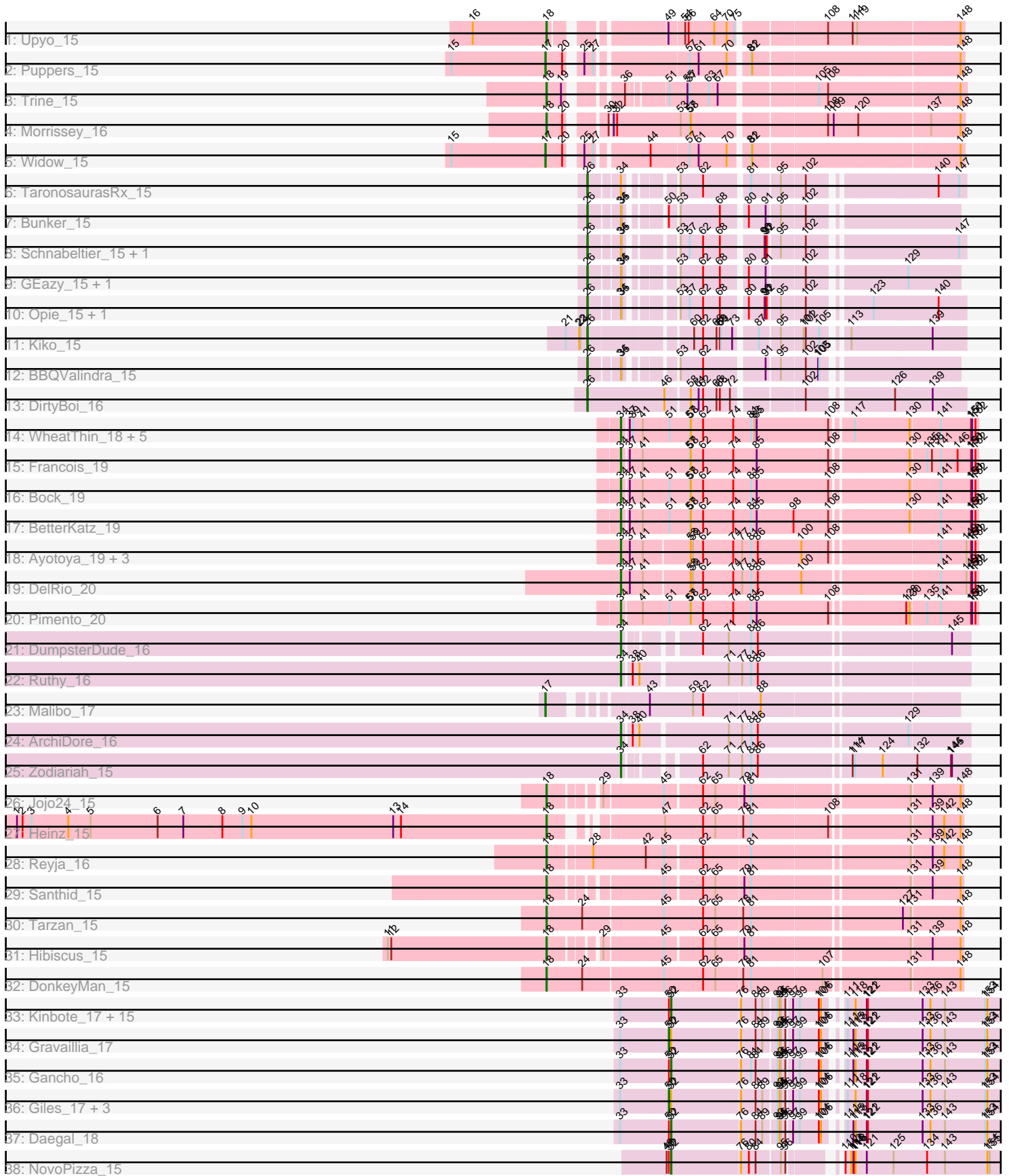


Pham 311578



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 311578 Report

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

Pham number 311578 has 67 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Upyo_15
- Track 2 : Puppies_15
- Track 3 : Trine_15
- Track 4 : Morrissey_16
- Track 5 : Widow_15
- Track 6 : TaronosaurusRx_15
- Track 7 : Bunker_15
- Track 8 : Schnabeltier_15, MagicMan_15
- Track 9 : GEazy_15, HannahD_15
- Track 10 : Opie_15, Eyes_15
- Track 11 : Kiko_15
- Track 12 : BBQValindra_15
- Track 13 : DirtyBoi_16
- Track 14 : WheatThin_18, Nadeem_19, Brylie_19, Parada_19, Mulch_19, NancyRae_19
- Track 15 : Francois_19
- Track 16 : Bock_19
- Track 17 : BetterKatz_19
- Track 18 : Ayotoya_19, Chop_19, Hamood_19, GrandSlam_19
- Track 19 : DelRio_20
- Track 20 : Pimento_20
- Track 21 : DumpsterDude_16
- Track 22 : Ruthy_16
- Track 23 : Malibo_17
- Track 24 : ArchiDore_16
- Track 25 : Zodiariah_15
- Track 26 : Jojo24_15
- Track 27 : Heinz_15
- Track 28 : Reyja_16
- Track 29 : Santhid_15
- Track 30 : Tarzan_15
- Track 31 : Hibiscus_15
- Track 32 : DonkeyMan_15
- Track 33 : Kinbote_17, BloominB_17, Amochick_17, LilHazelNut_17, Evanesce_17, Hadrien_17, DeepSoil15_17, Forge_17, Luna22_17, Ein37_17, Amymech_17, Webster2_17, HH92_17, Wishmaker_17, Luke_17, Hail_17
- Track 34 : Gravallia_17

- Track 35 : Gancho_16
- Track 36 : Giles_17, OBUpride_17, Dewey_17, Ubuntu_17
- Track 37 : Daegal_18
- Track 38 : NovoPizza_15

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

The start number called the most often in the published annotations is 34, it was called in 19 of the 66 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArchiDore_16, Ayotoya_19, BetterKatz_19, Bock_19, Brylie_19, Chop_19, DelRio_20, DumpsterDude_16, Francois_19, GrandSlam_19, Hamood_19, Mulch_19, Nadeem_19, NancyRae_19, Parada_19, Pimento_20, Ruthy_16, WheatThin_18, Zodiariah_15,

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

- BBQValindra_15, Bunker_15, Eyes_15, GEazy_15, HannahD_15, MagicMan_15, Opie_15, Schnabeltier_15, TaronosaurusRx_15,

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

- Amochick_17, Amymech_17, BloominB_17, Daegal_18, DeepSoil15_17, Dewey_17, DirtyBoi_16, DonkeyMan_15, Ein37_17, Evanesce_17, Forge_17, Gancho_16, Giles_17, Gravaillia_17, HH92_17, Hadrien_17, Hail_17, Heinz_15, Hibiscus_15, Jojo24_15, Kiko_15, Kinbote_17, LilHazelnut_17, Luke_17, Luna22_17, Malibo_17, Morrissey_16, NovoPizza_15, OBUpride_17, Puppies_15, Reyja_16, Santhid_15, Tarzan_15, Trine_15, Ubuntu_17, Upyo_15, Webster2_17, Widow_15, Wishmaker_17,

Summary by start number:

Start 17:

- Found in 3 of 67 (4.5%) of genes in pham
- Manual Annotations of this start: 3 of 66
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Malibo_17 (DW), Puppies_15 (CD), Widow_15 (CD),

Start 18:

- Found in 10 of 67 (14.9%) of genes in pham
- Manual Annotations of this start: 10 of 66
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonkeyMan_15 (DY), Heinz_15 (DY), Hibiscus_15 (DY), Jojo24_15 (DY), Morrissey_16 (CD), Reyja_16 (DY), Santhid_15 (DY), Tarzan_15 (DY), Trine_15 (CD), Upyo_15 (CD),

Start 26:

- Found in 11 of 67 (16.4%) of genes in pham
- Manual Annotations of this start: 11 of 66
- Called 100.0% of time when present

- Phage (with cluster) where this start called: BBQValindra_15 (DB), Bunker_15 (DB), DirtyBoi_16 (DB), Eyes_15 (DB), GEazy_15 (DB), HannahD_15 (DB), Kiko_15 (DB), MagicMan_15 (DB), Opie_15 (DB), Schnabeltier_15 (DB), TaronosaurusRx_15 (DB),

Start 34:

- Found in 28 of 67 (41.8%) of genes in pham
- Manual Annotations of this start: 19 of 66
- Called 67.9% of time when present
- Phage (with cluster) where this start called: ArchiDore_16 (DW), Ayotoya_19 (DI), BetterKatz_19 (DI), Bock_19 (DI), Brylie_19 (DI), Chop_19 (DI), DelRio_20 (DI), DumpsterDude_16 (DW), Francois_19 (DI), GrandSlam_19 (DI), Hamood_19 (DI), Mulch_19 (DI), Nadeem_19 (DI), NancyRae_19 (DI), Parada_19 (DI), Pimento_20 (DI), Ruthy_16 (DW), WheatThin_18 (DI), Zodiariah_15 (DW),

Start 50:

- Found in 25 of 67 (37.3%) of genes in pham
- Manual Annotations of this start: 5 of 66
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Dewey_17 (Q), Giles_17 (Q), Gravaillia_17 (Q), OBUpride_17 (Q), Ubuntu_17 (Q),

Start 52:

- Found in 24 of 67 (35.8%) of genes in pham
- Manual Annotations of this start: 18 of 66
- Called 79.2% of time when present
- Phage (with cluster) where this start called: Amochick_17 (Q), Amymech_17 (Q), BloominB_17 (Q), Daegal_18 (Q), DeepSoil15_17 (Q), Ein37_17 (Q), Evanesce_17 (Q), Forge_17 (Q), Gancho_16 (Q), HH92_17 (Q), Hadrien_17 (Q), Hail_17 (Q), Kinbote_17 (Q), LilHazelNut_17 (Q), Luke_17 (Q), Luna22_17 (Q), NovoPizza_15 (Q), Webster2_17 (Q), Wishmaker_17 (Q),

Summary by clusters:

There are 6 clusters represented in this pham: DI, DB, CD, Q, DY, DW,

Info for manual annotations of cluster CD:

- Start number 17 was manually annotated 2 times for cluster CD.
- Start number 18 was manually annotated 3 times for cluster CD.

Info for manual annotations of cluster DB:

- Start number 26 was manually annotated 11 times for cluster DB.

Info for manual annotations of cluster DI:

- Start number 34 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DW:

- Start number 17 was manually annotated 1 time for cluster DW.
- Start number 34 was manually annotated 4 times for cluster DW.

Info for manual annotations of cluster DY:

- Start number 18 was manually annotated 7 times for cluster DY.

Info for manual annotations of cluster Q:

- Start number 50 was manually annotated 5 times for cluster Q.
- Start number 52 was manually annotated 18 times for cluster Q.

Gene Information:

Gene: Amochick_17 Start: 10896, Stop: 11786, Start Num: 52

Candidate Starts for Amochick_17:

(33, 10761), (Start: 50 @10890 has 5 MA's), (Start: 52 @10896 has 18 MA's), (76, 11076), (84, 11115), (89, 11133), (93, 11163), (94, 11169), (95, 11172), (96, 11184), (97, 11196), (99, 11205), (104, 11256), (106, 11262), (111, 11292), (118, 11313), (121, 11340), (122, 11343), (133, 11490), (136, 11511), (143, 11550), (153, 11658), (154, 11664),

Gene: Amymech_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Amymech_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: ArchiDore_16 Start: 9329, Stop: 10194, Start Num: 34

Candidate Starts for ArchiDore_16:

(Start: 34 @9329 has 19 MA's), (38, 9350), (40, 9368), (71, 9584), (77, 9620), (81, 9644), (86, 9662), (129, 10037),

Gene: Ayotoya_19 Start: 10919, Stop: 11826, Start Num: 34

Candidate Starts for Ayotoya_19:

(Start: 34 @10919 has 19 MA's), (37, 10943), (41, 10976), (58, 11093), (59, 11099), (62, 11126), (74, 11207), (77, 11231), (81, 11255), (86, 11273), (100, 11390), (108, 11462), (141, 11732), (149, 11795), (150, 11807), (151, 11810), (152, 11819),

Gene: BBQValindra_15 Start: 9257, Stop: 10068, Start Num: 26

Candidate Starts for BBQValindra_15:

(Start: 26 @9257 has 11 MA's), (Start: 34 @9323 has 19 MA's), (35, 9326), (53, 9416), (62, 9476), (91, 9623), (95, 9653), (102, 9707), (103, 9737), (105, 9740),

Gene: BetterKatz_19 Start: 10860, Stop: 11764, Start Num: 34

Candidate Starts for BetterKatz_19:

(Start: 34 @10860 has 19 MA's), (37, 10875), (41, 10908), (51, 10977), (57, 11031), (58, 11034), (62, 11067), (74, 11148), (81, 11196), (85, 11211), (98, 11310), (108, 11403), (130, 11592), (141, 11670), (150, 11745), (151, 11748), (152, 11757),

Gene: BloominB_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for BloominB_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Bock_19 Start: 10610, Stop: 11514, Start Num: 34

Candidate Starts for Bock_19:

(Start: 34 @10610 has 19 MA's), (37, 10625), (41, 10658), (51, 10727), (57, 10781), (58, 10784), (62, 10817), (74, 10898), (81, 10946), (85, 10961), (108, 11153), (130, 11342), (141, 11420), (150, 11495), (151, 11498), (152, 11507),

Gene: Brylie_19 Start: 10607, Stop: 11511, Start Num: 34

Candidate Starts for Brylie_19:

(Start: 34 @10607 has 19 MA's), (37, 10622), (39, 10631), (41, 10655), (51, 10724), (57, 10778), (58, 10781), (62, 10814), (74, 10895), (81, 10943), (83, 10952), (85, 10958), (108, 11150), (117, 11198), (130, 11339), (141, 11417), (150, 11492), (151, 11495), (152, 11504),

Gene: Bunker_15 Start: 9257, Stop: 10068, Start Num: 26

Candidate Starts for Bunker_15:

(Start: 26 @9257 has 11 MA's), (Start: 34 @9323 has 19 MA's), (35, 9326), (Start: 50 @9395 has 5 MA's), (53, 9416), (68, 9521), (80, 9578), (91, 9623), (95, 9653), (102, 9707),

Gene: Chop_19 Start: 10667, Stop: 11574, Start Num: 34

Candidate Starts for Chop_19:

(Start: 34 @10667 has 19 MA's), (37, 10691), (41, 10724), (58, 10841), (59, 10847), (62, 10874), (74, 10955), (77, 10979), (81, 11003), (86, 11021), (100, 11138), (108, 11210), (141, 11480), (149, 11543), (150, 11555), (151, 11558), (152, 11567),

Gene: Daegal_18 Start: 11187, Stop: 12077, Start Num: 52

Candidate Starts for Daegal_18:

(33, 11055), (Start: 50 @11181 has 5 MA's), (Start: 52 @11187 has 18 MA's), (76, 11367), (84, 11406), (89, 11424), (93, 11454), (94, 11460), (95, 11463), (96, 11475), (97, 11487), (99, 11496), (104, 11547), (106, 11553), (111, 11583), (115, 11598), (118, 11604), (121, 11631), (122, 11634), (133, 11781), (136, 11802), (143, 11841), (153, 11949), (154, 11955),

Gene: DeepSoil15_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for DeepSoil15_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: DelRio_20 Start: 11141, Stop: 12048, Start Num: 34

Candidate Starts for DelRio_20:

(Start: 34 @11141 has 19 MA's), (37, 11165), (41, 11198), (58, 11315), (59, 11321), (62, 11348), (74, 11429), (77, 11453), (81, 11477), (86, 11495), (100, 11612), (141, 11954), (149, 12017), (150, 12029), (151, 12032), (152, 12041),

Gene: Dewey_17 Start: 10893, Stop: 11789, Start Num: 50

Candidate Starts for Dewey_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: DirtyBoi_16 Start: 9613, Stop: 10517, Start Num: 26

Candidate Starts for DirtyBoi_16:

(Start: 26 @9613 has 11 MA's), (46, 9817), (58, 9877), (61, 9898), (62, 9910), (66, 9946), (68, 9955), (72, 9982), (102, 10141), (126, 10333), (139, 10429),

Gene: DonkeyMan_15 Start: 8928, Stop: 9955, Start Num: 18

Candidate Starts for DonkeyMan_15:

(Start: 18 @8928 has 10 MA's), (24, 9024), (45, 9225), (62, 9324), (65, 9357), (78, 9426), (81, 9447), (107, 9621), (131, 9828), (148, 9948),

Gene: DumpsterDude_16 Start: 9345, Stop: 10174, Start Num: 34

Candidate Starts for DumpsterDude_16:

(Start: 34 @9345 has 19 MA's), (62, 9495), (71, 9564), (81, 9624), (86, 9642), (145, 10125),

Gene: Ein37_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Ein37_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Evanesce_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Evanesce_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Eyes_15 Start: 9267, Stop: 10099, Start Num: 26

Candidate Starts for Eyes_15:

(Start: 26 @9267 has 11 MA's), (Start: 34 @9336 has 19 MA's), (35, 9339), (53, 9432), (57, 9456), (62, 9492), (68, 9537), (80, 9594), (90, 9636), (91, 9639), (92, 9642), (95, 9669), (102, 9723), (123, 9858), (140, 10026),

Gene: Forge_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Forge_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Francois_19 Start: 10624, Stop: 11528, Start Num: 34

Candidate Starts for Francois_19:

(Start: 34 @10624 has 19 MA's), (37, 10639), (41, 10672), (57, 10795), (58, 10798), (62, 10831), (74, 10912), (85, 10975), (108, 11167), (130, 11356), (135, 11398), (138, 11410), (141, 11434), (146, 11473), (150, 11509), (151, 11512), (152, 11521),

Gene: GEazy_15 Start: 9276, Stop: 10090, Start Num: 26

Candidate Starts for GEazy_15:

(Start: 26 @9276 has 11 MA's), (Start: 34 @9345 has 19 MA's), (35, 9348), (53, 9438), (62, 9498), (68, 9543), (80, 9600), (91, 9645), (102, 9729), (129, 9954),

Gene: Gancho_16 Start: 10599, Stop: 11489, Start Num: 52

Candidate Starts for Gancho_16:

(33, 10467), (Start: 50 @10593 has 5 MA's), (Start: 52 @10599 has 18 MA's), (76, 10779), (81, 10806), (84, 10818), (93, 10866), (94, 10872), (95, 10875), (96, 10887), (97, 10899), (99, 10908), (104, 10959), (106, 10965), (111, 10995), (115, 11010), (118, 11016), (121, 11043), (122, 11046), (133, 11193), (136, 11214), (143, 11253), (153, 11361), (154, 11367),

Gene: Giles_17 Start: 10893, Stop: 11789, Start Num: 50

Candidate Starts for Giles_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: GrandSlam_19 Start: 10667, Stop: 11574, Start Num: 34

Candidate Starts for GrandSlam_19:

(Start: 34 @10667 has 19 MA's), (37, 10691), (41, 10724), (58, 10841), (59, 10847), (62, 10874), (74, 10955), (77, 10979), (81, 11003), (86, 11021), (100, 11138), (108, 11210), (141, 11480), (149, 11543), (150, 11555), (151, 11558), (152, 11567),

Gene: Gravaillia_17 Start: 10626, Stop: 11522, Start Num: 50

Candidate Starts for Gravaillia_17:

(33, 10500), (Start: 50 @10626 has 5 MA's), (Start: 52 @10632 has 18 MA's), (76, 10812), (84, 10851), (89, 10869), (93, 10899), (94, 10905), (95, 10908), (96, 10920), (97, 10932), (99, 10941), (104, 10992), (106, 10998), (111, 11028), (115, 11043), (118, 11049), (121, 11076), (122, 11079), (133, 11226), (136, 11247), (143, 11286), (153, 11394), (154, 11400),

Gene: HH92_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for HH92_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Hadrien_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Hadrien_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Hail_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Hail_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Hamood_19 Start: 10667, Stop: 11574, Start Num: 34

Candidate Starts for Hamood_19:

(Start: 34 @10667 has 19 MA's), (37, 10691), (41, 10724), (58, 10841), (59, 10847), (62, 10874), (74, 10955), (77, 10979), (81, 11003), (86, 11021), (100, 11138), (108, 11210), (141, 11480), (149, 11543), (150, 11555), (151, 11558), (152, 11567),

Gene: HannahD_15 Start: 9276, Stop: 10090, Start Num: 26

Candidate Starts for HannahD_15:

(Start: 26 @9276 has 11 MA's), (Start: 34 @9345 has 19 MA's), (35, 9348), (53, 9438), (62, 9498), (68, 9543), (80, 9600), (91, 9645), (102, 9729), (129, 9954),

Gene: Heinz_15 Start: 8959, Stop: 9896, Start Num: 18

Candidate Starts for Heinz_15:

(1, 7540), (2, 7555), (3, 7579), (4, 7678), (5, 7738), (6, 7918), (7, 7987), (8, 8092), (9, 8146), (10, 8170), (13, 8551), (14, 8572), (Start: 18 @8959 has 10 MA's), (47, 9166), (62, 9265), (65, 9298), (78, 9367), (81, 9388), (108, 9577), (131, 9769), (139, 9820), (142, 9850), (148, 9889),

Gene: Hibiscus_15 Start: 8943, Stop: 9913, Start Num: 18

Candidate Starts for Hibiscus_15:

(11, 8517), (12, 8526), (Start: 18 @8943 has 10 MA's), (29, 9048), (45, 9192), (62, 9282), (65, 9315), (79, 9387), (81, 9405), (131, 9786), (139, 9837), (148, 9906),

Gene: Jojo24_15 Start: 8937, Stop: 9907, Start Num: 18

Candidate Starts for Jojo24_15:

(Start: 18 @8937 has 10 MA's), (29, 9042), (45, 9186), (62, 9276), (65, 9309), (79, 9381), (81, 9399), (131, 9780), (139, 9831), (148, 9900),

Gene: Kiko_15 Start: 9515, Stop: 10383, Start Num: 26

Candidate Starts for Kiko_15:

(21, 9458), (22, 9494), (23, 9497), (Start: 26 @9515 has 11 MA's), (60, 9752), (62, 9776), (66, 9812), (68, 9821), (69, 9824), (73, 9854), (87, 9905), (95, 9953), (101, 10001), (102, 10007), (105, 10040), (113, 10085), (139, 10295),

Gene: Kinbote_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Kinbote_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: LilHazelnut_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for LilHazelnut_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Luke_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Luke_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Luna22_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Luna22_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: MagicMan_15 Start: 9597, Stop: 10435, Start Num: 26

Candidate Starts for MagicMan_15:

(Start: 26 @9597 has 11 MA's), (Start: 34 @9666 has 19 MA's), (35, 9669), (53, 9768), (57, 9792), (62, 9828), (68, 9873), (90, 9972), (91, 9975), (92, 9978), (95, 10005), (102, 10059), (147, 10416),

Gene: Malibo_17 Start: 9627, Stop: 10582, Start Num: 17

Candidate Starts for Malibo_17:

(Start: 17 @9627 has 3 MA's), (43, 9828), (59, 9936), (62, 9963), (88, 10107),

Gene: Morrissey_16 Start: 9186, Stop: 10171, Start Num: 18

Candidate Starts for Morrissey_16:

(Start: 18 @9186 has 10 MA's), (20, 9228), (30, 9300), (31, 9306), (32, 9315), (53, 9471), (57, 9495), (58, 9498), (108, 9822), (109, 9837), (120, 9903), (137, 10086), (148, 10161),

Gene: Mulch_19 Start: 10607, Stop: 11511, Start Num: 34

Candidate Starts for Mulch_19:

(Start: 34 @10607 has 19 MA's), (37, 10622), (39, 10631), (41, 10655), (51, 10724), (57, 10778), (58, 10781), (62, 10814), (74, 10895), (81, 10943), (83, 10952), (85, 10958), (108, 11150), (117, 11198), (130, 11339), (141, 11417), (150, 11492), (151, 11495), (152, 11504),

Gene: Nadeem_19 Start: 10607, Stop: 11511, Start Num: 34

Candidate Starts for Nadeem_19:

(Start: 34 @10607 has 19 MA's), (37, 10622), (39, 10631), (41, 10655), (51, 10724), (57, 10778), (58, 10781), (62, 10814), (74, 10895), (81, 10943), (83, 10952), (85, 10958), (108, 11150), (117, 11198), (130, 11339), (141, 11417), (150, 11492), (151, 11495), (152, 11504),

Gene: NancyRae_19 Start: 10607, Stop: 11511, Start Num: 34

Candidate Starts for NancyRae_19:

(Start: 34 @10607 has 19 MA's), (37, 10622), (39, 10631), (41, 10655), (51, 10724), (57, 10778), (58, 10781), (62, 10814), (74, 10895), (81, 10943), (83, 10952), (85, 10958), (108, 11150), (117, 11198), (130, 11339), (141, 11417), (150, 11492), (151, 11495), (152, 11504),

Gene: NovoPizza_15 Start: 11141, Stop: 12016, Start Num: 52

Candidate Starts for NovoPizza_15:

(48, 11129), (Start: 50 @11135 has 5 MA's), (Start: 52 @11141 has 18 MA's), (76, 11321), (80, 11342), (84, 11360), (95, 11417), (96, 11429), (110, 11522), (112, 11537), (115, 11543), (116, 11546), (118, 11549), (121, 11576), (125, 11648), (134, 11738), (143, 11786), (154, 11897), (155, 11903),

Gene: OBUpride_17 Start: 10887, Stop: 11783, Start Num: 50

Candidate Starts for OBUpride_17:

(33, 10758), (Start: 50 @10887 has 5 MA's), (Start: 52 @10893 has 18 MA's), (76, 11073), (84, 11112), (89, 11130), (93, 11160), (94, 11166), (95, 11169), (96, 11181), (97, 11193), (99, 11202), (104, 11253), (106, 11259), (111, 11289), (118, 11310), (121, 11337), (122, 11340), (133, 11487), (136, 11508), (143, 11547), (153, 11655), (154, 11661),

Gene: Opie_15 Start: 9611, Stop: 10443, Start Num: 26

Candidate Starts for Opie_15:

(Start: 26 @9611 has 11 MA's), (Start: 34 @9680 has 19 MA's), (35, 9683), (53, 9776), (57, 9800), (62, 9836), (68, 9881), (80, 9938), (90, 9980), (91, 9983), (92, 9986), (95, 10013), (102, 10067), (123, 10202), (140, 10370),

Gene: Parada_19 Start: 10607, Stop: 11511, Start Num: 34

Candidate Starts for Parada_19:

(Start: 34 @10607 has 19 MA's), (37, 10622), (39, 10631), (41, 10655), (51, 10724), (57, 10778), (58, 10781), (62, 10814), (74, 10895), (81, 10943), (83, 10952), (85, 10958), (108, 11150), (117, 11198),

(130, 11339), (141, 11417), (150, 11492), (151, 11495), (152, 11504),

Gene: Pimento_20 Start: 10811, Stop: 11715, Start Num: 34

Candidate Starts for Pimento_20:

(Start: 34 @10811 has 19 MA's), (41, 10859), (51, 10928), (57, 10982), (58, 10985), (62, 11018), (74, 11099), (81, 11147), (85, 11162), (108, 11354), (128, 11537), (130, 11543), (135, 11585), (141, 11621), (150, 11696), (151, 11699), (152, 11708),

Gene: Puppets_15 Start: 8726, Stop: 9696, Start Num: 17

Candidate Starts for Puppets_15:

(15, 8477), (Start: 17 @8726 has 3 MA's), (20, 8768), (25, 8795), (27, 8813), (57, 9023), (61, 9047), (70, 9122), (81, 9167), (82, 9170), (148, 9686),

Gene: Reyja_16 Start: 9079, Stop: 10085, Start Num: 18

Candidate Starts for Reyja_16:

(Start: 18 @9079 has 10 MA's), (28, 9184), (42, 9319), (45, 9364), (62, 9454), (81, 9577), (131, 9958), (139, 10009), (142, 10039), (148, 10078),

Gene: Ruthy_16 Start: 9419, Stop: 10284, Start Num: 34

Candidate Starts for Ruthy_16:

(Start: 34 @9419 has 19 MA's), (38, 9440), (40, 9458), (71, 9674), (77, 9710), (81, 9734), (86, 9752),

Gene: Santhid_15 Start: 8945, Stop: 9915, Start Num: 18

Candidate Starts for Santhid_15:

(Start: 18 @8945 has 10 MA's), (45, 9194), (62, 9284), (65, 9317), (79, 9389), (81, 9407), (131, 9788), (139, 9839), (148, 9908),

Gene: Schnabeltier_15 Start: 9598, Stop: 10436, Start Num: 26

Candidate Starts for Schnabeltier_15:

(Start: 26 @9598 has 11 MA's), (Start: 34 @9667 has 19 MA's), (35, 9670), (53, 9769), (57, 9793), (62, 9829), (68, 9874), (90, 9973), (91, 9976), (92, 9979), (95, 10006), (102, 10060), (147, 10417),

Gene: TaronosaurusRx_15 Start: 9610, Stop: 10442, Start Num: 26

Candidate Starts for TaronosaurusRx_15:

(Start: 26 @9610 has 11 MA's), (Start: 34 @9679 has 19 MA's), (53, 9775), (62, 9835), (81, 9943), (95, 10012), (102, 10066), (140, 10369), (147, 10423),

Gene: Tarzan_15 Start: 8933, Stop: 9960, Start Num: 18

Candidate Starts for Tarzan_15:

(Start: 18 @8933 has 10 MA's), (24, 9029), (45, 9230), (62, 9329), (65, 9362), (78, 9431), (81, 9452), (127, 9812), (131, 9833), (148, 9953),

Gene: Trine_15 Start: 8732, Stop: 9684, Start Num: 18

Candidate Starts for Trine_15:

(Start: 18 @8732 has 10 MA's), (19, 8768), (36, 8867), (51, 8948), (55, 8996), (57, 9002), (63, 9053), (67, 9077), (105, 9305), (108, 9329), (148, 9668),

Gene: Ubuntu_17 Start: 10893, Stop: 11789, Start Num: 50

Candidate Starts for Ubuntu_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Upyo_15 Start: 8842, Stop: 9809, Start Num: 18

Candidate Starts for Upyo_15:

(16, 8647), (Start: 18 @8842 has 10 MA's), (49, 9082), (54, 9121), (56, 9130), (64, 9199), (70, 9232), (75, 9253), (108, 9460), (114, 9526), (119, 9538), (148, 9799),

Gene: Webster2_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Webster2_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: WheatThin_18 Start: 10607, Stop: 11511, Start Num: 34

Candidate Starts for WheatThin_18:

(Start: 34 @10607 has 19 MA's), (37, 10622), (39, 10631), (41, 10655), (51, 10724), (57, 10778), (58, 10781), (62, 10814), (74, 10895), (81, 10943), (83, 10952), (85, 10958), (108, 11150), (117, 11198), (130, 11339), (141, 11417), (150, 11492), (151, 11495), (152, 11504),

Gene: Widow_15 Start: 8717, Stop: 9687, Start Num: 17

Candidate Starts for Widow_15:

(15, 8468), (Start: 17 @8717 has 3 MA's), (20, 8759), (25, 8786), (27, 8804), (44, 8918), (57, 9014), (61, 9038), (70, 9113), (81, 9158), (82, 9161), (148, 9677),

Gene: Wishmaker_17 Start: 10899, Stop: 11789, Start Num: 52

Candidate Starts for Wishmaker_17:

(33, 10764), (Start: 50 @10893 has 5 MA's), (Start: 52 @10899 has 18 MA's), (76, 11079), (84, 11118), (89, 11136), (93, 11166), (94, 11172), (95, 11175), (96, 11187), (97, 11199), (99, 11208), (104, 11259), (106, 11265), (111, 11295), (118, 11316), (121, 11343), (122, 11346), (133, 11493), (136, 11514), (143, 11553), (153, 11661), (154, 11667),

Gene: Zodiariah_15 Start: 9098, Stop: 9930, Start Num: 34

Candidate Starts for Zodiariah_15:

(Start: 34 @9098 has 19 MA's), (62, 9248), (71, 9317), (77, 9353), (81, 9377), (86, 9395), (114, 9623), (117, 9629), (124, 9701), (132, 9794), (144, 9878), (145, 9881),