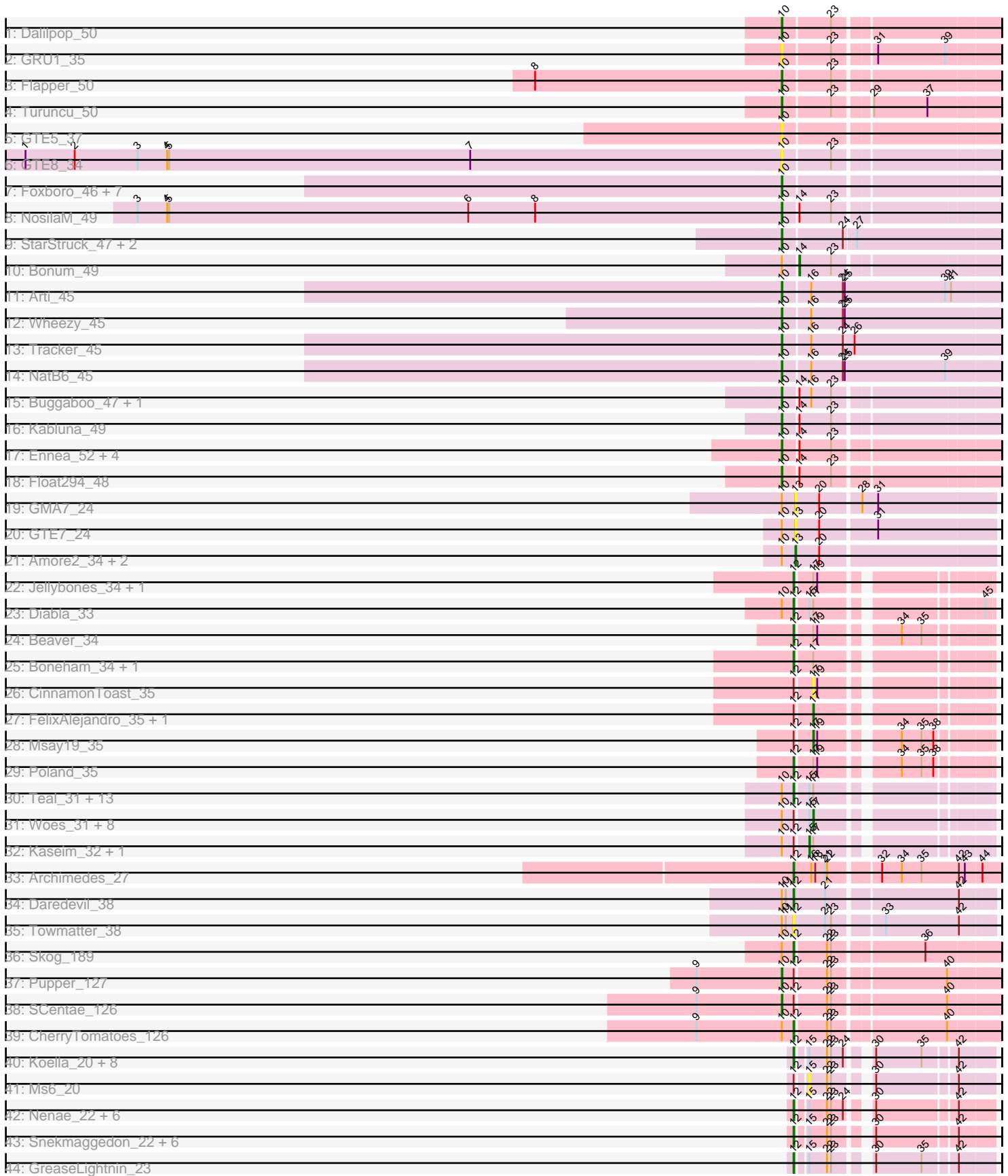


Pham 208509



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 208509 Report

This analysis was run 02/22/25 on database version 588.

Pham number 208509 has 105 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Dalilpop_50
- Track 2 : GRU1_35
- Track 3 : Flapper_50
- Track 4 : Turuncu_50
- Track 5 : GTE5_37
- Track 6 : GTE8_34
- Track 7 : Foxboro_46, Kurt_45, GrootJr_47, KidneyBean_45, NovumRegina_45, Jifall16_44, Phomeo_44, Emianna_45
- Track 8 : NosilaM_49
- Track 9 : StarStruck_47, MerCougar_47, Outis_47
- Track 10 : Bonum_49
- Track 11 : Arti_45
- Track 12 : Wheezy_45
- Track 13 : Tracker_45
- Track 14 : NatB6_45
- Track 15 : Buggaboo_47, SuperSulley_47
- Track 16 : Kabluna_49
- Track 17 : Ennea_52, Patio_49, Skysand_48, Lollipop1437_51, RedRaider_53
- Track 18 : Float294_48
- Track 19 : GMA7_24
- Track 20 : GTE7_24
- Track 21 : Amore2_34, Austin_34, HayZem_33
- Track 22 : Jellybones_34, John316_34
- Track 23 : Diabla_33
- Track 24 : Beaver_34
- Track 25 : Boneham_34, BirksAndSocks_34
- Track 26 : CinnamonToast_35
- Track 27 : FelixAlejandro_35, Butterball_34
- Track 28 : Msay19_35
- Track 29 : Poland_35
- Track 30 : Teal_31, Jams_31, Luker_32, Sticker17_31, Shelley_31, Minos_32, Berries_31, GalacticEye_31, Hello_31, Damp_31, Charianelly_31, Bianmat_31, MrWormie_31, Lidong_31
- Track 31 : Woes_31, Nimi13_31, Jormungandr_31, Harambe_31, Lahirium_31, Anamika_31, Hail2Pitt_31, Neevie_31, Guillaume_31
- Track 32 : Kaseim_32, Newt_32
- Track 33 : Archimedes_27

- Track 34 : Daredevil_38
- Track 35 : Towmatter_38
- Track 36 : Skog_189
- Track 37 : Pupper_127
- Track 38 : SCentae_126
- Track 39 : CherryTomatoes_126
- Track 40 : Koella_20, Phloss_22, LastJedi_20, Brocalys_21, Pippy_20, Crumble_20, Fulbright_22, Squirty_21, Clifton_20
- Track 41 : Ms6_20
- Track 42 : Nenae_22, Hanako_22, PhancyPhin_22, Redi_22, ShrimpFriedEgg_22, BabeRuth_22, Purgamenstris_22
- Track 43 : Snekmaggedon_22, BigPhil_21, Cerasum_21, Velveteen_21, Sarma624_21, SpongeBob_22, Jamie19_22
- Track 44 : GreaseLightnin_23

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 49 of the 94 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Archimedes_27, BabeRuth_22, Beaver_34, Berries_31, Bianmat_31, BigPhil_21, BirksAndSocks_34, Boneham_34, Brocalys_21, Cerasum_21, Charianelly_31, CherryTomatoes_126, Clifton_20, Crumble_20, Damp_31, Daredevil_38, Diabla_33, Fulbright_22, GalacticEye_31, GreaseLightnin_23, Hanako_22, Hello_31, Jamie19_22, Jams_31, Jellybones_34, John316_34, Koella_20, LastJedi_20, Lidong_31, Luker_32, Minos_32, MrWormie_31, Nenae_22, PhancyPhin_22, Phloss_22, Pippy_20, Poland_35, Purgamenstris_22, Redi_22, Sarma624_21, Shelley_31, ShrimpFriedEgg_22, Skog_189, Snekmaggedon_22, SpongeBob_22, Squirty_21, Sticker17_31, Teal_31, Towmatter_38, Velveteen_21,

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

- Anamika_31, Butterball_34, CinnamonToast_35, FelixAlejandro_35, Guillaume_31, Hail2Pitt_31, Harambe_31, Jormungandr_31, Kaseim_32, Lahirium_31, Ms6_20, Msay19_35, Neoevie_31, Newt_32, Nimi13_31, Pupper_127, SCentae_126, Woes_31,

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

- Amore2_34, Arti_45, Austin_34, Bonum_49, Buggaboo_47, Dalilpop_50, Emianna_45, Ennea_52, Flapper_50, Float294_48, Foxboro_46, GMA7_24, GRU1_35, GTE5_37, GTE7_24, GTE8_34, GrootJr_47, HayZem_33, Jifall16_44, Kabluna_49, KidneyBean_45, Kurt_45, Lollipop1437_51, MerCougar_47, NatB6_45, NosilaM_49, NovumRegina_45, Outis_47, Patio_49, Phomeo_44, RedRaider_53, Skysand_48, StarStruck_47, SuperSulley_47, Tracker_45, Turuncu_50, Wheezy_45,

Summary by start number:

Start 10:

- Found in 69 of 105 (65.7%) of genes in pham
- Manual Annotations of this start: 28 of 94

- Called 47.8% of time when present
- Phage (with cluster) where this start called: Arti_45 (CR2), Buggaboo_47 (CR2), Dalilpop_50 (CR1), Emianna_45 (CR2), Ennea_52 (CR3), Flapper_50 (CR1), Float294_48 (CR3), Foxboro_46 (CR2), GRU1_35 (CR1), GTE5_37 (CR1), GTE8_34 (CR2), GrootJr_47 (CR2), Jifall16_44 (CR2), Kabluna_49 (CR2), KidneyBean_45 (CR2), Kurt_45 (CR2), Lollipop1437_51 (CR3), MerCougar_47 (CR2), NatB6_45 (CR2), NosilaM_49 (CR2), NovumRegina_45 (CR2), Outis_47 (CR2), Patio_49 (CR3), Phomeo_44 (CR2), Pupper_127 (DO), RedRaider_53 (CR3), SCentae_126 (DO), Skysand_48 (CR3), StarStruck_47 (CR2), SuperSulley_47 (CR2), Tracker_45 (CR2), Turuncu_50 (CR1), Wheezy_45 (CR2),

Start 12:

- Found in 68 of 105 (64.8%) of genes in pham
- Manual Annotations of this start: 49 of 94
- Called 73.5% of time when present
- Phage (with cluster) where this start called: Archimedes_27 (DA), BabeRuth_22 (N), Beaver_34 (CS2), Berries_31 (CS3), Bianmat_31 (CS3), BigPhil_21 (F1), BirksAndSocks_34 (CS2), Boneham_34 (CS2), Brocalys_21 (F1), Cerasum_21 (F1), Charianelly_31 (CS3), CherryTomatoes_126 (DO), Clifton_20 (F1), Crumble_20 (F1), Damp_31 (CS3), Daredevil_38 (DL), Diabla_33 (CS2), Fulbright_22 (N), GalacticEye_31 (CS3), GreaseLightnin_23 (P1), Hanako_22 (N), Hello_31 (CS3), Jamie19_22 (N), Jams_31 (CS3), Jellybones_34 (CS2), John316_34 (CS2), Koella_20 (F1), LastJedi_20 (F1), Lidong_31 (CS3), Luker_32 (CS3), Minos_32 (CS3), MrWormie_31 (CS3), Nenae_22 (N), PhancyPhin_22 (N), Phloss_22 (N), Pippy_20 (F1), Poland_35 (CS2), Purgamenstris_22 (N), Redi_22 (N), Sarma624_21 (F1), Shelley_31 (CS3), ShrimpFriedEgg_22 (N), Skog_189 (DO), Snekmaggon_22 (N), SpongeBob_22 (N), Squirty_21 (F3), Sticker17_31 (CS3), Teal_31 (CS3), Towmatter_38 (DL), Velveteen_21 (F1),

Start 13:

- Found in 5 of 105 (4.8%) of genes in pham
- Manual Annotations of this start: 3 of 94
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amore2_34 (CS1), Austin_34 (CS1), GMA7_24 (CS1), GTE7_24 (CS1), HayZem_33 (CS1),

Start 14:

- Found in 11 of 105 (10.5%) of genes in pham
- Manual Annotations of this start: 1 of 94
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Bonum_49 (CR2),

Start 15:

- Found in 51 of 105 (48.6%) of genes in pham
- Manual Annotations of this start: 1 of 94
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Kaseim_32 (CS3), Ms6_20 (F1), Newt_32 (CS3),

Start 17:

- Found in 36 of 105 (34.3%) of genes in pham
- Manual Annotations of this start: 12 of 94
- Called 36.1% of time when present

- Phage (with cluster) where this start called: Anamika_31 (CS3), Butterball_34 (CS2), CinnamonToast_35 (CS2), FelixAlejandro_35 (CS2), Guillaume_31 (CS3), Hail2Pitt_31 (CS3), Harambe_31 (CS3), Jormungandr_31 (CS3), Lahirium_31 (CS3), Msay19_35 (CS2), Neoevie_31 (CS3), Nimi13_31 (CS3), Woes_31 (CS3),

Summary by clusters:

There are 13 clusters represented in this pham: CR2, F1, DL, P1, CR3, CR1, F3, N, DO, DA, CS1, CS3, CS2,

Info for manual annotations of cluster CR1:

- Start number 10 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 10 was manually annotated 18 times for cluster CR2.
- Start number 14 was manually annotated 1 time for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 10 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CS1:

- Start number 13 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 12 was manually annotated 7 times for cluster CS2.
- Start number 17 was manually annotated 3 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 12 was manually annotated 14 times for cluster CS3.
- Start number 15 was manually annotated 1 time for cluster CS3.
- Start number 17 was manually annotated 9 times for cluster CS3.

Info for manual annotations of cluster DA:

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

Info for manual annotations of cluster DL:

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

Info for manual annotations of cluster DO:

- Start number 10 was manually annotated 2 times for cluster DO.
- Start number 12 was manually annotated 2 times for cluster DO.

Info for manual annotations of cluster F1:

- Start number 12 was manually annotated 10 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 12 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster N:

- Start number 12 was manually annotated 12 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 12 was manually annotated 1 time for cluster P1.

Gene Information:

Gene: Amore2_34 Start: 37457, Stop: 37750, Start Num: 13

Candidate Starts for Amore2_34:

(Start: 10 @37436 has 28 MA's), (Start: 13 @37457 has 3 MA's), (20, 37493),

Gene: Anamika_31 Start: 39309, Stop: 39533, Start Num: 17

Candidate Starts for Anamika_31:

(Start: 10 @39267 has 28 MA's), (Start: 12 @39285 has 49 MA's), (Start: 15 @39303 has 1 MA's),
(Start: 17 @39309 has 12 MA's),

Gene: Archimedes_27 Start: 24365, Stop: 24658, Start Num: 12

Candidate Starts for Archimedes_27:

(Start: 12 @24365 has 49 MA's), (16, 24392), (18, 24398), (21, 24413), (22, 24416), (32, 24482), (34,
24512), (35, 24542), (42, 24596), (43, 24605), (44, 24629),

Gene: Arti_45 Start: 35995, Stop: 36318, Start Num: 10

Candidate Starts for Arti_45:

(Start: 10 @35995 has 28 MA's), (16, 36034), (24, 36082), (25, 36085), (39, 36238), (41, 36247),

Gene: Austin_34 Start: 37457, Stop: 37750, Start Num: 13

Candidate Starts for Austin_34:

(Start: 10 @37436 has 28 MA's), (Start: 13 @37457 has 3 MA's), (20, 37493),

Gene: BabeRuth_22 Start: 21028, Stop: 21267, Start Num: 12

Candidate Starts for BabeRuth_22:

(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (24, 21088),
(30, 21109), (42, 21217),

Gene: Beaver_34 Start: 38765, Stop: 39013, Start Num: 12

Candidate Starts for Beaver_34:

(Start: 12 @38765 has 49 MA's), (Start: 17 @38789 has 12 MA's), (19, 38795), (34, 38894), (35,
38924),

Gene: Berries_31 Start: 39255, Stop: 39503, Start Num: 12

Candidate Starts for Berries_31:

(Start: 10 @39237 has 28 MA's), (Start: 12 @39255 has 49 MA's), (Start: 15 @39273 has 1 MA's),
(Start: 17 @39279 has 12 MA's),

Gene: Bianmat_31 Start: 39295, Stop: 39543, Start Num: 12

Candidate Starts for Bianmat_31:

(Start: 10 @39277 has 28 MA's), (Start: 12 @39295 has 49 MA's), (Start: 15 @39313 has 1 MA's),
(Start: 17 @39319 has 12 MA's),

Gene: BigPhil_21 Start: 21241, Stop: 21480, Start Num: 12

Candidate Starts for BigPhil_21:

(Start: 12 @21241 has 49 MA's), (Start: 15 @21253 has 1 MA's), (22, 21277), (23, 21283), (30, 21322),
(42, 21430),

Gene: BirksAndSocks_34 Start: 38739, Stop: 38987, Start Num: 12

Candidate Starts for BirksAndSocks_34:
(Start: 12 @38739 has 49 MA's), (Start: 17 @38763 has 12 MA's),

Gene: Boneham_34 Start: 38738, Stop: 38986, Start Num: 12
Candidate Starts for Boneham_34:
(Start: 12 @38738 has 49 MA's), (Start: 17 @38762 has 12 MA's),

Gene: Bonum_49 Start: 36691, Stop: 36969, Start Num: 14
Candidate Starts for Bonum_49:
(Start: 10 @36670 has 28 MA's), (Start: 14 @36691 has 1 MA's), (23, 36739),

Gene: Brocalys_21 Start: 21055, Stop: 21294, Start Num: 12
Candidate Starts for Brocalys_21:
(Start: 12 @21055 has 49 MA's), (Start: 15 @21067 has 1 MA's), (22, 21091), (23, 21097), (24, 21115),
(30, 21136), (35, 21202), (42, 21244),

Gene: Buggaboo_47 Start: 37149, Stop: 37448, Start Num: 10
Candidate Starts for Buggaboo_47:
(Start: 10 @37149 has 28 MA's), (Start: 14 @37170 has 1 MA's), (16, 37188), (23, 37218),

Gene: Butterball_34 Start: 38762, Stop: 38986, Start Num: 17
Candidate Starts for Butterball_34:
(Start: 12 @38738 has 49 MA's), (Start: 17 @38762 has 12 MA's),

Gene: Cerasum_21 Start: 21241, Stop: 21480, Start Num: 12
Candidate Starts for Cerasum_21:
(Start: 12 @21241 has 49 MA's), (Start: 15 @21253 has 1 MA's), (22, 21277), (23, 21283), (30, 21322),
(42, 21430),

Gene: Charianelly_31 Start: 39005, Stop: 39253, Start Num: 12
Candidate Starts for Charianelly_31:
(Start: 10 @38987 has 28 MA's), (Start: 12 @39005 has 49 MA's), (Start: 15 @39023 has 1 MA's),
(Start: 17 @39029 has 12 MA's),

Gene: CherryTomatoes_126 Start: 83238, Stop: 83522, Start Num: 12
Candidate Starts for CherryTomatoes_126:
(9, 83091), (Start: 10 @83220 has 28 MA's), (Start: 12 @83238 has 49 MA's), (22, 83283), (23, 83289),
(40, 83448),

Gene: CinnamonToast_35 Start: 38816, Stop: 39040, Start Num: 17
Candidate Starts for CinnamonToast_35:
(Start: 12 @38792 has 49 MA's), (Start: 17 @38816 has 12 MA's), (19, 38822),

Gene: Clifton_20 Start: 21368, Stop: 21607, Start Num: 12
Candidate Starts for Clifton_20:
(Start: 12 @21368 has 49 MA's), (Start: 15 @21380 has 1 MA's), (22, 21404), (23, 21410), (24, 21428),
(30, 21449), (35, 21515), (42, 21557),

Gene: Crumble_20 Start: 21415, Stop: 21654, Start Num: 12
Candidate Starts for Crumble_20:
(Start: 12 @21415 has 49 MA's), (Start: 15 @21427 has 1 MA's), (22, 21451), (23, 21457), (24, 21475),
(30, 21496), (35, 21562), (42, 21604),

Gene: Dalilpop_50 Start: 38287, Stop: 38589, Start Num: 10
Candidate Starts for Dalilpop_50:
(Start: 10 @38287 has 28 MA's), (23, 38356),

Gene: Damp_31 Start: 38169, Stop: 38417, Start Num: 12
Candidate Starts for Damp_31:
(Start: 10 @38151 has 28 MA's), (Start: 12 @38169 has 49 MA's), (Start: 15 @38187 has 1 MA's),
(Start: 17 @38193 has 12 MA's),

Gene: Daredevil_38 Start: 35667, Stop: 35945, Start Num: 12
Candidate Starts for Daredevil_38:
(Start: 10 @35649 has 28 MA's), (11, 35655), (Start: 12 @35667 has 49 MA's), (21, 35712), (42,
35895),

Gene: Diabla_33 Start: 38595, Stop: 38843, Start Num: 12
Candidate Starts for Diabla_33:
(Start: 10 @38577 has 28 MA's), (Start: 12 @38595 has 49 MA's), (Start: 15 @38613 has 1 MA's),
(Start: 17 @38619 has 12 MA's), (45, 38832),

Gene: Emianna_45 Start: 37008, Stop: 37310, Start Num: 10
Candidate Starts for Emianna_45:
(Start: 10 @37008 has 28 MA's),

Gene: Ennea_52 Start: 38011, Stop: 38310, Start Num: 10
Candidate Starts for Ennea_52:
(Start: 10 @38011 has 28 MA's), (Start: 14 @38032 has 1 MA's), (23, 38080),

Gene: FelixAlejandro_35 Start: 38960, Stop: 39184, Start Num: 17
Candidate Starts for FelixAlejandro_35:
(Start: 12 @38936 has 49 MA's), (Start: 17 @38960 has 12 MA's),

Gene: Flapper_50 Start: 37719, Stop: 38021, Start Num: 10
Candidate Starts for Flapper_50:
(8, 37344), (Start: 10 @37719 has 28 MA's), (23, 37788),

Gene: Float294_48 Start: 37453, Stop: 37752, Start Num: 10
Candidate Starts for Float294_48:
(Start: 10 @37453 has 28 MA's), (Start: 14 @37474 has 1 MA's), (23, 37522),

Gene: Foxboro_46 Start: 37514, Stop: 37816, Start Num: 10
Candidate Starts for Foxboro_46:
(Start: 10 @37514 has 28 MA's),

Gene: Fulbright_22 Start: 21354, Stop: 21593, Start Num: 12
Candidate Starts for Fulbright_22:
(Start: 12 @21354 has 49 MA's), (Start: 15 @21366 has 1 MA's), (22, 21390), (23, 21396), (24, 21414),
(30, 21435), (35, 21501), (42, 21543),

Gene: GMA7_24 Start: 31671, Stop: 31964, Start Num: 13
Candidate Starts for GMA7_24:
(Start: 10 @31650 has 28 MA's), (Start: 13 @31671 has 3 MA's), (20, 31707), (28, 31764), (31, 31788),

Gene: GRU1_35 Start: 29266, Stop: 29568, Start Num: 10

Candidate Starts for GRU1_35:
(Start: 10 @29266 has 28 MA's), (23, 29335), (31, 29389), (39, 29491),

Gene: GTE5_37 Start: 30576, Stop: 30878, Start Num: 10
Candidate Starts for GTE5_37:
(Start: 10 @30576 has 28 MA's),

Gene: GTE7_24 Start: 31702, Stop: 31995, Start Num: 13
Candidate Starts for GTE7_24:
(Start: 10 @31681 has 28 MA's), (Start: 13 @31702 has 3 MA's), (20, 31738), (31, 31819),

Gene: GTE8_34 Start: 30263, Stop: 30565, Start Num: 10
Candidate Starts for GTE8_34:
(1, 29111), (2, 29186), (3, 29282), (4, 29327), (5, 29330), (7, 29789), (Start: 10 @30263 has 28 MA's),
(23, 30332),

Gene: GalacticEye_31 Start: 38967, Stop: 39215, Start Num: 12
Candidate Starts for GalacticEye_31:
(Start: 10 @38949 has 28 MA's), (Start: 12 @38967 has 49 MA's), (Start: 15 @38985 has 1 MA's),
(Start: 17 @38991 has 12 MA's),

Gene: GreaseLightnin_23 Start: 22506, Stop: 22745, Start Num: 12
Candidate Starts for GreaseLightnin_23:
(Start: 12 @22506 has 49 MA's), (Start: 15 @22518 has 1 MA's), (22, 22542), (23, 22548), (30, 22587),
(35, 22653), (42, 22695),

Gene: GrootJr_47 Start: 36390, Stop: 36692, Start Num: 10
Candidate Starts for GrootJr_47:
(Start: 10 @36390 has 28 MA's),

Gene: Guillaume_31 Start: 39041, Stop: 39265, Start Num: 17
Candidate Starts for Guillaume_31:
(Start: 10 @38999 has 28 MA's), (Start: 12 @39017 has 49 MA's), (Start: 15 @39035 has 1 MA's),
(Start: 17 @39041 has 12 MA's),

Gene: Hail2Pitt_31 Start: 39518, Stop: 39742, Start Num: 17
Candidate Starts for Hail2Pitt_31:
(Start: 10 @39476 has 28 MA's), (Start: 12 @39494 has 49 MA's), (Start: 15 @39512 has 1 MA's),
(Start: 17 @39518 has 12 MA's),

Gene: Hanako_22 Start: 21028, Stop: 21267, Start Num: 12
Candidate Starts for Hanako_22:
(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (24, 21088),
(30, 21109), (42, 21217),

Gene: Harambe_31 Start: 39308, Stop: 39532, Start Num: 17
Candidate Starts for Harambe_31:
(Start: 10 @39266 has 28 MA's), (Start: 12 @39284 has 49 MA's), (Start: 15 @39302 has 1 MA's),
(Start: 17 @39308 has 12 MA's),

Gene: HayZem_33 Start: 37454, Stop: 37747, Start Num: 13
Candidate Starts for HayZem_33:
(Start: 10 @37433 has 28 MA's), (Start: 13 @37454 has 3 MA's), (20, 37490),

Gene: Hello_31 Start: 39246, Stop: 39494, Start Num: 12

Candidate Starts for Hello_31:

(Start: 10 @39228 has 28 MA's), (Start: 12 @39246 has 49 MA's), (Start: 15 @39264 has 1 MA's),
(Start: 17 @39270 has 12 MA's),

Gene: Jamie19_22 Start: 21028, Stop: 21267, Start Num: 12

Candidate Starts for Jamie19_22:

(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (30, 21109),
(42, 21217),

Gene: Jams_31 Start: 38455, Stop: 38703, Start Num: 12

Candidate Starts for Jams_31:

(Start: 10 @38437 has 28 MA's), (Start: 12 @38455 has 49 MA's), (Start: 15 @38473 has 1 MA's),
(Start: 17 @38479 has 12 MA's),

Gene: Jellybones_34 Start: 38797, Stop: 39045, Start Num: 12

Candidate Starts for Jellybones_34:

(Start: 12 @38797 has 49 MA's), (Start: 17 @38821 has 12 MA's), (19, 38827),

Gene: Jifall16_44 Start: 36662, Stop: 36964, Start Num: 10

Candidate Starts for Jifall16_44:

(Start: 10 @36662 has 28 MA's),

Gene: John316_34 Start: 38750, Stop: 38998, Start Num: 12

Candidate Starts for John316_34:

(Start: 12 @38750 has 49 MA's), (Start: 17 @38774 has 12 MA's), (19, 38780),

Gene: Jormungandr_31 Start: 39023, Stop: 39247, Start Num: 17

Candidate Starts for Jormungandr_31:

(Start: 10 @38981 has 28 MA's), (Start: 12 @38999 has 49 MA's), (Start: 15 @39017 has 1 MA's),
(Start: 17 @39023 has 12 MA's),

Gene: Kabluna_49 Start: 36085, Stop: 36384, Start Num: 10

Candidate Starts for Kabluna_49:

(Start: 10 @36085 has 28 MA's), (Start: 14 @36106 has 1 MA's), (23, 36154),

Gene: Kaseim_32 Start: 38458, Stop: 38688, Start Num: 15

Candidate Starts for Kaseim_32:

(Start: 10 @38422 has 28 MA's), (Start: 12 @38440 has 49 MA's), (Start: 15 @38458 has 1 MA's),
(Start: 17 @38464 has 12 MA's),

Gene: KidneyBean_45 Start: 36786, Stop: 37088, Start Num: 10

Candidate Starts for KidneyBean_45:

(Start: 10 @36786 has 28 MA's),

Gene: Koella_20 Start: 21380, Stop: 21619, Start Num: 12

Candidate Starts for Koella_20:

(Start: 12 @21380 has 49 MA's), (Start: 15 @21392 has 1 MA's), (22, 21416), (23, 21422), (24, 21440),
(30, 21461), (35, 21527), (42, 21569),

Gene: Kurt_45 Start: 37023, Stop: 37325, Start Num: 10

Candidate Starts for Kurt_45:

(Start: 10 @37023 has 28 MA's),

Gene: Lahirium_31 Start: 39545, Stop: 39769, Start Num: 17

Candidate Starts for Lahirium_31:

(Start: 10 @39503 has 28 MA's), (Start: 12 @39521 has 49 MA's), (Start: 15 @39539 has 1 MA's),

(Start: 17 @39545 has 12 MA's),

Gene: LastJedi_20 Start: 21411, Stop: 21650, Start Num: 12

Candidate Starts for LastJedi_20:

(Start: 12 @21411 has 49 MA's), (Start: 15 @21423 has 1 MA's), (22, 21447), (23, 21453), (24, 21471),

(30, 21492), (35, 21558), (42, 21600),

Gene: Lidong_31 Start: 39255, Stop: 39503, Start Num: 12

Candidate Starts for Lidong_31:

(Start: 10 @39237 has 28 MA's), (Start: 12 @39255 has 49 MA's), (Start: 15 @39273 has 1 MA's),

(Start: 17 @39279 has 12 MA's),

Gene: Lollipop1437_51 Start: 37999, Stop: 38298, Start Num: 10

Candidate Starts for Lollipop1437_51:

(Start: 10 @37999 has 28 MA's), (Start: 14 @38020 has 1 MA's), (23, 38068),

Gene: Luker_32 Start: 39474, Stop: 39722, Start Num: 12

Candidate Starts for Luker_32:

(Start: 10 @39456 has 28 MA's), (Start: 12 @39474 has 49 MA's), (Start: 15 @39492 has 1 MA's),

(Start: 17 @39498 has 12 MA's),

Gene: MerCougar_47 Start: 37269, Stop: 37586, Start Num: 10

Candidate Starts for MerCougar_47:

(Start: 10 @37269 has 28 MA's), (24, 37356), (27, 37374),

Gene: Minos_32 Start: 38997, Stop: 39245, Start Num: 12

Candidate Starts for Minos_32:

(Start: 10 @38979 has 28 MA's), (Start: 12 @38997 has 49 MA's), (Start: 15 @39015 has 1 MA's),

(Start: 17 @39021 has 12 MA's),

Gene: MrWormie_31 Start: 38158, Stop: 38406, Start Num: 12

Candidate Starts for MrWormie_31:

(Start: 10 @38140 has 28 MA's), (Start: 12 @38158 has 49 MA's), (Start: 15 @38176 has 1 MA's),

(Start: 17 @38182 has 12 MA's),

Gene: Ms6_20 Start: 20893, Stop: 21120, Start Num: 15

Candidate Starts for Ms6_20:

(Start: 12 @20881 has 49 MA's), (Start: 15 @20893 has 1 MA's), (22, 20917), (23, 20923), (30, 20962),

(42, 21070),

Gene: Msay19_35 Start: 38955, Stop: 39179, Start Num: 17

Candidate Starts for Msay19_35:

(Start: 12 @38931 has 49 MA's), (Start: 17 @38955 has 12 MA's), (19, 38961), (34, 39060), (35,

39090), (38, 39108),

Gene: NatB6_45 Start: 36059, Stop: 36382, Start Num: 10

Candidate Starts for NatB6_45:

(Start: 10 @36059 has 28 MA's), (16, 36098), (24, 36146), (25, 36149), (39, 36302),

Gene: Nenae_22 Start: 21028, Stop: 21267, Start Num: 12
Candidate Starts for Nenae_22:
(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (24, 21088),
(30, 21109), (42, 21217),

Gene: Neoevie_31 Start: 39285, Stop: 39509, Start Num: 17
Candidate Starts for Neoevie_31:
(Start: 10 @39243 has 28 MA's), (Start: 12 @39261 has 49 MA's), (Start: 15 @39279 has 1 MA's),
(Start: 17 @39285 has 12 MA's),

Gene: Newt_32 Start: 39506, Stop: 39736, Start Num: 15
Candidate Starts for Newt_32:
(Start: 10 @39470 has 28 MA's), (Start: 12 @39488 has 49 MA's), (Start: 15 @39506 has 1 MA's),
(Start: 17 @39512 has 12 MA's),

Gene: Nimi13_31 Start: 39030, Stop: 39254, Start Num: 17
Candidate Starts for Nimi13_31:
(Start: 10 @38988 has 28 MA's), (Start: 12 @39006 has 49 MA's), (Start: 15 @39024 has 1 MA's),
(Start: 17 @39030 has 12 MA's),

Gene: NosilaM_49 Start: 36982, Stop: 37281, Start Num: 10
Candidate Starts for NosilaM_49:
(3, 36001), (4, 36046), (5, 36049), (6, 36505), (8, 36607), (Start: 10 @36982 has 28 MA's), (Start: 14
@37003 has 1 MA's), (23, 37051),

Gene: NovumRegina_45 Start: 36389, Stop: 36691, Start Num: 10
Candidate Starts for NovumRegina_45:
(Start: 10 @36389 has 28 MA's),

Gene: Outis_47 Start: 36963, Stop: 37280, Start Num: 10
Candidate Starts for Outis_47:
(Start: 10 @36963 has 28 MA's), (24, 37050), (27, 37068),

Gene: Patio_49 Start: 37235, Stop: 37534, Start Num: 10
Candidate Starts for Patio_49:
(Start: 10 @37235 has 28 MA's), (Start: 14 @37256 has 1 MA's), (23, 37304),

Gene: PhancyPhin_22 Start: 21025, Stop: 21264, Start Num: 12
Candidate Starts for PhancyPhin_22:
(Start: 12 @21025 has 49 MA's), (Start: 15 @21037 has 1 MA's), (22, 21061), (23, 21067), (24, 21085),
(30, 21106), (42, 21214),

Gene: Phloss_22 Start: 21357, Stop: 21596, Start Num: 12
Candidate Starts for Phloss_22:
(Start: 12 @21357 has 49 MA's), (Start: 15 @21369 has 1 MA's), (22, 21393), (23, 21399), (24, 21417),
(30, 21438), (35, 21504), (42, 21546),

Gene: Phomeo_44 Start: 36658, Stop: 36960, Start Num: 10
Candidate Starts for Phomeo_44:
(Start: 10 @36658 has 28 MA's),

Gene: Pippy_20 Start: 21407, Stop: 21646, Start Num: 12

Candidate Starts for Pippy_20:

(Start: 12 @21407 has 49 MA's), (Start: 15 @21419 has 1 MA's), (22, 21443), (23, 21449), (24, 21467), (30, 21488), (35, 21554), (42, 21596),

Gene: Poland_35 Start: 38910, Stop: 39158, Start Num: 12

Candidate Starts for Poland_35:

(Start: 12 @38910 has 49 MA's), (Start: 17 @38934 has 12 MA's), (19, 38940), (34, 39039), (35, 39069), (38, 39087),

Gene: Pupper_127 Start: 84069, Stop: 84371, Start Num: 10

Candidate Starts for Pupper_127:

(9, 83940), (Start: 10 @84069 has 28 MA's), (Start: 12 @84087 has 49 MA's), (22, 84132), (23, 84138), (40, 84297),

Gene: Purgamenstris_22 Start: 21028, Stop: 21267, Start Num: 12

Candidate Starts for Purgamenstris_22:

(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (24, 21088), (30, 21109), (42, 21217),

Gene: RedRaider_53 Start: 39254, Stop: 39553, Start Num: 10

Candidate Starts for RedRaider_53:

(Start: 10 @39254 has 28 MA's), (Start: 14 @39275 has 1 MA's), (23, 39323),

Gene: Redi_22 Start: 21028, Stop: 21267, Start Num: 12

Candidate Starts for Redi_22:

(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (24, 21088), (30, 21109), (42, 21217),

Gene: SCentae_126 Start: 84222, Stop: 84524, Start Num: 10

Candidate Starts for SCentae_126:

(9, 84093), (Start: 10 @84222 has 28 MA's), (Start: 12 @84240 has 49 MA's), (22, 84285), (23, 84291), (40, 84450),

Gene: Sarma624_21 Start: 21241, Stop: 21480, Start Num: 12

Candidate Starts for Sarma624_21:

(Start: 12 @21241 has 49 MA's), (Start: 15 @21253 has 1 MA's), (22, 21277), (23, 21283), (30, 21322), (42, 21430),

Gene: Shelley_31 Start: 38482, Stop: 38730, Start Num: 12

Candidate Starts for Shelley_31:

(Start: 10 @38464 has 28 MA's), (Start: 12 @38482 has 49 MA's), (Start: 15 @38500 has 1 MA's), (Start: 17 @38506 has 12 MA's),

Gene: ShrimpFriedEgg_22 Start: 21028, Stop: 21267, Start Num: 12

Candidate Starts for ShrimpFriedEgg_22:

(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (24, 21088), (30, 21109), (42, 21217),

Gene: Skog_189 Start: 113970, Stop: 114254, Start Num: 12

Candidate Starts for Skog_189:

(Start: 10 @113952 has 28 MA's), (Start: 12 @113970 has 49 MA's), (22, 114015), (23, 114021), (36, 114147),

Gene: Skysand_48 Start: 37455, Stop: 37754, Start Num: 10
Candidate Starts for Skysand_48:
(Start: 10 @37455 has 28 MA's), (Start: 14 @37476 has 1 MA's), (23, 37524),

Gene: Snekmaggedon_22 Start: 21028, Stop: 21267, Start Num: 12
Candidate Starts for Snekmaggedon_22:
(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (30, 21109),
(42, 21217),

Gene: SpongeBob_22 Start: 21028, Stop: 21267, Start Num: 12
Candidate Starts for SpongeBob_22:
(Start: 12 @21028 has 49 MA's), (Start: 15 @21040 has 1 MA's), (22, 21064), (23, 21070), (30, 21109),
(42, 21217),

Gene: Squirty_21 Start: 21076, Stop: 21315, Start Num: 12
Candidate Starts for Squirty_21:
(Start: 12 @21076 has 49 MA's), (Start: 15 @21088 has 1 MA's), (22, 21112), (23, 21118), (24, 21136),
(30, 21157), (35, 21223), (42, 21265),

Gene: StarStruck_47 Start: 36963, Stop: 37280, Start Num: 10
Candidate Starts for StarStruck_47:
(Start: 10 @36963 has 28 MA's), (24, 37050), (27, 37068),

Gene: Sticker17_31 Start: 38997, Stop: 39245, Start Num: 12
Candidate Starts for Sticker17_31:
(Start: 10 @38979 has 28 MA's), (Start: 12 @38997 has 49 MA's), (Start: 15 @39015 has 1 MA's),
(Start: 17 @39021 has 12 MA's),

Gene: SuperSulley_47 Start: 37149, Stop: 37448, Start Num: 10
Candidate Starts for SuperSulley_47:
(Start: 10 @37149 has 28 MA's), (Start: 14 @37170 has 1 MA's), (16, 37188), (23, 37218),

Gene: Teal_31 Start: 39465, Stop: 39713, Start Num: 12
Candidate Starts for Teal_31:
(Start: 10 @39447 has 28 MA's), (Start: 12 @39465 has 49 MA's), (Start: 15 @39483 has 1 MA's),
(Start: 17 @39489 has 12 MA's),

Gene: Towmatter_38 Start: 35504, Stop: 35782, Start Num: 12
Candidate Starts for Towmatter_38:
(Start: 10 @35486 has 28 MA's), (11, 35492), (Start: 12 @35504 has 49 MA's), (21, 35549), (23,
35558), (33, 35624), (42, 35732),

Gene: Tracker_45 Start: 35786, Stop: 36109, Start Num: 10
Candidate Starts for Tracker_45:
(Start: 10 @35786 has 28 MA's), (16, 35825), (24, 35873), (26, 35891),

Gene: Turuncu_50 Start: 37381, Stop: 37683, Start Num: 10
Candidate Starts for Turuncu_50:
(Start: 10 @37381 has 28 MA's), (23, 37450), (29, 37498), (37, 37579),

Gene: Velveteen_21 Start: 21241, Stop: 21480, Start Num: 12
Candidate Starts for Velveteen_21:

(Start: 12 @21241 has 49 MA's), (Start: 15 @21253 has 1 MA's), (22, 21277), (23, 21283), (30, 21322), (42, 21430),

Gene: Wheezy_45 Start: 35991, Stop: 36314, Start Num: 10

Candidate Starts for Wheezy_45:

(Start: 10 @35991 has 28 MA's), (16, 36030), (24, 36078), (25, 36081),

Gene: Woes_31 Start: 39540, Stop: 39764, Start Num: 17

Candidate Starts for Woes_31:

(Start: 10 @39498 has 28 MA's), (Start: 12 @39516 has 49 MA's), (Start: 15 @39534 has 1 MA's), (Start: 17 @39540 has 12 MA's),