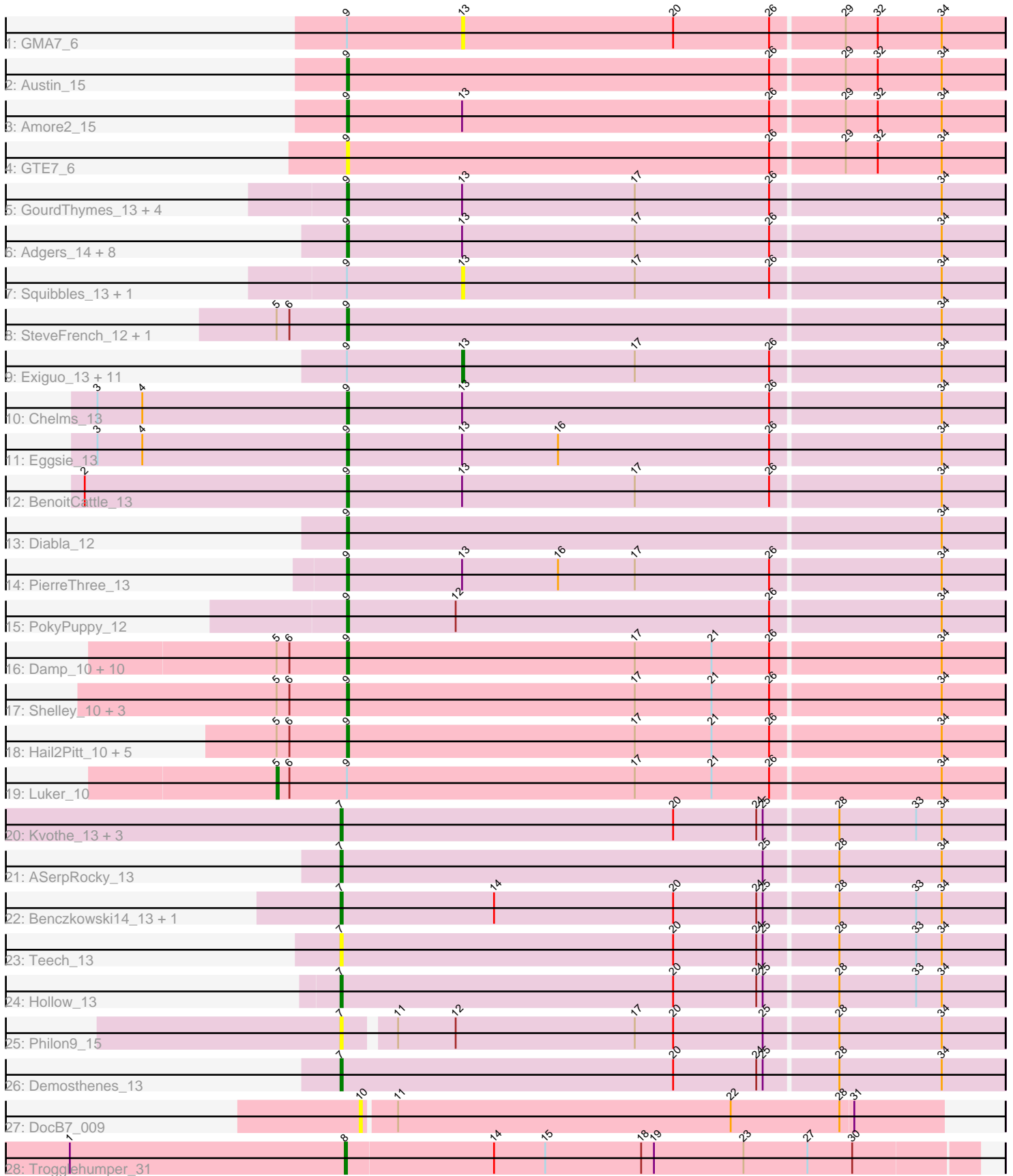


Pham 216109



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 216109 Report

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

Pham number 216109 has 75 members, 10 are drafts.

Phages represented in each track:

- Track 1 : GMA7_6
- Track 2 : Austin_15
- Track 3 : Amore2_15
- Track 4 : GTE7_6
- Track 5 : GourdThymes_13, Flakey_13, Linetti_14, Lizzo_13, Hotorobo_13
- Track 6 : Adgers_14, Boneham_13, Jellybones_13, Sam12_13, Breezic_13, John316_13, BirksAndSocks_13, Beaver_13, Ekhein_13
- Track 7 : Squibbles_13, CathyBurgh_13
- Track 8 : SteveFrench_12, RoyalG_14
- Track 9 : Exiguo_13, Msay19_14, Barbochs_13, Gorko_13, Butterball_13, Sombrero_13, FelixAlejandro_14, Poland_14, CinnamonToast_14, Worcestershire_13, Monty_12, RemRem_14
- Track 10 : Chelms_13
- Track 11 : Eggsie_13
- Track 12 : BenoitCattle_13
- Track 13 : Diabla_12
- Track 14 : PierreThree_13
- Track 15 : PokyPuppy_12
- Track 16 : Damp_10, Teal_10, GalacticEye_10, Guillaume_10, MrWormie_10, Newt_10, Minos_10, Nimi13_10, Sticker17_10, Jormungandr_10, Charianelly_10
- Track 17 : Shelley_10, Berries_10, Woes_10, Lidong_10
- Track 18 : Hail2Pitt_10, Jams_10, Harambe_10, Lahirium_10, Anamika_10, Neoevie_10
- Track 19 : Luker_10
- Track 20 : Kvothe_13, Tredge_13, Niagara_13, Teatealatte_13
- Track 21 : ASerpRocky_13
- Track 22 : Benczkowski14_13, Katyusha_13
- Track 23 : Teech_13
- Track 24 : Hollow_13
- Track 25 : Philon9_15
- Track 26 : Demosthenes_13
- Track 27 : DocB7_009
- Track 28 : Trogglehumper_31

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

The start number called the most often in the published annotations is 9, it was called in 45 of the 65 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adgers_14, Amore2_15, Anamika_10, Austin_15, Beaver_13, BenoitCattle_13, Berries_10, BirksAndSocks_13, Boneham_13, Breezic_13, Charianelly_10, Chelms_13, Damp_10, Diabla_12, Eggsie_13, Ekhein_13, Flakey_13, GTE7_6, GalacticEye_10, GourdThymes_13, Guillaume_10, Hail2Pitt_10, Harambe_10, Hotorobo_13, Jams_10, Jellybones_13, John316_13, Jormungandr_10, Lahirium_10, Lidong_10, Linetti_14, Lizzo_13, Minos_10, MrWormie_10, Neoevie_10, Newt_10, Nimi13_10, PierreThree_13, PokyPuppy_12, RoyalG_14, Sam12_13, Shelley_10, SteveFrench_12, Sticker17_10, Teal_10, Woes_10,

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

- Barbochs_13, Butterball_13, CathyBurgh_13, CinnamonToast_14, Exiguo_13, FelixAlejandro_14, GMA7_6, Gorko_13, Luker_10, Monty_12, Msay19_14, Poland_14, RemRem_14, Sombrero_13, Squibbles_13, Worcestershire_13,

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

- ASerpRocky_13, Benczkowski14_13, Demosthenes_13, DocB7_009, Hollow_13, Katyusha_13, Kvothe_13, Niagara_13, Philon9_15, Teatealatte_13, Teech_13, Tredge_13, Trogglehumper_31,

Summary by start number:

Start 5:

- Found in 24 of 75 (32.0%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 4.2% of time when present
- Phage (with cluster) where this start called: Luker_10 (CS3),

Start 7:

- Found in 11 of 75 (14.7%) of genes in pham
- Manual Annotations of this start: 9 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky_13 (CS4), Benczkowski14_13 (CS4), Demosthenes_13 (CS4), Hollow_13 (CS4), Katyusha_13 (CS4), Kvothe_13 (CS4), Niagara_13 (CS4), Philon9_15 (CS4), Teatealatte_13 (CS4), Teech_13 (CS4), Tredge_13 (CS4),

Start 8:

- Found in 1 of 75 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trogglehumper_31 (singleton),

Start 9:

- Found in 62 of 75 (82.7%) of genes in pham
- Manual Annotations of this start: 45 of 65
- Called 74.2% of time when present
- Phage (with cluster) where this start called: Adgers_14 (CS2), Amore2_15 (CS1), Anamika_10 (CS3), Austin_15 (CS1), Beaver_13 (CS2), BenoitCattle_13 (CS2),

Berries_10 (CS3), BirksAndSocks_13 (CS2), Boneham_13 (CS2), Breezic_13 (CS2), Charianelly_10 (CS3), Chelms_13 (CS2), Damp_10 (CS3), Diabla_12 (CS2), Eggsie_13 (CS2), Ekhein_13 (CS2), Flakey_13 (CS2), GTE7_6 (CS1), GalacticEye_10 (CS3), GourdThymes_13 (CS2), Guillaume_10 (CS3), Hail2Pitt_10 (CS3), Harambe_10 (CS3), Hotorobo_13 (CS2), Jams_10 (CS3), Jellybones_13 (CS2), John316_13 (CS2), Jormungandr_10 (CS3), Lahirium_10 (CS3), Lidong_10 (CS3), Linetti_14 (CS2), Lizzo_13 (CS2), Minos_10 (CS3), MrWormie_10 (CS3), Neevie_10 (CS3), Newt_10 (CS3), Nimi13_10 (CS3), PierreThree_13 (CS2), PokyPuppy_12 (CS2), RoyalG_14 (CS2), Sam12_13 (CS2), Shelley_10 (CS3), SteveFrench_12 (CS2), Sticker17_10 (CS3), Teal_10 (CS3), Woes_10 (CS3),

Start 10:

- Found in 1 of 75 (1.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DocB7_009 (singleton),

Start 13:

- Found in 34 of 75 (45.3%) of genes in pham
- Manual Annotations of this start: 9 of 65
- Called 44.1% of time when present
- Phage (with cluster) where this start called: Barbochs_13 (CS2), Butterball_13 (CS2), CathyBurgh_13 (CS2), CinnamonToast_14 (CS2), Exiguo_13 (CS2), FelixAlejandro_14 (CS2), GMA7_6 (CS1), Gorko_13 (CS2), Monty_12 (CS2), Msay19_14 (CS2), Poland_14 (CS2), RemRem_14 (CS2), Sombrero_13 (CS2), Squibbles_13 (CS2), Worcestershire_13 (CS2),

Summary by clusters:

There are 5 clusters represented in this pham: CS4, singleton, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 9 was manually annotated 2 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 9 was manually annotated 22 times for cluster CS2.
- Start number 13 was manually annotated 9 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 5 was manually annotated 1 time for cluster CS3.
- Start number 9 was manually annotated 21 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 7 was manually annotated 9 times for cluster CS4.

Gene Information:

Gene: ASerpRocky_13 Start: 14958, Stop: 15266, Start Num: 7

Candidate Starts for ASerpRocky_13:

(Start: 7 @14958 has 9 MA's), (25, 15156), (28, 15189), (34, 15237),

Gene: Adgers_14 Start: 12592, Stop: 12897, Start Num: 9
Candidate Starts for Adgers_14:
(Start: 9 @12592 has 45 MA's), (Start: 13 @12646 has 9 MA's), (17, 12727), (26, 12790), (34, 12868),

Gene: Amore2_15 Start: 12500, Stop: 12805, Start Num: 9
Candidate Starts for Amore2_15:
(Start: 9 @12500 has 45 MA's), (Start: 13 @12554 has 9 MA's), (26, 12698), (29, 12731), (32, 12746),
(34, 12776),

Gene: Anamika_10 Start: 13516, Stop: 13821, Start Num: 9
Candidate Starts for Anamika_10:
(Start: 5 @13483 has 1 MA's), (6, 13489), (Start: 9 @13516 has 45 MA's), (17, 13651), (21, 13687),
(26, 13714), (34, 13792),

Gene: Austin_15 Start: 12500, Stop: 12805, Start Num: 9
Candidate Starts for Austin_15:
(Start: 9 @12500 has 45 MA's), (26, 12698), (29, 12731), (32, 12746), (34, 12776),

Gene: Barbochs_13 Start: 12484, Stop: 12735, Start Num: 13
Candidate Starts for Barbochs_13:
(Start: 9 @12430 has 45 MA's), (Start: 13 @12484 has 9 MA's), (17, 12565), (26, 12628), (34, 12706),

Gene: Beaver_13 Start: 12438, Stop: 12743, Start Num: 9
Candidate Starts for Beaver_13:
(Start: 9 @12438 has 45 MA's), (Start: 13 @12492 has 9 MA's), (17, 12573), (26, 12636), (34, 12714),

Gene: Benczkowski14_13 Start: 15021, Stop: 15329, Start Num: 7
Candidate Starts for Benczkowski14_13:
(Start: 7 @15021 has 9 MA's), (14, 15093), (20, 15177), (24, 15216), (25, 15219), (28, 15252), (33,
15288), (34, 15300),

Gene: BenoitCattle_13 Start: 12430, Stop: 12735, Start Num: 9
Candidate Starts for BenoitCattle_13:
(2, 12307), (Start: 9 @12430 has 45 MA's), (Start: 13 @12484 has 9 MA's), (17, 12565), (26, 12628),
(34, 12706),

Gene: Berries_10 Start: 13501, Stop: 13806, Start Num: 9
Candidate Starts for Berries_10:
(Start: 5 @13468 has 1 MA's), (6, 13474), (Start: 9 @13501 has 45 MA's), (17, 13636), (21, 13672),
(26, 13699), (34, 13777),

Gene: BirksAndSocks_13 Start: 12427, Stop: 12732, Start Num: 9
Candidate Starts for BirksAndSocks_13:
(Start: 9 @12427 has 45 MA's), (Start: 13 @12481 has 9 MA's), (17, 12562), (26, 12625), (34, 12703),

Gene: Boneham_13 Start: 12426, Stop: 12731, Start Num: 9
Candidate Starts for Boneham_13:
(Start: 9 @12426 has 45 MA's), (Start: 13 @12480 has 9 MA's), (17, 12561), (26, 12624), (34, 12702),

Gene: Breezic_13 Start: 12441, Stop: 12746, Start Num: 9
Candidate Starts for Breezic_13:
(Start: 9 @12441 has 45 MA's), (Start: 13 @12495 has 9 MA's), (17, 12576), (26, 12639), (34, 12717),

Gene: Butterball_13 Start: 12480, Stop: 12731, Start Num: 13
Candidate Starts for Butterball_13:
(Start: 9 @12426 has 45 MA's), (Start: 13 @12480 has 9 MA's), (17, 12561), (26, 12624), (34, 12702),

Gene: CathyBurgh_13 Start: 13352, Stop: 13603, Start Num: 13
Candidate Starts for CathyBurgh_13:
(Start: 9 @13298 has 45 MA's), (Start: 13 @13352 has 9 MA's), (17, 13433), (26, 13496), (34, 13574),

Gene: Charianelly_10 Start: 13233, Stop: 13538, Start Num: 9
Candidate Starts for Charianelly_10:
(Start: 5 @13200 has 1 MA's), (6, 13206), (Start: 9 @13233 has 45 MA's), (17, 13368), (21, 13404),
(26, 13431), (34, 13509),

Gene: Chelms_13 Start: 12432, Stop: 12737, Start Num: 9
Candidate Starts for Chelms_13:
(3, 12315), (4, 12336), (Start: 9 @12432 has 45 MA's), (Start: 13 @12486 has 9 MA's), (26, 12630),
(34, 12708),

Gene: CinnamonToast_14 Start: 12516, Stop: 12767, Start Num: 13
Candidate Starts for CinnamonToast_14:
(Start: 9 @12462 has 45 MA's), (Start: 13 @12516 has 9 MA's), (17, 12597), (26, 12660), (34, 12738),

Gene: Damp_10 Start: 12397, Stop: 12702, Start Num: 9
Candidate Starts for Damp_10:
(Start: 5 @12364 has 1 MA's), (6, 12370), (Start: 9 @12397 has 45 MA's), (17, 12532), (21, 12568),
(26, 12595), (34, 12673),

Gene: Demosthenes_13 Start: 14928, Stop: 15236, Start Num: 7
Candidate Starts for Demosthenes_13:
(Start: 7 @14928 has 9 MA's), (20, 15084), (24, 15123), (25, 15126), (28, 15159), (34, 15207),

Gene: Diabla_12 Start: 12248, Stop: 12553, Start Num: 9
Candidate Starts for Diabla_12:
(Start: 9 @12248 has 45 MA's), (34, 12524),

Gene: DocB7_009 Start: 10204, Stop: 10473, Start Num: 10
Candidate Starts for DocB7_009:
(10, 10204), (11, 10219), (22, 10375), (28, 10426), (31, 10432),

Gene: Eggsie_13 Start: 12443, Stop: 12748, Start Num: 9
Candidate Starts for Eggsie_13:
(3, 12326), (4, 12347), (Start: 9 @12443 has 45 MA's), (Start: 13 @12497 has 9 MA's), (16, 12542),
(26, 12641), (34, 12719),

Gene: Ekhein_13 Start: 12426, Stop: 12731, Start Num: 9
Candidate Starts for Ekhein_13:
(Start: 9 @12426 has 45 MA's), (Start: 13 @12480 has 9 MA's), (17, 12561), (26, 12624), (34, 12702),

Gene: Exiguo_13 Start: 12492, Stop: 12743, Start Num: 13
Candidate Starts for Exiguo_13:
(Start: 9 @12438 has 45 MA's), (Start: 13 @12492 has 9 MA's), (17, 12573), (26, 12636), (34, 12714),

Gene: FelixAlejandro_14 Start: 12678, Stop: 12929, Start Num: 13

Candidate Starts for FelixAlejandro_14:

(Start: 9 @12624 has 45 MA's), (Start: 13 @12678 has 9 MA's), (17, 12759), (26, 12822), (34, 12900),

Gene: Flakey_13 Start: 13299, Stop: 13604, Start Num: 9

Candidate Starts for Flakey_13:

(Start: 9 @13299 has 45 MA's), (Start: 13 @13353 has 9 MA's), (17, 13434), (26, 13497), (34, 13575),

Gene: GMA7_6 Start: 6743, Stop: 6994, Start Num: 13

Candidate Starts for GMA7_6:

(Start: 9 @6689 has 45 MA's), (Start: 13 @6743 has 9 MA's), (20, 6842), (26, 6887), (29, 6920), (32, 6935), (34, 6965),

Gene: GTE7_6 Start: 6748, Stop: 7053, Start Num: 9

Candidate Starts for GTE7_6:

(Start: 9 @6748 has 45 MA's), (26, 6946), (29, 6979), (32, 6994), (34, 7024),

Gene: GalacticEye_10 Start: 13222, Stop: 13527, Start Num: 9

Candidate Starts for GalacticEye_10:

(Start: 5 @13189 has 1 MA's), (6, 13195), (Start: 9 @13222 has 45 MA's), (17, 13357), (21, 13393), (26, 13420), (34, 13498),

Gene: Gorko_13 Start: 12484, Stop: 12735, Start Num: 13

Candidate Starts for Gorko_13:

(Start: 9 @12430 has 45 MA's), (Start: 13 @12484 has 9 MA's), (17, 12565), (26, 12628), (34, 12706),

Gene: GourdThymes_13 Start: 13298, Stop: 13603, Start Num: 9

Candidate Starts for GourdThymes_13:

(Start: 9 @13298 has 45 MA's), (Start: 13 @13352 has 9 MA's), (17, 13433), (26, 13496), (34, 13574),

Gene: Guillaume_10 Start: 13254, Stop: 13559, Start Num: 9

Candidate Starts for Guillaume_10:

(Start: 5 @13221 has 1 MA's), (6, 13227), (Start: 9 @13254 has 45 MA's), (17, 13389), (21, 13425), (26, 13452), (34, 13530),

Gene: Hail2Pitt_10 Start: 13731, Stop: 14036, Start Num: 9

Candidate Starts for Hail2Pitt_10:

(Start: 5 @13698 has 1 MA's), (6, 13704), (Start: 9 @13731 has 45 MA's), (17, 13866), (21, 13902), (26, 13929), (34, 14007),

Gene: Harambe_10 Start: 13515, Stop: 13820, Start Num: 9

Candidate Starts for Harambe_10:

(Start: 5 @13482 has 1 MA's), (6, 13488), (Start: 9 @13515 has 45 MA's), (17, 13650), (21, 13686), (26, 13713), (34, 13791),

Gene: Hollow_13 Start: 14187, Stop: 14495, Start Num: 7

Candidate Starts for Hollow_13:

(Start: 7 @14187 has 9 MA's), (20, 14343), (24, 14382), (25, 14385), (28, 14418), (33, 14454), (34, 14466),

Gene: Hotorobo_13 Start: 13309, Stop: 13614, Start Num: 9

Candidate Starts for Hotorobo_13:

(Start: 9 @13309 has 45 MA's), (Start: 13 @13363 has 9 MA's), (17, 13444), (26, 13507), (34, 13585),

Gene: Jams_10 Start: 12695, Stop: 13000, Start Num: 9

Candidate Starts for Jams_10:

(Start: 5 @12662 has 1 MA's), (6, 12668), (Start: 9 @12695 has 45 MA's), (17, 12830), (21, 12866), (26, 12893), (34, 12971),

Gene: Jellybones_13 Start: 12461, Stop: 12766, Start Num: 9

Candidate Starts for Jellybones_13:

(Start: 9 @12461 has 45 MA's), (Start: 13 @12515 has 9 MA's), (17, 12596), (26, 12659), (34, 12737),

Gene: John316_13 Start: 12426, Stop: 12731, Start Num: 9

Candidate Starts for John316_13:

(Start: 9 @12426 has 45 MA's), (Start: 13 @12480 has 9 MA's), (17, 12561), (26, 12624), (34, 12702),

Gene: Jormungandr_10 Start: 13236, Stop: 13541, Start Num: 9

Candidate Starts for Jormungandr_10:

(Start: 5 @13203 has 1 MA's), (6, 13209), (Start: 9 @13236 has 45 MA's), (17, 13371), (21, 13407), (26, 13434), (34, 13512),

Gene: Katyusha_13 Start: 15021, Stop: 15329, Start Num: 7

Candidate Starts for Katyusha_13:

(Start: 7 @15021 has 9 MA's), (14, 15093), (20, 15177), (24, 15216), (25, 15219), (28, 15252), (33, 15288), (34, 15300),

Gene: Kvothe_13 Start: 14958, Stop: 15266, Start Num: 7

Candidate Starts for Kvothe_13:

(Start: 7 @14958 has 9 MA's), (20, 15114), (24, 15153), (25, 15156), (28, 15189), (33, 15225), (34, 15237),

Gene: Lahirium_10 Start: 13752, Stop: 14057, Start Num: 9

Candidate Starts for Lahirium_10:

(Start: 5 @13719 has 1 MA's), (6, 13725), (Start: 9 @13752 has 45 MA's), (17, 13887), (21, 13923), (26, 13950), (34, 14028),

Gene: Lidong_10 Start: 13501, Stop: 13806, Start Num: 9

Candidate Starts for Lidong_10:

(Start: 5 @13468 has 1 MA's), (6, 13474), (Start: 9 @13501 has 45 MA's), (17, 13636), (21, 13672), (26, 13699), (34, 13777),

Gene: Linetti_14 Start: 13449, Stop: 13754, Start Num: 9

Candidate Starts for Linetti_14:

(Start: 9 @13449 has 45 MA's), (Start: 13 @13503 has 9 MA's), (17, 13584), (26, 13647), (34, 13725),

Gene: Lizzo_13 Start: 13298, Stop: 13603, Start Num: 9

Candidate Starts for Lizzo_13:

(Start: 9 @13298 has 45 MA's), (Start: 13 @13352 has 9 MA's), (17, 13433), (26, 13496), (34, 13574),

Gene: Luker_10 Start: 13183, Stop: 13521, Start Num: 5

Candidate Starts for Luker_10:

(Start: 5 @13183 has 1 MA's), (6, 13189), (Start: 9 @13216 has 45 MA's), (17, 13351), (21, 13387), (26, 13414), (34, 13492),

Gene: Minos_10 Start: 13222, Stop: 13527, Start Num: 9

Candidate Starts for Minos_10:

(Start: 5 @13189 has 1 MA's), (6, 13195), (Start: 9 @13222 has 45 MA's), (17, 13357), (21, 13393), (26, 13420), (34, 13498),

Gene: Monty_12 Start: 12496, Stop: 12747, Start Num: 13

Candidate Starts for Monty_12:

(Start: 9 @12442 has 45 MA's), (Start: 13 @12496 has 9 MA's), (17, 12577), (26, 12640), (34, 12718),

Gene: MrWormie_10 Start: 12386, Stop: 12691, Start Num: 9

Candidate Starts for MrWormie_10:

(Start: 5 @12353 has 1 MA's), (6, 12359), (Start: 9 @12386 has 45 MA's), (17, 12521), (21, 12557), (26, 12584), (34, 12662),

Gene: Msay19_14 Start: 12670, Stop: 12921, Start Num: 13

Candidate Starts for Msay19_14:

(Start: 9 @12616 has 45 MA's), (Start: 13 @12670 has 9 MA's), (17, 12751), (26, 12814), (34, 12892),

Gene: Neoevie_10 Start: 13492, Stop: 13797, Start Num: 9

Candidate Starts for Neoevie_10:

(Start: 5 @13459 has 1 MA's), (6, 13465), (Start: 9 @13492 has 45 MA's), (17, 13627), (21, 13663), (26, 13690), (34, 13768),

Gene: Newt_10 Start: 13233, Stop: 13538, Start Num: 9

Candidate Starts for Newt_10:

(Start: 5 @13200 has 1 MA's), (6, 13206), (Start: 9 @13233 has 45 MA's), (17, 13368), (21, 13404), (26, 13431), (34, 13509),

Gene: Niagara_13 Start: 14978, Stop: 15286, Start Num: 7

Candidate Starts for Niagara_13:

(Start: 7 @14978 has 9 MA's), (20, 15134), (24, 15173), (25, 15176), (28, 15209), (33, 15245), (34, 15257),

Gene: Nimi13_10 Start: 13234, Stop: 13539, Start Num: 9

Candidate Starts for Nimi13_10:

(Start: 5 @13201 has 1 MA's), (6, 13207), (Start: 9 @13234 has 45 MA's), (17, 13369), (21, 13405), (26, 13432), (34, 13510),

Gene: Philon9_15 Start: 16867, Stop: 17169, Start Num: 7

Candidate Starts for Philon9_15:

(Start: 7 @16867 has 9 MA's), (11, 16888), (12, 16915), (17, 16999), (20, 17017), (25, 17059), (28, 17092), (34, 17140),

Gene: PierreThree_13 Start: 13300, Stop: 13605, Start Num: 9

Candidate Starts for PierreThree_13:

(Start: 9 @13300 has 45 MA's), (Start: 13 @13354 has 9 MA's), (16, 13399), (17, 13435), (26, 13498), (34, 13576),

Gene: PokyPuppy_12 Start: 13191, Stop: 13496, Start Num: 9

Candidate Starts for PokyPuppy_12:

(Start: 9 @13191 has 45 MA's), (12, 13242), (26, 13389), (34, 13467),

Gene: Poland_14 Start: 12646, Stop: 12897, Start Num: 13

Candidate Starts for Poland_14:

(Start: 9 @12592 has 45 MA's), (Start: 13 @12646 has 9 MA's), (17, 12727), (26, 12790), (34, 12868),

Gene: RemRem_14 Start: 12492, Stop: 12743, Start Num: 13
Candidate Starts for RemRem_14:
(Start: 9 @12438 has 45 MA's), (Start: 13 @12492 has 9 MA's), (17, 12573), (26, 12636), (34, 12714),

Gene: RoyalG_14 Start: 12925, Stop: 13230, Start Num: 9
Candidate Starts for RoyalG_14:
(Start: 5 @12892 has 1 MA's), (6, 12898), (Start: 9 @12925 has 45 MA's), (34, 13201),

Gene: Sam12_13 Start: 12438, Stop: 12743, Start Num: 9
Candidate Starts for Sam12_13:
(Start: 9 @12438 has 45 MA's), (Start: 13 @12492 has 9 MA's), (17, 12573), (26, 12636), (34, 12714),

Gene: Shelley_10 Start: 12710, Stop: 13015, Start Num: 9
Candidate Starts for Shelley_10:
(Start: 5 @12677 has 1 MA's), (6, 12683), (Start: 9 @12710 has 45 MA's), (17, 12845), (21, 12881),
(26, 12908), (34, 12986),

Gene: Sombrero_13 Start: 12526, Stop: 12777, Start Num: 13
Candidate Starts for Sombrero_13:
(Start: 9 @12472 has 45 MA's), (Start: 13 @12526 has 9 MA's), (17, 12607), (26, 12670), (34, 12748),

Gene: Squibbles_13 Start: 13352, Stop: 13603, Start Num: 13
Candidate Starts for Squibbles_13:
(Start: 9 @13298 has 45 MA's), (Start: 13 @13352 has 9 MA's), (17, 13433), (26, 13496), (34, 13574),

Gene: SteveFrench_12 Start: 12519, Stop: 12824, Start Num: 9
Candidate Starts for SteveFrench_12:
(Start: 5 @12486 has 1 MA's), (6, 12492), (Start: 9 @12519 has 45 MA's), (34, 12795),

Gene: Sticker17_10 Start: 13233, Stop: 13538, Start Num: 9
Candidate Starts for Sticker17_10:
(Start: 5 @13200 has 1 MA's), (6, 13206), (Start: 9 @13233 has 45 MA's), (17, 13368), (21, 13404),
(26, 13431), (34, 13509),

Gene: Teal_10 Start: 13210, Stop: 13515, Start Num: 9
Candidate Starts for Teal_10:
(Start: 5 @13177 has 1 MA's), (6, 13183), (Start: 9 @13210 has 45 MA's), (17, 13345), (21, 13381),
(26, 13408), (34, 13486),

Gene: Teatealatte_13 Start: 14941, Stop: 15249, Start Num: 7
Candidate Starts for Teatealatte_13:
(Start: 7 @14941 has 9 MA's), (20, 15097), (24, 15136), (25, 15139), (28, 15172), (33, 15208), (34, 15220),

Gene: Teech_13 Start: 14742, Stop: 15050, Start Num: 7
Candidate Starts for Teech_13:
(Start: 7 @14742 has 9 MA's), (20, 14898), (24, 14937), (25, 14940), (28, 14973), (33, 15009), (34, 15021),

Gene: Tredge_13 Start: 14941, Stop: 15249, Start Num: 7
Candidate Starts for Tredge_13:

(Start: 7 @14941 has 9 MA's), (20, 15097), (24, 15136), (25, 15139), (28, 15172), (33, 15208), (34, 15220),

Gene: Trogglehumper_31 Start: 19780, Stop: 20073, Start Num: 8

Candidate Starts for Trogglehumper_31:

(1, 19651), (Start: 8 @19780 has 1 MA's), (14, 19849), (15, 19873), (18, 19918), (19, 19924), (23, 19966), (27, 19996), (30, 20017),

Gene: Woes_10 Start: 13762, Stop: 14067, Start Num: 9

Candidate Starts for Woes_10:

(Start: 5 @13729 has 1 MA's), (6, 13735), (Start: 9 @13762 has 45 MA's), (17, 13897), (21, 13933), (26, 13960), (34, 14038),

Gene: Worcestershire_13 Start: 12494, Stop: 12745, Start Num: 13

Candidate Starts for Worcestershire_13:

(Start: 9 @12440 has 45 MA's), (Start: 13 @12494 has 9 MA's), (17, 12575), (26, 12638), (34, 12716),