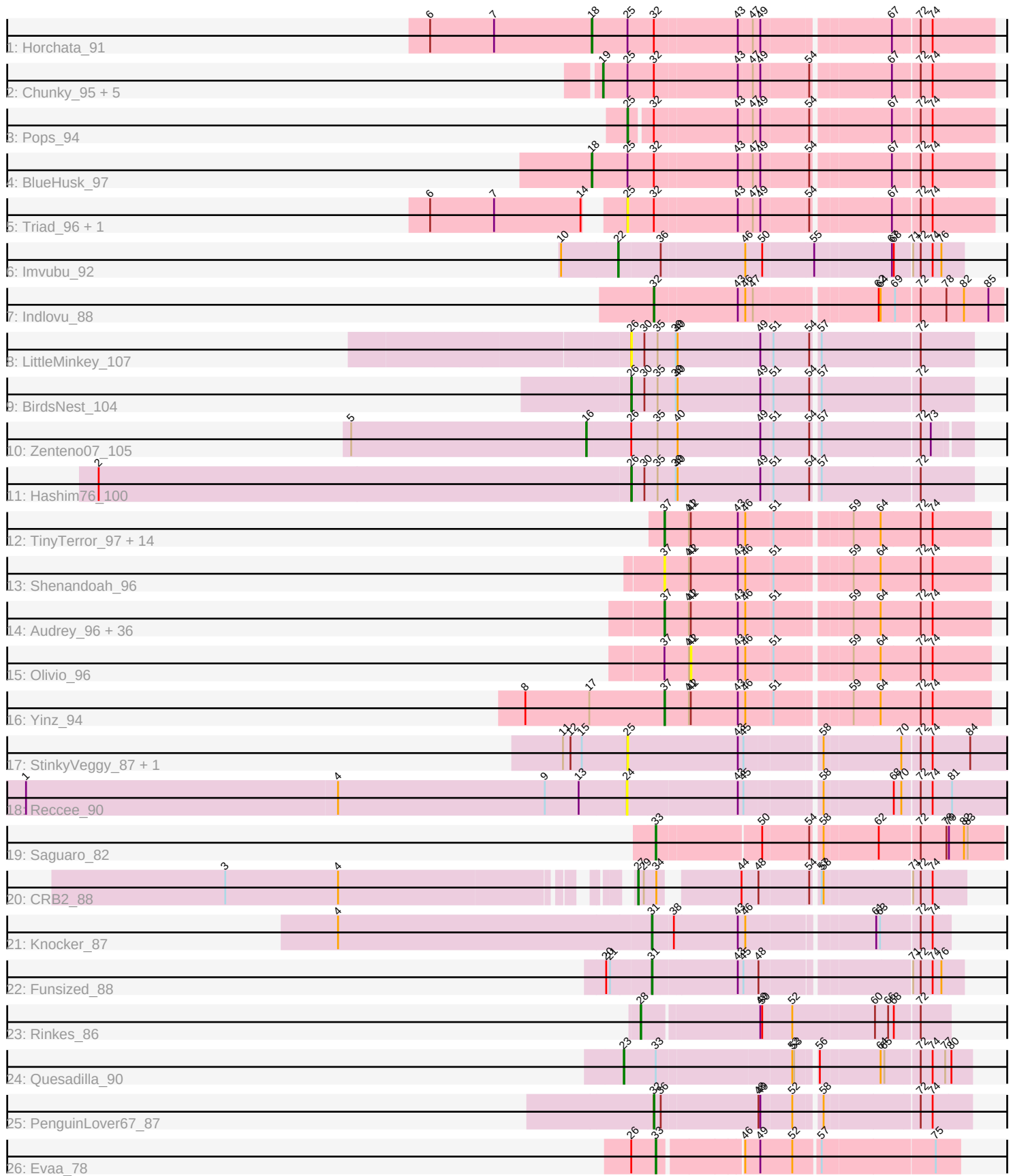


Pham 280348



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 280348 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280348 has 83 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Horchata_91
- Track 2 : Chunky_95, HSavage_94, ElvisPhasley_97, Gyarad_0095, Vivaldi_97, Boehler_94
- Track 3 : Pops_94
- Track 4 : BlueHusk_97
- Track 5 : Triad_96, Lehmann_97
- Track 6 : Imvubu_92
- Track 7 : Indlovu_88
- Track 8 : LittleMinkey_107
- Track 9 : BirdsNest_104
- Track 10 : Zenteno07_105
- Track 11 : Hashim76_100
- Track 12 : TinyTerror_97, Ben11_96, Chentzyk_98, Chandler_96, Devonte_94, Marley1013_94, Yahalom_94, Casbah_96, Kronus_96, Bernardo_93, Mortcellus_96, Glubnar_96, Compostia_95, SwainyDoc_96, LestyG_94
- Track 13 : Shenandoah_96
- Track 14 : Audrey_96, Tydolla_92, Phayeta_98, HarveySr_93, Deenasa_97, RomaT_96, Athena_98, Daisy_95, Phaedruss_91, Kamiyu_96, Corofin_96, RagingRooster_96, Neos5_95, Chalmers_96, ChaChing_96, Phlyer_96, Halfpint_95, Abinghost_96, Pipefish_95, SlippinJimmy_99, Gervas_97, Briakila_97, OrangeOswald_95, GlenHope_97, Jackstina_89, Marlia_96, Heathcliff_96, Rita1961_97, SynergyX_97, Baloo_95, Obutu_98, Akoma_97, Morty007_94, Philly_95, Nozo_96, MmasiCarm_97, Mulaychimus_97
- Track 15 : Olivio_96
- Track 16 : YinZ_94
- Track 17 : StinkyVeggy_87, KarasumaRum_87
- Track 18 : Reccee_90
- Track 19 : Saguaro_82
- Track 20 : CRB2_88
- Track 21 : Knocker_87
- Track 22 : Funsized_88
- Track 23 : Rinkes_86
- Track 24 : Quesadilla_90
- Track 25 : PenguinLover67_87
- Track 26 : Evaa_78

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

The start number called the most often in the published annotations is 37, it was called in 49 of the 71 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_96, Akoma_97, Athena_98, Audrey_96, Baloo_95, Ben11_96, Bernardo_93, Briakila_97, Casbah_96, ChaChing_96, Chalmers_96, Chandler_96, Chentzyk_98, Compostia_95, Corofin_96, Daisy_95, Deenasa_97, Devonte_94, Gervas_97, GlenHope_97, Glubnar_96, Halfpint_95, HarveySr_93, Heathcliff_96, Jackstina_89, Kamiyu_96, Kronus_96, LestyG_94, Marley1013_94, Marlia_96, MmasiCarm_97, Mortcellus_96, Morty007_94, Mulaychimus_97, Neos5_95, Nozo_96, Obutu_98, OrangeOswald_95, Phaedruss_91, Phayeta_98, Philly_95, Phlyer_96, Pipefish_95, RagingRooster_96, Rita1961_97, RomaT_96, Shenandoah_96, SlippinJimmy_99, SwainyDoc_96, SynergyX_97, TinyTerror_97, Tydolla_92, Yahalom_94, Yinz_94,

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

- Olivio_96,

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

- BirdsNest_104, BlueHusk_97, Boehler_94, CRB2_88, Chunky_95, ElvisPhasley_97, Evaa_78, Funsized_88, Gyarad_0095, HSavage_94, Hashim76_100, Horchata_91, Imvubu_92, Indlovu_88, KarasumaRum_87, Knocker_87, Lehmann_97, LittleMinkey_107, PenguinLover67_87, Pops_94, Quesadilla_90, Reccee_90, Rinkes_86, Saguaro_82, StinkyVeggy_87, Triad_96, Vivaldi_97, Zenteno07_105,

Summary by start number:

Start 16:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zenteno07_105 (B13),

Start 18:

- Found in 2 of 83 (2.4%) of genes in pham
- Manual Annotations of this start: 2 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueHusk_97 (B1), Horchata_91 (B1),

Start 19:

- Found in 6 of 83 (7.2%) of genes in pham
- Manual Annotations of this start: 6 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boehler_94 (B1), Chunky_95 (B1), ElvisPhasley_97 (B1), Gyarad_0095 (B1), HSavage_94 (B1), Vivaldi_97 (B1),

Start 22:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Imvubu_92 (B10),

Start 23:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Quesadilla_90 (B9),

Start 24:

- Found in 1 of 83 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Reccee_90 (B5),

Start 25:

- Found in 13 of 83 (15.7%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 38.5% of time when present
- Phage (with cluster) where this start called: KarasumaRum_87 (B5), Lehmann_97 (B1), Pops_94 (B1), StinkyVeggy_87 (B5), Triad_96 (B1),

Start 26:

- Found in 5 of 83 (6.0%) of genes in pham
- Manual Annotations of this start: 2 of 71
- Called 60.0% of time when present
- Phage (with cluster) where this start called: BirdsNest_104 (B13), Hashim76_100 (B13), LittleMinkey_107 (B13),

Start 27:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CRB2_88 (B9),

Start 28:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rinkes_86 (B9),

Start 31:

- Found in 2 of 83 (2.4%) of genes in pham
- Manual Annotations of this start: 2 of 71
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Funsized_88 (B9), Knocker_87 (B9),

Start 32:

- Found in 13 of 83 (15.7%) of genes in pham
- Manual Annotations of this start: 2 of 71
- Called 15.4% of time when present
- Phage (with cluster) where this start called: Indlovu_88 (B11), PenguinLover67_87 (B9),

Start 33:

- Found in 3 of 83 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 71
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Evaa_78 (DR), Saguaro_82 (B7),

Start 37:

- Found in 55 of 83 (66.3%) of genes in pham
- Manual Annotations of this start: 49 of 71
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Abinghost_96 (B3), Akoma_97 (B3), Athena_98 (B3), Audrey_96 (B3), Baloo_95 (B3), Ben11_96 (B3), Bernardo_93 (B3), Briakila_97 (B3), Casbah_96 (B3), ChaChing_96 (B3), Chalmers_96 (B3), Chandler_96 (B3), Chentzyk_98 (B3), Compostia_95 (B3), Corofin_96 (B3), Daisy_95 (B3), Deenasa_97 (B3), Devonte_94 (B3), Gervas_97 (B3), GlenHope_97 (B3), Glubnar_96 (B3), Halfpint_95 (B3), HarveySr_93 (B3), Heathcliff_96 (B3), Jackstina_89 (B3), Kamiyu_96 (B3), Kronus_96 (B3), LestyG_94 (B3), Marley1013_94 (B3), Marlia_96 (B3), MmasiCarm_97 (B3), Mortcellus_96 (B3), Morty007_94 (B3), Mulaychimus_97 (B3), Neos5_95 (B3), Nozo_96 (B3), Obutu_98 (B3), OrangeOswald_95 (B3), Phaedrus_91 (B3), Phayeta_98 (B3), Philly_95 (B3), Phlyer_96 (B3), Pipefish_95 (B3), RagingRooster_96 (B3), Rita1961_97 (B3), RomaT_96 (B3), Shenandoah_96 (B3), SlippinJimmy_99 (B3), SwainyDoc_96 (B3), SynergyX_97 (B3), TinyTerror_97 (B3), Tydolla_92 (B3), Yahalom_94 (B3), Yinz_94 (B3),

Start 42:

- Found in 55 of 83 (66.3%) of genes in pham
- No Manual Annotations of this start.
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Olivio_96 (B3),

Summary by clusters:

There are 9 clusters represented in this pham: B11, B5, B7, B13, B10, B3, DR, B9, B1,

Info for manual annotations of cluster B1:

- Start number 18 was manually annotated 2 times for cluster B1.
- Start number 19 was manually annotated 6 times for cluster B1.
- Start number 25 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B10:

- Start number 22 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 32 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B13:

- Start number 16 was manually annotated 1 time for cluster B13.
- Start number 26 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B3:

- Start number 37 was manually annotated 49 times for cluster B3.

Info for manual annotations of cluster B7:

- Start number 33 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 23 was manually annotated 1 time for cluster B9.
- Start number 27 was manually annotated 1 time for cluster B9.
- Start number 28 was manually annotated 1 time for cluster B9.
- Start number 31 was manually annotated 2 times for cluster B9.
- Start number 32 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster DR:

- Start number 33 was manually annotated 1 time for cluster DR.

Gene Information:

Gene: Abinghost_96 Start: 65736, Stop: 65248, Start Num: 37

Candidate Starts for Abinghost_96:

(Start: 37 @65736 has 49 MA's), (41, 65697), (42, 65694), (43, 65619), (46, 65610), (51, 65568), (59, 65460), (64, 65418), (72, 65355), (74, 65337),

Gene: Akoma_97 Start: 65813, Stop: 65325, Start Num: 37

Candidate Starts for Akoma_97:

(Start: 37 @65813 has 49 MA's), (41, 65774), (42, 65771), (43, 65696), (46, 65687), (51, 65645), (59, 65537), (64, 65495), (72, 65432), (74, 65414),

Gene: Athena_98 Start: 66509, Stop: 66021, Start Num: 37

Candidate Starts for Athena_98:

(Start: 37 @66509 has 49 MA's), (41, 66470), (42, 66467), (43, 66392), (46, 66383), (51, 66341), (59, 66233), (64, 66191), (72, 66128), (74, 66110),

Gene: Audrey_96 Start: 65763, Stop: 65275, Start Num: 37

Candidate Starts for Audrey_96:

(Start: 37 @65763 has 49 MA's), (41, 65724), (42, 65721), (43, 65646), (46, 65637), (51, 65595), (59, 65487), (64, 65445), (72, 65382), (74, 65364),

Gene: Baloo_95 Start: 65616, Stop: 65128, Start Num: 37

Candidate Starts for Baloo_95:

(Start: 37 @65616 has 49 MA's), (41, 65577), (42, 65574), (43, 65499), (46, 65490), (51, 65448), (59, 65340), (64, 65298), (72, 65235), (74, 65217),

Gene: Ben11_96 Start: 65993, Stop: 65505, Start Num: 37

Candidate Starts for Ben11_96:

(Start: 37 @65993 has 49 MA's), (41, 65954), (42, 65951), (43, 65876), (46, 65867), (51, 65825), (59, 65717), (64, 65675), (72, 65612), (74, 65594),

Gene: Bernardo_93 Start: 65287, Stop: 64799, Start Num: 37

Candidate Starts for Bernardo_93:

(Start: 37 @65287 has 49 MA's), (41, 65248), (42, 65245), (43, 65170), (46, 65161), (51, 65119), (59, 65011), (64, 64969), (72, 64906), (74, 64888),

Gene: BirdsNest_104 Start: 70091, Stop: 69573, Start Num: 26

Candidate Starts for BirdsNest_104:

(Start: 26 @70091 has 2 MA's), (30, 70070), (35, 70049), (39, 70022), (40, 70019), (49, 69890), (51, 69872), (54, 69815), (57, 69806), (72, 69656),

Gene: BlueHusk_97 Start: 66586, Stop: 65990, Start Num: 18

Candidate Starts for BlueHusk_97:

(Start: 18 @66586 has 2 MA's), (Start: 25 @66529 has 1 MA's), (Start: 32 @66487 has 2 MA's), (43, 66361), (47, 66340), (49, 66328), (54, 66256), (67, 66142), (72, 66103), (74, 66085),

Gene: Boehler_94 Start: 66718, Stop: 66140, Start Num: 19

Candidate Starts for Boehler_94:

(Start: 19 @66718 has 6 MA's), (Start: 25 @66679 has 1 MA's), (Start: 32 @66637 has 2 MA's), (43, 66511), (47, 66490), (49, 66478), (54, 66406), (67, 66292), (72, 66253), (74, 66235),

Gene: Briakila_97 Start: 66267, Stop: 65779, Start Num: 37

Candidate Starts for Briakila_97:

(Start: 37 @66267 has 49 MA's), (41, 66228), (42, 66225), (43, 66150), (46, 66141), (51, 66099), (59, 65991), (64, 65949), (72, 65886), (74, 65868),

Gene: CRB2_88 Start: 67867, Stop: 67412, Start Num: 27

Candidate Starts for CRB2_88:

(3, 68446), (4, 68266), (Start: 27 @67867 has 1 MA's), (29, 67858), (34, 67840), (44, 67735), (48, 67708), (54, 67633), (57, 67624), (58, 67621), (71, 67492), (72, 67480), (74, 67462),

Gene: Casbah_96 Start: 66078, Stop: 65590, Start Num: 37

Candidate Starts for Casbah_96:

(Start: 37 @66078 has 49 MA's), (41, 66039), (42, 66036), (43, 65961), (46, 65952), (51, 65910), (59, 65802), (64, 65760), (72, 65697), (74, 65679),

Gene: ChaChing_96 Start: 65776, Stop: 65288, Start Num: 37

Candidate Starts for ChaChing_96:

(Start: 37 @65776 has 49 MA's), (41, 65737), (42, 65734), (43, 65659), (46, 65650), (51, 65608), (59, 65500), (64, 65458), (72, 65395), (74, 65377),

Gene: Chalmers_96 Start: 66514, Stop: 66026, Start Num: 37

Candidate Starts for Chalmers_96:

(Start: 37 @66514 has 49 MA's), (41, 66475), (42, 66472), (43, 66397), (46, 66388), (51, 66346), (59, 66238), (64, 66196), (72, 66133), (74, 66115),

Gene: Chandler_96 Start: 66552, Stop: 66064, Start Num: 37

Candidate Starts for Chandler_96:

(Start: 37 @66552 has 49 MA's), (41, 66513), (42, 66510), (43, 66435), (46, 66426), (51, 66384), (59, 66276), (64, 66234), (72, 66171), (74, 66153),

Gene: Chentzyk_98 Start: 66708, Stop: 66220, Start Num: 37

Candidate Starts for Chentzyk_98:

(Start: 37 @66708 has 49 MA's), (41, 66669), (42, 66666), (43, 66591), (46, 66582), (51, 66540), (59, 66432), (64, 66390), (72, 66327), (74, 66309),

Gene: Chunky_95 Start: 66380, Stop: 65802, Start Num: 19

Candidate Starts for Chunky_95:

(Start: 19 @66380 has 6 MA's), (Start: 25 @66341 has 1 MA's), (Start: 32 @66299 has 2 MA's), (43, 66173), (47, 66152), (49, 66140), (54, 66068), (67, 65954), (72, 65915), (74, 65897),

Gene: Compostia_95 Start: 66230, Stop: 65742, Start Num: 37

Candidate Starts for Compostia_95:

(Start: 37 @66230 has 49 MA's), (41, 66191), (42, 66188), (43, 66113), (46, 66104), (51, 66062), (59, 65954), (64, 65912), (72, 65849), (74, 65831),

Gene: Corofin_96 Start: 65787, Stop: 65299, Start Num: 37

Candidate Starts for Corofin_96:

(Start: 37 @65787 has 49 MA's), (41, 65748), (42, 65745), (43, 65670), (46, 65661), (51, 65619), (59, 65511), (64, 65469), (72, 65406), (74, 65388),

Gene: Daisy_95 Start: 65336, Stop: 64848, Start Num: 37

Candidate Starts for Daisy_95:

(Start: 37 @65336 has 49 MA's), (41, 65297), (42, 65294), (43, 65219), (46, 65210), (51, 65168), (59, 65060), (64, 65018), (72, 64955), (74, 64937),

Gene: Deenasa_97 Start: 66990, Stop: 66502, Start Num: 37

Candidate Starts for Deenasa_97:

(Start: 37 @66990 has 49 MA's), (41, 66951), (42, 66948), (43, 66873), (46, 66864), (51, 66822), (59, 66714), (64, 66672), (72, 66609), (74, 66591),

Gene: Devonte_94 Start: 65402, Stop: 64914, Start Num: 37

Candidate Starts for Devonte_94:

(Start: 37 @65402 has 49 MA's), (41, 65363), (42, 65360), (43, 65285), (46, 65276), (51, 65234), (59, 65126), (64, 65084), (72, 65021), (74, 65003),

Gene: ElvisPhasley_97 Start: 67655, Stop: 67077, Start Num: 19

Candidate Starts for ElvisPhasley_97:

(Start: 19 @67655 has 6 MA's), (Start: 25 @67616 has 1 MA's), (Start: 32 @67574 has 2 MA's), (43, 67448), (47, 67427), (49, 67415), (54, 67343), (67, 67229), (72, 67190), (74, 67172),

Gene: Evaa_78 Start: 57578, Stop: 57129, Start Num: 33

Candidate Starts for Evaa_78:

(Start: 26 @57617 has 2 MA's), (Start: 33 @57578 has 2 MA's), (46, 57455), (49, 57431), (52, 57380), (57, 57341), (75, 57167),

Gene: Funsized_88 Start: 68273, Stop: 67824, Start Num: 31

Candidate Starts for Funsized_88:

(20, 68339), (21, 68333), (Start: 31 @68273 has 2 MA's), (43, 68144), (45, 68138), (48, 68114), (71, 67898), (72, 67886), (74, 67868), (76, 67856),

Gene: Gervas_97 Start: 66231, Stop: 65743, Start Num: 37

Candidate Starts for Gervas_97:

(Start: 37 @66231 has 49 MA's), (41, 66192), (42, 66189), (43, 66114), (46, 66105), (51, 66063), (59, 65955), (64, 65913), (72, 65850), (74, 65832),

Gene: GlenHope_97 Start: 65806, Stop: 65318, Start Num: 37

Candidate Starts for GlenHope_97:

(Start: 37 @65806 has 49 MA's), (41, 65767), (42, 65764), (43, 65689), (46, 65680), (51, 65638), (59, 65530), (64, 65488), (72, 65425), (74, 65407),

Gene: Glubnar_96 Start: 65722, Stop: 65234, Start Num: 37

Candidate Starts for Glubnar_96:

(Start: 37 @65722 has 49 MA's), (41, 65683), (42, 65680), (43, 65605), (46, 65596), (51, 65554), (59, 65446), (64, 65404), (72, 65341), (74, 65323),

Gene: Gyarad_0095 Start: 66382, Stop: 65804, Start Num: 19

Candidate Starts for Gyarad_0095:

(Start: 19 @66382 has 6 MA's), (Start: 25 @66343 has 1 MA's), (Start: 32 @66301 has 2 MA's), (43, 66175), (47, 66154), (49, 66142), (54, 66070), (67, 65956), (72, 65917), (74, 65899),

Gene: HSavage_94 Start: 66365, Stop: 65787, Start Num: 19

Candidate Starts for HSavage_94:

(Start: 19 @66365 has 6 MA's), (Start: 25 @66326 has 1 MA's), (Start: 32 @66284 has 2 MA's), (43, 66158), (47, 66137), (49, 66125), (54, 66053), (67, 65939), (72, 65900), (74, 65882),

Gene: Halfpint_95 Start: 65551, Stop: 65063, Start Num: 37

Candidate Starts for Halfpint_95:

(Start: 37 @65551 has 49 MA's), (41, 65512), (42, 65509), (43, 65434), (46, 65425), (51, 65383), (59, 65275), (64, 65233), (72, 65170), (74, 65152),

Gene: HarveySr_93 Start: 64875, Stop: 64387, Start Num: 37

Candidate Starts for HarveySr_93:

(Start: 37 @64875 has 49 MA's), (41, 64836), (42, 64833), (43, 64758), (46, 64749), (51, 64707), (59, 64599), (64, 64557), (72, 64494), (74, 64476),

Gene: Hashim76_100 Start: 69243, Stop: 68725, Start Num: 26

Candidate Starts for Hashim76_100:

(2, 70089), (Start: 26 @69243 has 2 MA's), (30, 69222), (35, 69201), (39, 69174), (40, 69171), (49, 69042), (51, 69024), (54, 68967), (57, 68958), (72, 68808),

Gene: Heathcliff_96 Start: 65730, Stop: 65242, Start Num: 37

Candidate Starts for Heathcliff_96:

(Start: 37 @65730 has 49 MA's), (41, 65691), (42, 65688), (43, 65613), (46, 65604), (51, 65562), (59, 65454), (64, 65412), (72, 65349), (74, 65331),

Gene: Horchata_91 Start: 66558, Stop: 65962, Start Num: 18

Candidate Starts for Horchata_91:

(6, 66816), (7, 66714), (Start: 18 @66558 has 2 MA's), (Start: 25 @66501 has 1 MA's), (Start: 32 @66459 has 2 MA's), (43, 66333), (47, 66312), (49, 66300), (67, 66114), (72, 66075), (74, 66057),

Gene: Imvubu_92 Start: 66340, Stop: 65831, Start Num: 22

Candidate Starts for Imvubu_92:

(10, 66430), (Start: 22 @66340 has 1 MA's), (36, 66280), (46, 66154), (50, 66127), (55, 66049), (67, 65932), (68, 65929), (71, 65905), (72, 65893), (74, 65875), (76, 65863),

Gene: Indlovu_88 Start: 67222, Stop: 66713, Start Num: 32

Candidate Starts for Indlovu_88:

(Start: 32 @67222 has 2 MA's), (43, 67096), (46, 67087), (47, 67075), (62, 66898), (64, 66895), (69, 66874), (72, 66838), (78, 66802), (82, 66775), (85, 66736),

Gene: Jackstina_89 Start: 65647, Stop: 65159, Start Num: 37

Candidate Starts for Jackstina_89:

(Start: 37 @65647 has 49 MA's), (41, 65608), (42, 65605), (43, 65530), (46, 65521), (51, 65479), (59, 65371), (64, 65329), (72, 65266), (74, 65248),

Gene: Kamiyu_96 Start: 65734, Stop: 65246, Start Num: 37

Candidate Starts for Kamiyu_96:

(Start: 37 @65734 has 49 MA's), (41, 65695), (42, 65692), (43, 65617), (46, 65608), (51, 65566), (59, 65458), (64, 65416), (72, 65353), (74, 65335),

Gene: KarasumaRum_87 Start: 65724, Stop: 65134, Start Num: 25

Candidate Starts for KarasumaRum_87:

(11, 65826), (12, 65814), (15, 65796), (Start: 25 @65724 has 1 MA's), (43, 65550), (45, 65541), (58, 65433), (70, 65316), (72, 65292), (74, 65274), (84, 65217),

Gene: Kocker_87 Start: 67165, Stop: 66737, Start Num: 31

Candidate Starts for Kocker_87:

(4, 67660), (Start: 31 @67165 has 2 MA's), (38, 67135), (43, 67036), (46, 67027), (61, 66841), (63, 66835), (72, 66778), (74, 66760),

Gene: Kronus_96 Start: 66819, Stop: 66331, Start Num: 37

Candidate Starts for Kronus_96:

(Start: 37 @66819 has 49 MA's), (41, 66780), (42, 66777), (43, 66702), (46, 66693), (51, 66651), (59, 66543), (64, 66501), (72, 66438), (74, 66420),

Gene: Lehmann_97 Start: 66916, Stop: 66377, Start Num: 25

Candidate Starts for Lehmann_97:

(6, 67195), (7, 67093), (14, 66955), (Start: 25 @66916 has 1 MA's), (Start: 32 @66874 has 2 MA's), (43, 66748), (47, 66727), (49, 66715), (54, 66643), (67, 66529), (72, 66490), (74, 66472),

Gene: LestyG_94 Start: 65305, Stop: 64817, Start Num: 37

Candidate Starts for LestyG_94:

(Start: 37 @65305 has 49 MA's), (41, 65266), (42, 65263), (43, 65188), (46, 65179), (51, 65137), (59, 65029), (64, 64987), (72, 64924), (74, 64906),

Gene: LittleMinkey_107 Start: 69748, Stop: 69230, Start Num: 26

Candidate Starts for LittleMinkey_107:

(Start: 26 @69748 has 2 MA's), (30, 69727), (35, 69706), (39, 69679), (40, 69676), (49, 69547), (51, 69529), (54, 69472), (57, 69463), (72, 69313),

Gene: Marley1013_94 Start: 66265, Stop: 65777, Start Num: 37

Candidate Starts for Marley1013_94:

(Start: 37 @66265 has 49 MA's), (41, 66226), (42, 66223), (43, 66148), (46, 66139), (51, 66097), (59, 65989), (64, 65947), (72, 65884), (74, 65866),

Gene: Marlia_96 Start: 65827, Stop: 65339, Start Num: 37

Candidate Starts for Marlia_96:

(Start: 37 @65827 has 49 MA's), (41, 65788), (42, 65785), (43, 65710), (46, 65701), (51, 65659), (59, 65551), (64, 65509), (72, 65446), (74, 65428),

Gene: MmasiCarm_97 Start: 66162, Stop: 65674, Start Num: 37

Candidate Starts for MmasiCarm_97:

(Start: 37 @66162 has 49 MA's), (41, 66123), (42, 66120), (43, 66045), (46, 66036), (51, 65994), (59, 65886), (64, 65844), (72, 65781), (74, 65763),

Gene: Mortcellus_96 Start: 66900, Stop: 66412, Start Num: 37

Candidate Starts for Mortcellus_96:

(Start: 37 @66900 has 49 MA's), (41, 66861), (42, 66858), (43, 66783), (46, 66774), (51, 66732), (59, 66624), (64, 66582), (72, 66519), (74, 66501),

Gene: Morty007_94 Start: 66532, Stop: 66044, Start Num: 37

Candidate Starts for Morty007_94:

(Start: 37 @66532 has 49 MA's), (41, 66493), (42, 66490), (43, 66415), (46, 66406), (51, 66364), (59, 66256), (64, 66214), (72, 66151), (74, 66133),

Gene: Mulaychimus_97 Start: 66341, Stop: 65853, Start Num: 37

Candidate Starts for Mulaychimus_97:

(Start: 37 @66341 has 49 MA's), (41, 66302), (42, 66299), (43, 66224), (46, 66215), (51, 66173), (59, 66065), (64, 66023), (72, 65960), (74, 65942),

Gene: Neos5_95 Start: 65988, Stop: 65500, Start Num: 37

Candidate Starts for Neos5_95:

(Start: 37 @65988 has 49 MA's), (41, 65949), (42, 65946), (43, 65871), (46, 65862), (51, 65820), (59, 65712), (64, 65670), (72, 65607), (74, 65589),

Gene: Nozo_96 Start: 66541, Stop: 66053, Start Num: 37

Candidate Starts for Nozo_96:

(Start: 37 @66541 has 49 MA's), (41, 66502), (42, 66499), (43, 66424), (46, 66415), (51, 66373), (59, 66265), (64, 66223), (72, 66160), (74, 66142),

Gene: Obutu_98 Start: 66345, Stop: 65857, Start Num: 37

Candidate Starts for Obutu_98:

(Start: 37 @66345 has 49 MA's), (41, 66306), (42, 66303), (43, 66228), (46, 66219), (51, 66177), (59, 66069), (64, 66027), (72, 65964), (74, 65946),

Gene: Olivio_96 Start: 65939, Stop: 65493, Start Num: 42

Candidate Starts for Olivio_96:

(Start: 37 @65981 has 49 MA's), (41, 65942), (42, 65939), (43, 65864), (46, 65855), (51, 65813), (59, 65705), (64, 65663), (72, 65600), (74, 65582),

Gene: OrangeOswald_95 Start: 65776, Stop: 65288, Start Num: 37

Candidate Starts for OrangeOswald_95:

(Start: 37 @65776 has 49 MA's), (41, 65737), (42, 65734), (43, 65659), (46, 65650), (51, 65608), (59, 65500), (64, 65458), (72, 65395), (74, 65377),

Gene: PenguinLover67_87 Start: 65234, Stop: 64770, Start Num: 32

Candidate Starts for PenguinLover67_87:

(Start: 32 @65234 has 2 MA's), (36, 65225), (48, 65075), (49, 65072), (52, 65024), (58, 64988), (72, 64847), (74, 64829),

Gene: Phaedrus_91 Start: 65191, Stop: 64703, Start Num: 37

Candidate Starts for Phaedrus_91:

(Start: 37 @65191 has 49 MA's), (41, 65152), (42, 65149), (43, 65074), (46, 65065), (51, 65023), (59, 64915), (64, 64873), (72, 64810), (74, 64792),

Gene: Phayeta_98 Start: 66026, Stop: 65538, Start Num: 37

Candidate Starts for Phayeta_98:

(Start: 37 @66026 has 49 MA's), (41, 65987), (42, 65984), (43, 65909), (46, 65900), (51, 65858), (59, 65750), (64, 65708), (72, 65645), (74, 65627),

Gene: Philly_95 Start: 65624, Stop: 65136, Start Num: 37

Candidate Starts for Philly_95:

(Start: 37 @65624 has 49 MA's), (41, 65585), (42, 65582), (43, 65507), (46, 65498), (51, 65456), (59, 65348), (64, 65306), (72, 65243), (74, 65225),

Gene: Phlyer_96 Start: 66486, Stop: 65998, Start Num: 37

Candidate Starts for Phlyer_96:

(Start: 37 @66486 has 49 MA's), (41, 66447), (42, 66444), (43, 66369), (46, 66360), (51, 66318), (59, 66210), (64, 66168), (72, 66105), (74, 66087),

Gene: Pipefish_95 Start: 66160, Stop: 65672, Start Num: 37

Candidate Starts for Pipefish_95:

(Start: 37 @66160 has 49 MA's), (41, 66121), (42, 66118), (43, 66043), (46, 66034), (51, 65992), (59, 65884), (64, 65842), (72, 65779), (74, 65761),

Gene: Pops_94 Start: 66731, Stop: 66201, Start Num: 25

Candidate Starts for Pops_94:

(Start: 25 @66731 has 1 MA's), (Start: 32 @66698 has 2 MA's), (43, 66572), (47, 66551), (49, 66539), (54, 66467), (67, 66353), (72, 66314), (74, 66296),

Gene: Quesadilla_90 Start: 66835, Stop: 66329, Start Num: 23

Candidate Starts for Quesadilla_90:

(Start: 23 @66835 has 1 MA's), (Start: 33 @66787 has 2 MA's), (52, 66583), (53, 66580), (56, 66553), (64, 66463), (65, 66457), (72, 66406), (74, 66388), (77, 66370), (80, 66361),

Gene: RagingRooster_96 Start: 65772, Stop: 65284, Start Num: 37

Candidate Starts for RagingRooster_96:

(Start: 37 @65772 has 49 MA's), (41, 65733), (42, 65730), (43, 65655), (46, 65646), (51, 65604), (59, 65496), (64, 65454), (72, 65391), (74, 65373),

Gene: Reccee_90 Start: 66214, Stop: 65642, Start Num: 24

Candidate Starts for Reccee_90:

(1, 67168), (4, 66673), (9, 66343), (13, 66289), (24, 66214), (43, 66043), (45, 66034), (58, 65926), (68, 65821), (70, 65809), (72, 65785), (74, 65767), (81, 65740),

Gene: Rinkes_86 Start: 67114, Stop: 66665, Start Num: 28

Candidate Starts for Rinkes_86:

(Start: 28 @67114 has 1 MA's), (49, 66943), (50, 66940), (52, 66895), (60, 66772), (66, 66751), (68, 66742), (72, 66706),

Gene: Rita1961_97 Start: 66117, Stop: 65629, Start Num: 37

Candidate Starts for Rita1961_97:

(Start: 37 @66117 has 49 MA's), (41, 66078), (42, 66075), (43, 66000), (46, 65991), (51, 65949), (59, 65841), (64, 65799), (72, 65736), (74, 65718),

Gene: RomaT_96 Start: 66340, Stop: 65852, Start Num: 37

Candidate Starts for RomaT_96:

(Start: 37 @66340 has 49 MA's), (41, 66301), (42, 66298), (43, 66223), (46, 66214), (51, 66172), (59, 66064), (64, 66022), (72, 65959), (74, 65941),

Gene: Saguaro_82 Start: 64421, Stop: 63921, Start Num: 33

Candidate Starts for Saguaro_82:

(Start: 33 @64421 has 2 MA's), (50, 64265), (54, 64196), (58, 64184), (62, 64103), (72, 64043), (78, 64007), (79, 64004), (82, 63980), (83, 63974),

Gene: Shenandoah_96 Start: 65692, Stop: 65204, Start Num: 37

Candidate Starts for Shenandoah_96:

(Start: 37 @65692 has 49 MA's), (41, 65653), (42, 65650), (43, 65575), (46, 65566), (51, 65524), (59, 65416), (64, 65374), (72, 65311), (74, 65293),

Gene: SlippinJimmy_99 Start: 67140, Stop: 66652, Start Num: 37

Candidate Starts for SlippinJimmy_99:

(Start: 37 @67140 has 49 MA's), (41, 67101), (42, 67098), (43, 67023), (46, 67014), (51, 66972), (59, 66864), (64, 66822), (72, 66759), (74, 66741),

Gene: StinkyVeggy_87 Start: 65724, Stop: 65134, Start Num: 25

Candidate Starts for StinkyVeggy_87:

(11, 65826), (12, 65814), (15, 65796), (Start: 25 @65724 has 1 MA's), (43, 65550), (45, 65541), (58, 65433), (70, 65316), (72, 65292), (74, 65274), (84, 65217),

Gene: SwainyDoc_96 Start: 66206, Stop: 65718, Start Num: 37

Candidate Starts for SwainyDoc_96:

(Start: 37 @66206 has 49 MA's), (41, 66167), (42, 66164), (43, 66089), (46, 66080), (51, 66038), (59, 65930), (64, 65888), (72, 65825), (74, 65807),

Gene: SynergyX_97 Start: 66082, Stop: 65594, Start Num: 37

Candidate Starts for SynergyX_97:

(Start: 37 @66082 has 49 MA's), (41, 66043), (42, 66040), (43, 65965), (46, 65956), (51, 65914), (59, 65806), (64, 65764), (72, 65701), (74, 65683),

Gene: TinyTerror_97 Start: 66203, Stop: 65715, Start Num: 37

Candidate Starts for TinyTerror_97:

(Start: 37 @66203 has 49 MA's), (41, 66164), (42, 66161), (43, 66086), (46, 66077), (51, 66035), (59, 65927), (64, 65885), (72, 65822), (74, 65804),

Gene: Triad_96 Start: 66221, Stop: 65682, Start Num: 25

Candidate Starts for Triad_96:

(6, 66500), (7, 66398), (14, 66260), (Start: 25 @66221 has 1 MA's), (Start: 32 @66179 has 2 MA's), (43, 66053), (47, 66032), (49, 66020), (54, 65948), (67, 65834), (72, 65795), (74, 65777),

Gene: Tydolla_92 Start: 65758, Stop: 65270, Start Num: 37

Candidate Starts for Tydolla_92:

(Start: 37 @65758 has 49 MA's), (41, 65719), (42, 65716), (43, 65641), (46, 65632), (51, 65590), (59, 65482), (64, 65440), (72, 65377), (74, 65359),

Gene: Vivaldi_97 Start: 67032, Stop: 66454, Start Num: 19

Candidate Starts for Vivaldi_97:

(Start: 19 @67032 has 6 MA's), (Start: 25 @66993 has 1 MA's), (Start: 32 @66951 has 2 MA's), (43, 66825), (47, 66804), (49, 66792), (54, 66720), (67, 66606), (72, 66567), (74, 66549),

Gene: Yahalom_94 Start: 65583, Stop: 65095, Start Num: 37

Candidate Starts for Yahalom_94:

(Start: 37 @65583 has 49 MA's), (41, 65544), (42, 65541), (43, 65466), (46, 65457), (51, 65415), (59, 65307), (64, 65265), (72, 65202), (74, 65184),

Gene: Yinz_94 Start: 65180, Stop: 64692, Start Num: 37

Candidate Starts for Yinz_94:

(8, 65402), (17, 65300), (Start: 37 @65180 has 49 MA's), (41, 65141), (42, 65138), (43, 65063), (46, 65054), (51, 65012), (59, 64904), (64, 64862), (72, 64799), (74, 64781),

Gene: Zenteno07_105 Start: 69900, Stop: 69328, Start Num: 16

Candidate Starts for Zenteno07_105:

(5, 70275), (Start: 16 @69900 has 1 MA's), (Start: 26 @69834 has 2 MA's), (35, 69792), (40, 69762), (49, 69633), (51, 69615), (54, 69558), (57, 69549), (72, 69399), (73, 69384),