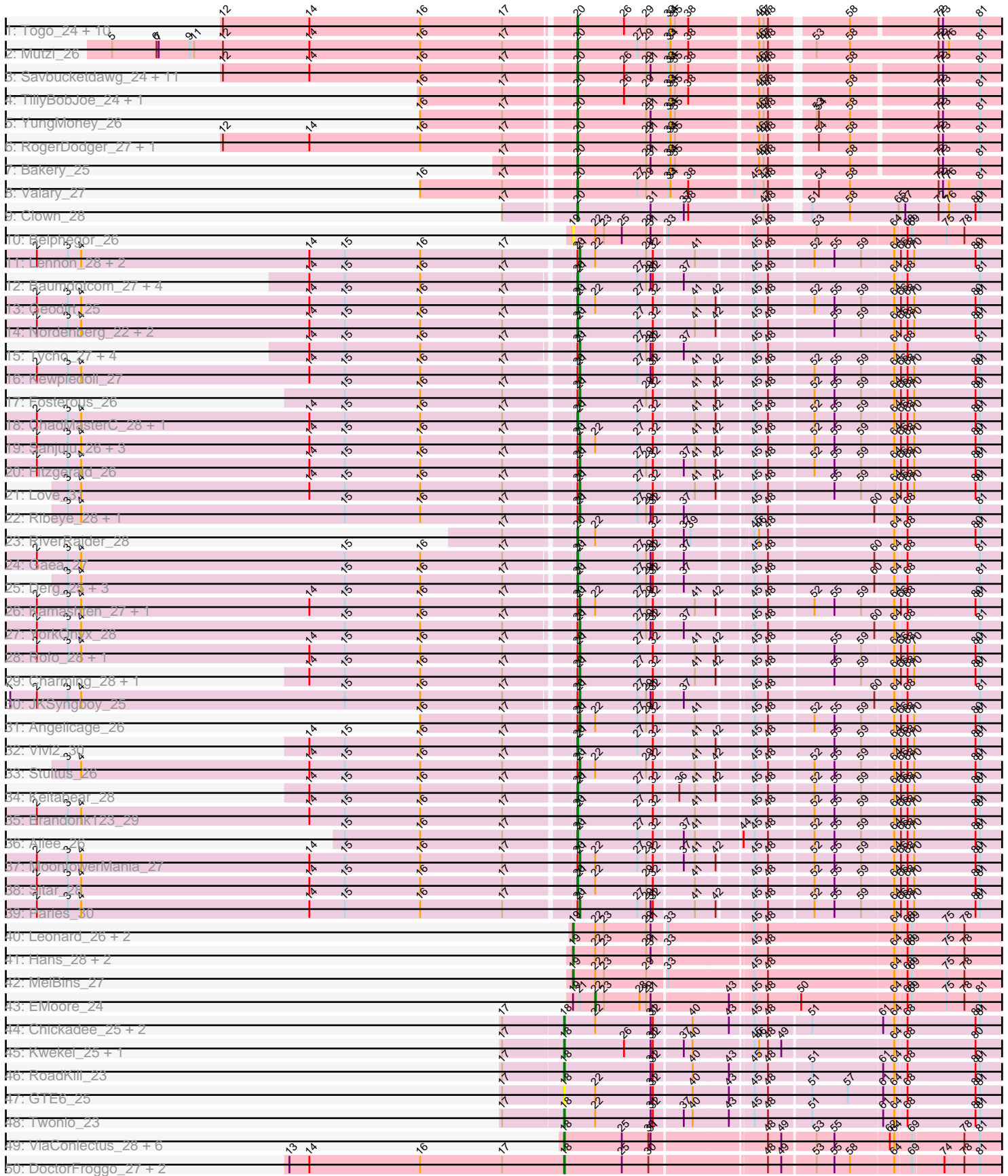


Pham 182030



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 182030 Report

This analysis was run 11/02/24 on database version 579.

Pham number 182030 has 114 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Togo_24, Wizard_24, Gezellig_25, PullumCavea_24, Nubi_24, Shinji_24, Portcullis_24, Salvador_24, Phlop_24, Evamon_24, SmokingBunny_24
- Track 2 : Mutzi_26
- Track 3 : Savbucketdawg_24, Danyall_26, Jambalaya_24, Halo3_25, ClamChowder_26, KimmyK_26, PinkCoffee_26, Fugax_26, CoveyB_27, Twister6_26, Barb_26, VanDeWege_27
- Track 4 : TillyBobJoe_24, Fireball_25
- Track 5 : YungMoney_26
- Track 6 : RogerDodger_27, Arri_27
- Track 7 : Bakery_25
- Track 8 : Valary_27
- Track 9 : Clown_28
- Track 10 : Belphegor_26
- Track 11 : Lennon_28, Bibwit_27, Sedona_28
- Track 12 : Baumdotcom_27, SchottB_26, LilHam_25, StorminNorm_27, Kwobi_28
- Track 13 : Geodirt_25
- Track 14 : Nordenberg_22, BobBob_25, McKinley_30
- Track 15 : Tycho_27, Saronaya_27, Ashertheman_28, Tangerine_27, Gustavo_27
- Track 16 : Kewpiedoll_27
- Track 17 : Fosterous_26
- Track 18 : ChadMasterC_28, Barsten_28
- Track 19 : Sanjuju_26, Shivanishola_29, Affeca_26, Jabberwocky_26
- Track 20 : Fitzgerald_26
- Track 21 : Love_31
- Track 22 : Ribeye_28, Kroos_28
- Track 23 : RiverRaider_28
- Track 24 : Gaea_27
- Track 25 : Derg_25, Flatwoods_28, Baddon_27, Bizzy_28
- Track 26 : Kamashten_27, Thing3_27
- Track 27 : YorkOnyx_28
- Track 28 : Rofo_28, Galadriel_28
- Track 29 : Charming_28, Tangent_28
- Track 30 : JKSyngboy_25
- Track 31 : Angelicage_26
- Track 32 : Vivi2_30
- Track 33 : Stultus_26
- Track 34 : Keitabear_28

- Track 35 : Brandonk123_29
- Track 36 : Ailee_26
- Track 37 : MoontowerMania_27
- Track 38 : Sitar_28
- Track 39 : Paries_30
- Track 40 : Leonard_26, Ali17_24, Phinally_26
- Track 41 : Hans_28, Phauci_19, Inspectinfecti_27
- Track 42 : MelBins_27
- Track 43 : EMOore_24
- Track 44 : Chickadee_25, Tiamoceli_26, EdmundFerry_24
- Track 45 : Kwekel_25, Dxdert_26
- Track 46 : RoadKill_23
- Track 47 : GTE6_25
- Track 48 : Twonlo_23
- Track 49 : ViaConlectus_28, Scioto_28, Natkenzie_28, Zitch_29, APunk_29, Sampson_28, Abblin_28
- Track 50 : DoctorFroggo_27, Delrey21_27, Verity_27
- Track 51 : Zipp_27
- Track 52 : Tardus_29
- Track 53 : Lilbeanie_23

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

The start number called the most often in the published annotations is 20, it was called in 48 of the 98 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ailee_26, Arri_27, Baddon_27, Bakery_25, Barb_26, Barsten_28, Baumdotcom_27, Bizzy_28, BobBob_25, Brandonk123_29, ChadMasterC_28, ClamChowder_26, Clown_28, CoveyB_27, Danyall_26, Derg_25, Evamon_24, Fireball_25, Flatwoods_28, Fugax_26, Gaea_27, Geodirt_25, Gezellig_25, Halo3_25, Jambalaya_24, Keitabear_28, KimmyK_26, Kwobi_28, LilHam_25, Lilbeanie_23, McKinley_30, Mutzi_26, Nordenberg_22, Nubi_24, Phlop_24, PinkCoffee_26, Portcullis_24, PullumCavea_24, RiverRaider_28, RogerDodger_27, Salvador_24, Savbucketdawg_24, SchottB_26, Shinji_24, Sitar_28, SmokingBunny_24, StorminNorm_27, TillyBobJoe_24, Togo_24, Twister6_26, Valary_27, VanDeWege_27, Vivi2_30, Wizard_24, YungMoney_26,

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

- Affeca_26, Angelicage_26, Ashertheman_28, Bibwit_27, Charming_28, Fitzgerald_26, Fosterous_26, Galadriel_28, Gustavo_27, JKSyngboy_25, Jabberwocky_26, Kamashten_27, Kewpiedoll_27, Kroos_28, Lennon_28, Love_31, MoontowerMania_27, Paries_30, Ribeye_28, Rofo_28, Sanjuju_26, Saronaya_27, Sedona_28, Shivanishola_29, Stultus_26, Tangent_28, Tangerine_27, Thing3_27, Tycho_27, YorkOnyx_28,

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

- APunk_29, Abblin_28, Ali17_24, Belphegor_26, Chickadee_25, Delrey21_27, Dxdert_26, DoctorFroggo_27, EMOore_24, EdmundFerry_24, GTE6_25, Hans_28, Inspectinfecti_27, Kwekel_25, Leonard_26, MelBins_27, Natkenzie_28, Phauci_19,

Phinally_26, RoadKill_23, Sampson_28, Scioto_28, Tardus_29, Tiamoceli_26, Twonlo_23, Verity_27, ViaConlectus_28, Zipp_27, Zitch_29,

Summary by start number:

Start 18:

- Found in 20 of 114 (17.5%) of genes in pham
- Manual Annotations of this start: 16 of 98
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk_29 (DE4), Abblin_28 (DE4), Chickadee_25 (DE3), Delrey21_27 (DE4), Dexdert_26 (DE3), DoctorFroggo_27 (DE4), EdmundFerry_24 (DE3), GTE6_25 (DE3), Kwekel_25 (DE3), Natkenzie_28 (DE4), RoadKill_23 (DE3), Sampson_28 (DE4), Scioto_28 (DE4), Tardus_29 (DE4), Tiamoceli_26 (DE3), Twonlo_23 (DE3), Verity_27 (DE4), ViaConlectus_28 (DE4), Zipp_27 (DE4), Zitch_29 (DE4),

Start 19:

- Found in 9 of 114 (7.9%) of genes in pham
- Manual Annotations of this start: 7 of 98
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Ali17_24 (DE2), Belphegor_26 (DE), Hans_28 (DE2), Inspectinfecti_27 (DE2), Leonard_26 (DE2), MelBins_27 (DE2), Phauci_19 (DE2), Phinally_26 (DE2),

Start 20:

- Found in 85 of 114 (74.6%) of genes in pham
- Manual Annotations of this start: 48 of 98
- Called 64.7% of time when present
- Phage (with cluster) where this start called: Ailee_26 (DE1), Arri_27 (DC1), Baddon_27 (DE1), Bakery_25 (DC1), Barb_26 (DC1), Barsten_28 (DE1), Baumdotcom_27 (DE1), Bizzy_28 (DE1), BobBob_25 (DE1), Brandonk123_29 (DE1), ChadMasterC_28 (DE1), ClamChowder_26 (DC1), Clown_28 (DC2), CoveyB_27 (DC1), Danyall_26 (DC1), Derg_25 (DE1), Evamon_24 (DC1), Fireball_25 (DC1), Flatwoods_28 (DE1), Fugax_26 (DC1), Gaea_27 (DE1), Geodirt_25 (DE1), Gezellig_25 (DC1), Halo3_25 (DC1), Jambalaya_24 (DC1), Keitabear_28 (DE1), KimmyK_26 (DC1), Kwobi_28 (DE1), LilHam_25 (DE1), Lilbeanie_23 (DE5), McKinley_30 (DE1), Mutzi_26 (DC1), Nordenberg_22 (DE1), Nubi_24 (DC1), Phlop_24 (DC1), PinkCoffee_26 (DC1), Portcullis_24 (DC1), PullumCavea_24 (DC1), RiverRaider_28 (DE1), RogerDodger_27 (DC1), Salvador_24 (DC1), Savbucketdawg_24 (DC1), SchottB_26 (DE1), Shinji_24 (DC1), Sitar_28 (DE1), SmokingBunny_24 (DC1), StorminNorm_27 (DE1), TillyBobJoe_24 (DC1), Togo_24 (DC1), Twister6_26 (DC1), Valary_27 (DC1), VanDeWege_27 (DC1), Vivi2_30 (DE1), Wizard_24 (DC1), YungMoney_26 (DC1),

Start 21:

- Found in 52 of 114 (45.6%) of genes in pham
- Manual Annotations of this start: 26 of 98
- Called 57.7% of time when present
- Phage (with cluster) where this start called: Affeca_26 (DE1), Angelicage_26 (DE1), Ashertheman_28 (DE1), Bibwit_27 (DE1), Charming_28 (DE1), Fitzgerald_26 (DE1), Fosterous_26 (DE1), Galadriel_28 (DE1), Gustavo_27 (DE1), JKSyngboy_25 (DE1), Jabberwocky_26 (DE1), Kamashten_27 (DE1), Kewpiedoll_27 (DE1), Kroos_28 (DE1), Lennon_28 (DE1), Love_31 (DE1), MoontowerMania_27 (DE1), Paries_30

(DE1), Ribeye_28 (DE1), Rofo_28 (DE1), Sanjuju_26 (DE1), Saronaya_27 (DE1), Sedona_28 (DE1), Shivanishola_29 (DE1), Stultus_26 (DE1), Tangent_28 (DE1), Tangerine_27 (DE1), Thing3_27 (DE1), Tycho_27 (DE1), YorkOnyx_28 (DE1),

Start 22:

- Found in 30 of 114 (26.3%) of genes in pham
- Manual Annotations of this start: 1 of 98
- Called 3.3% of time when present
- Phage (with cluster) where this start called: EMoore_24 (DE2),

Summary by clusters:

There are 8 clusters represented in this pham: DE, DE1, DE2, DE3, DE4, DE5, DC2, DC1,

Info for manual annotations of cluster DC1:

- Start number 20 was manually annotated 28 times for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 20 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DE1:

- Start number 20 was manually annotated 18 times for cluster DE1.
- Start number 21 was manually annotated 26 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 19 was manually annotated 7 times for cluster DE2.
- Start number 22 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 18 was manually annotated 7 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 18 was manually annotated 9 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 20 was manually annotated 1 time for cluster DE5.

Gene Information:

Gene: APunk_29 Start: 21390, Stop: 21947, Start Num: 18

Candidate Starts for APunk_29:

(Start: 18 @21390 has 16 MA's), (25, 21468), (30, 21504), (31, 21507), (48, 21651), (49, 21669), (53, 21711), (55, 21735), (62, 21807), (64, 21813), (69, 21834), (78, 21900), (81, 21921),

Gene: Abblin_28 Start: 22002, Stop: 22559, Start Num: 18

Candidate Starts for Abblin_28:

(Start: 18 @22002 has 16 MA's), (25, 22080), (30, 22116), (31, 22119), (48, 22263), (49, 22281), (53, 22323), (55, 22347), (62, 22419), (64, 22425), (69, 22446), (78, 22512), (81, 22533),

Gene: Affeca_26 Start: 21919, Stop: 22467, Start Num: 21

Candidate Starts for Affeca_26:

(2, 21196), (3, 21238), (4, 21256), (14, 21565), (15, 21613), (16, 21715), (17, 21826), (Start: 20 @21916 has 48 MA's), (Start: 21 @21919 has 26 MA's), (Start: 22 @21940 has 1 MA's), (27, 21997), (32, 22018), (41, 22069), (42, 22096), (45, 22138), (48, 22156), (52, 22213), (55, 22240), (59, 22276), (64, 22318), (66, 22324), (68, 22333), (70, 22342), (80, 22423), (81, 22429),

Gene: Ailee_26 Start: 22628, Stop: 23176, Start Num: 20

Candidate Starts for Ailee_26:

(15, 22325), (16, 22427), (17, 22538), (Start: 20 @22628 has 48 MA's), (Start: 21 @22631 has 26 MA's), (27, 22709), (32, 22730), (37, 22766), (41, 22781), (44, 22835), (45, 22850), (48, 22868), (52, 22925), (55, 22952), (59, 22988), (64, 23030), (66, 23036), (68, 23045), (70, 23054), (80, 23135), (81, 23141),

Gene: Ali17_24 Start: 19765, Stop: 20319, Start Num: 19

Candidate Starts for Ali17_24:

(Start: 19 @19765 has 7 MA's), (Start: 22 @19795 has 1 MA's), (23, 19807), (29, 19864), (31, 19870), (33, 19888), (45, 19996), (48, 20014), (64, 20182), (68, 20197), (69, 20203), (75, 20248), (78, 20272),

Gene: Angelicage_26 Start: 22339, Stop: 22884, Start Num: 21

Candidate Starts for Angelicage_26:

(16, 22135), (17, 22246), (Start: 20 @22336 has 48 MA's), (Start: 21 @22339 has 26 MA's), (Start: 22 @22360 has 1 MA's), (27, 22417), (29, 22429), (32, 22438), (41, 22489), (45, 22558), (48, 22576), (52, 22633), (55, 22660), (59, 22696), (64, 22738), (66, 22744), (68, 22753), (70, 22762), (80, 22843), (81, 22849),

Gene: Arri_27 Start: 17393, Stop: 17929, Start Num: 20

Candidate Starts for Arri_27:

(12, 16931), (14, 17048), (16, 17198), (17, 17309), (Start: 20 @17393 has 48 MA's), (29, 17486), (31, 17492), (33, 17516), (34, 17519), (35, 17525), (46, 17630), (47, 17636), (48, 17642), (54, 17696), (58, 17738), (72, 17849), (73, 17855), (81, 17903),

Gene: Ashertheman_28 Start: 21231, Stop: 21773, Start Num: 21

Candidate Starts for Ashertheman_28:

(14, 20883), (15, 20931), (16, 21033), (17, 21144), (Start: 20 @21228 has 48 MA's), (Start: 21 @21231 has 26 MA's), (27, 21309), (29, 21321), (31, 21327), (32, 21330), (37, 21366), (45, 21447), (48, 21465), (64, 21627), (68, 21642), (81, 21738),

Gene: Baddon_27 Start: 22040, Stop: 22585, Start Num: 20

Candidate Starts for Baddon_27:

(3, 21368), (4, 21386), (15, 21743), (16, 21845), (17, 21956), (Start: 20 @22040 has 48 MA's), (Start: 21 @22043 has 26 MA's), (27, 22121), (29, 22133), (31, 22139), (32, 22142), (37, 22178), (45, 22259), (48, 22277), (60, 22415), (64, 22439), (68, 22454), (81, 22550),

Gene: Bakery_25 Start: 16581, Stop: 17117, Start Num: 20

Candidate Starts for Bakery_25:

(17, 16497), (Start: 20 @16581 has 48 MA's), (29, 16674), (31, 16680), (33, 16704), (34, 16707), (35, 16713), (46, 16818), (47, 16824), (48, 16830), (58, 16926), (72, 17037), (73, 17043), (81, 17091),

Gene: Barb_26 Start: 17426, Stop: 17962, Start Num: 20

Candidate Starts for Barb_26:

(12, 16964), (14, 17081), (16, 17231), (17, 17342), (Start: 20 @17426 has 48 MA's), (26, 17489), (29, 17519), (31, 17525), (33, 17549), (34, 17552), (35, 17558), (38, 17576), (46, 17663), (47, 17669), (48,

17675), (58, 17771), (72, 17882), (73, 17888), (81, 17936),

Gene: Barsten_28 Start: 21760, Stop: 22308, Start Num: 20

Candidate Starts for Barsten_28:

(2, 21040), (3, 21082), (4, 21100), (14, 21409), (15, 21457), (16, 21559), (17, 21670), (Start: 20 @21760 has 48 MA's), (Start: 21 @21763 has 26 MA's), (27, 21841), (32, 21862), (41, 21913), (42, 21940), (45, 21982), (48, 22000), (52, 22057), (55, 22084), (59, 22120), (64, 22162), (66, 22168), (68, 22177), (70, 22186), (80, 22267), (81, 22273),

Gene: Baumdotcom_27 Start: 20843, Stop: 21388, Start Num: 20

Candidate Starts for Baumdotcom_27:

(14, 20498), (15, 20546), (16, 20648), (17, 20759), (Start: 20 @20843 has 48 MA's), (Start: 21 @20846 has 26 MA's), (27, 20924), (29, 20936), (31, 20942), (32, 20945), (37, 20981), (45, 21062), (48, 21080), (64, 21242), (68, 21257), (81, 21353),

Gene: Belphegor_26 Start: 21314, Stop: 21868, Start Num: 19

Candidate Starts for Belphegor_26:

(Start: 19 @21314 has 7 MA's), (Start: 22 @21344 has 1 MA's), (23, 21356), (25, 21380), (29, 21413), (31, 21419), (33, 21437), (45, 21545), (48, 21563), (53, 21629), (64, 21731), (68, 21746), (69, 21752), (75, 21797), (78, 21821),

Gene: Bibwit_27 Start: 21950, Stop: 22495, Start Num: 21

Candidate Starts for Bibwit_27:

(2, 21227), (3, 21269), (4, 21287), (14, 21596), (15, 21644), (16, 21746), (17, 21857), (Start: 20 @21947 has 48 MA's), (Start: 21 @21950 has 26 MA's), (Start: 22 @21971 has 1 MA's), (29, 22040), (32, 22049), (41, 22100), (45, 22169), (48, 22187), (52, 22244), (55, 22271), (59, 22307), (64, 22349), (66, 22355), (68, 22364), (70, 22373), (80, 22454), (81, 22460),

Gene: Bizzy_28 Start: 21187, Stop: 21732, Start Num: 20

Candidate Starts for Bizzy_28:

(3, 20515), (4, 20533), (15, 20890), (16, 20992), (17, 21103), (Start: 20 @21187 has 48 MA's), (Start: 21 @21190 has 26 MA's), (27, 21268), (29, 21280), (31, 21286), (32, 21289), (37, 21325), (45, 21406), (48, 21424), (60, 21562), (64, 21586), (68, 21601), (81, 21697),

Gene: BobBob_25 Start: 21225, Stop: 21773, Start Num: 20

Candidate Starts for BobBob_25:

(2, 20505), (3, 20547), (4, 20565), (14, 20874), (15, 20922), (16, 21024), (17, 21135), (Start: 20 @21225 has 48 MA's), (Start: 21 @21228 has 26 MA's), (27, 21306), (32, 21327), (41, 21378), (42, 21405), (45, 21447), (48, 21465), (55, 21549), (59, 21585), (64, 21627), (66, 21633), (68, 21642), (70, 21651), (80, 21732), (81, 21738),

Gene: Brandonk123_29 Start: 22294, Stop: 22842, Start Num: 20

Candidate Starts for Brandonk123_29:

(2, 21574), (3, 21616), (4, 21634), (14, 21943), (15, 21991), (16, 22093), (17, 22204), (Start: 20 @22294 has 48 MA's), (Start: 21 @22297 has 26 MA's), (27, 22375), (32, 22396), (41, 22447), (45, 22516), (48, 22534), (52, 22591), (55, 22618), (59, 22654), (64, 22696), (66, 22702), (68, 22711), (70, 22720), (80, 22801), (81, 22807),

Gene: ChadMasterC_28 Start: 22952, Stop: 23500, Start Num: 20

Candidate Starts for ChadMasterC_28:

(2, 22232), (3, 22274), (4, 22292), (14, 22601), (15, 22649), (16, 22751), (17, 22862), (Start: 20 @22952 has 48 MA's), (Start: 21 @22955 has 26 MA's), (27, 23033), (32, 23054), (41, 23105), (42, 23132), (45, 23174), (48, 23192), (52, 23249), (55, 23276), (59, 23312), (64, 23354), (66, 23360), (68,

23369), (70, 23378), (80, 23459), (81, 23465),

Gene: Charming_28 Start: 21806, Stop: 22351, Start Num: 21

Candidate Starts for Charming_28:

(14, 21452), (15, 21500), (16, 21602), (17, 21713), (Start: 20 @21803 has 48 MA's), (Start: 21 @21806 has 26 MA's), (27, 21884), (32, 21905), (41, 21956), (42, 21983), (45, 22025), (48, 22043), (55, 22127), (59, 22163), (64, 22205), (66, 22211), (68, 22220), (70, 22229), (80, 22310), (81, 22316),

Gene: Chickadee_25 Start: 18756, Stop: 19319, Start Num: 18

Candidate Starts for Chickadee_25:

(17, 18675), (Start: 18 @18756 has 16 MA's), (Start: 22 @18798 has 1 MA's), (31, 18873), (32, 18876), (40, 18924), (43, 18972), (45, 18999), (48, 19017), (51, 19071), (61, 19164), (64, 19179), (68, 19194), (80, 19284), (81, 19290),

Gene: ClamChowder_26 Start: 17426, Stop: 17962, Start Num: 20

Candidate Starts for ClamChowder_26:

(12, 16964), (14, 17081), (16, 17231), (17, 17342), (Start: 20 @17426 has 48 MA's), (26, 17489), (29, 17519), (31, 17525), (33, 17549), (34, 17552), (35, 17558), (38, 17576), (46, 17663), (47, 17669), (48, 17675), (58, 17771), (72, 17882), (73, 17888), (81, 17936),

Gene: Clown_28 Start: 19350, Stop: 19904, Start Num: 20

Candidate Starts for Clown_28:

(17, 19272), (Start: 20 @19350 has 48 MA's), (31, 19449), (37, 19494), (38, 19500), (47, 19602), (48, 19608), (51, 19653), (58, 19704), (65, 19770), (67, 19779), (72, 19824), (76, 19836), (80, 19872), (81, 19878),

Gene: CoveyB_27 Start: 17226, Stop: 17762, Start Num: 20

Candidate Starts for CoveyB_27:

(12, 16764), (14, 16881), (16, 17031), (17, 17142), (Start: 20 @17226 has 48 MA's), (26, 17289), (29, 17319), (31, 17325), (33, 17349), (34, 17352), (35, 17358), (38, 17376), (46, 17463), (47, 17469), (48, 17475), (58, 17571), (72, 17682), (73, 17688), (81, 17736),

Gene: Danyall_26 Start: 17226, Stop: 17762, Start Num: 20

Candidate Starts for Danyall_26:

(12, 16764), (14, 16881), (16, 17031), (17, 17142), (Start: 20 @17226 has 48 MA's), (26, 17289), (29, 17319), (31, 17325), (33, 17349), (34, 17352), (35, 17358), (38, 17376), (46, 17463), (47, 17469), (48, 17475), (58, 17571), (72, 17682), (73, 17688), (81, 17736),

Gene: Delrey21_27 Start: 22132, Stop: 22689, Start Num: 18

Candidate Starts for Delrey21_27:

(13, 21760), (14, 21787), (16, 21937), (17, 22048), (Start: 18 @22132 has 16 MA's), (25, 22210), (30, 22246), (48, 22393), (49, 22411), (53, 22453), (55, 22477), (58, 22498), (64, 22555), (69, 22576), (74, 22615), (78, 22642), (81, 22663),

Gene: Derg_25 Start: 20783, Stop: 21328, Start Num: 20

Candidate Starts for Derg_25:

(3, 20111), (4, 20129), (15, 20486), (16, 20588), (17, 20699), (Start: 20 @20783 has 48 MA's), (Start: 21 @20786 has 26 MA's), (27, 20864), (29, 20876), (31, 20882), (32, 20885), (37, 20921), (45, 21002), (48, 21020), (60, 21158), (64, 21182), (68, 21197), (81, 21293),

Gene: Dxdert_26 Start: 19196, Stop: 19759, Start Num: 18

Candidate Starts for Dxdert_26:

(17, 19115), (Start: 18 @19196 has 16 MA's), (26, 19277), (31, 19313), (32, 19316), (37, 19352), (40, 19364), (45, 19439), (46, 19445), (48, 19457), (49, 19475), (64, 19619), (68, 19634), (80, 19724),

Gene: DoctorFroggo_27 Start: 22132, Stop: 22689, Start Num: 18

Candidate Starts for DoctorFroggo_27:

(13, 21760), (14, 21787), (16, 21937), (17, 22048), (Start: 18 @22132 has 16 MA's), (25, 22210), (30, 22246), (48, 22393), (49, 22411), (53, 22453), (55, 22477), (58, 22498), (64, 22555), (69, 22576), (74, 22615), (78, 22642), (81, 22663),

Gene: EMoore_24 Start: 20639, Stop: 21163, Start Num: 22

Candidate Starts for EMoore_24:

(Start: 19 @20609 has 7 MA's), (Start: 21 @20618 has 26 MA's), (Start: 22 @20639 has 1 MA's), (23, 20651), (28, 20699), (29, 20708), (31, 20714), (43, 20813), (45, 20840), (48, 20858), (50, 20903), (64, 21026), (68, 21041), (69, 21047), (75, 21092), (78, 21116), (81, 21137),

Gene: EdmundFerry_24 Start: 18785, Stop: 19348, Start Num: 18

Candidate Starts for EdmundFerry_24:

(17, 18704), (Start: 18 @18785 has 16 MA's), (Start: 22 @18827 has 1 MA's), (31, 18902), (32, 18905), (40, 18953), (43, 19001), (45, 19028), (48, 19046), (51, 19100), (61, 19193), (64, 19208), (68, 19223), (80, 19313), (81, 19319),

Gene: Evamon_24 Start: 16712, Stop: 17248, Start Num: 20

Candidate Starts for Evamon_24:

(12, 16250), (14, 16367), (16, 16517), (17, 16628), (Start: 20 @16712 has 48 MA's), (26, 16775), (29, 16805), (33, 16835), (34, 16838), (35, 16844), (38, 16862), (46, 16949), (47, 16955), (48, 16961), (58, 17057), (72, 17168), (73, 17174), (81, 17222),

Gene: Fireball_25 Start: 16844, Stop: 17380, Start Num: 20

Candidate Starts for Fireball_25:

(16, 16649), (17, 16760), (Start: 20 @16844 has 48 MA's), (26, 16907), (29, 16937), (33, 16967), (34, 16970), (35, 16976), (38, 16994), (46, 17081), (47, 17087), (48, 17093), (58, 17189), (72, 17300), (73, 17306), (81, 17354),

Gene: Fitzgerald_26 Start: 22386, Stop: 22934, Start Num: 21

Candidate Starts for Fitzgerald_26:

(2, 21663), (3, 21705), (4, 21723), (14, 22032), (15, 22080), (16, 22182), (17, 22293), (Start: 20 @22383 has 48 MA's), (Start: 21 @22386 has 26 MA's), (27, 22464), (29, 22476), (32, 22485), (37, 22521), (41, 22536), (42, 22563), (45, 22605), (48, 22623), (52, 22680), (55, 22707), (59, 22743), (64, 22785), (66, 22791), (68, 22800), (70, 22809), (80, 22890), (81, 22896),

Gene: Flatwoods_28 Start: 21144, Stop: 21689, Start Num: 20

Candidate Starts for Flatwoods_28:

(3, 20472), (4, 20490), (15, 20847), (16, 20949), (17, 21060), (Start: 20 @21144 has 48 MA's), (Start: 21 @21147 has 26 MA's), (27, 21225), (29, 21237), (31, 21243), (32, 21246), (37, 21282), (45, 21363), (48, 21381), (60, 21519), (64, 21543), (68, 21558), (81, 21654),

Gene: Fosterous_26 Start: 22219, Stop: 22767, Start Num: 21

Candidate Starts for Fosterous_26:

(15, 21913), (16, 22015), (17, 22126), (Start: 20 @22216 has 48 MA's), (Start: 21 @22219 has 26 MA's), (29, 22309), (32, 22318), (41, 22369), (42, 22396), (45, 22438), (48, 22456), (52, 22513), (55, 22540), (59, 22576), (64, 22618), (66, 22624), (68, 22633), (70, 22642), (80, 22723), (81, 22729),

Gene: Fugax_26 Start: 17426, Stop: 17962, Start Num: 20

Candidate Starts for Fugax_26:

(12, 16964), (14, 17081), (16, 17231), (17, 17342), (Start: 20 @17426 has 48 MA's), (26, 17489), (29, 17519), (31, 17525), (33, 17549), (34, 17552), (35, 17558), (38, 17576), (46, 17663), (47, 17669), (48, 17675), (58, 17771), (72, 17882), (73, 17888), (81, 17936),

Gene: GTE6_25 Start: 19274, Stop: 19837, Start Num: 18

Candidate Starts for GTE6_25:

(17, 19193), (Start: 18 @19274 has 16 MA's), (Start: 22 @19316 has 1 MA's), (31, 19391), (32, 19394), (40, 19442), (43, 19490), (45, 19517), (48, 19535), (51, 19589), (57, 19637), (61, 19682), (64, 19697), (68, 19712), (80, 19802), (81, 19808),

Gene: Gaea_27 Start: 20795, Stop: 21340, Start Num: 20

Candidate Starts for Gaea_27:

(2, 20081), (3, 20123), (4, 20141), (15, 20498), (16, 20600), (17, 20711), (Start: 20 @20795 has 48 MA's), (Start: 21 @20798 has 26 MA's), (27, 20876), (29, 20888), (31, 20894), (32, 20897), (37, 20933), (45, 21014), (48, 21032), (60, 21170), (64, 21194), (68, 21209), (81, 21305),

Gene: Galadriel_28 Start: 22711, Stop: 23256, Start Num: 21

Candidate Starts for Galadriel_28:

(2, 21988), (3, 22030), (4, 22048), (14, 22357), (15, 22405), (16, 22507), (17, 22618), (Start: 20 @22708 has 48 MA's), (Start: 21 @22711 has 26 MA's), (27, 22789), (32, 22810), (41, 22861), (42, 22888), (45, 22930), (48, 22948), (55, 23032), (59, 23068), (64, 23110), (66, 23116), (68, 23125), (70, 23134), (80, 23215), (81, 23221),

Gene: Geodirt_25 Start: 21691, Stop: 22239, Start Num: 20

Candidate Starts for Geodirt_25:

(2, 20971), (3, 21013), (4, 21031), (14, 21340), (15, 21388), (16, 21490), (17, 21601), (Start: 20 @21691 has 48 MA's), (Start: 21 @21694 has 26 MA's), (Start: 22 @21715 has 1 MA's), (27, 21772), (32, 21793), (41, 21844), (42, 21871), (45, 21913), (48, 21931), (52, 21988), (55, 22015), (59, 22051), (64, 22093), (66, 22099), (68, 22108), (70, 22117), (80, 22198), (81, 22204),

Gene: Gezellig_25 Start: 16844, Stop: 17380, Start Num: 20

Candidate Starts for Gezellig_25:

(12, 16382), (14, 16499), (16, 16649), (17, 16760), (Start: 20 @16844 has 48 MA's), (26, 16907), (29, 16937), (33, 16967), (34, 16970), (35, 16976), (38, 16994), (46, 17081), (47, 17087), (48, 17093), (58, 17189), (72, 17300), (73, 17306), (81, 17354),

Gene: Gustavo_27 Start: 20938, Stop: 21480, Start Num: 21

Candidate Starts for Gustavo_27:

(14, 20590), (15, 20638), (16, 20740), (17, 20851), (Start: 20 @20935 has 48 MA's), (Start: 21 @20938 has 26 MA's), (27, 21016), (29, 21028), (31, 21034), (32, 21037), (37, 21073), (45, 21154), (48, 21172), (64, 21334), (68, 21349), (81, 21445),

Gene: Halo3_25 Start: 17137, Stop: 17673, Start Num: 20

Candidate Starts for Halo3_25:

(12, 16675), (14, 16792), (16, 16942), (17, 17053), (Start: 20 @17137 has 48 MA's), (26, 17200), (29, 17230), (31, 17236), (33, 17260), (34, 17263), (35, 17269), (38, 17287), (46, 17374), (47, 17380), (48, 17386), (58, 17482), (72, 17593), (73, 17599), (81, 17647),

Gene: Hans_28 Start: 20427, Stop: 20981, Start Num: 19

Candidate Starts for Hans_28:

(Start: 19 @20427 has 7 MA's), (Start: 22 @20457 has 1 MA's), (23, 20469), (29, 20526), (31, 20532), (33, 20550), (45, 20658), (48, 20676), (64, 20844), (68, 20859), (69, 20865), (75, 20910), (78, 20934),

Gene: Inspectinfecti_27 Start: 20851, Stop: 21405, Start Num: 19

Candidate Starts for Inspectinfecti_27:

(Start: 19 @20851 has 7 MA's), (Start: 22 @20881 has 1 MA's), (23, 20893), (29, 20950), (31, 20956), (33, 20974), (45, 21082), (48, 21100), (64, 21268), (68, 21283), (69, 21289), (75, 21334), (78, 21358),

Gene: JKSyngboy_25 Start: 21507, Stop: 22049, Start Num: 21

Candidate Starts for JKSyngboy_25:

(1, 20754), (2, 20790), (3, 20832), (4, 20850), (15, 21207), (16, 21309), (17, 21420), (Start: 20 @21504 has 48 MA's), (Start: 21 @21507 has 26 MA's), (27, 21585), (29, 21597), (31, 21603), (32, 21606), (37, 21642), (45, 21723), (48, 21741), (60, 21879), (64, 21903), (68, 21918), (81, 22014),

Gene: Jabberwocky_26 Start: 22853, Stop: 23398, Start Num: 21

Candidate Starts for Jabberwocky_26:

(2, 22130), (3, 22172), (4, 22190), (14, 22499), (15, 22547), (16, 22649), (17, 22760), (Start: 20 @22850 has 48 MA's), (Start: 21 @22853 has 26 MA's), (Start: 22 @22874 has 1 MA's), (27, 22931), (32, 22952), (41, 23003), (42, 23030), (45, 23072), (48, 23090), (52, 23147), (55, 23174), (59, 23210), (64, 23252), (66, 23258), (68, 23267), (70, 23276), (80, 23357), (81, 23363),

Gene: Jambalaya_24 Start: 16491, Stop: 17027, Start Num: 20

Candidate Starts for Jambalaya_24:

(12, 16029), (14, 16146), (16, 16296), (17, 16407), (Start: 20 @16491 has 48 MA's), (26, 16554), (29, 16584), (31, 16590), (33, 16614), (34, 16617), (35, 16623), (38, 16641), (46, 16728), (47, 16734), (48, 16740), (58, 16836), (72, 16947), (73, 16953), (81, 17001),

Gene: Kamashten_27 Start: 22299, Stop: 22844, Start Num: 21

Candidate Starts for Kamashten_27:

(2, 21576), (3, 21618), (4, 21636), (14, 21945), (15, 21993), (16, 22095), (17, 22206), (Start: 20 @22296 has 48 MA's), (Start: 21 @22299 has 26 MA's), (Start: 22 @22320 has 1 MA's), (27, 22377), (29, 22389), (32, 22398), (41, 22449), (42, 22476), (45, 22518), (48, 22536), (52, 22593), (55, 22620), (59, 22656), (64, 22698), (66, 22704), (68, 22713), (80, 22803), (81, 22809),

Gene: Keitabear_28 Start: 23652, Stop: 24200, Start Num: 20

Candidate Starts for Keitabear_28:

(14, 23301), (15, 23349), (16, 23451), (17, 23562), (Start: 20 @23652 has 48 MA's), (Start: 21 @23655 has 26 MA's), (27, 23733), (32, 23754), (36, 23784), (41, 23805), (42, 23832), (45, 23874), (48, 23892), (52, 23949), (55, 23976), (59, 24012), (64, 24054), (66, 24060), (68, 24069), (70, 24078), (80, 24159), (81, 24165),

Gene: Kewpiedoll_27 Start: 21496, Stop: 22041, Start Num: 21

Candidate Starts for Kewpiedoll_27:

(2, 20773), (3, 20815), (4, 20833), (14, 21142), (15, 21190), (16, 21292), (17, 21403), (Start: 20 @21493 has 48 MA's), (Start: 21 @21496 has 26 MA's), (27, 21574), (31, 21592), (32, 21595), (41, 21646), (42, 21673), (45, 21715), (48, 21733), (52, 21790), (55, 21817), (59, 21853), (64, 21895), (66, 21901), (68, 21910), (70, 21919), (80, 22000), (81, 22006),

Gene: KimmyK_26 Start: 17426, Stop: 17962, Start Num: 20

Candidate Starts for KimmyK_26:

(12, 16964), (14, 17081), (16, 17231), (17, 17342), (Start: 20 @17426 has 48 MA's), (26, 17489), (29, 17519), (31, 17525), (33, 17549), (34, 17552), (35, 17558), (38, 17576), (46, 17663), (47, 17669), (48, 17675), (58, 17771), (72, 17882), (73, 17888), (81, 17936),

Gene: Kroos_28 Start: 21691, Stop: 22233, Start Num: 21

Candidate Starts for Kroos_28:

(3, 21016), (4, 21034), (15, 21391), (16, 21493), (17, 21604), (Start: 20 @21688 has 48 MA's), (Start: 21 @21691 has 26 MA's), (27, 21769), (29, 21781), (31, 21787), (32, 21790), (37, 21826), (45, 21907), (48, 21925), (60, 22063), (64, 22087), (68, 22102), (81, 22198),

Gene: Kwekel_25 Start: 18715, Stop: 19278, Start Num: 18

Candidate Starts for Kwekel_25:

(17, 18634), (Start: 18 @18715 has 16 MA's), (26, 18796), (31, 18832), (32, 18835), (37, 18871), (40, 18883), (45, 18958), (46, 18964), (48, 18976), (49, 18994), (64, 19138), (68, 19153), (80, 19243),

Gene: Kwobi_28 Start: 21674, Stop: 22219, Start Num: 20

Candidate Starts for Kwobi_28:

(14, 21329), (15, 21377), (16, 21479), (17, 21590), (Start: 20 @21674 has 48 MA's), (Start: 21 @21677 has 26 MA's), (27, 21755), (29, 21767), (31, 21773), (32, 21776), (37, 21812), (45, 21893), (48, 21911), (64, 22073), (68, 22088), (81, 22184),

Gene: Lennon_28 Start: 23454, Stop: 24002, Start Num: 21

Candidate Starts for Lennon_28:

(2, 22731), (3, 22773), (4, 22791), (14, 23100), (15, 23148), (16, 23250), (17, 23361), (Start: 20 @23451 has 48 MA's), (Start: 21 @23454 has 26 MA's), (Start: 22 @23475 has 1 MA's), (29, 23544), (32, 23553), (41, 23604), (45, 23673), (48, 23691), (52, 23748), (55, 23775), (59, 23811), (64, 23853), (66, 23859), (68, 23868), (70, 23877), (80, 23958), (81, 23964),

Gene: Leonard_26 Start: 20425, Stop: 20979, Start Num: 19

Candidate Starts for Leonard_26:

(Start: 19 @20425 has 7 MA's), (Start: 22 @20455 has 1 MA's), (23, 20467), (29, 20524), (31, 20530), (33, 20548), (45, 20656), (48, 20674), (64, 20842), (68, 20857), (69, 20863), (75, 20908), (78, 20932),

Gene: LilHam_25 Start: 20268, Stop: 20813, Start Num: 20

Candidate Starts for LilHam_25:

(14, 19923), (15, 19971), (16, 20073), (17, 20184), (Start: 20 @20268 has 48 MA's), (Start: 21 @20271 has 26 MA's), (27, 20349), (29, 20361), (31, 20367), (32, 20370), (37, 20406), (45, 20487), (48, 20505), (64, 20667), (68, 20682), (81, 20778),

Gene: Lilbeanie_23 Start: 15700, Stop: 16221, Start Num: 20

Candidate Starts for Lilbeanie_23:

(17, 15625), (Start: 20 @15700 has 48 MA's), (Start: 22 @15724 has 1 MA's), (24, 15748), (27, 15781), (31, 15799), (34, 15823), (48, 15934), (56, 16021), (58, 16030), (59, 16045), (63, 16078), (71, 16111), (74, 16141), (76, 16147), (77, 16153), (79, 16180), (80, 16183),

Gene: Love_31 Start: 23221, Stop: 23766, Start Num: 21

Candidate Starts for Love_31:

(3, 22540), (4, 22558), (14, 22867), (15, 22915), (16, 23017), (17, 23128), (Start: 20 @23218 has 48 MA's), (Start: 21 @23221 has 26 MA's), (27, 23299), (32, 23320), (41, 23371), (42, 23398), (45, 23440), (48, 23458), (55, 23542), (59, 23578), (64, 23620), (66, 23626), (68, 23635), (70, 23644), (80, 23725), (81, 23731),

Gene: McKinley_30 Start: 23250, Stop: 23798, Start Num: 20

Candidate Starts for McKinley_30:

(2, 22530), (3, 22572), (4, 22590), (14, 22899), (15, 22947), (16, 23049), (17, 23160), (Start: 20 @23250 has 48 MA's), (Start: 21 @23253 has 26 MA's), (27, 23331), (32, 23352), (41, 23403), (42, 23430), (45, 23472), (48, 23490), (55, 23574), (59, 23610), (64, 23652), (66, 23658), (68, 23667), (70, 23676), (80, 23757), (81, 23763),

Gene: MelBins_27 Start: 20633, Stop: 21187, Start Num: 19

Candidate Starts for MelBins_27:

(Start: 19 @20633 has 7 MA's), (Start: 22 @20663 has 1 MA's), (23, 20675), (29, 20732), (33, 20756), (45, 20864), (48, 20882), (64, 21050), (68, 21065), (69, 21071), (75, 21116), (78, 21140),

Gene: MoontowerMania_27 Start: 22061, Stop: 22609, Start Num: 21

Candidate Starts for MoontowerMania_27:

(2, 21338), (3, 21380), (4, 21398), (14, 21707), (15, 21755), (16, 21857), (17, 21968), (Start: 20 @22058 has 48 MA's), (Start: 21 @22061 has 26 MA's), (Start: 22 @22082 has 1 MA's), (27, 22139), (29, 22151), (32, 22160), (37, 22196), (41, 22211), (42, 22238), (45, 22280), (48, 22298), (52, 22355), (55, 22382), (59, 22418), (64, 22460), (66, 22466), (68, 22475), (70, 22484), (80, 22565), (81, 22571),

Gene: Mutzi_26 Start: 17080, Stop: 17625, Start Num: 20

Candidate Starts for Mutzi_26:

(5, 16468), (6, 16528), (7, 16531), (9, 16573), (11, 16579), (12, 16618), (14, 16735), (16, 16885), (17, 16996), (Start: 20 @17080 has 48 MA's), (27, 17161), (29, 17173), (33, 17203), (34, 17206), (38, 17230), (46, 17317), (47, 17323), (48, 17329), (53, 17380), (58, 17425), (72, 17545), (73, 17551), (76, 17557), (81, 17599),

Gene: Natkenzie_28 Start: 22002, Stop: 22559, Start Num: 18

Candidate Starts for Natkenzie_28:

(Start: 18 @22002 has 16 MA's), (25, 22080), (30, 22116), (31, 22119), (48, 22263), (49, 22281), (53, 22323), (55, 22347), (62, 22419), (64, 22425), (69, 22446), (78, 22512), (81, 22533),

Gene: Nordenberg_22 Start: 21420, Stop: 21968, Start Num: 20

Candidate Starts for Nordenberg_22:

(2, 20700), (3, 20742), (4, 20760), (14, 21069), (15, 21117), (16, 21219), (17, 21330), (Start: 20 @21420 has 48 MA's), (Start: 21 @21423 has 26 MA's), (27, 21501), (32, 21522), (41, 21573), (42, 21600), (45, 21642), (48, 21660), (55, 21744), (59, 21780), (64, 21822), (66, 21828), (68, 21837), (70, 21846), (80, 21927), (81, 21933),

Gene: Nubi_24 Start: 16732, Stop: 17268, Start Num: 20

Candidate Starts for Nubi_24:

(12, 16270), (14, 16387), (16, 16537), (17, 16648), (Start: 20 @16732 has 48 MA's), (26, 16795), (29, 16825), (33, 16855), (34, 16858), (35, 16864), (38, 16882), (46, 16969), (47, 16975), (48, 16981), (58, 17077), (72, 17188), (73, 17194), (81, 17242),

Gene: Paries_30 Start: 22880, Stop: 23425, Start Num: 21

Candidate Starts for Paries_30:

(2, 22157), (3, 22199), (4, 22217), (14, 22526), (15, 22574), (16, 22676), (17, 22787), (Start: 20 @22877 has 48 MA's), (Start: 21 @22880 has 26 MA's), (27, 22958), (29, 22970), (31, 22976), (32, 22979), (41, 23030), (42, 23057), (45, 23099), (48, 23117), (52, 23174), (55, 23201), (59, 23237), (64, 23279), (66, 23285), (68, 23294), (70, 23303), (80, 23384), (81, 23390),

Gene: Phauci_19 Start: 17014, Stop: 17568, Start Num: 19

Candidate Starts for Phauci_19:

(Start: 19 @17014 has 7 MA's), (Start: 22 @17044 has 1 MA's), (23, 17056), (29, 17113), (31, 17119), (33, 17137), (45, 17245), (48, 17263), (64, 17431), (68, 17446), (69, 17452), (75, 17497), (78, 17521),

Gene: Phinally_26 Start: 20422, Stop: 20976, Start Num: 19

Candidate Starts for Phinally_26:

(Start: 19 @20422 has 7 MA's), (Start: 22 @20452 has 1 MA's), (23, 20464), (29, 20521), (31, 20527), (33, 20545), (45, 20653), (48, 20671), (64, 20839), (68, 20854), (69, 20860), (75, 20905), (78, 20929),

Gene: Phlop_24 Start: 16796, Stop: 17332, Start Num: 20

Candidate Starts for Phlop_24:

(12, 16334), (14, 16451), (16, 16601), (17, 16712), (Start: 20 @16796 has 48 MA's), (26, 16859), (29, 16889), (33, 16919), (34, 16922), (35, 16928), (38, 16946), (46, 17033), (47, 17039), (48, 17045), (58, 17141), (72, 17252), (73, 17258), (81, 17306),

Gene: PinkCoffee_26 Start: 17435, Stop: 17971, Start Num: 20

Candidate Starts for PinkCoffee_26:

(12, 16973), (14, 17090), (16, 17240), (17, 17351), (Start: 20 @17435 has 48 MA's), (26, 17498), (29, 17528), (31, 17534), (33, 17558), (34, 17561), (35, 17567), (38, 17585), (46, 17672), (47, 17678), (48, 17684), (58, 17780), (72, 17891), (73, 17897), (81, 17945),

Gene: Portcullis_24 Start: 16739, Stop: 17275, Start Num: 20

Candidate Starts for Portcullis_24:

(12, 16277), (14, 16394), (16, 16544), (17, 16655), (Start: 20 @16739 has 48 MA's), (26, 16802), (29, 16832), (33, 16862), (34, 16865), (35, 16871), (38, 16889), (46, 16976), (47, 16982), (48, 16988), (58, 17084), (72, 17195), (73, 17201), (81, 17249),

Gene: PullumCavea_24 Start: 16796, Stop: 17332, Start Num: 20

Candidate Starts for PullumCavea_24:

(12, 16334), (14, 16451), (16, 16601), (17, 16712), (Start: 20 @16796 has 48 MA's), (26, 16859), (29, 16889), (33, 16919), (34, 16922), (35, 16928), (38, 16946), (46, 17033), (47, 17039), (48, 17045), (58, 17141), (72, 17252), (73, 17258), (81, 17306),

Gene: Ribeye_28 Start: 22104, Stop: 22646, Start Num: 21

Candidate Starts for Ribeye_28:

(3, 21429), (4, 21447), (15, 21804), (16, 21906), (17, 22017), (Start: 20 @22101 has 48 MA's), (Start: 21 @22104 has 26 MA's), (27, 22182), (29, 22194), (31, 22200), (32, 22203), (37, 22239), (45, 22320), (48, 22338), (60, 22476), (64, 22500), (68, 22515), (81, 22611),

Gene: RiverRaider_28 Start: 20482, Stop: 21030, Start Num: 20

Candidate Starts for RiverRaider_28:

(17, 20392), (Start: 20 @20482 has 48 MA's), (Start: 22 @20506 has 1 MA's), (32, 20584), (37, 20620), (39, 20629), (45, 20701), (46, 20707), (48, 20719), (64, 20881), (68, 20896), (80, 20986), (81, 20992),

Gene: RoadKill_23 Start: 18262, Stop: 18825, Start Num: 18

Candidate Starts for RoadKill_23:

(17, 18181), (Start: 18 @18262 has 16 MA's), (31, 18379), (32, 18382), (40, 18430), (43, 18478), (45, 18505), (48, 18523), (51, 18577), (61, 18670), (64, 18685), (68, 18700), (80, 18790), (81, 18796),

Gene: Rofo_28 Start: 22284, Stop: 22829, Start Num: 21

Candidate Starts for Rofo_28:

(2, 21561), (3, 21603), (4, 21621), (14, 21930), (15, 21978), (16, 22080), (17, 22191), (Start: 20 @22281 has 48 MA's), (Start: 21 @22284 has 26 MA's), (27, 22362), (32, 22383), (41, 22434), (42, 22461), (45, 22503), (48, 22521), (55, 22605), (59, 22641), (64, 22683), (66, 22689), (68, 22698), (70, 22707), (80, 22788), (81, 22794),

Gene: RogerDodger_27 Start: 17589, Stop: 18125, Start Num: 20

Candidate Starts for RogerDodger_27:

(12, 17127), (14, 17244), (16, 17394), (17, 17505), (Start: 20 @17589 has 48 MA's), (29, 17682), (31, 17688), (33, 17712), (34, 17715), (35, 17721), (46, 17826), (47, 17832), (48, 17838), (54, 17892), (58, 17934), (72, 18045), (73, 18051), (81, 18099),

Gene: Salvador_24 Start: 16710, Stop: 17246, Start Num: 20

Candidate Starts for Salvador_24:

(12, 16248), (14, 16365), (16, 16515), (17, 16626), (Start: 20 @16710 has 48 MA's), (26, 16773), (29, 16803), (33, 16833), (34, 16836), (35, 16842), (38, 16860), (46, 16947), (47, 16953), (48, 16959), (58, 17055), (72, 17166), (73, 17172), (81, 17220),

Gene: Sampson_28 Start: 21947, Stop: 22504, Start Num: 18

Candidate Starts for Sampson_28:

(Start: 18 @21947 has 16 MA's), (25, 22025), (30, 22061), (31, 22064), (48, 22208), (49, 22226), (53, 22268), (55, 22292), (62, 22364), (64, 22370), (69, 22391), (78, 22457), (81, 22478),

Gene: Sanjuju_26 Start: 22465, Stop: 23010, Start Num: 21

Candidate Starts for Sanjuju_26:

(2, 21742), (3, 21784), (4, 21802), (14, 22111), (15, 22159), (16, 22261), (17, 22372), (Start: 20 @22462 has 48 MA's), (Start: 21 @22465 has 26 MA's), (Start: 22 @22486 has 1 MA's), (27, 22543), (32, 22564), (41, 22615), (42, 22642), (45, 22684), (48, 22702), (52, 22759), (55, 22786), (59, 22822), (64, 22864), (66, 22870), (68, 22879), (70, 22888), (80, 22969), (81, 22975),

Gene: Saronaya_27 Start: 20938, Stop: 21480, Start Num: 21

Candidate Starts for Saronaya_27:

(14, 20590), (15, 20638), (16, 20740), (17, 20851), (Start: 20 @20935 has 48 MA's), (Start: 21 @20938 has 26 MA's), (27, 21016), (29, 21028), (31, 21034), (32, 21037), (37, 21073), (45, 21154), (48, 21172), (64, 21334), (68, 21349), (81, 21445),

Gene: Savbucketdawg_24 Start: 16491, Stop: 17027, Start Num: 20

Candidate Starts for Savbucketdawg_24:

(12, 16029), (14, 16146), (16, 16296), (17, 16407), (Start: 20 @16491 has 48 MA's), (26, 16554), (29, 16584), (31, 16590), (33, 16614), (34, 16617), (35, 16623), (38, 16641), (46, 16728), (47, 16734), (48, 16740), (58, 16836), (72, 16947), (73, 16953), (81, 17001),

Gene: SchottB_26 Start: 21947, Stop: 22492, Start Num: 20

Candidate Starts for SchottB_26:

(14, 21602), (15, 21650), (16, 21752), (17, 21863), (Start: 20 @21947 has 48 MA's), (Start: 21 @21950 has 26 MA's), (27, 22028), (29, 22040), (31, 22046), (32, 22049), (37, 22085), (45, 22166), (48, 22184), (64, 22346), (68, 22361), (81, 22457),

Gene: Scioto_28 Start: 22002, Stop: 22559, Start Num: 18

Candidate Starts for Scioto_28:

(Start: 18 @22002 has 16 MA's), (25, 22080), (30, 22116), (31, 22119), (48, 22263), (49, 22281), (53, 22323), (55, 22347), (62, 22419), (64, 22425), (69, 22446), (78, 22512), (81, 22533),

Gene: Sedona_28 Start: 23390, Stop: 23935, Start Num: 21

Candidate Starts for Sedona_28:

(2, 22667), (3, 22709), (4, 22727), (14, 23036), (15, 23084), (16, 23186), (17, 23297), (Start: 20 @23387 has 48 MA's), (Start: 21 @23390 has 26 MA's), (Start: 22 @23411 has 1 MA's), (29, 23480), (32, 23489), (41, 23540), (45, 23609), (48, 23627), (52, 23684), (55, 23711), (59, 23747), (64, 23789), (66, 23795), (68, 23804), (70, 23813), (80, 23894), (81, 23900),

Gene: Shinji_24 Start: 16680, Stop: 17216, Start Num: 20

Candidate Starts for Shinji_24:

(12, 16218), (14, 16335), (16, 16485), (17, 16596), (Start: 20 @16680 has 48 MA's), (26, 16743), (29, 16773), (33, 16803), (34, 16806), (35, 16812), (38, 16830), (46, 16917), (47, 16923), (48, 16929), (58, 17025), (72, 17136), (73, 17142), (81, 17190),

Gene: Shivanishola_29 Start: 22364, Stop: 22909, Start Num: 21

Candidate Starts for Shivanishola_29:

(2, 21641), (3, 21683), (4, 21701), (14, 22010), (15, 22058), (16, 22160), (17, 22271), (Start: 20 @22361 has 48 MA's), (Start: 21 @22364 has 26 MA's), (Start: 22 @22385 has 1 MA's), (27, 22442), (32, 22463), (41, 22514), (42, 22541), (45, 22583), (48, 22601), (52, 22658), (55, 22685), (59, 22721), (64, 22763), (66, 22769), (68, 22778), (70, 22787), (80, 22868), (81, 22874),

Gene: Sitar_28 Start: 23451, Stop: 24002, Start Num: 20

Candidate Starts for Sitar_28:

(2, 22731), (3, 22773), (4, 22791), (14, 23100), (15, 23148), (16, 23250), (17, 23361), (Start: 20 @23451 has 48 MA's), (Start: 21 @23454 has 26 MA's), (Start: 22 @23475 has 1 MA's), (29, 23544), (32, 23553), (41, 23604), (45, 23673), (48, 23691), (52, 23748), (55, 23775), (59, 23811), (64, 23853), (66, 23859), (68, 23868), (70, 23877), (80, 23958), (81, 23964),

Gene: SmokingBunny_24 Start: 16710, Stop: 17246, Start Num: 20

Candidate Starts for SmokingBunny_24:

(12, 16248), (14, 16365), (16, 16515), (17, 16626), (Start: 20 @16710 has 48 MA's), (26, 16773), (29, 16803), (33, 16833), (34, 16836), (35, 16842), (38, 16860), (46, 16947), (47, 16953), (48, 16959), (58, 17055), (72, 17166), (73, 17172), (81, 17220),

Gene: StorminNorm_27 Start: 20814, Stop: 21359, Start Num: 20

Candidate Starts for StorminNorm_27:

(14, 20469), (15, 20517), (16, 20619), (17, 20730), (Start: 20 @20814 has 48 MA's), (Start: 21 @20817 has 26 MA's), (27, 20895), (29, 20907), (31, 20913), (32, 20916), (37, 20952), (45, 21033), (48, 21051), (64, 21213), (68, 21228), (81, 21324),

Gene: Stultus_26 Start: 21369, Stop: 21917, Start Num: 21

Candidate Starts for Stultus_26:

(3, 20688), (4, 20706), (14, 21015), (15, 21063), (16, 21165), (17, 21276), (Start: 20 @21366 has 48 MA's), (Start: 21 @21369 has 26 MA's), (Start: 22 @21390 has 1 MA's), (29, 21459), (32, 21468), (41, 21519), (42, 21546), (45, 21588), (48, 21606), (52, 21663), (55, 21690), (59, 21726), (64, 21768), (66, 21774), (68, 21783), (70, 21792), (80, 21873), (81, 21879),

Gene: Tangent_28 Start: 21806, Stop: 22351, Start Num: 21

Candidate Starts for Tangent_28:

(14, 21452), (15, 21500), (16, 21602), (17, 21713), (Start: 20 @21803 has 48 MA's), (Start: 21 @21806 has 26 MA's), (27, 21884), (32, 21905), (41, 21956), (42, 21983), (45, 22025), (48, 22043), (55, 22127), (59, 22163), (64, 22205), (66, 22211), (68, 22220), (70, 22229), (80, 22310), (81, 22316),

Gene: Tangerine_27 Start: 20823, Stop: 21365, Start Num: 21

Candidate Starts for Tangerine_27:

(14, 20475), (15, 20523), (16, 20625), (17, 20736), (Start: 20 @20820 has 48 MA's), (Start: 21 @20823 has 26 MA's), (27, 20901), (29, 20913), (31, 20919), (32, 20922), (37, 20958), (45, 21039), (48, 21057), (64, 21219), (68, 21234), (81, 21330),

Gene: Tardus_29 Start: 21283, Stop: 21840, Start Num: 18

Candidate Starts for Tardus_29:

(Start: 18 @21283 has 16 MA's), (25, 21361), (30, 21397), (31, 21400), (48, 21544), (49, 21562), (53, 21604), (55, 21628), (62, 21700), (64, 21706), (69, 21727), (74, 21766), (78, 21793), (81, 21814),

Gene: Thing3_27 Start: 22299, Stop: 22844, Start Num: 21

Candidate Starts for Thing3_27:

(2, 21576), (3, 21618), (4, 21636), (14, 21945), (15, 21993), (16, 22095), (17, 22206), (Start: 20 @22296 has 48 MA's), (Start: 21 @22299 has 26 MA's), (Start: 22 @22320 has 1 MA's), (27, 22377), (29, 22389), (32, 22398), (41, 22449), (42, 22476), (45, 22518), (48, 22536), (52, 22593), (55, 22620), (59, 22656), (64, 22698), (66, 22704), (68, 22713), (80, 22803), (81, 22809),

Gene: Tiamoceli_26 Start: 19613, Stop: 20176, Start Num: 18

Candidate Starts for Tiamoceli_26:

(17, 19532), (Start: 18 @19613 has 16 MA's), (Start: 22 @19655 has 1 MA's), (31, 19730), (32, 19733), (40, 19781), (43, 19829), (45, 19856), (48, 19874), (51, 19928), (61, 20021), (64, 20036), (68, 20051), (80, 20141), (81, 20147),

Gene: TillyBobJoe_24 Start: 16494, Stop: 17030, Start Num: 20

Candidate Starts for TillyBobJoe_24:

(16, 16299), (17, 16410), (Start: 20 @16494 has 48 MA's), (26, 16557), (29, 16587), (33, 16617), (34, 16620), (35, 16626), (38, 16644), (46, 16731), (47, 16737), (48, 16743), (58, 16839), (72, 16950), (73, 16956), (81, 17004),

Gene: Togo_24 Start: 16710, Stop: 17246, Start Num: 20

Candidate Starts for Togo_24:

(12, 16248), (14, 16365), (16, 16515), (17, 16626), (Start: 20 @16710 has 48 MA's), (26, 16773), (29, 16803), (33, 16833), (34, 16836), (35, 16842), (38, 16860), (46, 16947), (47, 16953), (48, 16959), (58, 17055), (72, 17166), (73, 17172), (81, 17220),

Gene: Twister6_26 Start: 17137, Stop: 17673, Start Num: 20

Candidate Starts for Twister6_26:

(12, 16675), (14, 16792), (16, 16942), (17, 17053), (Start: 20 @17137 has 48 MA's), (26, 17200), (29, 17230), (31, 17236), (33, 17260), (34, 17263), (35, 17269), (38, 17287), (46, 17374), (47, 17380), (48, 17386), (58, 17482), (72, 17593), (73, 17599), (81, 17647),

Gene: Twonlo_23 Start: 18231, Stop: 18794, Start Num: 18

Candidate Starts for Twonlo_23:

(17, 18150), (Start: 18 @18231 has 16 MA's), (Start: 22 @18273 has 1 MA's), (31, 18348), (32, 18351), (37, 18387), (40, 18399), (43, 18447), (45, 18474), (48, 18492), (51, 18546), (61, 18639), (64, 18654), (68, 18669), (80, 18759), (81, 18765),

Gene: Tycho_27 Start: 20912, Stop: 21454, Start Num: 21

Candidate Starts for Tycho_27:

(14, 20564), (15, 20612), (16, 20714), (17, 20825), (Start: 20 @20909 has 48 MA's), (Start: 21 @20912 has 26 MA's), (27, 20990), (29, 21002), (31, 21008), (32, 21011), (37, 21047), (45, 21128), (48, 21146), (64, 21308), (68, 21323), (81, 21419),

Gene: Valary_27 Start: 17634, Stop: 18179, Start Num: 20

Candidate Starts for Valary_27:

(16, 17439), (17, 17550), (Start: 20 @17634 has 48 MA's), (27, 17715), (29, 17727), (33, 17757), (34, 17760), (38, 17784), (45, 17865), (47, 17877), (48, 17883), (54, 17937), (58, 17979), (72, 18099), (73, 18105), (76, 18111), (81, 18153),

Gene: VanDeWege_27 Start: 17518, Stop: 18054, Start Num: 20

Candidate Starts for VanDeWege_27:

(12, 17056), (14, 17173), (16, 17323), (17, 17434), (Start: 20 @17518 has 48 MA's), (26, 17581), (29, 17611), (31, 17617), (33, 17641), (34, 17644), (35, 17650), (38, 17668), (46, 17755), (47, 17761), (48, 17767), (58, 17863), (72, 17974), (73, 17980), (81, 18028),

Gene: Verity_27 Start: 22132, Stop: 22689, Start Num: 18

Candidate Starts for Verity_27:

(13, 21760), (14, 21787), (16, 21937), (17, 22048), (Start: 18 @22132 has 16 MA's), (25, 22210), (30, 22246), (48, 22393), (49, 22411), (53, 22453), (55, 22477), (58, 22498), (64, 22555), (69, 22576), (74, 22615), (78, 22642), (81, 22663),

Gene: ViaConlectus_28 Start: 20624, Stop: 21181, Start Num: 18

Candidate Starts for ViaConlectus_28:

(Start: 18 @20624 has 16 MA's), (25, 20702), (30, 20738), (31, 20741), (48, 20885), (49, 20903), (53, 20945), (55, 20969), (62, 21041), (64, 21047), (69, 21068), (78, 21134), (81, 21155),

Gene: Vivi2_30 Start: 22976, Stop: 23524, Start Num: 20

Candidate Starts for Vivi2_30:

(14, 22625), (15, 22673), (16, 22775), (17, 22886), (Start: 20 @22976 has 48 MA's), (Start: 21 @22979 has 26 MA's), (27, 23057), (32, 23078), (41, 23129), (42, 23156), (45, 23198), (48, 23216), (55, 23300), (59, 23336), (64, 23378), (66, 23384), (68, 23393), (70, 23402), (80, 23483), (81, 23489),

Gene: Wizard_24 Start: 16844, Stop: 17380, Start Num: 20

Candidate Starts for Wizard_24:

(12, 16382), (14, 16499), (16, 16649), (17, 16760), (Start: 20 @16844 has 48 MA's), (26, 16907), (29, 16937), (33, 16967), (34, 16970), (35, 16976), (38, 16994), (46, 17081), (47, 17087), (48, 17093), (58, 17189), (72, 17300), (73, 17306), (81, 17354),

Gene: YorkOnyx_28 Start: 21180, Stop: 21722, Start Num: 21

Candidate Starts for YorkOnyx_28:

(2, 20463), (3, 20505), (4, 20523), (15, 20880), (16, 20982), (17, 21093), (Start: 20 @21177 has 48 MA's), (Start: 21 @21180 has 26 MA's), (27, 21258), (29, 21270), (31, 21276), (32, 21279), (37, 21315), (45, 21396), (48, 21414), (60, 21552), (64, 21576), (68, 21591), (81, 21687),

Gene: YungMoney_26 Start: 18132, Stop: 18668, Start Num: 20

Candidate Starts for YungMoney_26:

(16, 17937), (17, 18048), (Start: 20 @18132 has 48 MA's), (29, 18225), (31, 18231), (33, 18255), (34, 18258), (35, 18264), (46, 18369), (47, 18375), (48, 18381), (53, 18432), (54, 18435), (58, 18477), (72, 18588), (73, 18594), (81, 18642),

Gene: Zipp_27 Start: 22029, Stop: 22586, Start Num: 18

Candidate Starts for Zipp_27:

(8, 21519), (10, 21525), (13, 21657), (14, 21684), (16, 21834), (17, 21945), (Start: 18 @22029 has 16 MA's), (25, 22107), (30, 22143), (48, 22290), (49, 22308), (53, 22350), (55, 22374), (58, 22395), (64, 22452), (69, 22473), (74, 22512), (78, 22539), (81, 22560),

Gene: Zitch_29 Start: 19905, Stop: 20462, Start Num: 18

Candidate Starts for Zitch_29:

(Start: 18 @19905 has 16 MA's), (25, 19983), (30, 20019), (31, 20022), (48, 20166), (49, 20184), (53, 20226), (55, 20250), (62, 20322), (64, 20328), (69, 20349), (78, 20415), (81, 20436),