

Pham 156311



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 156311 Report

This analysis was run 04/12/24 on database version 558.

Pham number 156311 has 83 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Farewell_52
- Track 2 : Sparky_51
- Track 3 : FrenchFry_53, Lephleur_53, Hedgerow_53, Ares_53, ItsyBitsy1_53, Sabella_52, Holeinone_53, Allegro_53, Bananafish_53, Calamitous_53, Tres_53, Brownie5_53, Eaglehorse_53, Kaleb_53, MasterPo_53, Rosebush_52, Opia_53, Tinciduntolum_54, Kheth_53
- Track 4 : Lars_53, Godines_53, Glass_53, Arbiter_52
- Track 5 : Faze9_52, Phantasmagoria_53, West99_53
- Track 6 : Coffee_53, Blocker23_53, Boyle_53, Rhinoforte_53, Qyrzula_49, LizLemon_53
- Track 7 : Laurie_52
- Track 8 : TA17A_53
- Track 9 : Philly_53, OrangeOswald_54, Corofin_54, Akoma_54, Athena_56, LestyG_53, Abinghost_54, Gervas_55, Ben11_54, Devonte_53, Casbah_54, Rita1961_55, Kronus_54, Kamiyu_54, HarveySr_53, Marley1013_55, Yahalom_53, Nozo_54, Morty007_54, RomaT_54, GlenHope_55, SlippinJimmy_56, Compostia_54, RagingRooster_53
- Track 10 : Daisy_54, Neos5_55, Briakila_54, Phaedrus_51, Tydolla_53
- Track 11 : Baloo_54, Audrey_54, Heathcliff_54, Yinz_54, Bernardo_55, Phayeta_56, SynergyX_54, Gadget_55, ChaChing_54
- Track 12 : Jackstina_50
- Track 13 : Deenasa_53, MmasiCarm_55
- Track 14 : Halfpint_53, Obutu_55, Chandler_54, Mortcellus_54
- Track 15 : Phlyer_54
- Track 16 : Pipefish_56

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

The start number called the most often in the published annotations is 10, it was called in 37 of the 77 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_54, Akoma_54, Athena_56, Audrey_54, Baloo_54, Ben11_54, Bernardo_55, Casbah_54, ChaChing_54, Chandler_54, Compostia_54, Corofin_54,

Deenasa_53, Devonte_53, Gadget_55, Gervas_55, GlenHope_55, Halfpint_53, HarveySr_53, Heathcliff_54, Jackstina_50, Kamiyu_54, Kronus_54, LestyG_53, Marley1013_55, MmasiCarm_55, Mortcellus_54, Morty007_54, Nozo_54, Obutu_55, OrangeOswald_54, Phayeta_56, Philly_53, RagingRooster_53, Rita1961_55, RomaT_54, SlippinJimmy_56, SynergyX_54, Yahalom_53, Yinz_54,

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

- Phlyer_54,

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

- Allegro_53, Arbiter_52, Ares_53, Bananafish_53, Blocker23_53, Boyle_53, Briakila_54, Brownie5_53, Calamitous_53, Coffee_53, Daisy_54, Eaglehorse_53, Farewell_52, Faze9_52, FrenchFry_53, Glass_53, Godines_53, Hedgerow_53, Holeinone_53, ItsyBitsy1_53, Kaleb_53, Kheth_53, Lars_53, Laurie_52, Lephleur_53, LizLemon_53, MasterPo_53, Neos5_55, Opia_53, Phaedrus_51, Phantasmagoria_53, Pipefish_56, Qyrzula_49, Rhinoforte_53, Rosebush_52, Sabella_52, Sparky_51, TA17A_53, Tinciduntolum_54, Tres_53, Tydolla_53, West99_53,

Summary by start number:

Start 5:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sparky_51 (AF),

Start 6:

- Found in 5 of 83 (6.0%) of genes in pham
- Manual Annotations of this start: 5 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Briakila_54 (B3), Daisy_54 (B3), Neos5_55 (B3), Phaedrus_51 (B3), Tydolla_53 (B3),

Start 8:

- Found in 35 of 83 (42.2%) of genes in pham
- Manual Annotations of this start: 32 of 77
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Allegro_53 (B2), Arbiter_52 (B2), Ares_53 (B2), Bananafish_53 (B2), Blocker23_53 (B2), Boyle_53 (B2), Brownie5_53 (B2), Calamitous_53 (B2), Coffee_53 (B2), Eaglehorse_53 (B2), Faze9_52 (B2), FrenchFry_53 (B2), Glass_53 (B2), Godines_53 (B2), Hedgerow_53 (B2), Holeinone_53 (B2), ItsyBitsy1_53 (B2), Kaleb_53 (B2), Kheth_53 (B2), Lars_53 (B2), Laurie_52 (B2), Lephleur_53 (B2), LizLemon_53 (B2), MasterPo_53 (B2), Opia_53 (B2), Phantasmagoria_53 (B2), Qyrzula_49 (B2), Rhinoforte_53 (B2), Rosebush_52 (B2), Sabella_52 (B2), TA17A_53 (B2), Tinciduntolum_54 (B2), Tres_53 (B2), West99_53 (B2),

Start 9:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pipefish_56 (B3),

Start 10:

- Found in 41 of 83 (49.4%) of genes in pham
- Manual Annotations of this start: 37 of 77
- Called 97.6% of time when present
- Phage (with cluster) where this start called: Abinghost_54 (B3), Akoma_54 (B3), Athena_56 (B3), Audrey_54 (B3), Baloo_54 (B3), Ben11_54 (B3), Bernardo_55 (B3), Casbah_54 (B3), ChaChing_54 (B3), Chandler_54 (B3), Compostia_54 (B3), Corofin_54 (B3), Deenasa_53 (B3), Devonte_53 (B3), Gadget_55 (B3), Gervas_55 (B3), GlenHope_55 (B3), Halfpint_53 (B3), HarveySr_53 (B3), Heathcliff_54 (B3), Jackstina_50 (B3), Kamiyu_54 (B3), Kronus_54 (B3), LestyG_53 (B3), Marley1013_55 (B3), MmasiCarm_55 (B3), Mortcellus_54 (B3), Morty007_54 (B3), Nozo_54 (B3), Obutu_55 (B3), OrangeOswald_54 (B3), Phayeta_56 (B3), Philly_53 (B3), RagingRooster_53 (B3), Rita1961_55 (B3), RomaT_54 (B3), SlippinJimmy_56 (B3), SynergyX_54 (B3), Yahalom_53 (B3), Yinz_54 (B3),

Start 11:

- Found in 34 of 83 (41.0%) of genes in pham
- Manual Annotations of this start: 1 of 77
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Phlyer_54 (B3),

Start 12:

- 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: Farewell_52 (AF),

Summary by clusters:

There are 3 clusters represented in this pham: AF, B2, B3,

Info for manual annotations of cluster AF:

- Start number 5 was manually annotated 1 time for cluster AF.

Info for manual annotations of cluster B2:

- Start number 8 was manually annotated 32 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 6 was manually annotated 5 times for cluster B3.
- Start number 9 was manually annotated 1 time for cluster B3.
- Start number 10 was manually annotated 37 times for cluster B3.
- Start number 11 was manually annotated 1 time for cluster B3.

Gene Information:

Gene: Abinghost_54 Start: 47933, Stop: 47604, Start Num: 10

Candidate Starts for Abinghost_54:

(1, 48278), (2, 48275), (Start: 10 @47933 has 37 MA's), (Start: 11 @47918 has 1 MA's), (15, 47870), (19, 47780), (21, 47720), (23, 47672),

Gene: Akoma_54 Start: 47948, Stop: 47619, Start Num: 10
Candidate Starts for Akoma_54:
(1, 48293), (2, 48290), (Start: 10 @47948 has 37 MA's), (Start: 11 @47933 has 1 MA's), (15, 47885),
(19, 47795), (21, 47735), (23, 47687),

Gene: Allegro_53 Start: 47133, Stop: 46798, Start Num: 8
Candidate Starts for Allegro_53:
(Start: 8 @47133 has 32 MA's), (14, 47073), (18, 46971), (20, 46911), (25, 46836), (26, 46809),

Gene: Arbiter_52 Start: 47239, Stop: 46904, Start Num: 8
Candidate Starts for Arbiter_52:
(Start: 8 @47239 has 32 MA's), (14, 47179), (18, 47077), (25, 46942), (26, 46915),

Gene: Ares_53 Start: 47208, Stop: 46873, Start Num: 8
Candidate Starts for Ares_53:
(Start: 8 @47208 has 32 MA's), (14, 47148), (18, 47046), (20, 46986), (25, 46911), (26, 46884),

Gene: Athena_56 Start: 48691, Stop: 48362, Start Num: 10
Candidate Starts for Athena_56:
(1, 49036), (2, 49033), (Start: 10 @48691 has 37 MA's), (Start: 11 @48676 has 1 MA's), (15, 48628),
(19, 48538), (21, 48478), (23, 48430),

Gene: Audrey_54 Start: 47939, Stop: 47610, Start Num: 10
Candidate Starts for Audrey_54:
(Start: 10 @47939 has 37 MA's), (15, 47876), (19, 47786), (21, 47726), (23, 47678),

Gene: Baloo_54 Start: 47942, Stop: 47613, Start Num: 10
Candidate Starts for Baloo_54:
(Start: 10 @47942 has 37 MA's), (15, 47879), (19, 47789), (21, 47729), (23, 47681),

Gene: Bananafish_53 Start: 47142, Stop: 46807, Start Num: 8
Candidate Starts for Bananafish_53:
(Start: 8 @47142 has 32 MA's), (14, 47082), (18, 46980), (20, 46920), (25, 46845), (26, 46818),

Gene: Ben11_54 Start: 48224, Stop: 47895, Start Num: 10
Candidate Starts for Ben11_54:
(1, 48569), (2, 48566), (Start: 10 @48224 has 37 MA's), (Start: 11 @48209 has 1 MA's), (15, 48161),
(19, 48071), (21, 48011), (23, 47963),

Gene: Bernardo_55 Start: 48375, Stop: 48046, Start Num: 10
Candidate Starts for Bernardo_55:
(Start: 10 @48375 has 37 MA's), (15, 48312), (19, 48222), (21, 48162), (23, 48114),

Gene: Blocker23_53 Start: 47255, Stop: 46920, Start Num: 8
Candidate Starts for Blocker23_53:
(4, 47420), (Start: 8 @47255 has 32 MA's), (14, 47195), (18, 47093), (20, 47033), (25, 46958), (26,
46931),

Gene: Boyle_53 Start: 47275, Stop: 46940, Start Num: 8
Candidate Starts for Boyle_53:
(4, 47440), (Start: 8 @47275 has 32 MA's), (14, 47215), (18, 47113), (20, 47053), (25, 46978), (26,
46951),

Gene: Briakila_54 Start: 48416, Stop: 48069, Start Num: 6
Candidate Starts for Briakila_54:
(Start: 6 @48416 has 5 MA's), (Start: 11 @48383 has 1 MA's), (19, 48245), (21, 48185), (23, 48137),

Gene: Brownie5_53 Start: 47291, Stop: 46956, Start Num: 8
Candidate Starts for Brownie5_53:
(Start: 8 @47291 has 32 MA's), (14, 47231), (18, 47129), (20, 47069), (25, 46994), (26, 46967),

Gene: Calamitous_53 Start: 47141, Stop: 46806, Start Num: 8
Candidate Starts for Calamitous_53:
(Start: 8 @47141 has 32 MA's), (14, 47081), (18, 46979), (20, 46919), (25, 46844), (26, 46817),

Gene: Casbah_54 Start: 48257, Stop: 47928, Start Num: 10
Candidate Starts for Casbah_54:
(1, 48602), (2, 48599), (Start: 10 @48257 has 37 MA's), (Start: 11 @48242 has 1 MA's), (15, 48194),
(19, 48104), (21, 48044), (23, 47996),

Gene: ChaChing_54 Start: 47956, Stop: 47627, Start Num: 10
Candidate Starts for ChaChing_54:
(Start: 10 @47956 has 37 MA's), (15, 47893), (19, 47803), (21, 47743), (23, 47695),

Gene: Chandler_54 Start: 48727, Stop: 48398, Start Num: 10
Candidate Starts for Chandler_54:
(1, 49072), (2, 49069), (Start: 10 @48727 has 37 MA's), (15, 48664), (19, 48574), (21, 48514), (23,
48466),

Gene: Coffee_53 Start: 47250, Stop: 46915, Start Num: 8
Candidate Starts for Coffee_53:
(4, 47415), (Start: 8 @47250 has 32 MA's), (14, 47190), (18, 47088), (20, 47028), (25, 46953), (26,
46926),

Gene: Compostia_54 Start: 48376, Stop: 48047, Start Num: 10
Candidate Starts for Compostia_54:
(1, 48721), (2, 48718), (Start: 10 @48376 has 37 MA's), (Start: 11 @48361 has 1 MA's), (15, 48313),
(19, 48223), (21, 48163), (23, 48115),

Gene: Corofin_54 Start: 47970, Stop: 47641, Start Num: 10
Candidate Starts for Corofin_54:
(1, 48315), (2, 48312), (Start: 10 @47970 has 37 MA's), (Start: 11 @47955 has 1 MA's), (15, 47907),
(19, 47817), (21, 47757), (23, 47709),

Gene: Daisy_54 Start: 47986, Stop: 47639, Start Num: 6
Candidate Starts for Daisy_54:
(Start: 6 @47986 has 5 MA's), (Start: 11 @47953 has 1 MA's), (19, 47815), (21, 47755), (23, 47707),

Gene: Deenasa_53 Start: 48387, Stop: 48058, Start Num: 10
Candidate Starts for Deenasa_53:
(Start: 10 @48387 has 37 MA's), (Start: 11 @48372 has 1 MA's), (15, 48324), (19, 48234), (21,
48174), (23, 48126),

Gene: Devonte_53 Start: 47615, Stop: 47286, Start Num: 10
Candidate Starts for Devonte_53:

(1, 47960), (2, 47957), (Start: 10 @47615 has 37 MA's), (Start: 11 @47600 has 1 MA's), (15, 47552), (19, 47462), (21, 47402), (23, 47354),

Gene: Eaglehorse_53 Start: 47176, Stop: 46841, Start Num: 8

Candidate Starts for Eaglehorse_53:

(Start: 8 @47176 has 32 MA's), (14, 47116), (18, 47014), (20, 46954), (25, 46879), (26, 46852),

Gene: Farewell_52 Start: 37148, Stop: 37459, Start Num: 12

Candidate Starts for Farewell_52:

(Start: 8 @37133 has 32 MA's), (12, 37148), (13, 37169), (14, 37184), (16, 37244), (17, 37259), (26, 37448),

Gene: Faze9_52 Start: 47270, Stop: 46935, Start Num: 8

Candidate Starts for Faze9_52:

(3, 47462), (Start: 8 @47270 has 32 MA's), (14, 47210), (18, 47108), (20, 47048), (25, 46973), (26, 46946),

Gene: FrenchFry_53 Start: 47249, Stop: 46914, Start Num: 8

Candidate Starts for FrenchFry_53:

(Start: 8 @47249 has 32 MA's), (14, 47189), (18, 47087), (20, 47027), (25, 46952), (26, 46925),

Gene: Gadget_55 Start: 48275, Stop: 47946, Start Num: 10

Candidate Starts for Gadget_55:

(Start: 10 @48275 has 37 MA's), (15, 48212), (19, 48122), (21, 48062), (23, 48014),

Gene: Gervas_55 Start: 48383, Stop: 48054, Start Num: 10

Candidate Starts for Gervas_55:

(1, 48728), (2, 48725), (Start: 10 @48383 has 37 MA's), (Start: 11 @48368 has 1 MA's), (15, 48320), (19, 48230), (21, 48170), (23, 48122),

Gene: Glass_53 Start: 47254, Stop: 46919, Start Num: 8

Candidate Starts for Glass_53:

(Start: 8 @47254 has 32 MA's), (14, 47194), (18, 47092), (25, 46957), (26, 46930),

Gene: GlenHope_55 Start: 47938, Stop: 47609, Start Num: 10

Candidate Starts for GlenHope_55:

(1, 48283), (2, 48280), (Start: 10 @47938 has 37 MA's), (Start: 11 @47923 has 1 MA's), (15, 47875), (19, 47785), (21, 47725), (23, 47677),

Gene: Godines_53 Start: 47206, Stop: 46871, Start Num: 8

Candidate Starts for Godines_53:

(Start: 8 @47206 has 32 MA's), (14, 47146), (18, 47044), (25, 46909), (26, 46882),

Gene: Halfpint_53 Start: 47759, Stop: 47430, Start Num: 10

Candidate Starts for Halfpint_53:

(1, 48104), (2, 48101), (Start: 10 @47759 has 37 MA's), (15, 47696), (19, 47606), (21, 47546), (23, 47498),

Gene: HarveySr_53 Start: 47611, Stop: 47282, Start Num: 10

Candidate Starts for HarveySr_53:

(1, 47956), (2, 47953), (Start: 10 @47611 has 37 MA's), (Start: 11 @47596 has 1 MA's), (15, 47548), (19, 47458), (21, 47398), (23, 47350),

Gene: Heathcliff_54 Start: 47905, Stop: 47576, Start Num: 10

Candidate Starts for Heathcliff_54:

(Start: 10 @47905 has 37 MA's), (15, 47842), (19, 47752), (21, 47692), (23, 47644),

Gene: Hedgerow_53 Start: 47263, Stop: 46928, Start Num: 8

Candidate Starts for Hedgerow_53:

(Start: 8 @47263 has 32 MA's), (14, 47203), (18, 47101), (20, 47041), (25, 46966), (26, 46939),

Gene: Holeinone_53 Start: 47114, Stop: 46779, Start Num: 8

Candidate Starts for Holeinone_53:

(Start: 8 @47114 has 32 MA's), (14, 47054), (18, 46952), (20, 46892), (25, 46817), (26, 46790),

Gene: ItsyBitsy1_53 Start: 47131, Stop: 46796, Start Num: 8

Candidate Starts for ItsyBitsy1_53:

(Start: 8 @47131 has 32 MA's), (14, 47071), (18, 46969), (20, 46909), (25, 46834), (26, 46807),

Gene: Jackstina_50 Start: 47864, Stop: 47535, Start Num: 10

Candidate Starts for Jackstina_50:

(1, 48209), (2, 48206), (Start: 10 @47864 has 37 MA's), (Start: 11 @47849 has 1 MA's), (15, 47801), (19, 47711), (21, 47651), (23, 47603),

Gene: Kaleb_53 Start: 47278, Stop: 46943, Start Num: 8

Candidate Starts for Kaleb_53:

(Start: 8 @47278 has 32 MA's), (14, 47218), (18, 47116), (20, 47056), (25, 46981), (26, 46954),

Gene: Kamiyu_54 Start: 47915, Stop: 47586, Start Num: 10

Candidate Starts for Kamiyu_54:

(1, 48260), (2, 48257), (Start: 10 @47915 has 37 MA's), (Start: 11 @47900 has 1 MA's), (15, 47852), (19, 47762), (21, 47702), (23, 47654),

Gene: Kheth_53 Start: 47167, Stop: 46832, Start Num: 8

Candidate Starts for Kheth_53:

(Start: 8 @47167 has 32 MA's), (14, 47107), (18, 47005), (20, 46945), (25, 46870), (26, 46843),

Gene: Kronus_54 Start: 48992, Stop: 48663, Start Num: 10

Candidate Starts for Kronus_54:

(1, 49337), (2, 49334), (Start: 10 @48992 has 37 MA's), (Start: 11 @48977 has 1 MA's), (15, 48929), (19, 48839), (21, 48779), (23, 48731),

Gene: Lars_53 Start: 47238, Stop: 46903, Start Num: 8

Candidate Starts for Lars_53:

(Start: 8 @47238 has 32 MA's), (14, 47178), (18, 47076), (25, 46941), (26, 46914),

Gene: Laurie_52 Start: 46623, Stop: 46288, Start Num: 8

Candidate Starts for Laurie_52:

(7, 46626), (Start: 8 @46623 has 32 MA's), (14, 46563), (18, 46461), (25, 46326), (26, 46299),

Gene: Lephleur_53 Start: 47144, Stop: 46809, Start Num: 8

Candidate Starts for Lephleur_53:

(Start: 8 @47144 has 32 MA's), (14, 47084), (18, 46982), (20, 46922), (25, 46847), (26, 46820),

Gene: LestyG_53 Start: 47628, Stop: 47299, Start Num: 10

Candidate Starts for LestyG_53:

(1, 47973), (2, 47970), (Start: 10 @47628 has 37 MA's), (Start: 11 @47613 has 1 MA's), (15, 47565), (19, 47475), (21, 47415), (23, 47367),

Gene: LizLemon_53 Start: 47260, Stop: 46925, Start Num: 8

Candidate Starts for LizLemon_53:

(4, 47425), (Start: 8 @47260 has 32 MA's), (14, 47200), (18, 47098), (20, 47038), (25, 46963), (26, 46936),

Gene: Marley1013_55 Start: 48877, Stop: 48548, Start Num: 10

Candidate Starts for Marley1013_55:

(1, 49222), (2, 49219), (Start: 10 @48877 has 37 MA's), (Start: 11 @48862 has 1 MA's), (15, 48814), (19, 48724), (21, 48664), (23, 48616),

Gene: MasterPo_53 Start: 47153, Stop: 46818, Start Num: 8

Candidate Starts for MasterPo_53:

(Start: 8 @47153 has 32 MA's), (14, 47093), (18, 46991), (20, 46931), (25, 46856), (26, 46829),

Gene: MmasiCarm_55 Start: 48433, Stop: 48104, Start Num: 10

Candidate Starts for MmasiCarm_55:

(Start: 10 @48433 has 37 MA's), (Start: 11 @48418 has 1 MA's), (15, 48370), (19, 48280), (21, 48220), (23, 48172),

Gene: Mortcellus_54 Start: 49040, Stop: 48711, Start Num: 10

Candidate Starts for Mortcellus_54:

(1, 49385), (2, 49382), (Start: 10 @49040 has 37 MA's), (15, 48977), (19, 48887), (21, 48827), (23, 48779),

Gene: Morty007_54 Start: 48877, Stop: 48548, Start Num: 10

Candidate Starts for Morty007_54:

(1, 49222), (2, 49219), (Start: 10 @48877 has 37 MA's), (Start: 11 @48862 has 1 MA's), (15, 48814), (19, 48724), (21, 48664), (23, 48616),

Gene: Neos5_55 Start: 48759, Stop: 48412, Start Num: 6

Candidate Starts for Neos5_55:

(Start: 6 @48759 has 5 MA's), (Start: 11 @48726 has 1 MA's), (19, 48588), (21, 48528), (23, 48480),

Gene: Nozo_54 Start: 48706, Stop: 48377, Start Num: 10

Candidate Starts for Nozo_54:

(1, 49051), (2, 49048), (Start: 10 @48706 has 37 MA's), (Start: 11 @48691 has 1 MA's), (15, 48643), (19, 48553), (21, 48493), (23, 48445),

Gene: Obutu_55 Start: 48389, Stop: 48060, Start Num: 10

Candidate Starts for Obutu_55:

(1, 48734), (2, 48731), (Start: 10 @48389 has 37 MA's), (15, 48326), (19, 48236), (21, 48176), (23, 48128),

Gene: Opia_53 Start: 47147, Stop: 46812, Start Num: 8

Candidate Starts for Opia_53:

(Start: 8 @47147 has 32 MA's), (14, 47087), (18, 46985), (20, 46925), (25, 46850), (26, 46823),

Gene: OrangeOswald_54 Start: 47947, Stop: 47618, Start Num: 10

Candidate Starts for OrangeOswald_54:

(1, 48292), (2, 48289), (Start: 10 @47947 has 37 MA's), (Start: 11 @47932 has 1 MA's), (15, 47884), (19, 47794), (21, 47734), (23, 47686),

Gene: Phaedrus_51 Start: 47884, Stop: 47537, Start Num: 6

Candidate Starts for Phaedrus_51:

(Start: 6 @47884 has 5 MA's), (Start: 11 @47851 has 1 MA's), (19, 47713), (21, 47653), (23, 47605),

Gene: Phantasmagoria_53 Start: 47145, Stop: 46810, Start Num: 8

Candidate Starts for Phantasmagoria_53:

(3, 47337), (Start: 8 @47145 has 32 MA's), (14, 47085), (18, 46983), (20, 46923), (25, 46848), (26, 46821),

Gene: Phayeta_56 Start: 48270, Stop: 47941, Start Num: 10

Candidate Starts for Phayeta_56:

(Start: 10 @48270 has 37 MA's), (15, 48207), (19, 48117), (21, 48057), (23, 48009),

Gene: Philly_53 Start: 47797, Stop: 47468, Start Num: 10

Candidate Starts for Philly_53:

(1, 48142), (2, 48139), (Start: 10 @47797 has 37 MA's), (Start: 11 @47782 has 1 MA's), (15, 47734), (19, 47644), (21, 47584), (23, 47536),

Gene: Phlyer_54 Start: 48667, Stop: 48353, Start Num: 11

Candidate Starts for Phlyer_54:

(1, 49027), (2, 49024), (Start: 10 @48682 has 37 MA's), (Start: 11 @48667 has 1 MA's), (15, 48619), (19, 48529), (21, 48469), (23, 48421),

Gene: Pipefish_56 Start: 49225, Stop: 48890, Start Num: 9

Candidate Starts for Pipefish_56:

(Start: 9 @49225 has 1 MA's), (Start: 11 @49204 has 1 MA's), (15, 49156), (19, 49066), (21, 49006), (23, 48958),

Gene: Qyrzula_49 Start: 47264, Stop: 46929, Start Num: 8

Candidate Starts for Qyrzula_49:

(4, 47429), (Start: 8 @47264 has 32 MA's), (14, 47204), (18, 47102), (20, 47042), (25, 46967), (26, 46940),

Gene: RagingRooster_53 Start: 47628, Stop: 47299, Start Num: 10

Candidate Starts for RagingRooster_53:

(1, 47973), (2, 47970), (Start: 10 @47628 has 37 MA's), (Start: 11 @47613 has 1 MA's), (15, 47565), (19, 47475), (21, 47415), (23, 47367),

Gene: Rhinoforte_53 Start: 47266, Stop: 46931, Start Num: 8

Candidate Starts for Rhinoforte_53:

(4, 47431), (Start: 8 @47266 has 32 MA's), (14, 47206), (18, 47104), (20, 47044), (25, 46969), (26, 46942),

Gene: Rita1961_55 Start: 48389, Stop: 48060, Start Num: 10

Candidate Starts for Rita1961_55:

(1, 48734), (2, 48731), (Start: 10 @48389 has 37 MA's), (Start: 11 @48374 has 1 MA's), (15, 48326), (19, 48236), (21, 48176), (23, 48128),

Gene: RomaT_54 Start: 48537, Stop: 48208, Start Num: 10

Candidate Starts for RomaT_54:

(1, 48882), (2, 48879), (Start: 10 @48537 has 37 MA's), (Start: 11 @48522 has 1 MA's), (15, 48474), (19, 48384), (21, 48324), (23, 48276),

Gene: Rosebush_52 Start: 47278, Stop: 46943, Start Num: 8

Candidate Starts for Rosebush_52:

(Start: 8 @47278 has 32 MA's), (14, 47218), (18, 47116), (20, 47056), (25, 46981), (26, 46954),

Gene: Sabella_52 Start: 47129, Stop: 46794, Start Num: 8

Candidate Starts for Sabella_52:

(Start: 8 @47129 has 32 MA's), (14, 47069), (18, 46967), (20, 46907), (25, 46832), (26, 46805),

Gene: SlippinJimmy_56 Start: 49171, Stop: 48842, Start Num: 10

Candidate Starts for SlippinJimmy_56:

(1, 49516), (2, 49513), (Start: 10 @49171 has 37 MA's), (Start: 11 @49156 has 1 MA's), (15, 49108), (19, 49018), (21, 48958), (23, 48910),

Gene: Sparky_51 Start: 37379, Stop: 37768, Start Num: 5

Candidate Starts for Sparky_51:

(Start: 5 @37379 has 1 MA's), (22, 37691), (24, 37703),

Gene: SynergyX_54 Start: 47944, Stop: 47615, Start Num: 10

Candidate Starts for SynergyX_54:

(Start: 10 @47944 has 37 MA's), (15, 47881), (19, 47791), (21, 47731), (23, 47683),

Gene: TA17A_53 Start: 47128, Stop: 46793, Start Num: 8

Candidate Starts for TA17A_53:

(4, 47293), (Start: 8 @47128 has 32 MA's), (14, 47068), (18, 46966), (25, 46831), (26, 46804),

Gene: Tinciduntolum_54 Start: 47290, Stop: 46955, Start Num: 8

Candidate Starts for Tinciduntolum_54:

(Start: 8 @47290 has 32 MA's), (14, 47230), (18, 47128), (20, 47068), (25, 46993), (26, 46966),

Gene: Tres_53 Start: 47141, Stop: 46806, Start Num: 8

Candidate Starts for Tres_53:

(Start: 8 @47141 has 32 MA's), (14, 47081), (18, 46979), (20, 46919), (25, 46844), (26, 46817),

Gene: Tydolla_53 Start: 48699, Stop: 48352, Start Num: 6

Candidate Starts for Tydolla_53:

(Start: 6 @48699 has 5 MA's), (Start: 11 @48666 has 1 MA's), (19, 48528), (21, 48468), (23, 48420),

Gene: West99_53 Start: 47287, Stop: 46952, Start Num: 8

Candidate Starts for West99_53:

(3, 47479), (Start: 8 @47287 has 32 MA's), (14, 47227), (18, 47125), (20, 47065), (25, 46990), (26, 46963),

Gene: Yahalom_53 Start: 47954, Stop: 47625, Start Num: 10

Candidate Starts for Yahalom_53:

(1, 48299), (2, 48296), (Start: 10 @47954 has 37 MA's), (Start: 11 @47939 has 1 MA's), (15, 47891), (19, 47801), (21, 47741), (23, 47693),

Gene: Yinz_54 Start: 47800, Stop: 47471, Start Num: 10

Candidate Starts for Yinz_54:

(Start: 10 @47800 has 37 MA's), (15, 47737), (19, 47647), (21, 47587), (23, 47539),

