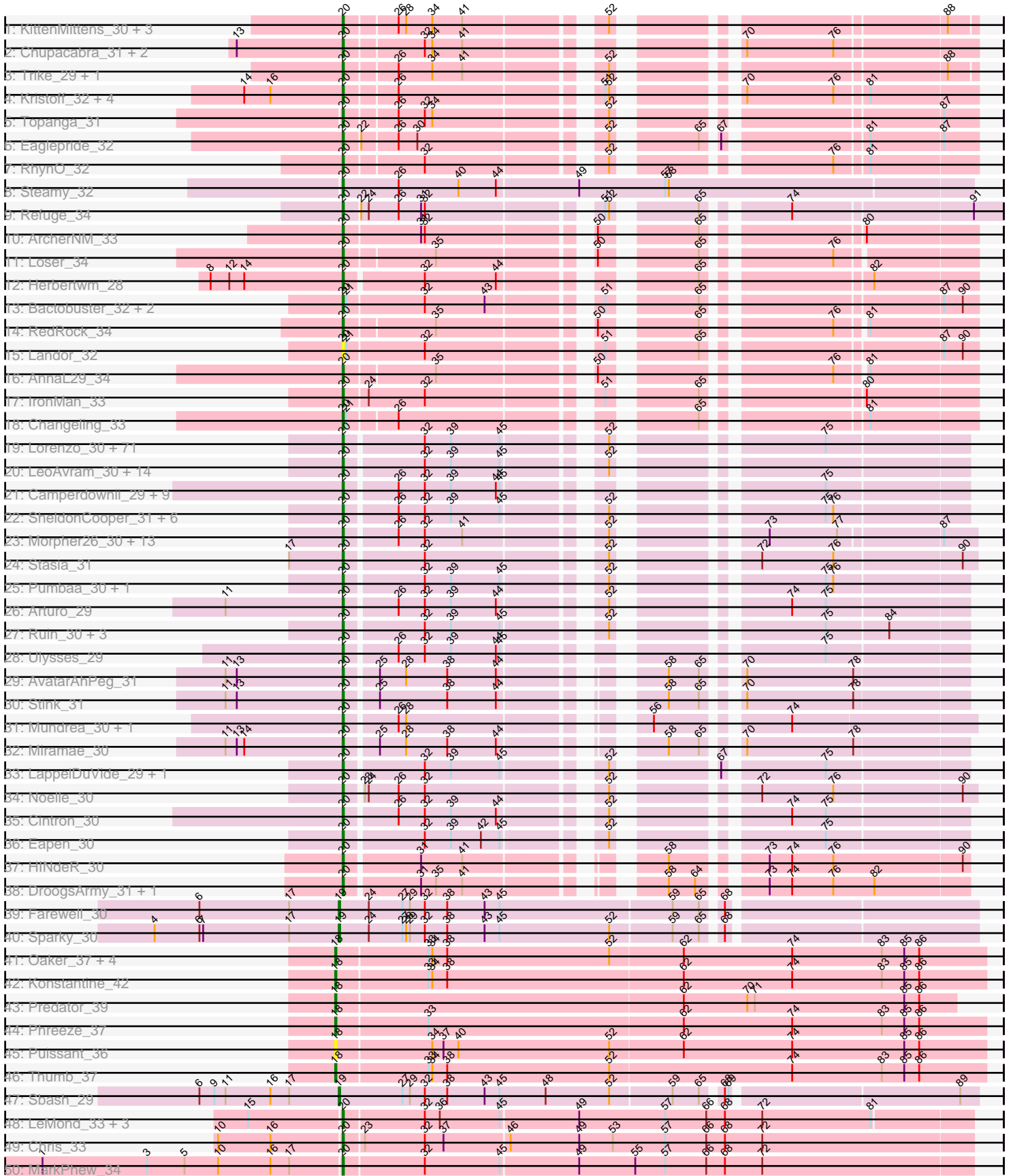
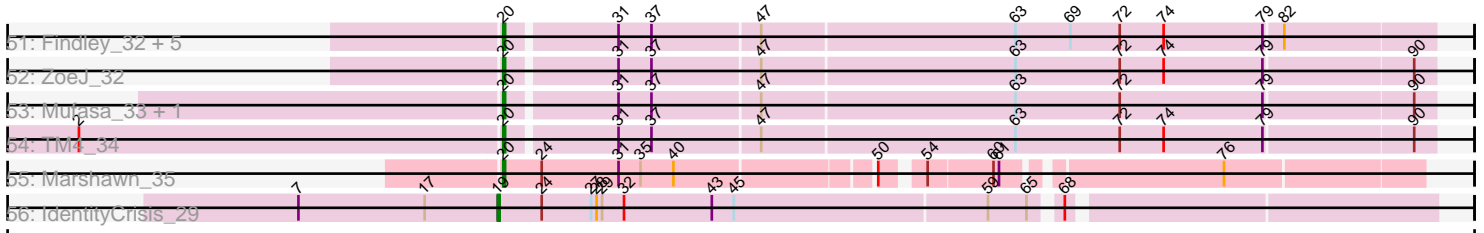


Pham 163355



Pham 163355



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 163355 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163355 has 201 members, 7 are drafts.

Phages represented in each track:

- Track 1 : KittenMittens_30, Drake94_30, PeaceMeal1_30, Poompha_30
- Track 2 : Chupacabra_31, Goose_31, OKCentral2016_31
- Track 3 : Trike_29, Severus_30
- Track 4 : Kristoff_32, Rebeuca_32, WalterMcMickey_31, Twister_31, Edison31_31
- Track 5 : Topanga_31
- Track 6 : Eaglepride_32
- Track 7 : RhynO_32
- Track 8 : Steamy_32
- Track 9 : Refuge_34
- Track 10 : ArcherNM_33
- Track 11 : Loser_34
- Track 12 : Herbertwm_28
- Track 13 : Bactobuster_32, Jaan_34, Phaded_34
- Track 14 : RedRock_34
- Track 15 : Landor_32
- Track 16 : AnnaL29_34
- Track 17 : IronMan_33
- Track 18 : Changeling_33
- Track 19 : Lorenzo_30, Florean_30, Cocoaberry_30, Bartimeaus_30, Avle17_30, Deano_30, Pipcraft_30, Koreni_29, Wilbur_30, Dhanush_30, Gadost_30, Taquarus_30, Alberto7_31, Relief_30, Bruiser_29, CentreCat_30, TinaFeyge_30, ChampagnePapi_31, Holli_30, Funston_30, TygerBlood_30, HamSlice_29, Albee_30, Baby16_30, Citius_30, Lemur_30, Flux_30, NotAPhaseMom_30, Caelakin_30, Eris_29, LittleB_30, Lunsford_31, Annyong_30, Chaph_30, Medusa_30, TroyPia_30, Druantia_30, OKaNui_31, Wander_30, Bombshell_30, Sparxx_30, TiroTheta9_30, Sabertooth_30, Blackmoor_30, Iceman_31, ICleared_30, Houdini22_30, Maverick_30, Scamp_30, NorthStar_30, Mazhar510_30, Melvin_30, Peaches_30, Eros_30, Romney_30, Burger_29, Clarenza_30, Millski_29, PeterPeter_30, Palestino_29, YoSam321_30, Spino_30, Roosevelt_30, JoongJeon_30, BubbleTrouble_30, Kingmustik0402_30, Broseidon_30, JetBlade_30, Connomayer_30, MeeZee_30, Wizard007_30, Phelipe_30
- Track 20 : LeoAvram_30, Maxo_30, Commander_30, LittleGuy_30, BellusTerra_30, Eurydice_30, Nebs_30, Polymorphads_30, Phontbonne_30, Morrow_30, Kampy_30, Abdiel_29, Nyxis_30, Jaykayelowell_30, Ohfah_30
- Track 21 : Camperdownii_29, Kyee_30, Thanksgivukkah_30, Phighter1804_30, Tinybot_29, DirtyDunning_30, Kratak_30, Iracema64_31, LochMonster_30, KFPoly_30

- Track 22 : SheldonCooper_31, BangNhom_30, Cerulean_31, Eagle_29, Obama12_31, Happiness_30, LHTSCC_31
- Track 23 : Morpher26_30, Perplexer_30, Shygu2_30, Datway_30, PetiteSangsue_30, Wile_30, Backyardigan_30, Xena_30, Bumblebee11_30, AbbysRanger_30, Badger_30, Cici_30, Katalie136_30, Achebe_29
- Track 24 : Stasia_31
- Track 25 : Pumbaa_30, Shaka_30
- Track 26 : Arturo_29
- Track 27 : Ruin_30, Nemo27_30, Kremtemulon_29, Phacado_30
- Track 28 : Ulysses_29
- Track 29 : AvatarAhPeg_31
- Track 30 : Stink_31
- Track 31 : Mundrea_30, Cindaradix_29
- Track 32 : Miramae_30
- Track 33 : LappelDuVide_29, Skipitt_30
- Track 34 : Noelle_30
- Track 35 : Cintron_30
- Track 36 : Eapen_30
- Track 37 : HINdeR_30
- Track 38 : DroogsArmy_31, Timshel_31
- Track 39 : Farewell_30
- Track 40 : Sparky_30
- Track 41 : Oaker_37, Megatron06_40, Cborch11_38, Beckerton_37, Damien_37
- Track 42 : Konstantine_42
- Track 43 : Predator_39
- Track 44 : Phreeze_37
- Track 45 : Puissant_36
- Track 46 : Thumb_37
- Track 47 : Sbash_29
- Track 48 : LeMond_33, KiSi_33, Oscar_33, Scarlett_33
- Track 49 : Chris_33
- Track 50 : MarkPheW_34
- Track 51 : Findley_32, DismalStressor_32, Strobilo_34, Milly_32, DismalFunk_32, Marcoliusprime_32
- Track 52 : ZoeJ_32
- Track 53 : Mufasa_33, BoostSeason_33
- Track 54 : TM4_34
- Track 55 : Marshawn_35
- Track 56 : IdentityCrisis_29

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 182 of the 194 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger_30, Abdiel_29, Achebe_29, Albee_30, Alberto7_31, AnnaL29_34, Annyong_30, ArcherNM_33, Arturo_29, AvatarAhPeg_31, Avle17_30, Baby16_30, Backyardigan_30, Bactobuster_32, Badger_30, BangNhom_30, Bartimeaus_30, BellusTerra_30, Blackmoor_30, Bombshell_30, BoostSeason_33, Broseidon_30,

Bruiser_29, BubbleTrouble_30, Bumblebee11_30, Burger_29, Caelakin_30, Camperdownii_29, CentreCat_30, Cerulean_31, ChampagnePapi_31, Changeling_33, Chaph_30, Chris_33, Chupacabra_31, Cici_30, Cindaradix_29, Cintron_30, Citius_30, Clarenza_30, Cocoaberry_30, Commander_30, Connomayer_30, Datway_30, Deano_30, Dhanush_30, DirtyDunning_30, DismalFunk_32, DismalStressor_32, Drake94_30, DroogsArmy_31, Druantia_30, Eagle_29, Eaglepride_32, Eapen_30, Edison31_31, Eris_29, Eros_30, Eurydice_30, Findley_32, Florean_30, Flux_30, Funston_30, Gadost_30, Goose_31, HINdeR_30, HamSlice_29, Happiness_30, Herbertwm_28, Holli_30, Houdini22_30, ICleared_30, Iceman_31, Iracema64_31, IronMan_33, Jaan_34, Jaykayelowell_30, JetBlade_30, JoongJeon_30, KFPoly_30, Kampy_30, Katalie136_30, KiSi_33, Kingmustik0402_30, KittenMittens_30, Koreni_29, Kratark_30, Kremtemulon_29, Kristoff_32, Kyee_30, LHTSCC_31, Landor_32, LappelDuVide_29, LeMond_33, Lemur_30, LeoAvram_30, LittleB_30, LittleGuy_30, LochMonster_30, Lorenzo_30, Loser_34, Lunsford_31, Marcoliusprime_32, MarkPhew_34, Marshawn_35, Maverick_30, Maxo_30, Mazhar510_30, Medusa_30, MeeZee_30, Melvin_30, Millski_29, Milly_32, Miramae_30, Morpher26_30, Morrow_30, Mufasa_33, Mundrea_30, Nebs_30, Nemo27_30, Noelle_30, NorthStar_30, NotAPhaseMom_30, Nyxis_30, OKCentral2016_31, OKaNui_31, Obama12_31, Ohfah_30, Oscar_33, Palestino_29, PeaceMeal1_30, Peaches_30, Perplexer_30, PeterPeter_30, PetiteSangsue_30, Phacado_30, Phaded_34, Phelipe_30, Phighter1804_30, Phontbonne_30, Pipcraft_30, Polymorphads_30, Poompha_30, Pumbaa_30, Rebeuca_32, RedRock_34, Refuge_34, Relief_30, RhynO_32, Romney_30, Roosevelt_30, Ruin_30, Sabertooth_30, Scamp_30, Scarlett_33, Severus_30, Shaka_30, SheldonCooper_31, Shygu2_30, Skipitt_30, Sparxx_30, Spino_30, Stasia_31, Steamy_32, Stink_31, Strobilo_34, TM4_34, Taquarus_30, Thanksgivukkah_30, Timshel_31, TinaFeyge_30, Tinybot_29, TiroTheta9_30, Topanga_31, Trike_29, TroyPia_30, Twister_31, TygerBlood_30, Ulysses_29, WalterMcMickey_31, Wander_30, Wilbur_30, Wile_30, Wizard007_30, Xena_30, YoSam321_30, ZoeJ_32,

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

-

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

- Beckerton_37, Cborch11_38, Damien_37, Farewell_30, IdentityCrisis_29, Konstantine_42, Megatron06_40, Oaker_37, Phreeze_37, Predator_39, Puissant_36, Sbash_29, Sparky_30, Thumb_37,

Summary by start number:

Start 18:

- Found in 10 of 201 (5.0%) of genes in pham
- Manual Annotations of this start: 8 of 194
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_37 (H1), Cborch11_38 (H1), Damien_37 (H1), Konstantine_42 (H1), Megatron06_40 (H1), Oaker_37 (H1), Phreeze_37 (H1), Predator_39 (H1), Puissant_36 (H1), Thumb_37 (H1),

Start 19:

- Found in 4 of 201 (2.0%) of genes in pham
- Manual Annotations of this start: 4 of 194
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Farewell_30 (AF), IdentityCrisis_29 (singleton), Sbash_29 (I2), Sparky_30 (AF),

Start 20:

- Found in 187 of 201 (93.0%) of genes in pham
- Manual Annotations of this start: 182 of 194
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger_30 (A4), Abdiel_29 (A4), Achebe_29 (A4), Albee_30 (A4), Alberto7_31 (A4), AnnaL29_34 (A2), Annyong_30 (A4), ArcherNM_33 (A2), Arturo_29 (A4), AvatarAhPeg_31 (A4), Avle17_30 (A4), Baby16_30 (A4), Backyardigan_30 (A4), Bactobuster_32 (A2), Badger_30 (A4), BangNhom_30 (A4), Bartimeaus_30 (A4), BellusTerra_30 (A4), Blackmoor_30 (A4), Bombshell_30 (A4), BoostSeason_33 (K2), Broseidon_30 (A4), Bruiser_29 (A4), BubbleTrouble_30 (A4), Bumblebee11_30 (A4), Burger_29 (A4), Caelakin_30 (A4), Camperdownii_29 (A4), CentreCat_30 (A4), Cerulean_31 (A4), ChampagnePapi_31 (A4), Changeling_33 (A2), Chaph_30 (A4), Chris_33 (K1), Chupacabra_31 (A10), Cici_30 (A4), Cindaradix_29 (A4), Cintron_30 (A4), Citius_30 (A4), Clarenza_30 (A4), Cocoaberry_30 (A4), Commander_30 (A4), Connomayer_30 (A4), Datway_30 (A4), Deano_30 (A4), Dhanush_30 (A4), DirtyDunning_30 (A4), DismalFunk_32 (K2), DismalStressor_32 (K2), Drake94_30 (A10), DroogsArmy_31 (A7), Druantia_30 (A4), Eagle_29 (A4), Eaglepride_32 (A10), Eapen_30 (A4), Edison31_31 (A10), Eris_29 (A4), Eros_30 (A4), Eurydice_30 (A4), Findley_32 (K2), Florean_30 (A4), Flux_30 (A4), Funston_30 (A4), Gadost_30 (A4), Goose_31 (A10), HINdeR_30 (A7), HamSlice_29 (A4), Happiness_30 (A4), Herbertwm_28 (A2), Holli_30 (A4), Houdini22_30 (A4), ICleared_30 (A4), Iceman_31 (A4), Iracema64_31 (A4), IronMan_33 (A2), Jaan_34 (A2), Jaykayelowell_30 (A4), JetBlade_30 (A4), JoongJeon_30 (A4), KFPPoly_30 (A4), Kamy_30 (A4), Katalie136_30 (A4), KiSi_33 (K1), Kingmustik0402_30 (A4), KittenMittens_30 (A10), Koreni_29 (A4), Kratark_30 (A4), Kremtemulon_29 (A4), Kristoff_32 (A10), Kyee_30 (A4), LHTSCC_31 (A4), Landor_32 (A2), LappelDuVide_29 (A4), LeMond_33 (K1), Lemur_30 (A4), LeoAvram_30 (A4), LittleB_30 (A4), LittleGuy_30 (A4), LochMonster_30 (A4), Lorenzo_30 (A4), Loser_34 (A2), Lunsford_31 (A4), Marcoliusprime_32 (K2), MarkPhew_34 (K1), Marshawn_35 (K6), Maverick_30 (A4), Maxo_30 (A4), Mazhar510_30 (A4), Medusa_30 (A4), MeeZee_30 (A4), Melvin_30 (A4), Millski_29 (A4), Milly_32 (K2), Miramae_30 (A4), Morpher26_30 (A4), Morrow_30 (A4), Mufasa_33 (K2), Mundrea_30 (A4), Nebs_30 (A4), Nemo27_30 (A4), Noelle_30 (A4), NorthStar_30 (A4), NotAPhaseMom_30 (A4), Nyxis_30 (A4), OKCentral2016_31 (A10), OKaNui_31 (A4), Obama12_31 (A4), Ohfah_30 (A4), Oscar_33 (K1), Palestino_29 (A4), PeaceMeal1_30 (A10), Peaches_30 (A4), Perplexer_30 (A4), PeterPeter_30 (A4), PetiteSangsue_30 (A4), Phacado_30 (A4), Phaded_34 (A2), Felipe_30 (A4), Phighter1804_30 (A4), Phontbonne_30 (A4), Pipcraft_30 (A4), Polymorphads_30 (A4), Poompha_30 (A10), Pumbaa_30 (A4), Rebeuca_32 (A10), RedRock_34 (A2), Refuge_34 (A12), Relief_30 (A4), RhynO_32 (A10), Romney_30 (A4), Roosevelt_30 (A4), Ruin_30 (A4), Sabertooth_30 (A4), Scamp_30 (A4), Scarlett_33 (K1), Severus_30 (A10), Shaka_30 (A4), SheldonCooper_31 (A4), Shygu2_30 (A4), Skipitt_30 (A4), Sparxx_30 (A4), Spino_30 (A4), Stasia_31 (A4), Steamy_32 (A12), Stink_31 (A4), Strobilo_34 (K2), TM4_34 (K2), Taquarus_30 (A4), Thanksgivukkah_30 (A4), Timshel_31 (A7), TinaFeyge_30 (A4), Tinybot_29 (A4), TiroTheta9_30 (A4), Topanga_31 (A10), Trike_29 (A10), TroyPia_30 (A4), Twister_31 (A10), TygerBlood_30 (A4), Ulysses_29 (A4), WalterMcMickey_31 (A10), Wander_30 (A4), Wilbur_30 (A4), Wile_30 (A4), Wizard007_30 (A4), Xena_30 (A4), YoSam321_30 (A4), ZoeJ_32 (K2),

Summary by clusters:

There are 12 clusters represented in this pham: singleton, H1, A10, A12, I2, K2, K1, A2, A4, A7, AF, K6,

Info for manual annotations of cluster A10:

- Start number 20 was manually annotated 16 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 20 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A2:

- Start number 20 was manually annotated 10 times for cluster A2.

Info for manual annotations of cluster A4:

- Start number 20 was manually annotated 135 times for cluster A4.

Info for manual annotations of cluster A7:

- Start number 20 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster AF:

- Start number 19 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster H1:

- Start number 18 was manually annotated 8 times for cluster H1.

Info for manual annotations of cluster I2:

- Start number 19 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster K1:

- Start number 20 was manually annotated 6 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 20 was manually annotated 9 times for cluster K2.

Info for manual annotations of cluster K6:

- Start number 20 was manually annotated 1 time for cluster K6.

Gene Information:

Gene: AbbysRanger_30 Start: 22547, Stop: 22978, Start Num: 20

Candidate Starts for AbbysRanger_30:

(Start: 20 @22547 has 182 MA's), (26, 22586), (32, 22607), (41, 22637), (52, 22730), (73, 22820), (77, 22874), (87, 22952),

Gene: Abdiel_29 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Abdiel_29:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: Achebe_29 Start: 22530, Stop: 22961, Start Num: 20

Candidate Starts for Achebe_29:

(Start: 20 @22530 has 182 MA's), (26, 22569), (32, 22590), (41, 22620), (52, 22713), (73, 22803), (77, 22857), (87, 22935),

Gene: Albee_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Albee_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Alberto7_31 Start: 22820, Stop: 23248, Start Num: 20

Candidate Starts for Alberto7_31:

(Start: 20 @22820 has 182 MA's), (32, 22880), (39, 22901), (45, 22940), (52, 23003), (75, 23138),

Gene: AnnaL29_34 Start: 24675, Stop: 25103, Start Num: 20

Candidate Starts for AnnaL29_34:

(Start: 20 @24675 has 182 MA's), (35, 24744), (50, 24849), (76, 24999), (81, 25020),

Gene: Annyong_30 Start: 22519, Stop: 22947, Start Num: 20

Candidate Starts for Annyong_30:

(Start: 20 @22519 has 182 MA's), (32, 22579), (39, 22600), (45, 22639), (52, 22702), (75, 22837),

Gene: ArcherNM_33 Start: 24619, Stop: 25053, Start Num: 20

Candidate Starts for ArcherNM_33:

(Start: 20 @24619 has 182 MA's), (31, 24679), (32, 24682), (50, 24796), (65, 24859), (80, 24967),

Gene: Arturo_29 Start: 22627, Stop: 23055, Start Num: 20

Candidate Starts for Arturo_29:

(11, 22534), (Start: 20 @22627 has 182 MA's), (26, 22666), (32, 22687), (39, 22708), (44, 22744), (52, 22810), (74, 22918), (75, 22945),

Gene: AvatarAhPeg_31 Start: 22800, Stop: 23225, Start Num: 20

Candidate Starts for AvatarAhPeg_31:

(11, 22707), (13, 22716), (Start: 20 @22800 has 182 MA's), (25, 22824), (28, 22845), (38, 22878), (44, 22917), (58, 23010), (65, 23034), (70, 23052), (78, 23136),

Gene: Avle17_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Avle17_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Baby16_30 Start: 22527, Stop: 22955, Start Num: 20

Candidate Starts for Baby16_30:

(Start: 20 @22527 has 182 MA's), (32, 22587), (39, 22608), (45, 22647), (52, 22710), (75, 22845),

Gene: Backyardigan_30 Start: 22542, Stop: 22973, Start Num: 20

Candidate Starts for Backyardigan_30:

(Start: 20 @22542 has 182 MA's), (26, 22581), (32, 22602), (41, 22632), (52, 22725), (73, 22815), (77, 22869), (87, 22947),

Gene: Bactobuster_32 Start: 24432, Stop: 24866, Start Num: 20

Candidate Starts for Bactobuster_32:

(Start: 20 @24432 has 182 MA's), (21, 24435), (32, 24495), (43, 24543), (51, 24615), (65, 24672), (87, 24840), (90, 24855),

Gene: Badger_30 Start: 22531, Stop: 22962, Start Num: 20

Candidate Starts for Badger_30:

(Start: 20 @22531 has 182 MA's), (26, 22570), (32, 22591), (41, 22621), (52, 22714), (73, 22804), (77, 22858), (87, 22936),

Gene: BangNhom_30 Start: 22832, Stop: 23260, Start Num: 20

Candidate Starts for BangNhom_30:

(Start: 20 @22832 has 182 MA's), (26, 22871), (32, 22892), (39, 22913), (45, 22952), (52, 23015), (75, 23150), (76, 23156),

Gene: Bartimeaus_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Bartimeaus_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Beckerton_37 Start: 33873, Stop: 34388, Start Num: 18

Candidate Starts for Beckerton_37:

(Start: 18 @33873 has 8 MA's), (33, 33945), (34, 33948), (38, 33960), (52, 34089), (62, 34146), (74, 34233), (83, 34305), (85, 34323), (86, 34335),

Gene: BellusTerra_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for BellusTerra_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: Blackmoor_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Blackmoor_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Bombshell_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Bombshell_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: BoostSeason_33 Start: 26994, Stop: 27485, Start Num: 20

Candidate Starts for BoostSeason_33:

(Start: 20 @26994 has 182 MA's), (31, 27051), (37, 27069), (47, 27126), (63, 27261), (72, 27318), (79, 27396), (90, 27474),

Gene: Broseidon_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Broseidon_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Bruiser_29 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Bruiser_29:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: BubbleTrouble_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for BubbleTrouble_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Bumblebee11_30 Start: 22533, Stop: 22964, Start Num: 20

Candidate Starts for Bumblebee11_30:

(Start: 20 @22533 has 182 MA's), (26, 22572), (32, 22593), (41, 22623), (52, 22716), (73, 22806), (77, 22860), (87, 22938),

Gene: Burger_29 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Burger_29:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Caelakin_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Caelakin_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Camperdownii_29 Start: 22137, Stop: 22565, Start Num: 20

Candidate Starts for Camperdownii_29:

(Start: 20 @22137 has 182 MA's), (26, 22176), (32, 22197), (39, 22218), (44, 22254), (45, 22257), (75, 22455),

Gene: Cborch11_38 Start: 33338, Stop: 33853, Start Num: 18

Candidate Starts for Cborch11_38:

(Start: 18 @33338 has 8 MA's), (33, 33410), (34, 33413), (38, 33425), (52, 33554), (62, 33611), (74, 33698), (83, 33770), (85, 33788), (86, 33800),

Gene: CentreCat_30 Start: 22519, Stop: 22947, Start Num: 20

Candidate Starts for CentreCat_30:

(Start: 20 @22519 has 182 MA's), (32, 22579), (39, 22600), (45, 22639), (52, 22702), (75, 22837),

Gene: Cerulean_31 Start: 22833, Stop: 23261, Start Num: 20

Candidate Starts for Cerulean_31:

(Start: 20 @22833 has 182 MA's), (26, 22872), (32, 22893), (39, 22914), (45, 22953), (52, 23016), (75, 23151), (76, 23157),

Gene: ChampagnePapi_31 Start: 22832, Stop: 23260, Start Num: 20

Candidate Starts for ChampagnePapi_31:

(Start: 20 @22832 has 182 MA's), (32, 22892), (39, 22913), (45, 22952), (52, 23015), (75, 23150),

Gene: Changeling_33 Start: 24673, Stop: 25104, Start Num: 20

Candidate Starts for Changeling_33:

(Start: 20 @24673 has 182 MA's), (21, 24676), (26, 24712), (65, 24910), (81, 25021),

Gene: Chaph_30 Start: 22527, Stop: 22955, Start Num: 20

Candidate Starts for Chaph_30:

(Start: 20 @22527 has 182 MA's), (32, 22587), (39, 22608), (45, 22647), (52, 22710), (75, 22845),

Gene: Chris_33 Start: 27363, Stop: 27860, Start Num: 20

Candidate Starts for Chris_33:

(10, 27267), (16, 27309), (Start: 20 @27363 has 182 MA's), (23, 27378), (32, 27426), (37, 27441), (46, 27492), (49, 27546), (53, 27573), (57, 27615), (66, 27648), (68, 27663), (72, 27693),

Gene: Chupacabra_31 Start: 22824, Stop: 23255, Start Num: 20

Candidate Starts for Chupacabra_31:

(13, 22740), (Start: 20 @22824 has 182 MA's), (32, 22884), (34, 22890), (41, 22914), (70, 23079), (76, 23148),

Gene: Cici_30 Start: 22527, Stop: 22958, Start Num: 20

Candidate Starts for Cici_30:

(Start: 20 @22527 has 182 MA's), (26, 22566), (32, 22587), (41, 22617), (52, 22710), (73, 22800), (77, 22854), (87, 22932),

Gene: Cindaradix_29 Start: 22245, Stop: 22676, Start Num: 20

Candidate Starts for Cindaradix_29:

(Start: 20 @22245 has 182 MA's), (26, 22284), (28, 22290), (56, 22443), (74, 22533),

Gene: Cintron_30 Start: 22563, Stop: 22991, Start Num: 20

Candidate Starts for Cintron_30:

(Start: 20 @22563 has 182 MA's), (26, 22602), (32, 22623), (39, 22644), (44, 22680), (52, 22746), (74, 22854), (75, 22881),

Gene: Citius_30 Start: 22533, Stop: 22961, Start Num: 20

Candidate Starts for Citius_30:

(Start: 20 @22533 has 182 MA's), (32, 22593), (39, 22614), (45, 22653), (52, 22716), (75, 22851),

Gene: Clarenza_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Clarenza_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: Cocoaberry_30 Start: 22522, Stop: 22950, Start Num: 20

Candidate Starts for Cocoaberry_30:

(Start: 20 @22522 has 182 MA's), (32, 22582), (39, 22603), (45, 22642), (52, 22705), (75, 22840),

Gene: Commander_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Commander_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701),

Gene: Connomayer_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Connomayer_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Damien_37 Start: 33339, Stop: 33854, Start Num: 18

Candidate Starts for Damien_37:

(Start: 18 @33339 has 8 MA's), (33, 33411), (34, 33414), (38, 33426), (52, 33555), (62, 33612), (74, 33699), (83, 33771), (85, 33789), (86, 33801),

Gene: Datway_30 Start: 22542, Stop: 22973, Start Num: 20

Candidate Starts for Datway_30:

(Start: 20 @22542 has 182 MA's), (26, 22581), (32, 22602), (41, 22632), (52, 22725), (73, 22815), (77, 22869), (87, 22947),

Gene: Deano_30 Start: 22526, Stop: 22954, Start Num: 20

Candidate Starts for Deano_30:

(Start: 20 @22526 has 182 MA's), (32, 22586), (39, 22607), (45, 22646), (52, 22709), (75, 22844),

Gene: Dhanush_30 Start: 22521, Stop: 22949, Start Num: 20

Candidate Starts for Dhanush_30:

(Start: 20 @22521 has 182 MA's), (32, 22581), (39, 22602), (45, 22641), (52, 22704), (75, 22839),

Gene: DirtyDunning_30 Start: 22511, Stop: 22939, Start Num: 20

Candidate Starts for DirtyDunning_30:

(Start: 20 @22511 has 182 MA's), (26, 22550), (32, 22571), (39, 22592), (44, 22628), (45, 22631), (75, 22829),

Gene: DismalFunk_32 Start: 26906, Stop: 27397, Start Num: 20

Candidate Starts for DismalFunk_32:

(Start: 20 @26906 has 182 MA's), (31, 26963), (37, 26981), (47, 27038), (63, 27173), (69, 27203), (72, 27230), (74, 27254), (79, 27308), (82, 27317),

Gene: DismalStressor_32 Start: 26906, Stop: 27397, Start Num: 20

Candidate Starts for DismalStressor_32:

(Start: 20 @26906 has 182 MA's), (31, 26963), (37, 26981), (47, 27038), (63, 27173), (69, 27203), (72, 27230), (74, 27254), (79, 27308), (82, 27317),

Gene: Drake94_30 Start: 20956, Stop: 21384, Start Num: 20

Candidate Starts for Drake94_30:

(Start: 20 @20956 has 182 MA's), (26, 20995), (28, 21001), (34, 21022), (41, 21046), (52, 21139), (88, 21364),

Gene: DroogsArmy_31 Start: 25323, Stop: 25751, Start Num: 20

Candidate Starts for DroogsArmy_31:

(Start: 20 @25323 has 182 MA's), (31, 25380), (35, 25392), (41, 25413), (58, 25533), (64, 25554), (73, 25593), (74, 25611), (76, 25644), (82, 25677),

Gene: Druantia_30 Start: 22519, Stop: 22947, Start Num: 20

Candidate Starts for Druantia_30:

(Start: 20 @22519 has 182 MA's), (32, 22579), (39, 22600), (45, 22639), (52, 22702), (75, 22837),

Gene: Eagle_29 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Eagle_29:

(Start: 20 @22518 has 182 MA's), (26, 22557), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836), (76, 22842),

Gene: Eaglepride_32 Start: 22834, Stop: 23265, Start Num: 20

Candidate Starts for Eaglepride_32:

(Start: 20 @22834 has 182 MA's), (22, 22846), (26, 22873), (30, 22888), (52, 23017), (65, 23071), (67, 23080), (81, 23182), (87, 23239),

Gene: Eapen_30 Start: 22517, Stop: 22945, Start Num: 20

Candidate Starts for Eapen_30:

(Start: 20 @22517 has 182 MA's), (32, 22577), (39, 22598), (42, 22622), (45, 22637), (52, 22700), (75, 22835),

Gene: Edison31_31 Start: 22864, Stop: 23295, Start Num: 20

Candidate Starts for Edison31_31:

(14, 22786), (16, 22807), (Start: 20 @22864 has 182 MA's), (26, 22903), (51, 23044), (52, 23047), (70, 23119), (76, 23188), (81, 23212),

Gene: Eris_29 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Eris_29:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Eros_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Eros_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Eurydice_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Eurydice_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: Farewell_30 Start: 27478, Stop: 27966, Start Num: 19

Candidate Starts for Farewell_30:

(6, 27367), (17, 27439), (Start: 19 @27478 has 4 MA's), (24, 27502), (27, 27529), (29, 27535), (32, 27547), (38, 27565), (43, 27595), (45, 27607), (59, 27742), (65, 27763), (68, 27775),

Gene: Findley_32 Start: 26898, Stop: 27389, Start Num: 20

Candidate Starts for Findley_32:

(Start: 20 @26898 has 182 MA's), (31, 26955), (37, 26973), (47, 27030), (63, 27165), (69, 27195), (72, 27222), (74, 27246), (79, 27300), (82, 27309),

Gene: Florean_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Florean_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: Flux_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Flux_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Funston_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Funston_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Gadost_30 Start: 22522, Stop: 22950, Start Num: 20

Candidate Starts for Gadost_30:

(Start: 20 @22522 has 182 MA's), (32, 22582), (39, 22603), (45, 22642), (52, 22705), (75, 22840),

Gene: Goose_31 Start: 22825, Stop: 23256, Start Num: 20

Candidate Starts for Goose_31:

(13, 22741), (Start: 20 @22825 has 182 MA's), (32, 22885), (34, 22891), (41, 22915), (70, 23080), (76, 23149),

Gene: HINdeR_30 Start: 25427, Stop: 25855, Start Num: 20

Candidate Starts for HINdeR_30:

(Start: 20 @25427 has 182 MA's), (31, 25484), (41, 25517), (58, 25637), (73, 25697), (74, 25715), (76, 25748), (90, 25850),

Gene: HamSlice_29 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for HamSlice_29:

(Start: 20 @22516 has 182 MA's), (32, 22576), (39, 22597), (45, 22636), (52, 22699), (75, 22834),

Gene: Happiness_30 Start: 22524, Stop: 22952, Start Num: 20

Candidate Starts for Happiness_30:

(Start: 20 @22524 has 182 MA's), (26, 22563), (32, 22584), (39, 22605), (45, 22644), (52, 22707), (75, 22842), (76, 22848),

Gene: Herbertwm_28 Start: 21463, Stop: 21894, Start Num: 20

Candidate Starts for Herbertwm_28:

(8, 21358), (12, 21373), (14, 21385), (Start: 20 @21463 has 182 MA's), (32, 21523), (44, 21580), (65, 21700), (82, 21814),

Gene: Holli_30 Start: 22308, Stop: 22736, Start Num: 20

Candidate Starts for Holli_30:

(Start: 20 @22308 has 182 MA's), (32, 22368), (39, 22389), (45, 22428), (52, 22491), (75, 22626),

Gene: Houdini22_30 Start: 22522, Stop: 22950, Start Num: 20

Candidate Starts for Houdini22_30:

(Start: 20 @22522 has 182 MA's), (32, 22582), (39, 22603), (45, 22642), (52, 22705), (75, 22840),

Gene: ICleared_30 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for ICleared_30:

(Start: 20 @22516 has 182 MA's), (32, 22576), (39, 22597), (45, 22636), (52, 22699), (75, 22834),

Gene: Iceman_31 Start: 22807, Stop: 23235, Start Num: 20

Candidate Starts for Iceman_31:

(Start: 20 @22807 has 182 MA's), (32, 22867), (39, 22888), (45, 22927), (52, 22990), (75, 23125),

Gene: IdentityCrisis_29 Start: 23867, Stop: 24355, Start Num: 19

Candidate Starts for IdentityCrisis_29:

(7, 23759), (17, 23828), (Start: 19 @23867 has 4 MA's), (24, 23891), (27, 23918), (28, 23921), (29, 23924), (32, 23936), (43, 23984), (45, 23996), (59, 24131), (65, 24152), (68, 24164),

Gene: Iracema64_31 Start: 22826, Stop: 23254, Start Num: 20

Candidate Starts for Iracema64_31:

(Start: 20 @22826 has 182 MA's), (26, 22865), (32, 22886), (39, 22907), (44, 22943), (45, 22946), (75, 23144),

Gene: IronMan_33 Start: 24398, Stop: 24832, Start Num: 20

Candidate Starts for IronMan_33:

(Start: 20 @24398 has 182 MA's), (24, 24416), (32, 24461), (51, 24581), (65, 24638), (80, 24746),

Gene: Jaan_34 Start: 24787, Stop: 25221, Start Num: 20

Candidate Starts for Jaan_34:

(Start: 20 @24787 has 182 MA's), (21, 24790), (32, 24850), (43, 24898), (51, 24970), (65, 25027), (87, 25195), (90, 25210),

Gene: Jaykayelowell_30 Start: 22514, Stop: 22942, Start Num: 20

Candidate Starts for Jaykayelowell_30:

(Start: 20 @22514 has 182 MA's), (32, 22574), (39, 22595), (45, 22634), (52, 22697),

Gene: JetBlade_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for JetBlade_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: JoongJeon_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for JoongJeon_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: KFPoly_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for KFPoly_30:

(Start: 20 @22515 has 182 MA's), (26, 22554), (32, 22575), (39, 22596), (44, 22632), (45, 22635), (75, 22833),

Gene: Kampy_30 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for Kampy_30:

(Start: 20 @22516 has 182 MA's), (32, 22576), (39, 22597), (45, 22636), (52, 22699),

Gene: Katalie136_30 Start: 22533, Stop: 22964, Start Num: 20

Candidate Starts for Katalie136_30:

(Start: 20 @22533 has 182 MA's), (26, 22572), (32, 22593), (41, 22623), (52, 22716), (73, 22806), (77, 22860), (87, 22938),

Gene: KiSi_33 Start: 27241, Stop: 27735, Start Num: 20

Candidate Starts for KiSi_33:

(15, 27169), (Start: 20 @27241 has 182 MA's), (32, 27304), (36, 27316), (45, 27364), (49, 27424), (57, 27493), (66, 27526), (68, 27541), (72, 27571), (81, 27658),

Gene: Kingmustik0402_30 Start: 22510, Stop: 22938, Start Num: 20

Candidate Starts for Kingmustik0402_30:

(Start: 20 @22510 has 182 MA's), (32, 22570), (39, 22591), (45, 22630), (52, 22693), (75, 22828),

Gene: KittenMittens_30 Start: 20964, Stop: 21392, Start Num: 20

Candidate Starts for KittenMittens_30:

(Start: 20 @20964 has 182 MA's), (26, 21003), (28, 21009), (34, 21030), (41, 21054), (52, 21147), (88, 21372),

Gene: Konstantine_42 Start: 34540, Stop: 35055, Start Num: 18

Candidate Starts for Konstantine_42:

(Start: 18 @34540 has 8 MA's), (33, 34612), (34, 34615), (38, 34627), (62, 34813), (74, 34900), (83, 34972), (85, 34990), (86, 35002),

Gene: Koreni_29 Start: 22164, Stop: 22592, Start Num: 20

Candidate Starts for Koreni_29:

(Start: 20 @22164 has 182 MA's), (32, 22224), (39, 22245), (45, 22284), (52, 22347), (75, 22482),

Gene: Kratark_30 Start: 22510, Stop: 22938, Start Num: 20

Candidate Starts for Kratark_30:

(Start: 20 @22510 has 182 MA's), (26, 22549), (32, 22570), (39, 22591), (44, 22627), (45, 22630), (75, 22828),

Gene: Kremtemulon_29 Start: 22566, Stop: 22994, Start Num: 20

Candidate Starts for Kremtemulon_29:

(Start: 20 @22566 has 182 MA's), (32, 22626), (39, 22647), (45, 22686), (52, 22749), (75, 22884), (84, 22932),

Gene: Kristoff_32 Start: 23028, Stop: 23459, Start Num: 20

Candidate Starts for Kristoff_32:

(14, 22950), (16, 22971), (Start: 20 @23028 has 182 MA's), (26, 23067), (51, 23208), (52, 23211), (70, 23283), (76, 23352), (81, 23376),

Gene: Kyee_30 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for Kyee_30:

(Start: 20 @22516 has 182 MA's), (26, 22555), (32, 22576), (39, 22597), (44, 22633), (45, 22636), (75, 22834),

Gene: LHTSCC_31 Start: 22832, Stop: 23260, Start Num: 20

Candidate Starts for LHTSCC_31:

(Start: 20 @22832 has 182 MA's), (26, 22871), (32, 22892), (39, 22913), (45, 22952), (52, 23015), (75, 23150), (76, 23156),

Gene: Landor_32 Start: 24439, Stop: 24873, Start Num: 20

Candidate Starts for Landor_32:

(Start: 20 @24439 has 182 MA's), (21, 24442), (32, 24502), (51, 24622), (65, 24679), (87, 24847), (90, 24862),

Gene: LappelDuVide_29 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for LappelDuVide_29:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (67, 22761), (75, 22833),

Gene: LeMond_33 Start: 27312, Stop: 27806, Start Num: 20

Candidate Starts for LeMond_33:

(15, 27240), (Start: 20 @27312 has 182 MA's), (32, 27375), (36, 27387), (45, 27435), (49, 27495), (57, 27564), (66, 27597), (68, 27612), (72, 27642), (81, 27729),

Gene: Lemur_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Lemur_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: LeoAvram_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for LeoAvram_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: LittleB_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for LittleB_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: LittleGuy_30 Start: 22461, Stop: 22889, Start Num: 20

Candidate Starts for LittleGuy_30:

(Start: 20 @22461 has 182 MA's), (32, 22521), (39, 22542), (45, 22581), (52, 22644),

Gene: LochMonster_30 Start: 22490, Stop: 22918, Start Num: 20

Candidate Starts for LochMonster_30:

(Start: 20 @22490 has 182 MA's), (26, 22529), (32, 22550), (39, 22571), (44, 22607), (45, 22610), (75, 22808),

Gene: Lorenzo_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Lorenzo_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Loser_34 Start: 24594, Stop: 25022, Start Num: 20

Candidate Starts for Loser_34:

(Start: 20 @24594 has 182 MA's), (35, 24663), (50, 24768), (65, 24831), (76, 24918),

Gene: Lunsford_31 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Lunsford_31:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: Marcoliusprime_32 Start: 26906, Stop: 27397, Start Num: 20

Candidate Starts for Marcoliusprime_32:

(Start: 20 @26906 has 182 MA's), (31, 26963), (37, 26981), (47, 27038), (63, 27173), (69, 27203), (72, 27230), (74, 27254), (79, 27308), (82, 27317),

Gene: MarkPhew_34 Start: 27210, Stop: 27707, Start Num: 20

Candidate Starts for MarkPhew_34:

(1, 26973), (3, 27057), (5, 27087), (10, 27114), (16, 27156), (17, 27171), (Start: 20 @27210 has 182 MA's), (32, 27273), (45, 27333), (49, 27393), (55, 27438), (57, 27462), (66, 27495), (68, 27510), (72, 27540),

Gene: Marshawn_35 Start: 27905, Stop: 28363, Start Num: 20

Candidate Starts for Marshawn_35:

(Start: 20 @27905 has 182 MA's), (24, 27926), (31, 27968), (35, 27980), (40, 27998), (50, 28097), (54, 28115), (60, 28148), (61, 28151), (76, 28259),

Gene: Maverick_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Maverick_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Maxo_30 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for Maxo_30:

(Start: 20 @22516 has 182 MA's), (32, 22576), (39, 22597), (45, 22636), (52, 22699),

Gene: Mazhar510_30 Start: 22519, Stop: 22947, Start Num: 20

Candidate Starts for Mazhar510_30:

(Start: 20 @22519 has 182 MA's), (32, 22579), (39, 22600), (45, 22639), (52, 22702), (75, 22837),

Gene: Medusa_30 Start: 22519, Stop: 22947, Start Num: 20

Candidate Starts for Medusa_30:

(Start: 20 @22519 has 182 MA's), (32, 22579), (39, 22600), (45, 22639), (52, 22702), (75, 22837),

Gene: MeeZee_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for MeeZee_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Megatron06_40 Start: 33872, Stop: 34387, Start Num: 18

Candidate Starts for Megatron06_40:

(Start: 18 @33872 has 8 MA's), (33, 33944), (34, 33947), (38, 33959), (52, 34088), (62, 34145), (74, 34232), (83, 34304), (85, 34322), (86, 34334),

Gene: Melvin_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Melvin_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Millski_29 Start: 22521, Stop: 22949, Start Num: 20

Candidate Starts for Millski_29:

(Start: 20 @22521 has 182 MA's), (32, 22581), (39, 22602), (45, 22641), (52, 22704), (75, 22839),

Gene: Milly_32 Start: 26879, Stop: 27370, Start Num: 20

Candidate Starts for Milly_32:

(Start: 20 @26879 has 182 MA's), (31, 26936), (37, 26954), (47, 27011), (63, 27146), (69, 27176), (72, 27203), (74, 27227), (79, 27281), (82, 27290),

Gene: Miramae_30 Start: 22464, Stop: 22889, Start Num: 20

Candidate Starts for Miramae_30:

(11, 22371), (13, 22380), (14, 22386), (Start: 20 @22464 has 182 MA's), (25, 22488), (28, 22509), (38, 22542), (44, 22581), (58, 22674), (65, 22698), (70, 22716), (78, 22800),

Gene: Morpher26_30 Start: 22533, Stop: 22964, Start Num: 20

Candidate Starts for Morpher26_30:

(Start: 20 @22533 has 182 MA's), (26, 22572), (32, 22593), (41, 22623), (52, 22716), (73, 22806), (77, 22860), (87, 22938),

Gene: Morrow_30 Start: 22521, Stop: 22949, Start Num: 20

Candidate Starts for Morrow_30:

(Start: 20 @22521 has 182 MA's), (32, 22581), (39, 22602), (45, 22641), (52, 22704),

Gene: Mufasa_33 Start: 26987, Stop: 27478, Start Num: 20

Candidate Starts for Mufasa_33:

(Start: 20 @26987 has 182 MA's), (31, 27044), (37, 27062), (47, 27119), (63, 27254), (72, 27311), (79, 27389), (90, 27467),

Gene: Mundrea_30 Start: 22485, Stop: 22916, Start Num: 20

Candidate Starts for Mundrea_30:

(Start: 20 @22485 has 182 MA's), (26, 22524), (28, 22530), (56, 22683), (74, 22773),

Gene: Nebs_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Nebs_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: Nemo27_30 Start: 22517, Stop: 22945, Start Num: 20

Candidate Starts for Nemo27_30:

(Start: 20 @22517 has 182 MA's), (32, 22577), (39, 22598), (45, 22637), (52, 22700), (75, 22835), (84, 22883),

Gene: Noelle_30 Start: 22590, Stop: 23024, Start Num: 20

Candidate Starts for Noelle_30:

(Start: 20 @22590 has 182 MA's), (23, 22602), (24, 22605), (26, 22629), (32, 22650), (52, 22773), (72, 22857), (76, 22914), (90, 23013),

Gene: NorthStar_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for NorthStar_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: NotAPhaseMom_30 Start: 22522, Stop: 22950, Start Num: 20

Candidate Starts for NotAPhaseMom_30:

(Start: 20 @22522 has 182 MA's), (32, 22582), (39, 22603), (45, 22642), (52, 22705), (75, 22840),

Gene: Nyxis_30 Start: 22461, Stop: 22889, Start Num: 20

Candidate Starts for Nyxis_30:

(Start: 20 @22461 has 182 MA's), (32, 22521), (39, 22542), (45, 22581), (52, 22644),

Gene: OKCentral2016_31 Start: 22531, Stop: 22962, Start Num: 20

Candidate Starts for OKCentral2016_31:

(13, 22447), (Start: 20 @22531 has 182 MA's), (32, 22591), (34, 22597), (41, 22621), (70, 22786), (76, 22855),

Gene: OKaNui_31 Start: 22571, Stop: 22999, Start Num: 20

Candidate Starts for OKaNui_31:

(Start: 20 @22571 has 182 MA's), (32, 22631), (39, 22652), (45, 22691), (52, 22754), (75, 22889),

Gene: Oaker_37 Start: 33596, Stop: 34111, Start Num: 18

Candidate Starts for Oaker_37:

(Start: 18 @33596 has 8 MA's), (33, 33668), (34, 33671), (38, 33683), (52, 33812), (62, 33869), (74, 33956), (83, 34028), (85, 34046), (86, 34058),

Gene: Obama12_31 Start: 22834, Stop: 23262, Start Num: 20

Candidate Starts for Obama12_31:

(Start: 20 @22834 has 182 MA's), (26, 22873), (32, 22894), (39, 22915), (45, 22954), (52, 23017), (75, 23152), (76, 23158),

Gene: Ohfah_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Ohfah_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: Oscar_33 Start: 27313, Stop: 27807, Start Num: 20

Candidate Starts for Oscar_33:

(15, 27241), (Start: 20 @27313 has 182 MA's), (32, 27376), (36, 27388), (45, 27436), (49, 27496), (57, 27565), (66, 27598), (68, 27613), (72, 27643), (81, 27730),

Gene: Palestino_29 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Palestino_29:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: PeaceMeal1_30 Start: 20965, Stop: 21393, Start Num: 20

Candidate Starts for PeaceMeal1_30:

(Start: 20 @20965 has 182 MA's), (26, 21004), (28, 21010), (34, 21031), (41, 21055), (52, 21148), (88, 21373),

Gene: Peaches_30 Start: 22517, Stop: 22945, Start Num: 20

Candidate Starts for Peaches_30:

(Start: 20 @22517 has 182 MA's), (32, 22577), (39, 22598), (45, 22637), (52, 22700), (75, 22835),

Gene: Perplexer_30 Start: 22530, Stop: 22961, Start Num: 20

Candidate Starts for Perplexer_30:

(Start: 20 @22530 has 182 MA's), (26, 22569), (32, 22590), (41, 22620), (52, 22713), (73, 22803), (77, 22857), (87, 22935),

Gene: PeterPeter_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for PeterPeter_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: PetiteSangsue_30 Start: 22533, Stop: 22964, Start Num: 20

Candidate Starts for PetiteSangsue_30:

(Start: 20 @22533 has 182 MA's), (26, 22572), (32, 22593), (41, 22623), (52, 22716), (73, 22806), (77, 22860), (87, 22938),

Gene: Phacado_30 Start: 22517, Stop: 22945, Start Num: 20

Candidate Starts for Phacado_30:

(Start: 20 @22517 has 182 MA's), (32, 22577), (39, 22598), (45, 22637), (52, 22700), (75, 22835), (84, 22883),

Gene: Phaded_34 Start: 24786, Stop: 25220, Start Num: 20

Candidate Starts for Phaded_34:

(Start: 20 @24786 has 182 MA's), (21, 24789), (32, 24849), (43, 24897), (51, 24969), (65, 25026), (87, 25194), (90, 25209),

Gene: Phelipe_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Phelipe_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Phighter1804_30 Start: 22493, Stop: 22921, Start Num: 20

Candidate Starts for Phighter1804_30:

(Start: 20 @22493 has 182 MA's), (26, 22532), (32, 22553), (39, 22574), (44, 22610), (45, 22613), (75, 22811),

Gene: Phontbonne_30 Start: 22462, Stop: 22890, Start Num: 20

Candidate Starts for Phontbonne_30:

(Start: 20 @22462 has 182 MA's), (32, 22522), (39, 22543), (45, 22582), (52, 22645),

Gene: Phreeze_37 Start: 33339, Stop: 33854, Start Num: 18

Candidate Starts for Phreeze_37:

(Start: 18 @33339 has 8 MA's), (33, 33411), (62, 33612), (74, 33699), (83, 33771), (85, 33789), (86, 33801),

Gene: Pipcraft_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Pipcraft_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Polymorphads_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Polymorphads_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698),

Gene: Poompha_30 Start: 20963, Stop: 21391, Start Num: 20

Candidate Starts for Poompha_30:

(Start: 20 @20963 has 182 MA's), (26, 21002), (28, 21008), (34, 21029), (41, 21053), (52, 21146), (88, 21371),

Gene: Predator_39 Start: 32530, Stop: 33021, Start Num: 18

Candidate Starts for Predator_39:

(Start: 18 @32530 has 8 MA's), (62, 32803), (70, 32854), (71, 32860), (85, 32980), (86, 32992),

Gene: Puissant_36 Start: 33827, Stop: 34342, Start Num: 18

Candidate Starts for Puissant_36:

(Start: 18 @33827 has 8 MA's), (34, 33902), (37, 33911), (40, 33923), (52, 34043), (62, 34100), (74, 34187), (85, 34277), (86, 34289),

Gene: Pumbaa_30 Start: 22493, Stop: 22921, Start Num: 20

Candidate Starts for Pumbaa_30:

(Start: 20 @22493 has 182 MA's), (32, 22553), (39, 22574), (45, 22613), (52, 22676), (75, 22811), (76, 22817),

Gene: Rebeuca_32 Start: 23029, Stop: 23460, Start Num: 20

Candidate Starts for Rebeuca_32:

(14, 22951), (16, 22972), (Start: 20 @23029 has 182 MA's), (26, 23068), (51, 23209), (52, 23212), (70, 23284), (76, 23353), (81, 23377),

Gene: RedRock_34 Start: 24752, Stop: 25180, Start Num: 20

Candidate Starts for RedRock_34:

(Start: 20 @24752 has 182 MA's), (35, 24821), (50, 24926), (65, 24989), (76, 25076), (81, 25097),

Gene: Refuge_34 Start: 25756, Stop: 26211, Start Num: 20

Candidate Starts for Refuge_34:

(Start: 20 @25756 has 182 MA's), (22, 25768), (24, 25774), (26, 25798), (31, 25816), (32, 25819), (51, 25939), (52, 25942), (65, 25996), (74, 26050), (91, 26188),

Gene: Relief_30 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for Relief_30:

(Start: 20 @22516 has 182 MA's), (32, 22576), (39, 22597), (45, 22636), (52, 22699), (75, 22834),

Gene: RhynO_32 Start: 23010, Stop: 23441, Start Num: 20

Candidate Starts for RhynO_32:

(Start: 20 @23010 has 182 MA's), (32, 23070), (52, 23193), (76, 23334), (81, 23358),

Gene: Romney_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Romney_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Roosevelt_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Roosevelt_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Ruin_30 Start: 22514, Stop: 22942, Start Num: 20

Candidate Starts for Ruin_30:

(Start: 20 @22514 has 182 MA's), (32, 22574), (39, 22595), (45, 22634), (52, 22697), (75, 22832), (84, 22880),

Gene: Sabertooth_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Sabertooth_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: Sbash_29 Start: 26224, Stop: 26712, Start Num: 19

Candidate Starts for Sbash_29:

(6, 26113), (9, 26125), (11, 26134), (16, 26170), (17, 26185), (Start: 19 @26224 has 4 MA's), (27, 26275), (29, 26281), (32, 26293), (38, 26311), (43, 26341), (45, 26353), (48, 26389), (52, 26440), (59, 26488), (65, 26509), (68, 26521), (69, 26524), (89, 26698),

Gene: Scamp_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Scamp_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Scarlett_33 Start: 27314, Stop: 27808, Start Num: 20

Candidate Starts for Scarlett_33:

(15, 27242), (Start: 20 @27314 has 182 MA's), (32, 27377), (36, 27389), (45, 27437), (49, 27497), (57, 27566), (66, 27599), (68, 27614), (72, 27644), (81, 27731),

Gene: Severus_30 Start: 20963, Stop: 21391, Start Num: 20

Candidate Starts for Severus_30:

(Start: 20 @20963 has 182 MA's), (26, 21002), (34, 21029), (41, 21053), (52, 21146), (88, 21371),

Gene: Shaka_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Shaka_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836), (76, 22842),

Gene: SheldonCooper_31 Start: 22833, Stop: 23261, Start Num: 20

Candidate Starts for SheldonCooper_31:

(Start: 20 @22833 has 182 MA's), (26, 22872), (32, 22893), (39, 22914), (45, 22953), (52, 23016), (75, 23151), (76, 23157),

Gene: Shygu2_30 Start: 22524, Stop: 22955, Start Num: 20

Candidate Starts for Shygu2_30:

(Start: 20 @22524 has 182 MA's), (26, 22563), (32, 22584), (41, 22614), (52, 22707), (73, 22797), (77, 22851), (87, 22929),

Gene: Skipitt_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for Skipitt_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (67, 22761), (75, 22833),

Gene: Sparky_30 Start: 27513, Stop: 28001, Start Num: 19

Candidate Starts for Sparky_30:

(4, 27366), (6, 27402), (7, 27405), (17, 27474), (Start: 19 @27513 has 4 MA's), (24, 27537), (27, 27564), (28, 27567), (29, 27570), (32, 27582), (38, 27600), (43, 27630), (45, 27642), (52, 27729), (59, 27777), (65, 27798), (68, 27810),

Gene: Sparxx_30 Start: 22516, Stop: 22944, Start Num: 20

Candidate Starts for Sparxx_30:

(Start: 20 @22516 has 182 MA's), (32, 22576), (39, 22597), (45, 22636), (52, 22699), (75, 22834),

Gene: Spino_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Spino_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Stasia_31 Start: 22953, Stop: 23387, Start Num: 20

Candidate Starts for Stasia_31:

(17, 22911), (Start: 20 @22953 has 182 MA's), (32, 23013), (52, 23136), (72, 23220), (76, 23277), (90, 23376),

Gene: Steamy_32 Start: 23901, Stop: 24398, Start Num: 20

Candidate Starts for Steamy_32:

(Start: 20 @23901 has 182 MA's), (26, 23946), (40, 23994), (44, 24024), (49, 24087), (57, 24156), (58, 24159),

Gene: Stink_31 Start: 22801, Stop: 23226, Start Num: 20

Candidate Starts for Stink_31:

(11, 22708), (13, 22717), (Start: 20 @22801 has 182 MA's), (25, 22825), (38, 22879), (44, 22918), (58, 23011), (65, 23035), (70, 23053), (78, 23137),

Gene: Strobilo_34 Start: 26879, Stop: 27370, Start Num: 20

Candidate Starts for Strobilo_34:

(Start: 20 @26879 has 182 MA's), (31, 26936), (37, 26954), (47, 27011), (63, 27146), (69, 27176), (72, 27203), (74, 27227), (79, 27281), (82, 27290),

Gene: TM4_34 Start: 27085, Stop: 27576, Start Num: 20

Candidate Starts for TM4_34:

(2, 26857), (Start: 20 @27085 has 182 MA's), (31, 27142), (37, 27160), (47, 27217), (63, 27352), (72, 27409), (74, 27433), (79, 27487), (90, 27565),

Gene: Taquarus_30 Start: 22521, Stop: 22949, Start Num: 20

Candidate Starts for Taquarus_30:

(Start: 20 @22521 has 182 MA's), (32, 22581), (39, 22602), (45, 22641), (52, 22704), (75, 22839),

Gene: Thanksgivukkah_30 Start: 22519, Stop: 22947, Start Num: 20

Candidate Starts for Thanksgivukkah_30:

(Start: 20 @22519 has 182 MA's), (26, 22558), (32, 22579), (39, 22600), (44, 22636), (45, 22639), (75, 22837),

Gene: Thumb_37 Start: 33336, Stop: 33851, Start Num: 18

Candidate Starts for Thumb_37:

(Start: 18 @33336 has 8 MA's), (33, 33408), (34, 33411), (38, 33423), (52, 33552), (74, 33696), (83, 33768), (85, 33786), (86, 33798),

Gene: Timshel_31 Start: 25553, Stop: 25981, Start Num: 20

Candidate Starts for Timshel_31:

(Start: 20 @25553 has 182 MA's), (31, 25610), (35, 25622), (41, 25643), (58, 25763), (64, 25784), (73, 25823), (74, 25841), (76, 25874), (82, 25907),

Gene: TinaFeyge_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for TinaFeyge_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: Tinybot_29 Start: 22495, Stop: 22923, Start Num: 20

Candidate Starts for Tinybot_29:

(Start: 20 @22495 has 182 MA's), (26, 22534), (32, 22555), (39, 22576), (44, 22612), (45, 22615), (75, 22813),

Gene: TiroTheta9_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for TiroTheta9_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: Topanga_31 Start: 22953, Stop: 23384, Start Num: 20

Candidate Starts for Topanga_31:

(Start: 20 @22953 has 182 MA's), (26, 22992), (32, 23013), (34, 23019), (52, 23136), (87, 23358),

Gene: Trike_29 Start: 20971, Stop: 21399, Start Num: 20

Candidate Starts for Trike_29:

(Start: 20 @20971 has 182 MA's), (26, 21010), (34, 21037), (41, 21061), (52, 21154), (88, 21379),

Gene: TroyPia_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for TroyPia_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Twister_31 Start: 22862, Stop: 23293, Start Num: 20

Candidate Starts for Twister_31:

(14, 22784), (16, 22805), (Start: 20 @22862 has 182 MA's), (26, 22901), (51, 23042), (52, 23045), (70, 23117), (76, 23186), (81, 23210),

Gene: TygerBlood_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for TygerBlood_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Ulysses_29 Start: 22236, Stop: 22664, Start Num: 20

Candidate Starts for Ulysses_29:

(Start: 20 @22236 has 182 MA's), (26, 22275), (32, 22296), (39, 22317), (44, 22353), (45, 22356), (75, 22554),

Gene: WalterMcMickey_31 Start: 22862, Stop: 23293, Start Num: 20

Candidate Starts for WalterMcMickey_31:

(14, 22784), (16, 22805), (Start: 20 @22862 has 182 MA's), (26, 22901), (51, 23042), (52, 23045), (70, 23117), (76, 23186), (81, 23210),

Gene: Wander_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Wander_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Wilbur_30 Start: 22518, Stop: 22946, Start Num: 20

Candidate Starts for Wilbur_30:

(Start: 20 @22518 has 182 MA's), (32, 22578), (39, 22599), (45, 22638), (52, 22701), (75, 22836),

Gene: Wile_30 Start: 22543, Stop: 22974, Start Num: 20

Candidate Starts for Wile_30:

(Start: 20 @22543 has 182 MA's), (26, 22582), (32, 22603), (41, 22633), (52, 22726), (73, 22816), (77, 22870), (87, 22948),

Gene: Wizard007_30 Start: 22520, Stop: 22948, Start Num: 20

Candidate Starts for Wizard007_30:

(Start: 20 @22520 has 182 MA's), (32, 22580), (39, 22601), (45, 22640), (52, 22703), (75, 22838),

Gene: Xena_30 Start: 22530, Stop: 22961, Start Num: 20

Candidate Starts for Xena_30:

(Start: 20 @22530 has 182 MA's), (26, 22569), (32, 22590), (41, 22620), (52, 22713), (73, 22803), (77, 22857), (87, 22935),

Gene: YoSam321_30 Start: 22515, Stop: 22943, Start Num: 20

Candidate Starts for YoSam321_30:

(Start: 20 @22515 has 182 MA's), (32, 22575), (39, 22596), (45, 22635), (52, 22698), (75, 22833),

Gene: ZoeJ_32 Start: 26884, Stop: 27375, Start Num: 20

Candidate Starts for ZoeJ_32:

(Start: 20 @26884 has 182 MA's), (31, 26941), (37, 26959), (47, 27016), (63, 27151), (72, 27208), (74, 27232), (79, 27286), (90, 27364),