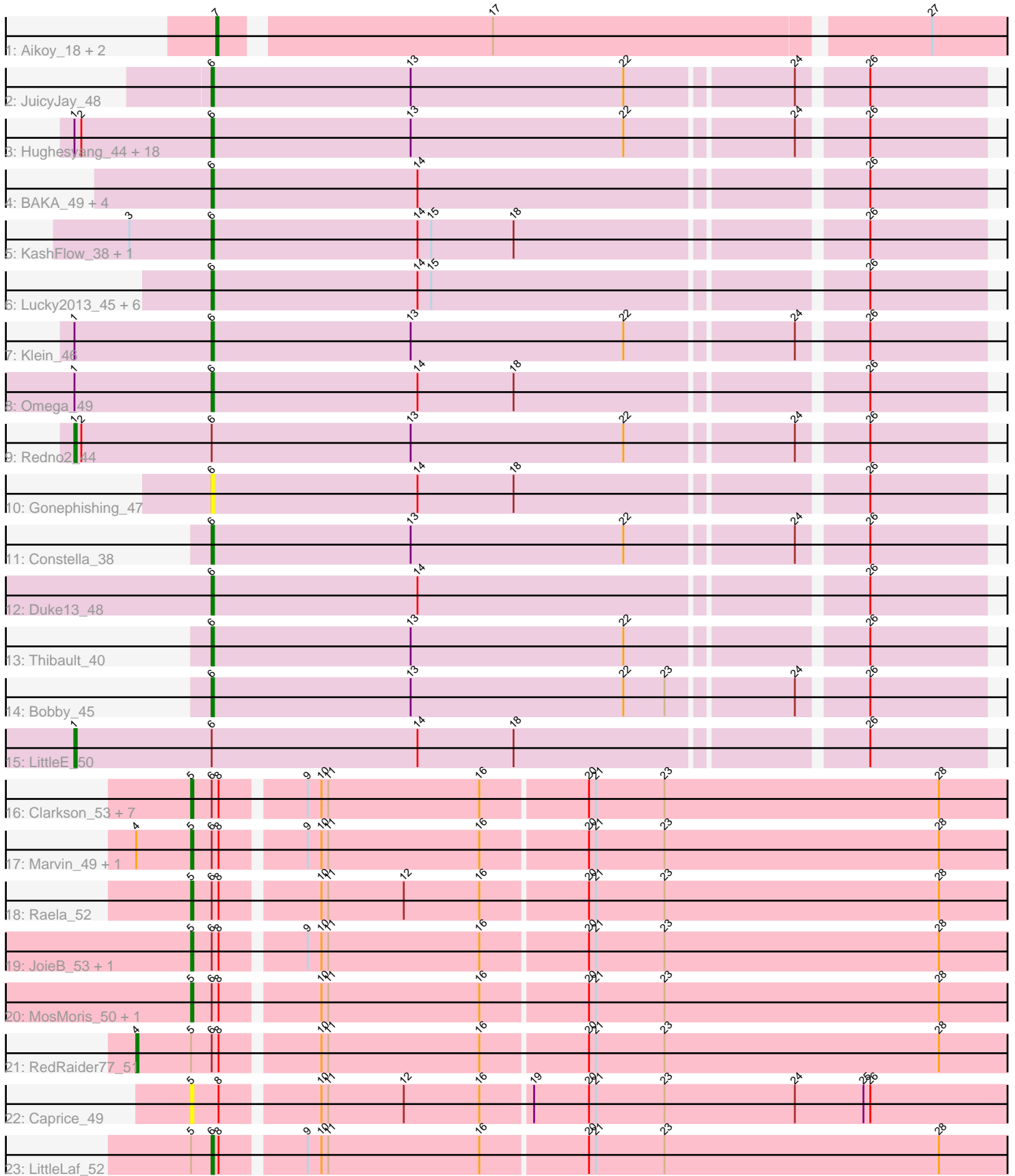


Pham 163608



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 163608 Report

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

Pham number 163608 has 64 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Aikoy_18, Onyinye_19, Leopard_18
- Track 2 : JuicyJay_48
- Track 3 : Hughesyang_44, Dove_45, Halley_46, Odette_46, HokkenD_39, Dallas_48, Schatzie_43, NihilNomen_45, Bagrid_45, EricMillard_46, Ejimix_46, Pound_47, Phoebus_45, Kalah2_46, Bombitas_42, Yeet_44, Beem_46, ThreeRngTarjay_44, Zelink_47
- Track 4 : BAKA_49, Optimus_50, Wanda_51, DmpstrDiver_46, Minerva_51
- Track 5 : KashFlow_38, Hannaconda_41
- Track 6 : Lucky2013_45, Ariel_45, Courthouse_45, Superphikiman_45, Squint_44, Porcelain_44, MiaZeal_45
- Track 7 : Klein_46
- Track 8 : Omega_49
- Track 9 : Redno2_44
- Track 10 : Gonephishing_47
- Track 11 : Constella_38
- Track 12 : Duke13_48
- Track 13 : Thibault_40
- Track 14 : Bobby_45
- Track 15 : LittleE_50
- Track 16 : Clarkson_53, Beelzebub_56, Poise_52, Lilbit_53, Pringar_52, Blackbeetle_52, Huphlepuuff_54, VasuNzinga_52
- Track 17 : Marvin_49, Tesla_50
- Track 18 : Raela_52
- Track 19 : JoieB_53, Corazon_50
- Track 20 : MosMoris_50, Gattaca_51
- Track 21 : RedRaider77_51
- Track 22 : Caprice_49
- Track 23 : LittleLaf_52

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

The start number called the most often in the published annotations is 6, it was called in 38 of the 58 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ariel_45, BAKA_49, Bagrid_45, Beem_46, Bobby_45, Bombitas_42, Constella_38, Courthouse_45, Dallas_48, DmpstrDiver_46, Dove_45, Duke13_48, Ejimix_46, EricMillard_46, Gonephishing_47, Halley_46, Hannaconda_41, HokkenD_39, Hughesyang_44, JuicyJay_48, Kalah2_46, KashFlow_38, Klein_46, LittleLaf_52, Lucky2013_45, MiaZeal_45, Minerva_51, NihilNomen_45, Odette_46, Omega_49, Optimus_50, Phoebus_45, Porcelain_44, Pound_47, Schatzie_43, Squint_44, Superphikiman_45, Thibault_40, ThreeRngTarjay_44, Wanda_51, Yeet_44, Zelink_47,

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

- Beelzebub_56, Blackbeetle_52, Clarkson_53, Corazon_50, Gattaca_51, Huphlepuuff_54, JoieB_53, Lilbit_53, LittleE_50, Marvin_49, MosMoris_50, Poise_52, Pringar_52, Raela_52, RedRaider77_51, Redno2_44, Tesla_50, VasuNzinga_52,

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

- Aikoy_18, Caprice_49, Leopard_18, Onyinye_19,

Summary by start number:

Start 1:

- Found in 23 of 64 (35.9%) of genes in pham
- Manual Annotations of this start: 2 of 58
- Called 8.7% of time when present
- Phage (with cluster) where this start called: LittleE_50 (J), Redno2_44 (J),

Start 4:

- Found in 3 of 64 (4.7%) of genes in pham
- Manual Annotations of this start: 1 of 58
- Called 33.3% of time when present
- Phage (with cluster) where this start called: RedRaider77_51 (S),

Start 5:

- Found in 18 of 64 (28.1%) of genes in pham
- Manual Annotations of this start: 14 of 58
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Beelzebub_56 (S), Blackbeetle_52 (S), Caprice_49 (S), Clarkson_53 (S), Corazon_50 (S), Gattaca_51 (S), Huphlepuuff_54 (S), JoieB_53 (S), Lilbit_53 (S), Marvin_49 (S), MosMoris_50 (S), Poise_52 (S), Pringar_52 (S), Raela_52 (S), Tesla_50 (S), VasuNzinga_52 (S),

Start 6:

- Found in 60 of 64 (93.8%) of genes in pham
- Manual Annotations of this start: 38 of 58
- Called 70.0% of time when present
- Phage (with cluster) where this start called: Ariel_45 (J), BAKA_49 (J), Bagrid_45 (J), Beem_46 (J), Bobby_45 (J), Bombitas_42 (J), Constella_38 (J), Courthouse_45 (J), Dallas_48 (J), DmpstrDiver_46 (J), Dove_45 (J), Duke13_48 (J), Ejimix_46 (J), EricMillard_46 (J), Gonephishing_47 (J), Halley_46 (J), Hannaconda_41 (J), HokkenD_39 (J), Hughesyang_44 (J), JuicyJay_48 (J), Kalah2_46 (J), KashFlow_38 (J), Klein_46 (J), LittleLaf_52 (S), Lucky2013_45 (J), MiaZeal_45 (J), Minerva_51 (J), NihilNomen_45 (J), Odette_46 (J), Omega_49 (J), Optimus_50 (J), Phoebus_45 (J), Porcelain_44 (J), Pound_47 (J), Schatzie_43 (J), Squint_44 (J), Superphikiman_45

(J), Thibault_40 (J), ThreeRngTarjay_44 (J), Wanda_51 (J), Yeet_44 (J), Zelink_47 (J),

Start 7:

- Found in 3 of 64 (4.7%) of genes in pham
- Manual Annotations of this start: 3 of 58
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikoy_18 (AE), Leopard_18 (AE), Onyinye_19 (AE),

Summary by clusters:

There are 3 clusters represented in this pham: S, J, AE,

Info for manual annotations of cluster AE:

- Start number 7 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster J:

- Start number 1 was manually annotated 2 times for cluster J.
- Start number 6 was manually annotated 37 times for cluster J.

Info for manual annotations of cluster S:

- Start number 4 was manually annotated 1 time for cluster S.
- Start number 5 was manually annotated 14 times for cluster S.
- Start number 6 was manually annotated 1 time for cluster S.

Gene Information:

Gene: Aikoy_18 Start: 11557, Stop: 11889, Start Num: 7

Candidate Starts for Aikoy_18:

(Start: 7 @11557 has 3 MA's), (17, 11668), (27, 11851),

Gene: Ariel_45 Start: 36301, Stop: 36627, Start Num: 6

Candidate Starts for Ariel_45:

(Start: 6 @36301 has 38 MA's), (14, 36391), (15, 36397), (26, 36577),

Gene: BAKA_49 Start: 39959, Stop: 40285, Start Num: 6

Candidate Starts for BAKA_49:

(Start: 6 @39959 has 38 MA's), (14, 40049), (26, 40235),

Gene: Bagrid_45 Start: 39888, Stop: 40214, Start Num: 6

Candidate Starts for Bagrid_45:

(Start: 1 @39828 has 2 MA's), (2, 39831), (Start: 6 @39888 has 38 MA's), (13, 39975), (22, 40068), (24, 40137), (26, 40164),

Gene: Beelzebub_56 Start: 29928, Stop: 30275, Start Num: 5

Candidate Starts for Beelzebub_56:

(Start: 5 @29928 has 14 MA's), (Start: 6 @29937 has 38 MA's), (8, 29940), (9, 29973), (10, 29979), (11, 29982), (16, 30048), (20, 30093), (21, 30096), (23, 30126), (28, 30246),

Gene: Beem_46 Start: 40454, Stop: 40780, Start Num: 6

Candidate Starts for Beem_46:

(Start: 1 @40394 has 2 MA's), (2, 40397), (Start: 6 @40454 has 38 MA's), (13, 40541), (22, 40634), (24, 40703), (26, 40730),

Gene: Blackbeetle_52 Start: 28974, Stop: 29321, Start Num: 5

Candidate Starts for Blackbeetle_52:

(Start: 5 @28974 has 14 MA's), (Start: 6 @28983 has 38 MA's), (8, 28986), (9, 29019), (10, 29025), (11, 29028), (16, 29094), (20, 29139), (21, 29142), (23, 29172), (28, 29292),

Gene: Bobby_45 Start: 38639, Stop: 38965, Start Num: 6

Candidate Starts for Bobby_45:

(Start: 6 @38639 has 38 MA's), (13, 38726), (22, 38819), (23, 38837), (24, 38888), (26, 38915),

Gene: Bombitas_42 Start: 39510, Stop: 39836, Start Num: 6

Candidate Starts for Bombitas_42:

(Start: 1 @39450 has 2 MA's), (2, 39453), (Start: 6 @39510 has 38 MA's), (13, 39597), (22, 39690), (24, 39759), (26, 39786),

Gene: Caprice_49 Start: 29287, Stop: 29634, Start Num: 5

Candidate Starts for Caprice_49:

(Start: 5 @29287 has 14 MA's), (8, 29299), (10, 29338), (11, 29341), (12, 29374), (16, 29407), (19, 29428), (20, 29452), (21, 29455), (23, 29485), (24, 29542), (25, 29572), (26, 29575),

Gene: Clarkson_53 Start: 29656, Stop: 30003, Start Num: 5

Candidate Starts for Clarkson_53:

(Start: 5 @29656 has 14 MA's), (Start: 6 @29665 has 38 MA's), (8, 29668), (9, 29701), (10, 29707), (11, 29710), (16, 29776), (20, 29821), (21, 29824), (23, 29854), (28, 29974),

Gene: Constella_38 Start: 36585, Stop: 36911, Start Num: 6

Candidate Starts for Constella_38:

(Start: 6 @36585 has 38 MA's), (13, 36672), (22, 36765), (24, 36834), (26, 36861),

Gene: Corazon_50 Start: 29850, Stop: 30197, Start Num: 5

Candidate Starts for Corazon_50:

(Start: 5 @29850 has 14 MA's), (Start: 6 @29859 has 38 MA's), (8, 29862), (9, 29895), (10, 29901), (11, 29904), (16, 29970), (20, 30015), (21, 30018), (23, 30048), (28, 30168),

Gene: Courthouse_45 Start: 36705, Stop: 37031, Start Num: 6

Candidate Starts for Courthouse_45:

(Start: 6 @36705 has 38 MA's), (14, 36795), (15, 36801), (26, 36981),

Gene: Dallas_48 Start: 39979, Stop: 40305, Start Num: 6

Candidate Starts for Dallas_48:

(Start: 1 @39919 has 2 MA's), (2, 39922), (Start: 6 @39979 has 38 MA's), (13, 40066), (22, 40159), (24, 40228), (26, 40255),

Gene: DmpstrDiver_46 Start: 39388, Stop: 39714, Start Num: 6

Candidate Starts for DmpstrDiver_46:

(Start: 6 @39388 has 38 MA's), (14, 39478), (26, 39664),

Gene: Dove_45 Start: 39509, Stop: 39835, Start Num: 6

Candidate Starts for Dove_45:

(Start: 1 @39449 has 2 MA's), (2, 39452), (Start: 6 @39509 has 38 MA's), (13, 39596), (22, 39689), (24, 39758), (26, 39785),

Gene: Duke13_48 Start: 39706, Stop: 40032, Start Num: 6

Candidate Starts for Duke13_48:

(Start: 6 @39706 has 38 MA's), (14, 39796), (26, 39982),

Gene: Ejimix_46 Start: 41239, Stop: 41565, Start Num: 6

Candidate Starts for Ejimix_46:

(Start: 1 @41179 has 2 MA's), (2, 41182), (Start: 6 @41239 has 38 MA's), (13, 41326), (22, 41419), (24, 41488), (26, 41515),

Gene: EricMillard_46 Start: 40740, Stop: 41066, Start Num: 6

Candidate Starts for EricMillard_46:

(Start: 1 @40680 has 2 MA's), (2, 40683), (Start: 6 @40740 has 38 MA's), (13, 40827), (22, 40920), (24, 40989), (26, 41016),

Gene: Gattaca_51 Start: 29077, Stop: 29424, Start Num: 5

Candidate Starts for Gattaca_51:

(Start: 5 @29077 has 14 MA's), (Start: 6 @29086 has 38 MA's), (8, 29089), (10, 29128), (11, 29131), (16, 29197), (20, 29242), (21, 29245), (23, 29275), (28, 29395),

Gene: Gonephishing_47 Start: 38100, Stop: 38426, Start Num: 6

Candidate Starts for Gonephishing_47:

(Start: 6 @38100 has 38 MA's), (14, 38190), (18, 38232), (26, 38376),

Gene: Halley_46 Start: 40453, Stop: 40779, Start Num: 6

Candidate Starts for Halley_46:

(Start: 1 @40393 has 2 MA's), (2, 40396), (Start: 6 @40453 has 38 MA's), (13, 40540), (22, 40633), (24, 40702), (26, 40729),

Gene: Hannaconda_41 Start: 34272, Stop: 34598, Start Num: 6

Candidate Starts for Hannaconda_41:

(3, 34236), (Start: 6 @34272 has 38 MA's), (14, 34362), (15, 34368), (18, 34404), (26, 34548),

Gene: HokkenD_39 Start: 38722, Stop: 39048, Start Num: 6

Candidate Starts for HokkenD_39:

(Start: 1 @38662 has 2 MA's), (2, 38665), (Start: 6 @38722 has 38 MA's), (13, 38809), (22, 38902), (24, 38971), (26, 38998),

Gene: Hughesyang_44 Start: 40382, Stop: 40708, Start Num: 6

Candidate Starts for Hughesyang_44:

(Start: 1 @40322 has 2 MA's), (2, 40325), (Start: 6 @40382 has 38 MA's), (13, 40469), (22, 40562), (24, 40631), (26, 40658),

Gene: Huphlebuff_54 Start: 29461, Stop: 29808, Start Num: 5

Candidate Starts for Huphlebuff_54:

(Start: 5 @29461 has 14 MA's), (Start: 6 @29470 has 38 MA's), (8, 29473), (9, 29506), (10, 29512), (11, 29515), (16, 29581), (20, 29626), (21, 29629), (23, 29659), (28, 29779),

Gene: JoieB_53 Start: 29894, Stop: 30241, Start Num: 5

Candidate Starts for JoieB_53:

(Start: 5 @29894 has 14 MA's), (Start: 6 @29903 has 38 MA's), (8, 29906), (9, 29939), (10, 29945), (11, 29948), (16, 30014), (20, 30059), (21, 30062), (23, 30092), (28, 30212),

Gene: JuicyJay_48 Start: 42202, Stop: 42528, Start Num: 6

Candidate Starts for JuicyJay_48:

(Start: 6 @42202 has 38 MA's), (13, 42289), (22, 42382), (24, 42451), (26, 42478),

Gene: Kalah2_46 Start: 40790, Stop: 41116, Start Num: 6

Candidate Starts for Kalah2_46:

(Start: 1 @40730 has 2 MA's), (2, 40733), (Start: 6 @40790 has 38 MA's), (13, 40877), (22, 40970), (24, 41039), (26, 41066),

Gene: KashFlow_38 Start: 33893, Stop: 34219, Start Num: 6

Candidate Starts for KashFlow_38:

(3, 33857), (Start: 6 @33893 has 38 MA's), (14, 33983), (15, 33989), (18, 34025), (26, 34169),

Gene: Klein_46 Start: 40014, Stop: 40340, Start Num: 6

Candidate Starts for Klein_46:

(Start: 1 @39954 has 2 MA's), (Start: 6 @40014 has 38 MA's), (13, 40101), (22, 40194), (24, 40263), (26, 40290),

Gene: Leopard_18 Start: 11842, Stop: 12174, Start Num: 7

Candidate Starts for Leopard_18:

(Start: 7 @11842 has 3 MA's), (17, 11953), (27, 12136),

Gene: Lilbit_53 Start: 29657, Stop: 30004, Start Num: 5

Candidate Starts for Lilbit_53:

(Start: 5 @29657 has 14 MA's), (Start: 6 @29666 has 38 MA's), (8, 29669), (9, 29702), (10, 29708), (11, 29711), (16, 29777), (20, 29822), (21, 29825), (23, 29855), (28, 29975),

Gene: LittleE_50 Start: 40192, Stop: 40578, Start Num: 1

Candidate Starts for LittleE_50:

(Start: 1 @40192 has 2 MA's), (Start: 6 @40252 has 38 MA's), (14, 40342), (18, 40384), (26, 40528),

Gene: LittleLaf_52 Start: 29395, Stop: 29733, Start Num: 6

Candidate Starts for LittleLaf_52:

(Start: 5 @29386 has 14 MA's), (Start: 6 @29395 has 38 MA's), (8, 29398), (9, 29431), (10, 29437), (11, 29440), (16, 29506), (20, 29551), (21, 29554), (23, 29584), (28, 29704),

Gene: Lucky2013_45 Start: 36841, Stop: 37167, Start Num: 6

Candidate Starts for Lucky2013_45:

(Start: 6 @36841 has 38 MA's), (14, 36931), (15, 36937), (26, 37117),

Gene: Marvin_49 Start: 29144, Stop: 29491, Start Num: 5

Candidate Starts for Marvin_49:

(Start: 4 @29120 has 1 MA's), (Start: 5 @29144 has 14 MA's), (Start: 6 @29153 has 38 MA's), (8, 29156), (9, 29189), (10, 29195), (11, 29198), (16, 29264), (20, 29309), (21, 29312), (23, 29342), (28, 29462),

Gene: MiaZeal_45 Start: 36516, Stop: 36842, Start Num: 6

Candidate Starts for MiaZeal_45:

(Start: 6 @36516 has 38 MA's), (14, 36606), (15, 36612), (26, 36792),

Gene: Minerva_51 Start: 41255, Stop: 41581, Start Num: 6

Candidate Starts for Minerva_51:

(Start: 6 @41255 has 38 MA's), (14, 41345), (26, 41531),

Gene: MosMoris_50 Start: 29077, Stop: 29424, Start Num: 5

Candidate Starts for MosMoris_50:

(Start: 5 @29077 has 14 MA's), (Start: 6 @29086 has 38 MA's), (8, 29089), (10, 29128), (11, 29131), (16, 29197), (20, 29242), (21, 29245), (23, 29275), (28, 29395),

Gene: NihilNomen_45 Start: 40530, Stop: 40856, Start Num: 6

Candidate Starts for NihilNomen_45:

(Start: 1 @40470 has 2 MA's), (2, 40473), (Start: 6 @40530 has 38 MA's), (13, 40617), (22, 40710), (24, 40779), (26, 40806),

Gene: Odette_46 Start: 39763, Stop: 40089, Start Num: 6

Candidate Starts for Odette_46:

(Start: 1 @39703 has 2 MA's), (2, 39706), (Start: 6 @39763 has 38 MA's), (13, 39850), (22, 39943), (24, 40012), (26, 40039),

Gene: Omega_49 Start: 40896, Stop: 41222, Start Num: 6

Candidate Starts for Omega_49:

(Start: 1 @40836 has 2 MA's), (Start: 6 @40896 has 38 MA's), (14, 40986), (18, 41028), (26, 41172),

Gene: Onyinye_19 Start: 11723, Stop: 12055, Start Num: 7

Candidate Starts for Onyinye_19:

(Start: 7 @11723 has 3 MA's), (17, 11834), (27, 12017),

Gene: Optimus_50 Start: 40840, Stop: 41166, Start Num: 6

Candidate Starts for Optimus_50:

(Start: 6 @40840 has 38 MA's), (14, 40930), (26, 41116),

Gene: Phoebus_45 Start: 40740, Stop: 41066, Start Num: 6

Candidate Starts for Phoebus_45:

(Start: 1 @40680 has 2 MA's), (2, 40683), (Start: 6 @40740 has 38 MA's), (13, 40827), (22, 40920), (24, 40989), (26, 41016),

Gene: Poise_52 Start: 28974, Stop: 29321, Start Num: 5

Candidate Starts for Poise_52:

(Start: 5 @28974 has 14 MA's), (Start: 6 @28983 has 38 MA's), (8, 28986), (9, 29019), (10, 29025), (11, 29028), (16, 29094), (20, 29139), (21, 29142), (23, 29172), (28, 29292),

Gene: Porcelain_44 Start: 36516, Stop: 36842, Start Num: 6

Candidate Starts for Porcelain_44:

(Start: 6 @36516 has 38 MA's), (14, 36606), (15, 36612), (26, 36792),

Gene: Pound_47 Start: 41761, Stop: 42087, Start Num: 6

Candidate Starts for Pound_47:

(Start: 1 @41701 has 2 MA's), (2, 41704), (Start: 6 @41761 has 38 MA's), (13, 41848), (22, 41941), (24, 42010), (26, 42037),

Gene: Pringar_52 Start: 29262, Stop: 29609, Start Num: 5

Candidate Starts for Pringar_52:

(Start: 5 @29262 has 14 MA's), (Start: 6 @29271 has 38 MA's), (8, 29274), (9, 29307), (10, 29313), (11, 29316), (16, 29382), (20, 29427), (21, 29430), (23, 29460), (28, 29580),

Gene: Raela_52 Start: 29529, Stop: 29876, Start Num: 5

Candidate Starts for Raela_52:

(Start: 5 @29529 has 14 MA's), (Start: 6 @29538 has 38 MA's), (8, 29541), (10, 29580), (11, 29583), (12, 29616), (16, 29649), (20, 29694), (21, 29697), (23, 29727), (28, 29847),

Gene: RedRaider77_51 Start: 28894, Stop: 29265, Start Num: 4

Candidate Starts for RedRaider77_51:

(Start: 4 @28894 has 1 MA's), (Start: 5 @28918 has 14 MA's), (Start: 6 @28927 has 38 MA's), (8, 28930), (10, 28969), (11, 28972), (16, 29038), (20, 29083), (21, 29086), (23, 29116), (28, 29236),

Gene: Redno2_44 Start: 37435, Stop: 37821, Start Num: 1

Candidate Starts for Redno2_44:

(Start: 1 @37435 has 2 MA's), (2, 37438), (Start: 6 @37495 has 38 MA's), (13, 37582), (22, 37675), (24, 37744), (26, 37771),

Gene: Schatzie_43 Start: 39511, Stop: 39837, Start Num: 6

Candidate Starts for Schatzie_43:

(Start: 1 @39451 has 2 MA's), (2, 39454), (Start: 6 @39511 has 38 MA's), (13, 39598), (22, 39691), (24, 39760), (26, 39787),

Gene: Squint_44 Start: 36635, Stop: 36961, Start Num: 6

Candidate Starts for Squint_44:

(Start: 6 @36635 has 38 MA's), (14, 36725), (15, 36731), (26, 36911),

Gene: Superphikiman_45 Start: 36707, Stop: 37033, Start Num: 6

Candidate Starts for Superphikiman_45:

(Start: 6 @36707 has 38 MA's), (14, 36797), (15, 36803), (26, 36983),

Gene: Tesla_50 Start: 28767, Stop: 29114, Start Num: 5

Candidate Starts for Tesla_50:

(Start: 4 @28743 has 1 MA's), (Start: 5 @28767 has 14 MA's), (Start: 6 @28776 has 38 MA's), (8, 28779), (9, 28812), (10, 28818), (11, 28821), (16, 28887), (20, 28932), (21, 28935), (23, 28965), (28, 29085),

Gene: Thibault_40 Start: 37945, Stop: 38271, Start Num: 6

Candidate Starts for Thibault_40:

(Start: 6 @37945 has 38 MA's), (13, 38032), (22, 38125), (26, 38221),

Gene: ThreeRngTarjay_44 Start: 40590, Stop: 40916, Start Num: 6

Candidate Starts for ThreeRngTarjay_44:

(Start: 1 @40530 has 2 MA's), (2, 40533), (Start: 6 @40590 has 38 MA's), (13, 40677), (22, 40770), (24, 40839), (26, 40866),

Gene: VasuNzinga_52 Start: 28836, Stop: 29183, Start Num: 5

Candidate Starts for VasuNzinga_52:

(Start: 5 @28836 has 14 MA's), (Start: 6 @28845 has 38 MA's), (8, 28848), (9, 28881), (10, 28887), (11, 28890), (16, 28956), (20, 29001), (21, 29004), (23, 29034), (28, 29154),

Gene: Wanda_51 Start: 39732, Stop: 40058, Start Num: 6

Candidate Starts for Wanda_51:

(Start: 6 @39732 has 38 MA's), (14, 39822), (26, 40008),

Gene: Yeet_44 Start: 39749, Stop: 40075, Start Num: 6

Candidate Starts for Yeet_44:

(Start: 1 @39689 has 2 MA's), (2, 39692), (Start: 6 @39749 has 38 MA's), (13, 39836), (22, 39929), (24, 39998), (26, 40025),

Gene: Zelink_47 Start: 41534, Stop: 41860, Start Num: 6

Candidate Starts for Zelink_47:

(Start: 1 @41474 has 2 MA's), (2, 41477), (Start: 6 @41534 has 38 MA's), (13, 41621), (22, 41714), (24, 41783), (26, 41810),