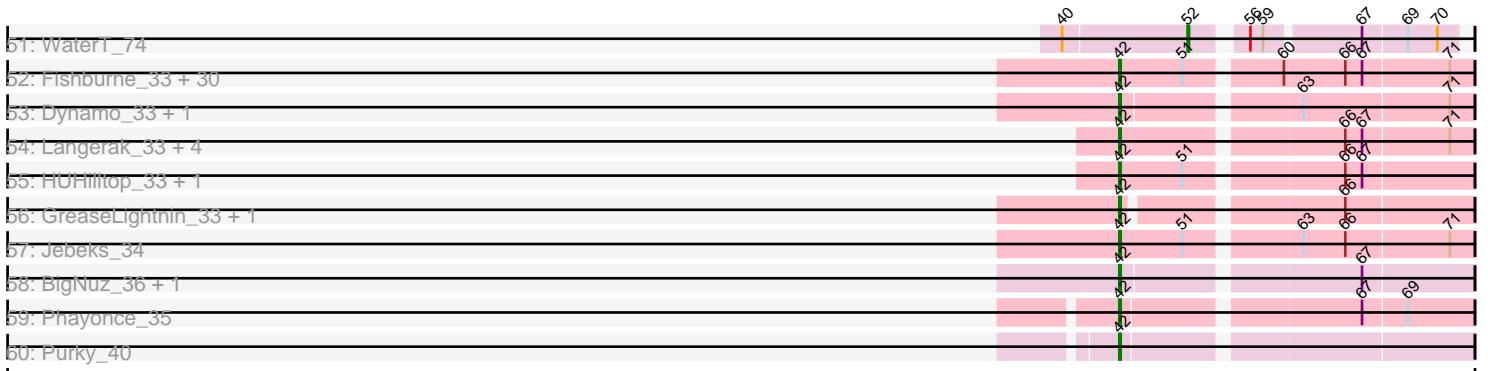


Pham 202758



Pham 202758



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 202758 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202758 has 138 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Exile_50, Soondubu_51
- Track 2 : AinMach_54
- Track 3 : Tutumahutu_56, Kaylissa_56
- Track 4 : JuneStar_58, Shaffner_54
- Track 5 : Tallboi_56
- Track 6 : Tian_56, Amyev_57
- Track 7 : AEgle_52, Turab_53, Adumb2043_53
- Track 8 : Reedo_54
- Track 9 : Powerpuff_57, YesChef_55
- Track 10 : Nitro_58
- Track 11 : ObiToo_61
- Track 12 : Yang_57
- Track 13 : Joemato_55, AGrandiflora_57, Simpson_57
- Track 14 : Cyan_55
- Track 15 : Ascela_58
- Track 16 : Lego_54
- Track 17 : TforTroy_57
- Track 18 : lter_58
- Track 19 : Pumpkins_54
- Track 20 : DrManhattan_58, Adolin_58
- Track 21 : IttyBittyPiggy_56
- Track 22 : MissSwiss_57
- Track 23 : Crewmate_61
- Track 24 : Pixelle_57
- Track 25 : Snek_57, Tweety19_58
- Track 26 : MiniMommy_63, ShakeltOph_62, JasmineDragon_60
- Track 27 : LadyAstra_59
- Track 28 : Barco_52, Jalammah_57, Hitter_54, MintFen_54, Fenry_52, Begonia_52, CaptainKirk2_54, Zarbodnamra_53, Malachai_52, Wisp_53, Samba_53, ZiggyZoo_54, Delian_57
- Track 29 : Murp_55, KappaFarmDelta_55, Wocket_54
- Track 30 : BlingBling_51, Lysidious_55, Archis_57, Melba_53
- Track 31 : Guacamole_51, JasperJr_51
- Track 32 : PCoral7_54, Fairfaxidum_55, Toast_54
- Track 33 : Oblivate_50
- Track 34 : JuJu_60
- Track 35 : CarolAnn_56, Blino_57

- Track 36 : Mellie_52
- Track 37 : UmaThurman_51
- Track 38 : Utz_47
- Track 39 : PhrostedPhlake_55
- Track 40 : Frokostdame_55
- Track 41 : Pipp_56, Petra_50, Walrus_52
- Track 42 : Gambino_57, Azula_55, Blueberry_54, MissRona_55
- Track 43 : PrincePatrick_53
- Track 44 : William_56
- Track 45 : LonelyBoi_51
- Track 46 : WinkNick_53, Dolores_52
- Track 47 : Faith5x5_36
- Track 48 : Hedwig_50
- Track 49 : Dmitri_47
- Track 50 : Kiko_47
- Track 51 : WaterT_74
- Track 52 : Fishburne_33, Polkaroo_33, Brusacoram_33, Atcoo_33, Bartholomew_32, Venti_33, KilKor_33, Gavriela_33, Willsammy_32, Phalm_33, Mangethe_33, Majeke_33, Vidya_33, Megiddo_33, Necropolis_33, Camster_33, Bunnies_33, Kari_33, FirstPlacePfu_33, Juniormint_33, Jung_32, Techage_33, Ksquared_33, Malithi_33, Sonah_33, Thespis_33, StressBall_33, CactusJack_33, Zilizebeth_33, Glaske_33, Phegasus_33
- Track 53 : Dynamo_33, Phineas_33
- Track 54 : Langerak_33, Shipwreck_35, Pygmy_35, Arib1_33, Bogie_35
- Track 55 : HUHilltop_33, Donovan_33
- Track 56 : GreaseLightnin_33, StevieRay_33
- Track 57 : Jebeks_34
- Track 58 : BigNuz_36, Nazo_37
- Track 59 : Phayonce_35
- Track 60 : Purky_40

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

The start number called the most often in the published annotations is 42, it was called in 43 of the 121 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_33, Atcoo_33, Bartholomew_32, BigNuz_36, Bogie_35, Brusacoram_33, Bunnies_33, CactusJack_33, Camster_33, Donovan_33, Dynamo_33, FirstPlacePfu_33, Fishburne_33, Gavriela_33, Glaske_33, GreaseLightnin_33, HUHilltop_33, Jebeks_34, Jung_32, Juniormint_33, Kari_33, KilKor_33, Ksquared_33, Langerak_33, Majeke_33, Malithi_33, Mangethe_33, Megiddo_33, Nazo_37, Necropolis_33, Phalm_33, Phayonce_35, Phegasus_33, Phineas_33, Polkaroo_33, Purky_40, Pygmy_35, Shipwreck_35, Sonah_33, StevieRay_33, StressBall_33, Techage_33, Thespis_33, Venti_33, Vidya_33, Willsammy_32, Zilizebeth_33,

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

-

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

- AEgle_52, AGrandiflora_57, Adolin_58, Adumb2043_53, AinMach_54, Amyev_57, Archis_57, Ascela_58, Azula_55, Barco_52, Begonia_52, BlingBling_51, Blino_57, Blueberry_54, CaptainKirk2_54, CarolAnn_56, Crewmate_61, Cyan_55, Delian_57, Dmitri_47, Dolores_52, DrManhattan_58, Exile_50, Fairfaxidum_55, Faith5x5_36, Ferry_52, Frokostdame_55, Gambino_57, Guacamole_51, Hedwig_50, Hitter_54, Iter_58, IttyBittyPiggy_56, Jalammah_57, JasmineDragon_60, JasperJr_51, Joemato_55, JuJu_60, JuneStar_58, KappaFarmDelta_55, Kaylissa_56, Kiko_47, LadyAstra_59, Lego_54, LonelyBoi_51, Lysidious_55, Malachai_52, Melba_53, Mellie_52, MiniMommy_63, MintFen_54, MissRona_55, MissSwiss_57, Murp_55, Nitro_58, ObiToo_61, Obliviate_50, PCoral7_54, Petra_50, PhrostedPhlake_55, Pipp_56, Pixelle_57, Powerpuff_57, PrincePatrick_53, Pumpkins_54, Reedo_54, Samba_53, Shaffner_54, ShakeltOph_62, Simpson_57, Sneak_57, Soondubu_51, Tallboi_56, TforTroy_57, Tian_56, Toast_54, Turab_53, Tutumahutu_56, Tweety19_58, UmaThurman_51, Utz_47, Walrus_52, WaterT_74, William_56, WinkNick_53, Wisp_53, Wocket_54, Yang_57, YesChef_55, Zarbodnamra_53, ZiggyZoo_54,

Summary by start number:

Start 33:

- Found in 4 of 138 (2.9%) of genes in pham
- Manual Annotations of this start: 4 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azula_55 (CV), Blueberry_54 (CV), Gambino_57 (CV), MissRona_55 (CV),

Start 34:

- Found in 3 of 138 (2.2%) of genes in pham
- Manual Annotations of this start: 1 of 121
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Kiko_47 (DB),

Start 35:

- Found in 2 of 138 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 121
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dmitri_47 (DB),

Start 36:

- Found in 20 of 138 (14.5%) of genes in pham
- Manual Annotations of this start: 20 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archis_57 (CV), BlingBling_51 (CV), Blino_57 (CV), CarolAnn_56 (CV), Frokostdame_55 (CV), Guacamole_51 (CV), JasperJr_51 (CV), JuJu_60 (CV), KappaFarmDelta_55 (CV), Lysidious_55 (CV), Melba_53 (CV), Murp_55 (CV), Obliviate_50 (CV), Petra_50 (CV), PhrostedPhlake_55 (CV), Pipp_56 (CV), UmaThurman_51 (CV), Utz_47 (CV), Walrus_52 (CV), Wocket_54 (CV),

Start 37:

- Found in 17 of 138 (12.3%) of genes in pham
- Manual Annotations of this start: 16 of 121

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barco_52 (CV), Begonia_52 (CV), CaptainKirk2_54 (CV), Delian_57 (CV), Dolores_52 (CZ4), Fenry_52 (CV), Hitter_54 (CV), Jalammah_57 (CV), LonelyBoi_51 (CY), Malachai_52 (CV), Mellie_52 (CV), MintFen_54 (CV), Samba_53 (CV), WinkNick_53 (CZ4), Wisp_53 (CV), Zarbodnamra_53 (CV), ZiggyZoo_54 (CV),

Start 38:

- Found in 4 of 138 (2.9%) of genes in pham
- Manual Annotations of this start: 4 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fairfaxidum_55 (CV), PCoral7_54 (CV), PrincePatrick_53 (CV), Toast_54 (CV),

Start 39:

- Found in 1 of 138 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: William_56 (CV),

Start 41:

- Found in 4 of 138 (2.9%) of genes in pham
- Manual Annotations of this start: 2 of 121
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Faith5x5_36 (CZ6), Hedwig_50 (DB),

Start 42:

- Found in 47 of 138 (34.1%) of genes in pham
- Manual Annotations of this start: 43 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1_33 (P1), Atcoo_33 (P1), Bartholomew_32 (P1), BigNuz_36 (P4), Bogie_35 (P1), Brusacoram_33 (P1), Bunnies_33 (P1), CactusJack_33 (P1), Camster_33 (P1), Donovan_33 (P1), Dynamo_33 (P1), FirstPlacePfu_33 (P1), Fishburne_33 (P1), Gavriela_33 (P1), Glaske_33 (P1), GreaseLightnin_33 (P1), HUHilltop_33 (P1), Jebeks_34 (P1), Jung_32 (P1), Juniormint_33 (P1), Kari_33 (P1), KilKor_33 (P1), Ksquard_33 (P1), Langerak_33 (P1), Majeke_33 (P1), Malithi_33 (P1), Mangethe_33 (P1), Megiddo_33 (P1), Nazo_37 (P4), Necropolis_33 (P1), Phalm_33 (P1), Phayonce_35 (P5), Phegasus_33 (P1), Phineas_33 (P1), Polkaroo_33 (P1), Purky_40 (P6), Pygmy_35 (P1), Shipwreck_35 (P1), Sonah_33 (P1), StevieRay_33 (P1), StressBall_33 (P1), Techage_33 (P1), Thespis_33 (P1), Venti_33 (P1), Vidya_33 (P1), Willsammy_32 (P1), Zilizebeth_33 (P1),

Start 45:

- Found in 11 of 138 (8.0%) of genes in pham
- Manual Annotations of this start: 7 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle_52 (AZ1), AGrandiflora_57 (AZ1), Adumb2043_53 (AZ1), Cyan_55 (AZ1), Joemato_55 (AZ1), Lego_54 (AZ1), Powerpuff_57 (AZ1), Simpson_57 (AZ1), Tallboi_56 (AZ1), Turab_53 (AZ1), YesChef_55 (AZ1),

Start 46:

- Found in 2 of 138 (1.4%) of genes in pham
- Manual Annotations of this start: 2 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kaylissa_56 (AZ1), Tutumahutu_56 (AZ1),

Start 47:

- Found in 4 of 138 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amyev_57 (AZ1), Iter_58 (AZ1), Pixelle_57 (AZ1), Tian_56 (AZ1),

Start 48:

- Found in 1 of 138 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nitro_58 (AZ1),

Start 49:

- Found in 9 of 138 (6.5%) of genes in pham
- Manual Annotations of this start: 7 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ascela_58 (AZ1), Crewmate_61 (AZ1), IttyBittyPiggy_56 (AZ1), JuneStar_58 (AZ1), ObiToo_61 (AZ1), Pumpkins_54 (AZ1), Shaffner_54 (AZ1), TforTroy_57 (AZ1), Yang_57 (AZ1),

Start 52:

- Found in 1 of 138 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: WaterT_74 (GB),

Start 53:

- Found in 13 of 138 (9.4%) of genes in pham
- Manual Annotations of this start: 8 of 121
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adolin_58 (AZ1), AinMach_54 (AZ), DrManhattan_58 (AZ1), Exile_50 (AZ), JasmineDragon_60 (AZ4), LadyAstra_59 (AZ4), MiniMommy_63 (AZ4), MissSwiss_57 (AZ1), Reedo_54 (AZ1), ShakeltOph_62 (AZ4), Snek_57 (AZ3), Soondubu_51 (AZ), Tweety19_58 (AZ3),

Summary by clusters:

There are 14 clusters represented in this pham: P1, P6, P4, P5, DB, CZ6, CZ4, CY, AZ, GB, AZ1, AZ3, AZ4, CV,

Info for manual annotations of cluster AZ:

- Start number 53 was manually annotated 1 time for cluster AZ.

Info for manual annotations of cluster AZ1:

- Start number 45 was manually annotated 7 times for cluster AZ1.
- Start number 46 was manually annotated 2 times for cluster AZ1.

- Start number 47 was manually annotated 3 times for cluster AZ1.
- Start number 48 was manually annotated 1 time for cluster AZ1.
- Start number 49 was manually annotated 7 times for cluster AZ1.
- Start number 53 was manually annotated 4 times for cluster AZ1.

Info for manual annotations of cluster AZ3:

- Start number 53 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 53 was manually annotated 1 time for cluster AZ4.

Info for manual annotations of cluster CV:

- Start number 33 was manually annotated 4 times for cluster CV.
- Start number 36 was manually annotated 20 times for cluster CV.
- Start number 37 was manually annotated 13 times for cluster CV.
- Start number 38 was manually annotated 4 times for cluster CV.
- Start number 39 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY:

- Start number 37 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CZ4:

- Start number 37 was manually annotated 2 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 41 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DB:

- Start number 34 was manually annotated 1 time for cluster DB.
- Start number 35 was manually annotated 1 time for cluster DB.
- Start number 41 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster GB:

- Start number 52 was manually annotated 1 time for cluster GB.

Info for manual annotations of cluster P1:

- Start number 42 was manually annotated 39 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 42 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 42 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 42 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: AEgle_52 Start: 37591, Stop: 37782, Start Num: 45

Candidate Starts for AEgle_52:

(20, 37285), (Start: 45 @37591 has 7 MA's),

Gene: AGrandiflora_57 Start: 38760, Stop: 38960, Start Num: 45

Candidate Starts for AGrandiflora_57:

(7, 38211), (Start: 45 @38760 has 7 MA's), (68, 38892),

Gene: Adolin_58 Start: 37478, Stop: 37633, Start Num: 53

Candidate Starts for Adolin_58:

(Start: 53 @37478 has 8 MA's), (66, 37556),

Gene: Adumb2043_53 Start: 37614, Stop: 37805, Start Num: 45

Candidate Starts for Adumb2043_53:

(20, 37308), (Start: 45 @37614 has 7 MA's),

Gene: AinMach_54 Start: 37308, Stop: 37466, Start Num: 53

Candidate Starts for AinMach_54:

(Start: 53 @37308 has 8 MA's), (61, 37350), (62, 37356),

Gene: Amyev_57 Start: 40846, Stop: 41031, Start Num: 47

Candidate Starts for Amyev_57:

(Start: 47 @40846 has 3 MA's),

Gene: Archis_57 Start: 36449, Stop: 36763, Start Num: 36

Candidate Starts for Archis_57:

(22, 36254), (Start: 36 @36449 has 20 MA's), (50, 36554), (54, 36593), (55, 36596), (61, 36632), (64, 36662),

Gene: Arib1_33 Start: 27712, Stop: 27948, Start Num: 42

Candidate Starts for Arib1_33:

(Start: 42 @27712 has 43 MA's), (66, 27859), (67, 27871), (71, 27931),

Gene: Ascela_58 Start: 39002, Stop: 39196, Start Num: 49

Candidate Starts for Ascela_58:

(Start: 49 @39002 has 7 MA's),

Gene: Atcoo_33 Start: 28193, Stop: 28429, Start Num: 42

Candidate Starts for Atcoo_33:

(Start: 42 @28193 has 43 MA's), (51, 28238), (60, 28298), (66, 28340), (67, 28352), (71, 28412),

Gene: Azula_55 Start: 38102, Stop: 38458, Start Num: 33

Candidate Starts for Azula_55:

(Start: 33 @38102 has 4 MA's), (50, 38249), (54, 38288), (55, 38291),

Gene: Barco_52 Start: 35493, Stop: 35723, Start Num: 37

Candidate Starts for Barco_52:

(Start: 37 @35493 has 16 MA's), (61, 35592),

Gene: Bartholomew_32 Start: 27706, Stop: 27942, Start Num: 42

Candidate Starts for Bartholomew_32:

(Start: 42 @27706 has 43 MA's), (51, 27751), (60, 27811), (66, 27853), (67, 27865), (71, 27925),

Gene: Begonia_52 Start: 38032, Stop: 38262, Start Num: 37

Candidate Starts for Begonia_52:

(Start: 37 @38032 has 16 MA's), (61, 38131),

Gene: BigNuz_36 Start: 29834, Stop: 30067, Start Num: 42

Candidate Starts for BigNuz_36:

(Start: 42 @29834 has 43 MA's), (67, 29990),

Gene: BlingBling_51 Start: 36462, Stop: 36776, Start Num: 36

Candidate Starts for BlingBling_51:

(22, 36267), (Start: 36 @36462 has 20 MA's), (50, 36567), (54, 36606), (55, 36609), (61, 36645), (64, 36675),

Gene: Blino_57 Start: 41408, Stop: 41722, Start Num: 36

Candidate Starts for Blino_57:

(19, 41195), (28, 41318), (Start: 36 @41408 has 20 MA's), (50, 41513), (54, 41552), (55, 41555), (61, 41591), (62, 41597), (64, 41621),

Gene: Blueberry_54 Start: 38102, Stop: 38458, Start Num: 33

Candidate Starts for Blueberry_54:

(Start: 33 @38102 has 4 MA's), (50, 38249), (54, 38288), (55, 38291),

Gene: Bogie_35 Start: 29489, Stop: 29725, Start Num: 42

Candidate Starts for Bogie_35:

(Start: 42 @29489 has 43 MA's), (66, 29636), (67, 29648), (71, 29708),

Gene: Brusacoram_33 Start: 27699, Stop: 27935, Start Num: 42

Candidate Starts for Brusacoram_33:

(Start: 42 @27699 has 43 MA's), (51, 27744), (60, 27804), (66, 27846), (67, 27858), (71, 27918),

Gene: Bunnies_33 Start: 27720, Stop: 27956, Start Num: 42

Candidate Starts for Bunnies_33:

(Start: 42 @27720 has 43 MA's), (51, 27765), (60, 27825), (66, 27867), (67, 27879), (71, 27939),

Gene: CactusJack_33 Start: 27963, Stop: 28199, Start Num: 42

Candidate Starts for CactusJack_33:

(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: Camster_33 Start: 27736, Stop: 27972, Start Num: 42

Candidate Starts for Camster_33:

(Start: 42 @27736 has 43 MA's), (51, 27781), (60, 27841), (66, 27883), (67, 27895), (71, 27955),

Gene: CaptainKirk2_54 Start: 35741, Stop: 35971, Start Num: 37

Candidate Starts for CaptainKirk2_54:

(Start: 37 @35741 has 16 MA's), (61, 35840),

Gene: CarolAnn_56 Start: 41407, Stop: 41721, Start Num: 36

Candidate Starts for CarolAnn_56:

(19, 41194), (28, 41317), (Start: 36 @41407 has 20 MA's), (50, 41512), (54, 41551), (55, 41554), (61, 41590), (62, 41596), (64, 41620),

Gene: Crewmate_61 Start: 40124, Stop: 40318, Start Num: 49

Candidate Starts for Crewmate_61:

(Start: 49 @40124 has 7 MA's), (68, 40250),

Gene: Cyan_55 Start: 38301, Stop: 38501, Start Num: 45

Candidate Starts for Cyan_55:

(Start: 45 @38301 has 7 MA's), (68, 38433),

Gene: Delian_57 Start: 35739, Stop: 35969, Start Num: 37

Candidate Starts for Delian_57:

(Start: 37 @35739 has 16 MA's), (61, 35838),

Gene: Dmitri_47 Start: 35769, Stop: 36026, Start Num: 35

Candidate Starts for Dmitri_47:

(2, 35253), (5, 35325), (6, 35328), (13, 35490), (14, 35508), (15, 35511), (25, 35616), (Start: 34 @35766 has 1 MA's), (Start: 35 @35769 has 1 MA's), (Start: 41 @35817 has 2 MA's),

Gene: Dolores_52 Start: 35935, Stop: 36165, Start Num: 37

Candidate Starts for Dolores_52:

(Start: 37 @35935 has 16 MA's), (62, 36040),

Gene: Donovan_33 Start: 27728, Stop: 27964, Start Num: 42

Candidate Starts for Donovan_33:

(Start: 42 @27728 has 43 MA's), (51, 27773), (66, 27875), (67, 27887),

Gene: DrManhattan_58 Start: 37046, Stop: 37201, Start Num: 53

Candidate Starts for DrManhattan_58:

(Start: 53 @37046 has 8 MA's), (66, 37124),

Gene: Dynamo_33 Start: 28117, Stop: 28350, Start Num: 42

Candidate Starts for Dynamo_33:

(Start: 42 @28117 has 43 MA's), (63, 28231), (71, 28333),

Gene: Exile_50 Start: 40505, Stop: 40657, Start Num: 53

Candidate Starts for Exile_50:

(Start: 53 @40505 has 8 MA's), (63, 40547), (70, 40637),

Gene: Fairfaxidum_55 Start: 38250, Stop: 38555, Start Num: 38

Candidate Starts for Fairfaxidum_55:

(Start: 38 @38250 has 4 MA's), (50, 38346), (54, 38385), (55, 38388), (65, 38457),

Gene: Faith5x5_36 Start: 28409, Stop: 28639, Start Num: 41

Candidate Starts for Faith5x5_36:

(17, 28133), (21, 28163), (29, 28283), (30, 28289), (Start: 41 @28409 has 2 MA's), (61, 28517),

Gene: Fenry_52 Start: 37237, Stop: 37467, Start Num: 37

Candidate Starts for Fenry_52:

(Start: 37 @37237 has 16 MA's), (61, 37336),

Gene: FirstPlacePfu_33 Start: 27738, Stop: 27974, Start Num: 42

Candidate Starts for FirstPlacePfu_33:

(Start: 42 @27738 has 43 MA's), (51, 27783), (60, 27843), (66, 27885), (67, 27897), (71, 27957),

Gene: Fishburne_33 Start: 27706, Stop: 27942, Start Num: 42

Candidate Starts for Fishburne_33:

(Start: 42 @27706 has 43 MA's), (51, 27751), (60, 27811), (66, 27853), (67, 27865), (71, 27925),

Gene: Frokostdame_55 Start: 37773, Stop: 38087, Start Num: 36
Candidate Starts for Frokostdame_55:
(10, 37473), (18, 37548), (Start: 36 @37773 has 20 MA's), (50, 37878), (54, 37917), (55, 37920), (61, 37956),

Gene: Gambino_57 Start: 38102, Stop: 38458, Start Num: 33
Candidate Starts for Gambino_57:
(Start: 33 @38102 has 4 MA's), (50, 38249), (54, 38288), (55, 38291),

Gene: Gavriela_33 Start: 27963, Stop: 28199, Start Num: 42
Candidate Starts for Gavriela_33:
(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: Glaske_33 Start: 27963, Stop: 28199, Start Num: 42
Candidate Starts for Glaske_33:
(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: GreaseLightnin_33 Start: 27955, Stop: 28182, Start Num: 42
Candidate Starts for GreaseLightnin_33:
(Start: 42 @27955 has 43 MA's), (66, 28093),

Gene: Guacamole_51 Start: 35884, Stop: 36198, Start Num: 36
Candidate Starts for Guacamole_51:
(22, 35689), (Start: 36 @35884 has 20 MA's), (50, 35989), (54, 36028), (55, 36031), (61, 36067),

Gene: HUHilltop_33 Start: 27739, Stop: 27975, Start Num: 42
Candidate Starts for HUHilltop_33:
(Start: 42 @27739 has 43 MA's), (51, 27784), (66, 27886), (67, 27898),

Gene: Hedwig_50 Start: 34705, Stop: 34995, Start Num: 41
Candidate Starts for Hedwig_50:
(Start: 34 @34654 has 1 MA's), (Start: 35 @34657 has 1 MA's), (Start: 41 @34705 has 2 MA's), (43, 34759), (61, 34864), (65, 34897), (69, 34948),

Gene: Hitter_54 Start: 35535, Stop: 35765, Start Num: 37
Candidate Starts for Hitter_54:
(Start: 37 @35535 has 16 MA's), (61, 35634),

Gene: Iter_58 Start: 38994, Stop: 39182, Start Num: 47
Candidate Starts for Iter_58:
(Start: 47 @38994 has 3 MA's),

Gene: IttyBittyPiggy_56 Start: 38132, Stop: 38326, Start Num: 49
Candidate Starts for IttyBittyPiggy_56:
(Start: 49 @38132 has 7 MA's), (70, 38306),

Gene: Jalammah_57 Start: 38538, Stop: 38768, Start Num: 37
Candidate Starts for Jalammah_57:
(Start: 37 @38538 has 16 MA's), (61, 38637),

Gene: JasmineDragon_60 Start: 40141, Stop: 40287, Start Num: 53
Candidate Starts for JasmineDragon_60:
(Start: 53 @40141 has 8 MA's), (66, 40219),

Gene: JasperJr_51 Start: 35884, Stop: 36198, Start Num: 36
Candidate Starts for JasperJr_51:
(22, 35689), (Start: 36 @35884 has 20 MA's), (50, 35989), (54, 36028), (55, 36031), (61, 36067),

Gene: Jebeks_34 Start: 27691, Stop: 27927, Start Num: 42
Candidate Starts for Jebeks_34:
(Start: 42 @27691 has 43 MA's), (51, 27736), (63, 27808), (66, 27838), (71, 27910),

Gene: Joemato_55 Start: 38382, Stop: 38582, Start Num: 45
Candidate Starts for Joemato_55:
(7, 37833), (Start: 45 @38382 has 7 MA's), (68, 38514),

Gene: JuJu_60 Start: 39886, Stop: 40185, Start Num: 36
Candidate Starts for JuJu_60:
(8, 39463), (12, 39601), (19, 39673), (26, 39748), (Start: 36 @39886 has 20 MA's), (58, 40033), (61, 40054),

Gene: JuneStar_58 Start: 41416, Stop: 41610, Start Num: 49
Candidate Starts for JuneStar_58:
(27, 41221), (Start: 49 @41416 has 7 MA's),

Gene: Jung_32 Start: 27670, Stop: 27906, Start Num: 42
Candidate Starts for Jung_32:
(Start: 42 @27670 has 43 MA's), (51, 27715), (60, 27775), (66, 27817), (67, 27829), (71, 27889),

Gene: Juniormint_33 Start: 27742, Stop: 27978, Start Num: 42
Candidate Starts for Juniormint_33:
(Start: 42 @27742 has 43 MA's), (51, 27787), (60, 27847), (66, 27889), (67, 27901), (71, 27961),

Gene: KappaFarmDelta_55 Start: 36090, Stop: 36404, Start Num: 36
Candidate Starts for KappaFarmDelta_55:
(Start: 36 @36090 has 20 MA's), (50, 36195), (54, 36234), (55, 36237), (61, 36273), (64, 36303),

Gene: Kari_33 Start: 27703, Stop: 27939, Start Num: 42
Candidate Starts for Kari_33:
(Start: 42 @27703 has 43 MA's), (51, 27748), (60, 27808), (66, 27850), (67, 27862), (71, 27922),

Gene: Kaylissa_56 Start: 38763, Stop: 38960, Start Num: 46
Candidate Starts for Kaylissa_56:
(Start: 46 @38763 has 2 MA's), (68, 38892),

Gene: Kiko_47 Start: 34593, Stop: 34889, Start Num: 34
Candidate Starts for Kiko_47:
(1, 33921), (3, 34128), (11, 34305), (13, 34314), (14, 34332), (15, 34335), (25, 34440), (Start: 34 @34593 has 1 MA's), (Start: 41 @34650 has 2 MA's), (61, 34758), (69, 34842),

Gene: KilKor_33 Start: 27963, Stop: 28199, Start Num: 42
Candidate Starts for KilKor_33:
(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: Ksquared_33 Start: 27720, Stop: 27956, Start Num: 42
Candidate Starts for Ksquared_33:

(Start: 42 @27720 has 43 MA's), (51, 27765), (60, 27825), (66, 27867), (67, 27879), (71, 27939),

Gene: LadyAstra_59 Start: 39371, Stop: 39517, Start Num: 53

Candidate Starts for LadyAstra_59:

(44, 39329), (Start: 53 @39371 has 8 MA's), (66, 39449),

Gene: Langerak_33 Start: 27722, Stop: 27958, Start Num: 42

Candidate Starts for Langerak_33:

(Start: 42 @27722 has 43 MA's), (66, 27869), (67, 27881), (71, 27941),

Gene: Lego_54 Start: 38079, Stop: 38279, Start Num: 45

Candidate Starts for Lego_54:

(4, 37506), (9, 37554), (24, 37797), (Start: 45 @38079 has 7 MA's), (68, 38211),

Gene: LonelyBoi_51 Start: 39893, Stop: 40123, Start Num: 37

Candidate Starts for LonelyBoi_51:

(12, 39602), (31, 39812), (32, 39833), (Start: 37 @39893 has 16 MA's), (57, 39965), (61, 39992),

Gene: Lysidious_55 Start: 37815, Stop: 38129, Start Num: 36

Candidate Starts for Lysidious_55:

(22, 37620), (Start: 36 @37815 has 20 MA's), (50, 37920), (54, 37959), (55, 37962), (61, 37998), (64, 38028),

Gene: Majeke_33 Start: 27744, Stop: 27980, Start Num: 42

Candidate Starts for Majeke_33:

(Start: 42 @27744 has 43 MA's), (51, 27789), (60, 27849), (66, 27891), (67, 27903), (71, 27963),

Gene: Malachai_52 Start: 38032, Stop: 38262, Start Num: 37

Candidate Starts for Malachai_52:

(Start: 37 @38032 has 16 MA's), (61, 38131),

Gene: Malithi_33 Start: 27629, Stop: 27865, Start Num: 42

Candidate Starts for Malithi_33:

(Start: 42 @27629 has 43 MA's), (51, 27674), (60, 27734), (66, 27776), (67, 27788), (71, 27848),

Gene: Mangethe_33 Start: 27744, Stop: 27980, Start Num: 42

Candidate Starts for Mangethe_33:

(Start: 42 @27744 has 43 MA's), (51, 27789), (60, 27849), (66, 27891), (67, 27903), (71, 27963),

Gene: Megiddo_33 Start: 27963, Stop: 28199, Start Num: 42

Candidate Starts for Megiddo_33:

(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: Melba_53 Start: 36287, Stop: 36601, Start Num: 36

Candidate Starts for Melba_53:

(22, 36092), (Start: 36 @36287 has 20 MA's), (50, 36392), (54, 36431), (55, 36434), (61, 36470), (64, 36500),

Gene: Mellie_52 Start: 35921, Stop: 36151, Start Num: 37

Candidate Starts for Mellie_52:

(12, 35639), (19, 35711), (23, 35732), (Start: 37 @35921 has 16 MA's), (61, 36020),

Gene: MiniMommy_63 Start: 40144, Stop: 40290, Start Num: 53

Candidate Starts for MiniMommy_63:
(Start: 53 @40144 has 8 MA's), (66, 40222),

Gene: MintFen_54 Start: 36355, Stop: 36585, Start Num: 37
Candidate Starts for MintFen_54:
(Start: 37 @36355 has 16 MA's), (61, 36454),

Gene: MissRona_55 Start: 38103, Stop: 38459, Start Num: 33
Candidate Starts for MissRona_55:
(Start: 33 @38103 has 4 MA's), (50, 38250), (54, 38289), (55, 38292),

Gene: MissSwiss_57 Start: 37199, Stop: 37351, Start Num: 53
Candidate Starts for MissSwiss_57:
(Start: 53 @37199 has 8 MA's),

Gene: Murp_55 Start: 39677, Stop: 39991, Start Num: 36
Candidate Starts for Murp_55:
(Start: 36 @39677 has 20 MA's), (50, 39782), (54, 39821), (55, 39824), (61, 39860), (64, 39890),

Gene: Nazo_37 Start: 29836, Stop: 30069, Start Num: 42
Candidate Starts for Nazo_37:
(Start: 42 @29836 has 43 MA's), (67, 29992),

Gene: Necropolis_33 Start: 27703, Stop: 27939, Start Num: 42
Candidate Starts for Necropolis_33:
(Start: 42 @27703 has 43 MA's), (51, 27748), (60, 27808), (66, 27850), (67, 27862), (71, 27922),

Gene: Nitro_58 Start: 40465, Stop: 40653, Start Num: 48
Candidate Starts for Nitro_58:
(Start: 48 @40465 has 1 MA's),

Gene: ObiToo_61 Start: 39721, Stop: 39915, Start Num: 49
Candidate Starts for ObiToo_61:
(Start: 49 @39721 has 7 MA's), (68, 39847), (69, 39874),

Gene: Obliviate_50 Start: 34448, Stop: 34762, Start Num: 36
Candidate Starts for Obliviate_50:
(Start: 36 @34448 has 20 MA's), (50, 34553), (54, 34592), (55, 34595), (61, 34631), (64, 34661),

Gene: PCoral7_54 Start: 37667, Stop: 37972, Start Num: 38
Candidate Starts for PCoral7_54:
(Start: 38 @37667 has 4 MA's), (50, 37763), (54, 37802), (55, 37805), (65, 37874),

Gene: Petra_50 Start: 34588, Stop: 34902, Start Num: 36
Candidate Starts for Petra_50:
(Start: 36 @34588 has 20 MA's), (50, 34693), (54, 34732), (55, 34735), (61, 34771),

Gene: Phalm_33 Start: 27963, Stop: 28199, Start Num: 42
Candidate Starts for Phalm_33:
(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: Phayonce_35 Start: 29732, Stop: 29965, Start Num: 42
Candidate Starts for Phayonce_35:

(Start: 42 @29732 has 43 MA's), (67, 29888), (69, 29918),

Gene: Phegasus_33 Start: 27711, Stop: 27947, Start Num: 42

Candidate Starts for Phegasus_33:

(Start: 42 @27711 has 43 MA's), (51, 27756), (60, 27816), (66, 27858), (67, 27870), (71, 27930),

Gene: Phineas_33 Start: 28077, Stop: 28310, Start Num: 42

Candidate Starts for Phineas_33:

(Start: 42 @28077 has 43 MA's), (63, 28191), (71, 28293),

Gene: PhrostedPhlake_55 Start: 35882, Stop: 36196, Start Num: 36

Candidate Starts for PhrostedPhlake_55:

(Start: 36 @35882 has 20 MA's), (50, 35987), (54, 36026), (55, 36029), (61, 36065),

Gene: Pipp_56 Start: 36955, Stop: 37269, Start Num: 36

Candidate Starts for Pipp_56:

(Start: 36 @36955 has 20 MA's), (50, 37060), (54, 37099), (55, 37102), (61, 37138),

Gene: Pixelle_57 Start: 40947, Stop: 41132, Start Num: 47

Candidate Starts for Pixelle_57:

(16, 40599), (Start: 47 @40947 has 3 MA's),

Gene: Polkaroo_33 Start: 27720, Stop: 27956, Start Num: 42

Candidate Starts for Polkaroo_33:

(Start: 42 @27720 has 43 MA's), (51, 27765), (60, 27825), (66, 27867), (67, 27879), (71, 27939),

Gene: Powerpuff_57 Start: 39483, Stop: 39683, Start Num: 45

Candidate Starts for Powerpuff_57:

(Start: 45 @39483 has 7 MA's), (68, 39615),

Gene: PrincePatrick_53 Start: 36016, Stop: 36321, Start Num: 38

Candidate Starts for PrincePatrick_53:

(Start: 38 @36016 has 4 MA's), (50, 36112), (55, 36154), (65, 36223),

Gene: Pumpkins_54 Start: 39127, Stop: 39321, Start Num: 49

Candidate Starts for Pumpkins_54:

(Start: 49 @39127 has 7 MA's),

Gene: Purky_40 Start: 30459, Stop: 30692, Start Num: 42

Candidate Starts for Purky_40:

(Start: 42 @30459 has 43 MA's),

Gene: Pygmy_35 Start: 29545, Stop: 29781, Start Num: 42

Candidate Starts for Pygmy_35:

(Start: 42 @29545 has 43 MA's), (66, 29692), (67, 29704), (71, 29764),

Gene: Reedo_54 Start: 36267, Stop: 36416, Start Num: 53

Candidate Starts for Reedo_54:

(Start: 53 @36267 has 8 MA's), (66, 36342),

Gene: Samba_53 Start: 38568, Stop: 38798, Start Num: 37

Candidate Starts for Samba_53:

(Start: 37 @38568 has 16 MA's), (61, 38667),

Gene: Shaffner_54 Start: 38968, Stop: 39162, Start Num: 49
Candidate Starts for Shaffner_54:
(27, 38773), (Start: 49 @38968 has 7 MA's),

Gene: ShakeltOph_62 Start: 40141, Stop: 40287, Start Num: 53
Candidate Starts for ShakeltOph_62:
(Start: 53 @40141 has 8 MA's), (66, 40219),

Gene: Shipwreck_35 Start: 29520, Stop: 29756, Start Num: 42
Candidate Starts for Shipwreck_35:
(Start: 42 @29520 has 43 MA's), (66, 29667), (67, 29679), (71, 29739),

Gene: Simpson_57 Start: 38386, Stop: 38586, Start Num: 45
Candidate Starts for Simpson_57:
(7, 37837), (Start: 45 @38386 has 7 MA's), (68, 38518),

Gene: Snek_57 Start: 37403, Stop: 37558, Start Num: 53
Candidate Starts for Snek_57:
(Start: 53 @37403 has 8 MA's), (70, 37541),

Gene: Sonah_33 Start: 27692, Stop: 27928, Start Num: 42
Candidate Starts for Sonah_33:
(Start: 42 @27692 has 43 MA's), (51, 27737), (60, 27797), (66, 27839), (67, 27851), (71, 27911),

Gene: Soondubu_51 Start: 41018, Stop: 41170, Start Num: 53
Candidate Starts for Soondubu_51:
(Start: 53 @41018 has 8 MA's), (63, 41060), (70, 41150),

Gene: StevieRay_33 Start: 27671, Stop: 27898, Start Num: 42
Candidate Starts for StevieRay_33:
(Start: 42 @27671 has 43 MA's), (66, 27809),

Gene: StressBall_33 Start: 27963, Stop: 28199, Start Num: 42
Candidate Starts for StressBall_33:
(Start: 42 @27963 has 43 MA's), (51, 28008), (60, 28068), (66, 28110), (67, 28122), (71, 28182),

Gene: Tallboi_56 Start: 39686, Stop: 39874, Start Num: 45
Candidate Starts for Tallboi_56:
(Start: 45 @39686 has 7 MA's),

Gene: Techage_33 Start: 27729, Stop: 27965, Start Num: 42
Candidate Starts for Techage_33:
(Start: 42 @27729 has 43 MA's), (51, 27774), (60, 27834), (66, 27876), (67, 27888), (71, 27948),

Gene: TforTroy_57 Start: 39052, Stop: 39246, Start Num: 49
Candidate Starts for TforTroy_57:
(27, 38854), (Start: 49 @39052 has 7 MA's), (68, 39178),

Gene: Thespis_33 Start: 27699, Stop: 27935, Start Num: 42
Candidate Starts for Thespis_33:
(Start: 42 @27699 has 43 MA's), (51, 27744), (60, 27804), (66, 27846), (67, 27858), (71, 27918),

Gene: Tian_56 Start: 40845, Stop: 41030, Start Num: 47
Candidate Starts for Tian_56:
(Start: 47 @40845 has 3 MA's),

Gene: Toast_54 Start: 37667, Stop: 37972, Start Num: 38
Candidate Starts for Toast_54:
(Start: 38 @37667 has 4 MA's), (50, 37763), (54, 37802), (55, 37805), (65, 37874),

Gene: Turab_53 Start: 37635, Stop: 37826, Start Num: 45
Candidate Starts for Turab_53:
(20, 37329), (Start: 45 @37635 has 7 MA's),

Gene: Tutumahutu_56 Start: 38356, Stop: 38553, Start Num: 46
Candidate Starts for Tutumahutu_56:
(Start: 46 @38356 has 2 MA's), (68, 38485),

Gene: Tweety19_58 Start: 37403, Stop: 37558, Start Num: 53
Candidate Starts for Tweety19_58:
(Start: 53 @37403 has 8 MA's), (70, 37541),

Gene: UmaThurman_51 Start: 36685, Stop: 36999, Start Num: 36
Candidate Starts for UmaThurman_51:
(19, 36472), (Start: 36 @36685 has 20 MA's), (50, 36790), (54, 36829), (55, 36832), (61, 36868), (62, 36874), (64, 36898),

Gene: Utz_47 Start: 36827, Stop: 37141, Start Num: 36
Candidate Starts for Utz_47:
(22, 36632), (Start: 36 @36827 has 20 MA's), (50, 36932), (54, 36971), (55, 36974), (61, 37010), (64, 37040),

Gene: Venti_33 Start: 27706, Stop: 27942, Start Num: 42
Candidate Starts for Venti_33:
(Start: 42 @27706 has 43 MA's), (51, 27751), (60, 27811), (66, 27853), (67, 27865), (71, 27925),

Gene: Vidya_33 Start: 27739, Stop: 27975, Start Num: 42
Candidate Starts for Vidya_33:
(Start: 42 @27739 has 43 MA's), (51, 27784), (60, 27844), (66, 27886), (67, 27898), (71, 27958),

Gene: Walrus_52 Start: 35763, Stop: 36077, Start Num: 36
Candidate Starts for Walrus_52:
(Start: 36 @35763 has 20 MA's), (50, 35868), (54, 35907), (55, 35910), (61, 35946),

Gene: WaterT_74 Start: 43421, Stop: 43254, Start Num: 52
Candidate Starts for WaterT_74:
(40, 43508), (Start: 52 @43421 has 1 MA's), (56, 43391), (59, 43382), (67, 43319), (69, 43289), (70, 43268),

Gene: William_56 Start: 38345, Stop: 38647, Start Num: 39
Candidate Starts for William_56:
(Start: 39 @38345 has 1 MA's), (50, 38438), (54, 38477), (55, 38480), (61, 38516),

Gene: Willsammy_32 Start: 27446, Stop: 27682, Start Num: 42
Candidate Starts for Willsammy_32:

(Start: 42 @27446 has 43 MA's), (51, 27491), (60, 27551), (66, 27593), (67, 27605), (71, 27665),

Gene: WinkNick_53 Start: 35858, Stop: 36088, Start Num: 37

Candidate Starts for WinkNick_53:

(Start: 37 @35858 has 16 MA's), (62, 35963),

Gene: Wisp_53 Start: 37049, Stop: 37279, Start Num: 37

Candidate Starts for Wisp_53:

(Start: 37 @37049 has 16 MA's), (61, 37148),

Gene: Wocket_54 Start: 36257, Stop: 36571, Start Num: 36

Candidate Starts for Wocket_54:

(Start: 36 @36257 has 20 MA's), (50, 36362), (54, 36401), (55, 36404), (61, 36440), (64, 36470),

Gene: Yang_57 Start: 39052, Stop: 39246, Start Num: 49

Candidate Starts for Yang_57:

(Start: 49 @39052 has 7 MA's), (70, 39226),

Gene: YesChef_55 Start: 38342, Stop: 38542, Start Num: 45

Candidate Starts for YesChef_55:

(Start: 45 @38342 has 7 MA's), (68, 38474),

Gene: Zarbodnamra_53 Start: 35763, Stop: 35993, Start Num: 37

Candidate Starts for Zarbodnamra_53:

(Start: 37 @35763 has 16 MA's), (61, 35862),

Gene: ZiggyZoo_54 Start: 38096, Stop: 38326, Start Num: 37

Candidate Starts for ZiggyZoo_54:

(Start: 37 @38096 has 16 MA's), (61, 38195),

Gene: Zilizebeth_33 Start: 27738, Stop: 27974, Start Num: 42

Candidate Starts for Zilizebeth_33:

(Start: 42 @27738 has 43 MA's), (51, 27783), (60, 27843), (66, 27885), (67, 27897), (71, 27957),