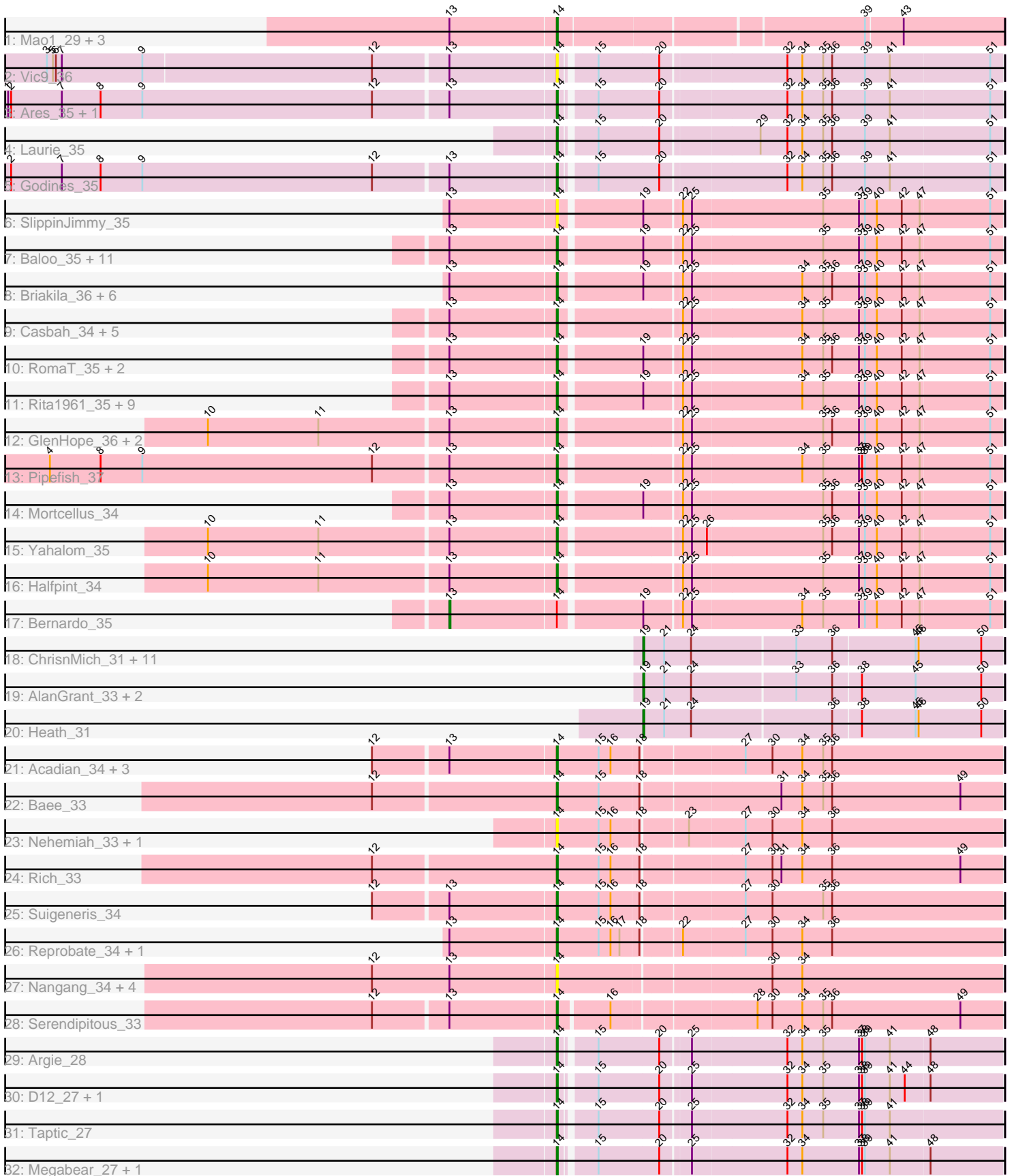


Pham 193907



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 193907 Report

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

Pham number 193907 has 95 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Mao1_29, Sejanus_30, Mask_30, Dori_31
- Track 2 : Vic9_36
- Track 3 : Ares_35, Qyrzula_33
- Track 4 : Laurie_35
- Track 5 : Godines_35
- Track 6 : SlippinJimmy_35
- Track 7 : Baloo_35, Corofin_35, Nozo_35, ChaChing_35, Athena_36, Marley1013_35, Morty007_35, Audrey_35, Neos5_35, OrangeOswald_35, Deenasa_35, Heathcliff_35
- Track 8 : Briakila_36, Kamiyu_35, HarveySr_35, Phlyer_35, Phaedrus_33, Gadget_36, Yinz_35
- Track 9 : Casbah_34, Gervas_35, Ben11_34, Phayeta_36, Kronus_34, LestyG_35
- Track 10 : RomaT_35, Daisy_35, Akoma_35
- Track 11 : Rita1961_35, RagingRooster_35, Devonte_35, SynergyX_35, Chandler_35, Abinghost_35, Philly_34, Obutu_35, MmasiCarm_35, Tydolla_35
- Track 12 : GlenHope_36, Compostia_36, Jackstina_32
- Track 13 : Pipefish_37
- Track 14 : Mortcellus_34
- Track 15 : Yahalom_35
- Track 16 : Halfpint_34
- Track 17 : Bernardo_35
- Track 18 : ChrisnMich_31, Hally898_31, JAMaL_32, Ahwei_31, Prince_32, Antihero_31, Lambano_31, Magpie_31, GinPorsche_31, Nanao_31, Epah_31, Poster_31
- Track 19 : AlanGrant_33, QueenPie_31, Vincenzo_33
- Track 20 : Heath_31
- Track 21 : Acadian_34, EastView9101_33, SirJeffery_34, Donny_34
- Track 22 : Bae_33
- Track 23 : Nehemiah_33, Mysterious_35
- Track 24 : Rich_33
- Track 25 : Suigeneris_34
- Track 26 : Reprobate_34, Phelemich_34
- Track 27 : Nangang_34, StinkyVeggy_36, DigitDog_34, KarasumaRum_36, Shenyu_34
- Track 28 : Serendipitous_33
- Track 29 : Argie_28
- Track 30 : D12_27, PR_27

- Track 31 : Taptic_27
- Track 32 : Megabear_27, Cepens_27

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

The start number called the most often in the published annotations is 14, it was called in 67 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_35, Acadian_34, Akoma_35, Ares_35, Argie_28, Athena_36, Audrey_35, Bae_33, Baloo_35, Ben11_34, Briakila_36, Casbah_34, Cepens_27, ChaChing_35, Chandler_35, Compostia_36, Corofin_35, D12_27, Daisy_35, Deenasa_35, Devonte_35, DigitDog_34, Donny_34, Dori_31, EastView9101_33, Gadget_36, Gervas_35, GlenHope_36, Godines_35, Halfpint_34, HarveySr_35, Heathcliff_35, Jackstina_32, Kamiyu_35, KarasumaRum_36, Kronus_34, Laurie_35, LestyG_35, Mao1_29, Marley1013_35, Mask_30, Megabear_27, MmasiCarm_35, Mortcellus_34, Morty007_35, Mysterious_35, Nangang_34, Nehemiah_33, Neos5_35, Nozo_35, Obutu_35, OrangeOswald_35, PR_27, Phaedrus_33, Phayeta_36, Phelemich_34, Philly_34, Phlyer_35, Pipefish_37, Qyrzula_33, RagingRooster_35, Reprobate_34, Rich_33, Rita1961_35, RomaT_35, Sejanus_30, Serendipitous_33, Shenyu_34, SirJeffery_34, SlippinJimmy_35, StinkyVeggy_36, Suigeneris_34, SynergyX_35, Taptic_27, Tydolla_35, Vic9_36, Yahalom_35, Yinz_35,

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

- Bernardo_35,

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

- Ahwei_31, AlanGrant_33, Antihero_31, ChrisnMich_31, Epah_31, GinPorsche_31, Hally898_31, Heath_31, JAMaL_32, Lambano_31, Magpie_31, Nanao_31, Poster_31, Prince_32, QueenPie_31, Vincenzo_33,

Summary by start number:

Start 13:

- Found in 68 of 95 (71.6%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Bernardo_35 (B3),

Start 14:

- Found in 79 of 95 (83.2%) of genes in pham
- Manual Annotations of this start: 67 of 75
- Called 98.7% of time when present
- Phage (with cluster) where this start called: Abinghost_35 (B3), Acadian_34 (B5), Akoma_35 (B3), Ares_35 (B2), Argie_28 (W), Athena_36 (B3), Audrey_35 (B3), Bae_33 (B5), Baloo_35 (B3), Ben11_34 (B3), Briakila_36 (B3), Casbah_34 (B3), Cepens_27 (W), ChaChing_35 (B3), Chandler_35 (B3), Compostia_36 (B3), Corofin_35 (B3), D12_27 (W), Daisy_35 (B3), Deenasa_35 (B3), Devonte_35 (B3), DigitDog_34 (B5), Donny_34 (B5), Dori_31 (AD), EastView9101_33 (B5), Gadget_36 (B3), Gervas_35 (B3), GlenHope_36 (B3), Godines_35 (B2), Halfpint_34 (B3),

HarveySr_35 (B3), Heathcliff_35 (B3), Jackstina_32 (B3), Kamiyu_35 (B3), KarasumaRum_36 (B5), Kronus_34 (B3), Laurie_35 (B2), LestyG_35 (B3), Mao1_29 (AD), Marley1013_35 (B3), Mask_30 (AD), Megabear_27 (W), MmasiCarm_35 (B3), Mortcellus_34 (B3), Morty007_35 (B3), Mysterious_35 (B5), Nangang_34 (B5), Nehemiah_33 (B5), Neos5_35 (B3), Nozo_35 (B3), Obutu_35 (B3), OrangeOswald_35 (B3), PR_27 (W), Phaedrus_33 (B3), Phayeta_36 (B3), Phelemich_34 (B5), Philly_34 (B3), Phlyer_35 (B3), Pipefish_37 (B3), Qyrzula_33 (B2), RagingRooster_35 (B3), Reprobate_34 (B5), Rich_33 (B5), Rita1961_35 (B3), RomaT_35 (B3), Sejanus_30 (AD), Serendipitous_33 (B5), Shenyu_34 (B5), SirJeffery_34 (B5), SlippinJimmy_35 (B3), StinkyVeggy_36 (B5), Suigeneris_34 (B5), SynergyX_35 (B3), Taptic_27 (W), Tydolla_35 (B3), Vic9_36 (B2), Yahalom_35 (B3), Yinz_35 (B3),

Start 19:

- Found in 51 of 95 (53.7%) of genes in pham
- Manual Annotations of this start: 7 of 75
- Called 31.4% of time when present
- Phage (with cluster) where this start called: Ahwei_31 (B4), AlanGrant_33 (B4), Antihero_31 (B4), ChrisnMich_31 (B4), Epah_31 (B4), GinPorsche_31 (B4), Hally898_31 (B4), Heath_31 (B4), JAMaL_32 (B4), Lambano_31 (B4), Magpie_31 (B4), Nanao_31 (B4), Poster_31 (B4), Prince_32 (B4), QueenPie_31 (B4), Vincenzo_33 (B4),

Summary by clusters:

There are 6 clusters represented in this pham: AD, W, B4, B5, B2, B3,

Info for manual annotations of cluster AD:

- Start number 14 was manually annotated 4 times for cluster AD.

Info for manual annotations of cluster B2:

- Start number 14 was manually annotated 4 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 13 was manually annotated 1 time for cluster B3.
- Start number 14 was manually annotated 44 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 19 was manually annotated 7 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 14 was manually annotated 9 times for cluster B5.

Info for manual annotations of cluster W:

- Start number 14 was manually annotated 6 times for cluster W.

Gene Information:

Gene: Abinghost_35 Start: 33840, Stop: 34265, Start Num: 14

Candidate Starts for Abinghost_35:

(Start: 13 @33735 has 1 MA's), (Start: 14 @33840 has 67 MA's), (Start: 19 @33918 has 7 MA's), (22, 33951), (25, 33960), (34, 34068), (35, 34089), (37, 34125), (39, 34131), (40, 34143), (42, 34167), (47, 34185), (51, 34254),

Gene: Acadian_34 Start: 34513, Stop: 34947, Start Num: 14

Candidate Starts for Acadian_34:

(12, 34336), (Start: 13 @34408 has 1 MA's), (Start: 14 @34513 has 67 MA's), (15, 34555), (16, 34567), (18, 34594), (27, 34690), (30, 34717), (34, 34747), (35, 34768), (36, 34777),

Gene: Ahwei_31 Start: 33148, Stop: 33501, Start Num: 19

Candidate Starts for Ahwei_31:

(Start: 19 @33148 has 7 MA's), (21, 33169), (24, 33196), (33, 33298), (36, 33334), (45, 33415), (46, 33418), (50, 33481),

Gene: Akoma_35 Start: 33844, Stop: 34269, Start Num: 14

Candidate Starts for Akoma_35:

(Start: 13 @33739 has 1 MA's), (Start: 14 @33844 has 67 MA's), (Start: 19 @33922 has 7 MA's), (22, 33955), (25, 33964), (34, 34072), (35, 34093), (36, 34102), (37, 34129), (39, 34135), (40, 34147), (42, 34171), (47, 34189), (51, 34258),

Gene: AlanGrant_33 Start: 34896, Stop: 35249, Start Num: 19

Candidate Starts for AlanGrant_33:

(Start: 19 @34896 has 7 MA's), (21, 34917), (24, 34944), (33, 35046), (36, 35082), (38, 35109), (45, 35163), (50, 35229),

Gene: Antihero_31 Start: 33148, Stop: 33501, Start Num: 19

Candidate Starts for Antihero_31:

(Start: 19 @33148 has 7 MA's), (21, 33169), (24, 33196), (33, 33298), (36, 33334), (45, 33415), (46, 33418), (50, 33481),

Gene: Ares_35 Start: 34315, Stop: 34737, Start Num: 14

Candidate Starts for Ares_35:

(1, 33772), (2, 33775), (7, 33826), (8, 33865), (9, 33907), (12, 34138), (Start: 13 @34210 has 1 MA's), (Start: 14 @34315 has 67 MA's), (15, 34345), (20, 34405), (32, 34525), (34, 34540), (35, 34561), (36, 34570), (39, 34603), (41, 34627), (51, 34726),

Gene: Argie_28 Start: 31290, Stop: 31712, Start Num: 14

Candidate Starts for Argie_28:

(Start: 14 @31290 has 67 MA's), (15, 31320), (20, 31380), (25, 31407), (32, 31500), (34, 31515), (35, 31536), (37, 31572), (38, 31575), (39, 31578), (41, 31602), (48, 31641),

Gene: Athena_36 Start: 34591, Stop: 35016, Start Num: 14

Candidate Starts for Athena_36:

(Start: 13 @34486 has 1 MA's), (Start: 14 @34591 has 67 MA's), (Start: 19 @34669 has 7 MA's), (22, 34702), (25, 34711), (35, 34840), (37, 34876), (39, 34882), (40, 34894), (42, 34918), (47, 34936), (51, 35005),

Gene: Audrey_35 Start: 33840, Stop: 34265, Start Num: 14

Candidate Starts for Audrey_35:

(Start: 13 @33735 has 1 MA's), (Start: 14 @33840 has 67 MA's), (Start: 19 @33918 has 7 MA's), (22, 33951), (25, 33960), (35, 34089), (37, 34125), (39, 34131), (40, 34143), (42, 34167), (47, 34185), (51, 34254),

Gene: Bae_33 Start: 34330, Stop: 34764, Start Num: 14

Candidate Starts for Bae_33:

(12, 34150), (Start: 14 @34330 has 67 MA's), (15, 34372), (18, 34411), (31, 34543), (34, 34564), (35, 34585), (36, 34594), (49, 34723),

Gene: Baloo_35 Start: 33843, Stop: 34268, Start Num: 14

Candidate Starts for Baloo_35:

(Start: 13 @33738 has 1 MA's), (Start: 14 @33843 has 67 MA's), (Start: 19 @33921 has 7 MA's), (22, 33954), (25, 33963), (35, 34092), (37, 34128), (39, 34134), (40, 34146), (42, 34170), (47, 34188), (51, 34257),

Gene: Ben11_34 Start: 33662, Stop: 34087, Start Num: 14

Candidate Starts for Ben11_34:

(Start: 13 @33557 has 1 MA's), (Start: 14 @33662 has 67 MA's), (22, 33773), (25, 33782), (34, 33890), (35, 33911), (37, 33947), (39, 33953), (40, 33965), (42, 33989), (47, 34007), (51, 34076),

Gene: Bernardo_35 Start: 33825, Stop: 34355, Start Num: 13

Candidate Starts for Bernardo_35:

(Start: 13 @33825 has 1 MA's), (Start: 14 @33930 has 67 MA's), (Start: 19 @34008 has 7 MA's), (22, 34041), (25, 34050), (34, 34158), (35, 34179), (37, 34215), (39, 34221), (40, 34233), (42, 34257), (47, 34275), (51, 34344),

Gene: Briakila_36 Start: 34610, Stop: 35035, Start Num: 14

Candidate Starts for Briakila_36:

(Start: 13 @34505 has 1 MA's), (Start: 14 @34610 has 67 MA's), (Start: 19 @34688 has 7 MA's), (22, 34721), (25, 34730), (34, 34838), (35, 34859), (36, 34868), (37, 34895), (39, 34901), (40, 34913), (42, 34937), (47, 34955), (51, 35024),

Gene: Casbah_34 Start: 33692, Stop: 34117, Start Num: 14

Candidate Starts for Casbah_34:

(Start: 13 @33587 has 1 MA's), (Start: 14 @33692 has 67 MA's), (22, 33803), (25, 33812), (34, 33920), (35, 33941), (37, 33977), (39, 33983), (40, 33995), (42, 34019), (47, 34037), (51, 34106),

Gene: Cepens_27 Start: 31005, Stop: 31427, Start Num: 14

Candidate Starts for Cepens_27:

(Start: 14 @31005 has 67 MA's), (15, 31035), (20, 31095), (25, 31122), (32, 31215), (34, 31230), (37, 31287), (38, 31290), (39, 31293), (41, 31317), (48, 31356),

Gene: ChaChing_35 Start: 33855, Stop: 34280, Start Num: 14

Candidate Starts for ChaChing_35:

(Start: 13 @33750 has 1 MA's), (Start: 14 @33855 has 67 MA's), (Start: 19 @33933 has 7 MA's), (22, 33966), (25, 33975), (35, 34104), (37, 34140), (39, 34146), (40, 34158), (42, 34182), (47, 34200), (51, 34269),

Gene: Chandler_35 Start: 34623, Stop: 35048, Start Num: 14

Candidate Starts for Chandler_35:

(Start: 13 @34518 has 1 MA's), (Start: 14 @34623 has 67 MA's), (Start: 19 @34701 has 7 MA's), (22, 34734), (25, 34743), (34, 34851), (35, 34872), (37, 34908), (39, 34914), (40, 34926), (42, 34950), (47, 34968), (51, 35037),

Gene: ChrisnMich_31 Start: 33140, Stop: 33493, Start Num: 19

Candidate Starts for ChrisnMich_31:

(Start: 19 @33140 has 7 MA's), (21, 33161), (24, 33188), (33, 33290), (36, 33326), (45, 33407), (46, 33410), (50, 33473),

Gene: Compostia_36 Start: 34271, Stop: 34696, Start Num: 14

Candidate Starts for Compostia_36:

(10, 33929), (11, 34040), (Start: 13 @34166 has 1 MA's), (Start: 14 @34271 has 67 MA's), (22, 34382), (25, 34391), (35, 34520), (36, 34529), (37, 34556), (39, 34562), (40, 34574), (42, 34598), (47, 34616), (51, 34685),

Gene: Corofin_35 Start: 33866, Stop: 34291, Start Num: 14

Candidate Starts for Corofin_35:

(Start: 13 @33761 has 1 MA's), (Start: 14 @33866 has 67 MA's), (Start: 19 @33944 has 7 MA's), (22, 33977), (25, 33986), (35, 34115), (37, 34151), (39, 34157), (40, 34169), (42, 34193), (47, 34211), (51, 34280),

Gene: D12_27 Start: 31575, Stop: 31997, Start Num: 14

Candidate Starts for D12_27:

(Start: 14 @31575 has 67 MA's), (15, 31605), (20, 31665), (25, 31692), (32, 31785), (34, 31800), (35, 31821), (37, 31857), (38, 31860), (39, 31863), (41, 31887), (44, 31902), (48, 31926),

Gene: Daisy_35 Start: 33867, Stop: 34292, Start Num: 14

Candidate Starts for Daisy_35:

(Start: 13 @33762 has 1 MA's), (Start: 14 @33867 has 67 MA's), (Start: 19 @33945 has 7 MA's), (22, 33978), (25, 33987), (34, 34095), (35, 34116), (36, 34125), (37, 34152), (39, 34158), (40, 34170), (42, 34194), (47, 34212), (51, 34281),

Gene: Deenasa_35 Start: 34606, Stop: 35031, Start Num: 14

Candidate Starts for Deenasa_35:

(Start: 13 @34501 has 1 MA's), (Start: 14 @34606 has 67 MA's), (Start: 19 @34684 has 7 MA's), (22, 34717), (25, 34726), (35, 34855), (37, 34891), (39, 34897), (40, 34909), (42, 34933), (47, 34951), (51, 35020),

Gene: Devonte_35 Start: 33831, Stop: 34256, Start Num: 14

Candidate Starts for Devonte_35:

(Start: 13 @33726 has 1 MA's), (Start: 14 @33831 has 67 MA's), (Start: 19 @33909 has 7 MA's), (22, 33942), (25, 33951), (34, 34059), (35, 34080), (37, 34116), (39, 34122), (40, 34134), (42, 34158), (47, 34176), (51, 34245),

Gene: DigitDog_34 Start: 34112, Stop: 34546, Start Num: 14

Candidate Starts for DigitDog_34:

(12, 33929), (Start: 13 @34007 has 1 MA's), (Start: 14 @34112 has 67 MA's), (30, 34316), (34, 34346),

Gene: Donny_34 Start: 34518, Stop: 34952, Start Num: 14

Candidate Starts for Donny_34:

(12, 34341), (Start: 13 @34413 has 1 MA's), (Start: 14 @34518 has 67 MA's), (15, 34560), (16, 34572), (18, 34599), (27, 34695), (30, 34722), (34, 34752), (35, 34773), (36, 34782),

Gene: Dori_31 Start: 30423, Stop: 30851, Start Num: 14

Candidate Starts for Dori_31:

(Start: 13 @30318 has 1 MA's), (Start: 14 @30423 has 67 MA's), (39, 30714), (43, 30750),

Gene: EastView9101_33 Start: 34168, Stop: 34602, Start Num: 14

Candidate Starts for EastView9101_33:

(12, 33991), (Start: 13 @34063 has 1 MA's), (Start: 14 @34168 has 67 MA's), (15, 34210), (16, 34222), (18, 34249), (27, 34345), (30, 34372), (34, 34402), (35, 34423), (36, 34432),

Gene: Epah_31 Start: 33148, Stop: 33501, Start Num: 19

Candidate Starts for Epah_31:

(Start: 19 @33148 has 7 MA's), (21, 33169), (24, 33196), (33, 33298), (36, 33334), (45, 33415), (46, 33418), (50, 33481),

Gene: Gadget_36 Start: 33854, Stop: 34279, Start Num: 14

Candidate Starts for Gadget_36:

(Start: 13 @33749 has 1 MA's), (Start: 14 @33854 has 67 MA's), (Start: 19 @33932 has 7 MA's), (22, 33965), (25, 33974), (34, 34082), (35, 34103), (36, 34112), (37, 34139), (39, 34145), (40, 34157), (42, 34181), (47, 34199), (51, 34268),

Gene: Gervas_35 Start: 33821, Stop: 34246, Start Num: 14

Candidate Starts for Gervas_35:

(Start: 13 @33716 has 1 MA's), (Start: 14 @33821 has 67 MA's), (22, 33932), (25, 33941), (34, 34049), (35, 34070), (37, 34106), (39, 34112), (40, 34124), (42, 34148), (47, 34166), (51, 34235),

Gene: GinPorsche_31 Start: 33148, Stop: 33501, Start Num: 19

Candidate Starts for GinPorsche_31:

(Start: 19 @33148 has 7 MA's), (21, 33169), (24, 33196), (33, 33298), (36, 33334), (45, 33415), (46, 33418), (50, 33481),

Gene: GlenHope_36 Start: 33834, Stop: 34259, Start Num: 14

Candidate Starts for GlenHope_36:

(10, 33492), (11, 33603), (Start: 13 @33729 has 1 MA's), (Start: 14 @33834 has 67 MA's), (22, 33945), (25, 33954), (35, 34083), (36, 34092), (37, 34119), (39, 34125), (40, 34137), (42, 34161), (47, 34179), (51, 34248),

Gene: Godines_35 Start: 34315, Stop: 34737, Start Num: 14

Candidate Starts for Godines_35:

(2, 33775), (7, 33826), (8, 33865), (9, 33907), (12, 34138), (Start: 13 @34210 has 1 MA's), (Start: 14 @34315 has 67 MA's), (15, 34345), (20, 34405), (32, 34525), (34, 34540), (35, 34561), (36, 34570), (39, 34603), (41, 34627), (51, 34726),

Gene: Halfpint_34 Start: 33660, Stop: 34085, Start Num: 14

Candidate Starts for Halfpint_34:

(10, 33318), (11, 33429), (Start: 13 @33555 has 1 MA's), (Start: 14 @33660 has 67 MA's), (22, 33771), (25, 33780), (35, 33909), (37, 33945), (39, 33951), (40, 33963), (42, 33987), (47, 34005), (51, 34074),

Gene: Hally898_31 Start: 33160, Stop: 33513, Start Num: 19

Candidate Starts for Hally898_31:

(Start: 19 @33160 has 7 MA's), (21, 33181), (24, 33208), (33, 33310), (36, 33346), (45, 33427), (46, 33430), (50, 33493),

Gene: HarveySr_35 Start: 33827, Stop: 34252, Start Num: 14

Candidate Starts for HarveySr_35:

(Start: 13 @33722 has 1 MA's), (Start: 14 @33827 has 67 MA's), (Start: 19 @33905 has 7 MA's), (22, 33938), (25, 33947), (34, 34055), (35, 34076), (36, 34085), (37, 34112), (39, 34118), (40, 34130), (42, 34154), (47, 34172), (51, 34241),

Gene: Heath_31 Start: 33778, Stop: 34131, Start Num: 19

Candidate Starts for Heath_31:

(Start: 19 @33778 has 7 MA's), (21, 33799), (24, 33826), (36, 33964), (38, 33991), (45, 34045), (46, 34048), (50, 34111),

Gene: Heathcliff_35 Start: 33805, Stop: 34230, Start Num: 14

Candidate Starts for Heathcliff_35:

(Start: 13 @33700 has 1 MA's), (Start: 14 @33805 has 67 MA's), (Start: 19 @33883 has 7 MA's), (22, 33916), (25, 33925), (35, 34054), (37, 34090), (39, 34096), (40, 34108), (42, 34132), (47, 34150), (51, 34219),

Gene: JAMaL_32 Start: 34359, Stop: 34712, Start Num: 19

Candidate Starts for JAMaL_32:

(Start: 19 @34359 has 7 MA's), (21, 34380), (24, 34407), (33, 34509), (36, 34545), (45, 34626), (46, 34629), (50, 34692),

Gene: Jackstina_32 Start: 33764, Stop: 34189, Start Num: 14

Candidate Starts for Jackstina_32:

(10, 33422), (11, 33533), (Start: 13 @33659 has 1 MA's), (Start: 14 @33764 has 67 MA's), (22, 33875), (25, 33884), (35, 34013), (36, 34022), (37, 34049), (39, 34055), (40, 34067), (42, 34091), (47, 34109), (51, 34178),

Gene: Kamiyu_35 Start: 33813, Stop: 34238, Start Num: 14

Candidate Starts for Kamiyu_35:

(Start: 13 @33708 has 1 MA's), (Start: 14 @33813 has 67 MA's), (Start: 19 @33891 has 7 MA's), (22, 33924), (25, 33933), (34, 34041), (35, 34062), (36, 34071), (37, 34098), (39, 34104), (40, 34116), (42, 34140), (47, 34158), (51, 34227),

Gene: KarasumaRum_36 Start: 34667, Stop: 35101, Start Num: 14

Candidate Starts for KarasumaRum_36:

(12, 34484), (Start: 13 @34562 has 1 MA's), (Start: 14 @34667 has 67 MA's), (30, 34871), (34, 34901),

Gene: Kronus_34 Start: 34423, Stop: 34848, Start Num: 14

Candidate Starts for Kronus_34:

(Start: 13 @34318 has 1 MA's), (Start: 14 @34423 has 67 MA's), (22, 34534), (25, 34543), (34, 34651), (35, 34672), (37, 34708), (39, 34714), (40, 34726), (42, 34750), (47, 34768), (51, 34837),

Gene: Lambano_31 Start: 33160, Stop: 33513, Start Num: 19

Candidate Starts for Lambano_31:

(Start: 19 @33160 has 7 MA's), (21, 33181), (24, 33208), (33, 33310), (36, 33346), (45, 33427), (46, 33430), (50, 33493),

Gene: Laurie_35 Start: 33756, Stop: 34178, Start Num: 14

Candidate Starts for Laurie_35:

(Start: 14 @33756 has 67 MA's), (15, 33786), (20, 33846), (29, 33939), (32, 33966), (34, 33981), (35, 34002), (36, 34011), (39, 34044), (41, 34068), (51, 34167),

Gene: LestyG_35 Start: 33844, Stop: 34269, Start Num: 14

Candidate Starts for LestyG_35:

(Start: 13 @33739 has 1 MA's), (Start: 14 @33844 has 67 MA's), (22, 33955), (25, 33964), (34, 34072), (35, 34093), (37, 34129), (39, 34135), (40, 34147), (42, 34171), (47, 34189), (51, 34258),

Gene: Magpie_31 Start: 34021, Stop: 34374, Start Num: 19

Candidate Starts for Magpie_31:

(Start: 19 @34021 has 7 MA's), (21, 34042), (24, 34069), (33, 34171), (36, 34207), (45, 34288), (46, 34291), (50, 34354),

Gene: Mao1_29 Start: 30339, Stop: 30767, Start Num: 14

Candidate Starts for Mao1_29:

(Start: 13 @30234 has 1 MA's), (Start: 14 @30339 has 67 MA's), (39, 30630), (43, 30666),

Gene: Marley1013_35 Start: 34622, Stop: 35047, Start Num: 14

Candidate Starts for Marley1013_35:

(Start: 13 @34517 has 1 MA's), (Start: 14 @34622 has 67 MA's), (Start: 19 @34700 has 7 MA's), (22, 34733), (25, 34742), (35, 34871), (37, 34907), (39, 34913), (40, 34925), (42, 34949), (47, 34967), (51, 35036),

Gene: Mask_30 Start: 30332, Stop: 30760, Start Num: 14

Candidate Starts for Mask_30:

(Start: 13 @30227 has 1 MA's), (Start: 14 @30332 has 67 MA's), (39, 30623), (43, 30659),

Gene: Megabear_27 Start: 30948, Stop: 31370, Start Num: 14

Candidate Starts for Megabear_27:

(Start: 14 @30948 has 67 MA's), (15, 30978), (20, 31038), (25, 31065), (32, 31158), (34, 31173), (37, 31230), (38, 31233), (39, 31236), (41, 31260), (48, 31299),

Gene: MmasiCarm_35 Start: 33826, Stop: 34251, Start Num: 14

Candidate Starts for MmasiCarm_35:

(Start: 13 @33721 has 1 MA's), (Start: 14 @33826 has 67 MA's), (Start: 19 @33904 has 7 MA's), (22, 33937), (25, 33946), (34, 34054), (35, 34075), (37, 34111), (39, 34117), (40, 34129), (42, 34153), (47, 34171), (51, 34240),

Gene: Mortcellus_34 Start: 34478, Stop: 34903, Start Num: 14

Candidate Starts for Mortcellus_34:

(Start: 13 @34373 has 1 MA's), (Start: 14 @34478 has 67 MA's), (Start: 19 @34556 has 7 MA's), (22, 34589), (25, 34598), (35, 34727), (36, 34736), (37, 34763), (39, 34769), (40, 34781), (42, 34805), (47, 34823), (51, 34892),

Gene: Morty007_35 Start: 34622, Stop: 35047, Start Num: 14

Candidate Starts for Morty007_35:

(Start: 13 @34517 has 1 MA's), (Start: 14 @34622 has 67 MA's), (Start: 19 @34700 has 7 MA's), (22, 34733), (25, 34742), (35, 34871), (37, 34907), (39, 34913), (40, 34925), (42, 34949), (47, 34967), (51, 35036),

Gene: Mysterious_35 Start: 34790, Stop: 35224, Start Num: 14

Candidate Starts for Mysterious_35:

(Start: 14 @34790 has 67 MA's), (15, 34832), (16, 34844), (18, 34871), (23, 34913), (27, 34967), (30, 34994), (34, 35024), (36, 35054),

Gene: Nanao_31 Start: 33147, Stop: 33500, Start Num: 19

Candidate Starts for Nanao_31:

(Start: 19 @33147 has 7 MA's), (21, 33168), (24, 33195), (33, 33297), (36, 33333), (45, 33414), (46, 33417), (50, 33480),

Gene: Nangang_34 Start: 34477, Stop: 34911, Start Num: 14

Candidate Starts for Nangang_34:

(12, 34294), (Start: 13 @34372 has 1 MA's), (Start: 14 @34477 has 67 MA's), (30, 34681), (34, 34711),

Gene: Nehemiah_33 Start: 34790, Stop: 35224, Start Num: 14

Candidate Starts for Nehemiah_33:

(Start: 14 @34790 has 67 MA's), (15, 34832), (16, 34844), (18, 34871), (23, 34913), (27, 34967), (30, 34994), (34, 35024), (36, 35054),

Gene: Neos5_35 Start: 34641, Stop: 35066, Start Num: 14

Candidate Starts for Neos5_35:

(Start: 13 @34536 has 1 MA's), (Start: 14 @34641 has 67 MA's), (Start: 19 @34719 has 7 MA's), (22, 34752), (25, 34761), (35, 34890), (37, 34926), (39, 34932), (40, 34944), (42, 34968), (47, 34986), (51, 35055),

Gene: Nozo_35 Start: 34602, Stop: 35027, Start Num: 14

Candidate Starts for Nozo_35:

(Start: 13 @34497 has 1 MA's), (Start: 14 @34602 has 67 MA's), (Start: 19 @34680 has 7 MA's), (22, 34713), (25, 34722), (35, 34851), (37, 34887), (39, 34893), (40, 34905), (42, 34929), (47, 34947), (51, 35016),

Gene: Obutu_35 Start: 33826, Stop: 34251, Start Num: 14

Candidate Starts for Obutu_35:

(Start: 13 @33721 has 1 MA's), (Start: 14 @33826 has 67 MA's), (Start: 19 @33904 has 7 MA's), (22, 33937), (25, 33946), (34, 34054), (35, 34075), (37, 34111), (39, 34117), (40, 34129), (42, 34153), (47, 34171), (51, 34240),

Gene: OrangeOswald_35 Start: 33843, Stop: 34268, Start Num: 14

Candidate Starts for OrangeOswald_35:

(Start: 13 @33738 has 1 MA's), (Start: 14 @33843 has 67 MA's), (Start: 19 @33921 has 7 MA's), (22, 33954), (25, 33963), (35, 34092), (37, 34128), (39, 34134), (40, 34146), (42, 34170), (47, 34188), (51, 34257),

Gene: PR_27 Start: 31552, Stop: 31974, Start Num: 14

Candidate Starts for PR_27:

(Start: 14 @31552 has 67 MA's), (15, 31582), (20, 31642), (25, 31669), (32, 31762), (34, 31777), (35, 31798), (37, 31834), (38, 31837), (39, 31840), (41, 31864), (44, 31879), (48, 31903),

Gene: Phaedrus_33 Start: 33763, Stop: 34188, Start Num: 14

Candidate Starts for Phaedrus_33:

(Start: 13 @33658 has 1 MA's), (Start: 14 @33763 has 67 MA's), (Start: 19 @33841 has 7 MA's), (22, 33874), (25, 33883), (34, 33991), (35, 34012), (36, 34021), (37, 34048), (39, 34054), (40, 34066), (42, 34090), (47, 34108), (51, 34177),

Gene: Phayeta_36 Start: 33708, Stop: 34133, Start Num: 14

Candidate Starts for Phayeta_36:

(Start: 13 @33603 has 1 MA's), (Start: 14 @33708 has 67 MA's), (22, 33819), (25, 33828), (34, 33936), (35, 33957), (37, 33993), (39, 33999), (40, 34011), (42, 34035), (47, 34053), (51, 34122),

Gene: Phelemich_34 Start: 34789, Stop: 35223, Start Num: 14

Candidate Starts for Phelemich_34:

(Start: 13 @34684 has 1 MA's), (Start: 14 @34789 has 67 MA's), (15, 34831), (16, 34843), (17, 34852), (18, 34870), (22, 34906), (27, 34966), (30, 34993), (34, 35023), (36, 35053),

Gene: Philly_34 Start: 33694, Stop: 34119, Start Num: 14

Candidate Starts for Philly_34:

(Start: 13 @33589 has 1 MA's), (Start: 14 @33694 has 67 MA's), (Start: 19 @33772 has 7 MA's), (22, 33805), (25, 33814), (34, 33922), (35, 33943), (37, 33979), (39, 33985), (40, 33997), (42, 34021), (47, 34039), (51, 34108),

Gene: Phlyer_35 Start: 34582, Stop: 35007, Start Num: 14

Candidate Starts for Phlyer_35:

(Start: 13 @34477 has 1 MA's), (Start: 14 @34582 has 67 MA's), (Start: 19 @34660 has 7 MA's), (22, 34693), (25, 34702), (34, 34810), (35, 34831), (36, 34840), (37, 34867), (39, 34873), (40, 34885), (42, 34909), (47, 34927), (51, 34996),

Gene: Pipefish_37 Start: 35235, Stop: 35660, Start Num: 14

Candidate Starts for Pipefish_37:

(4, 34734), (8, 34785), (9, 34827), (12, 35058), (Start: 13 @35130 has 1 MA's), (Start: 14 @35235 has 67 MA's), (22, 35346), (25, 35355), (34, 35463), (35, 35484), (37, 35520), (38, 35523), (39, 35526), (40, 35538), (42, 35562), (47, 35580), (51, 35649),

Gene: Poster_31 Start: 33148, Stop: 33501, Start Num: 19

Candidate Starts for Poster_31:

(Start: 19 @33148 has 7 MA's), (21, 33169), (24, 33196), (33, 33298), (36, 33334), (45, 33415), (46, 33418), (50, 33481),

Gene: Prince_32 Start: 34331, Stop: 34684, Start Num: 19

Candidate Starts for Prince_32:

(Start: 19 @34331 has 7 MA's), (21, 34352), (24, 34379), (33, 34481), (36, 34517), (45, 34598), (46, 34601), (50, 34664),

Gene: QueenPie_31 Start: 34272, Stop: 34625, Start Num: 19

Candidate Starts for QueenPie_31:

(Start: 19 @34272 has 7 MA's), (21, 34293), (24, 34320), (33, 34422), (36, 34458), (38, 34485), (45, 34539), (50, 34605),

Gene: Qyrzula_33 Start: 34400, Stop: 34822, Start Num: 14

Candidate Starts for Qyrzula_33:

(1, 33857), (2, 33860), (7, 33911), (8, 33950), (9, 33992), (12, 34223), (Start: 13 @34295 has 1 MA's), (Start: 14 @34400 has 67 MA's), (15, 34430), (20, 34490), (32, 34610), (34, 34625), (35, 34646), (36, 34655), (39, 34688), (41, 34712), (51, 34811),

Gene: RagingRooster_35 Start: 33844, Stop: 34269, Start Num: 14

Candidate Starts for RagingRooster_35:

(Start: 13 @33739 has 1 MA's), (Start: 14 @33844 has 67 MA's), (Start: 19 @33922 has 7 MA's), (22, 33955), (25, 33964), (34, 34072), (35, 34093), (37, 34129), (39, 34135), (40, 34147), (42, 34171), (47, 34189), (51, 34258),

Gene: Reprobate_34 Start: 34794, Stop: 35228, Start Num: 14

Candidate Starts for Reprobate_34:

(Start: 13 @34689 has 1 MA's), (Start: 14 @34794 has 67 MA's), (15, 34836), (16, 34848), (17, 34857), (18, 34875), (22, 34911), (27, 34971), (30, 34998), (34, 35028), (36, 35058),

Gene: Rich_33 Start: 34300, Stop: 34734, Start Num: 14

Candidate Starts for Rich_33:

(12, 34120), (Start: 14 @34300 has 67 MA's), (15, 34342), (16, 34354), (18, 34381), (27, 34477), (30, 34504), (31, 34513), (34, 34534), (36, 34564), (49, 34693),

Gene: Rita1961_35 Start: 33827, Stop: 34252, Start Num: 14

Candidate Starts for Rita1961_35:

(Start: 13 @33722 has 1 MA's), (Start: 14 @33827 has 67 MA's), (Start: 19 @33905 has 7 MA's), (22, 33938), (25, 33947), (34, 34055), (35, 34076), (37, 34112), (39, 34118), (40, 34130), (42, 34154), (47, 34172), (51, 34241),

Gene: RomaT_35 Start: 34617, Stop: 35042, Start Num: 14

Candidate Starts for RomaT_35:

(Start: 13 @34512 has 1 MA's), (Start: 14 @34617 has 67 MA's), (Start: 19 @34695 has 7 MA's), (22, 34728), (25, 34737), (34, 34845), (35, 34866), (36, 34875), (37, 34902), (39, 34908), (40, 34920), (42, 34944), (47, 34962), (51, 35031),

Gene: Sejanus_30 Start: 31273, Stop: 31701, Start Num: 14

Candidate Starts for Sejanus_30:

(Start: 13 @31168 has 1 MA's), (Start: 14 @31273 has 67 MA's), (39, 31564), (43, 31600),

Gene: Serendipitous_33 Start: 34367, Stop: 34795, Start Num: 14

Candidate Starts for Serendipitous_33:

(12, 34190), (Start: 13 @34262 has 1 MA's), (Start: 14 @34367 has 67 MA's), (16, 34415), (28, 34550), (30, 34565), (34, 34595), (35, 34616), (36, 34625), (49, 34754),

Gene: Shenyu_34 Start: 34477, Stop: 34911, Start Num: 14

Candidate Starts for Shenyu_34:

(12, 34294), (Start: 13 @34372 has 1 MA's), (Start: 14 @34477 has 67 MA's), (30, 34681), (34, 34711),

Gene: SirJeffery_34 Start: 34515, Stop: 34949, Start Num: 14

Candidate Starts for SirJeffery_34:

(12, 34338), (Start: 13 @34410 has 1 MA's), (Start: 14 @34515 has 67 MA's), (15, 34557), (16, 34569), (18, 34596), (27, 34692), (30, 34719), (34, 34749), (35, 34770), (36, 34779),

Gene: SlippinJimmy_35 Start: 34609, Stop: 35034, Start Num: 14

Candidate Starts for SlippinJimmy_35:

(Start: 13 @34504 has 1 MA's), (Start: 14 @34609 has 67 MA's), (Start: 19 @34687 has 7 MA's), (22, 34720), (25, 34729), (35, 34858), (37, 34894), (39, 34900), (40, 34912), (42, 34936), (47, 34954), (51, 35023),

Gene: StinkyVeggy_36 Start: 34667, Stop: 35101, Start Num: 14

Candidate Starts for StinkyVeggy_36:

(12, 34484), (Start: 13 @34562 has 1 MA's), (Start: 14 @34667 has 67 MA's), (30, 34871), (34, 34901),

Gene: Suigeneris_34 Start: 34518, Stop: 34952, Start Num: 14

Candidate Starts for Suigeneris_34:

(12, 34341), (Start: 13 @34413 has 1 MA's), (Start: 14 @34518 has 67 MA's), (15, 34560), (16, 34572), (18, 34599), (27, 34695), (30, 34722), (35, 34773), (36, 34782),

Gene: SynergyX_35 Start: 33844, Stop: 34269, Start Num: 14

Candidate Starts for SynergyX_35:

(Start: 13 @33739 has 1 MA's), (Start: 14 @33844 has 67 MA's), (Start: 19 @33922 has 7 MA's), (22, 33955), (25, 33964), (34, 34072), (35, 34093), (37, 34129), (39, 34135), (40, 34147), (42, 34171), (47, 34189), (51, 34258),

Gene: Taptic_27 Start: 30948, Stop: 31370, Start Num: 14

Candidate Starts for Taptic_27:

(Start: 14 @30948 has 67 MA's), (15, 30978), (20, 31038), (25, 31065), (32, 31158), (34, 31173), (35, 31194), (37, 31230), (38, 31233), (39, 31236), (41, 31260),

Gene: Tydolla_35 Start: 34578, Stop: 35003, Start Num: 14

Candidate Starts for Tydolla_35:

(Start: 13 @34473 has 1 MA's), (Start: 14 @34578 has 67 MA's), (Start: 19 @34656 has 7 MA's), (22, 34689), (25, 34698), (34, 34806), (35, 34827), (37, 34863), (39, 34869), (40, 34881), (42, 34905), (47, 34923), (51, 34992),

Gene: Vic9_36 Start: 34753, Stop: 35175, Start Num: 14

Candidate Starts for Vic9_36:

(3, 34252), (5, 34258), (6, 34261), (7, 34267), (9, 34348), (12, 34576), (Start: 13 @34648 has 1 MA's), (Start: 14 @34753 has 67 MA's), (15, 34783), (20, 34843), (32, 34963), (34, 34978), (35, 34999), (36, 35008), (39, 35041), (41, 35065), (51, 35164),

Gene: Vincenzo_33 Start: 34896, Stop: 35249, Start Num: 19

Candidate Starts for Vincenzo_33:

(Start: 19 @34896 has 7 MA's), (21, 34917), (24, 34944), (33, 35046), (36, 35082), (38, 35109), (45, 35163), (50, 35229),

Gene: Yahalom_35 Start: 33854, Stop: 34279, Start Num: 14

Candidate Starts for Yahalom_35:

(10, 33512), (11, 33623), (Start: 13 @33749 has 1 MA's), (Start: 14 @33854 has 67 MA's), (22, 33965), (25, 33974), (26, 33989), (35, 34103), (36, 34112), (37, 34139), (39, 34145), (40, 34157), (42, 34181), (47, 34199), (51, 34268),

Gene: Yinz_35 Start: 33880, Stop: 34305, Start Num: 14

Candidate Starts for Yinz_35:

(Start: 13 @33775 has 1 MA's), (Start: 14 @33880 has 67 MA's), (Start: 19 @33958 has 7 MA's), (22, 33991), (25, 34000), (34, 34108), (35, 34129), (36, 34138), (37, 34165), (39, 34171), (40, 34183), (42, 34207), (47, 34225), (51, 34294),