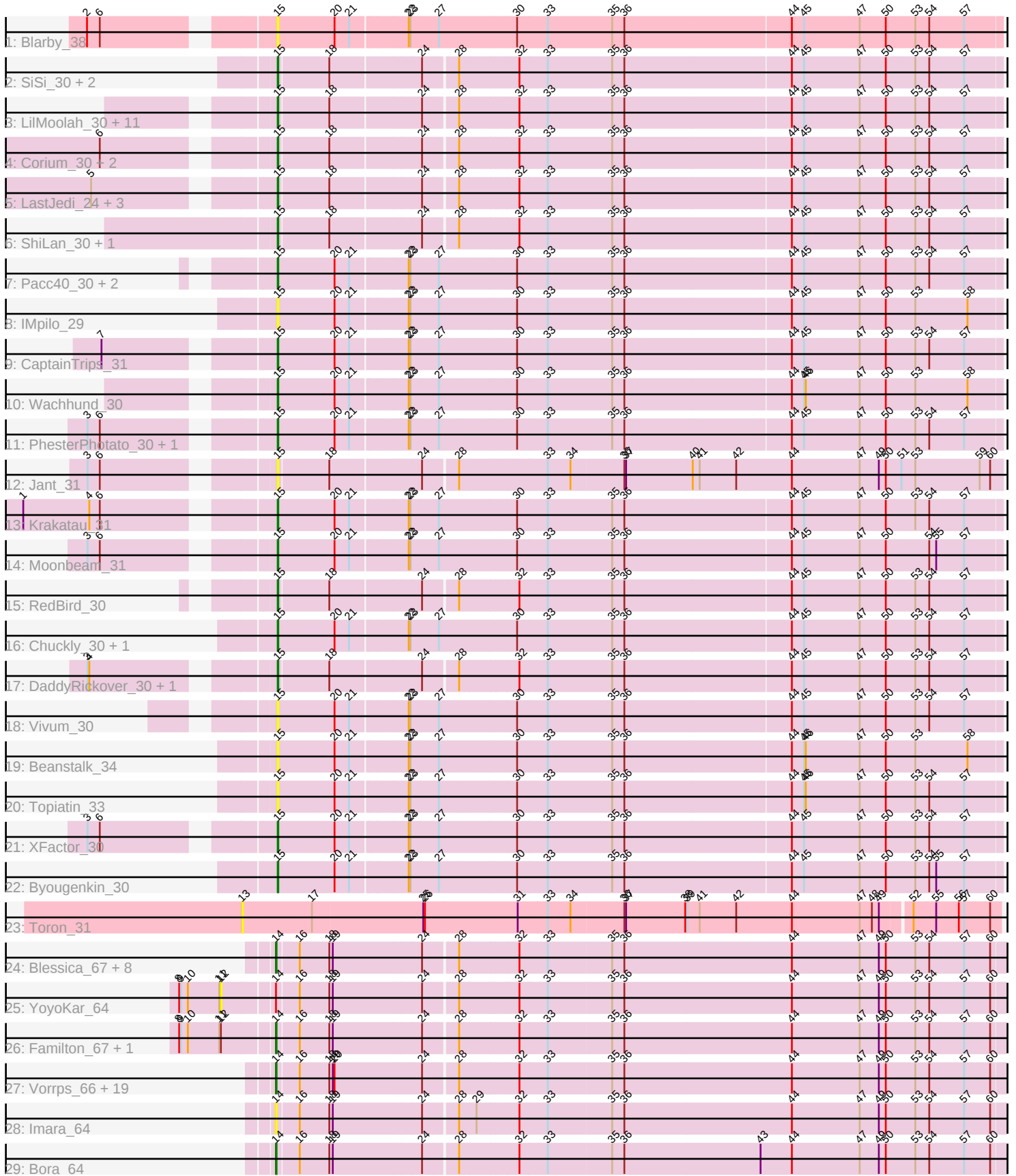


Pham 280356



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 280356 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280356 has 81 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Blarby_38
- Track 2 : SiSi_30, Fastidio_32, DillTech15_30
- Track 3 : LilMoolah_30, Nivrat_30, Burwell21_30, Martik_30, ByChance_30, Maravista_30, ShowerHandel_30, Zizzle_30, Yorick_30, NormanBulbieJr_30, SwagPigglett_30, Lizziana_30
- Track 4 : Corium_30, PatoPoderoso_30, KingJulian_30
- Track 5 : LastJedi_24, Koella_24, Jennelsea_24, Clifton_24
- Track 6 : ShiLan_30, Jarcob_30
- Track 7 : Pacc40_30, Blexus_30, Leperchaun_30
- Track 8 : IMpilo_29
- Track 9 : CaptainTrips_31
- Track 10 : Wachhund_30
- Track 11 : PhesterPhotato_30, Phalconet_30
- Track 12 : Jant_31
- Track 13 : Krakatau_31
- Track 14 : Moonbeam_31
- Track 15 : RedBird_30
- Track 16 : Chuckly_30, Renaud18_30
- Track 17 : DaddyRickover_30, Dorothy_30
- Track 18 : Vivum_30
- Track 19 : Beanstalk_34
- Track 20 : Topiatin_33
- Track 21 : XFactor_30
- Track 22 : Byougenkin_30
- Track 23 : Toron_31
- Track 24 : Blessica_67, KingPhillip3_65, MadKillah_67, Idergollasper_66, TelAviv_63, JangDynasty_66, Catdawg_66, Schuy_67, Zebo_66
- Track 25 : YoyoKar_64
- Track 26 : Familton_67, SchoolBus_66
- Track 27 : Vorrps_66, Mori_66, Zakhe101_65, Smooch_69, Alkhayr_66, NiebruSaylor_65, Firecracker_67, Wildflower_66, Winget_67, Ashwin_68, Ryadel_70, Corndog_69, FoulBall_66, Murai_67, Vagabond_66, Krili_65, Shida_66, Wogge42_65, YungJamal_71, Dylan_66
- Track 28 : Imara_64
- Track 29 : Bora_64

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

The start number called the most often in the published annotations is 15, it was called in 36 of the 66 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beanstalk_34, Blarby_38, Blexus_30, Burwell21_30, ByChance_30, Byougenkin_30, CaptainTrips_31, Chuckly_30, Clifton_24, Corium_30, DaddyRickover_30, DillTech15_30, Dorothy_30, Fastidio_32, IMpilo_29, Jant_31, JarcoB_30, Jennelsea_24, KingJulian_30, Koella_24, Krakatau_31, LastJedi_24, Leperchaun_30, LilMoolah_30, Lizziana_30, Maravista_30, Martik_30, Moonbeam_31, Nivrat_30, NormanBulbieJr_30, Pacc40_30, PatoPoderoso_30, Phalconet_30, PhesterPhotato_30, RedBird_30, Renaud18_30, ShiLan_30, ShowerHandel_30, SiSi_30, SwagPigglett_30, Topiatin_33, Vivum_30, Wachhund_30, XFactor_30, Yorick_30, Zizzle_30,

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

-

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

- Alkhayr_66, Ashwin_68, Blessica_67, Bora_64, Catdawg_66, Corndog_69, Dylan_66, Familton_67, Firecracker_67, FoulBall_66, Idergollasper_66, Imara_64, JangDynasty_66, KingPhillip3_65, Krili_65, MadKillah_67, Mori_66, Murai_67, NiebruSaylor_65, Ryadel_70, SchoolBus_66, Schuy_67, Shida_66, Smooch_69, TelAviv_63, Toron_31, Vagabond_66, Vorrps_66, Wildflower_66, Winget_67, Wogge42_65, YoyoKar_64, YungJamal_71, Zakhe101_65, Zebo_66,

Summary by start number:

Start 12:

- Found in 3 of 81 (3.7%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: YoyoKar_64 (O),

Start 13:

- Found in 1 of 81 (1.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toron_31 (F6),

Start 14:

- Found in 34 of 81 (42.0%) of genes in pham
- Manual Annotations of this start: 30 of 66
- Called 97.1% of time when present
- Phage (with cluster) where this start called: Alkhayr_66 (O), Ashwin_68 (O), Blessica_67 (O), Bora_64 (O), Catdawg_66 (O), Corndog_69 (O), Dylan_66 (O), Familton_67 (O), Firecracker_67 (O), FoulBall_66 (O), Idergollasper_66 (O), Imara_64 (O), JangDynasty_66 (O), KingPhillip3_65 (O), Krili_65 (O), MadKillah_67 (O), Mori_66 (O), Murai_67 (O), NiebruSaylor_65 (O), Ryadel_70 (O), SchoolBus_66 (O), Schuy_67 (O), Shida_66 (O), Smooch_69 (O), TelAviv_63 (O), Vagabond_66 (O), Vorrps_66 (O), Wildflower_66 (O), Winget_67 (O), Wogge42_65 (O),

YungJamal_71 (O), Zakhe101_65 (O), Zebo_66 (O),

Start 15:

- Found in 46 of 81 (56.8%) of genes in pham
- Manual Annotations of this start: 36 of 66
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beanstalk_34 (F1), Blarby_38 (F), Blexus_30 (F1), Burwell21_30 (F1), ByChance_30 (F1), Byougenkin_30 (F1), CaptainTrips_31 (F1), Chuckly_30 (F1), Clifton_24 (F1), Corium_30 (F1), DaddyRickover_30 (F1), DillTech15_30 (F1), Dorothy_30 (F1), Fastidio_32 (F1), IMpilo_29 (F1), Jant_31 (F1), Jacob_30 (F1), Jennelsea_24 (F1), KingJulian_30 (F1), Koella_24 (F1), Krakatau_31 (F1), LastJedi_24 (F1), Leperchaun_30 (F1), LilMoolah_30 (F1), Lizziana_30 (F1), Maravista_30 (F1), Martik_30 (F1), Moonbeam_31 (F1), Nivrat_30 (F1), NormanBulbieJr_30 (F1), Pacc40_30 (F1), PatoPoderoso_30 (F1), Phalconet_30 (F1), PhesterPhotato_30 (F1), RedBird_30 (F1), Renaud18_30 (F4), ShiLan_30 (F1), ShowerHandel_30 (F1), SiSi_30 (F1), SwagPigglett_30 (F1), Topiatin_33 (F1), Vivum_30 (F1), Wachhund_30 (F1), XFactor_30 (F1), Yorick_30 (F1), Zizzle_30 (F1),

Summary by clusters:

There are 5 clusters represented in this pham: F1, F4, F6, O, F,

Info for manual annotations of cluster F1:

- Start number 15 was manually annotated 35 times for cluster F1.

Info for manual annotations of cluster F4:

- Start number 15 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster O:

- Start number 14 was manually annotated 30 times for cluster O.

Gene Information:

Gene: Alkhayr_66 Start: 41911, Stop: 43131, Start Num: 14

Candidate Starts for Alkhayr_66:

(Start: 14 @41911 has 30 MA's), (16, 41947), (18, 41998), (19, 42004), (20, 42007), (24, 42154), (28, 42208), (32, 42301), (33, 42349), (35, 42457), (36, 42478), (44, 42766), (47, 42883), (49, 42916), (50, 42928), (53, 42979), (54, 43003), (57, 43063), (60, 43108),

Gene: Ashwin_68 Start: 42681, Stop: 43901, Start Num: 14

Candidate Starts for Ashwin_68:

(Start: 14 @42681 has 30 MA's), (16, 42717), (18, 42768), (19, 42774), (20, 42777), (24, 42924), (28, 42978), (32, 43071), (33, 43119), (35, 43227), (36, 43248), (44, 43536), (47, 43653), (49, 43686), (50, 43698), (53, 43749), (54, 43773), (57, 43833), (60, 43878),

Gene: Beanstalk_34 Start: 26500, Stop: 27711, Start Num: 15

Candidate Starts for Beanstalk_34:

(Start: 15 @26500 has 36 MA's), (20, 26596), (21, 26620), (22, 26713), (23, 26716), (27, 26761), (30, 26890), (33, 26941), (35, 27052), (36, 27073), (44, 27355), (45, 27376), (46, 27379), (47, 27472), (50, 27517), (53, 27565), (58, 27655),

Gene: Blarby_38 Start: 26777, Stop: 27985, Start Num: 15

Candidate Starts for Blarby_38:

(2, 26501), (6, 26522), (Start: 15 @26777 has 36 MA's), (20, 26873), (21, 26897), (22, 26990), (23, 26993), (27, 27038), (30, 27167), (33, 27218), (35, 27329), (36, 27350), (44, 27632), (45, 27653), (47, 27749), (50, 27794), (53, 27839), (54, 27863), (57, 27923),

Gene: Blessica_67 Start: 42510, Stop: 43730, Start Num: 14

Candidate Starts for Blessica_67:

(Start: 14 @42510 has 30 MA's), (16, 42546), (18, 42597), (19, 42603), (24, 42753), (28, 42807), (32, 42900), (33, 42948), (35, 43056), (36, 43077), (44, 43365), (47, 43482), (49, 43515), (50, 43527), (53, 43578), (54, 43602), (57, 43662), (60, 43707),

Gene: Blexus_30 Start: 26628, Stop: 27836, Start Num: 15

Candidate Starts for Blexus_30:

(Start: 15 @26628 has 36 MA's), (20, 26724), (21, 26748), (22, 26841), (23, 26844), (27, 26889), (30, 27018), (33, 27069), (35, 27180), (36, 27201), (44, 27483), (45, 27504), (47, 27600), (50, 27645), (53, 27690), (54, 27714), (57, 27774),

Gene: Bora_64 Start: 41867, Stop: 43111, Start Num: 14

Candidate Starts for Bora_64:

(Start: 14 @41867 has 30 MA's), (16, 41903), (18, 41954), (19, 41960), (24, 42110), (28, 42164), (32, 42257), (33, 42305), (35, 42413), (36, 42434), (43, 42668), (44, 42722), (47, 42839), (49, 42872), (50, 42884), (53, 42935), (54, 42959), (57, 43019), (60, 43064),

Gene: Burwell21_30 Start: 26501, Stop: 27697, Start Num: 15

Candidate Starts for Burwell21_30:

(Start: 15 @26501 has 36 MA's), (18, 26585), (24, 26735), (28, 26789), (32, 26882), (33, 26930), (35, 27041), (36, 27062), (44, 27344), (45, 27365), (47, 27461), (50, 27506), (53, 27551), (54, 27575), (57, 27635),

Gene: ByChance_30 Start: 26478, Stop: 27674, Start Num: 15

Candidate Starts for ByChance_30:

(Start: 15 @26478 has 36 MA's), (18, 26562), (24, 26712), (28, 26766), (32, 26859), (33, 26907), (35, 27018), (36, 27039), (44, 27321), (45, 27342), (47, 27438), (50, 27483), (53, 27528), (54, 27552), (57, 27612),

Gene: Byougenkin_30 Start: 26387, Stop: 27595, Start Num: 15

Candidate Starts for Byougenkin_30:

(Start: 15 @26387 has 36 MA's), (20, 26483), (21, 26507), (22, 26600), (23, 26603), (27, 26648), (30, 26777), (33, 26828), (35, 26939), (36, 26960), (44, 27242), (45, 27263), (47, 27359), (50, 27404), (53, 27449), (54, 27473), (55, 27485), (57, 27533),

Gene: CaptainTrips_31 Start: 26707, Stop: 27915, Start Num: 15

Candidate Starts for CaptainTrips_31:

(7, 26455), (Start: 15 @26707 has 36 MA's), (20, 26803), (21, 26827), (22, 26920), (23, 26923), (27, 26968), (30, 27097), (33, 27148), (35, 27259), (36, 27280), (44, 27562), (45, 27583), (47, 27679), (50, 27724), (53, 27769), (54, 27793), (57, 27853),

Gene: Catdawg_66 Start: 42246, Stop: 43466, Start Num: 14

Candidate Starts for Catdawg_66:

(Start: 14 @42246 has 30 MA's), (16, 42282), (18, 42333), (19, 42339), (24, 42489), (28, 42543), (32, 42636), (33, 42684), (35, 42792), (36, 42813), (44, 43101), (47, 43218), (49, 43251), (50, 43263), (53, 43314), (54, 43338), (57, 43398), (60, 43443),

Gene: Chuckly_30 Start: 26483, Stop: 27691, Start Num: 15

Candidate Starts for Chuckly_30:

(Start: 15 @26483 has 36 MA's), (20, 26579), (21, 26603), (22, 26696), (23, 26699), (27, 26744), (30, 26873), (33, 26924), (35, 27035), (36, 27056), (44, 27338), (45, 27359), (47, 27455), (50, 27500), (53, 27545), (54, 27569), (57, 27629),

Gene: Clifton_24 Start: 22465, Stop: 23661, Start Num: 15

Candidate Starts for Clifton_24:

(5, 22195), (Start: 15 @22465 has 36 MA's), (18, 22549), (24, 22699), (28, 22753), (32, 22846), (33, 22894), (35, 23005), (36, 23026), (44, 23308), (45, 23329), (47, 23425), (50, 23470), (53, 23515), (54, 23539), (57, 23599),

Gene: Corium_30 Start: 26519, Stop: 27715, Start Num: 15

Candidate Starts for Corium_30:

(6, 26267), (Start: 15 @26519 has 36 MA's), (18, 26603), (24, 26753), (28, 26807), (32, 26900), (33, 26948), (35, 27059), (36, 27080), (44, 27362), (45, 27383), (47, 27479), (50, 27524), (53, 27569), (54, 27593), (57, 27653),

Gene: Corndog_69 Start: 43240, Stop: 44460, Start Num: 14

Candidate Starts for Corndog_69:

(Start: 14 @43240 has 30 MA's), (16, 43276), (18, 43327), (19, 43333), (20, 43336), (24, 43483), (28, 43537), (32, 43630), (33, 43678), (35, 43786), (36, 43807), (44, 44095), (47, 44212), (49, 44245), (50, 44257), (53, 44308), (54, 44332), (57, 44392), (60, 44437),

Gene: DaddyRickover_30 Start: 26502, Stop: 27698, Start Num: 15

Candidate Starts for DaddyRickover_30:

(3, 26229), (4, 26232), (Start: 15 @26502 has 36 MA's), (18, 26586), (24, 26736), (28, 26790), (32, 26883), (33, 26931), (35, 27042), (36, 27063), (44, 27345), (45, 27366), (47, 27462), (50, 27507), (53, 27552), (54, 27576), (57, 27636),

Gene: DillTech15_30 Start: 26411, Stop: 27607, Start Num: 15

Candidate Starts for DillTech15_30:

(Start: 15 @26411 has 36 MA's), (18, 26495), (24, 26645), (28, 26699), (32, 26792), (33, 26840), (35, 26951), (36, 26972), (44, 27254), (45, 27275), (47, 27371), (50, 27416), (53, 27461), (54, 27485), (57, 27545),

Gene: Dorothy_30 Start: 26287, Stop: 27483, Start Num: 15

Candidate Starts for Dorothy_30:

(3, 26014), (4, 26017), (Start: 15 @26287 has 36 MA's), (18, 26371), (24, 26521), (28, 26575), (32, 26668), (33, 26716), (35, 26827), (36, 26848), (44, 27130), (45, 27151), (47, 27247), (50, 27292), (53, 27337), (54, 27361), (57, 27421),

Gene: Dylan_66 Start: 42293, Stop: 43513, Start Num: 14

Candidate Starts for Dylan_66:

(Start: 14 @42293 has 30 MA's), (16, 42329), (18, 42380), (19, 42386), (20, 42389), (24, 42536), (28, 42590), (32, 42683), (33, 42731), (35, 42839), (36, 42860), (44, 43148), (47, 43265), (49, 43298), (50, 43310), (53, 43361), (54, 43385), (57, 43445), (60, 43490),

Gene: Familton_67 Start: 42203, Stop: 43423, Start Num: 14

Candidate Starts for Familton_67:

(8, 42050), (9, 42053), (10, 42065), (11, 42119), (12, 42122), (Start: 14 @42203 has 30 MA's), (16, 42239), (18, 42290), (19, 42296), (24, 42446), (28, 42500), (32, 42593), (33, 42641), (35, 42749), (36, 42770), (44, 43058), (47, 43175), (49, 43208), (50, 43220), (53, 43271), (54, 43295), (57, 43355), (60, 43400),

Gene: Fastidio_32 Start: 26640, Stop: 27836, Start Num: 15

Candidate Starts for Fastidio_32:

(Start: 15 @26640 has 36 MA's), (18, 26724), (24, 26874), (28, 26928), (32, 27021), (33, 27069), (35, 27180), (36, 27201), (44, 27483), (45, 27504), (47, 27600), (50, 27645), (53, 27690), (54, 27714), (57, 27774),

Gene: Firecracker_67 Start: 42393, Stop: 43643, Start Num: 14

Candidate Starts for Firecracker_67:

(Start: 14 @42393 has 30 MA's), (16, 42429), (18, 42480), (19, 42486), (20, 42489), (24, 42636), (28, 42690), (32, 42783), (33, 42831), (35, 42939), (36, 42960), (44, 43248), (47, 43365), (49, 43398), (50, 43410), (53, 43461), (54, 43485), (57, 43545), (60, 43590),

Gene: FoulBall_66 Start: 42197, Stop: 43417, Start Num: 14

Candidate Starts for FoulBall_66:

(Start: 14 @42197 has 30 MA's), (16, 42233), (18, 42284), (19, 42290), (20, 42293), (24, 42440), (28, 42494), (32, 42587), (33, 42635), (35, 42743), (36, 42764), (44, 43052), (47, 43169), (49, 43202), (50, 43214), (53, 43265), (54, 43289), (57, 43349), (60, 43394),

Gene: IMpilo_29 Start: 26117, Stop: 27328, Start Num: 15

Candidate Starts for IMpilo_29:

(Start: 15 @26117 has 36 MA's), (20, 26213), (21, 26237), (22, 26330), (23, 26333), (27, 26378), (30, 26507), (33, 26558), (35, 26669), (36, 26690), (44, 26972), (45, 26993), (47, 27089), (50, 27134), (53, 27182), (58, 27272),

Gene: Idergollasper_66 Start: 42197, Stop: 43417, Start Num: 14

Candidate Starts for Idergollasper_66:

(Start: 14 @42197 has 30 MA's), (16, 42233), (18, 42284), (19, 42290), (24, 42440), (28, 42494), (32, 42587), (33, 42635), (35, 42743), (36, 42764), (44, 43052), (47, 43169), (49, 43202), (50, 43214), (53, 43265), (54, 43289), (57, 43349), (60, 43394),

Gene: Imara_64 Start: 41997, Stop: 43217, Start Num: 14

Candidate Starts for Imara_64:

(Start: 14 @41997 has 30 MA's), (16, 42033), (18, 42084), (19, 42090), (24, 42240), (28, 42294), (29, 42321), (32, 42387), (33, 42435), (35, 42543), (36, 42564), (44, 42852), (47, 42969), (49, 43002), (50, 43014), (53, 43065), (54, 43089), (57, 43149), (60, 43194),

Gene: JangDynasty_66 Start: 42283, Stop: 43503, Start Num: 14

Candidate Starts for JangDynasty_66:

(Start: 14 @42283 has 30 MA's), (16, 42319), (18, 42370), (19, 42376), (24, 42526), (28, 42580), (32, 42673), (33, 42721), (35, 42829), (36, 42850), (44, 43138), (47, 43255), (49, 43288), (50, 43300), (53, 43351), (54, 43375), (57, 43435), (60, 43480),

Gene: Jant_31 Start: 26496, Stop: 27698, Start Num: 15

Candidate Starts for Jant_31:

(3, 26223), (6, 26244), (Start: 15 @26496 has 36 MA's), (18, 26580), (24, 26730), (28, 26784), (33, 26925), (34, 26964), (36, 27051), (37, 27054), (40, 27168), (41, 27180), (42, 27243), (44, 27339), (47,

27456), (49, 27489), (50, 27501), (51, 27525), (53, 27549), (59, 27660), (60, 27678),

Gene: Jarcob_30 Start: 26553, Stop: 27749, Start Num: 15

Candidate Starts for Jarcob_30:

(Start: 15 @26553 has 36 MA's), (18, 26637), (24, 26787), (28, 26841), (32, 26934), (33, 26982), (35, 27093), (36, 27114), (44, 27396), (45, 27417), (47, 27513), (50, 27558), (53, 27603), (54, 27627), (57, 27687),

Gene: Jennelsea_24 Start: 22465, Stop: 23661, Start Num: 15

Candidate Starts for Jennelsea_24:

(5, 22195), (Start: 15 @22465 has 36 MA's), (18, 22549), (24, 22699), (28, 22753), (32, 22846), (33, 22894), (35, 23005), (36, 23026), (44, 23308), (45, 23329), (47, 23425), (50, 23470), (53, 23515), (54, 23539), (57, 23599),

Gene: KingJulian_30 Start: 26519, Stop: 27715, Start Num: 15

Candidate Starts for KingJulian_30:

(6, 26267), (Start: 15 @26519 has 36 MA's), (18, 26603), (24, 26753), (28, 26807), (32, 26900), (33, 26948), (35, 27059), (36, 27080), (44, 27362), (45, 27383), (47, 27479), (50, 27524), (53, 27569), (54, 27593), (57, 27653),

Gene: KingPhillip3_65 Start: 42212, Stop: 43432, Start Num: 14

Candidate Starts for KingPhillip3_65:

(Start: 14 @42212 has 30 MA's), (16, 42248), (18, 42299), (19, 42305), (24, 42455), (28, 42509), (32, 42602), (33, 42650), (35, 42758), (36, 42779), (44, 43067), (47, 43184), (49, 43217), (50, 43229), (53, 43280), (54, 43304), (57, 43364), (60, 43409),

Gene: Koella_24 Start: 22477, Stop: 23673, Start Num: 15

Candidate Starts for Koella_24:

(5, 22207), (Start: 15 @22477 has 36 MA's), (18, 22561), (24, 22711), (28, 22765), (32, 22858), (33, 22906), (35, 23017), (36, 23038), (44, 23320), (45, 23341), (47, 23437), (50, 23482), (53, 23527), (54, 23551), (57, 23611),

Gene: Krakatau_31 Start: 27006, Stop: 28214, Start Num: 15

Candidate Starts for Krakatau_31:

(1, 26619), (4, 26733), (6, 26751), (Start: 15 @27006 has 36 MA's), (20, 27102), (21, 27126), (22, 27219), (23, 27222), (27, 27267), (30, 27396), (33, 27447), (35, 27558), (36, 27579), (44, 27861), (45, 27882), (47, 27978), (50, 28023), (53, 28068), (54, 28092), (57, 28152),

Gene: Krili_65 Start: 41707, Stop: 42927, Start Num: 14

Candidate Starts for Krili_65:

(Start: 14 @41707 has 30 MA's), (16, 41743), (18, 41794), (19, 41800), (20, 41803), (24, 41950), (28, 42004), (32, 42097), (33, 42145), (35, 42253), (36, 42274), (44, 42562), (47, 42679), (49, 42712), (50, 42724), (53, 42775), (54, 42799), (57, 42859), (60, 42904),

Gene: LastJedi_24 Start: 22508, Stop: 23704, Start Num: 15

Candidate Starts for LastJedi_24:

(5, 22238), (Start: 15 @22508 has 36 MA's), (18, 22592), (24, 22742), (28, 22796), (32, 22889), (33, 22937), (35, 23048), (36, 23069), (44, 23351), (45, 23372), (47, 23468), (50, 23513), (53, 23558), (54, 23582), (57, 23642),

Gene: Leperchaun_30 Start: 26385, Stop: 27593, Start Num: 15

Candidate Starts for Leperchaun_30:

(Start: 15 @26385 has 36 MA's), (20, 26481), (21, 26505), (22, 26598), (23, 26601), (27, 26646), (30, 26775), (33, 26826), (35, 26937), (36, 26958), (44, 27240), (45, 27261), (47, 27357), (50, 27402), (53, 27447), (54, 27471), (57, 27531),

Gene: LilMoolah_30 Start: 26601, Stop: 27797, Start Num: 15

Candidate Starts for LilMoolah_30:

(Start: 15 @26601 has 36 MA's), (18, 26685), (24, 26835), (28, 26889), (32, 26982), (33, 27030), (35, 27141), (36, 27162), (44, 27444), (45, 27465), (47, 27561), (50, 27606), (53, 27651), (54, 27675), (57, 27735),

Gene: Lizziana_30 Start: 26476, Stop: 27672, Start Num: 15

Candidate Starts for Lizziana_30:

(Start: 15 @26476 has 36 MA's), (18, 26560), (24, 26710), (28, 26764), (32, 26857), (33, 26905), (35, 27016), (36, 27037), (44, 27319), (45, 27340), (47, 27436), (50, 27481), (53, 27526), (54, 27550), (57, 27610),

Gene: MadKillah_67 Start: 41976, Stop: 43196, Start Num: 14

Candidate Starts for MadKillah_67:

(Start: 14 @41976 has 30 MA's), (16, 42012), (18, 42063), (19, 42069), (24, 42219), (28, 42273), (32, 42366), (33, 42414), (35, 42522), (36, 42543), (44, 42831), (47, 42948), (49, 42981), (50, 42993), (53, 43044), (54, 43068), (57, 43128), (60, 43173),

Gene: Maravista_30 Start: 26258, Stop: 27454, Start Num: 15

Candidate Starts for Maravista_30:

(Start: 15 @26258 has 36 MA's), (18, 26342), (24, 26492), (28, 26546), (32, 26639), (33, 26687), (35, 26798), (36, 26819), (44, 27101), (45, 27122), (47, 27218), (50, 27263), (53, 27308), (54, 27332), (57, 27392),

Gene: Martik_30 Start: 26503, Stop: 27699, Start Num: 15

Candidate Starts for Martik_30:

(Start: 15 @26503 has 36 MA's), (18, 26587), (24, 26737), (28, 26791), (32, 26884), (33, 26932), (35, 27043), (36, 27064), (44, 27346), (45, 27367), (47, 27463), (50, 27508), (53, 27553), (54, 27577), (57, 27637),

Gene: Moonbeam_31 Start: 26999, Stop: 28207, Start Num: 15

Candidate Starts for Moonbeam_31:

(3, 26726), (6, 26747), (Start: 15 @26999 has 36 MA's), (20, 27095), (21, 27119), (22, 27212), (23, 27215), (27, 27260), (30, 27389), (33, 27440), (35, 27551), (36, 27572), (44, 27854), (45, 27875), (47, 27971), (50, 28016), (54, 28085), (55, 28097), (57, 28145),

Gene: Mori_66 Start: 42238, Stop: 43458, Start Num: 14

Candidate Starts for Mori_66:

(Start: 14 @42238 has 30 MA's), (16, 42274), (18, 42325), (19, 42331), (20, 42334), (24, 42481), (28, 42535), (32, 42628), (33, 42676), (35, 42784), (36, 42805), (44, 43093), (47, 43210), (49, 43243), (50, 43255), (53, 43306), (54, 43330), (57, 43390), (60, 43435),

Gene: Murai_67 Start: 42419, Stop: 43639, Start Num: 14

Candidate Starts for Murai_67:

(Start: 14 @42419 has 30 MA's), (16, 42455), (18, 42506), (19, 42512), (20, 42515), (24, 42662), (28, 42716), (32, 42809), (33, 42857), (35, 42965), (36, 42986), (44, 43274), (47, 43391), (49, 43424), (50, 43436), (53, 43487), (54, 43511), (57, 43571), (60, 43616),

Gene: NiebruSaylor_65 Start: 41626, Stop: 42846, Start Num: 14

Candidate Starts for NiebruSaylor_65:

(Start: 14 @41626 has 30 MA's), (16, 41662), (18, 41713), (19, 41719), (20, 41722), (24, 41869), (28, 41923), (32, 42016), (33, 42064), (35, 42172), (36, 42193), (44, 42481), (47, 42598), (49, 42631), (50, 42643), (53, 42694), (54, 42718), (57, 42778), (60, 42823),

Gene: Nivrat_30 Start: 26475, Stop: 27671, Start Num: 15

Candidate Starts for Nivrat_30:

(Start: 15 @26475 has 36 MA's), (18, 26559), (24, 26709), (28, 26763), (32, 26856), (33, 26904), (35, 27015), (36, 27036), (44, 27318), (45, 27339), (47, 27435), (50, 27480), (53, 27525), (54, 27549), (57, 27609),

Gene: NormanBulbieJr_30 Start: 26490, Stop: 27686, Start Num: 15

Candidate Starts for NormanBulbieJr_30:

(Start: 15 @26490 has 36 MA's), (18, 26574), (24, 26724), (28, 26778), (32, 26871), (33, 26919), (35, 27030), (36, 27051), (44, 27333), (45, 27354), (47, 27450), (50, 27495), (53, 27540), (54, 27564), (57, 27624),

Gene: Pacc40_30 Start: 26481, Stop: 27689, Start Num: 15

Candidate Starts for Pacc40_30:

(Start: 15 @26481 has 36 MA's), (20, 26577), (21, 26601), (22, 26694), (23, 26697), (27, 26742), (30, 26871), (33, 26922), (35, 27033), (36, 27054), (44, 27336), (45, 27357), (47, 27453), (50, 27498), (53, 27543), (54, 27567), (57, 27627),

Gene: PatoPoderoso_30 Start: 26519, Stop: 27715, Start Num: 15

Candidate Starts for PatoPoderoso_30:

(6, 26267), (Start: 15 @26519 has 36 MA's), (18, 26603), (24, 26753), (28, 26807), (32, 26900), (33, 26948), (35, 27059), (36, 27080), (44, 27362), (45, 27383), (47, 27479), (50, 27524), (53, 27569), (54, 27593), (57, 27653),

Gene: Phalconet_30 Start: 26423, Stop: 27631, Start Num: 15

Candidate Starts for Phalconet_30:

(3, 26147), (6, 26168), (Start: 15 @26423 has 36 MA's), (20, 26519), (21, 26543), (22, 26636), (23, 26639), (27, 26684), (30, 26813), (33, 26864), (35, 26975), (36, 26996), (44, 27278), (45, 27299), (47, 27395), (50, 27440), (53, 27485), (54, 27509), (57, 27569),

Gene: PhesterPhotato_30 Start: 26343, Stop: 27551, Start Num: 15

Candidate Starts for PhesterPhotato_30:

(3, 26067), (6, 26088), (Start: 15 @26343 has 36 MA's), (20, 26439), (21, 26463), (22, 26556), (23, 26559), (27, 26604), (30, 26733), (33, 26784), (35, 26895), (36, 26916), (44, 27198), (45, 27219), (47, 27315), (50, 27360), (53, 27405), (54, 27429), (57, 27489),

Gene: RedBird_30 Start: 26299, Stop: 27495, Start Num: 15

Candidate Starts for RedBird_30:

(Start: 15 @26299 has 36 MA's), (18, 26383), (24, 26533), (28, 26587), (32, 26680), (33, 26728), (35, 26839), (36, 26860), (44, 27142), (45, 27163), (47, 27259), (50, 27304), (53, 27349), (54, 27373), (57, 27433),

Gene: Renaud18_30 Start: 26514, Stop: 27722, Start Num: 15

Candidate Starts for Renaud18_30:

(Start: 15 @26514 has 36 MA's), (20, 26610), (21, 26634), (22, 26727), (23, 26730), (27, 26775), (30, 26904), (33, 26955), (35, 27066), (36, 27087), (44, 27369), (45, 27390), (47, 27486), (50, 27531), (53, 27576), (54, 27600), (57, 27660),

Gene: Ryadel_70 Start: 43007, Stop: 44251, Start Num: 14

Candidate Starts for Ryadel_70:

(Start: 14 @43007 has 30 MA's), (16, 43043), (18, 43094), (19, 43100), (20, 43103), (24, 43250), (28, 43304), (32, 43397), (33, 43445), (35, 43553), (36, 43574), (44, 43862), (47, 43979), (49, 44012), (50, 44024), (53, 44075), (54, 44099), (57, 44159), (60, 44204),

Gene: SchoolBus_66 Start: 42191, Stop: 43411, Start Num: 14

Candidate Starts for SchoolBus_66:

(8, 42038), (9, 42041), (10, 42053), (11, 42107), (12, 42110), (Start: 14 @42191 has 30 MA's), (16, 42227), (18, 42278), (19, 42284), (24, 42434), (28, 42488), (32, 42581), (33, 42629), (35, 42737), (36, 42758), (44, 43046), (47, 43163), (49, 43196), (50, 43208), (53, 43259), (54, 43283), (57, 43343), (60, 43388),

Gene: Schuy_67 Start: 41982, Stop: 43202, Start Num: 14

Candidate Starts for Schuy_67:

(Start: 14 @41982 has 30 MA's), (16, 42018), (18, 42069), (19, 42075), (24, 42225), (28, 42279), (32, 42372), (33, 42420), (35, 42528), (36, 42549), (44, 42837), (47, 42954), (49, 42987), (50, 42999), (53, 43050), (54, 43074), (57, 43134), (60, 43179),

Gene: ShiLan_30 Start: 26544, Stop: 27740, Start Num: 15

Candidate Starts for ShiLan_30:

(Start: 15 @26544 has 36 MA's), (18, 26628), (24, 26778), (28, 26832), (32, 26925), (33, 26973), (35, 27084), (36, 27105), (44, 27387), (45, 27408), (47, 27504), (50, 27549), (53, 27594), (54, 27618), (57, 27678),

Gene: Shida_66 Start: 41889, Stop: 43109, Start Num: 14

Candidate Starts for Shida_66:

(Start: 14 @41889 has 30 MA's), (16, 41925), (18, 41976), (19, 41982), (20, 41985), (24, 42132), (28, 42186), (32, 42279), (33, 42327), (35, 42435), (36, 42456), (44, 42744), (47, 42861), (49, 42894), (50, 42906), (53, 42957), (54, 42981), (57, 43041), (60, 43086),

Gene: ShowerHandel_30 Start: 26503, Stop: 27699, Start Num: 15

Candidate Starts for ShowerHandel_30:

(Start: 15 @26503 has 36 MA's), (18, 26587), (24, 26737), (28, 26791), (32, 26884), (33, 26932), (35, 27043), (36, 27064), (44, 27346), (45, 27367), (47, 27463), (50, 27508), (53, 27553), (54, 27577), (57, 27637),

Gene: SiSi_30 Start: 26302, Stop: 27498, Start Num: 15

Candidate Starts for SiSi_30:

(Start: 15 @26302 has 36 MA's), (18, 26386), (24, 26536), (28, 26590), (32, 26683), (33, 26731), (35, 26842), (36, 26863), (44, 27145), (45, 27166), (47, 27262), (50, 27307), (53, 27352), (54, 27376), (57, 27436),

Gene: Smooch_69 Start: 43911, Stop: 45155, Start Num: 14

Candidate Starts for Smooch_69:

(Start: 14 @43911 has 30 MA's), (16, 43947), (18, 43998), (19, 44004), (20, 44007), (24, 44154), (28, 44208), (32, 44301), (33, 44349), (35, 44457), (36, 44478), (44, 44766), (47, 44883), (49, 44916), (50, 44928), (53, 44979), (54, 45003), (57, 45063), (60, 45108),

Gene: SwagPiggett_30 Start: 26314, Stop: 27510, Start Num: 15

Candidate Starts for SwagPiggett_30:

(Start: 15 @26314 has 36 MA's), (18, 26398), (24, 26548), (28, 26602), (32, 26695), (33, 26743), (35, 26854), (36, 26875), (44, 27157), (45, 27178), (47, 27274), (50, 27319), (53, 27364), (54, 27388), (57,

27448),

Gene: TelAviv_63 Start: 42164, Stop: 43384, Start Num: 14

Candidate Starts for TelAviv_63:

(Start: 14 @42164 has 30 MA's), (16, 42200), (18, 42251), (19, 42257), (24, 42407), (28, 42461), (32, 42554), (33, 42602), (35, 42710), (36, 42731), (44, 43019), (47, 43136), (49, 43169), (50, 43181), (53, 43232), (54, 43256), (57, 43316), (60, 43361),

Gene: Topiatin_33 Start: 26996, Stop: 28204, Start Num: 15

Candidate Starts for Topiatin_33:

(Start: 15 @26996 has 36 MA's), (20, 27092), (21, 27116), (22, 27209), (23, 27212), (27, 27257), (30, 27386), (33, 27437), (35, 27548), (36, 27569), (44, 27851), (45, 27872), (46, 27875), (47, 27968), (50, 28013), (53, 28058), (54, 28082), (57, 28142),

Gene: Toron_31 Start: 26744, Stop: 28024, Start Num: 13

Candidate Starts for Toron_31:

(13, 26744), (17, 26864), (25, 27053), (26, 27056), (31, 27215), (33, 27266), (34, 27305), (36, 27392), (37, 27395), (38, 27497), (39, 27500), (41, 27521), (42, 27584), (44, 27680), (47, 27797), (48, 27818), (49, 27830), (52, 27875), (55, 27914), (56, 27953), (57, 27962), (60, 28007),

Gene: Vagabond_66 Start: 42027, Stop: 43247, Start Num: 14

Candidate Starts for Vagabond_66:

(Start: 14 @42027 has 30 MA's), (16, 42063), (18, 42114), (19, 42120), (20, 42123), (24, 42270), (28, 42324), (32, 42417), (33, 42465), (35, 42573), (36, 42594), (44, 42882), (47, 42999), (49, 43032), (50, 43044), (53, 43095), (54, 43119), (57, 43179), (60, 43224),

Gene: Vivum_30 Start: 26313, Stop: 27521, Start Num: 15

Candidate Starts for Vivum_30:

(Start: 15 @26313 has 36 MA's), (20, 26409), (21, 26433), (22, 26526), (23, 26529), (27, 26574), (30, 26703), (33, 26754), (35, 26865), (36, 26886), (44, 27168), (45, 27189), (47, 27285), (50, 27330), (53, 27375), (54, 27399), (57, 27459),

Gene: Vorrrps_66 Start: 42239, Stop: 43459, Start Num: 14

Candidate Starts for Vorrrps_66:

(Start: 14 @42239 has 30 MA's), (16, 42275), (18, 42326), (19, 42332), (20, 42335), (24, 42482), (28, 42536), (32, 42629), (33, 42677), (35, 42785), (36, 42806), (44, 43094), (47, 43211), (49, 43244), (50, 43256), (53, 43307), (54, 43331), (57, 43391), (60, 43436),

Gene: Wachhund_30 Start: 26486, Stop: 27697, Start Num: 15

Candidate Starts for Wachhund_30:

(Start: 15 @26486 has 36 MA's), (20, 26582), (21, 26606), (22, 26699), (23, 26702), (27, 26747), (30, 26876), (33, 26927), (35, 27038), (36, 27059), (44, 27341), (45, 27362), (46, 27365), (47, 27458), (50, 27503), (53, 27551), (58, 27641),

Gene: Wildflower_66 Start: 41751, Stop: 42971, Start Num: 14

Candidate Starts for Wildflower_66:

(Start: 14 @41751 has 30 MA's), (16, 41787), (18, 41838), (19, 41844), (20, 41847), (24, 41994), (28, 42048), (32, 42141), (33, 42189), (35, 42297), (36, 42318), (44, 42606), (47, 42723), (49, 42756), (50, 42768), (53, 42819), (54, 42843), (57, 42903), (60, 42948),

Gene: Winget_67 Start: 42457, Stop: 43677, Start Num: 14

Candidate Starts for Winget_67:

(Start: 14 @42457 has 30 MA's), (16, 42493), (18, 42544), (19, 42550), (20, 42553), (24, 42700), (28, 42754), (32, 42847), (33, 42895), (35, 43003), (36, 43024), (44, 43312), (47, 43429), (49, 43462), (50, 43474), (53, 43525), (54, 43549), (57, 43609), (60, 43654),

Gene: Wogge42_65 Start: 41898, Stop: 43118, Start Num: 14

Candidate Starts for Wogge42_65:

(Start: 14 @41898 has 30 MA's), (16, 41934), (18, 41985), (19, 41991), (20, 41994), (24, 42141), (28, 42195), (32, 42288), (33, 42336), (35, 42444), (36, 42465), (44, 42753), (47, 42870), (49, 42903), (50, 42915), (53, 42966), (54, 42990), (57, 43050), (60, 43095),

Gene: XFactor_30 Start: 26489, Stop: 27697, Start Num: 15

Candidate Starts for XFactor_30:

(3, 26213), (6, 26234), (Start: 15 @26489 has 36 MA's), (20, 26585), (21, 26609), (22, 26702), (23, 26705), (27, 26750), (30, 26879), (33, 26930), (35, 27041), (36, 27062), (44, 27344), (45, 27365), (47, 27461), (50, 27506), (53, 27551), (54, 27575), (57, 27635),

Gene: Yorick_30 Start: 26501, Stop: 27697, Start Num: 15

Candidate Starts for Yorick_30:

(Start: 15 @26501 has 36 MA's), (18, 26585), (24, 26735), (28, 26789), (32, 26882), (33, 26930), (35, 27041), (36, 27062), (44, 27344), (45, 27365), (47, 27461), (50, 27506), (53, 27551), (54, 27575), (57, 27635),

Gene: YoyoKar_64 Start: 41660, Stop: 42961, Start Num: 12

Candidate Starts for YoyoKar_64:

(8, 41588), (9, 41591), (10, 41603), (11, 41657), (12, 41660), (Start: 14 @41741 has 30 MA's), (16, 41777), (18, 41828), (19, 41834), (24, 41984), (28, 42038), (32, 42131), (33, 42179), (35, 42287), (36, 42308), (44, 42596), (47, 42713), (49, 42746), (50, 42758), (53, 42809), (54, 42833), (57, 42893), (60, 42938),

Gene: YungJamal_71 Start: 43649, Stop: 44869, Start Num: 14

Candidate Starts for YungJamal_71:

(Start: 14 @43649 has 30 MA's), (16, 43685), (18, 43736), (19, 43742), (20, 43745), (24, 43892), (28, 43946), (32, 44039), (33, 44087), (35, 44195), (36, 44216), (44, 44504), (47, 44621), (49, 44654), (50, 44666), (53, 44717), (54, 44741), (57, 44801), (60, 44846),

Gene: Zakhe101_65 Start: 42297, Stop: 43517, Start Num: 14

Candidate Starts for Zakhe101_65:

(Start: 14 @42297 has 30 MA's), (16, 42333), (18, 42384), (19, 42390), (20, 42393), (24, 42540), (28, 42594), (32, 42687), (33, 42735), (35, 42843), (36, 42864), (44, 43152), (47, 43269), (49, 43302), (50, 43314), (53, 43365), (54, 43389), (57, 43449), (60, 43494),

Gene: Zebo_66 Start: 42200, Stop: 43420, Start Num: 14

Candidate Starts for Zebo_66:

(Start: 14 @42200 has 30 MA's), (16, 42236), (18, 42287), (19, 42293), (24, 42443), (28, 42497), (32, 42590), (33, 42638), (35, 42746), (36, 42767), (44, 43055), (47, 43172), (49, 43205), (50, 43217), (53, 43268), (54, 43292), (57, 43352), (60, 43397),

Gene: Zizzle_30 Start: 26445, Stop: 27641, Start Num: 15

Candidate Starts for Zizzle_30:

(Start: 15 @26445 has 36 MA's), (18, 26529), (24, 26679), (28, 26733), (32, 26826), (33, 26874), (35, 26985), (36, 27006), (44, 27288), (45, 27309), (47, 27405), (50, 27450), (53, 27495), (54, 27519), (57, 27579),