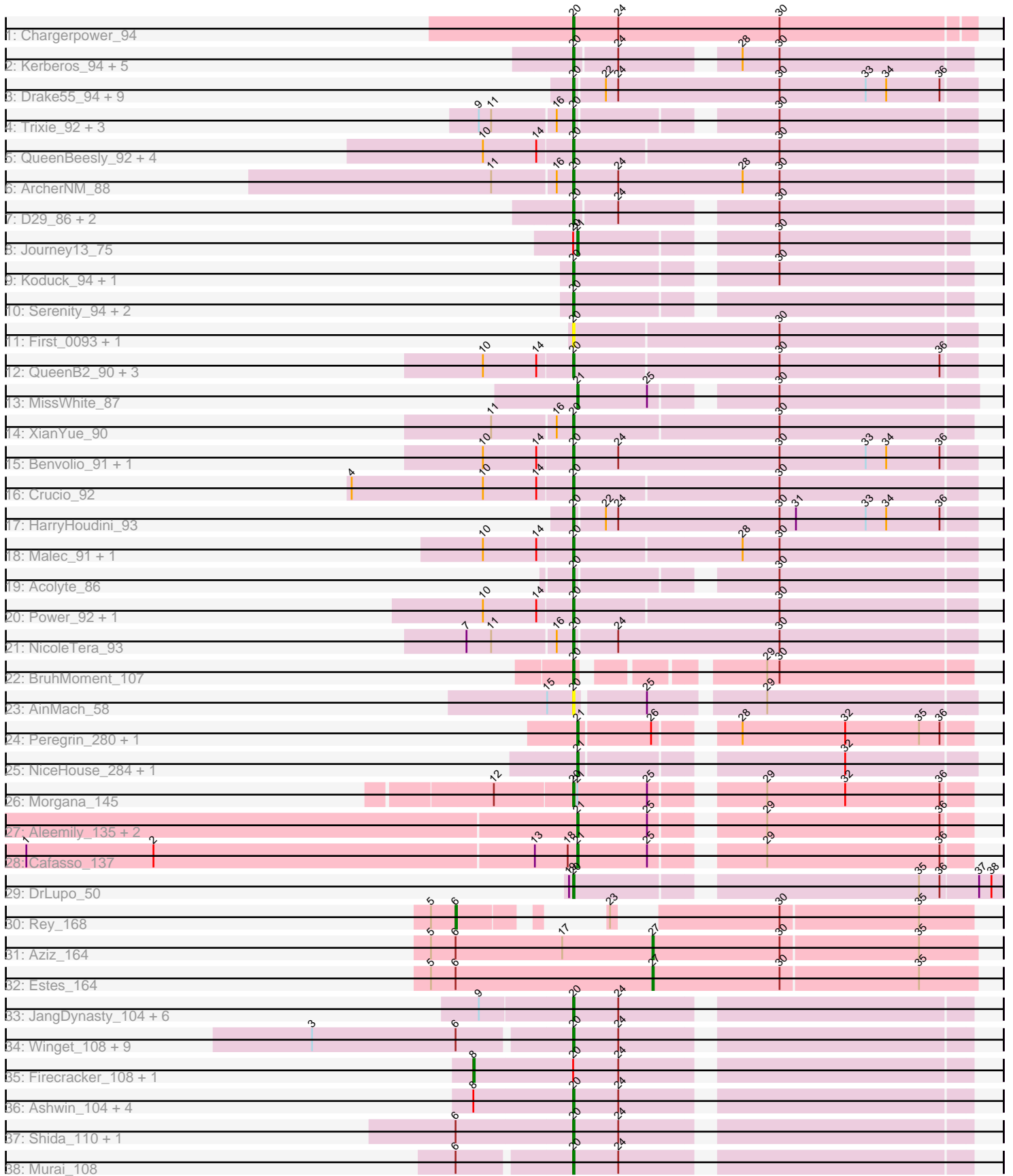


Pham 157763



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 157763 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157763 has 96 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower_94
- Track 2 : Kerberos_94, Tomathan_94, StarStuff_94, Duplo_95, Pomar16_94, DBQu4n_94
- Track 3 : Drake55_94, Centaur_94, MiculUcigas_94, NaSiaTalie_95, Baehexic_93, Flare16_94, Equemioh13_94, WideWale_95, Updawg_95, Piro94_92
- Track 4 : Trixie_92, WeiHuaDA_94, Kalpine_95, Colin_91
- Track 5 : QueenBeesly_92, SnapTap_92, Georgie2_94, FiringLine_92, SemperFi_92
- Track 6 : ArcherNM_88
- Track 7 : D29_86, D32_82, Naji_83
- Track 8 : Journey13_75
- Track 9 : Koduck_94, L5_86
- Track 10 : Serenity_94, TipsytheTRex_91, Jsquared_98
- Track 11 : First_0093, 20ES_94
- Track 12 : QueenB2_90, Anselm_94, Retro23_92, DudeLittle_90
- Track 13 : MissWhite_87
- Track 14 : XianYue_90
- Track 15 : Benvolio_91, Echild_96
- Track 16 : Crucio_92
- Track 17 : HarryHoudini_93
- Track 18 : Malec_91, Larenn_91
- Track 19 : Acolyte_86
- Track 20 : Power_92, SweetiePie_92
- Track 21 : NicoleTera_93
- Track 22 : BruhMoment_107
- Track 23 : AinMach_58
- Track 24 : Peregrin_280, Grayson_283
- Track 25 : NiceHouse_284, NiceHouse_3
- Track 26 : Morgana_145
- Track 27 : Aleemily_135, ModicumRichard_137, ObLaDi_136
- Track 28 : Cafasso_137
- Track 29 : DrLupo_50
- Track 30 : Rey_168
- Track 31 : Aziz_164
- Track 32 : Estes_164
- Track 33 : JangDynasty_104, TelAviv_105, Familton_109, Idergollasper_110, Ryadel_112, Blessica_106, SchoolBus_107

- Track 34 : Winget_108, MadKillah_111, Mori_108, Schuy_105, Vorrps_108, Catdawg_109, Alkhayr_104, FoulBall_104, Krili_110, NiebruSaylor_108
- Track 35 : Firecracker_108, Smooch_107
- Track 36 : Ashwin_104, YungJamal_106, Corndog_105, Wildflower_102, Zakhe101_103
- Track 37 : Shida_110, Bora_107
- Track 38 : Murai_108

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

The start number called the most often in the published annotations is 20, it was called in 69 of the 83 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES_94, Acolyte_86, AinMach_58, Alkhayr_104, Anselm_94, ArcherNM_88, Ashwin_104, Baehexic_93, Benvolio_91, Blessica_106, Bora_107, BruhMoment_107, Catdawg_109, Centaur_94, Chargerpower_94, Colin_91, Corndog_105, Crucio_92, D29_86, D32_82, DBQu4n_94, DrLupo_50, Drake55_94, DudeLittle_90, Duplo_95, Echild_96, Equemioh13_94, Familton_109, FiringLine_92, First_0093, Flare16_94, FoulBall_104, Georgie2_94, HarryHoudini_93, Idergollasper_110, JangDynasty_104, Jsquared_98, Kalpine_95, Kerberos_94, Koduck_94, Krili_110, L5_86, Larenn_91, MadKillah_111, Malec_91, MiculUcigas_94, Morgana_145, Mori_108, Murai_108, NaSiaTalie_95, Naji_83, NicoleTera_93, NiebruSaylor_108, Piro94_92, Pomar16_94, Power_92, QueenB2_90, QueenBeesly_92, Retro23_92, Ryadel_112, SchoolBus_107, Schuy_105, SemperFi_92, Serenity_94, Shida_110, SnapTap_92, StarStuff_94, SweetiePie_92, TelAviv_105, TipsytheTRex_91, Tomathan_94, Trixie_92, Updawg_95, Vorrps_108, WeiHuaDA_94, WideWale_95, Wildflower_102, Winget_108, XianYue_90, YungJamal_106, Zakhe101_103,

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

- Firecracker_108, Journey13_75, Smooch_107,

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

- Aleemily_135, Aziz_164, Cafasso_137, Estes_164, Grayson_283, MissWhite_87, ModicumRichard_137, NiceHouse_284, NiceHouse_3, ObLaDi_136, Peregrin_280, Rey_168,

Summary by start number:

Start 6:

- Found in 16 of 96 (16.7%) of genes in pham
- Manual Annotations of this start: 1 of 83
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Rey_168 (M2),

Start 8:

- Found in 7 of 96 (7.3%) of genes in pham
- Manual Annotations of this start: 2 of 83
- Called 28.6% of time when present

- Phage (with cluster) where this start called: Firecracker_108 (O), Smooch_107 (O),

Start 20:

- Found in 84 of 96 (87.5%) of genes in pham
- Manual Annotations of this start: 69 of 83
- Called 96.4% of time when present
- Phage (with cluster) where this start called: 20ES_94 (A2), Acolyte_86 (A2), AinMach_58 (AZ), Alkhayr_104 (O), Anselm_94 (A2), ArcherNM_88 (A2), Ashwin_104 (O), Baehexic_93 (A2), Benvolio_91 (A2), Blessica_106 (O), Bora_107 (O), BruhMoment_107 (AP3), Catdawg_109 (O), Centaur_94 (A2), Chargerpower_94 (A), Colin_91 (A2), Corndog_105 (O), Crucio_92 (A2), D29_86 (A2), D32_82 (A2), DBQu4n_94 (A2), DrLupo_50 (H2), Drake55_94 (A2), DudeLittle_90 (A2), Duplo_95 (A2), Echild_96 (A2), Equemioh13_94 (A2), FAMILTON_109 (O), FiringLine_92 (A2), First_0093 (A2), Flare16_94 (A2), FoulBall_104 (O), Georgie2_94 (A2), HarryHoudini_93 (A2), Idergollasper_110 (O), JangDynasty_104 (O), Jsquared_98 (A2), Kalpine_95 (A2), Kerberos_94 (A2), Koduck_94 (A2), Krili_110 (O), L5_86 (A2), Larenn_91 (A2), MadKillah_111 (O), Malec_91 (A2), MiculUcigas_94 (A2), Morgana_145 (DZ), Mori_108 (O), Murai_108 (O), NaSiaTalie_95 (A2), Naji_83 (A2), NicoleTera_93 (A2), NiebruSaylor_108 (O), Piro94_92 (A2), Pomar16_94 (A2), Power_92 (A2), QueenB2_90 (A2), QueenBeesly_92 (A2), Retro23_92 (A2), Ryadel_112 (O), SchoolBus_107 (O), Schuy_105 (O), SemperFi_92 (A2), Serenity_94 (A2), Shida_110 (O), SnapTap_92 (A2), StarStuff_94 (A2), SweetiePie_92 (A2), TelAviv_105 (O), TipsytheTRex_91 (A2), Tomathan_94 (A2), Trixie_92 (A2), Updawg_95 (A2), Vorrrps_108 (O), WeiHuaDA_94 (A2), WideWale_95 (A2), Wildflower_102 (O), Winget_108 (O), XianYue_90 (A2), YungJamal_106 (O), Zakhe101_103 (O),

Start 21:

- Found in 11 of 96 (11.5%) of genes in pham
- Manual Annotations of this start: 9 of 83
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Aleemily_135 (DZ), Cafasso_137 (DZ), Grayson_283 (CB), Journey13_75 (A2), MissWhite_87 (A2), ModicumRichard_137 (DZ), NiceHouse_284 (CE), NiceHouse_3 (CE), ObLaDi_136 (DZ), Peregrin_280 (CB),

Start 27:

- Found in 2 of 96 (2.1%) of genes in pham
- Manual Annotations of this start: 2 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aziz_164 (M2), Estes_164 (M2),

Summary by clusters:

There are 10 clusters represented in this pham: A, AP3, H2, CB, O, A2, DZ, CE, M2, AZ,

Info for manual annotations of cluster A:

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

Info for manual annotations of cluster A2:

- Start number 20 was manually annotated 46 times for cluster A2.
- Start number 21 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster AP3:

- Start number 20 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster CB:

- Start number 21 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster CE:

- Start number 21 was manually annotated 2 times for cluster CE.

Info for manual annotations of cluster DZ:

- Start number 20 was manually annotated 1 time for cluster DZ.
- Start number 21 was manually annotated 3 times for cluster DZ.

Info for manual annotations of cluster H2:

- Start number 20 was manually annotated 1 time for cluster H2.

Info for manual annotations of cluster M2:

- Start number 6 was manually annotated 1 time for cluster M2.
- Start number 27 was manually annotated 2 times for cluster M2.

Info for manual annotations of cluster O:

- Start number 8 was manually annotated 2 times for cluster O.
- Start number 20 was manually annotated 19 times for cluster O.

Gene Information:

Gene: 20ES_94 Start: 50719, Stop: 50432, Start Num: 20

Candidate Starts for 20ES_94:

(Start: 20 @50719 has 69 MA's), (30, 50572),

Gene: Acolyte_86 Start: 49770, Stop: 49504, Start Num: 20

Candidate Starts for Acolyte_86:

(Start: 20 @49770 has 69 MA's), (30, 49644),

Gene: AinMach_58 Start: 38731, Stop: 39003, Start Num: 20

Candidate Starts for AinMach_58:

(15, 38713), (Start: 20 @38731 has 69 MA's), (25, 38779), (29, 38854),

Gene: Aleemily_135 Start: 73689, Stop: 73426, Start Num: 21

Candidate Starts for Aleemily_135:

(Start: 21 @73689 has 9 MA's), (25, 73638), (29, 73572), (36, 73446),

Gene: Alkhayr_104 Start: 64367, Stop: 64098, Start Num: 20

Candidate Starts for Alkhayr_104:

(3, 64550), (Start: 6 @64445 has 1 MA's), (Start: 20 @64367 has 69 MA's), (24, 64334),

Gene: Anselm_94 Start: 50832, Stop: 50545, Start Num: 20

Candidate Starts for Anselm_94:

(10, 50895), (14, 50856), (Start: 20 @50832 has 69 MA's), (30, 50685), (36, 50568),

Gene: ArcherNM_88 Start: 50174, Stop: 49887, Start Num: 20
Candidate Starts for ArcherNM_88:
(11, 50231), (16, 50186), (Start: 20 @50174 has 69 MA's), (24, 50141), (28, 50051), (30, 50024),

Gene: Ashwin_104 Start: 63604, Stop: 63335, Start Num: 20
Candidate Starts for Ashwin_104:
(Start: 8 @63676 has 2 MA's), (Start: 20 @63604 has 69 MA's), (24, 63571),

Gene: Aziz_164 Start: 78729, Stop: 78496, Start Num: 27
Candidate Starts for Aziz_164:
(5, 78891), (Start: 6 @78873 has 1 MA's), (17, 78795), (Start: 27 @78729 has 2 MA's), (30, 78636),
(35, 78537),

Gene: Baehexic_93 Start: 50619, Stop: 50329, Start Num: 20
Candidate Starts for Baehexic_93:
(Start: 20 @50619 has 69 MA's), (22, 50595), (24, 50586), (30, 50469), (33, 50406), (34, 50391), (36,
50352),

Gene: Benvolio_91 Start: 50451, Stop: 50161, Start Num: 20
Candidate Starts for Benvolio_91:
(10, 50514), (14, 50475), (Start: 20 @50451 has 69 MA's), (24, 50418), (30, 50301), (33, 50238), (34,
50223), (36, 50184),

Gene: Blessica_106 Start: 64576, Stop: 64307, Start Num: 20
Candidate Starts for Blessica_106:
(9, 64642), (Start: 20 @64576 has 69 MA's), (24, 64543),

Gene: Bora_107 Start: 65418, Stop: 65149, Start Num: 20
Candidate Starts for Bora_107:
(Start: 6 @65502 has 1 MA's), (Start: 20 @65418 has 69 MA's), (24, 65385),

Gene: BruhMoment_107 Start: 64057, Stop: 63803, Start Num: 20
Candidate Starts for BruhMoment_107:
(Start: 20 @64057 has 69 MA's), (29, 63949), (30, 63940),

Gene: Cafasso_137 Start: 74296, Stop: 74033, Start Num: 21
Candidate Starts for Cafasso_137:
(1, 74695), (2, 74602), (13, 74326), (18, 74302), (Start: 21 @74296 has 9 MA's), (25, 74245), (29,
74179), (36, 74053),

Gene: Catdawg_109 Start: 65687, Stop: 65418, Start Num: 20
Candidate Starts for Catdawg_109:
(3, 65870), (Start: 6 @65765 has 1 MA's), (Start: 20 @65687 has 69 MA's), (24, 65654),

Gene: Centaur_94 Start: 50486, Stop: 50196, Start Num: 20
Candidate Starts for Centaur_94:
(Start: 20 @50486 has 69 MA's), (22, 50462), (24, 50453), (30, 50336), (33, 50273), (34, 50258), (36,
50219),

Gene: Chargerpower_94 Start: 49384, Stop: 49097, Start Num: 20
Candidate Starts for Chargerpower_94:
(Start: 20 @49384 has 69 MA's), (24, 49351), (30, 49234),

Gene: Colin_91 Start: 51144, Stop: 50878, Start Num: 20
Candidate Starts for Colin_91:
(9, 51210), (11, 51201), (16, 51156), (Start: 20 @51144 has 69 MA's), (30, 51018),

Gene: Corndog_105 Start: 63515, Stop: 63246, Start Num: 20
Candidate Starts for Corndog_105:
(Start: 8 @63587 has 2 MA's), (Start: 20 @63515 has 69 MA's), (24, 63482),

Gene: Crucio_92 Start: 50677, Stop: 50390, Start Num: 20
Candidate Starts for Crucio_92:
(4, 50836), (10, 50740), (14, 50701), (Start: 20 @50677 has 69 MA's), (30, 50530),

Gene: D29_86 Start: 46586, Stop: 46320, Start Num: 20
Candidate Starts for D29_86:
(Start: 20 @46586 has 69 MA's), (24, 46556), (30, 46457),

Gene: D32_82 Start: 46586, Stop: 46320, Start Num: 20
Candidate Starts for D32_82:
(Start: 20 @46586 has 69 MA's), (24, 46556), (30, 46457),

Gene: DBQu4n_94 Start: 50201, Stop: 49935, Start Num: 20
Candidate Starts for DBQu4n_94:
(Start: 20 @50201 has 69 MA's), (24, 50171), (28, 50099), (30, 50072),

Gene: DrLupo_50 Start: 38314, Stop: 38604, Start Num: 20
Candidate Starts for DrLupo_50:
(19, 38311), (Start: 20 @38314 has 69 MA's), (35, 38545), (36, 38560), (37, 38587), (38, 38596),

Gene: Drake55_94 Start: 50395, Stop: 50108, Start Num: 20
Candidate Starts for Drake55_94:
(Start: 20 @50395 has 69 MA's), (22, 50374), (24, 50365), (30, 50248), (33, 50185), (34, 50170), (36, 50131),

Gene: DudeLittle_90 Start: 50199, Stop: 49912, Start Num: 20
Candidate Starts for DudeLittle_90:
(10, 50262), (14, 50223), (Start: 20 @50199 has 69 MA's), (30, 50052), (36, 49935),

Gene: Duplo_95 Start: 50258, Stop: 49992, Start Num: 20
Candidate Starts for Duplo_95:
(Start: 20 @50258 has 69 MA's), (24, 50228), (28, 50156), (30, 50129),

Gene: Echild_96 Start: 50475, Stop: 50185, Start Num: 20
Candidate Starts for Echild_96:
(10, 50538), (14, 50499), (Start: 20 @50475 has 69 MA's), (24, 50442), (30, 50325), (33, 50262), (34, 50247), (36, 50208),

Gene: Equemioh13_94 Start: 50718, Stop: 50431, Start Num: 20
Candidate Starts for Equemioh13_94:
(Start: 20 @50718 has 69 MA's), (22, 50697), (24, 50688), (30, 50571), (33, 50508), (34, 50493), (36, 50454),

Gene: Estes_164 Start: 78934, Stop: 78701, Start Num: 27

Candidate Starts for Estes_164:

(5, 79096), (Start: 6 @79078 has 1 MA's), (Start: 27 @78934 has 2 MA's), (30, 78841), (35, 78742),

Gene: Familton_109 Start: 65103, Stop: 64834, Start Num: 20

Candidate Starts for Familton_109:

(9, 65169), (Start: 20 @65103 has 69 MA's), (24, 65070),

Gene: Firecracker_108 Start: 65044, Stop: 64703, Start Num: 8

Candidate Starts for Firecracker_108:

(Start: 8 @65044 has 2 MA's), (Start: 20 @64972 has 69 MA's), (24, 64939),

Gene: FiringLine_92 Start: 50773, Stop: 50486, Start Num: 20

Candidate Starts for FiringLine_92:

(10, 50836), (14, 50797), (Start: 20 @50773 has 69 MA's), (30, 50626),

Gene: First_0093 Start: 50622, Stop: 50335, Start Num: 20

Candidate Starts for First_0093:

(Start: 20 @50622 has 69 MA's), (30, 50475),

Gene: Flare16_94 Start: 50533, Stop: 50246, Start Num: 20

Candidate Starts for Flare16_94:

(Start: 20 @50533 has 69 MA's), (22, 50512), (24, 50503), (30, 50386), (33, 50323), (34, 50308), (36, 50269),

Gene: FoulBall_104 Start: 64650, Stop: 64381, Start Num: 20

Candidate Starts for FoulBall_104:

(3, 64833), (Start: 6 @64728 has 1 MA's), (Start: 20 @64650 has 69 MA's), (24, 64617),

Gene: Georgie2_94 Start: 50821, Stop: 50534, Start Num: 20

Candidate Starts for Georgie2_94:

(10, 50884), (14, 50845), (Start: 20 @50821 has 69 MA's), (30, 50674),

Gene: Grayson_283 Start: 128232, Stop: 127972, Start Num: 21

Candidate Starts for Grayson_283:

(Start: 21 @128232 has 9 MA's), (26, 128181), (28, 128136), (32, 128061), (35, 128007), (36, 127992),

Gene: HarryHoudini_93 Start: 50399, Stop: 50112, Start Num: 20

Candidate Starts for HarryHoudini_93:

(Start: 20 @50399 has 69 MA's), (22, 50378), (24, 50369), (30, 50252), (31, 50240), (33, 50189), (34, 50174), (36, 50135),

Gene: Idergollasper_110 Start: 65651, Stop: 65382, Start Num: 20

Candidate Starts for Idergollasper_110:

(9, 65717), (Start: 20 @65651 has 69 MA's), (24, 65618),

Gene: JangDynasty_104 Start: 64001, Stop: 63732, Start Num: 20

Candidate Starts for JangDynasty_104:

(9, 64067), (Start: 20 @64001 has 69 MA's), (24, 63968),

Gene: Journey13_75 Start: 45698, Stop: 45438, Start Num: 21

Candidate Starts for Journey13_75:

(Start: 20 @45701 has 69 MA's), (Start: 21 @45698 has 9 MA's), (30, 45572),

Gene: Jsquared_98 Start: 50409, Stop: 50143, Start Num: 20

Candidate Starts for Jsquared_98:

(Start: 20 @50409 has 69 MA's),

Gene: Kalpine_95 Start: 50991, Stop: 50725, Start Num: 20

Candidate Starts for Kalpine_95:

(9, 51057), (11, 51048), (16, 51003), (Start: 20 @50991 has 69 MA's), (30, 50865),

Gene: Kerberos_94 Start: 50221, Stop: 49955, Start Num: 20

Candidate Starts for Kerberos_94:

(Start: 20 @50221 has 69 MA's), (24, 50191), (28, 50119), (30, 50092),

Gene: Koduck_94 Start: 49779, Stop: 49513, Start Num: 20

Candidate Starts for Koduck_94:

(Start: 20 @49779 has 69 MA's), (30, 49650),

Gene: Krili_110 Start: 65245, Stop: 64973, Start Num: 20

Candidate Starts for Krili_110:

(3, 65428), (Start: 6 @65323 has 1 MA's), (Start: 20 @65245 has 69 MA's), (24, 65212),

Gene: L5_86 Start: 49483, Stop: 49217, Start Num: 20

Candidate Starts for L5_86:

(Start: 20 @49483 has 69 MA's), (30, 49354),

Gene: Larenn_91 Start: 50396, Stop: 50109, Start Num: 20

Candidate Starts for Larenn_91:

(10, 50459), (14, 50420), (Start: 20 @50396 has 69 MA's), (28, 50276), (30, 50249),

Gene: MadKillah_111 Start: 64722, Stop: 64453, Start Num: 20

Candidate Starts for MadKillah_111:

(3, 64905), (Start: 6 @64800 has 1 MA's), (Start: 20 @64722 has 69 MA's), (24, 64689),

Gene: Malec_91 Start: 50804, Stop: 50517, Start Num: 20

Candidate Starts for Malec_91:

(10, 50867), (14, 50828), (Start: 20 @50804 has 69 MA's), (28, 50684), (30, 50657),

Gene: MiculUcigas_94 Start: 50436, Stop: 50149, Start Num: 20

Candidate Starts for MiculUcigas_94:

(Start: 20 @50436 has 69 MA's), (22, 50415), (24, 50406), (30, 50289), (33, 50226), (34, 50211), (36, 50172),

Gene: MissWhite_87 Start: 47180, Stop: 46914, Start Num: 21

Candidate Starts for MissWhite_87:

(Start: 21 @47180 has 9 MA's), (25, 47129), (30, 47054),

Gene: ModicumRichard_137 Start: 74584, Stop: 74321, Start Num: 21

Candidate Starts for ModicumRichard_137:

(Start: 21 @74584 has 9 MA's), (25, 74533), (29, 74467), (36, 74341),

Gene: Morgana_145 Start: 76093, Stop: 75827, Start Num: 20

Candidate Starts for Morgana_145:

(12, 76147), (Start: 20 @76093 has 69 MA's), (Start: 21 @76090 has 9 MA's), (25, 76039), (29, 75973), (32, 75916), (36, 75847),

Gene: Mori_108 Start: 65270, Stop: 64998, Start Num: 20

Candidate Starts for Mori_108:

(3, 65453), (Start: 6 @65348 has 1 MA's), (Start: 20 @65270 has 69 MA's), (24, 65237),

Gene: Murai_108 Start: 65073, Stop: 64804, Start Num: 20

Candidate Starts for Murai_108:

(Start: 6 @65151 has 1 MA's), (Start: 20 @65073 has 69 MA's), (24, 65040),

Gene: NaSiaTalie_95 Start: 50597, Stop: 50310, Start Num: 20

Candidate Starts for NaSiaTalie_95:

(Start: 20 @50597 has 69 MA's), (22, 50576), (24, 50567), (30, 50450), (33, 50387), (34, 50372), (36, 50333),

Gene: Naji_83 Start: 46586, Stop: 46320, Start Num: 20

Candidate Starts for Naji_83:

(Start: 20 @46586 has 69 MA's), (24, 46556), (30, 46457),

Gene: NiceHouse_284 Start: 139323, Stop: 139586, Start Num: 21

Candidate Starts for NiceHouse_284:

(Start: 21 @139323 has 9 MA's), (32, 139494),

Gene: NiceHouse_3 Start: 2028, Stop: 2291, Start Num: 21

Candidate Starts for NiceHouse_3:

(Start: 21 @2028 has 9 MA's), (32, 2199),

Gene: NicoleTera_93 Start: 50593, Stop: 50306, Start Num: 20

Candidate Starts for NicoleTera_93:

(7, 50668), (11, 50650), (16, 50605), (Start: 20 @50593 has 69 MA's), (24, 50563), (30, 50446),

Gene: NiebruSaylor_108 Start: 64386, Stop: 64114, Start Num: 20

Candidate Starts for NiebruSaylor_108:

(3, 64569), (Start: 6 @64464 has 1 MA's), (Start: 20 @64386 has 69 MA's), (24, 64353),

Gene: ObLaDi_136 Start: 73986, Stop: 73723, Start Num: 21

Candidate Starts for ObLaDi_136:

(Start: 21 @73986 has 9 MA's), (25, 73935), (29, 73869), (36, 73743),

Gene: Peregrin_280 Start: 129450, Stop: 129190, Start Num: 21

Candidate Starts for Peregrin_280:

(Start: 21 @129450 has 9 MA's), (26, 129399), (28, 129354), (32, 129279), (35, 129225), (36, 129210),

Gene: Piro94_92 Start: 50324, Stop: 50037, Start Num: 20

Candidate Starts for Piro94_92:

(Start: 20 @50324 has 69 MA's), (22, 50303), (24, 50294), (30, 50177), (33, 50114), (34, 50099), (36, 50060),

Gene: Pomar16_94 Start: 50294, Stop: 50028, Start Num: 20

Candidate Starts for Pomar16_94:

(Start: 20 @50294 has 69 MA's), (24, 50264), (28, 50192), (30, 50165),

Gene: Power_92 Start: 50820, Stop: 50533, Start Num: 20
Candidate Starts for Power_92:
(10, 50883), (14, 50844), (Start: 20 @50820 has 69 MA's), (30, 50673),

Gene: QueenB2_90 Start: 50025, Stop: 49738, Start Num: 20
Candidate Starts for QueenB2_90:
(10, 50088), (14, 50049), (Start: 20 @50025 has 69 MA's), (30, 49878), (36, 49761),

Gene: QueenBeesly_92 Start: 50773, Stop: 50486, Start Num: 20
Candidate Starts for QueenBeesly_92:
(10, 50836), (14, 50797), (Start: 20 @50773 has 69 MA's), (30, 50626),

Gene: Retro23_92 Start: 50323, Stop: 50036, Start Num: 20
Candidate Starts for Retro23_92:
(10, 50386), (14, 50347), (Start: 20 @50323 has 69 MA's), (30, 50176), (36, 50059),

Gene: Rey_168 Start: 79129, Stop: 78848, Start Num: 6
Candidate Starts for Rey_168:
(5, 79147), (Start: 6 @79129 has 1 MA's), (23, 79078), (30, 78985), (35, 78886),

Gene: Ryadel_112 Start: 66062, Stop: 65793, Start Num: 20
Candidate Starts for Ryadel_112:
(9, 66128), (Start: 20 @66062 has 69 MA's), (24, 66029),

Gene: SchoolBus_107 Start: 64816, Stop: 64547, Start Num: 20
Candidate Starts for SchoolBus_107:
(9, 64882), (Start: 20 @64816 has 69 MA's), (24, 64783),

Gene: Schuy_105 Start: 64435, Stop: 64166, Start Num: 20
Candidate Starts for Schuy_105:
(3, 64618), (Start: 6 @64513 has 1 MA's), (Start: 20 @64435 has 69 MA's), (24, 64402),

Gene: SemperFi_92 Start: 50661, Stop: 50374, Start Num: 20
Candidate Starts for SemperFi_92:
(10, 50724), (14, 50685), (Start: 20 @50661 has 69 MA's), (30, 50514),

Gene: Serenity_94 Start: 49582, Stop: 49316, Start Num: 20
Candidate Starts for Serenity_94:
(Start: 20 @49582 has 69 MA's),

Gene: Shida_110 Start: 65327, Stop: 65058, Start Num: 20
Candidate Starts for Shida_110:
(Start: 6 @65411 has 1 MA's), (Start: 20 @65327 has 69 MA's), (24, 65294),

Gene: Smooch_107 Start: 65282, Stop: 64941, Start Num: 8
Candidate Starts for Smooch_107:
(Start: 8 @65282 has 2 MA's), (Start: 20 @65210 has 69 MA's), (24, 65177),

Gene: SnapTap_92 Start: 50476, Stop: 50189, Start Num: 20
Candidate Starts for SnapTap_92:
(10, 50539), (14, 50500), (Start: 20 @50476 has 69 MA's), (30, 50329),

Gene: StarStuff_94 Start: 50256, Stop: 49990, Start Num: 20
Candidate Starts for StarStuff_94:
(Start: 20 @50256 has 69 MA's), (24, 50226), (28, 50154), (30, 50127),

Gene: SweetiePie_92 Start: 50609, Stop: 50322, Start Num: 20
Candidate Starts for SweetiePie_92:
(10, 50672), (14, 50633), (Start: 20 @50609 has 69 MA's), (30, 50462),

Gene: TelAviv_105 Start: 65052, Stop: 64783, Start Num: 20
Candidate Starts for TelAviv_105:
(9, 65118), (Start: 20 @65052 has 69 MA's), (24, 65019),

Gene: TipsytheTRex_91 Start: 49799, Stop: 49533, Start Num: 20
Candidate Starts for TipsytheTRex_91:
(Start: 20 @49799 has 69 MA's),

Gene: Tomathan_94 Start: 50335, Stop: 50069, Start Num: 20
Candidate Starts for Tomathan_94:
(Start: 20 @50335 has 69 MA's), (24, 50305), (28, 50233), (30, 50206),

Gene: Trixie_92 Start: 51189, Stop: 50923, Start Num: 20
Candidate Starts for Trixie_92:
(9, 51255), (11, 51246), (16, 51201), (Start: 20 @51189 has 69 MA's), (30, 51063),

Gene: Updawg_95 Start: 50718, Stop: 50431, Start Num: 20
Candidate Starts for Updawg_95:
(Start: 20 @50718 has 69 MA's), (22, 50697), (24, 50688), (30, 50571), (33, 50508), (34, 50493), (36, 50454),

Gene: Vorrps_108 Start: 65271, Stop: 64999, Start Num: 20
Candidate Starts for Vorrps_108:
(3, 65454), (Start: 6 @65349 has 1 MA's), (Start: 20 @65271 has 69 MA's), (24, 65238),

Gene: WeiHuaDA_94 Start: 51209, Stop: 50943, Start Num: 20
Candidate Starts for WeiHuaDA_94:
(9, 51275), (11, 51266), (16, 51221), (Start: 20 @51209 has 69 MA's), (30, 51083),

Gene: WideWale_95 Start: 50718, Stop: 50431, Start Num: 20
Candidate Starts for WideWale_95:
(Start: 20 @50718 has 69 MA's), (22, 50697), (24, 50688), (30, 50571), (33, 50508), (34, 50493), (36, 50454),

Gene: Wildflower_102 Start: 63236, Stop: 62967, Start Num: 20
Candidate Starts for Wildflower_102:
(Start: 8 @63308 has 2 MA's), (Start: 20 @63236 has 69 MA's), (24, 63203),

Gene: Winget_108 Start: 65120, Stop: 64851, Start Num: 20
Candidate Starts for Winget_108:
(3, 65303), (Start: 6 @65198 has 1 MA's), (Start: 20 @65120 has 69 MA's), (24, 65087),

Gene: XianYue_90 Start: 50548, Stop: 50264, Start Num: 20
Candidate Starts for XianYue_90:
(11, 50605), (16, 50560), (Start: 20 @50548 has 69 MA's), (30, 50401),

Gene: YungJamal_106 Start: 63999, Stop: 63727, Start Num: 20
Candidate Starts for YungJamal_106:
(Start: 8 @64071 has 2 MA's), (Start: 20 @63999 has 69 MA's), (24, 63966),

Gene: Zakhe101_103 Start: 63342, Stop: 63073, Start Num: 20
Candidate Starts for Zakhe101_103:
(Start: 8 @63414 has 2 MA's), (Start: 20 @63342 has 69 MA's), (24, 63309),