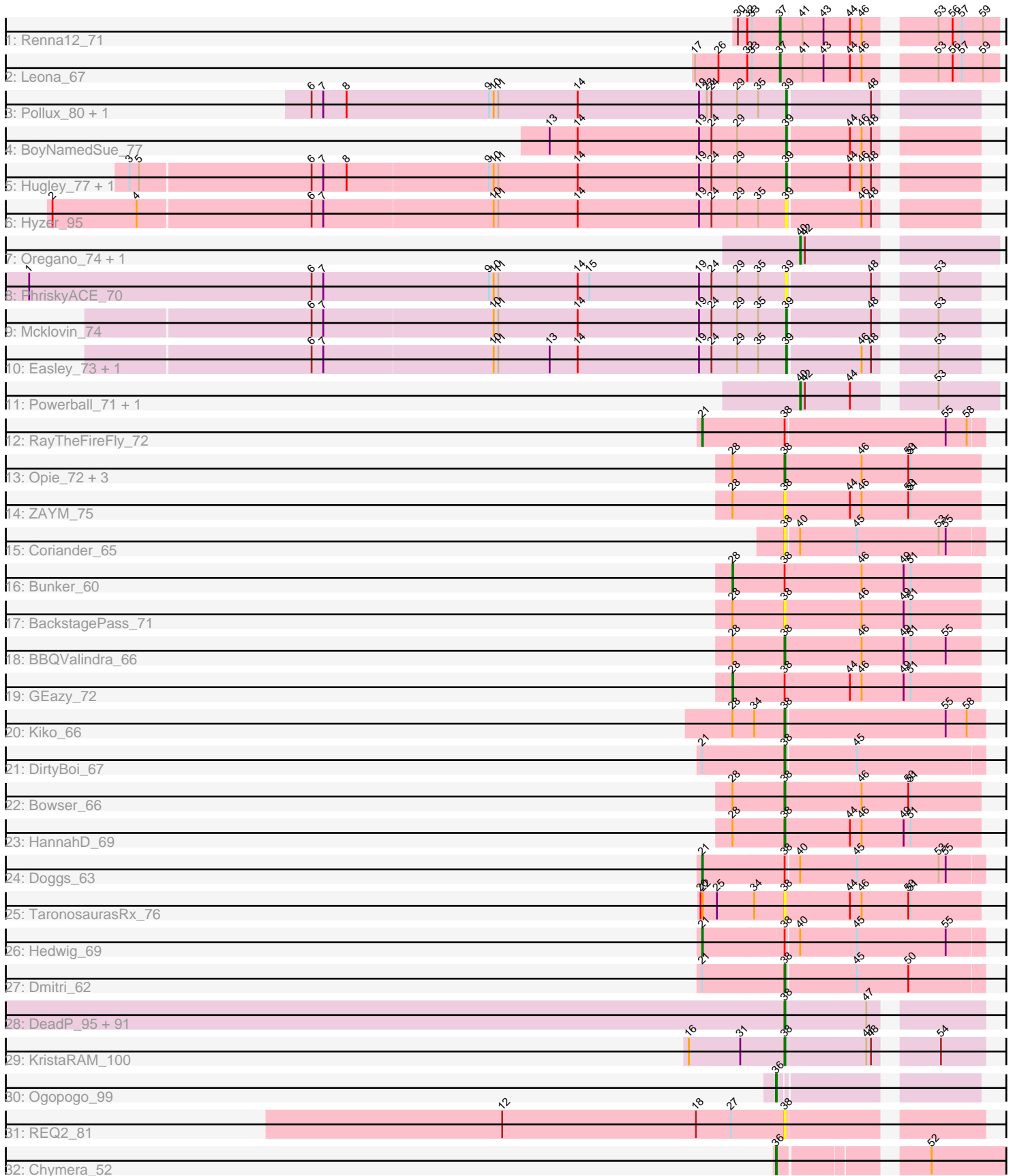


Pham 193827



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 193827 Report

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

Pham number 193827 has 131 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Renna12_71
- Track 2 : Leona_67
- Track 3 : Pollux_80, Marteena_76
- Track 4 : BoyNamedSue_77
- Track 5 : Hugley_77, Nymphadora_79
- Track 6 : Hyzer_95
- Track 7 : Oregano_74, Suerte_69
- Track 8 : PhriskyACE_70
- Track 9 : Mcklovin_74
- Track 10 : Easley_73, Beenie_69
- Track 11 : Powerball_71, Dorito_69
- Track 12 : RayTheFireFly_72
- Track 13 : Opie_72, Eyes_64, MagicMan_69, Schnabeltier_70
- Track 14 : ZAYM_75
- Track 15 : Coriander_65
- Track 16 : Bunker_60
- Track 17 : BackstagePass_71
- Track 18 : BBQValindra_66
- Track 19 : GEazy_72
- Track 20 : Kiko_66
- Track 21 : DirtyBoi_67
- Track 22 : Bowser_66
- Track 23 : HannahD_69
- Track 24 : Doggs_63
- Track 25 : TaronosaurusRx_76
- Track 26 : Hedwig_69
- Track 27 : Dmitri_62
- Track 28 : DeadP_95, Wachhund_92, Geralt_87, RitaG_93, Kenuha5_87, BuzzLyseyear_101, Royals2015_97, Eish_100, BodEinwohner17_104, Spikelee_95, GigiOuiOui_89, IMpilo_92, MulchExplorer_98, Madiba_93, Galactic_95, Mahavrat_90, WillSterrel_92, IbOuu_89, DaddyRickover_96, Juice456_93, Tweety_95, Inventum_92, Ms6_96, Hamulus_95, Phalconet_95, Wee_98, Ovechkin_98, Boomer_97, Florinda_106, Polka14_98, DirtMcgirt_95, Doomphist_99, Seagreen_95, Squirty_94, IrishSherpFalk_94, Harley_97, Empress_94, Ardmore_79, UncleRicky_94, LittleShirley_102, Fastidio_98, KingMidas_94, Dorothy_95, Lorde_97, Phatniss_92, Deb65_87, Emma_99, Leperchaun_96, PMC_93, Girafales_103, Poenanya_98, RockyHorror_98, Nimbo_86, Enby_98, Hades_91,

Sassafras_96, Moonbeam_97, Ibhubesi_92, Hegedechwinu_101, RedBird_95, Ramsey_99, Taj_101, MilleniumForce_94, Scottish_94, Juniper1_88, JoeyJr_97, Filuzino_94, Kimberlium_96, OldBen_91, SimranZ1_90, DLane_94, GUmbie_93, Starcevich_96, DaWorst_94, XFactor_85, Cornucopia_94, Daenerys_92, Drago_93, Rockne_97, CaptainTrips_96, PHappiness_94, VRedHorse_95, Byougenkin_92, Quico_103, LunaBlu_98, Stap_89, DotProduct_88, Fruitloop_92, StAnnes_98, Estave1_102, PhesterPhotato_98, QuickMath_95

- Track 29 : KristaRAM_100
- Track 30 : Ogopogo_99
- Track 31 : REQ2_81
- Track 32 : Chymera_52

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

The start number called the most often in the published annotations is 38, it was called in 97 of the 117 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ardmore_79, BBQValindra_66, BackstagePass_71, BodEinwohner17_104, Boomer_97, Bowser_66, BuzzLyseyear_101, Byougenkin_92, CaptainTrips_96, Coriander_65, Cornucopia_94, DLane_94, DaWorst_94, DaddyRickover_96, Daenerys_92, DeadP_95, Deb65_87, DirtMcgirt_95, DirtyBoi_67, Dmitri_62, Doomphist_99, Dorothy_95, DotProduct_88, Drago_93, Eish_100, Emma_99, Empress_94, Enby_98, Estave1_102, Eyes_64, Fastidio_98, Filuzino_94, Florinda_106, Fruitloop_92, GUmbie_93, Galactic_95, Geralt_87, GigiOuiOui_89, Girafales_103, Hades_91, Hamulus_95, HannahD_69, Harley_97, Hegedechwinu_101, IMpilo_92, IbOuu_89, Ibhubesi_92, Inventum_92, IrishSherpFalk_94, JoeyJr_97, Juice456_93, Juniper1_88, Kenuha5_87, Kiko_66, Kimberlium_96, KingMidas_94, KristaRAM_100, Leperchaun_96, LittleShirley_102, Lorde_97, LunaBlu_98, Madiba_93, MagicMan_69, Mahavrat_90, MilleniumForce_94, Moonbeam_97, Ms6_96, MulchExplorer_98, Nimbo_86, OldBen_91, Opie_72, Ovechkin_98, PHappiness_94, PMC_93, Phalconet_95, Phatniss_92, PhesterPhotato_98, Poenanya_98, Polka14_98, QuickMath_95, Quico_103, REQ2_81, Ramsey_99, RedBird_95, RitaG_93, Rockne_97, RockyHorror_98, Royals2015_97, Sassafras_96, Schnabeltier_70, Scottish_94, Seagreen_95, SimranZ1_90, Spikelee_95, Squirty_94, StAnnes_98, Stap_89, Starcevich_96, Taj_101, TaronosaurusRx_76, Tweety_95, UncleRicky_94, VRedHorse_95, Wachhund_92, Wee_98, WillSterrel_92, XFactor_85, ZAYM_75,

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

- Bunker_60, Doggs_63, GEazy_72, Hedwig_69, RayTheFireFly_72,

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

- Beenie_69, BoyNamedSue_77, Chymera_52, Dorito_69, Easley_73, Hugley_77, Hyzer_95, Leona_67, Marteena_76, Mcklovlin_74, Nymphadora_79, Ogopogo_99, Oregano_74, PhriskyACE_70, Pollux_80, Powerball_71, Renna12_71, Suerte_69,

Summary by start number:

Start 21:

- Found in 5 of 131 (3.8%) of genes in pham
- Manual Annotations of this start: 3 of 117
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Doggs_63 (DB), Hedwig_69 (DB), RayTheFireFly_72 (DB),

Start 28:

- Found in 12 of 131 (9.2%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Bunker_60 (DB), GEazy_72 (DB),

Start 36:

- Found in 2 of 131 (1.5%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chymera_52 (singleton), Ogotogo_99 (F1),

Start 37:

- Found in 2 of 131 (1.5%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Leona_67 (AS3), Renna12_71 (AS3),

Start 38:

- Found in 113 of 131 (86.3%) of genes in pham
- Manual Annotations of this start: 97 of 117
- Called 95.6% of time when present
- Phage (with cluster) where this start called: Ardmore_79 (F1), BBQValindra_66 (DB), BackstagePass_71 (DB), BodEinwohner17_104 (F1), Boomer_97 (F1), Bowser_66 (DB), BuzzLyseyear_101 (F1), Byougenkin_92 (F1), CaptainTrips_96 (F1), Coriander_65 (DB), Cornucopia_94 (F1), DLane_94 (F1), DaWorst_94 (F1), DaddyRickover_96 (F1), Daenerys_92 (F1), DeadP_95 (F1), Deb65_87 (F1), DirtMcgirt_95 (F1), DirtyBoi_67 (DB), Dmitri_62 (DB), Doomphist_99 (F1), Dorothy_95 (F1), DotProduct_88 (F1), Drago_93 (F1), Eish_100 (F1), Emma_99 (F1), Empress_94 (F1), Enby_98 (F1), Estave1_102 (F1), Eyes_64 (DB), Fastidio_98 (F1), Filuzino_94 (F1), Florinda_106 (F1), Fruitloop_92 (F1), GUmbie_93 (F1), Galactic_95 (F1), Geralt_87 (F1), GigiOuiOui_89 (F1), Girafales_103 (F1), Hades_91 (F1), Hamulus_95 (F1), HannahD_69 (DB), Harley_97 (F1), Hegedechwinu_101 (F1), IMpilo_92 (F1), IbOuu_89 (F1), Ibhubesi_92 (F1), Inventum_92 (F1), IrishSherpFalk_94 (F1), JoeyJr_97 (F1), Juice456_93 (F1), Juniper1_88 (F1), Kenuha5_87 (F1), Kiko_66 (DB), Kimberlium_96 (F1), KingMidas_94 (F1), KristaRAM_100 (F1), Leperchaun_96 (F1), LittleShirley_102 (F1), Lorde_97 (F1), LunaBlu_98 (F1), Madiba_93 (F1), MagicMan_69 (DB), Mahavrat_90 (F1), MilleniumForce_94 (F1), Moonbeam_97 (F1), Ms6_96 (F1), MulchExplorer_98 (F1), Nimbo_86 (F1), OldBen_91 (F1), Opie_72 (DB), Ovechkin_98 (F1), PHappiness_94 (F1), PMC_93 (F1), Phalconet_95 (F1), Phatniss_92 (F1), PhesterPotato_98 (F1), Poenanya_98 (F1), Polka14_98 (F1), QuickMath_95 (F1), Quico_103 (F1), REQ2_81 (singleton), Ramsey_99 (F1), RedBird_95 (F1), RitaG_93 (F1), Rockne_97 (F1), RockyHorror_98 (F1), Royals2015_97 (F1), Sassafras_96 (F1), Schnabeltier_70 (DB), Scottish_94 (F1), Seagreen_95 (F1), SimranZ1_90 (F1), Spikelee_95 (F1), Squirry_94 (F3), StAnnes_98 (F1), Stap_89 (F1), Starcevic_96 (F1), Taj_101 (F1),

TaronosaurusRx_76 (DB), Tweety_95 (F1), UncleRicky_94 (F1), VRedHorse_95 (F1), Wachhund_92 (F1), Wee_98 (F1), WillSterrel_92 (F1), XFactor_85 (F1), ZAYM_75 (DB),

Start 39:

- Found in 10 of 131 (7.6%) of genes in pham
- Manual Annotations of this start: 7 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beenie_69 (CZ4), BoyNamedSue_77 (CZ1), Easley_73 (CZ4), Hugley_77 (CZ1), Hyzer_95 (CZ1), Marteena_76 (CY1), Mcklovin_74 (CZ4), Nymphadora_79 (CZ1), PhriskyACE_70 (CZ4), Pollux_80 (CY1),

Start 40:

- Found in 7 of 131 (5.3%) of genes in pham
- Manual Annotations of this start: 4 of 117
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Dorito_69 (CZ4), Oregano_74 (CZ4), Powerball_71 (CZ4), Suerte_69 (CZ4),

Summary by clusters:

There are 8 clusters represented in this pham: AS3, F1, singleton, F3, CZ1, DB, CY1, CZ4,

Info for manual annotations of cluster AS3:

- Start number 37 was manually annotated 2 times for cluster AS3.

Info for manual annotations of cluster CY1:

- Start number 39 was manually annotated 2 times for cluster CY1.

Info for manual annotations of cluster CZ1:

- Start number 39 was manually annotated 2 times for cluster CZ1.

Info for manual annotations of cluster CZ4:

- Start number 39 was manually annotated 3 times for cluster CZ4.
- Start number 40 was manually annotated 4 times for cluster CZ4.

Info for manual annotations of cluster DB:

- Start number 21 was manually annotated 3 times for cluster DB.
- Start number 28 was manually annotated 2 times for cluster DB.
- Start number 38 was manually annotated 10 times for cluster DB.

Info for manual annotations of cluster F1:

- Start number 36 was manually annotated 1 time for cluster F1.
- Start number 38 was manually annotated 86 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 38 was manually annotated 1 time for cluster F3.

Gene Information:

Gene: Ardmore_79 Start: 47310, Stop: 47534, Start Num: 38

Candidate Starts for Ardmore_79:

(Start: 38 @47310 has 97 MA's), (47, 47409),

Gene: BBQValindra_66 Start: 46200, Stop: 46448, Start Num: 38

Candidate Starts for BBQValindra_66:

(Start: 28 @46137 has 2 MA's), (Start: 38 @46200 has 97 MA's), (46, 46296), (49, 46350), (51, 46359), (55, 46404),

Gene: BackstagePass_71 Start: 45548, Stop: 45796, Start Num: 38

Candidate Starts for BackstagePass_71:

(Start: 28 @45485 has 2 MA's), (Start: 38 @45548 has 97 MA's), (46, 45644), (49, 45698), (51, 45707),

Gene: Beenie_69 Start: 46326, Stop: 46541, Start Num: 39

Candidate Starts for Beenie_69:

(6, 45720), (7, 45735), (10, 45951), (11, 45957), (13, 46023), (14, 46059), (19, 46215), (24, 46230), (29, 46263), (35, 46290), (Start: 39 @46326 has 7 MA's), (46, 46416), (48, 46428), (53, 46488),

Gene: BodEinwohner17_104 Start: 55362, Stop: 55586, Start Num: 38

Candidate Starts for BodEinwohner17_104:

(Start: 38 @55362 has 97 MA's), (47, 55461),

Gene: Boomer_97 Start: 53595, Stop: 53819, Start Num: 38

Candidate Starts for Boomer_97:

(Start: 38 @53595 has 97 MA's), (47, 53694),

Gene: Bowser_66 Start: 45894, Stop: 46142, Start Num: 38

Candidate Starts for Bowser_66:

(Start: 28 @45828 has 2 MA's), (Start: 38 @45894 has 97 MA's), (46, 45990), (50, 46050), (51, 46053),

Gene: BoyNamedSue_77 Start: 50965, Stop: 51180, Start Num: 39

Candidate Starts for BoyNamedSue_77:

(13, 50662), (14, 50698), (19, 50854), (24, 50869), (29, 50902), (Start: 39 @50965 has 7 MA's), (44, 51040), (46, 51055), (48, 51067),

Gene: Bunker_60 Start: 44770, Stop: 45081, Start Num: 28

Candidate Starts for Bunker_60:

(Start: 28 @44770 has 2 MA's), (Start: 38 @44833 has 97 MA's), (46, 44929), (49, 44983), (51, 44992),

Gene: BuzzLyseyear_101 Start: 55092, Stop: 55316, Start Num: 38

Candidate Starts for BuzzLyseyear_101:

(Start: 38 @55092 has 97 MA's), (47, 55191),

Gene: Byougenkin_92 Start: 49932, Stop: 50156, Start Num: 38

Candidate Starts for Byougenkin_92:

(Start: 38 @49932 has 97 MA's), (47, 50031),

Gene: CaptainTrips_96 Start: 52498, Stop: 52722, Start Num: 38

Candidate Starts for CaptainTrips_96:

(Start: 38 @52498 has 97 MA's), (47, 52597),

Gene: Chymera_52 Start: 33565, Stop: 33825, Start Num: 36

Candidate Starts for Chymera_52:

(Start: 36 @33565 has 2 MA's), (52, 33724),

Gene: Coriander_65 Start: 43545, Stop: 43793, Start Num: 38

Candidate Starts for Coriander_65:

(Start: 38 @43545 has 97 MA's), (Start: 40 @43560 has 4 MA's), (45, 43632), (53, 43737), (55, 43746),

Gene: Cornucopia_94 Start: 50874, Stop: 51098, Start Num: 38

Candidate Starts for Cornucopia_94:

(Start: 38 @50874 has 97 MA's), (47, 50973),

Gene: DLane_94 Start: 53780, Stop: 54004, Start Num: 38

Candidate Starts for DLane_94:

(Start: 38 @53780 has 97 MA's), (47, 53879),

Gene: DaWorst_94 Start: 52690, Stop: 52914, Start Num: 38

Candidate Starts for DaWorst_94:

(Start: 38 @52690 has 97 MA's), (47, 52789),

Gene: DaddyRickover_96 Start: 53556, Stop: 53780, Start Num: 38

Candidate Starts for DaddyRickover_96:

(Start: 38 @53556 has 97 MA's), (47, 53655),

Gene: Daenerys_92 Start: 53725, Stop: 53949, Start Num: 38

Candidate Starts for Daenerys_92:

(Start: 38 @53725 has 97 MA's), (47, 53824),

Gene: DeadP_95 Start: 51561, Stop: 51785, Start Num: 38

Candidate Starts for DeadP_95:

(Start: 38 @51561 has 97 MA's), (47, 51660),

Gene: Deb65_87 Start: 51449, Stop: 51673, Start Num: 38

Candidate Starts for Deb65_87:

(Start: 38 @51449 has 97 MA's), (47, 51548),

Gene: DirtMcgirt_95 Start: 50205, Stop: 50429, Start Num: 38

Candidate Starts for DirtMcgirt_95:

(Start: 38 @50205 has 97 MA's), (47, 50304),

Gene: DirtyBoi_67 Start: 43186, Stop: 43434, Start Num: 38

Candidate Starts for DirtyBoi_67:

(Start: 21 @43087 has 3 MA's), (Start: 38 @43186 has 97 MA's), (45, 43273),

Gene: Dmitri_62 Start: 45089, Stop: 45337, Start Num: 38

Candidate Starts for Dmitri_62:

(Start: 21 @44990 has 3 MA's), (Start: 38 @45089 has 97 MA's), (45, 45176), (50, 45242),

Gene: Doggs_63 Start: 44639, Stop: 44986, Start Num: 21

Candidate Starts for Doggs_63:

(Start: 21 @44639 has 3 MA's), (Start: 38 @44738 has 97 MA's), (Start: 40 @44753 has 4 MA's), (45, 44825), (53, 44930), (55, 44939),

Gene: Doomphist_99 Start: 54376, Stop: 54600, Start Num: 38
Candidate Starts for Doomphist_99:
(Start: 38 @54376 has 97 MA's), (47, 54475),

Gene: Dorito_69 Start: 44511, Stop: 44738, Start Num: 40
Candidate Starts for Dorito_69:
(Start: 40 @44511 has 4 MA's), (42, 44517), (44, 44574), (53, 44661),

Gene: Dorothy_95 Start: 54545, Stop: 54769, Start Num: 38
Candidate Starts for Dorothy_95:
(Start: 38 @54545 has 97 MA's), (47, 54644),

Gene: DotProduct_88 Start: 50563, Stop: 50787, Start Num: 38
Candidate Starts for DotProduct_88:
(Start: 38 @50563 has 97 MA's), (47, 50662),

Gene: Drago_93 Start: 50208, Stop: 50432, Start Num: 38
Candidate Starts for Drago_93:
(Start: 38 @50208 has 97 MA's), (47, 50307),

Gene: Easley_73 Start: 45090, Stop: 45305, Start Num: 39
Candidate Starts for Easley_73:
(6, 44484), (7, 44499), (10, 44715), (11, 44721), (13, 44787), (14, 44823), (19, 44979), (24, 44994), (29, 45027), (35, 45054), (Start: 39 @45090 has 7 MA's), (46, 45180), (48, 45192), (53, 45252),

Gene: Eish_100 Start: 54009, Stop: 54233, Start Num: 38
Candidate Starts for Eish_100:
(Start: 38 @54009 has 97 MA's), (47, 54108),

Gene: Emma_99 Start: 52064, Stop: 52288, Start Num: 38
Candidate Starts for Emma_99:
(Start: 38 @52064 has 97 MA's), (47, 52163),

Gene: Empress_94 Start: 52639, Stop: 52863, Start Num: 38
Candidate Starts for Empress_94:
(Start: 38 @52639 has 97 MA's), (47, 52738),

Gene: Enby_98 Start: 50484, Stop: 50708, Start Num: 38
Candidate Starts for Enby_98:
(Start: 38 @50484 has 97 MA's), (47, 50583),

Gene: Estave1_102 Start: 56371, Stop: 56595, Start Num: 38
Candidate Starts for Estave1_102:
(Start: 38 @56371 has 97 MA's), (47, 56470),

Gene: Eyes_64 Start: 46097, Stop: 46345, Start Num: 38
Candidate Starts for Eyes_64:
(Start: 28 @46034 has 2 MA's), (Start: 38 @46097 has 97 MA's), (46, 46193), (50, 46253), (51, 46256),

Gene: Fastidio_98 Start: 50955, Stop: 51179, Start Num: 38
Candidate Starts for Fastidio_98:
(Start: 38 @50955 has 97 MA's), (47, 51054),

Gene: Filuzino_94 Start: 54475, Stop: 54699, Start Num: 38
Candidate Starts for Filuzino_94:
(Start: 38 @54475 has 97 MA's), (47, 54574),

Gene: Florinda_106 Start: 54860, Stop: 55084, Start Num: 38
Candidate Starts for Florinda_106:
(Start: 38 @54860 has 97 MA's), (47, 54959),

Gene: Fruitloop_92 Start: 53617, Stop: 53841, Start Num: 38
Candidate Starts for Fruitloop_92:
(Start: 38 @53617 has 97 MA's), (47, 53716),

Gene: GEazy_72 Start: 45990, Stop: 46301, Start Num: 28
Candidate Starts for GEazy_72:
(Start: 28 @45990 has 2 MA's), (Start: 38 @46053 has 97 MA's), (44, 46134), (46, 46149), (49, 46203), (51, 46212),

Gene: GUmbie_93 Start: 52577, Stop: 52801, Start Num: 38
Candidate Starts for GUmbie_93:
(Start: 38 @52577 has 97 MA's), (47, 52676),

Gene: Galactic_95 Start: 52179, Stop: 52403, Start Num: 38
Candidate Starts for Galactic_95:
(Start: 38 @52179 has 97 MA's), (47, 52278),

Gene: Geralt_87 Start: 51447, Stop: 51671, Start Num: 38
Candidate Starts for Geralt_87:
(Start: 38 @51447 has 97 MA's), (47, 51546),

Gene: GigiOuiOui_89 Start: 51580, Stop: 51804, Start Num: 38
Candidate Starts for GigiOuiOui_89:
(Start: 38 @51580 has 97 MA's), (47, 51679),

Gene: Girafales_103 Start: 54465, Stop: 54689, Start Num: 38
Candidate Starts for Girafales_103:
(Start: 38 @54465 has 97 MA's), (47, 54564),

Gene: Hades_91 Start: 50166, Stop: 50390, Start Num: 38
Candidate Starts for Hades_91:
(Start: 38 @50166 has 97 MA's), (47, 50265),

Gene: Hamulus_95 Start: 52528, Stop: 52752, Start Num: 38
Candidate Starts for Hamulus_95:
(Start: 38 @52528 has 97 MA's), (47, 52627),

Gene: HannahD_69 Start: 45420, Stop: 45668, Start Num: 38
Candidate Starts for HannahD_69:
(Start: 28 @45357 has 2 MA's), (Start: 38 @45420 has 97 MA's), (44, 45501), (46, 45516), (49, 45570), (51, 45579),

Gene: Harley_97 Start: 53710, Stop: 53934, Start Num: 38

Candidate Starts for Harley_97:

(Start: 38 @53710 has 97 MA's), (47, 53809),

Gene: Hedwig_69 Start: 43790, Stop: 44137, Start Num: 21

Candidate Starts for Hedwig_69:

(Start: 21 @43790 has 3 MA's), (Start: 38 @43889 has 97 MA's), (Start: 40 @43904 has 4 MA's), (45, 43976), (55, 44090),

Gene: Hegedechwinu_101 Start: 52838, Stop: 53062, Start Num: 38

Candidate Starts for Hegedechwinu_101:

(Start: 38 @52838 has 97 MA's), (47, 52937),

Gene: Hugley_77 Start: 52070, Stop: 52285, Start Num: 39

Candidate Starts for Hugley_77:

(3, 51236), (5, 51248), (6, 51464), (7, 51479), (8, 51509), (9, 51689), (10, 51695), (11, 51701), (14, 51803), (19, 51959), (24, 51974), (29, 52007), (Start: 39 @52070 has 7 MA's), (44, 52145), (46, 52160), (48, 52172),

Gene: Hyzer_95 Start: 58740, Stop: 58955, Start Num: 39

Candidate Starts for Hyzer_95:

(2, 57807), (4, 57915), (6, 58134), (7, 58149), (10, 58365), (11, 58371), (14, 58473), (19, 58629), (24, 58644), (29, 58677), (35, 58704), (Start: 39 @58740 has 7 MA's), (46, 58830), (48, 58842),

Gene: IMpilo_92 Start: 51182, Stop: 51406, Start Num: 38

Candidate Starts for IMpilo_92:

(Start: 38 @51182 has 97 MA's), (47, 51281),

Gene: IbOuu_89 Start: 50477, Stop: 50701, Start Num: 38

Candidate Starts for IbOuu_89:

(Start: 38 @50477 has 97 MA's), (47, 50576),

Gene: Ibhubesi_92 Start: 50579, Stop: 50803, Start Num: 38

Candidate Starts for Ibhubesi_92:

(Start: 38 @50579 has 97 MA's), (47, 50678),

Gene: Inventum_92 Start: 52733, Stop: 52957, Start Num: 38

Candidate Starts for Inventum_92:

(Start: 38 @52733 has 97 MA's), (47, 52832),

Gene: IrishSherpFalk_94 Start: 53004, Stop: 53228, Start Num: 38

Candidate Starts for IrishSherpFalk_94:

(Start: 38 @53004 has 97 MA's), (47, 53103),

Gene: JoeyJr_97 Start: 54641, Stop: 54865, Start Num: 38

Candidate Starts for JoeyJr_97:

(Start: 38 @54641 has 97 MA's), (47, 54740),

Gene: Juice456_93 Start: 52353, Stop: 52577, Start Num: 38

Candidate Starts for Juice456_93:

(Start: 38 @52353 has 97 MA's), (47, 52452),

Gene: Juniper1_88 Start: 51701, Stop: 51925, Start Num: 38
Candidate Starts for Juniper1_88:
(Start: 38 @51701 has 97 MA's), (47, 51800),

Gene: Kenuha5_87 Start: 52359, Stop: 52583, Start Num: 38
Candidate Starts for Kenuha5_87:
(Start: 38 @52359 has 97 MA's), (47, 52458),

Gene: Kiko_66 Start: 43613, Stop: 43864, Start Num: 38
Candidate Starts for Kiko_66:
(Start: 28 @43550 has 2 MA's), (34, 43577), (Start: 38 @43613 has 97 MA's), (55, 43814), (58, 43841),

Gene: Kimberlium_96 Start: 52453, Stop: 52677, Start Num: 38
Candidate Starts for Kimberlium_96:
(Start: 38 @52453 has 97 MA's), (47, 52552),

Gene: KingMidas_94 Start: 52870, Stop: 53094, Start Num: 38
Candidate Starts for KingMidas_94:
(Start: 38 @52870 has 97 MA's), (47, 52969),

Gene: KristaRAM_100 Start: 53831, Stop: 54055, Start Num: 38
Candidate Starts for KristaRAM_100:
(16, 53708), (31, 53774), (Start: 38 @53831 has 97 MA's), (47, 53930), (48, 53936), (54, 53999),

Gene: Leona_67 Start: 37757, Stop: 38008, Start Num: 37
Candidate Starts for Leona_67:
(17, 37649), (26, 37679), (32, 37715), (33, 37721), (Start: 37 @37757 has 2 MA's), (41, 37784), (43, 37811), (44, 37844), (46, 37859), (53, 37931), (56, 37949), (57, 37961), (59, 37988),

Gene: Leperchaun_96 Start: 53875, Stop: 54099, Start Num: 38
Candidate Starts for Leperchaun_96:
(Start: 38 @53875 has 97 MA's), (47, 53974),

Gene: LittleShirley_102 Start: 54183, Stop: 54407, Start Num: 38
Candidate Starts for LittleShirley_102:
(Start: 38 @54183 has 97 MA's), (47, 54282),

Gene: Lorde_97 Start: 49649, Stop: 49873, Start Num: 38
Candidate Starts for Lorde_97:
(Start: 38 @49649 has 97 MA's), (47, 49748),

Gene: LunaBlu_98 Start: 53665, Stop: 53889, Start Num: 38
Candidate Starts for LunaBlu_98:
(Start: 38 @53665 has 97 MA's), (47, 53764),

Gene: Madiba_93 Start: 52090, Stop: 52314, Start Num: 38
Candidate Starts for Madiba_93:
(Start: 38 @52090 has 97 MA's), (47, 52189),

Gene: MagicMan_69 Start: 46923, Stop: 47171, Start Num: 38
Candidate Starts for MagicMan_69:

(Start: 28 @46860 has 2 MA's), (Start: 38 @46923 has 97 MA's), (46, 47019), (50, 47079), (51, 47082),

Gene: Mahavrat_90 Start: 50730, Stop: 50954, Start Num: 38
Candidate Starts for Mahavrat_90:
(Start: 38 @50730 has 97 MA's), (47, 50829),

Gene: Marteena_76 Start: 49557, Stop: 49772, Start Num: 39
Candidate Starts for Marteena_76:
(6, 48948), (7, 48963), (8, 48993), (9, 49176), (10, 49182), (11, 49188), (14, 49290), (19, 49446), (23, 49455), (24, 49461), (29, 49494), (35, 49521), (Start: 39 @49557 has 7 MA's), (48, 49659),

Gene: Mcklovin_74 Start: 51595, Stop: 51810, Start Num: 39
Candidate Starts for Mcklovin_74:
(6, 50989), (7, 51004), (10, 51220), (11, 51226), (14, 51328), (19, 51484), (24, 51499), (29, 51532), (35, 51559), (Start: 39 @51595 has 7 MA's), (48, 51697), (53, 51757),

Gene: MilleniumForce_94 Start: 53252, Stop: 53476, Start Num: 38
Candidate Starts for MilleniumForce_94:
(Start: 38 @53252 has 97 MA's), (47, 53351),

Gene: Moonbeam_97 Start: 53630, Stop: 53854, Start Num: 38
Candidate Starts for Moonbeam_97:
(Start: 38 @53630 has 97 MA's), (47, 53729),

Gene: Ms6_96 Start: 49416, Stop: 49640, Start Num: 38
Candidate Starts for Ms6_96:
(Start: 38 @49416 has 97 MA's), (47, 49515),

Gene: MulchExplorer_98 Start: 52124, Stop: 52348, Start Num: 38
Candidate Starts for MulchExplorer_98:
(Start: 38 @52124 has 97 MA's), (47, 52223),

Gene: Nimbo_86 Start: 51449, Stop: 51673, Start Num: 38
Candidate Starts for Nimbo_86:
(Start: 38 @51449 has 97 MA's), (47, 51548),

Gene: Nymphadora_79 Start: 51695, Stop: 51910, Start Num: 39
Candidate Starts for Nymphadora_79:
(3, 50861), (5, 50873), (6, 51089), (7, 51104), (8, 51134), (9, 51314), (10, 51320), (11, 51326), (14, 51428), (19, 51584), (24, 51599), (29, 51632), (Start: 39 @51695 has 7 MA's), (44, 51770), (46, 51785), (48, 51797),

Gene: Ogotogo_99 Start: 52090, Stop: 52314, Start Num: 36
Candidate Starts for Ogotogo_99:
(Start: 36 @52090 has 2 MA's),

Gene: OldBen_91 Start: 52841, Stop: 53065, Start Num: 38
Candidate Starts for OldBen_91:
(Start: 38 @52841 has 97 MA's), (47, 52940),

Gene: Opie_72 Start: 47038, Stop: 47286, Start Num: 38
Candidate Starts for Opie_72:

(Start: 28 @46975 has 2 MA's), (Start: 38 @47038 has 97 MA's), (46, 47134), (50, 47194), (51, 47197),

Gene: Oregano_74 Start: 45625, Stop: 45852, Start Num: 40
Candidate Starts for Oregano_74:
(Start: 40 @45625 has 4 MA's), (42, 45631),

Gene: Ovechkin_98 Start: 53678, Stop: 53902, Start Num: 38
Candidate Starts for Ovechkin_98:
(Start: 38 @53678 has 97 MA's), (47, 53777),

Gene: PHappiness_94 Start: 53670, Stop: 53894, Start Num: 38
Candidate Starts for PHappiness_94:
(Start: 38 @53670 has 97 MA's), (47, 53769),

Gene: PMC_93 Start: 51819, Stop: 52043, Start Num: 38
Candidate Starts for PMC_93:
(Start: 38 @51819 has 97 MA's), (47, 51918),

Gene: Phalconet_95 Start: 52818, Stop: 53042, Start Num: 38
Candidate Starts for Phalconet_95:
(Start: 38 @52818 has 97 MA's), (47, 52917),

Gene: Phatniss_92 Start: 52150, Stop: 52374, Start Num: 38
Candidate Starts for Phatniss_92:
(Start: 38 @52150 has 97 MA's), (47, 52249),

Gene: PhesterPhotato_98 Start: 52792, Stop: 53016, Start Num: 38
Candidate Starts for PhesterPhotato_98:
(Start: 38 @52792 has 97 MA's), (47, 52891),

Gene: PhriskyACE_70 Start: 45620, Stop: 45835, Start Num: 39
Candidate Starts for PhriskyACE_70:
(1, 44648), (6, 45011), (7, 45026), (9, 45239), (10, 45245), (11, 45251), (14, 45353), (15, 45368), (19, 45509), (24, 45524), (29, 45557), (35, 45584), (Start: 39 @45620 has 7 MA's), (48, 45722), (53, 45782),

Gene: Poenanya_98 Start: 54376, Stop: 54600, Start Num: 38
Candidate Starts for Poenanya_98:
(Start: 38 @54376 has 97 MA's), (47, 54475),

Gene: Polka14_98 Start: 54437, Stop: 54661, Start Num: 38
Candidate Starts for Polka14_98:
(Start: 38 @54437 has 97 MA's), (47, 54536),

Gene: Pollux_80 Start: 51514, Stop: 51729, Start Num: 39
Candidate Starts for Pollux_80:
(6, 50905), (7, 50920), (8, 50950), (9, 51133), (10, 51139), (11, 51145), (14, 51247), (19, 51403), (23, 51412), (24, 51418), (29, 51451), (35, 51478), (Start: 39 @51514 has 7 MA's), (48, 51616),

Gene: Powerball_71 Start: 45724, Stop: 45951, Start Num: 40
Candidate Starts for Powerball_71:
(Start: 40 @45724 has 4 MA's), (42, 45730), (44, 45787), (53, 45874),

Gene: QuickMath_95 Start: 52705, Stop: 52929, Start Num: 38

Candidate Starts for QuickMath_95:

(Start: 38 @52705 has 97 MA's), (47, 52804),

Gene: Quico_103 Start: 54680, Stop: 54904, Start Num: 38

Candidate Starts for Quico_103:

(Start: 38 @54680 has 97 MA's), (47, 54779),

Gene: REQ2_81 Start: 47996, Stop: 48220, Start Num: 38

Candidate Starts for REQ2_81:

(12, 47633), (18, 47882), (27, 47927), (Start: 38 @47996 has 97 MA's),

Gene: Ramsey_99 Start: 54678, Stop: 54902, Start Num: 38

Candidate Starts for Ramsey_99:

(Start: 38 @54678 has 97 MA's), (47, 54777),

Gene: RayTheFireFly_72 Start: 45008, Stop: 45355, Start Num: 21

Candidate Starts for RayTheFireFly_72:

(Start: 21 @45008 has 3 MA's), (Start: 38 @45107 has 97 MA's), (55, 45308), (58, 45335),

Gene: RedBird_95 Start: 54415, Stop: 54639, Start Num: 38

Candidate Starts for RedBird_95:

(Start: 38 @54415 has 97 MA's), (47, 54514),

Gene: Renna12_71 Start: 38335, Stop: 38586, Start Num: 37

Candidate Starts for Renna12_71:

(30, 38281), (32, 38293), (33, 38299), (Start: 37 @38335 has 2 MA's), (41, 38362), (43, 38389), (44, 38422), (46, 38437), (53, 38509), (56, 38527), (57, 38539), (59, 38566),

Gene: RitaG_93 Start: 53472, Stop: 53696, Start Num: 38

Candidate Starts for RitaG_93:

(Start: 38 @53472 has 97 MA's), (47, 53571),

Gene: Rockne_97 Start: 51831, Stop: 52055, Start Num: 38

Candidate Starts for Rockne_97:

(Start: 38 @51831 has 97 MA's), (47, 51930),

Gene: RockyHorror_98 Start: 52582, Stop: 52806, Start Num: 38

Candidate Starts for RockyHorror_98:

(Start: 38 @52582 has 97 MA's), (47, 52681),

Gene: Royals2015_97 Start: 51702, Stop: 51926, Start Num: 38

Candidate Starts for Royals2015_97:

(Start: 38 @51702 has 97 MA's), (47, 51801),

Gene: Sassafras_96 Start: 52732, Stop: 52956, Start Num: 38

Candidate Starts for Sassafras_96:

(Start: 38 @52732 has 97 MA's), (47, 52831),

Gene: Schnabeltier_70 Start: 46220, Stop: 46468, Start Num: 38

Candidate Starts for Schnabeltier_70:

(Start: 28 @46157 has 2 MA's), (Start: 38 @46220 has 97 MA's), (46, 46316), (50, 46376), (51, 46379),

Gene: Scottish_94 Start: 52309, Stop: 52533, Start Num: 38
Candidate Starts for Scottish_94:
(Start: 38 @52309 has 97 MA's), (47, 52408),

Gene: Seagreen_95 Start: 53324, Stop: 53548, Start Num: 38
Candidate Starts for Seagreen_95:
(Start: 38 @53324 has 97 MA's), (47, 53423),

Gene: SimranZ1_90 Start: 51204, Stop: 51428, Start Num: 38
Candidate Starts for SimranZ1_90:
(Start: 38 @51204 has 97 MA's), (47, 51303),

Gene: Spikelee_95 Start: 54476, Stop: 54700, Start Num: 38
Candidate Starts for Spikelee_95:
(Start: 38 @54476 has 97 MA's), (47, 54575),

Gene: Squirty_94 Start: 56513, Stop: 56737, Start Num: 38
Candidate Starts for Squirty_94:
(Start: 38 @56513 has 97 MA's), (47, 56612),

Gene: StAnnes_98 Start: 54237, Stop: 54461, Start Num: 38
Candidate Starts for StAnnes_98:
(Start: 38 @54237 has 97 MA's), (47, 54336),

Gene: Stap_89 Start: 49963, Stop: 50187, Start Num: 38
Candidate Starts for Stap_89:
(Start: 38 @49963 has 97 MA's), (47, 50062),

Gene: Starcevich_96 Start: 54084, Stop: 54308, Start Num: 38
Candidate Starts for Starcevich_96:
(Start: 38 @54084 has 97 MA's), (47, 54183),

Gene: Suerte_69 Start: 45335, Stop: 45562, Start Num: 40
Candidate Starts for Suerte_69:
(Start: 40 @45335 has 4 MA's), (42, 45341),

Gene: Taj_101 Start: 54398, Stop: 54622, Start Num: 38
Candidate Starts for Taj_101:
(Start: 38 @54398 has 97 MA's), (47, 54497),

Gene: TaronosaurusRx_76 Start: 46596, Stop: 46844, Start Num: 38
Candidate Starts for TaronosaurusRx_76:
(20, 46488), (22, 46491), (25, 46509), (34, 46557), (Start: 38 @46596 has 97 MA's), (44, 46677), (46, 46692), (50, 46752), (51, 46755),

Gene: Tweety_95 Start: 53662, Stop: 53886, Start Num: 38
Candidate Starts for Tweety_95:
(Start: 38 @53662 has 97 MA's), (47, 53761),

Gene: UncleRicky_94 Start: 51705, Stop: 51929, Start Num: 38

Candidate Starts for UncleRicky_94:
(Start: 38 @51705 has 97 MA's), (47, 51804),

Gene: VRedHorse_95 Start: 50521, Stop: 50745, Start Num: 38
Candidate Starts for VRedHorse_95:
(Start: 38 @50521 has 97 MA's), (47, 50620),

Gene: Wachhund_92 Start: 49757, Stop: 49981, Start Num: 38
Candidate Starts for Wachhund_92:
(Start: 38 @49757 has 97 MA's), (47, 49856),

Gene: Wee_98 Start: 54474, Stop: 54698, Start Num: 38
Candidate Starts for Wee_98:
(Start: 38 @54474 has 97 MA's), (47, 54573),

Gene: WillSterrel_92 Start: 53037, Stop: 53261, Start Num: 38
Candidate Starts for WillSterrel_92:
(Start: 38 @53037 has 97 MA's), (47, 53136),

Gene: XFactor_85 Start: 50787, Stop: 51011, Start Num: 38
Candidate Starts for XFactor_85:
(Start: 38 @50787 has 97 MA's), (47, 50886),

Gene: ZAYM_75 Start: 46437, Stop: 46685, Start Num: 38
Candidate Starts for ZAYM_75:
(Start: 28 @46371 has 2 MA's), (Start: 38 @46437 has 97 MA's), (44, 46518), (46, 46533), (50, 46593), (51, 46596),