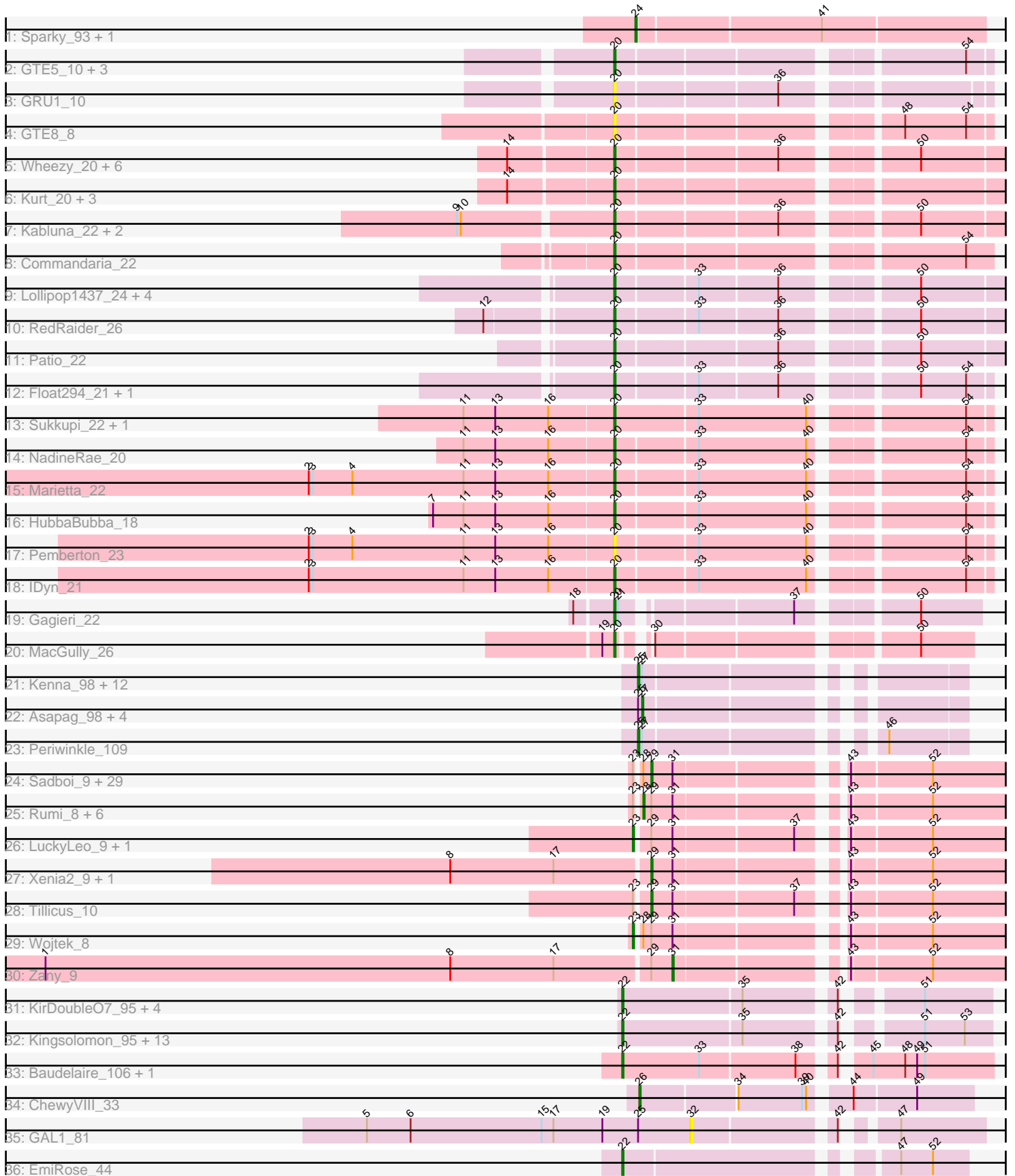


Pham 301175



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 301175 Report

This analysis was run 06/08/26 on database version 649.

Pham number 301175 has 128 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Sparky_93, Farewell_94
- Track 2 : GTE5_10, Dalilpop_24, Flapper_23, Turuncu_23
- Track 3 : GRU1_10
- Track 4 : GTE8_8
- Track 5 : Wheezy_20, GrootJr_22, Tracker_20, Arti_20, Foxboro_21, NovumRegina_20, Jifall16_19
- Track 6 : Kurt_20, KidneyBean_20, Phomeo_19, Emianna_20
- Track 7 : Kabluna_22, Bonum_22, Buggaboo_21
- Track 8 : Commandaria_22
- Track 9 : Lollipop1437_24, Ennea_25, Outis_20, MerCougar_20, StarStruck_20
- Track 10 : RedRaider_26
- Track 11 : Patio_22
- Track 12 : Float294_21, Skysand_21
- Track 13 : Sukkupi_22, Yndexa_22
- Track 14 : NadineRae_20
- Track 15 : Marietta_22
- Track 16 : HubbaBubba_18
- Track 17 : Pemberton_23
- Track 18 : IDyn_21
- Track 19 : Gagieri_22
- Track 20 : MacGully_26
- Track 21 : Kenna_98, Holliday_102, Lutum_104, BENtherdunthat_101, Leroy_103, Horus_103, Getalong_103, Budski_106, ShawBrad_110, Whitney_104, Phistory_106, Kamaru_97, Frickyeah_107
- Track 22 : Asapag_98, Phabuloso_109, LitninMcQueen_110, BotCity_106, CheeseTouch_110
- Track 23 : Periwinkle_109
- Track 24 : Sadboi_9, DaviePasture_9, Genamy16_8, NovaSharks_8, LavAbarElk_7, Gibbin_10, Riduram_8, Rota_9, Lila22_10, Sampudon_10, Patos_10, Jamemuya19_8, Rukungu_9, Pywacket_9, MoiGyank_11, Alephilan_8, Jalebi_10, DoobyDoo_8, OtterstedtS21_9, Mima20_9, Avian_8, ParvusTarda_9, Astralis_8, Yikes_10, NorManre_10, Alyssamiracle_8, Lambo_9, Charminar_8, Gretellyn_9, RazorC_8
- Track 25 : Rumi_8, Fulcrum_10, Stormer_8, Ranch_9, Erutan_9, BirthdayBoy_10, GOATification_10
- Track 26 : LuckyLeo_9, Apeppi_8
- Track 27 : Xenia2_9, DumpTruck_8

- Track 28 : Tillicus_10
- Track 29 : Wojtek_8
- Track 30 : Zany_9
- Track 31 : KirDoubleO7_95, BourbonZero_98, Ellson_96, DuncansLeg_98, LiyuLake_96
- Track 32 : Kingsolomon_95, Jubie_96, Snenia_96, Moostard_94, MsGreen_97, Finnry_97, Nicholas_95, Jobypre_97, Red305_98, TriFive_98, Clautastrophe_95, Bellis_97, Samty_96, Lumos_97
- Track 33 : Baudelaire_106, Aegeus_106
- Track 34 : ChewyVIII_33
- Track 35 : GAL1_81
- Track 36 : EmiRose_44

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 35 of the 111 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arti_20, Bonum_22, Buggaboo_21, Commandaria_22, Dalilpop_24, Emianna_20, Ennea_25, Flapper_23, Float294_21, Foxboro_21, GRU1_10, GTE5_10, GTE8_8, Gagieri_22, GrootJr_22, HubbaBubba_18, IDyn_21, Jifall16_19, Kabluna_22, KidneyBean_20, Kurt_20, Lollipop1437_24, MacGully_26, Marietta_22, MerCougar_20, NadineRae_20, NovumRegina_20, Outis_20, Patio_22, Pemberton_23, Phomeo_19, RedRaider_26, Skysand_21, StarStruck_20, Sukkupi_22, Tracker_20, Turuncu_23, Wheezy_20, Yndexa_22,

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

-

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

- Aegeus_106, Alephlan_8, Alyssmiracle_8, Apeppi_8, Asapag_98, Astralis_8, Avian_8, BENtherdunthat_101, Baudelaire_106, Bellis_97, BirthdayBoy_10, BotCity_106, BourbonZero_98, Budski_106, Charminar_8, CheeseTouch_110, ChewyVIII_33, Clautastrophe_95, DaviePasture_9, DoobyDoo_8, DumpTruck_8, DuncansLeg_98, Ellson_96, EmiRose_44, Erutan_9, Farewell_94, Finnry_97, Frickyeah_107, Fulcrum_10, GAL1_81, GOATification_10, Genamy16_8, Getalong_103, Gibbin_10, GretelLyn_9, Holliday_102, Horus_103, Jalebi_10, Jamemuya19_8, Jobypre_97, Jubie_96, Kamaru_97, Kenna_98, Kingsolomon_95, KirDoubleO7_95, Lambo_9, LavAbarElk_7, Leroy_103, Lila22_10, LitninMcQueen_110, LiyuLake_96, LuckyLeo_9, Lumos_97, Lutum_104, Mima20_9, MoiGyank_11, Moostard_94, MsGreen_97, Nicholas_95, NorManre_10, NovaSharks_8, OtterstedtS21_9, ParvusTarda_9, Patos_10, Periwinkle_109, Phabuloso_109, Phistory_106, Pywacket_9, Ranch_9, RazorC_8, Red305_98, Riduram_8, Rota_9, Rukungu_9, Rumi_8, Sadboi_9, Sampudon_10, Samty_96, ShawBrad_110, Snenia_96, Sparky_93, Stormer_8, Tillicus_10, TriFive_98, Whitney_104, Wojtek_8, Xenia2_9, Yikes_10, Zany_9,

Summary by start number:

Start 20:

- Found in 39 of 128 (30.5%) of genes in pham
- Manual Annotations of this start: 35 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arti_20 (CR2), Bonum_22 (CR2), Buggaboo_21 (CR2), Commandaria_22 (CR2), Dalilpop_24 (CR1), Emianna_20 (CR2), Ennea_25 (CR3), Flapper_23 (CR1), Float294_21 (CR3), Foxboro_21 (CR2), GRU1_10 (CR1), GTE5_10 (CR1), GTE8_8 (CR2), Gagieri_22 (CR6), GrootJr_22 (CR2), HubbaBubba_18 (CR4), IDyn_21 (CR4), Jifall16_19 (CR2), Kabluna_22 (CR2), KidneyBean_20 (CR2), Kurt_20 (CR2), Lollipop1437_24 (CR3), MacGully_26 (CR7), Marietta_22 (CR4), MerCougar_20 (CR2), NadineRae_20 (CR4), NovumRegina_20 (CR2), Outis_20 (CR2), Patio_22 (CR3), Pemberton_23 (CR4), Phomeo_19 (CR2), RedRaider_26 (CR3), Skysand_21 (CR3), StarStruck_20 (CR2), Sukkupi_22 (CR4), Tracker_20 (CR2), Turuncu_23 (CR1), Wheezy_20 (CR2), Yndexa_22 (CR4),

Start 22:

- Found in 22 of 128 (17.2%) of genes in pham
- Manual Annotations of this start: 17 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus_106 (L5), Baudelaire_106 (L5), Bellis_97 (L3), BourbonZero_98 (L3), Clautastrophe_95 (L3), DuncansLeg_98 (L3), Ellson_96 (L3), EmiRose_44 (singleton), Finnry_97 (L3), Jobypre_97 (L3), Jubie_96 (L3), Kingsolomon_95 (L3), KirDoubleO7_95 (L3), LiyuLake_96 (L3), Lumos_97 (L3), Moostard_94 (L3), MsGreen_97 (L3), Nicholas_95 (L3), Red305_98 (L3), Samty_96 (L3), Snenia_96 (L3), TriFive_98 (L3),

Start 23:

- Found in 41 of 128 (32.0%) of genes in pham
- Manual Annotations of this start: 3 of 111
- Called 7.3% of time when present
- Phage (with cluster) where this start called: Apeppi_8 (DV), LuckyLeo_9 (DV), Wojtek_8 (DV),

Start 24:

- Found in 2 of 128 (1.6%) of genes in pham
- Manual Annotations of this start: 2 of 111
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell_94 (AF), Sparky_93 (AF),

Start 25:

- Found in 20 of 128 (15.6%) of genes in pham
- Manual Annotations of this start: 12 of 111
- Called 70.0% of time when present
- Phage (with cluster) where this start called: BENtherdunthat_101 (DN1), Budski_106 (DN), Frickyeah_107 (DN1), Getalong_103 (DN1), Holliday_102 (DN1), Horus_103 (DN1), Kamaru_97 (DN1), Kenna_98 (DN1), Leroy_103 (DN1), Lutum_104 (DN1), Periwinkle_109 (DN1), Phistory_106 (DN1), ShawBrad_110 (DN1), Whitney_104 (DN1),

Start 26:

- Found in 1 of 128 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 111

- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChewyVIII_33 (singleton),

Start 27:

- Found in 19 of 128 (14.8%) of genes in pham
- Manual Annotations of this start: 5 of 111
- Called 26.3% of time when present
- Phage (with cluster) where this start called: Asapag_98 (DN1), BotCity_106 (DN), CheeseTouch_110 (DN1), LitninMcQueen_110 (DN1), Phabuloso_109 (DN1),

Start 28:

- Found in 38 of 128 (29.7%) of genes in pham
- Manual Annotations of this start: 6 of 111
- Called 18.4% of time when present
- Phage (with cluster) where this start called: BirthdayBoy_10 (DV), Erutan_9 (DV), Fulcrum_10 (DV), GOATification_10 (DV), Ranch_9 (DV), Rumi_8 (DV), Stormer_8 (DV),

Start 29:

- Found in 44 of 128 (34.4%) of genes in pham
- Manual Annotations of this start: 29 of 111
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Alephilan_8 (DV), Alyssamiracle_8 (DV), Astralis_8 (DV), Avian_8 (DV), Charminar_8 (DV), DaviePasture_9 (DV), DoobyDoo_8 (DV), DumpTruck_8 (DV), Genamy16_8 (DV), Gibbin_10 (DV), GretelLyn_9 (DV), Jalebi_10 (DV), Jamemuya19_8 (DV), Lambo_9 (DV), LavAbarElk_7 (DV), Lila22_10 (DV), Mima20_9 (DV), MoiGyank_11 (DV), NorManre_10 (DV), NovaSharks_8 (DV), OtterstedtS21_9 (DV), ParvusTarda_9 (DV), Patos_10 (DV), Pywacket_9 (DV), RazorC_8 (DV), Riduram_8 (DV), Rota_9 (DV), Rukungu_9 (DV), Sadboi_9 (DV), Sampudon_10 (DV), Tillicus_10 (DV), Xenia2_9 (DV), Yikes_10 (DV),

Start 31:

- Found in 44 of 128 (34.4%) of genes in pham
- Manual Annotations of this start: 1 of 111
- Called 2.3% of time when present
- Phage (with cluster) where this start called: Zany_9 (DV),

Start 32:

- Found in 1 of 128 (0.8%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GAL1_81 (singleton),

Summary by clusters:

There are 13 clusters represented in this pham: CR2, CR3, singleton, CR1, CR6, CR7, CR4, AF, L5, DN1, L3, DV, DN,

Info for manual annotations of cluster AF:

- Start number 24 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster CR1:

- Start number 20 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 20 was manually annotated 18 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 20 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 20 was manually annotated 6 times for cluster CR4.

Info for manual annotations of cluster CR6:

- Start number 20 was manually annotated 1 time for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 20 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster DN:

- Start number 25 was manually annotated 1 time for cluster DN.
- Start number 27 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 25 was manually annotated 11 times for cluster DN1.
- Start number 27 was manually annotated 4 times for cluster DN1.

Info for manual annotations of cluster DV:

- Start number 23 was manually annotated 3 times for cluster DV.
- Start number 28 was manually annotated 6 times for cluster DV.
- Start number 29 was manually annotated 29 times for cluster DV.
- Start number 31 was manually annotated 1 time for cluster DV.

Info for manual annotations of cluster L3:

- Start number 22 was manually annotated 14 times for cluster L3.

Info for manual annotations of cluster L5:

- Start number 22 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Aegeus_106 Start: 62698, Stop: 62949, Start Num: 22

Candidate Starts for Aegeus_106:

(Start: 22 @62698 has 17 MA's), (33, 62755), (38, 62824), (42, 62845), (45, 62860), (48, 62884), (49, 62893), (51, 62899),

Gene: Alephilan_8 Start: 7446, Stop: 7694, Start Num: 29

Candidate Starts for Alephilan_8:

(Start: 23 @7437 has 3 MA's), (Start: 28 @7440 has 6 MA's), (Start: 29 @7446 has 29 MA's), (Start: 31 @7461 has 1 MA's), (43, 7572), (52, 7629),

Gene: Alyssamiracle_8 Start: 5919, Stop: 6167, Start Num: 29

Candidate Starts for Alyssamiracle_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Apeppi_8 Start: 7617, Stop: 7874, Start Num: 23

Candidate Starts for Apeppi_8:

(Start: 23 @7617 has 3 MA's), (Start: 29 @7626 has 29 MA's), (Start: 31 @7641 has 1 MA's), (37, 7728), (43, 7752), (52, 7809),

Gene: Arti_20 Start: 10234, Stop: 10497, Start Num: 20

Candidate Starts for Arti_20:

(14, 10159), (Start: 20 @10234 has 35 MA's), (36, 10348), (50, 10435),

Gene: Asapag_98 Start: 54031, Stop: 54234, Start Num: 27

Candidate Starts for Asapag_98:

(Start: 25 @54028 has 12 MA's), (Start: 27 @54031 has 5 MA's),

Gene: Astralis_8 Start: 5919, Stop: 6167, Start Num: 29

Candidate Starts for Astralis_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Avian_8 Start: 5919, Stop: 6167, Start Num: 29

Candidate Starts for Avian_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: BENtherdunthat_101 Start: 53776, Stop: 53982, Start Num: 25

Candidate Starts for BENtherdunthat_101:

(Start: 25 @53776 has 12 MA's), (Start: 27 @53779 has 5 MA's),

Gene: Baudelaire_106 Start: 62698, Stop: 62949, Start Num: 22

Candidate Starts for Baudelaire_106:

(Start: 22 @62698 has 17 MA's), (33, 62755), (38, 62824), (42, 62845), (45, 62860), (48, 62884), (49, 62893), (51, 62899),

Gene: Bellis_97 Start: 61235, Stop: 61477, Start Num: 22

Candidate Starts for Bellis_97:

(Start: 22 @61235 has 17 MA's), (35, 61322), (42, 61382), (51, 61427), (53, 61457),

Gene: BirthdayBoy_10 Start: 8359, Stop: 8613, Start Num: 28

Candidate Starts for BirthdayBoy_10:

(Start: 23 @8356 has 3 MA's), (Start: 28 @8359 has 6 MA's), (Start: 29 @8365 has 29 MA's), (Start: 31 @8380 has 1 MA's), (43, 8491), (52, 8548),

Gene: Bonum_22 Start: 10379, Stop: 10642, Start Num: 20

Candidate Starts for Bonum_22:

(9, 10271), (10, 10274), (Start: 20 @10379 has 35 MA's), (36, 10493), (50, 10580),

Gene: BotCity_106 Start: 54805, Stop: 55008, Start Num: 27

Candidate Starts for BotCity_106:

(Start: 25 @54802 has 12 MA's), (Start: 27 @54805 has 5 MA's),

Gene: BourbonZero_98 Start: 61433, Stop: 61675, Start Num: 22

Candidate Starts for BourbonZero_98:
(Start: 22 @61433 has 17 MA's), (35, 61520), (42, 61580), (51, 61625),

Gene: Budski_106 Start: 55468, Stop: 55674, Start Num: 25
Candidate Starts for Budski_106:
(Start: 25 @55468 has 12 MA's), (Start: 27 @55471 has 5 MA's),

Gene: Buggaboo_21 Start: 9895, Stop: 10158, Start Num: 20
Candidate Starts for Buggaboo_21:
(9, 9787), (10, 9790), (Start: 20 @9895 has 35 MA's), (36, 10009), (50, 10096),

Gene: Charminar_8 Start: 5919, Stop: 6167, Start Num: 29
Candidate Starts for Charminar_8:
(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: CheeseTouch_110 Start: 52893, Stop: 53096, Start Num: 27
Candidate Starts for CheeseTouch_110:
(Start: 25 @52890 has 12 MA's), (Start: 27 @52893 has 5 MA's),

Gene: ChewyVIII_33 Start: 16531, Stop: 16761, Start Num: 26
Candidate Starts for ChewyVIII_33:
(Start: 26 @16531 has 1 MA's), (34, 16600), (39, 16648), (40, 16651), (44, 16675), (49, 16720),

Gene: Clautastrophe_95 Start: 61230, Stop: 61472, Start Num: 22
Candidate Starts for Clautastrophe_95:
(Start: 22 @61230 has 17 MA's), (35, 61317), (42, 61377), (51, 61422), (53, 61452),

Gene: Commandaria_22 Start: 10367, Stop: 10621, Start Num: 20
Candidate Starts for Commandaria_22:
(Start: 20 @10367 has 35 MA's), (54, 10601),

Gene: Dalilpop_24 Start: 11039, Stop: 11290, Start Num: 20
Candidate Starts for Dalilpop_24:
(Start: 20 @11039 has 35 MA's), (54, 11273),

Gene: DaviePasture_9 Start: 8122, Stop: 8370, Start Num: 29
Candidate Starts for DaviePasture_9:
(Start: 23 @8113 has 3 MA's), (Start: 28 @8116 has 6 MA's), (Start: 29 @8122 has 29 MA's), (Start: 31 @8137 has 1 MA's), (43, 8248), (52, 8305),

Gene: DoobyDoo_8 Start: 7299, Stop: 7547, Start Num: 29
Candidate Starts for DoobyDoo_8:
(Start: 23 @7290 has 3 MA's), (Start: 28 @7293 has 6 MA's), (Start: 29 @7299 has 29 MA's), (Start: 31 @7314 has 1 MA's), (43, 7425), (52, 7482),

Gene: DumpTruck_8 Start: 7572, Stop: 7820, Start Num: 29
Candidate Starts for DumpTruck_8:
(8, 7425), (17, 7503), (Start: 29 @7572 has 29 MA's), (Start: 31 @7587 has 1 MA's), (43, 7698), (52, 7755),

Gene: DuncansLeg_98 Start: 61421, Stop: 61663, Start Num: 22
Candidate Starts for DuncansLeg_98:

(Start: 22 @61421 has 17 MA's), (35, 61508), (42, 61568), (51, 61613),

Gene: Ellson_96 Start: 61736, Stop: 61978, Start Num: 22

Candidate Starts for Ellson_96:

(Start: 22 @61736 has 17 MA's), (35, 61823), (42, 61883), (51, 61928),

Gene: EmiRose_44 Start: 36397, Stop: 36624, Start Num: 22

Candidate Starts for EmiRose_44:

(Start: 22 @36397 has 17 MA's), (47, 36574), (52, 36598),

Gene: Emianna_20 Start: 10206, Stop: 10469, Start Num: 20

Candidate Starts for Emianna_20:

(14, 10131), (Start: 20 @10206 has 35 MA's),

Gene: Ennea_25 Start: 11411, Stop: 11674, Start Num: 20

Candidate Starts for Ennea_25:

(Start: 20 @11411 has 35 MA's), (33, 11468), (36, 11525), (50, 11612),

Gene: Erutan_9 Start: 7806, Stop: 8060, Start Num: 28

Candidate Starts for Erutan_9:

(Start: 23 @7803 has 3 MA's), (Start: 28 @7806 has 6 MA's), (Start: 29 @7812 has 29 MA's), (Start: 31 @7827 has 1 MA's), (43, 7938), (52, 7995),

Gene: Farewell_94 Start: 60964, Stop: 61215, Start Num: 24

Candidate Starts for Farewell_94:

(Start: 24 @60964 has 2 MA's), (41, 61096),

Gene: Finnry_97 Start: 61583, Stop: 61825, Start Num: 22

Candidate Starts for Finnry_97:

(Start: 22 @61583 has 17 MA's), (35, 61670), (42, 61730), (51, 61775), (53, 61805),

Gene: Flapper_23 Start: 10112, Stop: 10363, Start Num: 20

Candidate Starts for Flapper_23:

(Start: 20 @10112 has 35 MA's), (54, 10346),

Gene: Float294_21 Start: 9960, Stop: 10211, Start Num: 20

Candidate Starts for Float294_21:

(Start: 20 @9960 has 35 MA's), (33, 10017), (36, 10074), (50, 10161), (54, 10194),

Gene: Foxboro_21 Start: 10566, Stop: 10829, Start Num: 20

Candidate Starts for Foxboro_21:

(14, 10491), (Start: 20 @10566 has 35 MA's), (36, 10680), (50, 10767),

Gene: Frickyeah_107 Start: 54302, Stop: 54508, Start Num: 25

Candidate Starts for Frickyeah_107:

(Start: 25 @54302 has 12 MA's), (Start: 27 @54305 has 5 MA's),

Gene: Fulcrum_10 Start: 8339, Stop: 8593, Start Num: 28

Candidate Starts for Fulcrum_10:

(Start: 23 @8336 has 3 MA's), (Start: 28 @8339 has 6 MA's), (Start: 29 @8345 has 29 MA's), (Start: 31 @8360 has 1 MA's), (43, 8471), (52, 8528),

Gene: GAL1_81 Start: 49391, Stop: 49576, Start Num: 32

Candidate Starts for GAL1_81:

(5, 49148), (6, 49181), (15, 49280), (17, 49289), (19, 49325), (Start: 25 @49352 has 12 MA's), (32, 49391), (42, 49487), (47, 49514),

Gene: GOATification_10 Start: 8339, Stop: 8593, Start Num: 28

Candidate Starts for GOATification_10:

(Start: 23 @8336 has 3 MA's), (Start: 28 @8339 has 6 MA's), (Start: 29 @8345 has 29 MA's), (Start: 31 @8360 has 1 MA's), (43, 8471), (52, 8528),

Gene: GRU1_10 Start: 3205, Stop: 3453, Start Num: 20

Candidate Starts for GRU1_10:

(Start: 20 @3205 has 35 MA's), (36, 3319),

Gene: GTE5_10 Start: 3209, Stop: 3460, Start Num: 20

Candidate Starts for GTE5_10:

(Start: 20 @3209 has 35 MA's), (54, 3443),

Gene: GTE8_8 Start: 3094, Stop: 3345, Start Num: 20

Candidate Starts for GTE8_8:

(Start: 20 @3094 has 35 MA's), (48, 3283), (54, 3328),

Gene: Gagieri_22 Start: 11463, Stop: 11696, Start Num: 20

Candidate Starts for Gagieri_22:

(18, 11436), (Start: 20 @11463 has 35 MA's), (21, 11466), (37, 11577), (50, 11652),

Gene: Genamy16_8 Start: 5919, Stop: 6167, Start Num: 29

Candidate Starts for Genamy16_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Getalong_103 Start: 55123, Stop: 55329, Start Num: 25

Candidate Starts for Getalong_103:

(Start: 25 @55123 has 12 MA's), (Start: 27 @55126 has 5 MA's),

Gene: Gibbin_10 Start: 8405, Stop: 8653, Start Num: 29

Candidate Starts for Gibbin_10:

(Start: 23 @8396 has 3 MA's), (Start: 28 @8399 has 6 MA's), (Start: 29 @8405 has 29 MA's), (Start: 31 @8420 has 1 MA's), (43, 8531), (52, 8588),

Gene: Gretellyn_9 Start: 8679, Stop: 8927, Start Num: 29

Candidate Starts for Gretellyn_9:

(Start: 23 @8670 has 3 MA's), (Start: 28 @8673 has 6 MA's), (Start: 29 @8679 has 29 MA's), (Start: 31 @8694 has 1 MA's), (43, 8805), (52, 8862),

Gene: GrootJr_22 Start: 10629, Stop: 10892, Start Num: 20

Candidate Starts for GrootJr_22:

(14, 10554), (Start: 20 @10629 has 35 MA's), (36, 10743), (50, 10830),

Gene: Holliday_102 Start: 56553, Stop: 56759, Start Num: 25

Candidate Starts for Holliday_102:

(Start: 25 @56553 has 12 MA's), (Start: 27 @56556 has 5 MA's),

Gene: Horus_103 Start: 54577, Stop: 54783, Start Num: 25

Candidate Starts for Horus_103:

(Start: 25 @54577 has 12 MA's), (Start: 27 @54580 has 5 MA's),

Gene: HubbaBubba_18 Start: 7861, Stop: 8115, Start Num: 20

Candidate Starts for HubbaBubba_18:

(7, 7729), (11, 7750), (13, 7774), (16, 7813), (Start: 20 @7861 has 35 MA's), (33, 7918), (40, 7999), (54, 8098),

Gene: IDyn_21 Start: 9254, Stop: 9508, Start Num: 20

Candidate Starts for IDyn_21:

(2, 9026), (3, 9029), (11, 9143), (13, 9167), (16, 9206), (Start: 20 @9254 has 35 MA's), (33, 9311), (40, 9392), (54, 9491),

Gene: Jalebi_10 Start: 8855, Stop: 9103, Start Num: 29

Candidate Starts for Jalebi_10:

(Start: 23 @8846 has 3 MA's), (Start: 28 @8849 has 6 MA's), (Start: 29 @8855 has 29 MA's), (Start: 31 @8870 has 1 MA's), (43, 8981), (52, 9038),

Gene: Jamemuya19_8 Start: 5919, Stop: 6167, Start Num: 29

Candidate Starts for Jamemuya19_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Jifall16_19 Start: 9690, Stop: 9953, Start Num: 20

Candidate Starts for Jifall16_19:

(14, 9615), (Start: 20 @9690 has 35 MA's), (36, 9804), (50, 9891),

Gene: Jobypre_97 Start: 61230, Stop: 61472, Start Num: 22

Candidate Starts for Jobypre_97:

(Start: 22 @61230 has 17 MA's), (35, 61317), (42, 61377), (51, 61422), (53, 61452),

Gene: Jubie_96 Start: 61365, Stop: 61607, Start Num: 22

Candidate Starts for Jubie_96:

(Start: 22 @61365 has 17 MA's), (35, 61452), (42, 61512), (51, 61557), (53, 61587),

Gene: Kabluna_22 Start: 9770, Stop: 10033, Start Num: 20

Candidate Starts for Kabluna_22:

(9, 9662), (10, 9665), (Start: 20 @9770 has 35 MA's), (36, 9884), (50, 9971),

Gene: Kamaru_97 Start: 52436, Stop: 52642, Start Num: 25

Candidate Starts for Kamaru_97:

(Start: 25 @52436 has 12 MA's), (Start: 27 @52439 has 5 MA's),

Gene: Kenna_98 Start: 52957, Stop: 53163, Start Num: 25

Candidate Starts for Kenna_98:

(Start: 25 @52957 has 12 MA's), (Start: 27 @52960 has 5 MA's),

Gene: KidneyBean_20 Start: 9969, Stop: 10232, Start Num: 20

Candidate Starts for KidneyBean_20:

(14, 9894), (Start: 20 @9969 has 35 MA's),

Gene: Kingsolomon_95 Start: 61339, Stop: 61581, Start Num: 22

Candidate Starts for Kingsolomon_95:

(Start: 22 @61339 has 17 MA's), (35, 61426), (42, 61486), (51, 61531), (53, 61561),

Gene: KirDoubleO7_95 Start: 61423, Stop: 61665, Start Num: 22

Candidate Starts for KirDoubleO7_95:

(Start: 22 @61423 has 17 MA's), (35, 61510), (42, 61570), (51, 61615),

Gene: Kurt_20 Start: 10206, Stop: 10469, Start Num: 20

Candidate Starts for Kurt_20:

(14, 10131), (Start: 20 @10206 has 35 MA's),

Gene: Lambo_9 Start: 8349, Stop: 8597, Start Num: 29

Candidate Starts for Lambo_9:

(Start: 23 @8340 has 3 MA's), (Start: 28 @8343 has 6 MA's), (Start: 29 @8349 has 29 MA's), (Start: 31 @8364 has 1 MA's), (43, 8475), (52, 8532),

Gene: LavAbarElk_7 Start: 6782, Stop: 7030, Start Num: 29

Candidate Starts for LavAbarElk_7:

(Start: 23 @6773 has 3 MA's), (Start: 28 @6776 has 6 MA's), (Start: 29 @6782 has 29 MA's), (Start: 31 @6797 has 1 MA's), (43, 6908), (52, 6965),

Gene: Leroy_103 Start: 52772, Stop: 52978, Start Num: 25

Candidate Starts for Leroy_103:

(Start: 25 @52772 has 12 MA's), (Start: 27 @52775 has 5 MA's),

Gene: Lila22_10 Start: 8300, Stop: 8548, Start Num: 29

Candidate Starts for Lila22_10:

(Start: 23 @8291 has 3 MA's), (Start: 28 @8294 has 6 MA's), (Start: 29 @8300 has 29 MA's), (Start: 31 @8315 has 1 MA's), (43, 8426), (52, 8483),

Gene: LitninMcQueen_110 Start: 56204, Stop: 56407, Start Num: 27

Candidate Starts for LitninMcQueen_110:

(Start: 25 @56201 has 12 MA's), (Start: 27 @56204 has 5 MA's),

Gene: LiyuLake_96 Start: 61496, Stop: 61738, Start Num: 22

Candidate Starts for LiyuLake_96:

(Start: 22 @61496 has 17 MA's), (35, 61583), (42, 61643), (51, 61688),

Gene: Lollipop1437_24 Start: 11399, Stop: 11662, Start Num: 20

Candidate Starts for Lollipop1437_24:

(Start: 20 @11399 has 35 MA's), (33, 11456), (36, 11513), (50, 11600),

Gene: LuckyLeo_9 Start: 7617, Stop: 7874, Start Num: 23

Candidate Starts for LuckyLeo_9:

(Start: 23 @7617 has 3 MA's), (Start: 29 @7626 has 29 MA's), (Start: 31 @7641 has 1 MA's), (37, 7728), (43, 7752), (52, 7809),

Gene: Lumos_97 Start: 61227, Stop: 61469, Start Num: 22

Candidate Starts for Lumos_97:

(Start: 22 @61227 has 17 MA's), (35, 61314), (42, 61374), (51, 61419), (53, 61449),

Gene: Lutum_104 Start: 54276, Stop: 54482, Start Num: 25

Candidate Starts for Lutum_104:

(Start: 25 @54276 has 12 MA's), (Start: 27 @54279 has 5 MA's),

Gene: MacGully_26 Start: 11334, Stop: 11555, Start Num: 20
Candidate Starts for MacGully_26:
(19, 11325), (Start: 20 @11334 has 35 MA's), (30, 11346), (50, 11517),

Gene: Marietta_22 Start: 9180, Stop: 9434, Start Num: 20
Candidate Starts for Marietta_22:
(2, 8952), (3, 8955), (4, 8985), (11, 9069), (13, 9093), (16, 9132), (Start: 20 @9180 has 35 MA's), (33, 9237), (40, 9318), (54, 9417),

Gene: MerCougar_20 Start: 9765, Stop: 10028, Start Num: 20
Candidate Starts for MerCougar_20:
(Start: 20 @9765 has 35 MA's), (33, 9822), (36, 9879), (50, 9966),

Gene: Mima20_9 Start: 8029, Stop: 8277, Start Num: 29
Candidate Starts for Mima20_9:
(Start: 23 @8020 has 3 MA's), (Start: 28 @8023 has 6 MA's), (Start: 29 @8029 has 29 MA's), (Start: 31 @8044 has 1 MA's), (43, 8155), (52, 8212),

Gene: MoiGyank_11 Start: 8716, Stop: 8964, Start Num: 29
Candidate Starts for MoiGyank_11:
(Start: 23 @8707 has 3 MA's), (Start: 28 @8710 has 6 MA's), (Start: 29 @8716 has 29 MA's), (Start: 31 @8731 has 1 MA's), (43, 8842), (52, 8899),

Gene: Moostard_94 Start: 61334, Stop: 61576, Start Num: 22
Candidate Starts for Moostard_94:
(Start: 22 @61334 has 17 MA's), (35, 61421), (42, 61481), (51, 61526), (53, 61556),

Gene: MsGreen_97 Start: 61229, Stop: 61471, Start Num: 22
Candidate Starts for MsGreen_97:
(Start: 22 @61229 has 17 MA's), (35, 61316), (42, 61376), (51, 61421), (53, 61451),

Gene: NadineRae_20 Start: 8429, Stop: 8683, Start Num: 20
Candidate Starts for NadineRae_20:
(11, 8318), (13, 8342), (16, 8381), (Start: 20 @8429 has 35 MA's), (33, 8486), (40, 8567), (54, 8666),

Gene: Nicholas_95 Start: 61339, Stop: 61581, Start Num: 22
Candidate Starts for Nicholas_95:
(Start: 22 @61339 has 17 MA's), (35, 61426), (42, 61486), (51, 61531), (53, 61561),

Gene: NorManre_10 Start: 7911, Stop: 8159, Start Num: 29
Candidate Starts for NorManre_10:
(Start: 23 @7902 has 3 MA's), (Start: 28 @7905 has 6 MA's), (Start: 29 @7911 has 29 MA's), (Start: 31 @7926 has 1 MA's), (43, 8037), (52, 8094),

Gene: NovaSharks_8 Start: 5919, Stop: 6167, Start Num: 29
Candidate Starts for NovaSharks_8:
(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: NovumRegina_20 Start: 10628, Stop: 10891, Start Num: 20
Candidate Starts for NovumRegina_20:
(14, 10553), (Start: 20 @10628 has 35 MA's), (36, 10742), (50, 10829),

Gene: OtterstedtS21_9 Start: 8001, Stop: 8249, Start Num: 29

Candidate Starts for OtterstedtS21_9:

(Start: 23 @7992 has 3 MA's), (Start: 28 @7995 has 6 MA's), (Start: 29 @8001 has 29 MA's), (Start: 31 @8016 has 1 MA's), (43, 8127), (52, 8184),

Gene: Outis_20 Start: 9459, Stop: 9722, Start Num: 20

Candidate Starts for Outis_20:

(Start: 20 @9459 has 35 MA's), (33, 9516), (36, 9573), (50, 9660),

Gene: ParvusTarda_9 Start: 7483, Stop: 7731, Start Num: 29

Candidate Starts for ParvusTarda_9:

(Start: 23 @7474 has 3 MA's), (Start: 28 @7477 has 6 MA's), (Start: 29 @7483 has 29 MA's), (Start: 31 @7498 has 1 MA's), (43, 7609), (52, 7666),

Gene: Patio_22 Start: 10635, Stop: 10898, Start Num: 20

Candidate Starts for Patio_22:

(Start: 20 @10635 has 35 MA's), (36, 10749), (50, 10836),

Gene: Patos_10 Start: 7911, Stop: 8159, Start Num: 29

Candidate Starts for Patos_10:

(Start: 23 @7902 has 3 MA's), (Start: 28 @7905 has 6 MA's), (Start: 29 @7911 has 29 MA's), (Start: 31 @7926 has 1 MA's), (43, 8037), (52, 8094),

Gene: Pemberton_23 Start: 9148, Stop: 9402, Start Num: 20

Candidate Starts for Pemberton_23:

(2, 8920), (3, 8923), (4, 8953), (11, 9037), (13, 9061), (16, 9100), (Start: 20 @9148 has 35 MA's), (33, 9205), (40, 9286), (54, 9385),

Gene: Periwinkle_109 Start: 55399, Stop: 55605, Start Num: 25

Candidate Starts for Periwinkle_109:

(Start: 25 @55399 has 12 MA's), (Start: 27 @55402 has 5 MA's), (46, 55549),

Gene: Phabuloso_109 Start: 54838, Stop: 55041, Start Num: 27

Candidate Starts for Phabuloso_109:

(Start: 25 @54835 has 12 MA's), (Start: 27 @54838 has 5 MA's),

Gene: Phistory_106 Start: 52827, Stop: 53033, Start Num: 25

Candidate Starts for Phistory_106:

(Start: 25 @52827 has 12 MA's), (Start: 27 @52830 has 5 MA's),

Gene: Phomeo_19 Start: 9856, Stop: 10119, Start Num: 20

Candidate Starts for Phomeo_19:

(14, 9781), (Start: 20 @9856 has 35 MA's),

Gene: Pywacket_9 Start: 8840, Stop: 9088, Start Num: 29

Candidate Starts for Pywacket_9:

(Start: 23 @8831 has 3 MA's), (Start: 28 @8834 has 6 MA's), (Start: 29 @8840 has 29 MA's), (Start: 31 @8855 has 1 MA's), (43, 8966), (52, 9023),

Gene: Ranch_9 Start: 6846, Stop: 7100, Start Num: 28

Candidate Starts for Ranch_9:

(Start: 23 @6843 has 3 MA's), (Start: 28 @6846 has 6 MA's), (Start: 29 @6852 has 29 MA's), (Start: 31 @6867 has 1 MA's), (43, 6978), (52, 7035),

Gene: RazorC_8 Start: 5919, Stop: 6167, Start Num: 29

Candidate Starts for RazorC_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Red305_98 Start: 61230, Stop: 61472, Start Num: 22

Candidate Starts for Red305_98:

(Start: 22 @61230 has 17 MA's), (35, 61317), (42, 61377), (51, 61422), (53, 61452),

Gene: RedRaider_26 Start: 11510, Stop: 11773, Start Num: 20

Candidate Starts for RedRaider_26:

(12, 11426), (Start: 20 @11510 has 35 MA's), (33, 11567), (36, 11624), (50, 11711),

Gene: Riduram_8 Start: 5889, Stop: 6137, Start Num: 29

Candidate Starts for Riduram_8:

(Start: 23 @5880 has 3 MA's), (Start: 28 @5883 has 6 MA's), (Start: 29 @5889 has 29 MA's), (Start: 31 @5904 has 1 MA's), (43, 6015), (52, 6072),

Gene: Rota_9 Start: 7810, Stop: 8058, Start Num: 29

Candidate Starts for Rota_9:

(Start: 23 @7801 has 3 MA's), (Start: 28 @7804 has 6 MA's), (Start: 29 @7810 has 29 MA's), (Start: 31 @7825 has 1 MA's), (43, 7936), (52, 7993),

Gene: Rukungu_9 Start: 8548, Stop: 8796, Start Num: 29

Candidate Starts for Rukungu_9:

(Start: 23 @8539 has 3 MA's), (Start: 28 @8542 has 6 MA's), (Start: 29 @8548 has 29 MA's), (Start: 31 @8563 has 1 MA's), (43, 8674), (52, 8731),

Gene: Rumi_8 Start: 5913, Stop: 6167, Start Num: 28

Candidate Starts for Rumi_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Sadboi_9 Start: 8679, Stop: 8927, Start Num: 29

Candidate Starts for Sadboi_9:

(Start: 23 @8670 has 3 MA's), (Start: 28 @8673 has 6 MA's), (Start: 29 @8679 has 29 MA's), (Start: 31 @8694 has 1 MA's), (43, 8805), (52, 8862),

Gene: Sampudon_10 Start: 8855, Stop: 9103, Start Num: 29

Candidate Starts for Sampudon_10:

(Start: 23 @8846 has 3 MA's), (Start: 28 @8849 has 6 MA's), (Start: 29 @8855 has 29 MA's), (Start: 31 @8870 has 1 MA's), (43, 8981), (52, 9038),

Gene: Samty_96 Start: 61327, Stop: 61569, Start Num: 22

Candidate Starts for Samty_96:

(Start: 22 @61327 has 17 MA's), (35, 61414), (42, 61474), (51, 61519), (53, 61549),

Gene: ShawBrad_110 Start: 54835, Stop: 55041, Start Num: 25

Candidate Starts for ShawBrad_110:

(Start: 25 @54835 has 12 MA's), (Start: 27 @54838 has 5 MA's),

Gene: Skysand_21 Start: 9962, Stop: 10213, Start Num: 20

Candidate Starts for Skysand_21:

(Start: 20 @9962 has 35 MA's), (33, 10019), (36, 10076), (50, 10163), (54, 10196),

Gene: Snenia_96 Start: 61231, Stop: 61473, Start Num: 22

Candidate Starts for Snenia_96:

(Start: 22 @61231 has 17 MA's), (35, 61318), (42, 61378), (51, 61423), (53, 61453),

Gene: Sparky_93 Start: 62558, Stop: 62809, Start Num: 24

Candidate Starts for Sparky_93:

(Start: 24 @62558 has 2 MA's), (41, 62690),

Gene: StarStruck_20 Start: 9459, Stop: 9722, Start Num: 20

Candidate Starts for StarStruck_20:

(Start: 20 @9459 has 35 MA's), (33, 9516), (36, 9573), (50, 9660),

Gene: Stormer_8 Start: 5913, Stop: 6167, Start Num: 28

Candidate Starts for Stormer_8:

(Start: 23 @5910 has 3 MA's), (Start: 28 @5913 has 6 MA's), (Start: 29 @5919 has 29 MA's), (Start: 31 @5934 has 1 MA's), (43, 6045), (52, 6102),

Gene: Sukkupi_22 Start: 9227, Stop: 9484, Start Num: 20

Candidate Starts for Sukkupi_22:

(11, 9116), (13, 9140), (16, 9179), (Start: 20 @9227 has 35 MA's), (33, 9287), (40, 9368), (54, 9467),

Gene: Tillicus_10 Start: 7215, Stop: 7463, Start Num: 29

Candidate Starts for Tillicus_10:

(Start: 23 @7206 has 3 MA's), (Start: 29 @7215 has 29 MA's), (Start: 31 @7230 has 1 MA's), (37, 7317), (43, 7341), (52, 7398),

Gene: Tracker_20 Start: 10051, Stop: 10314, Start Num: 20

Candidate Starts for Tracker_20:

(14, 9976), (Start: 20 @10051 has 35 MA's), (36, 10165), (50, 10252),

Gene: TriFive_98 Start: 61343, Stop: 61585, Start Num: 22

Candidate Starts for TriFive_98:

(Start: 22 @61343 has 17 MA's), (35, 61430), (42, 61490), (51, 61535), (53, 61565),

Gene: Turuncu_23 Start: 9630, Stop: 9881, Start Num: 20

Candidate Starts for Turuncu_23:

(Start: 20 @9630 has 35 MA's), (54, 9864),

Gene: Wheezy_20 Start: 10254, Stop: 10517, Start Num: 20

Candidate Starts for Wheezy_20:

(14, 10179), (Start: 20 @10254 has 35 MA's), (36, 10368), (50, 10455),

Gene: Whitney_104 Start: 55526, Stop: 55732, Start Num: 25

Candidate Starts for Whitney_104:

(Start: 25 @55526 has 12 MA's), (Start: 27 @55529 has 5 MA's),

Gene: Wojtek_8 Start: 7536, Stop: 7793, Start Num: 23

Candidate Starts for Wojtek_8:

(Start: 23 @7536 has 3 MA's), (Start: 28 @7539 has 6 MA's), (Start: 29 @7545 has 29 MA's), (Start: 31 @7560 has 1 MA's), (43, 7671), (52, 7728),

Gene: Xenia2_9 Start: 7575, Stop: 7826, Start Num: 29

Candidate Starts for Xenia2_9:

(8, 7428), (17, 7506), (Start: 29 @7575 has 29 MA's), (Start: 31 @7590 has 1 MA's), (43, 7701), (52, 7758),

Gene: Yikes_10 Start: 8943, Stop: 9191, Start Num: 29

Candidate Starts for Yikes_10:

(Start: 23 @8934 has 3 MA's), (Start: 28 @8937 has 6 MA's), (Start: 29 @8943 has 29 MA's), (Start: 31 @8958 has 1 MA's), (43, 9069), (52, 9126),

Gene: Yndexa_22 Start: 9227, Stop: 9484, Start Num: 20

Candidate Starts for Yndexa_22:

(11, 9116), (13, 9140), (16, 9179), (Start: 20 @9227 has 35 MA's), (33, 9287), (40, 9368), (54, 9467),

Gene: Zany_9 Start: 8084, Stop: 8317, Start Num: 31

Candidate Starts for Zany_9:

(1, 7616), (8, 7922), (17, 8000), (Start: 29 @8069 has 29 MA's), (Start: 31 @8084 has 1 MA's), (43, 8195), (52, 8252),