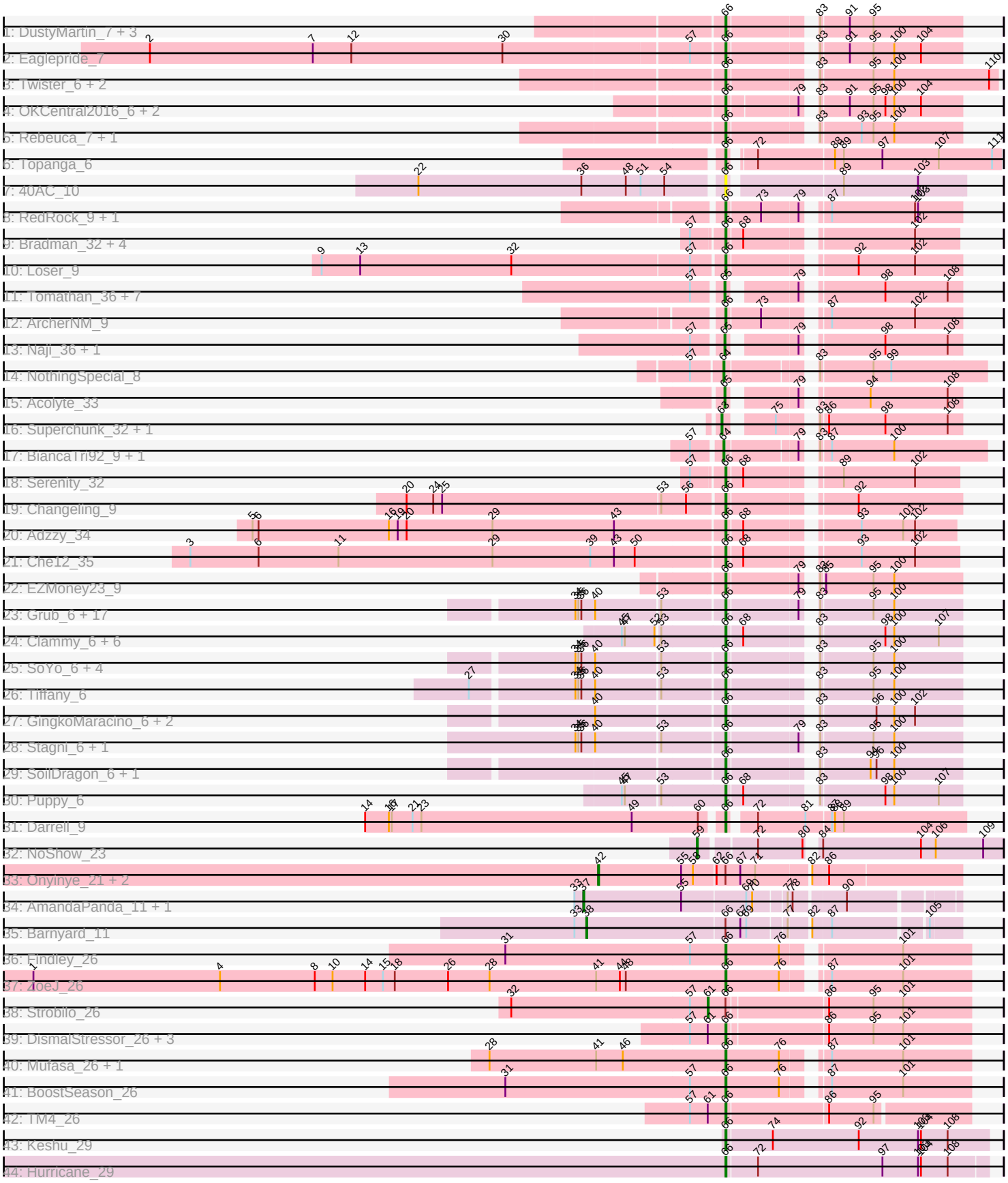
Pham 341978


1: DustyMartin_7 + 3
2: Eaglepride_7
3: Twister_6 + 2
4: OKCentral2016_6 + 2
5: Rebeuca_7 + 1
6: Topanga_6
7: 40AC_10
8: RedRock_9 + 1
9: Bradman_32 + 4
10: Loser_9
11: Tomathan_36 + 7
12: ArcherNM_9
13: Naji_36 + 1
14: NothingSpecial_8
15: Acolyte_33
16: Superchunk_32 + 1
17: BiancaTri92_9 + 1
18: Serenity_32
19: Changeling_9
20: Adzzy_34
21: Che12_35
22: EZMoney23_9
23: Grub_6 + 17
24: Clammy_6 + 6
25: SoYo_6 + 4
26: Tiffany_6
27: GingkoMaracino_6 + 2
28: Stagni_6 + 1
29: SoilDragon_6 + 1
30: Puppy_6
31: Darrell_9
32: NoShow_23
33: Onyinye_21 + 2
34: AmandaPanda_11 + 1
35: Barnyard_11
36: Findley_26
37: JoeJ_26
38: Strobilo_26
39: DismalStressor_26 + 3
40: Mufasa_26 + 1
41: BoostSeason_26
42: TM4_26
43: Keshu_29
44: Hurricane_29

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 341978 Report

This analysis was run 11/14/26 on database version 672.

Pham number 341978 has 105 members, 10 are drafts.

Phages represented in each track:
- Track 1 : DustyMartin_7, RhynO_6, Shapes_7, Rowdy_7
- Track 2 : Eaglepride_7
- Track 3 : Twister_6, Edison31_6, WalterMcMickey_6
- Track 4 : OKCentral2016_6, Goose_6, Chupacabra_6
- Track 5 : Rebeuca_7, Kristoff_7
- Track 6 : Topanga_6
- Track 7 : 40AC_10
- Track 8 : RedRock_9, AnnaL29_9
- Track 9 : Bradman_32, Jsquared_32, MajorMajor_32, Odin_32, Quokka_31
- Track 10 : Loser_9
- Track 11 : Tomathan_36, Duplo_36, DBQu4n_36, Kerberos_36, D32_36, Travvers_36, Pomar16_36, StarStuff_36
- Track 12 : ArcherNM_9
- Track 13 : Naji_36, D29_32.1
- Track 14 : NothingSpecial_8
- Track 15 : Acolyte_33
- Track 16 : Superchunk_32, Caraxes_32
- Track 17 : BiancaTri92_9, Leogania_9
- Track 18 : Serenity_32
- Track 19 : Changeling_9
- Track 20 : Adzzy_34
- Track 21 : Che12_35
- Track 22 : EZMoney23_9
- Track 23 : Grub_6, BreSam8_6, Sabia_6, Microwolf_6, Watson_6, Malinsilva_8, Lowa_6, Aglet_6, MuchMore_8, DaHudson_6, Lilith_6, PGHhamlin_8, AugsMagnumOpus_8, MadMarie_6, StepMih_6, Farber_6, Mainiac_6, Wooldri_8
- Track 24 : Clammy_6, SaturnRing_5, Giroux_6, Pistachio_6, Idleandcovert_5, BlueBird_6, Bugatti_6
- Track 25 : SoYo_6, Snickers_6, Dieselweasel_6, GtownJaz_6, MarQuardt_6
- Track 26 : Tiffany_6
- Track 27 : GingkoMaracino_6, Ollie_6, Anubis_8
- Track 28 : Stagni_6, Pembroke_6
- Track 29 : SoilDragon_6, Jobu08_6
- Track 30 : Puppy_6
- Track 31 : Darrell_9
- Track 32 : NoShow_23
- Track 33 : Onyinye_21, Leopard_20, Aikoy_20

• Track 34 : AmandaPanda_11, DrLupo_12
• Track 35 : Barnyard_11
• Track 36 : Findley_26
• Track 37 : ZoeJ_26
• Track 38 : Strobilo_26
• Track 39 : DismalStressor_26, DismalFunk_26, Marcoliusprime_26, Milly_26
• Track 40 : Mufasa_26, Doughnut_26
• Track 41 : BoostSeason_26
• Track 42 : TM4_26
• Track 43 : Keshu_29
• Track 44 : Hurricane_29

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

The start number called the most often in the published annotations is 66, it was called in 73 of the 95 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• 40AC_10, Adzzy_34, Aglet_6, AnnaL29_9, Anubis_8, ArcherNM_9, AugsMagnumOpus_8, BlueBird_6, BoostSeason_26, Bradman_32, BreSam8_6, Bugatti_6, Changeling_9, Che12_35, Chupacabra_6, Clammy_6, DaHudson_6, Darrell_9, Dieselweasel_6, DismalFunk_26, DismalStressor_26, Doughnut_26, DustyMartin_7, EZMoney23_9, Eaglepride_7, Edison31_6, Farber_6, Findley_26, GingkoMaracino_6, Giroux_6, Goose_6, Grub_6, GtownJaz_6, Hurricane_29, Idleandcovert_5, Jobu08_6, Jsquared_32, Keshu_29, Kristoff_7, Lilith_6, Loser_9, Lowa_6, MadMarie_6, Mainiac_6, MajorMajor_32, Malinsilva_8, MarQuardt_6, Marcoliusprime_26, Microwolf_6, Milly_26, MuchMore_8, Mufasa_26, OKCentral2016_6, Odin_32, Ollie_6, PGHhamlin_8, Pembroke_6, Pistachio_6, Puppy_6, Quokka_31, Rebeuca_7, RedRock_9, RhynO_6, Rowdy_7, Sabia_6, SaturnRing_5, Serenity_32, Shapes_7, Snickers_6, SoYo_6, SoilDragon_6, Stagni_6, StepMih_6, TM4_26, Tiffany_6, Topanga_6, Twister_6, WalterMcMickey_6, Watson_6, Wooldri_8, ZoeJ_26,

Genes that have the "Most Annotated" start but do not call it:
• Aikoy_20, Barnyard_11, Leopard_20, Onyinye_21, Strobilo_26,

Genes that do not have the "Most Annotated" start:
• Acolyte_33, AmandaPanda_11, BiancaTri92_9, Caraxes_32, D29_32.1, D32_36, DBQu4n_36, DrLupo_12, Duplo_36, Kerberos_36, Leogania_9, Naji_36, NoShow_23, NothingSpecial_8, Pomar16_36, StarStuff_36, Superchunk_32, Tomathan_36, Travvers_36,

Summary by start number:

Start 37:
• Found in 2 of 105 (1.9%) of genes in pham
• Manual Annotations of this start: 1 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AmandaPanda_11 (H2), DrLupo_12 (H2),

Start 38:
• Found in 1 of 105 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Barnyard_11 (H2),

Start 42:
• Found in 3 of 105 (2.9%) of genes in pham
• Manual Annotations of this start: 3 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aikoy_20 (AE), Leopard_20 (AE), Onyinye_21 (AE),

Start 59:
• Found in 1 of 105 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: NoShow_23 (AB),

Start 61:
• Found in 6 of 105 (5.7%) of genes in pham
• Manual Annotations of this start: 1 of 95
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Strobilo_26 (K2),

Start 63:
• Found in 2 of 105 (1.9%) of genes in pham
• Manual Annotations of this start: 2 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Caraxes_32 (A2), Superchunk_32 (A2),

Start 64:
• Found in 3 of 105 (2.9%) of genes in pham
• Manual Annotations of this start: 3 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BiancaTri92_9 (A2), Leogania_9 (A2), NothingSpecial_8 (A2),

Start 65:
• Found in 11 of 105 (10.5%) of genes in pham
• Manual Annotations of this start: 10 of 95
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Acolyte_33 (A2), D29_32.1 (A2), D32_36 (A2), DBQu4n_36 (A2), Duplo_36 (A2), Kerberos_36 (A2), Naji_36 (A2), Pomar16_36 (A2), StarStuff_36 (A2), Tomathan_36 (A2), Travvers_36 (A2),

Start 66:
• Found in 86 of 105 (81.9%) of genes in pham
• Manual Annotations of this start: 73 of 95
• Called 94.2% of time when present
• Phage (with cluster) where this start called: 40AC_10 (A17), Adzzy_34 (A2), Aglet_6 (A3), AnnaL29_9 (A2), Anubis_8 (A3), ArcherNM_9 (A2), AugsMagnumOpus_8 (A3),

BlueBird_6 (A3), BoostSeason_26 (K2), Bradman_32 (A2), BreSam8_6 (A3), Bugatti_6 (A3), Changeling_9 (A2), Che12_35 (A2), Chupacabra_6 (A10), Clammy_6 (A3), DaHudson_6 (A3), Darrell_9 (A9), Dieselweasel_6 (A3), DismalFunk_26 (K2), DismalStressor_26 (K2), Doughnut_26 (K2), DustyMartin_7 (A10), EZMoney23_9 (A2), Eaglepride_7 (A10), Edison31_6 (A10), Farber_6 (A3), Findley_26 (K2), GingkoMaracino_6 (A3), Giroux_6 (A3), Goose_6 (A10), Grub_6 (A3), GtownJaz_6 (A3), Hurricane_29 (K3), Idleandcovert_5 (A3), Jobu08_6 (A3), Jsquared_32 (A2), Keshu_29 (K3), Kristoff_7 (A10), Lilith_6 (A3), Loser_9 (A2), Lowa_6 (A3), MadMarie_6 (A3), Mainiac_6 (A3), MajorMajor_32 (A2), Malinsilva_8 (A3), MarQuardt_6 (A3), Marcoliusprime_26 (K2), Microwolf_6 (A3), Milly_26 (K2), MuchMore_8 (A3), Mufasa_26 (K2), OKCentral2016_6 (A10), Odin_32 (A2), Ollie_6 (A3), PGHhamlin_8 (A3), Pembroke_6 (A3), Pistachio_6 (A3), Puppy_6 (A3), Quokka_31 (A2), Rebeuca_7 (A10), RedRock_9 (A2), RhynO_6 (A10), Rowdy_7 (A10), Sabia_6 (A3), SaturnRing_5 (A3), Serenity_32 (A2), Shapes_7 (A10), Snickers_6 (A3), SoYo_6 (A3), SoilDragon_6 (A3), Stagni_6 (A3), StepMih_6 (A3), TM4_26 (K2), Tiffany_6 (A3), Topanga_6 (A10), Twister_6 (A10), WalterMcMickey_6 (A10), Watson_6 (A3), Wooldri_8 (A3), ZoeJ_26 (K2),

Summary by clusters:

There are 10 clusters represented in this pham: A17, AB, AE, A10, H2, K3, K2, A3, A2, A9,

Info for manual annotations of cluster A10:
•Start number 66 was manually annotated 11 times for cluster A10.

Info for manual annotations of cluster A2:
•Start number 63 was manually annotated 2 times for cluster A2.
•Start number 64 was manually annotated 3 times for cluster A2.
•Start number 65 was manually annotated 10 times for cluster A2.
•Start number 66 was manually annotated 11 times for cluster A2.

Info for manual annotations of cluster A3:
•Start number 66 was manually annotated 38 times for cluster A3.

Info for manual annotations of cluster A9:
•Start number 66 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster AB:
•Start number 59 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster AE:
•Start number 42 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster H2:
•Start number 37 was manually annotated 1 time for cluster H2.
•Start number 38 was manually annotated 1 time for cluster H2.

Info for manual annotations of cluster K2:
•Start number 61 was manually annotated 1 time for cluster K2.
•Start number 66 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:
•Start number 66 was manually annotated 2 times for cluster K3.

Gene Information:

Gene: 40AC_10 Start: 5981, Stop: 6208, Start Num: 66
Candidate Starts for 40AC_10:
(22, 5681), (36, 5846), (48, 5891), (51, 5906), (54, 5930), (Start: 66 @5981 has 73 MA's), (89, 6086), (103, 6161),

Gene: Acolyte_33 Start: 25715, Stop: 25918, Start Num: 65
Candidate Starts for Acolyte_33:
(Start: 65 @25715 has 10 MA's), (79, 25772), (94, 25826), (108, 25904),

Gene: Adzzy_34 Start: 23761, Stop: 23970, Start Num: 66
Candidate Starts for Adzzy_34:
(5, 23287), (6, 23293), (16, 23425), (19, 23434), (20, 23443), (29, 23530), (43, 23653), (Start: 66 @23761 has 73 MA's), (68, 23776), (93, 23875), (101, 23917), (102, 23929),

Gene: Aglet_6 Start: 3572, Stop: 3787, Start Num: 66
Candidate Starts for Aglet_6:
(34, 3431), (35, 3434), (36, 3437), (40, 3449), (53, 3512), (Start: 66 @3572 has 73 MA's), (79, 3641), (83, 3647), (95, 3698), (100, 3719),

Gene: Aikoy_20 Start: 13551, Stop: 13904, Start Num: 42
Candidate Starts for Aikoy_20:
(Start: 42 @13551 has 3 MA's), (55, 13635), (58, 13647), (62, 13668), (Start: 66 @13677 has 73 MA's), (67, 13692), (71, 13707), (82, 13758), (86, 13773),

Gene: AmandaPanda_11 Start: 6553, Stop: 6903, Start Num: 37
Candidate Starts for AmandaPanda_11:
(33, 6544), (Start: 37 @6553 has 1 MA's), (55, 6652), (69, 6715), (70, 6721), (77, 6751), (78, 6754), (90, 6802),

Gene: AnnaL29_9 Start: 5921, Stop: 6136, Start Num: 66
Candidate Starts for AnnaL29_9:
(Start: 66 @5921 has 73 MA's), (73, 5954), (79, 5990), (87, 6005), (102, 6089), (103, 6092),

Gene: Anubis_8 Start: 3482, Stop: 3697, Start Num: 66
Candidate Starts for Anubis_8:
(40, 3359), (Start: 66 @3482 has 73 MA's), (83, 3557), (96, 3611), (100, 3629), (102, 3650),

Gene: ArcherNM_9 Start: 5931, Stop: 6146, Start Num: 66
Candidate Starts for ArcherNM_9:
(Start: 66 @5931 has 73 MA's), (73, 5964), (87, 6015), (102, 6099),

Gene: AugsMagnumOpus_8 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for AugsMagnumOpus_8:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: Barnyard_11 Start: 6615, Stop: 6962, Start Num: 38
Candidate Starts for Barnyard_11:
(33, 6603), (Start: 38 @6615 has 1 MA's), (Start: 66 @6753 has 73 MA's), (67, 6768), (69, 6774), (77, 6810), (82, 6828), (87, 6846), (105, 6933),

Gene: BiancaTri92_9 Start: 5703, Stop: 5939, Start Num: 64
Candidate Starts for BiancaTri92_9:
(57, 5676), (Start: 64 @5703 has 3 MA's), (79, 5769), (83, 5775), (87, 5784), (100, 5847),

Gene: BlueBird_6 Start: 3497, Stop: 3712, Start Num: 66
Candidate Starts for BlueBird_6:
(45, 3398), (47, 3401), (52, 3431), (53, 3434), (Start: 66 @3497 has 73 MA's), (68, 3512), (83, 3572), (98, 3635), (100, 3644), (107, 3689),

Gene: BoostSeason_26 Start: 22348, Stop: 22575, Start Num: 66
Candidate Starts for BoostSeason_26:
(31, 22126), (57, 22312), (Start: 66 @22348 has 73 MA's), (76, 22402), (87, 22435), (101, 22507),

Gene: Bradman_32 Start: 24008, Stop: 24220, Start Num: 66
Candidate Starts for Bradman_32:
(57, 23978), (Start: 66 @24008 has 73 MA's), (68, 24023), (102, 24176),

Gene: BreSam8_6 Start: 3564, Stop: 3779, Start Num: 66
Candidate Starts for BreSam8_6:
(34, 3423), (35, 3426), (36, 3429), (40, 3441), (53, 3504), (Start: 66 @3564 has 73 MA's), (79, 3633), (83, 3639), (95, 3690), (100, 3711),

Gene: Bugatti_6 Start: 3497, Stop: 3712, Start Num: 66
Candidate Starts for Bugatti_6:
(45, 3398), (47, 3401), (52, 3431), (53, 3434), (Start: 66 @3497 has 73 MA's), (68, 3512), (83, 3572), (98, 3635), (100, 3644), (107, 3689),

Gene: Caraxes_32 Start: 23622, Stop: 23828, Start Num: 63
Candidate Starts for Caraxes_32:
(Start: 63 @23622 has 2 MA's), (75, 23661), (83, 23688), (86, 23694), (98, 23751), (108, 23814),

Gene: Changeling_9 Start: 5930, Stop: 6145, Start Num: 66
Candidate Starts for Changeling_9:
(20, 5618), (24, 5645), (25, 5654), (53, 5873), (56, 5897), (Start: 66 @5930 has 73 MA's), (92, 6041),

Gene: Che12_35 Start: 23997, Stop: 24209, Start Num: 66
Candidate Starts for Che12_35:
(3, 23460), (6, 23529), (11, 23610), (29, 23766), (39, 23865), (43, 23889), (50, 23910), (Start: 66 @23997 has 73 MA's), (68, 24012), (93, 24111), (102, 24165),

Gene: Chupacabra_6 Start: 3475, Stop: 3687, Start Num: 66
Candidate Starts for Chupacabra_6:
(Start: 66 @3475 has 73 MA's), (79, 3541), (83, 3547), (91, 3574), (95, 3598), (98, 3610), (100, 3619), (104, 3646),

Gene: Clammy_6 Start: 3497, Stop: 3712, Start Num: 66
Candidate Starts for Clammy_6:

(45, 3398), (47, 3401), (52, 3431), (53, 3434), (Start: 66 @3497 has 73 MA's), (68, 3512), (83, 3572), (98, 3635), (100, 3644), (107, 3689),

Gene: D29_32.1 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for D29_32.1:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: D32_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for D32_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: DBQu4n_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for DBQu4n_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: DaHudson_6 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for DaHudson_6:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: Darrell_9 Start: 5814, Stop: 6041, Start Num: 66
Candidate Starts for Darrell_9:
(14, 5460), (16, 5484), (17, 5487), (21, 5508), (23, 5517), (49, 5730), (60, 5796), (Start: 66 @5814 has 73 MA's), (72, 5835), (81, 5883), (87, 5907), (88, 5910), (89, 5919),

Gene: Dieselweasel_6 Start: 3572, Stop: 3787, Start Num: 66
Candidate Starts for Dieselweasel_6:
(34, 3431), (35, 3434), (36, 3437), (40, 3449), (53, 3512), (Start: 66 @3572 has 73 MA's), (83, 3647), (95, 3698), (100, 3719),

Gene: DismalFunk_26 Start: 22292, Stop: 22531, Start Num: 66
Candidate Starts for DismalFunk_26:
(57, 22256), (Start: 61 @22274 has 1 MA's), (Start: 66 @22292 has 73 MA's), (86, 22388), (95, 22433), (101, 22463),

Gene: DismalStressor_26 Start: 22292, Stop: 22531, Start Num: 66
Candidate Starts for DismalStressor_26:
(57, 22256), (Start: 61 @22274 has 1 MA's), (Start: 66 @22292 has 73 MA's), (86, 22388), (95, 22433), (101, 22463),

Gene: Doughnut_26 Start: 22341, Stop: 22568, Start Num: 66
Candidate Starts for Doughnut_26:
(28, 22104), (41, 22212), (46, 22239), (Start: 66 @22341 has 73 MA's), (76, 22395), (87, 22428), (101, 22500),

Gene: DrLupo_12 Start: 6553, Stop: 6903, Start Num: 37
Candidate Starts for DrLupo_12:
(33, 6544), (Start: 37 @6553 has 1 MA's), (55, 6652), (69, 6715), (70, 6721), (77, 6751), (78, 6754), (90, 6802),

Gene: Duplo_36 Start: 25130, Stop: 25333, Start Num: 65
Candidate Starts for Duplo_36:
(57, 25103), (Start: 65 @25130 has 10 MA's), (79, 25187), (98, 25256), (108, 25319),

Gene: DustyMartin_7 Start: 3411, Stop: 3626, Start Num: 66
Candidate Starts for DustyMartin_7:
(Start: 66 @3411 has 73 MA's), (83, 3486), (91, 3513), (95, 3537),

Gene: EZMoney23_9 Start: 6016, Stop: 6231, Start Num: 66
Candidate Starts for EZMoney23_9:
(Start: 66 @6016 has 73 MA's), (79, 6085), (83, 6091), (85, 6094), (95, 6142), (100, 6163),

Gene: Eaglepride_7 Start: 3472, Stop: 3687, Start Num: 66
Candidate Starts for Eaglepride_7:
(2, 2905), (7, 3070), (12, 3109), (30, 3262), (57, 3442), (Start: 66 @3472 has 73 MA's), (83, 3547), (91, 3574), (95, 3598), (100, 3619), (104, 3646),

Gene: Edison31_6 Start: 3495, Stop: 3746, Start Num: 66
Candidate Starts for Edison31_6:
(Start: 66 @3495 has 73 MA's), (83, 3570), (95, 3621), (100, 3642), (110, 3738),

Gene: Farber_6 Start: 3564, Stop: 3779, Start Num: 66
Candidate Starts for Farber_6:
(34, 3423), (35, 3426), (36, 3429), (40, 3441), (53, 3504), (Start: 66 @3564 has 73 MA's), (79, 3633), (83, 3639), (95, 3690), (100, 3711),

Gene: Findley_26 Start: 22322, Stop: 22549, Start Num: 66
Candidate Starts for Findley_26:
(31, 22100), (57, 22286), (Start: 66 @22322 has 73 MA's), (76, 22376), (101, 22481),

Gene: GingkoMaracino_6 Start: 3482, Stop: 3697, Start Num: 66
Candidate Starts for GingkoMaracino_6:
(40, 3359), (Start: 66 @3482 has 73 MA's), (83, 3557), (96, 3611), (100, 3629), (102, 3650),

Gene: Giroux_6 Start: 3497, Stop: 3712, Start Num: 66
Candidate Starts for Giroux_6:
(45, 3398), (47, 3401), (52, 3431), (53, 3434), (Start: 66 @3497 has 73 MA's), (68, 3512), (83, 3572), (98, 3635), (100, 3644), (107, 3689),

Gene: Goose_6 Start: 3477, Stop: 3689, Start Num: 66
Candidate Starts for Goose_6:
(Start: 66 @3477 has 73 MA's), (79, 3543), (83, 3549), (91, 3576), (95, 3600), (98, 3612), (100, 3621), (104, 3648),

Gene: Grub_6 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for Grub_6:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: GtownJaz_6 Start: 3572, Stop: 3787, Start Num: 66
Candidate Starts for GtownJaz_6:
(34, 3431), (35, 3434), (36, 3437), (40, 3449), (53, 3512), (Start: 66 @3572 has 73 MA's), (83, 3647), (95, 3698), (100, 3719),

Gene: Hurricane_29 Start: 24989, Stop: 25249, Start Num: 66
Candidate Starts for Hurricane_29:

(Start: 66 @24989 has 73 MA's), (72, 25019), (97, 25145), (103, 25181), (104, 25184), (108, 25211),

Gene: Idleandcovert_5 Start: 3497, Stop: 3712, Start Num: 66
Candidate Starts for Idleandcovert_5:
(45, 3398), (47, 3401), (52, 3431), (53, 3434), (Start: 66 @3497 has 73 MA's), (68, 3512), (83, 3572), (98, 3635), (100, 3644), (107, 3689),

Gene: Jobu08_6 Start: 3635, Stop: 3850, Start Num: 66
Candidate Starts for Jobu08_6:
(Start: 66 @3635 has 73 MA's), (83, 3710), (94, 3758), (96, 3764), (100, 3782),

Gene: Jsquared_32 Start: 24081, Stop: 24293, Start Num: 66
Candidate Starts for Jsquared_32:
(57, 24051), (Start: 66 @24081 has 73 MA's), (68, 24096), (102, 24249),

Gene: Kerberos_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for Kerberos_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: Keshu_29 Start: 24981, Stop: 25244, Start Num: 66
Candidate Starts for Keshu_29:
(Start: 66 @24981 has 73 MA's), (74, 25026), (92, 25113), (103, 25173), (104, 25176), (108, 25203),

Gene: Kristoff_7 Start: 3660, Stop: 3875, Start Num: 66
Candidate Starts for Kristoff_7:
(Start: 66 @3660 has 73 MA's), (83, 3735), (93, 3774), (95, 3786), (100, 3807),

Gene: Leogania_9 Start: 6060, Stop: 6296, Start Num: 64
Candidate Starts for Leogania_9:
(57, 6033), (Start: 64 @6060 has 3 MA's), (79, 6126), (83, 6132), (87, 6141), (100, 6204),

Gene: Leopard_20 Start: 13836, Stop: 14189, Start Num: 42
Candidate Starts for Leopard_20:
(Start: 42 @13836 has 3 MA's), (55, 13920), (58, 13932), (62, 13953), (Start: 66 @13962 has 73 MA's), (67, 13977), (71, 13992), (82, 14043), (86, 14058),

Gene: Lilith_6 Start: 3564, Stop: 3779, Start Num: 66
Candidate Starts for Lilith_6:
(34, 3423), (35, 3426), (36, 3429), (40, 3441), (53, 3504), (Start: 66 @3564 has 73 MA's), (79, 3633), (83, 3639), (95, 3690), (100, 3711),

Gene: Loser_9 Start: 5909, Stop: 6124, Start Num: 66
Candidate Starts for Loser_9:
(9, 5510), (13, 5549), (32, 5702), (57, 5879), (Start: 66 @5909 has 73 MA's), (92, 6020), (102, 6077),

Gene: Lowa_6 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for Lowa_6:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: MadMarie_6 Start: 3573, Stop: 3788, Start Num: 66
Candidate Starts for MadMarie_6:

(34, 3432), (35, 3435), (36, 3438), (40, 3450), (53, 3513), (Start: 66 @3573 has 73 MA's), (79, 3642), (83, 3648), (95, 3699), (100, 3720),

Gene: Mainiac_6 Start: 3564, Stop: 3779, Start Num: 66
Candidate Starts for Mainiac_6:
(34, 3423), (35, 3426), (36, 3429), (40, 3441), (53, 3504), (Start: 66 @3564 has 73 MA's), (79, 3633), (83, 3639), (95, 3690), (100, 3711),

Gene: MajorMajor_32 Start: 24008, Stop: 24220, Start Num: 66
Candidate Starts for MajorMajor_32:
(57, 23978), (Start: 66 @24008 has 73 MA's), (68, 24023), (102, 24176),

Gene: Malinsilva_8 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for Malinsilva_8:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: MarQuardt_6 Start: 3572, Stop: 3787, Start Num: 66
Candidate Starts for MarQuardt_6:
(34, 3431), (35, 3434), (36, 3437), (40, 3449), (53, 3512), (Start: 66 @3572 has 73 MA's), (83, 3647), (95, 3698), (100, 3719),

Gene: Marcoliusprime_26 Start: 22292, Stop: 22531, Start Num: 66
Candidate Starts for Marcoliusprime_26:
(57, 22256), (Start: 61 @22274 has 1 MA's), (Start: 66 @22292 has 73 MA's), (86, 22388), (95, 22433), (101, 22463),

Gene: Microwolf_6 Start: 3572, Stop: 3787, Start Num: 66
Candidate Starts for Microwolf_6:
(34, 3431), (35, 3434), (36, 3437), (40, 3449), (53, 3512), (Start: 66 @3572 has 73 MA's), (79, 3641), (83, 3647), (95, 3698), (100, 3719),

Gene: Milly_26 Start: 22292, Stop: 22531, Start Num: 66
Candidate Starts for Milly_26:
(57, 22256), (Start: 61 @22274 has 1 MA's), (Start: 66 @22292 has 73 MA's), (86, 22388), (95, 22433), (101, 22463),

Gene: MuchMore_8 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for MuchMore_8:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: Mufasa_26 Start: 22341, Stop: 22568, Start Num: 66
Candidate Starts for Mufasa_26:
(28, 22104), (41, 22212), (46, 22239), (Start: 66 @22341 has 73 MA's), (76, 22395), (87, 22428), (101, 22500),

Gene: Naji_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for Naji_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: NoShow_23 Start: 22273, Stop: 22557, Start Num: 59
Candidate Starts for NoShow_23:

(Start: 59 @22273 has 1 MA's), (72, 22324), (80, 22369), (84, 22375), (104, 22474), (106, 22489), (109, 22537),

Gene: NothingSpecial_8 Start: 5862, Stop: 6098, Start Num: 64
Candidate Starts for NothingSpecial_8:
(57, 5832), (Start: 64 @5862 has 3 MA's), (83, 5934), (95, 5985), (99, 6003),

Gene: OKCentral2016_6 Start: 3176, Stop: 3388, Start Num: 66
Candidate Starts for OKCentral2016_6:
(Start: 66 @3176 has 73 MA's), (79, 3242), (83, 3248), (91, 3275), (95, 3299), (98, 3311), (100, 3320), (104, 3347),

Gene: Odin_32 Start: 23810, Stop: 24019, Start Num: 66
Candidate Starts for Odin_32:
(57, 23780), (Start: 66 @23810 has 73 MA's), (68, 23825), (102, 23978),

Gene: Ollie_6 Start: 3482, Stop: 3697, Start Num: 66
Candidate Starts for Ollie_6:
(40, 3359), (Start: 66 @3482 has 73 MA's), (83, 3557), (96, 3611), (100, 3629), (102, 3650),

Gene: Onyinye_21 Start: 13717, Stop: 14070, Start Num: 42
Candidate Starts for Onyinye_21:
(Start: 42 @13717 has 3 MA's), (55, 13801), (58, 13813), (62, 13834), (Start: 66 @13843 has 73 MA's), (67, 13858), (71, 13873), (82, 13924), (86, 13939),

Gene: PGHhamlin_8 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for PGHhamlin_8:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: Pembroke_6 Start: 3572, Stop: 3787, Start Num: 66
Candidate Starts for Pembroke_6:
(34, 3431), (35, 3434), (36, 3437), (40, 3449), (53, 3512), (Start: 66 @3572 has 73 MA's), (79, 3641), (83, 3647), (95, 3698), (100, 3719),

Gene: Pistachio_6 Start: 3044, Stop: 3259, Start Num: 66
Candidate Starts for Pistachio_6:
(45, 2945), (47, 2948), (52, 2978), (53, 2981), (Start: 66 @3044 has 73 MA's), (68, 3059), (83, 3119), (98, 3182), (100, 3191), (107, 3236),

Gene: Pomar16_36 Start: 25133, Stop: 25336, Start Num: 65
Candidate Starts for Pomar16_36:
(57, 25106), (Start: 65 @25133 has 10 MA's), (79, 25190), (98, 25259), (108, 25322),

Gene: Puppy_6 Start: 3116, Stop: 3331, Start Num: 66
Candidate Starts for Puppy_6:
(45, 3017), (47, 3020), (53, 3053), (Start: 66 @3116 has 73 MA's), (68, 3131), (83, 3191), (98, 3254), (100, 3263), (107, 3308),

Gene: Quokka_31 Start: 24008, Stop: 24220, Start Num: 66
Candidate Starts for Quokka_31:
(57, 23978), (Start: 66 @24008 has 73 MA's), (68, 24023), (102, 24176),

Gene: Rebeuca_7 Start: 3661, Stop: 3876, Start Num: 66
Candidate Starts for Rebeuca_7:
(Start: 66 @3661 has 73 MA's), (83, 3736), (93, 3775), (95, 3787), (100, 3808),

Gene: RedRock_9 Start: 5992, Stop: 6207, Start Num: 66
Candidate Starts for RedRock_9:
(Start: 66 @5992 has 73 MA's), (73, 6025), (79, 6061), (87, 6076), (102, 6160), (103, 6163),

Gene: RhynO_6 Start: 3500, Stop: 3715, Start Num: 66
Candidate Starts for RhynO_6:
(Start: 66 @3500 has 73 MA's), (83, 3575), (91, 3602), (95, 3626),

Gene: Rowdy_7 Start: 3411, Stop: 3626, Start Num: 66
Candidate Starts for Rowdy_7:
(Start: 66 @3411 has 73 MA's), (83, 3486), (91, 3513), (95, 3537),

Gene: Sabia_6 Start: 3564, Stop: 3779, Start Num: 66
Candidate Starts for Sabia_6:
(34, 3423), (35, 3426), (36, 3429), (40, 3441), (53, 3504), (Start: 66 @3564 has 73 MA's), (79, 3633), (83, 3639), (95, 3690), (100, 3711),

Gene: SaturnRing_5 Start: 3497, Stop: 3712, Start Num: 66
Candidate Starts for SaturnRing_5:
(45, 3398), (47, 3401), (52, 3431), (53, 3434), (Start: 66 @3497 has 73 MA's), (68, 3512), (83, 3572), (98, 3635), (100, 3644), (107, 3689),

Gene: Serenity_32 Start: 24133, Stop: 24345, Start Num: 66
Candidate Starts for Serenity_32:
(57, 24103), (Start: 66 @24133 has 73 MA's), (68, 24148), (89, 24229), (102, 24301),

Gene: Shapes_7 Start: 3411, Stop: 3626, Start Num: 66
Candidate Starts for Shapes_7:
(Start: 66 @3411 has 73 MA's), (83, 3486), (91, 3513), (95, 3537),

Gene: Snickers_6 Start: 3545, Stop: 3760, Start Num: 66
Candidate Starts for Snickers_6:
(34, 3404), (35, 3407), (36, 3410), (40, 3422), (53, 3485), (Start: 66 @3545 has 73 MA's), (83, 3620), (95, 3671), (100, 3692),

Gene: SoYo_6 Start: 3482, Stop: 3697, Start Num: 66
Candidate Starts for SoYo_6:
(34, 3341), (35, 3344), (36, 3347), (40, 3359), (53, 3422), (Start: 66 @3482 has 73 MA's), (83, 3557), (95, 3608), (100, 3629),

Gene: SoilDragon_6 Start: 3245, Stop: 3460, Start Num: 66
Candidate Starts for SoilDragon_6:
(Start: 66 @3245 has 73 MA's), (83, 3320), (94, 3368), (96, 3374), (100, 3392),

Gene: Stagni_6 Start: 3573, Stop: 3788, Start Num: 66
Candidate Starts for Stagni_6:
(34, 3432), (35, 3435), (36, 3438), (40, 3450), (53, 3513), (Start: 66 @3573 has 73 MA's), (79, 3642), (83, 3648), (95, 3699), (100, 3720),

Gene: StarStuff_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for StarStuff_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: StepMih_6 Start: 3564, Stop: 3779, Start Num: 66
Candidate Starts for StepMih_6:
(34, 3423), (35, 3426), (36, 3429), (40, 3441), (53, 3504), (Start: 66 @3564 has 73 MA's), (79, 3633), (83, 3639), (95, 3690), (100, 3711),

Gene: Strobilo_26 Start: 22274, Stop: 22531, Start Num: 61
Candidate Starts for Strobilo_26:
(32, 22076), (57, 22256), (Start: 61 @22274 has 1 MA's), (Start: 66 @22292 has 73 MA's), (86, 22388), (95, 22433), (101, 22463),

Gene: Superchunk_32 Start: 23622, Stop: 23828, Start Num: 63
Candidate Starts for Superchunk_32:
(Start: 63 @23622 has 2 MA's), (75, 23661), (83, 23688), (86, 23694), (98, 23751), (108, 23814),

Gene: TM4_26 Start: 22441, Stop: 22677, Start Num: 66
Candidate Starts for TM4_26:
(57, 22405), (Start: 61 @22423 has 1 MA's), (Start: 66 @22441 has 73 MA's), (86, 22540), (95, 22585),

Gene: Tiffany_6 Start: 3465, Stop: 3680, Start Num: 66
Candidate Starts for Tiffany_6:
(27, 3225), (34, 3324), (35, 3327), (36, 3330), (40, 3342), (53, 3405), (Start: 66 @3465 has 73 MA's), (83, 3540), (95, 3591), (100, 3612),

Gene: Tomathan_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for Tomathan_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: Topanga_6 Start: 3588, Stop: 3848, Start Num: 66
Candidate Starts for Topanga_6:
(Start: 66 @3588 has 73 MA's), (72, 3606), (88, 3681), (89, 3690), (97, 3729), (107, 3786), (111, 3840),

Gene: Travvers_36 Start: 25092, Stop: 25295, Start Num: 65
Candidate Starts for Travvers_36:
(57, 25065), (Start: 65 @25092 has 10 MA's), (79, 25149), (98, 25218), (108, 25281),

Gene: Twister_6 Start: 3496, Stop: 3747, Start Num: 66
Candidate Starts for Twister_6:
(Start: 66 @3496 has 73 MA's), (83, 3571), (95, 3622), (100, 3643), (110, 3739),

Gene: WalterMcMickey_6 Start: 3496, Stop: 3747, Start Num: 66
Candidate Starts for WalterMcMickey_6:
(Start: 66 @3496 has 73 MA's), (83, 3571), (95, 3622), (100, 3643), (110, 3739),

Gene: Watson_6 Start: 3563, Stop: 3778, Start Num: 66
Candidate Starts for Watson_6:
(34, 3422), (35, 3425), (36, 3428), (40, 3440), (53, 3503), (Start: 66 @3563 has 73 MA's), (79, 3632), (83, 3638), (95, 3689), (100, 3710),

Gene: Wooldri_8 Start: 3482, Stop: 3697, Start Num: 66

Candidate Starts for Wooldri_8:
(34, 3341), (35, 3344), (36, 3347), (40, 3359), (53, 3422), (Start: 66 @3482 has 73 MA's), (79, 3551), (83, 3557), (95, 3608), (100, 3629),

Gene: ZoeJ_26 Start: 22259, Stop: 22486, Start Num: 66
Candidate Starts for ZoeJ_26:
(1, 21560), (4, 21749), (8, 21845), (10, 21863), (14, 21896), (15, 21914), (18, 21926), (26, 21980), (28, 22022), (41, 22130), (44, 22154), (48, 22160), (Start: 66 @22259 has 73 MA's), (76, 22313), (87, 22346), (101, 22418),