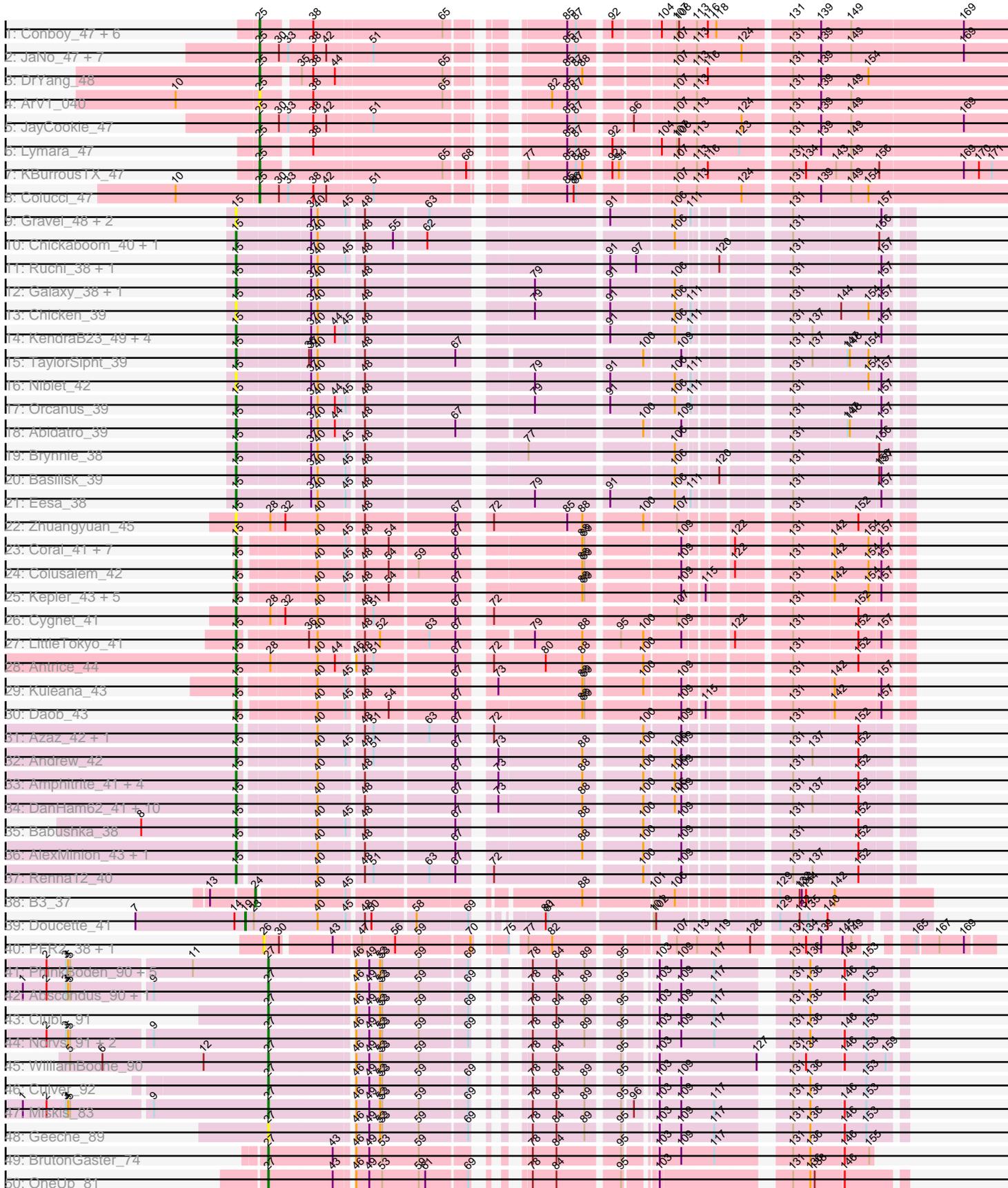# Pham 283599

# Pham 283599

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 283599 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283599 has 129 members, 35 are drafts.

Phages represented in each track:
• Track 1 : Conboy_47, Chocolat_47, Chubster_47, EdgarPoe_47, PrincessTrina_47, MoyaNatalis_47, Linus_47
• Track 2 : JaNo_47, Mordred_47, Chipper1996_470, Tophat_47, Scavito_47, Kabreeze_47, HumptyDumpty_47, RosiePosie_47
• Track 3 : DrYang_48
• Track 4 : ArV1_040
• Track 5 : JayCookie_47
• Track 6 : Lymara_47
• Track 7 : KBurrousTX_47
• Track 8 : Colucci_47
• Track 9 : Gravel_48, Pelletreau_48, Westrich_47
• Track 10 : Chickaboom_40, WileyE_44
• Track 11 : Ruchi_38, Vulpecula_38
• Track 12 : Galaxy_38, Jamun_38
• Track 13 : Chicken_39
• Track 14 : KendraB23_49, Zixiang_42, Amanises_48, Shen_38, Toad24_41
• Track 15 : TaylorSipht_39
• Track 16 : Niblet_42
• Track 17 : Orcanus_39
• Track 18 : Abidatro_39
• Track 19 : Brynnie_38
• Track 20 : Basilisk_39
• Track 21 : Eesa_38
• Track 22 : Zhuangyuan_45
• Track 23 : Coral_41, Bedetta_46, HannahPhantana_42, Jerole_42, Pineda_44, Amelia_41, Bibble12_45, Cote_43
• Track 24 : Colusalem_42
• Track 25 : Kepler_43, OtsoOtso_42, Melons_43, Lunar_43, PhirstandPhine_50, Polka_41
• Track 26 : Cygnet_41
• Track 27 : LittleTokyo_41
• Track 28 : Antrice_44
• Track 29 : Kuleana_43
• Track 30 : Daob_43
• Track 31 : Azaz_42, Leona_40
• Track 32 : Andrew_42

- Track 33 : Amphitrite_41, AdoptaAdorbs_40, Camara_41, Glotell_42, KHumphrey_41
- Track 34 : DanHam62_41, AmiCi24_40, RedFox_41, Fingolfin_41, Juno112_40, Atlantica_41, Rattail_41, Oppalora_40, PhluffyCoco_41, HamCheese_41, Laphuphu24k_40
- Track 35 : Babushka_38
- Track 36 : AlexMinion_43, StuartMinion_33
- Track 37 : Renna12_40
- Track 38 : B3_37
- Track 39 : Doucette_41
- Track 40 : PFR2_38, PFR1_36
- Track 41 : PhinkBoden_90, Cucurbita_92, Lozinak_91, Bachita_93, Engineer_92, Smoothie_92
- Track 42 : Abscondus_90, Dusty_88
- Track 43 : ClubL_91
- Track 44 : Norvs_91, Toniann_91, Aphelion_90
- Track 45 : WilliamBoone_90
- Track 46 : Culver_92
- Track 47 : Miskis_83
- Track 48 : Geeche_89
- Track 49 : BrutonGaster_74
- Track 50 : OneUp_81
- Track 51 : Cardigan_110
- Track 52 : Yvonnetastic_106
- Track 53 : JonJames_109
- Track 54 : SpeedDemon_950
- Track 55 : Towmatter_83
- Track 56 : DatBoi_90
- Track 57 : Mollymur_94
- Track 58 : Daredevil_84
- Track 59 : Bantam_94
- Track 60 : ObLaDi_40
- Track 61 : Aleemily_39, Cafasso_40, ModicumRichard_40
- Track 62 : Morgana_40
- Track 63 : AirForce1_41
- Track 64 : JrWilcox_100
- Track 65 : ValentiniPuff_98
- Track 66 : Colossa_38
- Track 67 : VanLee_37
- Track 68 : Bubbykins_55

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

The start number called the most often in the published annotations is 15, it was called in 42 of the 94 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Abidatro_39, AdoptaAdorbs_40, AlexMinion_43, Amanises_48, Amelia_41, AmiCi24_40, Amphitrite_41, Andrew_42, Antrice_44, Atlantica_41, Azaz_42, Babushka_38, Basilisk_39, Bedetta_46, Bibble12_45, Brynnie_38, Camara_41,

Chickaboom_40, Chicken_39, Colusalem_42, Coral_41, Cote_43, Cygnet_41, DanHam62_41, Daob_43, Eesa_38, Fingolfin_41, Galaxy_38, Glotell_42, Gravel_48, HamCheese_41, HannahPhantana_42, Jamun_38, Jerole_42, Juno112_40, KHumphrey_41, KendraB23_49, Kepler_43, Kuleana_43, Laphuphu24k_40, Leona_40, LittleTokyo_41, Lunar_43, Melons_43, Niblet_42, Oppalora_40, Orcanus_39, OtsoOtso_42, Pelletreau_48, PhirstandPhine_50, PhluffyCoco_41, Pineda_44, Polka_41, Rattail_41, RedFox_41, Renna12_40, Ruchi_38, Shen_38, StuartMinion_33, TaylorSipht_39, Toad24_41, Vulpecula_38, Westrich_47, WileyE_44, Zhuangyuan_45, Zixiang_42,

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

Genes that do not have the "Most Annotated" start:
• Abscondus_90, AirForce1_41, Aleemily_39, Aphelion_90, ArV1_040, B3_37, Bachita_93, Bantam_94, BrutonGaster_74, Bubbykins_55, Cafasso_40, Cardigan_110, Chipper1996_470, Chocolat_47, Chubster_47, ClubL_91, Colossa_38, Colucci_47, Conboy_47, Cucurbita_92, Culver_92, Daredevil_84, DatBoi_90, Doucette_41, DrYang_48, Dusty_88, EdgarPoe_47, Engineer_92, Geeche_89, HumptyDumpty_47, JaNo_47, JayCookie_47, JonJames_109, JrWilcox_100, KBurrousTX_47, Kabreeze_47, Linus_47, Lozinak_91, Lymara_47, Miskis_83, ModicumRichard_40, Mollymur_94, Mordred_47, Morgana_40, MoyaNatalis_47, Norvs_91, ObLaDi_40, OneUp_81, PFR1_36, PFR2_38, PhinkBoden_90, PrincessTrina_47, RosiePosie_47, Scavito_47, Smoothie_92, SpeedDemon_950, Toniann_91, Tophat_47, Towmatter_83, ValentiniPuff_98, VanLee_37, WilliamBoone_90, Yvonnetastic_106,

**Summary by start number:**

Start 15:
• Found in 66 of 129 ( 51.2% ) of genes in pham
• Manual Annotations of this start: 42 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abidatro_39 (AS1), AdoptaAdorbs_40 (AS3), AlexMinion_43 (AS3), Amanises_48 (AS1), Amelia_41 (AS2), AmiCi24_40 (AS3), Amphitrite_41 (AS3), Andrew_42 (AS3), Antrice_44 (AS2), Atlantica_41 (AS3), Azaz_42 (AS3), Babushka_38 (AS3), Basilisk_39 (AS1), Bedetta_46 (AS2), Bibble12_45 (AS2), Brynnie_38 (AS1), Camara_41 (AS3), Chickaboom_40 (AS1), Chicken_39 (AS1), Colusalem_42 (AS2), Coral_41 (AS2), Cote_43 (AS2), Cygnet_41 (AS2), DanHam62_41 (AS3), Daob_43 (AS2), Eesa_38 (AS1), Fingolfin_41 (AS3), Galaxy_38 (AS1), Glotell_42 (AS3), Gravel_48 (AS1), HamCheese_41 (AS3), HannahPhantana_42 (AS2), Jamun_38 (AS1), Jerole_42 (AS2), Juno112_40 (AS3), KHumphrey_41 (AS3), KendraB23_49 (AS1), Kepler_43 (AS2), Kuleana_43 (AS2), Laphuphu24k_40 (AS3), Leona_40 (AS3), LittleTokyo_41 (AS2), Lunar_43 (AS2), Melons_43 (AS2), Niblet_42 (AS1), Oppalora_40 (AS3), Orcanus_39 (AS1), OtsoOtso_42 (AS2), Pelletreau_48 (AS1), PhirstandPhine_50 (AS2), PhluffyCoco_41 (AS3), Pineda_44 (AS2), Polka_41 (AS2), Rattail_41 (AS3), RedFox_41 (AS3), Renna12_40 (AS3), Ruchi_38 (AS1), Shen_38 (AS1), StuartMinion_33 (AS3), TaylorSipht_39 (AS1), Toad24_41 (AS1), Vulpecula_38 (AS1), Westrich_47 (AS1), WileyE_44 (AS1), Zhuangyuan_45 (AS2), Zixiang_42 (AS1),

Start 16:
• Found in 1 of 129 ( 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: Colossa_38 (KA),

Start 18:
• Found in 6 of 129 ( 4.7% ) of genes in pham
• Manual Annotations of this start: 6 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bantam_94 (DL), Daredevil_84 (DL), DatBoi_90 (DL), Mollymur_94 (DL), SpeedDemon_950 (DL), Towmatter_83 (DL),

Start 19:
• Found in 1 of 129 ( 0.8% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Doucette_41 (BW),

Start 20:
• Found in 5 of 129 ( 3.9% ) of genes in pham
• Manual Annotations of this start: 4 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aleemily_39 (DZ), Cafasso_40 (DZ), ModicumRichard_40 (DZ), Morgana_40 (DZ), ObLaDi_40 (DZ),

Start 21:
• Found in 2 of 129 ( 1.6% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: JrWilcox_100 (GL), ValentiniPuff_98 (GL),

Start 22:
• Found in 2 of 129 ( 1.6% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bubbykins_55 (UNK), VanLee_37 (KA),

Start 24:
• Found in 3 of 129 ( 2.3% ) of genes in pham
• Manual Annotations of this start: 1 of 94
• Called 33.3% of time when present
• Phage (with cluster) where this start called: B3_37 (BV),

Start 25:
• Found in 21 of 129 ( 16.3% ) of genes in pham
• Manual Annotations of this start: 19 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArV1_040 (AR), Chipper1996_470 (AR), Chocolat_47 (AR), Chubster_47 (AR), Colucci_47 (AR), Conboy_47 (AR), DrYang_48 (AR), EdgarPoe_47 (AR), HumptyDumpty_47 (AR), JaNo_47 (AR), JayCookie_47 (AR), KBurrousTX_47 (AR), Kabreeze_47 (AR), Linus_47 (AR), Lymara_47 (AR), Mordred_47 (AR), MoyaNatalis_47 (AR), PrincessTrina_47 (AR), RosiePosie_47 (AR), Scavito_47 (AR), Tophat_47 (AR),

Start 26:
• Found in 2 of 129 ( 1.6% ) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: PFR1_36 (BX), PFR2_38 (BX),

Start 27:
• Found in 21 of 129 ( 16.3% ) of genes in pham
• Manual Annotations of this start: 19 of 94
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abscondus_90 (CQ1), Aphelion_90 (CQ1), Bachita_93 (CQ1), BrutonGaster_74 (CQ2), Cardigan_110 (DD), ClubL_91 (CQ1), Cucurbita_92 (CQ1), Culver_92 (CQ1), Dusty_88 (CQ1), Engineer_92 (CQ1), Geeche_89 (CQ1), JonJames_109 (DD), Lozinak_91 (CQ1), Miskis_83 (CQ1), Norvs_91 (CQ1), OneUp_81 (CQ2), PhinkBoden_90 (CQ1), Smoothie_92 (CQ1), Toniann_91 (CQ1), WilliamBoone_90 (CQ1), Yvonnetastic_106 (DD),

Start 29:
• Found in 1 of 129 ( 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: AirForce1_41 (FL),

**Summary by clusters:**

There are 16 clusters represented in this pham: AS3, AS2, AS1, UNK, BX, DD, DL, BW, BV, AR, DZ, CQ2, CQ1, GL, FL, KA,

Info for manual annotations of cluster AR:
•Start number 25 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster AS1:
•Start number 15 was manually annotated 12 times for cluster AS1.

Info for manual annotations of cluster AS2:
•Start number 15 was manually annotated 16 times for cluster AS2.

Info for manual annotations of cluster AS3:
•Start number 15 was manually annotated 14 times for cluster AS3.

Info for manual annotations of cluster BV:
•Start number 24 was manually annotated 1 time for cluster BV.

Info for manual annotations of cluster BW:
•Start number 19 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CQ1:
•Start number 27 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:
•Start number 27 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DD:
•Start number 27 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:
•Start number 18 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DZ:
•Start number 20 was manually annotated 4 times for cluster DZ.


Info for manual annotations of cluster GL:
•Start number 21 was manually annotated 1 time for cluster GL.

Info for manual annotations of cluster KA:
•Start number 22 was manually annotated 1 time for cluster KA.


## *Gene Information:*

Gene: Abidatro_39 Start: 26326, Stop: 27126, Start Num: 15
Candidate Starts for Abidatro_39:
(Start: 15 @26326 has 42 MA's), (37, 26422), (40, 26431), (44, 26455), (48, 26485), (67, 26602), (100, 26815), (109, 26860), (131, 26980), (147, 27052), (148, 27055), (157, 27094),

Gene: Abscondus_90 Start: 55792, Stop: 56517, Start Num: 27
Candidate Starts for Abscondus_90:
(1, 55459), (2, 55492), (3, 55519), (4, 55522), (5, 55525), (9, 55633), (Start: 27 @55792 has 19 MA's), (46, 55900), (49, 55918), (52, 55933), (53, 55936), (59, 55987), (69, 56050), (78, 56077), (84, 56110), (89, 56149), (95, 56188), (103, 56218), (109, 56245), (117, 56290), (131, 56371), (136, 56395), (146, 56440), (153, 56470),

Gene: AdoptaAdorbs_40 Start: 26015, Stop: 26812, Start Num: 15
Candidate Starts for AdoptaAdorbs_40:
(Start: 15 @26015 has 42 MA's), (40, 26111), (48, 26165), (67, 26282), (73, 26318), (88, 26429), (100, 26501), (106, 26537), (109, 26546), (131, 26666), (152, 26753),

Gene: AirForce1_41 Start: 31193, Stop: 32080, Start Num: 29
Candidate Starts for AirForce1_41:
(29, 31193), (66, 31409), (83, 31502), (85, 31520), (86, 31529), (89, 31544), (92, 31571), (113, 31661), (131, 31781), (151, 31871),

Gene: Aleemily_39 Start: 32837, Stop: 33721, Start Num: 20
Candidate Starts for Aleemily_39:
(Start: 20 @32837 has 4 MA's), (34, 32909), (39, 32927), (41, 32939), (45, 32966), (48, 32984), (62, 33071), (83, 33236), (108, 33368), (113, 33392), (118, 33419), (121, 33425), (130, 33506), (131, 33512), (139, 33551), (164, 33653),

Gene: AlexMinion_43 Start: 26181, Stop: 26978, Start Num: 15
Candidate Starts for AlexMinion_43:

(Start: 15 @26181 has 42 MA's), (40, 26277), (48, 26331), (67, 26448), (88, 26595), (100, 26667), (109, 26712), (131, 26832), (152, 26919),

Gene: Amanises_48 Start: 27385, Stop: 28191, Start Num: 15
Candidate Starts for Amanises_48:
(Start: 15 @27385 has 42 MA's), (37, 27481), (40, 27490), (44, 27514), (45, 27526), (48, 27544), (91, 27838), (106, 27919), (111, 27937), (131, 28045), (137, 28072), (157, 28159),

Gene: Amelia_41 Start: 26090, Stop: 26884, Start Num: 15
Candidate Starts for Amelia_41:
(Start: 15 @26090 has 42 MA's), (40, 26183), (45, 26219), (48, 26237), (54, 26270), (67, 26354), (88, 26501), (89, 26504), (109, 26618), (122, 26672), (131, 26738), (142, 26792), (154, 26837), (157, 26852),

Gene: AmiCi24_40 Start: 26013, Stop: 26810, Start Num: 15
Candidate Starts for AmiCi24_40:
(Start: 15 @26013 has 42 MA's), (40, 26109), (48, 26163), (67, 26280), (73, 26316), (88, 26427), (100, 26499), (106, 26535), (109, 26544), (131, 26664), (137, 26691), (152, 26751),

Gene: Amphitrite_41 Start: 26014, Stop: 26811, Start Num: 15
Candidate Starts for Amphitrite_41:
(Start: 15 @26014 has 42 MA's), (40, 26110), (48, 26164), (67, 26281), (73, 26317), (88, 26428), (100, 26500), (106, 26536), (109, 26545), (131, 26665), (152, 26752),

Gene: Andrew_42 Start: 25907, Stop: 26704, Start Num: 15
Candidate Starts for Andrew_42:
(Start: 15 @25907 has 42 MA's), (40, 26003), (45, 26039), (48, 26057), (51, 26069), (67, 26174), (73, 26210), (88, 26321), (100, 26393), (106, 26429), (109, 26438), (131, 26558), (137, 26585), (152, 26645),

Gene: Antrice_44 Start: 27283, Stop: 28095, Start Num: 15
Candidate Starts for Antrice_44:
(Start: 15 @27283 has 42 MA's), (28, 27328), (40, 27391), (44, 27415), (46, 27433), (48, 27445), (51, 27457), (67, 27562), (72, 27592), (80, 27664), (88, 27712), (100, 27784), (131, 27949), (152, 28036),

Gene: Aphelion_90 Start: 56388, Stop: 57113, Start Num: 27
Candidate Starts for Aphelion_90:
(2, 56088), (3, 56115), (4, 56118), (5, 56121), (9, 56229), (Start: 27 @56388 has 19 MA's), (46, 56496), (49, 56514), (52, 56529), (53, 56532), (59, 56583), (69, 56646), (78, 56673), (84, 56706), (89, 56745), (95, 56784), (103, 56814), (109, 56841), (117, 56886), (131, 56967), (136, 56991), (146, 57036), (153, 57066),

Gene: ArV1_040 Start: 35856, Stop: 36800, Start Num: 25
Candidate Starts for ArV1_040:
(10, 35742), (Start: 25 @35856 has 19 MA's), (38, 35916), (65, 36090), (82, 36186), (85, 36207), (87, 36219), (107, 36333), (113, 36360), (131, 36480), (139, 36519), (149, 36561),

Gene: Atlantica_41 Start: 26015, Stop: 26812, Start Num: 15
Candidate Starts for Atlantica_41:
(Start: 15 @26015 has 42 MA's), (40, 26111), (48, 26165), (67, 26282), (73, 26318), (88, 26429), (100, 26501), (106, 26537), (109, 26546), (131, 26666), (137, 26693), (152, 26753),

Gene: Azaz_42 Start: 26087, Stop: 26887, Start Num: 15

Candidate Starts for Azaz_42:
(Start: 15 @26087 has 42 MA's), (40, 26183), (48, 26237), (51, 26249), (63, 26318), (67, 26354), (72, 26384), (100, 26576), (109, 26621), (131, 26741), (152, 26828),

Gene: B3_37 Start: 26812, Stop: 27609, Start Num: 24
Candidate Starts for B3_37:
(13, 26755), (Start: 24 @26812 has 1 MA's), (40, 26887), (45, 26923), (88, 27193), (101, 27280), (106, 27307), (129, 27412), (132, 27439), (133, 27442), (134, 27448), (142, 27487),

Gene: Babushka_38 Start: 25948, Stop: 26745, Start Num: 15
Candidate Starts for Babushka_38:
(8, 25816), (Start: 15 @25948 has 42 MA's), (40, 26044), (45, 26080), (48, 26098), (67, 26215), (88, 26362), (100, 26434), (109, 26479), (131, 26599), (152, 26686),

Gene: Bachita_93 Start: 56837, Stop: 57562, Start Num: 27
Candidate Starts for Bachita_93:
(2, 56537), (3, 56564), (4, 56567), (5, 56570), (11, 56732), (Start: 27 @56837 has 19 MA's), (46, 56945), (49, 56963), (52, 56978), (53, 56981), (59, 57032), (69, 57095), (78, 57122), (84, 57155), (89, 57194), (95, 57233), (103, 57263), (109, 57290), (117, 57335), (131, 57416), (136, 57440), (146, 57485), (153, 57515),

Gene: Bantam_94 Start: 63033, Stop: 62203, Start Num: 18
Candidate Starts for Bantam_94:
(Start: 18 @63033 has 6 MA's), (44, 62910), (49, 62874), (59, 62805), (80, 62697), (109, 62532), (112, 62514), (131, 62406), (162, 62262),

Gene: Basilisk_39 Start: 26840, Stop: 27646, Start Num: 15
Candidate Starts for Basilisk_39:
(Start: 15 @26840 has 42 MA's), (37, 26936), (40, 26945), (45, 26981), (48, 26999), (106, 27374), (120, 27419), (131, 27500), (156, 27611), (157, 27614),

Gene: Bedetta_46 Start: 26237, Stop: 27031, Start Num: 15
Candidate Starts for Bedetta_46:
(Start: 15 @26237 has 42 MA's), (40, 26330), (45, 26366), (48, 26384), (54, 26417), (67, 26501), (88, 26648), (89, 26651), (109, 26765), (122, 26819), (131, 26885), (142, 26939), (154, 26984), (157, 26999),

Gene: Bibble12_45 Start: 26085, Stop: 26879, Start Num: 15
Candidate Starts for Bibble12_45:
(Start: 15 @26085 has 42 MA's), (40, 26178), (45, 26214), (48, 26232), (54, 26265), (67, 26349), (88, 26496), (89, 26499), (109, 26613), (122, 26667), (131, 26733), (142, 26787), (154, 26832), (157, 26847),

Gene: BrutonGaster_74 Start: 51893, Stop: 52576, Start Num: 27
Candidate Starts for BrutonGaster_74:
(Start: 27 @51893 has 19 MA's), (43, 51980), (46, 52001), (49, 52019), (53, 52037), (59, 52088), (78, 52178), (84, 52211), (95, 52289), (103, 52319), (109, 52346), (117, 52391), (131, 52472), (136, 52496), (146, 52541), (155, 52571),

Gene: Brynnie_38 Start: 26718, Stop: 27524, Start Num: 15
Candidate Starts for Brynnie_38:
(Start: 15 @26718 has 42 MA's), (37, 26814), (40, 26823), (45, 26859), (48, 26877), (77, 27069), (106, 27252), (131, 27378), (156, 27489),

Gene: Bubbykins_55 Start: 42381, Stop: 43304, Start Num: 22
Candidate Starts for Bubbykins_55:
(Start: 22 @42381 has 1 MA's), (42, 42462), (56, 42552), (74, 42672), (76, 42678), (88, 42756), (94, 42795), (96, 42810), (110, 42870), (113, 42888), (123, 42945), (126, 42960), (131, 43008), (139, 43047), (149, 43089), (169, 43209),

Gene: Cafasso_40 Start: 33411, Stop: 34295, Start Num: 20
Candidate Starts for Cafasso_40:
(Start: 20 @33411 has 4 MA's), (34, 33483), (39, 33501), (41, 33513), (45, 33540), (48, 33558), (62, 33645), (83, 33810), (108, 33942), (113, 33966), (118, 33993), (121, 33999), (130, 34080), (131, 34086), (139, 34125), (164, 34227),

Gene: Camara_41 Start: 26017, Stop: 26814, Start Num: 15
Candidate Starts for Camara_41:
(Start: 15 @26017 has 42 MA's), (40, 26113), (48, 26167), (67, 26284), (73, 26320), (88, 26431), (100, 26503), (106, 26539), (109, 26548), (131, 26668), (152, 26755),

Gene: Cardigan_110 Start: 63451, Stop: 64143, Start Num: 27
Candidate Starts for Cardigan_110:
(Start: 27 @63451 has 19 MA's), (36, 63505), (43, 63538), (49, 63577), (56, 63613), (57, 63622), (59, 63646), (61, 63655), (62, 63658), (80, 63754), (87, 63796), (89, 63808), (98, 63865), (107, 63901), (112, 63925), (117, 63952), (119, 63958), (131, 64033), (139, 64072), (143, 64093),

Gene: Chickaboom_40 Start: 26337, Stop: 27143, Start Num: 15
Candidate Starts for Chickaboom_40:
(Start: 15 @26337 has 42 MA's), (37, 26433), (40, 26442), (48, 26496), (55, 26535), (62, 26574), (106, 26871), (131, 26997), (156, 27108),

Gene: Chicken_39 Start: 26680, Stop: 27486, Start Num: 15
Candidate Starts for Chicken_39:
(Start: 15 @26680 has 42 MA's), (37, 26776), (40, 26785), (48, 26839), (79, 27040), (91, 27133), (106, 27214), (111, 27232), (131, 27340), (144, 27403), (154, 27439), (157, 27454),

Gene: Chipper1996_470 Start: 37422, Stop: 38381, Start Num: 25
Candidate Starts for Chipper1996_470:
(Start: 25 @37422 has 19 MA's), (30, 37449), (33, 37461), (38, 37494), (42, 37512), (51, 37572), (85, 37785), (87, 37797), (107, 37911), (113, 37938), (124, 37998), (131, 38058), (139, 38097), (149, 38139), (169, 38292),

Gene: Chocolat_47 Start: 37414, Stop: 38361, Start Num: 25
Candidate Starts for Chocolat_47:
(Start: 25 @37414 has 19 MA's), (38, 37474), (65, 37648), (85, 37765), (87, 37777), (92, 37816), (104, 37873), (107, 37891), (108, 37894), (113, 37918), (116, 37933), (118, 37945), (131, 38038), (139, 38077), (149, 38119), (169, 38272),

Gene: Chubster_47 Start: 37334, Stop: 38281, Start Num: 25
Candidate Starts for Chubster_47:
(Start: 25 @37334 has 19 MA's), (38, 37394), (65, 37568), (85, 37685), (87, 37697), (92, 37736), (104, 37793), (107, 37811), (108, 37814), (113, 37838), (116, 37853), (118, 37865), (131, 37958), (139, 37997), (149, 38039), (169, 38192),

Gene: ClubL_91 Start: 55523, Stop: 56248, Start Num: 27

Candidate Starts for ClubL_91:
(Start: 27 @55523 has 19 MA's), (46, 55631), (49, 55649), (52, 55664), (53, 55667), (59, 55718), (69, 55781), (78, 55808), (84, 55841), (89, 55880), (95, 55919), (103, 55949), (109, 55976), (117, 56021), (131, 56102), (136, 56126), (153, 56201),

Gene: Colossa_38 Start: 30320, Stop: 31258, Start Num: 16
Candidate Starts for Colossa_38:
(16, 30320), (Start: 24 @30338 has 1 MA's), (31, 30377), (37, 30413), (48, 30476), (60, 30557), (62, 30563), (66, 30587), (83, 30734), (94, 30812), (99, 30836), (107, 30866), (113, 30893), (119, 30923), (121, 30926), (131, 31025), (137, 31052), (139, 31064), (163, 31163), (166, 31187),

Gene: Colucci_47 Start: 37135, Stop: 38091, Start Num: 25
Candidate Starts for Colucci_47:
(10, 37021), (Start: 25 @37135 has 19 MA's), (30, 37162), (33, 37174), (38, 37207), (42, 37225), (51, 37285), (85, 37498), (86, 37507), (87, 37510), (107, 37624), (113, 37651), (124, 37711), (131, 37771), (139, 37810), (149, 37852), (154, 37876),

Gene: Colusalem_42 Start: 26067, Stop: 26861, Start Num: 15
Candidate Starts for Colusalem_42:
(Start: 15 @26067 has 42 MA's), (40, 26160), (45, 26196), (48, 26214), (54, 26247), (59, 26280), (67, 26331), (88, 26478), (89, 26481), (109, 26595), (122, 26649), (131, 26715), (142, 26769), (154, 26814), (157, 26829),

Gene: Conboy_47 Start: 37562, Stop: 38509, Start Num: 25
Candidate Starts for Conboy_47:
(Start: 25 @37562 has 19 MA's), (38, 37622), (65, 37796), (85, 37913), (87, 37925), (92, 37964), (104, 38021), (107, 38039), (108, 38042), (113, 38066), (116, 38081), (118, 38093), (131, 38186), (139, 38225), (149, 38267), (169, 38420),

Gene: Coral_41 Start: 25938, Stop: 26732, Start Num: 15
Candidate Starts for Coral_41:
(Start: 15 @25938 has 42 MA's), (40, 26031), (45, 26067), (48, 26085), (54, 26118), (67, 26202), (88, 26349), (89, 26352), (109, 26466), (122, 26520), (131, 26586), (142, 26640), (154, 26685), (157, 26700),

Gene: Cote_43 Start: 26415, Stop: 27209, Start Num: 15
Candidate Starts for Cote_43:
(Start: 15 @26415 has 42 MA's), (40, 26508), (45, 26544), (48, 26562), (54, 26595), (67, 26679), (88, 26826), (89, 26829), (109, 26943), (122, 26997), (131, 27063), (142, 27117), (154, 27162), (157, 27177),

Gene: Cucurbita_92 Start: 57344, Stop: 58069, Start Num: 27
Candidate Starts for Cucurbita_92:
(2, 57044), (3, 57071), (4, 57074), (5, 57077), (11, 57239), (Start: 27 @57344 has 19 MA's), (46, 57452), (49, 57470), (52, 57485), (53, 57488), (59, 57539), (69, 57602), (78, 57629), (84, 57662), (89, 57701), (95, 57740), (103, 57770), (109, 57797), (117, 57842), (131, 57923), (136, 57947), (146, 57992), (153, 58022),

Gene: Culver_92 Start: 55420, Stop: 56145, Start Num: 27
Candidate Starts for Culver_92:
(Start: 27 @55420 has 19 MA's), (46, 55528), (49, 55546), (52, 55561), (53, 55564), (59, 55615), (69, 55678), (78, 55705), (84, 55738), (89, 55777), (95, 55816), (103, 55846), (109, 55873), (131, 55999), (136, 56023), (153, 56098),

Gene: Cygnet_41 Start: 26877, Stop: 27689, Start Num: 15
Candidate Starts for Cygnet_41:
(Start: 15 @26877 has 42 MA's), (28, 26922), (32, 26940), (40, 26985), (48, 27039), (51, 27051), (67, 27156), (72, 27186), (107, 27417), (131, 27543), (152, 27630),

Gene: DanHam62_41 Start: 26014, Stop: 26811, Start Num: 15
Candidate Starts for DanHam62_41:
(Start: 15 @26014 has 42 MA's), (40, 26110), (48, 26164), (67, 26281), (73, 26317), (88, 26428), (100, 26500), (106, 26536), (109, 26545), (131, 26665), (137, 26692), (152, 26752),

Gene: Daob_43 Start: 26423, Stop: 27217, Start Num: 15
Candidate Starts for Daob_43:
(Start: 15 @26423 has 42 MA's), (40, 26516), (45, 26552), (48, 26570), (54, 26603), (67, 26687), (88, 26834), (89, 26837), (109, 26951), (115, 26975), (131, 27071), (142, 27125), (157, 27185),

Gene: Daredevil_84 Start: 58699, Stop: 57869, Start Num: 18
Candidate Starts for Daredevil_84:
(Start: 18 @58699 has 6 MA's), (36, 58609), (49, 58537), (59, 58468), (71, 58402), (80, 58360), (109, 58195), (112, 58177), (131, 58069), (136, 58045), (162, 57931), (168, 57877),

Gene: DatBoi_90 Start: 62181, Stop: 61351, Start Num: 18
Candidate Starts for DatBoi_90:
(Start: 18 @62181 has 6 MA's), (44, 62058), (49, 62022), (59, 61953), (80, 61845), (109, 61680), (112, 61662), (125, 61593), (131, 61554),

Gene: Doucette_41 Start: 28699, Stop: 29496, Start Num: 19
Candidate Starts for Doucette_41:
(7, 28546), (14, 28684), (Start: 19 @28699 has 1 MA's), (23, 28711), (40, 28795), (45, 28831), (48, 28849), (50, 28858), (58, 28912), (69, 28981), (80, 29038), (81, 29041), (101, 29176), (102, 29179), (129, 29311), (132, 29338), (135, 29350), (140, 29377),

Gene: DrYang_48 Start: 39485, Stop: 40438, Start Num: 25
Candidate Starts for DrYang_48:
(Start: 25 @39485 has 19 MA's), (35, 39530), (38, 39545), (44, 39575), (65, 39719), (85, 39839), (87, 39851), (88, 39860), (107, 39965), (113, 39992), (116, 40007), (131, 40112), (139, 40151), (154, 40217),

Gene: Dusty_88 Start: 55039, Stop: 55764, Start Num: 27
Candidate Starts for Dusty_88:
(1, 54706), (2, 54739), (3, 54766), (4, 54769), (5, 54772), (9, 54880), (Start: 27 @55039 has 19 MA's), (46, 55147), (49, 55165), (52, 55180), (53, 55183), (59, 55234), (69, 55297), (78, 55324), (84, 55357), (89, 55396), (95, 55435), (103, 55465), (109, 55492), (117, 55537), (131, 55618), (136, 55642), (146, 55687), (153, 55717),

Gene: EdgarPoe_47 Start: 37562, Stop: 38509, Start Num: 25
Candidate Starts for EdgarPoe_47:
(Start: 25 @37562 has 19 MA's), (38, 37622), (65, 37796), (85, 37913), (87, 37925), (92, 37964), (104, 38021), (107, 38039), (108, 38042), (113, 38066), (116, 38081), (118, 38093), (131, 38186), (139, 38225), (149, 38267), (169, 38420),

Gene: Eesa_38 Start: 27219, Stop: 28025, Start Num: 15
Candidate Starts for Eesa_38:

(Start: 15 @27219 has 42 MA's), (37, 27315), (40, 27324), (45, 27360), (48, 27378), (79, 27579), (91, 27672), (106, 27753), (111, 27771), (131, 27879), (157, 27993),

Gene: Engineer_92 Start: 56810, Stop: 57535, Start Num: 27
Candidate Starts for Engineer_92:
(2, 56510), (3, 56537), (4, 56540), (5, 56543), (11, 56705), (Start: 27 @56810 has 19 MA's), (46, 56918), (49, 56936), (52, 56951), (53, 56954), (59, 57005), (69, 57068), (78, 57095), (84, 57128), (89, 57167), (95, 57206), (103, 57236), (109, 57263), (117, 57308), (131, 57389), (136, 57413), (146, 57458), (153, 57488),

Gene: Fingolfin_41 Start: 26017, Stop: 26814, Start Num: 15
Candidate Starts for Fingolfin_41:
(Start: 15 @26017 has 42 MA's), (40, 26113), (48, 26167), (67, 26284), (73, 26320), (88, 26431), (100, 26503), (106, 26539), (109, 26548), (131, 26668), (137, 26695), (152, 26755),

Gene: Galaxy_38 Start: 26092, Stop: 26898, Start Num: 15
Candidate Starts for Galaxy_38:
(Start: 15 @26092 has 42 MA's), (37, 26188), (40, 26197), (48, 26251), (79, 26452), (91, 26545), (106, 26626), (131, 26752), (157, 26866),

Gene: Geeche_89 Start: 55875, Stop: 56600, Start Num: 27
Candidate Starts for Geeche_89:
(Start: 27 @55875 has 19 MA's), (46, 55983), (49, 56001), (52, 56016), (53, 56019), (59, 56070), (69, 56133), (78, 56160), (84, 56193), (89, 56232), (95, 56271), (103, 56301), (109, 56328), (117, 56373), (131, 56454), (136, 56478), (146, 56523), (153, 56553),

Gene: Glotell_42 Start: 26173, Stop: 26970, Start Num: 15
Candidate Starts for Glotell_42:
(Start: 15 @26173 has 42 MA's), (40, 26269), (48, 26323), (67, 26440), (73, 26476), (88, 26587), (100, 26659), (106, 26695), (109, 26704), (131, 26824), (152, 26911),

Gene: Gravel_48 Start: 27192, Stop: 27998, Start Num: 15
Candidate Starts for Gravel_48:
(Start: 15 @27192 has 42 MA's), (37, 27288), (40, 27297), (45, 27333), (48, 27351), (63, 27432), (91, 27645), (106, 27726), (111, 27744), (131, 27852), (157, 27966),

Gene: HamCheese_41 Start: 26001, Stop: 26798, Start Num: 15
Candidate Starts for HamCheese_41:
(Start: 15 @26001 has 42 MA's), (40, 26097), (48, 26151), (67, 26268), (73, 26304), (88, 26415), (100, 26487), (106, 26523), (109, 26532), (131, 26652), (137, 26679), (152, 26739),

Gene: HannahPhantana_42 Start: 26085, Stop: 26879, Start Num: 15
Candidate Starts for HannahPhantana_42:
(Start: 15 @26085 has 42 MA's), (40, 26178), (45, 26214), (48, 26232), (54, 26265), (67, 26349), (88, 26496), (89, 26499), (109, 26613), (122, 26667), (131, 26733), (142, 26787), (154, 26832), (157, 26847),

Gene: HumptyDumpty_47 Start: 37420, Stop: 38379, Start Num: 25
Candidate Starts for HumptyDumpty_47:
(Start: 25 @37420 has 19 MA's), (30, 37447), (33, 37459), (38, 37492), (42, 37510), (51, 37570), (85, 37783), (87, 37795), (107, 37909), (113, 37936), (124, 37996), (131, 38056), (139, 38095), (149, 38137), (169, 38290),

Gene: JaNo_47 Start: 37420, Stop: 38379, Start Num: 25
Candidate Starts for JaNo_47:
(Start: 25 @37420 has 19 MA's), (30, 37447), (33, 37459), (38, 37492), (42, 37510), (51, 37570), (85, 37783), (87, 37795), (107, 37909), (113, 37936), (124, 37996), (131, 38056), (139, 38095), (149, 38137), (169, 38290),

Gene: Jamun_38 Start: 26377, Stop: 27183, Start Num: 15
Candidate Starts for Jamun_38:
(Start: 15 @26377 has 42 MA's), (37, 26473), (40, 26482), (48, 26536), (79, 26737), (91, 26830), (106, 26911), (131, 27037), (157, 27151),

Gene: JayCookie_47 Start: 37556, Stop: 38515, Start Num: 25
Candidate Starts for JayCookie_47:
(Start: 25 @37556 has 19 MA's), (30, 37583), (33, 37595), (38, 37628), (42, 37646), (51, 37706), (85, 37919), (87, 37931), (96, 37994), (107, 38045), (113, 38072), (124, 38132), (131, 38192), (139, 38231), (149, 38273), (169, 38426),

Gene: Jerole_42 Start: 26209, Stop: 27003, Start Num: 15
Candidate Starts for Jerole_42:
(Start: 15 @26209 has 42 MA's), (40, 26302), (45, 26338), (48, 26356), (54, 26389), (67, 26473), (88, 26620), (89, 26623), (109, 26737), (122, 26791), (131, 26857), (142, 26911), (154, 26956), (157, 26971),

Gene: JonJames_109 Start: 63983, Stop: 64675, Start Num: 27
Candidate Starts for JonJames_109:
(Start: 27 @63983 has 19 MA's), (36, 64037), (43, 64070), (49, 64109), (56, 64145), (57, 64154), (59, 64178), (61, 64187), (62, 64190), (80, 64286), (87, 64328), (89, 64340), (98, 64397), (112, 64457), (117, 64484), (119, 64490), (131, 64565), (139, 64604), (143, 64625),

Gene: JrWilcox_100 Start: 55770, Stop: 56687, Start Num: 21
Candidate Starts for JrWilcox_100:
(Start: 21 @55770 has 1 MA's), (42, 55878), (51, 55944), (58, 55995), (61, 56007), (63, 56013), (64, 56025), (89, 56199), (93, 56229), (105, 56301), (114, 56346), (131, 56466), (137, 56493), (160, 56592),

Gene: Juno112_40 Start: 26017, Stop: 26814, Start Num: 15
Candidate Starts for Juno112_40:
(Start: 15 @26017 has 42 MA's), (40, 26113), (48, 26167), (67, 26284), (73, 26320), (88, 26431), (100, 26503), (106, 26539), (109, 26548), (131, 26668), (137, 26695), (152, 26755),

Gene: KBurrousTX_47 Start: 38672, Stop: 39619, Start Num: 25
Candidate Starts for KBurrousTX_47:
(Start: 25 @38672 has 19 MA's), (65, 38906), (68, 38933), (77, 38972), (85, 39026), (87, 39038), (88, 39047), (92, 39077), (94, 39086), (107, 39152), (113, 39179), (116, 39194), (131, 39299), (134, 39317), (143, 39359), (149, 39380), (156, 39419), (169, 39533), (170, 39554), (171, 39572),

Gene: KHumphrey_41 Start: 26016, Stop: 26813, Start Num: 15
Candidate Starts for KHumphrey_41:
(Start: 15 @26016 has 42 MA's), (40, 26112), (48, 26166), (67, 26283), (73, 26319), (88, 26430), (100, 26502), (106, 26538), (109, 26547), (131, 26667), (152, 26754),

Gene: Kabreeze_47 Start: 37420, Stop: 38379, Start Num: 25
Candidate Starts for Kabreeze_47:

(Start: 25 @37420 has 19 MA's), (30, 37447), (33, 37459), (38, 37492), (42, 37510), (51, 37570), (85, 37783), (87, 37795), (107, 37909), (113, 37936), (124, 37996), (131, 38056), (139, 38095), (149, 38137), (169, 38290),

Gene: KendraB23_49 Start: 27385, Stop: 28191, Start Num: 15
Candidate Starts for KendraB23_49:
(Start: 15 @27385 has 42 MA's), (37, 27481), (40, 27490), (44, 27514), (45, 27526), (48, 27544), (91, 27838), (106, 27919), (111, 27937), (131, 28045), (137, 28072), (157, 28159),

Gene: Kepler_43 Start: 26833, Stop: 27627, Start Num: 15
Candidate Starts for Kepler_43:
(Start: 15 @26833 has 42 MA's), (40, 26926), (45, 26962), (48, 26980), (54, 27013), (67, 27097), (88, 27244), (89, 27247), (109, 27361), (115, 27385), (131, 27481), (142, 27535), (154, 27580), (157, 27595),

Gene: Kuleana_43 Start: 26408, Stop: 27208, Start Num: 15
Candidate Starts for Kuleana_43:
(Start: 15 @26408 has 42 MA's), (40, 26504), (45, 26540), (48, 26558), (67, 26675), (73, 26711), (88, 26825), (89, 26828), (100, 26897), (109, 26942), (131, 27062), (142, 27116), (157, 27176),

Gene: Laphuphu24k_40 Start: 26001, Stop: 26798, Start Num: 15
Candidate Starts for Laphuphu24k_40:
(Start: 15 @26001 has 42 MA's), (40, 26097), (48, 26151), (67, 26268), (73, 26304), (88, 26415), (100, 26487), (106, 26523), (109, 26532), (131, 26652), (137, 26679), (152, 26739),

Gene: Leona_40 Start: 26088, Stop: 26888, Start Num: 15
Candidate Starts for Leona_40:
(Start: 15 @26088 has 42 MA's), (40, 26184), (48, 26238), (51, 26250), (63, 26319), (67, 26355), (72, 26385), (100, 26577), (109, 26622), (131, 26742), (152, 26829),

Gene: Linus_47 Start: 37553, Stop: 38500, Start Num: 25
Candidate Starts for Linus_47:
(Start: 25 @37553 has 19 MA's), (38, 37613), (65, 37787), (85, 37904), (87, 37916), (92, 37955), (104, 38012), (107, 38030), (108, 38033), (113, 38057), (116, 38072), (118, 38084), (131, 38177), (139, 38216), (149, 38258), (169, 38411),

Gene: LittleTokyo_41 Start: 25961, Stop: 26755, Start Num: 15
Candidate Starts for LittleTokyo_41:
(Start: 15 @25961 has 42 MA's), (36, 26048), (40, 26060), (48, 26114), (52, 26135), (63, 26195), (67, 26231), (79, 26309), (88, 26372), (95, 26414), (100, 26444), (109, 26489), (122, 26543), (131, 26609), (152, 26696), (157, 26723),

Gene: Lozinak_91 Start: 56648, Stop: 57373, Start Num: 27
Candidate Starts for Lozinak_91:
(2, 56348), (3, 56375), (4, 56378), (5, 56381), (11, 56543), (Start: 27 @56648 has 19 MA's), (46, 56756), (49, 56774), (52, 56789), (53, 56792), (59, 56843), (69, 56906), (78, 56933), (84, 56966), (89, 57005), (95, 57044), (103, 57074), (109, 57101), (117, 57146), (131, 57227), (136, 57251), (146, 57296), (153, 57326),

Gene: Lunar_43 Start: 26749, Stop: 27543, Start Num: 15
Candidate Starts for Lunar_43:
(Start: 15 @26749 has 42 MA's), (40, 26842), (45, 26878), (48, 26896), (54, 26929), (67, 27013), (88, 27160), (89, 27163), (109, 27277), (115, 27301), (131, 27397), (142, 27451), (154, 27496), (157,

27511),

Gene: Lymara_47 Start: 37380, Stop: 38327, Start Num: 25
Candidate Starts for Lymara_47:
(Start: 25 @37380 has 19 MA's), (38, 37440), (85, 37731), (87, 37743), (92, 37782), (104, 37839), (107, 37857), (108, 37860), (113, 37884), (123, 37941), (131, 38004), (139, 38043), (149, 38085),

Gene: Melons_43 Start: 26563, Stop: 27357, Start Num: 15
Candidate Starts for Melons_43:
(Start: 15 @26563 has 42 MA's), (40, 26656), (45, 26692), (48, 26710), (54, 26743), (67, 26827), (88, 26974), (89, 26977), (109, 27091), (115, 27115), (131, 27211), (142, 27265), (154, 27310), (157, 27325),

Gene: Miskis_83 Start: 54557, Stop: 55282, Start Num: 27
Candidate Starts for Miskis_83:
(1, 54224), (2, 54257), (3, 54284), (4, 54287), (5, 54290), (9, 54398), (Start: 27 @54557 has 19 MA's), (46, 54665), (49, 54683), (52, 54698), (53, 54701), (59, 54752), (69, 54815), (78, 54842), (84, 54875), (89, 54914), (95, 54953), (96, 54965), (103, 54983), (109, 55010), (117, 55055), (131, 55136), (136, 55160), (146, 55205), (153, 55235),

Gene: ModicumRichard_40 Start: 33410, Stop: 34294, Start Num: 20
Candidate Starts for ModicumRichard_40:
(Start: 20 @33410 has 4 MA's), (34, 33482), (39, 33500), (41, 33512), (45, 33539), (48, 33557), (62, 33644), (83, 33809), (108, 33941), (113, 33965), (118, 33992), (121, 33998), (130, 34079), (131, 34085), (139, 34124), (164, 34226),

Gene: Mollymur_94 Start: 63842, Stop: 63024, Start Num: 18
Candidate Starts for Mollymur_94:
(Start: 18 @63842 has 6 MA's), (36, 63752), (44, 63716), (49, 63680), (59, 63611), (80, 63503), (109, 63332), (112, 63314), (125, 63245), (131, 63206), (134, 63188), (136, 63182), (143, 63146), (150, 63125), (161, 63071),

Gene: Mordred_47 Start: 37420, Stop: 38379, Start Num: 25
Candidate Starts for Mordred_47:
(Start: 25 @37420 has 19 MA's), (30, 37447), (33, 37459), (38, 37492), (42, 37510), (51, 37570), (85, 37783), (87, 37795), (107, 37909), (113, 37936), (124, 37996), (131, 38056), (139, 38095), (149, 38137), (169, 38290),

Gene: Morgana_40 Start: 33361, Stop: 34245, Start Num: 20
Candidate Starts for Morgana_40:
(17, 33355), (Start: 20 @33361 has 4 MA's), (34, 33433), (39, 33451), (41, 33463), (45, 33490), (48, 33508), (62, 33595), (83, 33760), (94, 33838), (108, 33892), (113, 33916), (118, 33943), (121, 33949), (130, 34030), (131, 34036), (139, 34075), (164, 34177),

Gene: MoyaNatalis_47 Start: 37413, Stop: 38360, Start Num: 25
Candidate Starts for MoyaNatalis_47:
(Start: 25 @37413 has 19 MA's), (38, 37473), (65, 37647), (85, 37764), (87, 37776), (92, 37815), (104, 37872), (107, 37890), (108, 37893), (113, 37917), (116, 37932), (118, 37944), (131, 38037), (139, 38076), (149, 38118), (169, 38271),

Gene: Niblet_42 Start: 26767, Stop: 27573, Start Num: 15
Candidate Starts for Niblet_42:

(Start: 15 @26767 has 42 MA's), (37, 26863), (40, 26872), (48, 26926), (79, 27127), (91, 27220), (106, 27301), (111, 27319), (131, 27427), (154, 27526), (157, 27541),

Gene: Norvs_91 Start: 56033, Stop: 56758, Start Num: 27
Candidate Starts for Norvs_91:
(2, 55733), (3, 55760), (4, 55763), (5, 55766), (9, 55874), (Start: 27 @56033 has 19 MA's), (46, 56141), (49, 56159), (52, 56174), (53, 56177), (59, 56228), (69, 56291), (78, 56318), (84, 56351), (89, 56390), (95, 56429), (103, 56459), (109, 56486), (117, 56531), (131, 56612), (136, 56636), (146, 56681), (153, 56711),

Gene: ObLaDi_40 Start: 33395, Stop: 34282, Start Num: 20
Candidate Starts for ObLaDi_40:
(17, 33389), (Start: 20 @33395 has 4 MA's), (34, 33467), (39, 33485), (41, 33497), (45, 33524), (48, 33542), (62, 33629), (83, 33794), (108, 33929), (113, 33953), (118, 33980), (121, 33986), (130, 34067), (131, 34073), (139, 34112),

Gene: OneUp_81 Start: 54043, Stop: 54768, Start Num: 27
Candidate Starts for OneUp_81:
(Start: 27 @54043 has 19 MA's), (43, 54130), (46, 54151), (49, 54169), (53, 54187), (59, 54238), (61, 54247), (69, 54301), (78, 54328), (84, 54361), (95, 54439), (103, 54469), (131, 54622), (136, 54646), (138, 54652), (146, 54691),

Gene: Oppalora_40 Start: 26015, Stop: 26812, Start Num: 15
Candidate Starts for Oppalora_40:
(Start: 15 @26015 has 42 MA's), (40, 26111), (48, 26165), (67, 26282), (73, 26318), (88, 26429), (100, 26501), (106, 26537), (109, 26546), (131, 26666), (137, 26693), (152, 26753),

Gene: Orcanus_39 Start: 26742, Stop: 27548, Start Num: 15
Candidate Starts for Orcanus_39:
(Start: 15 @26742 has 42 MA's), (37, 26838), (40, 26847), (44, 26871), (45, 26883), (48, 26901), (79, 27102), (91, 27195), (106, 27276), (111, 27294), (131, 27402), (157, 27516),

Gene: OtsoOtso_42 Start: 25939, Stop: 26733, Start Num: 15
Candidate Starts for OtsoOtso_42:
(Start: 15 @25939 has 42 MA's), (40, 26032), (45, 26068), (48, 26086), (54, 26119), (67, 26203), (88, 26350), (89, 26353), (109, 26467), (115, 26491), (131, 26587), (142, 26641), (154, 26686), (157, 26701),

Gene: PFR1_36 Start: 27536, Stop: 28372, Start Num: 26
Candidate Starts for PFR1_36:
(26, 27536), (30, 27557), (43, 27620), (47, 27653), (56, 27695), (59, 27728), (70, 27794), (75, 27824), (77, 27836), (82, 27869), (107, 28004), (113, 28031), (119, 28061), (126, 28103), (131, 28151), (134, 28169), (139, 28190), (145, 28220), (149, 28232), (165, 28277), (167, 28304), (169, 28334),

Gene: PFR2_38 Start: 29105, Stop: 29941, Start Num: 26
Candidate Starts for PFR2_38:
(26, 29105), (30, 29126), (43, 29189), (47, 29222), (56, 29264), (59, 29297), (70, 29363), (75, 29393), (77, 29405), (82, 29438), (107, 29573), (113, 29600), (119, 29630), (126, 29672), (131, 29720), (134, 29738), (139, 29759), (145, 29789), (149, 29801), (165, 29846), (167, 29873), (169, 29903),

Gene: Pelletreau_48 Start: 27192, Stop: 27998, Start Num: 15
Candidate Starts for Pelletreau_48:

(Start: 15 @27192 has 42 MA's), (37, 27288), (40, 27297), (45, 27333), (48, 27351), (63, 27432), (91, 27645), (106, 27726), (111, 27744), (131, 27852), (157, 27966),

Gene: PhinkBoden_90 Start: 56438, Stop: 57163, Start Num: 27
Candidate Starts for PhinkBoden_90:
(2, 56138), (3, 56165), (4, 56168), (5, 56171), (11, 56333), (Start: 27 @56438 has 19 MA's), (46, 56546), (49, 56564), (52, 56579), (53, 56582), (59, 56633), (69, 56696), (78, 56723), (84, 56756), (89, 56795), (95, 56834), (103, 56864), (109, 56891), (117, 56936), (131, 57017), (136, 57041), (146, 57086), (153, 57116),

Gene: PhirstandPhine_50 Start: 26709, Stop: 27503, Start Num: 15
Candidate Starts for PhirstandPhine_50:
(Start: 15 @26709 has 42 MA's), (40, 26802), (45, 26838), (48, 26856), (54, 26889), (67, 26973), (88, 27120), (89, 27123), (109, 27237), (115, 27261), (131, 27357), (142, 27411), (154, 27456), (157, 27471),

Gene: PhluffyCoco_41 Start: 26013, Stop: 26810, Start Num: 15
Candidate Starts for PhluffyCoco_41:
(Start: 15 @26013 has 42 MA's), (40, 26109), (48, 26163), (67, 26280), (73, 26316), (88, 26427), (100, 26499), (106, 26535), (109, 26544), (131, 26664), (137, 26691), (152, 26751),

Gene: Pineda_44 Start: 26235, Stop: 27029, Start Num: 15
Candidate Starts for Pineda_44:
(Start: 15 @26235 has 42 MA's), (40, 26328), (45, 26364), (48, 26382), (54, 26415), (67, 26499), (88, 26646), (89, 26649), (109, 26763), (122, 26817), (131, 26883), (142, 26937), (154, 26982), (157, 26997),

Gene: Polka_41 Start: 25939, Stop: 26733, Start Num: 15
Candidate Starts for Polka_41:
(Start: 15 @25939 has 42 MA's), (40, 26032), (45, 26068), (48, 26086), (54, 26119), (67, 26203), (88, 26350), (89, 26353), (109, 26467), (115, 26491), (131, 26587), (142, 26641), (154, 26686), (157, 26701),

Gene: PrincessTrina_47 Start: 37556, Stop: 38503, Start Num: 25
Candidate Starts for PrincessTrina_47:
(Start: 25 @37556 has 19 MA's), (38, 37616), (65, 37790), (85, 37907), (87, 37919), (92, 37958), (104, 38015), (107, 38033), (108, 38036), (113, 38060), (116, 38075), (118, 38087), (131, 38180), (139, 38219), (149, 38261), (169, 38414),

Gene: Rattail_41 Start: 26099, Stop: 26896, Start Num: 15
Candidate Starts for Rattail_41:
(Start: 15 @26099 has 42 MA's), (40, 26195), (48, 26249), (67, 26366), (73, 26402), (88, 26513), (100, 26585), (106, 26621), (109, 26630), (131, 26750), (137, 26777), (152, 26837),

Gene: RedFox_41 Start: 26012, Stop: 26809, Start Num: 15
Candidate Starts for RedFox_41:
(Start: 15 @26012 has 42 MA's), (40, 26108), (48, 26162), (67, 26279), (73, 26315), (88, 26426), (100, 26498), (106, 26534), (109, 26543), (131, 26663), (137, 26690), (152, 26750),

Gene: Renna12_40 Start: 26070, Stop: 26870, Start Num: 15
Candidate Starts for Renna12_40:
(Start: 15 @26070 has 42 MA's), (40, 26166), (48, 26220), (51, 26232), (63, 26301), (67, 26337), (72, 26367), (100, 26559), (109, 26604), (131, 26724), (137, 26751), (152, 26811),

Gene: RosiePosie_47 Start: 37423, Stop: 38382, Start Num: 25
Candidate Starts for RosiePosie_47:
(Start: 25 @37423 has 19 MA's), (30, 37450), (33, 37462), (38, 37495), (42, 37513), (51, 37573), (85, 37786), (87, 37798), (107, 37912), (113, 37939), (124, 37999), (131, 38059), (139, 38098), (149, 38140), (169, 38293),

Gene: Ruchi_38 Start: 26786, Stop: 27592, Start Num: 15
Candidate Starts for Ruchi_38:
(Start: 15 @26786 has 42 MA's), (37, 26882), (40, 26891), (45, 26927), (48, 26945), (91, 27239), (97, 27275), (120, 27365), (131, 27446), (157, 27560),

Gene: Scavito_47 Start: 37421, Stop: 38380, Start Num: 25
Candidate Starts for Scavito_47:
(Start: 25 @37421 has 19 MA's), (30, 37448), (33, 37460), (38, 37493), (42, 37511), (51, 37571), (85, 37784), (87, 37796), (107, 37910), (113, 37937), (124, 37997), (131, 38057), (139, 38096), (149, 38138), (169, 38291),

Gene: Shen_38 Start: 25299, Stop: 26105, Start Num: 15
Candidate Starts for Shen_38:
(Start: 15 @25299 has 42 MA's), (37, 25395), (40, 25404), (44, 25428), (45, 25440), (48, 25458), (91, 25752), (106, 25833), (111, 25851), (131, 25959), (137, 25986), (157, 26073),

Gene: Smoothie_92 Start: 56648, Stop: 57373, Start Num: 27
Candidate Starts for Smoothie_92:
(2, 56348), (3, 56375), (4, 56378), (5, 56381), (11, 56543), (Start: 27 @56648 has 19 MA's), (46, 56756), (49, 56774), (52, 56789), (53, 56792), (59, 56843), (69, 56906), (78, 56933), (84, 56966), (89, 57005), (95, 57044), (103, 57074), (109, 57101), (117, 57146), (131, 57227), (136, 57251), (146, 57296), (153, 57326),

Gene: SpeedDemon_950 Start: 64954, Stop: 64124, Start Num: 18
Candidate Starts for SpeedDemon_950:
(Start: 18 @64954 has 6 MA's), (44, 64831), (49, 64795), (59, 64726), (80, 64618), (109, 64453), (112, 64435), (131, 64327), (143, 64267), (162, 64183),

Gene: StuartMinion_33 Start: 23080, Stop: 23877, Start Num: 15
Candidate Starts for StuartMinion_33:
(Start: 15 @23080 has 42 MA's), (40, 23176), (48, 23230), (67, 23347), (88, 23494), (100, 23566), (109, 23611), (131, 23731), (152, 23818),

Gene: TaylorSipht_39 Start: 26156, Stop: 26953, Start Num: 15
Candidate Starts for TaylorSipht_39:
(Start: 15 @26156 has 42 MA's), (36, 26246), (37, 26249), (40, 26258), (48, 26312), (67, 26429), (100, 26642), (109, 26687), (131, 26807), (137, 26834), (147, 26879), (148, 26882), (154, 26906),

Gene: Toad24_41 Start: 27438, Stop: 28244, Start Num: 15
Candidate Starts for Toad24_41:
(Start: 15 @27438 has 42 MA's), (37, 27534), (40, 27543), (44, 27567), (45, 27579), (48, 27597), (91, 27891), (106, 27972), (111, 27990), (131, 28098), (137, 28125), (157, 28212),

Gene: Toniann_91 Start: 55976, Stop: 56701, Start Num: 27
Candidate Starts for Toniann_91:

(2, 55676), (3, 55703), (4, 55706), (5, 55709), (9, 55817), (Start: 27 @55976 has 19 MA's), (46, 56084), (49, 56102), (52, 56117), (53, 56120), (59, 56171), (69, 56234), (78, 56261), (84, 56294), (89, 56333), (95, 56372), (103, 56402), (109, 56429), (117, 56474), (131, 56555), (136, 56579), (146, 56624), (153, 56654),

Gene: Tophat_47 Start: 37422, Stop: 38381, Start Num: 25
Candidate Starts for Tophat_47:
(Start: 25 @37422 has 19 MA's), (30, 37449), (33, 37461), (38, 37494), (42, 37512), (51, 37572), (85, 37785), (87, 37797), (107, 37911), (113, 37938), (124, 37998), (131, 38058), (139, 38097), (149, 38139), (169, 38292),

Gene: Towmatter_83 Start: 58781, Stop: 57948, Start Num: 18
Candidate Starts for Towmatter_83:
(Start: 18 @58781 has 6 MA's), (36, 58691), (49, 58619), (59, 58550), (80, 58442), (90, 58385), (109, 58277), (112, 58259), (131, 58151), (162, 58010), (168, 57956),

Gene: ValentiniPuff_98 Start: 56073, Stop: 56969, Start Num: 21
Candidate Starts for ValentiniPuff_98:
(Start: 21 @56073 has 1 MA's), (38, 56163), (61, 56310), (64, 56328), (105, 56592), (107, 56607), (114, 56637), (128, 56721), (131, 56757), (134, 56775), (158, 56877),

Gene: VanLee_37 Start: 30355, Stop: 31278, Start Num: 22
Candidate Starts for VanLee_37:
(Start: 22 @30355 has 1 MA's), (Start: 24 @30361 has 1 MA's), (31, 30400), (38, 30439), (48, 30499), (56, 30541), (60, 30580), (62, 30586), (66, 30610), (83, 30757), (89, 30799), (94, 30835), (107, 30889), (113, 30916), (119, 30946), (121, 30949), (131, 31048), (137, 31075), (139, 31087), (163, 31186), (166, 31210),

Gene: Vulpecula_38 Start: 26463, Stop: 27269, Start Num: 15
Candidate Starts for Vulpecula_38:
(Start: 15 @26463 has 42 MA's), (37, 26559), (40, 26568), (45, 26604), (48, 26622), (91, 26916), (97, 26952), (120, 27042), (131, 27123), (157, 27237),

Gene: Westrich_47 Start: 27116, Stop: 27922, Start Num: 15
Candidate Starts for Westrich_47:
(Start: 15 @27116 has 42 MA's), (37, 27212), (40, 27221), (45, 27257), (48, 27275), (63, 27356), (91, 27569), (106, 27650), (111, 27668), (131, 27776), (157, 27890),

Gene: WileyE_44 Start: 26337, Stop: 27143, Start Num: 15
Candidate Starts for WileyE_44:
(Start: 15 @26337 has 42 MA's), (37, 26433), (40, 26442), (48, 26496), (55, 26535), (62, 26574), (106, 26871), (131, 26997), (156, 27108),

Gene: WilliamBoone_90 Start: 54745, Stop: 55467, Start Num: 27
Candidate Starts for WilliamBoone_90:
(5, 54469), (6, 54514), (12, 54655), (Start: 27 @54745 has 19 MA's), (46, 54853), (49, 54871), (52, 54886), (53, 54889), (59, 54940), (78, 55030), (84, 55063), (95, 55141), (103, 55171), (127, 55300), (131, 55324), (134, 55342), (146, 55393), (153, 55423), (159, 55450),

Gene: Yvonnetastic_106 Start: 61147, Stop: 61839, Start Num: 27
Candidate Starts for Yvonnetastic_106:
(Start: 27 @61147 has 19 MA's), (36, 61201), (43, 61234), (49, 61273), (56, 61309), (57, 61318), (59, 61342), (61, 61351), (62, 61354), (80, 61450), (89, 61504), (98, 61561), (107, 61597), (112, 61621),

(117, 61648), (119, 61654), (131, 61729), (139, 61768), (141, 61783), (143, 61789),

Gene: Zhuangyuan_45 Start: 26808, Stop: 27620, Start Num: 15
Candidate Starts for Zhuangyuan_45:
(Start: 15 @26808 has 42 MA's), (28, 26853), (32, 26871), (40, 26916), (48, 26970), (67, 27087), (72, 27117), (85, 27216), (88, 27237), (100, 27309), (107, 27348), (131, 27474), (152, 27561),

Gene: Zixiang_42 Start: 26803, Stop: 27609, Start Num: 15
Candidate Starts for Zixiang_42:
(Start: 15 @26803 has 42 MA's), (37, 26899), (40, 26908), (44, 26932), (45, 26944), (48, 26962), (91, 27256), (106, 27337), (111, 27355), (131, 27463), (137, 27490), (157, 27577),