

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 311407 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311407 has 109 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Galaxy_30
- Track 2 : Zixiang_28, Amanises_31
- Track 3 : Ruchi_29
- Track 4 : WileyE_30, Chickaboom_30
- Track 5 : Vulpecula_29, Basilisk_30
- Track 6 : Abidatro_29
- Track 7 : TaylorSipht_29
- Track 8 : Niblet_28, Chicken_28
- Track 9 : Toad24_31
- Track 10 : Jamun_28
- Track 11 : Brynnie_29
- Track 12 : Scumberland_55, LittleFortune_55, Cranjis_55
- Track 13 : Tyumbra_54
- Track 14 : Zapato_53
- Track 15 : Skugga_53
- Track 16 : Smarties_62, Ariadne_62
- Track 17 : Ramiel05_53, Kowalski_53, BrazzalePHS_53
- Track 18 : Lucretia_54, Germa_55
- Track 19 : Fireman_56, RobsFeet_57, Metamorphoo_56, Shrubaron_56
- Track 20 : Gina_56, Teamocil_56
- Track 21 : BeagleBug_53, Antares_54, Quhwah_57, Shotgun_53, PhedwardCullen_53, Savannah_53
- Track 22 : Crisis_55, Jefe_54, CrazyRich_53
- Track 23 : Glorp_55, Honeyfin_55, Yeti_54
- Track 24 : Hermeonysus_53, Onika_53, Rockwell_53, PiperSansNom_54
- Track 25 : Busephilis_53, Phrancesco_54
- Track 26 : Merry_, Sunny_
- Track 27 : Ganandorf_53, Piperis_54, Phorgeous_53
- Track 28 : PierreOrion_54, Jollipop_54
- Track 29 : Pulchra_55
- Track 30 : KaiHaiDragon_54
- Track 31 : ClearAsMud_57, NoodlelyBoi_55
- Track 32 : SirFrank_54
- Track 33 : Paschalis_53
- Track 34 : ValentiniPuff_101
- Track 35 : JrWilcox_102

- Track 36 : BigCheese_67, Lewan_68, BobsGarage_67, OverPar_68, Underpass_58, Vetrix_67, Nicholasp3_67
- Track 37 : Claus_67, ZhongYanYuan_66, DanBing_68
- Track 38 : Miley16_67, Wigglewiggles_67, Gabriela_64, Zakai_68, Lynnae_69, Finemlucis_67, GuuelaD_66, Gardann_68, MkaliMitinis3_68, Breezona_67, Sarshaun_68, Itos_66, LilDestine_67, Rumpelstiltskin_66, Wilder_68, Loadrie_66, Kahlid_67, Rossetti_69, Hafay_69, Winky_67
- Track 39 : Bazzle_67
- Track 40 : Crossroads_67
- Track 41 : Tourach_66
- Track 42 : Baoshan_66
- Track 43 : DHan_68
- Track 44 : Quby_65, PYPDinur_63, FarmResident_67
- Track 45 : Douge_65
- Track 46 : ChutneyChips_65
- Track 47 : Douzhi_65
- Track 48 : Bromden_67

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

The start number called the most often in the published annotations is 49, it was called in 45 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amanises_31, Antares_54, Ariadne_62, Basilisk_30, BeagleBug_53, BrazzalePHS_53, Brynnie_29, Chickaboom_30, Chicken_28, ClearAsMud_57, Cranjis_55, CrazyRich_53, Crisis_55, Fireman_56, Gina_56, Hermeonysus_53, Jamun_28, Jefe_54, Jollipop_54, KaiHaiDragon_54, Kowalski_53, LittleFortune_55, Metamorphoo_56, Niblet_28, NoodlelyBoi_55, Onika_53, Paschalis_53, PhedwardCullen_53, PierreOrion_54, PiperSansNom_54, Quhwah_57, Ramiel05_53, RobsFeet_57, Rockwell_53, Ruchi_29, Savannah_53, Scumberland_55, Shotgun_53, Shrubaron_56, Skugga_53, Smarties_62, TaylorSipht_29, Teamocil_56, Toad24_31, Tyrumbra_54, Vulpecula_29, WileyE_30, Zapato_53, Zixiang_28,

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

- Abidatro_29,

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

- Baoshan_66, Bazzle_67, BigCheese_67, BobsGarage_67, Breezona_67, Bromden_67, Busephilis_53, ChutneyChips_65, Claus_67, Crossroads_67, DHan_68, DanBing_68, Douge_65, Douzhi_65, FarmResident_67, Finemlucis_67, Gabriela_64, Galaxy_30, Ganandorf_53, Gardann_68, Germa_55, Glorp_55, GuuelaD_66, Hafay_69, Honeyfin_55, Itos_66, JrWilcox_102, Kahlid_67, Lewan_68, LilDestine_67, Loadrie_66, Lucretia_54, Lynnae_69, Merry_, Miley16_67, MkaliMitinis3_68, Nicholasp3_67, OverPar_68, PYPDinur_63, Phorgeous_53, Phrancesco_54, Piperis_54, Pulchra_55, Quby_65, Rossetti_69, Rumpelstiltskin_66, Sarshaun_68, SirFrank_54, Sunny_, Tourach_66, Underpass_58, ValentiniPuff_101, Vetrix_67, Wigglewiggles_67, Wilder_68, Winky_67, Yeti_54, Zakai_68, ZhongYanYuan_66,

Summary by start number:

Start 33:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bromden_67 (L4),

Start 35:

- Found in 5 of 109 (4.6%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: DHan_68 (L2),

Start 40:

- Found in 34 of 109 (31.2%) of genes in pham
- Manual Annotations of this start: 7 of 91
- Called 20.6% of time when present
- Phage (with cluster) where this start called: BigCheese_67 (L2), BobsGarage_67 (L2), Lewan_68 (L2), Nicholasp3_67 (L2), OverPar_68 (L2), Underpass_58 (L2), Vetrix_67 (L2),

Start 43:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Galaxy_30 (AS1),

Start 44:

- Found in 2 of 109 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Abidatro_29 (AS1),

Start 45:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SirFrank_54 (EC),

Start 46:

- Found in 20 of 109 (18.3%) of genes in pham
- Manual Annotations of this start: 13 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Busephilis_53 (EC), Douge_65 (L4), Douzhi_65 (L4), FarmResident_67 (L4), Ganandorf_53 (EC), Germa_55 (EC), Glorp_55 (EC), Honeyfin_55 (EC), JrWilcox_102 (GL), Lucretia_54 (EC), Merry_54 (EC), PYPDinur_63 (L4), Phorgeous_53 (EC), Phrancesco_54 (EC), Piperis_54 (EC), Pulchra_55 (EC), Quby_65 (L4), Sunny_54 (EC), ValentiniPuff_101 (GL), Yeti_54 (EC),

Start 47:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 91

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bazzle_67 (L2),

Start 48:

- Found in 34 of 109 (31.2%) of genes in pham
- Manual Annotations of this start: 20 of 91
- Called 76.5% of time when present
- Phage (with cluster) where this start called: Baoshan_66 (L2), Breezona_67 (L2), Claus_67 (L2), Crossroads_67 (L2), DanBing_68 (L2), Finemlucis_67 (L2), Gabriela_64 (L2), Gardann_68 (L2), GuuelaD_66 (L2), Hafay_69 (L2), Itos_66 (L2), Kahlid_67 (L2), LilDestine_67 (L2), Loadrie_66 (L2), Lynnae_69 (L2), Miley16_67 (L2), MkaliMitinis3_68 (L2), Rossetti_69 (L2), Rumpelstiltskin_66 (L2), Sarshaun_68 (L2), Tourach_66 (L2), Wigglewiggle_67 (L2), Wilder_68 (L2), Winky_67 (L2), Zakai_68 (L2), ZhongYanYuan_66 (L2),

Start 49:

- Found in 50 of 109 (45.9%) of genes in pham
- Manual Annotations of this start: 45 of 91
- Called 98.0% of time when present
- Phage (with cluster) where this start called: Amanises_31 (AS1), Antares_54 (EC), Ariadne_62 (EC), Basilisk_30 (AS1), BeagleBug_53 (EC), BrazzalePHS_53 (EC), Brynnie_29 (AS1), Chickaboom_30 (AS1), Chicken_28 (AS1), ClearAsMud_57 (EC), Cranjis_55 (EC), CrazyRich_53 (EC), Crisis_55 (EC), Fireman_56 (EC), Gina_56 (EC), Hermeonysus_53 (EC), Jamun_28 (AS1), Jefe_54 (EC), Jollipop_54 (EC), KaiHaiDragon_54 (EC), Kowalski_53 (EC), LittleFortune_55 (EC), Metamorphoo_56 (EC), Niblet_28 (AS1), NoodlelyBoi_55 (EC), Onika_53 (EC), Paschalis_53 (EC), PhedwardCullen_53 (EC), PierreOrion_54 (EC), PiperSansNom_54 (EC), Quhwah_57 (EC), Ramiel05_53 (EC), RobsFeet_57 (EC), Rockwell_53 (EC), Ruchi_29 (AS1), Savannah_53 (EC), Scumberland_55 (EC), Shotgun_53 (EC), Shrubaron_56 (EC), Skugga_53 (EC), Smarties_62 (EC), TaylorSipht_29 (AS1), Teamocil_56 (EC), Toad24_31 (AS1), Tyumbra_54 (EC), Vulpecula_29 (AS1), WileyE_30 (AS1), Zapato_53 (EC), Zixiang_28 (AS1),

Start 51:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChutneyChips_65 (L4),

Summary by clusters:

There are 5 clusters represented in this pham: AS1, GL, L2, L4, EC,

Info for manual annotations of cluster AS1:

- Start number 43 was manually annotated 1 time for cluster AS1.
- Start number 44 was manually annotated 1 time for cluster AS1.
- Start number 49 was manually annotated 13 times for cluster AS1.

Info for manual annotations of cluster EC:

- Start number 45 was manually annotated 1 time for cluster EC.
- Start number 46 was manually annotated 11 times for cluster EC.
- Start number 49 was manually annotated 32 times for cluster EC.

Info for manual annotations of cluster GL:

- Start number 46 was manually annotated 1 time for cluster GL.

Info for manual annotations of cluster L2:

- Start number 40 was manually annotated 7 times for cluster L2.
- Start number 47 was manually annotated 1 time for cluster L2.
- Start number 48 was manually annotated 20 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 33 was manually annotated 1 time for cluster L4.
- Start number 46 was manually annotated 1 time for cluster L4.
- Start number 51 was manually annotated 1 time for cluster L4.

Gene Information:

Gene: Abidatro_29 Start: 21393, Stop: 20860, Start Num: 44

Candidate Starts for Abidatro_29:

(29, 21495), (Start: 44 @21393 has 1 MA's), (Start: 49 @21390 has 45 MA's), (54, 21357), (60, 21261), (69, 21105), (71, 21096), (81, 20922), (82, 20895),

Gene: Amanises_31 Start: 22263, Stop: 21769, Start Num: 49

Candidate Starts for Amanises_31:

(31, 22350), (Start: 49 @22263 has 45 MA's), (60, 22134), (62, 22089), (64, 22083), (69, 21978), (71, 21969), (81, 21822),

Gene: Antares_54 Start: 35918, Stop: 36367, Start Num: 49

Candidate Starts for Antares_54:

(Start: 49 @35918 has 45 MA's), (64, 36077), (69, 36182), (70, 36188), (74, 36245), (80, 36362),

Gene: Ariadne_62 Start: 37502, Stop: 37951, Start Num: 49

Candidate Starts for Ariadne_62:

(38, 37460), (Start: 49 @37502 has 45 MA's), (55, 37553), (64, 37661), (69, 37766), (70, 37772), (80, 37946),

Gene: Baoshan_66 Start: 46306, Stop: 46692, Start Num: 48

Candidate Starts for Baoshan_66:

(21, 46120), (23, 46153), (35, 46249), (Start: 40 @46288 has 7 MA's), (Start: 48 @46306 has 20 MA's), (61, 46423), (64, 46450), (66, 46528), (79, 46675),

Gene: Basilisk_30 Start: 22338, Stop: 21847, Start Num: 49

Candidate Starts for Basilisk_30:

(Start: 49 @22338 has 45 MA's), (54, 22305), (58, 22233), (60, 22209), (62, 22164), (71, 22044),

Gene: Bazzle_67 Start: 46701, Stop: 47099, Start Num: 47

Candidate Starts for Bazzle_67:

(Start: 47 @46701 has 1 MA's), (61, 46818), (64, 46845), (66, 46923), (70, 46956), (79, 47070),

Gene: BeagleBug_53 Start: 35699, Stop: 36148, Start Num: 49

Candidate Starts for BeagleBug_53:

(Start: 49 @35699 has 45 MA's), (64, 35858), (69, 35963), (70, 35969), (74, 36026), (80, 36143),

Gene: BigCheese_67 Start: 46345, Stop: 46764, Start Num: 40

Candidate Starts for BigCheese_67:

(14, 46084), (21, 46177), (Start: 40 @46345 has 7 MA's), (Start: 48 @46363 has 20 MA's), (61, 46480), (64, 46507), (66, 46585), (79, 46732),

Gene: BobsGarage_67 Start: 46345, Stop: 46764, Start Num: 40

Candidate Starts for BobsGarage_67:

(14, 46084), (21, 46177), (Start: 40 @46345 has 7 MA's), (Start: 48 @46363 has 20 MA's), (61, 46480), (64, 46507), (66, 46585), (79, 46732),

Gene: BrazzalePHS_53 Start: 35714, Stop: 36163, Start Num: 49

Candidate Starts for BrazzalePHS_53:

(10, 35405), (12, 35408), (22, 35549), (30, 35621), (Start: 49 @35714 has 45 MA's), (69, 35978), (70, 35984), (74, 36041), (80, 36158),

Gene: Breezona_67 Start: 46363, Stop: 46764, Start Num: 48

Candidate Starts for Breezona_67:

(14, 46084), (21, 46177), (Start: 40 @46345 has 7 MA's), (Start: 48 @46363 has 20 MA's), (61, 46480), (64, 46507), (66, 46585), (79, 46732),

Gene: Bromden_67 Start: 46292, Stop: 46696, Start Num: 33

Candidate Starts for Bromden_67:

(11, 46049), (13, 46061), (15, 46079), (18, 46139), (27, 46238), (Start: 33 @46292 has 1 MA's), (61, 46415), (64, 46442), (73, 46601),

Gene: Brynnie_29 Start: 22216, Stop: 21725, Start Num: 49

Candidate Starts for Brynnie_29:

(37, 22267), (Start: 49 @22216 has 45 MA's), (54, 22183), (58, 22111), (60, 22087), (62, 22042), (71, 21922),

Gene: Busephilis_53 Start: 35622, Stop: 36074, Start Num: 46

Candidate Starts for Busephilis_53:

(Start: 46 @35622 has 13 MA's), (55, 35676), (64, 35784), (69, 35889), (74, 35952), (80, 36069),

Gene: Chickaboom_30 Start: 21353, Stop: 20883, Start Num: 49

Candidate Starts for Chickaboom_30:

(26, 21479), (31, 21440), (Start: 49 @21353 has 45 MA's), (54, 21320), (58, 21248), (60, 21224), (69, 21068),

Gene: Chicken_28 Start: 21668, Stop: 21147, Start Num: 49

Candidate Starts for Chicken_28:

(26, 21791), (31, 21752), (Start: 49 @21668 has 45 MA's), (60, 21539), (62, 21494), (64, 21488), (69, 21383), (71, 21374), (81, 21227),

Gene: ChutneyChips_65 Start: 45296, Stop: 45694, Start Num: 51

Candidate Starts for ChutneyChips_65:

(6, 44936), (8, 44954), (11, 44972), (15, 45002), (18, 45062), (42, 45263), (Start: 51 @45296 has 1 MA's), (61, 45413), (64, 45440), (73, 45599), (79, 45665),

Gene: Claus_67 Start: 46444, Stop: 46830, Start Num: 48

Candidate Starts for Claus_67:

(21, 46258), (35, 46387), (Start: 40 @46426 has 7 MA's), (Start: 48 @46444 has 20 MA's), (61, 46561), (64, 46588), (66, 46666), (79, 46813),

Gene: ClearAsMud_57 Start: 36175, Stop: 36624, Start Num: 49

Candidate Starts for ClearAsMud_57:

(9, 35857), (17, 35944), (19, 35962), (28, 36061), (36, 36115), (Start: 49 @36175 has 45 MA's), (64, 36334), (65, 36370), (67, 36424), (69, 36439), (70, 36445), (74, 36502), (80, 36619),

Gene: Cranjjs_55 Start: 35873, Stop: 36322, Start Num: 49

Candidate Starts for Cranjjs_55:

(3, 35447), (10, 35564), (12, 35567), (22, 35708), (30, 35780), (Start: 49 @35873 has 45 MA's), (69, 36137), (70, 36143), (74, 36200), (80, 36317),

Gene: CrazyRich_53 Start: 35682, Stop: 36131, Start Num: 49

Candidate Starts for CrazyRich_53:

(10, 35373), (12, 35376), (22, 35517), (30, 35589), (Start: 49 @35682 has 45 MA's), (64, 35841), (69, 35946), (70, 35952), (74, 36009), (80, 36126),

Gene: Crisis_55 Start: 35673, Stop: 36122, Start Num: 49

Candidate Starts for Crisis_55:

(10, 35364), (12, 35367), (22, 35508), (30, 35580), (Start: 49 @35673 has 45 MA's), (64, 35832), (69, 35937), (70, 35943), (74, 36000), (80, 36117),

Gene: Crossroads_67 Start: 46441, Stop: 46839, Start Num: 48

Candidate Starts for Crossroads_67:

(14, 46162), (21, 46255), (Start: 40 @46423 has 7 MA's), (Start: 48 @46441 has 20 MA's), (64, 46585), (66, 46663), (79, 46810),

Gene: DHan_68 Start: 46287, Stop: 46730, Start Num: 35

Candidate Starts for DHan_68:

(21, 46158), (35, 46287), (Start: 40 @46326 has 7 MA's), (Start: 48 @46344 has 20 MA's), (61, 46461), (64, 46488), (66, 46566), (79, 46713),

Gene: DanBing_68 Start: 46313, Stop: 46699, Start Num: 48

Candidate Starts for DanBing_68:

(21, 46127), (35, 46256), (Start: 40 @46295 has 7 MA's), (Start: 48 @46313 has 20 MA's), (61, 46430), (64, 46457), (66, 46535), (79, 46682),

Gene: Douge_65 Start: 45034, Stop: 45432, Start Num: 46

Candidate Starts for Douge_65:

(34, 44974), (39, 45007), (Start: 46 @45034 has 13 MA's), (61, 45151), (64, 45178), (73, 45337),

Gene: Douzhi_65 Start: 45087, Stop: 45485, Start Num: 46

Candidate Starts for Douzhi_65:

(Start: 46 @45087 has 13 MA's), (64, 45231), (73, 45390),

Gene: FarmResident_67 Start: 45043, Stop: 45441, Start Num: 46

Candidate Starts for FarmResident_67:

(Start: 46 @45043 has 13 MA's), (61, 45160), (64, 45187), (73, 45346),

Gene: Finemlucis_67 Start: 46684, Stop: 47085, Start Num: 48

Candidate Starts for Finemlucis_67:

(14, 46405), (21, 46498), (Start: 40 @46666 has 7 MA's), (Start: 48 @46684 has 20 MA's), (61, 46801), (64, 46828), (66, 46906), (79, 47053),

Gene: Fireman_56 Start: 37569, Stop: 38018, Start Num: 49
Candidate Starts for Fireman_56:
(Start: 49 @37569 has 45 MA's), (55, 37620), (64, 37728), (69, 37833), (70, 37839), (80, 38013),

Gene: Gabriela_64 Start: 44813, Stop: 45211, Start Num: 48
Candidate Starts for Gabriela_64:
(14, 44534), (21, 44627), (Start: 40 @44795 has 7 MA's), (Start: 48 @44813 has 20 MA's), (61, 44930),
(64, 44957), (66, 45035), (79, 45182),

Gene: Galaxy_30 Start: 21976, Stop: 21491, Start Num: 43
Candidate Starts for Galaxy_30:
(Start: 43 @21976 has 1 MA's), (50, 21955), (54, 21931), (60, 21835), (69, 21679), (71, 21670),

Gene: Ganandorf_53 Start: 35703, Stop: 36155, Start Num: 46
Candidate Starts for Ganandorf_53:
(Start: 46 @35703 has 13 MA's), (55, 35757), (64, 35865), (69, 35970), (70, 35976), (74, 36033), (80,
36150),

Gene: Gardann_68 Start: 46399, Stop: 46797, Start Num: 48
Candidate Starts for Gardann_68:
(14, 46120), (21, 46213), (Start: 40 @46381 has 7 MA's), (Start: 48 @46399 has 20 MA's), (61, 46516),
(64, 46543), (66, 46621), (79, 46768),

Gene: Germa_55 Start: 35532, Stop: 35984, Start Num: 46
Candidate Starts for Germa_55:
(Start: 46 @35532 has 13 MA's), (55, 35586), (59, 35649), (64, 35694), (68, 35796), (69, 35799), (70,
35805), (74, 35862), (80, 35979),

Gene: Gina_56 Start: 35677, Stop: 36126, Start Num: 49
Candidate Starts for Gina_56:
(38, 35638), (Start: 49 @35677 has 45 MA's), (55, 35728), (64, 35836), (69, 35941), (70, 35947), (75,
36025),

Gene: Glorp_55 Start: 35704, Stop: 36156, Start Num: 46
Candidate Starts for Glorp_55:
(Start: 46 @35704 has 13 MA's), (55, 35758), (59, 35821), (64, 35866), (69, 35971), (70, 35977), (74,
36034), (80, 36151),

Gene: GuuelaD_66 Start: 46478, Stop: 46879, Start Num: 48
Candidate Starts for GuuelaD_66:
(14, 46199), (21, 46292), (Start: 40 @46460 has 7 MA's), (Start: 48 @46478 has 20 MA's), (61, 46595),
(64, 46622), (66, 46700), (79, 46847),

Gene: Hafay_69 Start: 46467, Stop: 46868, Start Num: 48
Candidate Starts for Hafay_69:
(14, 46188), (21, 46281), (Start: 40 @46449 has 7 MA's), (Start: 48 @46467 has 20 MA's), (61, 46584),
(64, 46611), (66, 46689), (79, 46836),

Gene: Hermeonysus_53 Start: 35602, Stop: 36051, Start Num: 49
Candidate Starts for Hermeonysus_53:
(Start: 49 @35602 has 45 MA's), (64, 35761), (69, 35866), (74, 35929), (80, 36046),

Gene: Honeyfin_55 Start: 35891, Stop: 36343, Start Num: 46

Candidate Starts for Honeyfin_55:

(Start: 46 @35891 has 13 MA's), (55, 35945), (59, 36008), (64, 36053), (69, 36158), (70, 36164), (74, 36221), (80, 36338),

Gene: Itos_66 Start: 45269, Stop: 45670, Start Num: 48

Candidate Starts for Itos_66:

(14, 44990), (21, 45083), (Start: 40 @45251 has 7 MA's), (Start: 48 @45269 has 20 MA's), (61, 45386), (64, 45413), (66, 45491), (79, 45638),

Gene: Jamun_28 Start: 21237, Stop: 20692, Start Num: 49

Candidate Starts for Jamun_28:

(31, 21321), (Start: 44 @21240 has 1 MA's), (Start: 49 @21237 has 45 MA's), (54, 21204), (60, 21108), (62, 21063), (64, 21057), (71, 20943), (81, 20766),

Gene: Jefe_54 Start: 35660, Stop: 36109, Start Num: 49

Candidate Starts for Jefe_54:

(10, 35351), (12, 35354), (22, 35495), (30, 35567), (Start: 49 @35660 has 45 MA's), (64, 35819), (69, 35924), (70, 35930), (74, 35987), (80, 36104),

Gene: Jollipop_54 Start: 35999, Stop: 36448, Start Num: 49

Candidate Starts for Jollipop_54:

(3, 35573), (10, 35690), (12, 35693), (22, 35834), (30, 35906), (Start: 49 @35999 has 45 MA's), (59, 36113), (64, 36158), (69, 36263), (70, 36269), (74, 36326), (80, 36443),

Gene: JrWilcox_102 Start: 57042, Stop: 57449, Start Num: 46

Candidate Starts for JrWilcox_102:

(32, 56964), (41, 57027), (Start: 46 @57042 has 13 MA's), (52, 57078), (54, 57087), (72, 57342),

Gene: Kahlid_67 Start: 46369, Stop: 46770, Start Num: 48

Candidate Starts for Kahlid_67:

(14, 46090), (21, 46183), (Start: 40 @46351 has 7 MA's), (Start: 48 @46369 has 20 MA's), (61, 46486), (64, 46513), (66, 46591), (79, 46738),

Gene: KaiHaiDragon_54 Start: 35596, Stop: 36045, Start Num: 49

Candidate Starts for KaiHaiDragon_54:

(Start: 49 @35596 has 45 MA's), (67, 35845), (69, 35860), (70, 35866), (74, 35923), (80, 36040),

Gene: Kowalski_53 Start: 35709, Stop: 36158, Start Num: 49

Candidate Starts for Kowalski_53:

(10, 35400), (12, 35403), (22, 35544), (30, 35616), (Start: 49 @35709 has 45 MA's), (69, 35973), (70, 35979), (74, 36036), (80, 36153),

Gene: Lewan_68 Start: 46405, Stop: 46821, Start Num: 40

Candidate Starts for Lewan_68:

(14, 46144), (21, 46237), (Start: 40 @46405 has 7 MA's), (Start: 48 @46423 has 20 MA's), (61, 46540), (64, 46567), (66, 46645), (79, 46792),

Gene: LilDestine_67 Start: 46396, Stop: 46797, Start Num: 48

Candidate Starts for LilDestine_67:

(14, 46117), (21, 46210), (Start: 40 @46378 has 7 MA's), (Start: 48 @46396 has 20 MA's), (61, 46513), (64, 46540), (66, 46618), (79, 46765),

Gene: LittleFortune_55 Start: 35965, Stop: 36414, Start Num: 49

Candidate Starts for LittleFortune_55:

(3, 35539), (10, 35656), (12, 35659), (22, 35800), (30, 35872), (Start: 49 @35965 has 45 MA's), (69, 36229), (70, 36235), (74, 36292), (80, 36409),

Gene: Loadrie_66 Start: 46451, Stop: 46849, Start Num: 48

Candidate Starts for Loadrie_66:

(14, 46172), (21, 46265), (Start: 40 @46433 has 7 MA's), (Start: 48 @46451 has 20 MA's), (61, 46568), (64, 46595), (66, 46673), (79, 46820),

Gene: Lucretia_54 Start: 35620, Stop: 36072, Start Num: 46

Candidate Starts for Lucretia_54:

(Start: 46 @35620 has 13 MA's), (55, 35674), (59, 35737), (64, 35782), (68, 35884), (69, 35887), (70, 35893), (74, 35950), (80, 36067),

Gene: Lynnae_69 Start: 46394, Stop: 46795, Start Num: 48

Candidate Starts for Lynnae_69:

(14, 46115), (21, 46208), (Start: 40 @46376 has 7 MA's), (Start: 48 @46394 has 20 MA's), (61, 46511), (64, 46538), (66, 46616), (79, 46763),

Gene: Merry_ Start: 37459, Stop: 37911, Start Num: 46

Candidate Starts for Merry_:

(Start: 46 @37459 has 13 MA's), (65, 37657), (66, 37699), (80, 37906),

Gene: Metamorphoo_56 Start: 36831, Stop: 37280, Start Num: 49

Candidate Starts for Metamorphoo_56:

(Start: 49 @36831 has 45 MA's), (55, 36882), (64, 36990), (69, 37095), (70, 37101), (80, 37275),

Gene: Miley16_67 Start: 46363, Stop: 46764, Start Num: 48

Candidate Starts for Miley16_67:

(14, 46084), (21, 46177), (Start: 40 @46345 has 7 MA's), (Start: 48 @46363 has 20 MA's), (61, 46480), (64, 46507), (66, 46585), (79, 46732),

Gene: MkaliMitinis3_68 Start: 46435, Stop: 46833, Start Num: 48

Candidate Starts for MkaliMitinis3_68:

(14, 46156), (21, 46249), (Start: 40 @46417 has 7 MA's), (Start: 48 @46435 has 20 MA's), (61, 46552), (64, 46579), (66, 46657), (79, 46804),

Gene: Niblet_28 Start: 21668, Stop: 21147, Start Num: 49

Candidate Starts for Niblet_28:

(26, 21791), (31, 21752), (Start: 49 @21668 has 45 MA's), (60, 21539), (62, 21494), (64, 21488), (69, 21383), (71, 21374), (81, 21227),

Gene: Nicholasp3_67 Start: 46381, Stop: 46797, Start Num: 40

Candidate Starts for Nicholasp3_67:

(14, 46120), (21, 46213), (Start: 40 @46381 has 7 MA's), (Start: 48 @46399 has 20 MA's), (61, 46516), (64, 46543), (66, 46621), (79, 46768),

Gene: NoodlelyBoi_55 Start: 36387, Stop: 36836, Start Num: 49

Candidate Starts for NoodlelyBoi_55:

(9, 36069), (17, 36156), (19, 36174), (28, 36273), (36, 36327), (Start: 49 @36387 has 45 MA's), (64, 36546), (65, 36582), (67, 36636), (69, 36651), (70, 36657), (74, 36714), (80, 36831),

Gene: Onika_53 Start: 35684, Stop: 36133, Start Num: 49

Candidate Starts for Onika_53:

(Start: 49 @35684 has 45 MA's), (64, 35843), (69, 35948), (74, 36011), (80, 36128),

Gene: OverPar_68 Start: 46433, Stop: 46849, Start Num: 40

Candidate Starts for OverPar_68:

(14, 46172), (21, 46265), (Start: 40 @46433 has 7 MA's), (Start: 48 @46451 has 20 MA's), (61, 46568), (64, 46595), (66, 46673), (79, 46820),

Gene: PYPDinur_63 Start: 45117, Stop: 45515, Start Num: 46

Candidate Starts for PYPDinur_63:

(Start: 46 @45117 has 13 MA's), (61, 45234), (64, 45261), (73, 45420),

Gene: Paschalis_53 Start: 35691, Stop: 36140, Start Num: 49

Candidate Starts for Paschalis_53:

(Start: 49 @35691 has 45 MA's), (57, 35790), (64, 35850), (69, 35955), (70, 35961), (74, 36018), (80, 36135),

Gene: PhedwardCullen_53 Start: 35442, Stop: 35891, Start Num: 49

Candidate Starts for PhedwardCullen_53:

(Start: 49 @35442 has 45 MA's), (64, 35601), (69, 35706), (70, 35712), (74, 35769), (80, 35886),

Gene: Phorgeous_53 Start: 35522, Stop: 35974, Start Num: 46

Candidate Starts for Phorgeous_53:

(Start: 46 @35522 has 13 MA's), (55, 35576), (64, 35684), (69, 35789), (70, 35795), (74, 35852), (80, 35969),

Gene: Phrancesco_54 Start: 35812, Stop: 36264, Start Num: 46

Candidate Starts for Phrancesco_54:

(Start: 46 @35812 has 13 MA's), (55, 35866), (64, 35974), (69, 36079), (74, 36142), (80, 36259),

Gene: PierreOrion_54 Start: 35858, Stop: 36307, Start Num: 49

Candidate Starts for PierreOrion_54:

(3, 35432), (10, 35549), (12, 35552), (22, 35693), (30, 35765), (Start: 49 @35858 has 45 MA's), (59, 35972), (64, 36017), (69, 36122), (70, 36128), (74, 36185), (80, 36302),

Gene: PiperSansNom_54 Start: 35998, Stop: 36447, Start Num: 49

Candidate Starts for PiperSansNom_54:

(Start: 49 @35998 has 45 MA's), (64, 36157), (69, 36262), (74, 36325), (80, 36442),

Gene: Piperis_54 Start: 35645, Stop: 36097, Start Num: 46

Candidate Starts for Piperis_54:

(Start: 46 @35645 has 13 MA's), (55, 35699), (64, 35807), (69, 35912), (70, 35918), (74, 35975), (80, 36092),

Gene: Pulchra_55 Start: 36042, Stop: 36494, Start Num: 46

Candidate Starts for Pulchra_55:

(Start: 46 @36042 has 13 MA's), (55, 36096), (59, 36159), (64, 36204), (69, 36309), (74, 36372), (80, 36489),

Gene: Quby_65 Start: 45009, Stop: 45407, Start Num: 46

Candidate Starts for Quby_65:

(Start: 46 @45009 has 13 MA's), (61, 45126), (64, 45153), (73, 45312),

Gene: Quhwah_57 Start: 36306, Stop: 36755, Start Num: 49
Candidate Starts for Quhwah_57:
(Start: 49 @36306 has 45 MA's), (64, 36465), (69, 36570), (70, 36576), (74, 36633), (80, 36750),

Gene: Ramiel05_53 Start: 35709, Stop: 36158, Start Num: 49
Candidate Starts for Ramiel05_53:
(10, 35400), (12, 35403), (22, 35544), (30, 35616), (Start: 49 @35709 has 45 MA's), (69, 35973), (70, 35979), (74, 36036), (80, 36153),

Gene: RobsFeet_57 Start: 37130, Stop: 37579, Start Num: 49
Candidate Starts for RobsFeet_57:
(Start: 49 @37130 has 45 MA's), (55, 37181), (64, 37289), (69, 37394), (70, 37400), (80, 37574),

Gene: Rockwell_53 Start: 35709, Stop: 36158, Start Num: 49
Candidate Starts for Rockwell_53:
(Start: 49 @35709 has 45 MA's), (64, 35868), (69, 35973), (74, 36036), (80, 36153),

Gene: Rossetti_69 Start: 46945, Stop: 47343, Start Num: 48
Candidate Starts for Rossetti_69:
(14, 46666), (21, 46759), (Start: 40 @46927 has 7 MA's), (Start: 48 @46945 has 20 MA's), (61, 47062), (64, 47089), (66, 47167), (79, 47314),

Gene: Ruchi_29 Start: 22284, Stop: 21793, Start Num: 49
Candidate Starts for Ruchi_29:
(26, 22410), (Start: 49 @22284 has 45 MA's), (54, 22251), (58, 22179), (60, 22155), (62, 22110), (71, 21990),

Gene: Rumpelstiltskin_66 Start: 45792, Stop: 46190, Start Num: 48
Candidate Starts for Rumpelstiltskin_66:
(14, 45513), (21, 45606), (Start: 40 @45774 has 7 MA's), (Start: 48 @45792 has 20 MA's), (61, 45909), (64, 45936), (66, 46014), (79, 46161),

Gene: Sarshaun_68 Start: 46459, Stop: 46857, Start Num: 48
Candidate Starts for Sarshaun_68:
(14, 46180), (21, 46273), (Start: 40 @46441 has 7 MA's), (Start: 48 @46459 has 20 MA's), (61, 46576), (64, 46603), (66, 46681), (79, 46828),

Gene: Savannah_53 Start: 35736, Stop: 36185, Start Num: 49
Candidate Starts for Savannah_53:
(Start: 49 @35736 has 45 MA's), (64, 35895), (69, 36000), (70, 36006), (74, 36063), (80, 36180),

Gene: Scumberland_55 Start: 35931, Stop: 36380, Start Num: 49
Candidate Starts for Scumberland_55:
(3, 35505), (10, 35622), (12, 35625), (22, 35766), (30, 35838), (Start: 49 @35931 has 45 MA's), (69, 36195), (70, 36201), (74, 36258), (80, 36375),

Gene: Shotgun_53 Start: 35535, Stop: 35984, Start Num: 49
Candidate Starts for Shotgun_53:
(Start: 49 @35535 has 45 MA's), (64, 35694), (69, 35799), (70, 35805), (74, 35862), (80, 35979),

Gene: Shrubaron_56 Start: 36743, Stop: 37192, Start Num: 49
Candidate Starts for Shrubaron_56:
(Start: 49 @36743 has 45 MA's), (55, 36794), (64, 36902), (69, 37007), (70, 37013), (80, 37187),

Gene: SirFrank_54 Start: 35866, Stop: 36318, Start Num: 45

Candidate Starts for SirFrank_54:

(Start: 45 @35866 has 1 MA's), (56, 35944), (64, 36028), (65, 36064), (69, 36133), (76, 36238), (80, 36313),

Gene: Skugga_53 Start: 35695, Stop: 36144, Start Num: 49

Candidate Starts for Skugga_53:

(1, 35245), (2, 35257), (4, 35341), (5, 35344), (7, 35356), (16, 35443), (20, 35506), (24, 35563), (25, 35566), (38, 35656), (Start: 49 @35695 has 45 MA's), (55, 35746), (64, 35854), (69, 35959), (80, 36139),

Gene: Smarties_62 Start: 37502, Stop: 37951, Start Num: 49

Candidate Starts for Smarties_62:

(38, 37460), (Start: 49 @37502 has 45 MA's), (55, 37553), (64, 37661), (69, 37766), (70, 37772), (80, 37946),

Gene: Sunny_ Start: 37461, Stop: 37913, Start Num: 46

Candidate Starts for Sunny_:

(Start: 46 @37461 has 13 MA's), (65, 37659), (66, 37701), (80, 37908),

Gene: TaylorSipht_29 Start: 21289, Stop: 20720, Start Num: 49

Candidate Starts for TaylorSipht_29:

(31, 21373), (Start: 49 @21289 has 45 MA's), (54, 21256), (58, 21184), (60, 21160), (62, 21115), (74, 20941),

Gene: Teamocil_56 Start: 35776, Stop: 36225, Start Num: 49

Candidate Starts for Teamocil_56:

(38, 35737), (Start: 49 @35776 has 45 MA's), (55, 35827), (64, 35935), (69, 36040), (70, 36046), (75, 36124),

Gene: Toad24_31 Start: 22325, Stop: 21831, Start Num: 49

Candidate Starts for Toad24_31:

(31, 22412), (Start: 49 @22325 has 45 MA's), (60, 22196), (62, 22151), (64, 22145), (69, 22040), (71, 22031), (81, 21884),

Gene: Tourach_66 Start: 46445, Stop: 46831, Start Num: 48

Candidate Starts for Tourach_66:

(21, 46259), (Start: 40 @46427 has 7 MA's), (Start: 48 @46445 has 20 MA's), (61, 46562), (64, 46589), (66, 46667), (79, 46814),

Gene: Tyrumbra_54 Start: 36909, Stop: 37358, Start Num: 49

Candidate Starts for Tyrumbra_54:

(Start: 49 @36909 has 45 MA's), (55, 36960), (64, 37068), (69, 37173), (74, 37236), (80, 37353),

Gene: Underpass_58 Start: 41417, Stop: 41833, Start Num: 40

Candidate Starts for Underpass_58:

(14, 41156), (21, 41249), (Start: 40 @41417 has 7 MA's), (Start: 48 @41435 has 20 MA's), (61, 41552), (64, 41579), (66, 41657), (79, 41804),

Gene: ValentiniPuff_101 Start: 57583, Stop: 57990, Start Num: 46

Candidate Starts for ValentiniPuff_101:

(Start: 46 @57583 has 13 MA's), (53, 57622), (54, 57628), (63, 57748), (72, 57883), (77, 57961),

Gene: Vetric_67 Start: 46385, Stop: 46804, Start Num: 40

Candidate Starts for Vetric_67:

(14, 46124), (21, 46217), (Start: 40 @46385 has 7 MA's), (Start: 48 @46403 has 20 MA's), (61, 46520), (64, 46547), (66, 46625), (79, 46772),

Gene: Vulpecula_29 Start: 21960, Stop: 21436, Start Num: 49

Candidate Starts for Vulpecula_29:

(Start: 49 @21960 has 45 MA's), (54, 21927), (58, 21855), (60, 21831), (62, 21786), (71, 21666),

Gene: Wigglewigg_67 Start: 46423, Stop: 46821, Start Num: 48

Candidate Starts for Wigglewigg_67:

(14, 46144), (21, 46237), (Start: 40 @46405 has 7 MA's), (Start: 48 @46423 has 20 MA's), (61, 46540), (64, 46567), (66, 46645), (79, 46792),

Gene: Wilder_68 Start: 46369, Stop: 46770, Start Num: 48

Candidate Starts for Wilder_68:

(14, 46090), (21, 46183), (Start: 40 @46351 has 7 MA's), (Start: 48 @46369 has 20 MA's), (61, 46486), (64, 46513), (66, 46591), (79, 46738),

Gene: WileyE_30 Start: 21353, Stop: 20883, Start Num: 49

Candidate Starts for WileyE_30:

(26, 21479), (31, 21440), (Start: 49 @21353 has 45 MA's), (54, 21320), (58, 21248), (60, 21224), (69, 21068),

Gene: Winky_67 Start: 46363, Stop: 46764, Start Num: 48

Candidate Starts for Winky_67:

(14, 46084), (21, 46177), (Start: 40 @46345 has 7 MA's), (Start: 48 @46363 has 20 MA's), (61, 46480), (64, 46507), (66, 46585), (79, 46732),

Gene: Yeti_54 Start: 35678, Stop: 36130, Start Num: 46

Candidate Starts for Yeti_54:

(Start: 46 @35678 has 13 MA's), (55, 35732), (59, 35795), (64, 35840), (69, 35945), (70, 35951), (74, 36008), (80, 36125),

Gene: Zakai_68 Start: 46689, Stop: 47090, Start Num: 48

Candidate Starts for Zakai_68:

(14, 46410), (21, 46503), (Start: 40 @46671 has 7 MA's), (Start: 48 @46689 has 20 MA's), (61, 46806), (64, 46833), (66, 46911), (79, 47058),

Gene: Zapato_53 Start: 35894, Stop: 36343, Start Num: 49

Candidate Starts for Zapato_53:

(20, 35705), (25, 35765), (38, 35855), (Start: 49 @35894 has 45 MA's), (55, 35945), (64, 36053), (70, 36164), (74, 36221), (78, 36272),

Gene: ZhongYanYuan_66 Start: 46258, Stop: 46644, Start Num: 48

Candidate Starts for ZhongYanYuan_66:

(21, 46072), (35, 46201), (Start: 40 @46240 has 7 MA's), (Start: 48 @46258 has 20 MA's), (61, 46375), (64, 46402), (66, 46480), (79, 46627),

Gene: Zixiang_28 Start: 21681, Stop: 21187, Start Num: 49

Candidate Starts for Zixiang_28:

(31, 21768), (Start: 49 @21681 has 45 MA's), (60, 21552), (62, 21507), (64, 21501), (69, 21396), (71, 21387), (81, 21240),