Zoomed Pham 289501

1: BobsGarage_29
2: DHan_29
3: ZhongYanYuan_28 + 1
4: Finemlucis_29
5: Rossetti_29 + 3
6: LilDestine_29 + 6
7: GuuelaD_29 + 1
8: Vetrix_29 + 1
9: Claus_29
10: DverPar_30 + 1
11: Soap141_29 + 4
12: Archie_29 + 1
13: Miley16_29 + 7
14: Zakai_29
15: Baoshan_28
16: Tourach_29
17: Chaser_27
18: Douge_27
19: FarmResident_27
20: Quby_27
21: ChutneyChips_27
22: Aegeus_30 + 1
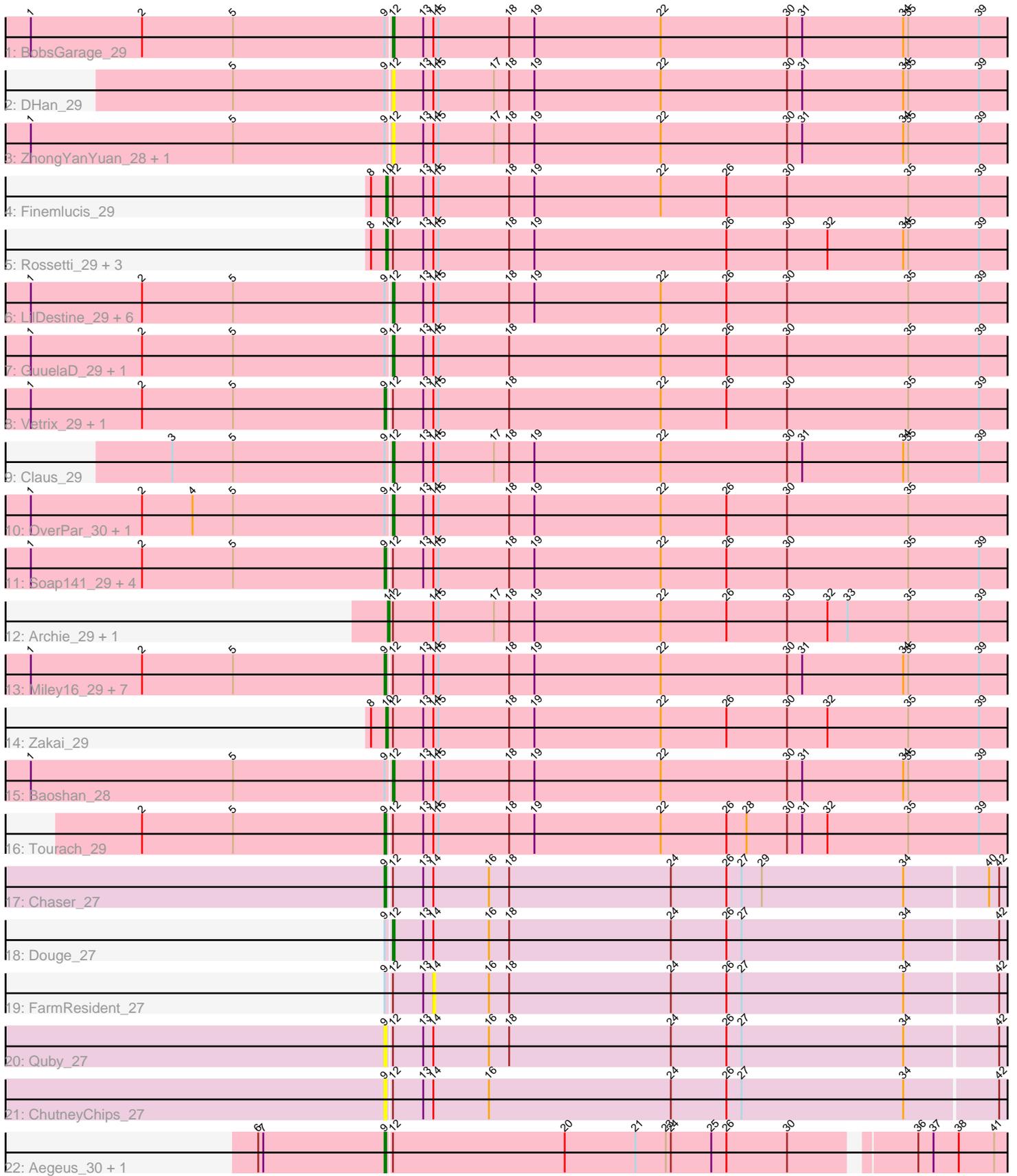
Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 289501 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289501 has 48 members, 13 are drafts.

Phages represented in each track:
• Track 1 : BobsGarage_29
• Track 2 : DHan_29
• Track 3 : ZhongYanYuan_28, DanBing_28
• Track 4 : Finemlucis_29
• Track 5 : Rossetti_29, Rumpelstiltskin_29, Gabriela_29, SoJulia_30
• Track 6 : LilDestine_29, Lynnae_29, Nicholasp3_29, Kahlid_29, Sarshaun_29, Wigglewiggle_29, Hafay_29
• Track 7 : GuuelaD_29, Crossroads_29
• Track 8 : Vetrix_29, Lewan_29
• Track 9 : Claus_29
• Track 10 : OverPar_30, Loadrie_29
• Track 11 : Soap141_29, Gardann_29, Wilder_29, MkaliMitinis3_29, Underpass_29
• Track 12 : Archie_29, Bazzle_29
• Track 13 : Miley16_29, Faith1_29, Winky_29, Itos_29, BigCheese_29, Netyap_29, Breezona_29, DrSeegs_29
• Track 14 : Zakai_29
• Track 15 : Baoshan_28
• Track 16 : Tourach_29
• Track 17 : Chaser_27
• Track 18 : Douge_27
• Track 19 : FarmResident_27
• Track 20 : Quby_27
• Track 21 : ChutneyChips_27
• Track 22 : Aegeus_30, Baudelaire_30

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

The start number called the most often in the published annotations is 9, it was called in 18 of the 35 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aegeus_30, Baudelaire_30, BigCheese_29, Breezona_29, Chaser_27, ChutneyChips_27, DrSeegs_29, Faith1_29, Gardann_29, Itos_29, Lewan_29, Miley16_29, MkaliMitinis3_29, Netyap_29, Quby_27, Soap141_29, Tourach_29,

Underpass_29, Vetrix_29, Wilder_29, Winky_29,

Genes that have the "Most Annotated" start but do not call it:
• Baoshan_28, BobsGarage_29, Claus_29, Crossroads_29, DHan_29, DanBing_28, Douge_27, FarmResident_27, GuuelaD_29, Hafay_29, Kahlid_29, LilDestine_29, Loadrie_29, Lynnae_29, Nicholasp3_29, OverPar_30, Sarshaun_29, Wigglewiggle_29, ZhongYanYuan_28,

Genes that do not have the "Most Annotated" start:
• Archie_29, Bazzle_29, Finemlucis_29, Gabriela_29, Rossetti_29, Rumpelstiltskin_29, SoJulia_30, Zakai_29,

Summary by start number:

Start 9:
• Found in 40 of 48 (83.3%) of genes in pham
• Manual Annotations of this start: 18 of 35
• Called 52.5% of time when present
• Phage (with cluster) where this start called: Aegeus_30 (L5), Baudelaire_30 (L5), BigCheese_29 (L2), Breezona_29 (L2), Chaser_27 (L4), ChutneyChips_27 (L4), DrSeegs_29 (L2), Faith1_29 (L2), Gardann_29 (L2), Itos_29 (L2), Lewan_29 (L2), Miley16_29 (L2), MkaliMitinis3_29 (L2), Netyap_29 (L2), Quby_27 (L4), Soap141_29 (L2), Tourach_29 (L2), Underpass_29 (L2), Vetrix_29 (L2), Wilder_29 (L2), Winky_29 (L2),

Start 10:
• Found in 6 of 48 (12.5%) of genes in pham
• Manual Annotations of this start: 4 of 35
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Finemlucis_29 (L2), Gabriela_29 (L2), Rossetti_29 (L2), Rumpelstiltskin_29 (L2), SoJulia_30 (L2), Zakai_29 (L2),

Start 11:
• Found in 2 of 48 (4.2%) of genes in pham
• Manual Annotations of this start: 2 of 35
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Archie_29 (L2), Bazzle_29 (L2),

Start 12:
• Found in 48 of 48 (100.0%) of genes in pham
• Manual Annotations of this start: 11 of 35
• Called 37.5% of time when present
• Phage (with cluster) where this start called: Baoshan_28 (L2), BobsGarage_29 (L2), Claus_29 (L2), Crossroads_29 (L2), DHan_29 (L2), DanBing_28 (L2), Douge_27 (L4), GuuelaD_29 (L2), Hafay_29 (L2), Kahlid_29 (L2), LilDestine_29 (L2), Loadrie_29 (L2), Lynnae_29 (L2), Nicholasp3_29 (L2), OverPar_30 (L2), Sarshaun_29 (L2), Wigglewiggle_29 (L2), ZhongYanYuan_28 (L2),

Start 14:
• Found in 46 of 48 (95.8%) of genes in pham
• No Manual Annotations of this start.
• Called 2.2% of time when present
• Phage (with cluster) where this start called: FarmResident_27 (L4),

Summary by clusters:

There are 3 clusters represented in this pham: L4, L5, L2,

Info for manual annotations of cluster L2:
•Start number 9 was manually annotated 15 times for cluster L2.
•Start number 10 was manually annotated 4 times for cluster L2.
•Start number 11 was manually annotated 2 times for cluster L2.
•Start number 12 was manually annotated 10 times for cluster L2.

Info for manual annotations of cluster L4:
•Start number 9 was manually annotated 1 time for cluster L4.
•Start number 12 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:
•Start number 9 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Aegeus_30 Start: 26730, Stop: 27143, Start Num: 9
Candidate Starts for Aegeus_30:
(6, 26655), (7, 26658), (Start: 9 @26730 has 18 MA's), (Start: 12 @26733 has 11 MA's), (20, 26835), (21, 26877), (23, 26895), (24, 26898), (25, 26922), (26, 26931), (30, 26967), (36, 27033), (37, 27042), (38, 27057), (41, 27078), (43, 27096),

Gene: Archie_29 Start: 27765, Stop: 28241, Start Num: 11
Candidate Starts for Archie_29:
(Start: 11 @27765 has 2 MA's), (Start: 12 @27768 has 11 MA's), (14, 27792), (15, 27795), (17, 27828), (18, 27837), (19, 27852), (22, 27927), (26, 27966), (30, 28002), (32, 28026), (33, 28038), (35, 28074), (39, 28116), (46, 28224),

Gene: Baoshan_28 Start: 27103, Stop: 27573, Start Num: 12
Candidate Starts for Baoshan_28:
(1, 26890), (5, 27010), (Start: 9 @27100 has 18 MA's), (Start: 12 @27103 has 11 MA's), (13, 27121), (14, 27127), (15, 27130), (18, 27172), (19, 27187), (22, 27262), (30, 27337), (31, 27346), (34, 27406), (35, 27409), (39, 27451), (46, 27556),

Gene: Baudelaire_30 Start: 26730, Stop: 27143, Start Num: 9
Candidate Starts for Baudelaire_30:
(6, 26655), (7, 26658), (Start: 9 @26730 has 18 MA's), (Start: 12 @26733 has 11 MA's), (20, 26835), (21, 26877), (23, 26895), (24, 26898), (25, 26922), (26, 26931), (30, 26967), (36, 27033), (37, 27042), (38, 27057), (41, 27078), (43, 27096),

Gene: Bazzle_29 Start: 27514, Stop: 27990, Start Num: 11
Candidate Starts for Bazzle_29:
(Start: 11 @27514 has 2 MA's), (Start: 12 @27517 has 11 MA's), (14, 27541), (15, 27544), (17, 27577), (18, 27586), (19, 27601), (22, 27676), (26, 27715), (30, 27751), (32, 27775), (33, 27787), (35, 27823), (39, 27865), (46, 27973),

Gene: BigCheese_29 Start: 27279, Stop: 27752, Start Num: 9

Candidate Starts for BigCheese_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's),
(13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525),
(34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: BobsGarage_29 Start: 27282, Stop: 27752, Start Num: 12
Candidate Starts for BobsGarage_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's),
(13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525),
(34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: Breezona_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Breezona_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's),
(13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525),
(34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: Chaser_27 Start: 26350, Stop: 26802, Start Num: 9
Candidate Starts for Chaser_27:
(Start: 9 @26350 has 18 MA's), (Start: 12 @26353 has 11 MA's), (13, 26371), (14, 26377), (16, 26410),
(18, 26422), (24, 26518), (26, 26551), (27, 26560), (29, 26572), (34, 26656), (40, 26704), (42, 26710),
(44, 26734),

Gene: ChutneyChips_27 Start: 26533, Stop: 26985, Start Num: 9
Candidate Starts for ChutneyChips_27:
(Start: 9 @26533 has 18 MA's), (Start: 12 @26536 has 11 MA's), (13, 26554), (14, 26560), (16, 26593),
(24, 26701), (26, 26734), (27, 26743), (34, 26839), (42, 26893), (44, 26917), (45, 26938),

Gene: Claus_29 Start: 27259, Stop: 27729, Start Num: 12
Candidate Starts for Claus_29:
(3, 27130), (5, 27166), (Start: 9 @27256 has 18 MA's), (Start: 12 @27259 has 11 MA's), (13, 27277),
(14, 27283), (15, 27286), (17, 27319), (18, 27328), (19, 27343), (22, 27418), (30, 27493), (31, 27502),
(34, 27562), (35, 27565), (39, 27607), (46, 27712),

Gene: Crossroads_29 Start: 27282, Stop: 27752, Start Num: 12
Candidate Starts for Crossroads_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's),
(13, 27300), (14, 27306), (15, 27309), (18, 27351), (22, 27441), (26, 27480), (30, 27516), (35, 27588),
(39, 27630), (43, 27660), (46, 27735),

Gene: DHan_29 Start: 27195, Stop: 27665, Start Num: 12
Candidate Starts for DHan_29:
(5, 27102), (Start: 9 @27192 has 18 MA's), (Start: 12 @27195 has 11 MA's), (13, 27213), (14, 27219),
(15, 27222), (17, 27255), (18, 27264), (19, 27279), (22, 27354), (30, 27429), (31, 27438), (34, 27498),
(35, 27501), (39, 27543), (46, 27648),

Gene: DanBing_28 Start: 27099, Stop: 27569, Start Num: 12
Candidate Starts for DanBing_28:
(1, 26886), (5, 27006), (Start: 9 @27096 has 18 MA's), (Start: 12 @27099 has 11 MA's), (13, 27117),
(14, 27123), (15, 27126), (17, 27159), (18, 27168), (19, 27183), (22, 27258), (30, 27333), (31, 27342),
(34, 27402), (35, 27405), (39, 27447), (46, 27552),

Gene: Douge_27 Start: 26291, Stop: 26740, Start Num: 12

Candidate Starts for Douge_27:
(Start: 9 @26288 has 18 MA's), (Start: 12 @26291 has 11 MA's), (13, 26309), (14, 26315), (16, 26348), (18, 26360), (24, 26456), (26, 26489), (27, 26498), (34, 26594), (42, 26648), (44, 26672),

Gene: DrSeegs_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for DrSeegs_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525), (34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: Faith1_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Faith1_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525), (34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: FarmResident_27 Start: 26359, Stop: 26784, Start Num: 14
Candidate Starts for FarmResident_27:
(Start: 9 @26332 has 18 MA's), (Start: 12 @26335 has 11 MA's), (13, 26353), (14, 26359), (16, 26392), (18, 26404), (24, 26500), (26, 26533), (27, 26542), (34, 26638), (42, 26692), (44, 26716),

Gene: Finemlucis_29 Start: 27555, Stop: 28028, Start Num: 10
Candidate Starts for Finemlucis_29:
(8, 27546), (Start: 10 @27555 has 4 MA's), (Start: 12 @27558 has 11 MA's), (13, 27576), (14, 27582), (15, 27585), (18, 27627), (19, 27642), (22, 27717), (26, 27756), (30, 27792), (35, 27864), (39, 27906), (43, 27936), (46, 28011),

Gene: Gabriela_29 Start: 27547, Stop: 28014, Start Num: 10
Candidate Starts for Gabriela_29:
(8, 27538), (Start: 10 @27547 has 4 MA's), (Start: 12 @27550 has 11 MA's), (13, 27568), (14, 27574), (15, 27577), (18, 27619), (19, 27634), (26, 27748), (30, 27784), (32, 27808), (34, 27853), (35, 27856), (39, 27898), (43, 27928), (46, 27997),

Gene: Gardann_29 Start: 27281, Stop: 27754, Start Num: 9
Candidate Starts for Gardann_29:
(1, 27071), (2, 27137), (5, 27191), (Start: 9 @27281 has 18 MA's), (Start: 12 @27284 has 11 MA's), (13, 27302), (14, 27308), (15, 27311), (18, 27353), (19, 27368), (22, 27443), (26, 27482), (30, 27518), (35, 27590), (39, 27632), (43, 27662), (46, 27737),

Gene: GuuelaD_29 Start: 27316, Stop: 27786, Start Num: 12
Candidate Starts for GuuelaD_29:
(1, 27103), (2, 27169), (5, 27223), (Start: 9 @27313 has 18 MA's), (Start: 12 @27316 has 11 MA's), (13, 27334), (14, 27340), (15, 27343), (18, 27385), (22, 27475), (26, 27514), (30, 27550), (35, 27622), (39, 27664), (43, 27694), (46, 27769),

Gene: Hafay_29 Start: 27315, Stop: 27785, Start Num: 12
Candidate Starts for Hafay_29:
(1, 27102), (2, 27168), (5, 27222), (Start: 9 @27312 has 18 MA's), (Start: 12 @27315 has 11 MA's), (13, 27333), (14, 27339), (15, 27342), (18, 27384), (19, 27399), (22, 27474), (26, 27513), (30, 27549), (35, 27621), (39, 27663), (43, 27693), (46, 27768),

Gene: Itos_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Itos_29:

(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525), (34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: Kahlid_29 Start: 27287, Stop: 27757, Start Num: 12
Candidate Starts for Kahlid_29:
(1, 27074), (2, 27140), (5, 27194), (Start: 9 @27284 has 18 MA's), (Start: 12 @27287 has 11 MA's), (13, 27305), (14, 27311), (15, 27314), (18, 27356), (19, 27371), (22, 27446), (26, 27485), (30, 27521), (35, 27593), (39, 27635), (43, 27665), (46, 27740),

Gene: Lewan_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Lewan_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (22, 27441), (26, 27480), (30, 27516), (35, 27588), (39, 27630), (43, 27660), (46, 27735),

Gene: LilDestine_29 Start: 27281, Stop: 27751, Start Num: 12
Candidate Starts for LilDestine_29:
(1, 27068), (2, 27134), (5, 27188), (Start: 9 @27278 has 18 MA's), (Start: 12 @27281 has 11 MA's), (13, 27299), (14, 27305), (15, 27308), (18, 27350), (19, 27365), (22, 27440), (26, 27479), (30, 27515), (35, 27587), (39, 27629), (43, 27659), (46, 27734),

Gene: Loadrie_29 Start: 27314, Stop: 27784, Start Num: 12
Candidate Starts for Loadrie_29:
(1, 27101), (2, 27167), (4, 27197), (5, 27221), (Start: 9 @27311 has 18 MA's), (Start: 12 @27314 has 11 MA's), (13, 27332), (14, 27338), (15, 27341), (18, 27383), (19, 27398), (22, 27473), (26, 27512), (30, 27548), (35, 27620), (43, 27692), (46, 27767),

Gene: Lynnae_29 Start: 27270, Stop: 27740, Start Num: 12
Candidate Starts for Lynnae_29:
(1, 27057), (2, 27123), (5, 27177), (Start: 9 @27267 has 18 MA's), (Start: 12 @27270 has 11 MA's), (13, 27288), (14, 27294), (15, 27297), (18, 27339), (19, 27354), (22, 27429), (26, 27468), (30, 27504), (35, 27576), (39, 27618), (43, 27648), (46, 27723),

Gene: Miley16_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Miley16_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525), (34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: MkaliMitinis3_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for MkaliMitinis3_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (26, 27480), (30, 27516), (35, 27588), (39, 27630), (43, 27660), (46, 27735),

Gene: Netyap_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Netyap_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's), (13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525), (34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: Nicholasp3_29 Start: 27284, Stop: 27754, Start Num: 12

Candidate Starts for Nicholasp3_29:
(1, 27071), (2, 27137), (5, 27191), (Start: 9 @27281 has 18 MA's), (Start: 12 @27284 has 11 MA's), (13, 27302), (14, 27308), (15, 27311), (18, 27353), (19, 27368), (22, 27443), (26, 27482), (30, 27518), (35, 27590), (39, 27632), (43, 27662), (46, 27737),

Gene: OverPar_30 Start: 27314, Stop: 27784, Start Num: 12
Candidate Starts for OverPar_30:
(1, 27101), (2, 27167), (4, 27197), (5, 27221), (Start: 9 @27311 has 18 MA's), (Start: 12 @27314 has 11 MA's), (13, 27332), (14, 27338), (15, 27341), (18, 27383), (19, 27398), (22, 27473), (26, 27512), (30, 27548), (35, 27620), (43, 27692), (46, 27767),

Gene: Quby_27 Start: 26287, Stop: 26739, Start Num: 9
Candidate Starts for Quby_27:
(Start: 9 @26287 has 18 MA's), (Start: 12 @26290 has 11 MA's), (13, 26308), (14, 26314), (16, 26347), (18, 26359), (24, 26455), (26, 26488), (27, 26497), (34, 26593), (42, 26647), (44, 26671),

Gene: Rossetti_29 Start: 27557, Stop: 28024, Start Num: 10
Candidate Starts for Rossetti_29:
(8, 27548), (Start: 10 @27557 has 4 MA's), (Start: 12 @27560 has 11 MA's), (13, 27578), (14, 27584), (15, 27587), (18, 27629), (19, 27644), (26, 27758), (30, 27794), (32, 27818), (34, 27863), (35, 27866), (39, 27908), (43, 27938), (46, 28007),

Gene: Rumpelstiltskin_29 Start: 27553, Stop: 28020, Start Num: 10
Candidate Starts for Rumpelstiltskin_29:
(8, 27544), (Start: 10 @27553 has 4 MA's), (Start: 12 @27556 has 11 MA's), (13, 27574), (14, 27580), (15, 27583), (18, 27625), (19, 27640), (26, 27754), (30, 27790), (32, 27814), (34, 27859), (35, 27862), (39, 27904), (43, 27934), (46, 28003),

Gene: Sarshaun_29 Start: 27315, Stop: 27785, Start Num: 12
Candidate Starts for Sarshaun_29:
(1, 27102), (2, 27168), (5, 27222), (Start: 9 @27312 has 18 MA's), (Start: 12 @27315 has 11 MA's), (13, 27333), (14, 27339), (15, 27342), (18, 27384), (19, 27399), (22, 27474), (26, 27513), (30, 27549), (35, 27621), (39, 27663), (43, 27693), (46, 27768),

Gene: SoJulia_30 Start: 27546, Stop: 28013, Start Num: 10
Candidate Starts for SoJulia_30:
(8, 27537), (Start: 10 @27546 has 4 MA's), (Start: 12 @27549 has 11 MA's), (13, 27567), (14, 27573), (15, 27576), (18, 27618), (19, 27633), (26, 27747), (30, 27783), (32, 27807), (34, 27852), (35, 27855), (39, 27897), (43, 27927), (46, 27996),

Gene: Soap141_29 Start: 27312, Stop: 27785, Start Num: 9
Candidate Starts for Soap141_29:
(1, 27102), (2, 27168), (5, 27222), (Start: 9 @27312 has 18 MA's), (Start: 12 @27315 has 11 MA's), (13, 27333), (14, 27339), (15, 27342), (18, 27384), (19, 27399), (22, 27474), (26, 27513), (30, 27549), (35, 27621), (39, 27663), (43, 27693), (46, 27768),

Gene: Tourach_29 Start: 27276, Stop: 27743, Start Num: 9
Candidate Starts for Tourach_29:
(2, 27132), (5, 27186), (Start: 9 @27276 has 18 MA's), (Start: 12 @27279 has 11 MA's), (13, 27297), (14, 27303), (15, 27306), (18, 27348), (19, 27363), (22, 27438), (26, 27477), (28, 27489), (30, 27513), (31, 27522), (32, 27537), (35, 27585), (39, 27627), (43, 27657), (46, 27726),

Gene: Underpass_29 Start: 27281, Stop: 27754, Start Num: 9

Candidate Starts for Underpass_29:
(1, 27071), (2, 27137), (5, 27191), (Start: 9 @27281 has 18 MA's), (Start: 12 @27284 has 11 MA's),
(13, 27302), (14, 27308), (15, 27311), (18, 27353), (19, 27368), (22, 27443), (26, 27482), (30, 27518),
(35, 27590), (39, 27632), (43, 27662), (46, 27737),

Gene: Vetrix_29 Start: 27285, Stop: 27758, Start Num: 9
Candidate Starts for Vetrix_29:
(1, 27075), (2, 27141), (5, 27195), (Start: 9 @27285 has 18 MA's), (Start: 12 @27288 has 11 MA's),
(13, 27306), (14, 27312), (15, 27315), (18, 27357), (22, 27447), (26, 27486), (30, 27522), (35, 27594),
(39, 27636), (43, 27666), (46, 27741),

Gene: Wigglewiggle_29 Start: 27314, Stop: 27784, Start Num: 12
Candidate Starts for Wigglewiggle_29:
(1, 27101), (2, 27167), (5, 27221), (Start: 9 @27311 has 18 MA's), (Start: 12 @27314 has 11 MA's),
(13, 27332), (14, 27338), (15, 27341), (18, 27383), (19, 27398), (22, 27473), (26, 27512), (30, 27548),
(35, 27620), (39, 27662), (43, 27692), (46, 27767),

Gene: Wilder_29 Start: 27284, Stop: 27757, Start Num: 9
Candidate Starts for Wilder_29:
(1, 27074), (2, 27140), (5, 27194), (Start: 9 @27284 has 18 MA's), (Start: 12 @27287 has 11 MA's),
(13, 27305), (14, 27311), (15, 27314), (18, 27356), (19, 27371), (22, 27446), (26, 27485), (30, 27521),
(35, 27593), (39, 27635), (43, 27665), (46, 27740),

Gene: Winky_29 Start: 27279, Stop: 27752, Start Num: 9
Candidate Starts for Winky_29:
(1, 27069), (2, 27135), (5, 27189), (Start: 9 @27279 has 18 MA's), (Start: 12 @27282 has 11 MA's),
(13, 27300), (14, 27306), (15, 27309), (18, 27351), (19, 27366), (22, 27441), (30, 27516), (31, 27525),
(34, 27585), (35, 27588), (39, 27630), (46, 27735),

Gene: Zakai_29 Start: 27541, Stop: 28008, Start Num: 10
Candidate Starts for Zakai_29:
(8, 27532), (Start: 10 @27541 has 4 MA's), (Start: 12 @27544 has 11 MA's), (13, 27562), (14, 27568),
(15, 27571), (18, 27613), (19, 27628), (22, 27703), (26, 27742), (30, 27778), (32, 27802), (35, 27850),
(39, 27892), (43, 27922), (46, 27991),

Gene: ZhongYanYuan_28 Start: 27103, Stop: 27573, Start Num: 12
Candidate Starts for ZhongYanYuan_28:
(1, 26890), (5, 27010), (Start: 9 @27100 has 18 MA's), (Start: 12 @27103 has 11 MA's), (13, 27121),
(14, 27127), (15, 27130), (17, 27163), (18, 27172), (19, 27187), (22, 27262), (30, 27337), (31, 27346),
(34, 27406), (35, 27409), (39, 27451), (46, 27556),