Pham 341972


1: Nodigi_16 + 1
2: AikoCarson_13 + 2
3: Agatha_14 + 4
4: Button_15 + 1
5: Eliott_14 + 3
6: Bavilard_14 + 13
7: Yakult_15
8: ChocoMunchkin_14 + 7
9: Wolfwood_16 + 4
10: Feastonyeet_13 + 1
11: Malvina_16 + 1
12: SweatNTears_16 + 5
13: Nina_15
14: Yummy_15 + 1
15: ChickenTender_16
16: Hexbug_16
17: PotPie_14 + 3
18: Jamzy_17
19: Starburst_15 + 3
20: RanchParmCat_17
21: Survivors_16
22: Carsonalex_15
23: Dre3_14 + 2
24: Nibbles_16
25: Sopespian_14
26: Troje_14
27: RedBaron_16
28: Socotra_15 + 1
29: Margaret_17
30: GTE2_12
31: Fribs8_15
32: Malisha_16
33: Lutum_15 + 7
34: Whitney_15 + 3
35: CheeseTouch_15 + 3
36: Phabuloso_15 + 1
37: Spooky_15
38: Squiddly_17
39: Stellammi_11
40: Nebkiss_11
41: DS6A_17
42: LilSpotty_13

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 341972 Report

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

Pham number 341972 has 108 members, 17 are drafts.

Phages represented in each track:
• Track 1 : Nodigi_16, Orla_16
• Track 2 : AikoCarson_13, Amok_13, Emalyn_13
• Track 3 : Agatha_14, Cozz_14, RSchmailzl_15, GoldHunter_14, Axym_14
• Track 4 : Button_15, GiKK_17
• Track 5 : Eliott_14, Quasar_15, Bubble_14, PsychoKiller_14
• Track 6 : Bavilard_14, McDazzle_13, Mayweather_15, CocoaPuff_13, ElJefes_13, Vine_15, CherryonLim_15, SheckWes_13, Tarnish_14, KayGee_14, MAnor_14, Elinal_15, Pons_14, Yucky_14
• Track 7 : Yakult_15
• Track 8 : ChocoMunchkin_14, SteamedHams_16, Tolls_16, BillDoor_16, Yarn_13, CanesSauce_14, AndPeggy_13, CaramelLatte_14
• Track 9 : Wolfwood_16, Zareef_16, Wallaby_18, MaVan_16, Azira_16
• Track 10 : Feastonyeet_13, BigChungus_13
• Track 11 : Malvina_16, HippoPololi_16
• Track 12 : SweatNTears_16, Blondies_15, Biskit_15, Buttrmlkdreams_14, SketchMex_13, MScarn_16
• Track 13 : Nina_15
• Track 14 : Yummy_15, Horseradish_15
• Track 15 : ChickenTender_16
• Track 16 : Hexbug_16
• Track 17 : PotPie_14, Balloona_13, SummitAcademy_13, Lauer_13
• Track 18 : Jamzy_17
• Track 19 : Starburst_15, MunkgeeRoachy_14, Typhonomachy_14, RADical_15
• Track 20 : RanchParmCat_17
• Track 21 : Survivors_16
• Track 22 : Carsonalex_15
• Track 23 : Dre3_14, Cleo_14, Gibbous_14
• Track 24 : Nibbles_16
• Track 25 : Sopespian_14
• Track 26 : Troje_14
• Track 27 : RedBaron_16
• Track 28 : Socotra_15, Burnsey_14
• Track 29 : Margaret_17
• Track 30 : GTE2_12
• Track 31 : Fribs8_15
• Track 32 : Malisha_16

• Track 33 : Lutum_15, BotCity_15, Leroy_15, Horus_15, ShawBrad_15, Frickyeah_15, Asapag_15, BENtherdunthat_15
• Track 34 : Whitney_15, Periwinkle_15, Getalong_15, Phistory_15
• Track 35 : CheeseTouch_15, Budski_15, Kamaru_15, Holliday_16
• Track 36 : Phabuloso_15, LitninMcQueen_15
• Track 37 : Spooky_15
• Track 38 : Squiddly_17
• Track 39 : Stellammi_11
• Track 40 : Nebkiss_11
• Track 41 : DS6A_17
• Track 42 : LilSpotty_13

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

The start number called the most often in the published annotations is 17, it was called in 47 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Agatha_14, AikoCarson_13, Amok_13, AndPeggy_13, Axym_14, Balloona_13, Bavilard_14, BigChungus_13, BillDoor_16, Biskit_15, Blondies_15, Bubble_14, Burnsey_14, Buttrmlkdreams_14, CanesSauce_14, CaramelLatte_14, Carsonalex_15, CherryonLim_15, ChickenTender_16, ChocoMunchkin_14, CocoaPuff_13, Cozz_14, ElJefes_13, Elinal_15, Eliott_14, Emalyn_13, Feastonyeet_13, Fribs8_15, GTE2_12, GoldHunter_14, Horseradish_15, KayGee_14, Lauer_13, MAnor_14, MScarn_16, Mayweather_15, McDazzle_13, MunkgeeRoachy_14, Nina_15, Pons_14, PotPie_14, PsychoKiller_14, Quasar_15, RADical_15, RSchmailzl_15, RedBaron_16, SheckWes_13, SketchMex_13, Socotra_15, Sopespian_14, Starburst_15, SteamedHams_16, SummitAcademy_13, SweatNTears_16, Tarnish_14, Tolls_16, Typhonomachy_14, Vine_15, Yarn_13, Yucky_14, Yummy_15,

Genes that have the "Most Annotated" start but do not call it:
• Troje_14,

Genes that do not have the "Most Annotated" start:
• Asapag_15, Azira_16, BENtherdunthat_15, BotCity_15, Budski_15, Button_15, CheeseTouch_15, Cleo_14, DS6A_17, Dre3_14, Frickyeah_15, Getalong_15, GiKK_17, Gibbous_14, Hexbug_16, HippoPololi_16, Holliday_16, Horus_15, Jamzy_17, Kamaru_15, Leroy_15, LilSpotty_13, LitninMcQueen_15, Lutum_15, MaVan_16, Malisha_16, Malvina_16, Margaret_17, Nebkiss_11, Nibbles_16, Nodigi_16, Orla_16, Periwinkle_15, Phabuloso_15, Phistory_15, RanchParmCat_17, ShawBrad_15, Spooky_15, Squiddly_17, Stellammi_11, Survivors_16, Wallaby_18, Whitney_15, Wolfwood_16, Yakult_15, Zareef_16,

Summary by start number:

Start 9:
• Found in 7 of 108 (6.5%) of genes in pham
• Manual Annotations of this start: 1 of 91
• Called 14.3% of time when present

• Phage (with cluster) where this start called: Troje_14 (CT),

Start 10:
• Found in 2 of 108 (1.9%) 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: Margaret_17 (CT),

Start 13:
• Found in 1 of 108 (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: DS6A_17 (singleton),

Start 16:
• Found in 25 of 108 (23.1%) of genes in pham
• Manual Annotations of this start: 23 of 91
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Azira_16 (CT), Budski_15 (DN), CheeseTouch_15 (DN1), Cleo_14 (CT), Dre3_14 (CT), Getalong_15 (DN1), Gibbous_14 (CT), HippoPololi_16 (CT), Holliday_16 (DN1), Kamaru_15 (DN1), LitninMcQueen_15 (DN1), MaVan_16 (CT), Malisha_16 (DN), Malvina_16 (CT), Nibbles_16 (CT), Periwinkle_15 (DN1), Phabuloso_15 (DN1), Phistory_15 (DN1), Spooky_15 (DN2), Squiddly_17 (DN2), Survivors_16 (CT), Wallaby_18 (CT), Whitney_15 (DN1), Wolfwood_16 (CT), Zareef_16 (CT),

Start 17:
• Found in 62 of 108 (57.4%) of genes in pham
• Manual Annotations of this start: 47 of 91
• Called 98.4% of time when present
• Phage (with cluster) where this start called: Agatha_14 (CT), AikoCarson_13 (CT), Amok_13 (CT), AndPeggy_13 (CT), Axym_14 (CT), Balloona_13 (CT), Bavilard_14 (CT), BigChungus_13 (CT), BillDoor_16 (CT), Biskit_15 (CT), Blondies_15 (CT), Bubble_14 (CT), Burnsey_14 (CT), Buttrmlkdreams_14 (CT), CanesSauce_14 (CT), CaramelLatte_14 (CT), Carsonalex_15 (CT), CherryonLim_15 (CT), ChickenTender_16 (CT), ChocoMunchkin_14 (CT), CocoaPuff_13 (CT), Cozz_14 (CT), ElJefes_13 (CT), Elinal_15 (CT), Eliott_14 (CT), Emalyn_13 (CT), Feastonyeet_13 (CT), Fribs8_15 (CT), GTE2_12 (CT), GoldHunter_14 (CT), Horseradish_15 (CT), KayGee_14 (CT), Lauer_13 (CT), MAnor_14 (CT), MScarn_16 (CT), Mayweather_15 (CT), McDazzle_13 (CT), MunkgeeRoachy_14 (CT), Nina_15 (CT), Pons_14 (CT), PotPie_14 (CT), PsychoKiller_14 (CT), Quasar_15 (CT), RADical_15 (CT), RSchmailzl_15 (CT), RedBaron_16 (CT), SheckWes_13 (CT), SketchMex_13 (CT), Socotra_15 (CT), Sopespian_14 (CT), Starburst_15 (CT), SteamedHams_16 (CT), SummitAcademy_13 (CT), SweatNTears_16 (CT), Tarnish_14 (CT), Tolls_16 (CT), Typhonomachy_14 (CT), Vine_15 (CT), Yarn_13 (CT), Yucky_14 (CT), Yummy_15 (CT),

Start 18:
• Found in 8 of 108 (7.4%) of genes in pham
• Manual Annotations of this start: 7 of 91
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Asapag_15 (DN1), BENtherdunthat_15 (DN1), BotCity_15 (DN), Frickyeah_15 (DN1), Horus_15 (DN1), Leroy_15 (DN1),

Lutum_15 (DN1), ShawBrad_15 (DN1),

Start 19:
• Found in 9 of 108 (8.3%) of genes in pham
• Manual Annotations of this start: 8 of 91
• Called 88.9% of time when present
• Phage (with cluster) where this start called: Button_15 (CT), GiKK_17 (CT), Hexbug_16 (CT), Jamzy_17 (CT), Nodigi_16 (CT), Orla_16 (CT), RanchParmCat_17 (CT), Yakult_15 (CT),

Start 20:
• Found in 2 of 108 (1.9%) 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: LilSpotty_13 (singleton),

Start 21:
• Found in 1 of 108 (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: Stellammi_11 (UNK),

Start 22:
• Found in 1 of 108 (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: Nebkiss_11 (X),

Summary by clusters:

There are 7 clusters represented in this pham: DN, singleton, DN1, DN2, X, UNK, CT,

Info for manual annotations of cluster CT:
•Start number 9 was manually annotated 1 time for cluster CT.
•Start number 10 was manually annotated 1 time for cluster CT.
•Start number 16 was manually annotated 10 times for cluster CT.
•Start number 17 was manually annotated 47 times for cluster CT.
•Start number 19 was manually annotated 8 times for cluster CT.

Info for manual annotations of cluster DN:
•Start number 16 was manually annotated 2 times for cluster DN.
•Start number 18 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:
•Start number 16 was manually annotated 9 times for cluster DN1.
•Start number 18 was manually annotated 6 times for cluster DN1.

Info for manual annotations of cluster DN2:
•Start number 16 was manually annotated 2 times for cluster DN2.

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

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

Gene Information:

Gene: Agatha_14 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Agatha_14:
(Start: 17 @8885 has 47 MA's), (32, 8969), (47, 9083), (48, 9089), (49, 9092), (52, 9116), (55, 9128),

Gene: AikoCarson_13 Start: 8613, Stop: 8906, Start Num: 17
Candidate Starts for AikoCarson_13:
(Start: 17 @8613 has 47 MA's), (32, 8685), (49, 8808), (52, 8832), (55, 8844), (57, 8871),

Gene: Amok_13 Start: 8613, Stop: 8906, Start Num: 17
Candidate Starts for Amok_13:
(Start: 17 @8613 has 47 MA's), (32, 8685), (49, 8808), (52, 8832), (55, 8844), (57, 8871),

Gene: AndPeggy_13 Start: 8901, Stop: 9194, Start Num: 17
Candidate Starts for AndPeggy_13:
(Start: 17 @8901 has 47 MA's), (32, 8973), (34, 8979), (49, 9096), (52, 9120), (55, 9132), (57, 9159),

Gene: Asapag_15 Start: 8335, Stop: 8613, Start Num: 18
Candidate Starts for Asapag_15:
(12, 8314), (Start: 18 @8335 has 7 MA's), (46, 8500), (53, 8554), (54, 8560), (55, 8563), (57, 8590),

Gene: Axym_14 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Axym_14:
(Start: 17 @8885 has 47 MA's), (32, 8969), (47, 9083), (48, 9089), (49, 9092), (52, 9116), (55, 9128),

Gene: Azira_16 Start: 9884, Stop: 10159, Start Num: 16
Candidate Starts for Azira_16:
(14, 9875), (Start: 16 @9884 has 23 MA's), (24, 9914), (31, 9944), (49, 10079), (52, 10103), (55, 10115),

Gene: BENtherdunthat_15 Start: 8335, Stop: 8613, Start Num: 18
Candidate Starts for BENtherdunthat_15:
(12, 8314), (Start: 18 @8335 has 7 MA's), (46, 8500), (53, 8554), (54, 8560), (55, 8563), (57, 8590),

Gene: Balloona_13 Start: 8637, Stop: 8912, Start Num: 17
Candidate Starts for Balloona_13:
(Start: 17 @8637 has 47 MA's), (32, 8709), (49, 8832), (52, 8856), (55, 8868), (58, 8901),

Gene: Bavilard_14 Start: 9417, Stop: 9692, Start Num: 17
Candidate Starts for Bavilard_14:
(Start: 17 @9417 has 47 MA's), (32, 9489), (49, 9612), (52, 9636), (55, 9648),

Gene: BigChungus_13 Start: 8662, Stop: 8937, Start Num: 17
Candidate Starts for BigChungus_13:
(Start: 17 @8662 has 47 MA's), (32, 8734), (44, 8830), (49, 8857), (52, 8881), (55, 8893), (58, 8926),

Gene: BillDoor_16 Start: 8866, Stop: 9159, Start Num: 17

Candidate Starts for BillDoor_16:
(Start: 17 @8866 has 47 MA's), (32, 8938), (34, 8944), (49, 9061), (52, 9085), (55, 9097), (57, 9124),

Gene: Biskit_15 Start: 8872, Stop: 9165, Start Num: 17
Candidate Starts for Biskit_15:
(Start: 9 @8830 has 1 MA's), (Start: 17 @8872 has 47 MA's), (49, 9067), (52, 9091), (55, 9103), (57, 9130),

Gene: Blondies_15 Start: 8858, Stop: 9151, Start Num: 17
Candidate Starts for Blondies_15:
(Start: 9 @8816 has 1 MA's), (Start: 17 @8858 has 47 MA's), (49, 9053), (52, 9077), (55, 9089), (57, 9116),

Gene: BotCity_15 Start: 8333, Stop: 8611, Start Num: 18
Candidate Starts for BotCity_15:
(12, 8312), (Start: 18 @8333 has 7 MA's), (46, 8498), (53, 8552), (54, 8558), (55, 8561), (57, 8588),

Gene: Bubble_14 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Bubble_14:
(Start: 17 @8885 has 47 MA's), (32, 8969), (49, 9092), (52, 9116), (55, 9128),

Gene: Budski_15 Start: 8319, Stop: 8597, Start Num: 16
Candidate Starts for Budski_15:
(8, 8271), (Start: 16 @8319 has 23 MA's), (46, 8484), (53, 8538), (54, 8544), (55, 8547), (57, 8574),

Gene: Burnsey_14 Start: 8886, Stop: 9191, Start Num: 17
Candidate Starts for Burnsey_14:
(Start: 17 @8886 has 47 MA's), (32, 8970), (39, 9006), (49, 9093), (52, 9117), (55, 9129),

Gene: Button_15 Start: 8897, Stop: 9190, Start Num: 19
Candidate Starts for Button_15:
(11, 8864), (Start: 19 @8897 has 8 MA's), (25, 8927), (39, 9002), (49, 9089), (52, 9113), (55, 9125), (58, 9158),

Gene: Buttrmlkdreams_14 Start: 8857, Stop: 9150, Start Num: 17
Candidate Starts for Buttrmlkdreams_14:
(Start: 9 @8815 has 1 MA's), (Start: 17 @8857 has 47 MA's), (49, 9052), (52, 9076), (55, 9088), (57, 9115),

Gene: CanesSauce_14 Start: 8902, Stop: 9195, Start Num: 17
Candidate Starts for CanesSauce_14:
(Start: 17 @8902 has 47 MA's), (32, 8974), (34, 8980), (49, 9097), (52, 9121), (55, 9133), (57, 9160),

Gene: CaramelLatte_14 Start: 8902, Stop: 9195, Start Num: 17
Candidate Starts for CaramelLatte_14:
(Start: 17 @8902 has 47 MA's), (32, 8974), (34, 8980), (49, 9097), (52, 9121), (55, 9133), (57, 9160),

Gene: Carsonalex_15 Start: 8943, Stop: 9248, Start Num: 17
Candidate Starts for Carsonalex_15:
(Start: 17 @8943 has 47 MA's), (32, 9027), (34, 9033), (47, 9141), (48, 9147), (49, 9150), (52, 9174), (55, 9186),

Gene: CheeseTouch_15 Start: 8319, Stop: 8597, Start Num: 16

Candidate Starts for CheeseTouch_15:
(8, 8271), (Start: 16 @8319 has 23 MA's), (46, 8484), (53, 8538), (54, 8544), (55, 8547), (57, 8574),

Gene: CherryonLim_15 Start: 9392, Stop: 9667, Start Num: 17
Candidate Starts for CherryonLim_15:
(Start: 17 @9392 has 47 MA's), (32, 9464), (49, 9587), (52, 9611), (55, 9623),

Gene: ChickenTender_16 Start: 8935, Stop: 9234, Start Num: 17
Candidate Starts for ChickenTender_16:
(1, 8494), (Start: 17 @8935 has 47 MA's), (29, 9001), (32, 9019), (49, 9142), (52, 9166), (55, 9178),

Gene: ChocoMunchkin_14 Start: 8902, Stop: 9195, Start Num: 17
Candidate Starts for ChocoMunchkin_14:
(Start: 17 @8902 has 47 MA's), (32, 8974), (34, 8980), (49, 9097), (52, 9121), (55, 9133), (57, 9160),

Gene: Cleo_14 Start: 9174, Stop: 9449, Start Num: 16
Candidate Starts for Cleo_14:
(14, 9165), (Start: 16 @9174 has 23 MA's), (32, 9246), (49, 9369), (52, 9393), (55, 9405), (57, 9432),

Gene: CocoaPuff_13 Start: 8637, Stop: 8912, Start Num: 17
Candidate Starts for CocoaPuff_13:
(Start: 17 @8637 has 47 MA's), (32, 8709), (49, 8832), (52, 8856), (55, 8868),

Gene: Cozz_14 Start: 8886, Stop: 9191, Start Num: 17
Candidate Starts for Cozz_14:
(Start: 17 @8886 has 47 MA's), (32, 8970), (47, 9084), (48, 9090), (49, 9093), (52, 9117), (55, 9129),

Gene: DS6A_17 Start: 11578, Stop: 11886, Start Num: 13
Candidate Starts for DS6A_17:
(Start: 13 @11578 has 1 MA's), (Start: 20 @11602 has 1 MA's), (23, 11623), (26, 11635), (27, 11641), (36, 11704), (37, 11707), (38, 11713), (41, 11755), (56, 11848),

Gene: Dre3_14 Start: 9121, Stop: 9396, Start Num: 16
Candidate Starts for Dre3_14:
(14, 9112), (Start: 16 @9121 has 23 MA's), (32, 9193), (49, 9316), (52, 9340), (55, 9352), (57, 9379),

Gene: ElJefes_13 Start: 9112, Stop: 9387, Start Num: 17
Candidate Starts for ElJefes_13:
(Start: 17 @9112 has 47 MA's), (32, 9184), (49, 9307), (52, 9331), (55, 9343),

Gene: Elinal_15 Start: 8643, Stop: 8918, Start Num: 17
Candidate Starts for Elinal_15:
(Start: 17 @8643 has 47 MA's), (32, 8715), (49, 8838), (52, 8862), (55, 8874),

Gene: Eliott_14 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Eliott_14:
(Start: 17 @8885 has 47 MA's), (32, 8969), (49, 9092), (52, 9116), (55, 9128),

Gene: Emalyn_13 Start: 8612, Stop: 8905, Start Num: 17
Candidate Starts for Emalyn_13:
(Start: 17 @8612 has 47 MA's), (32, 8684), (49, 8807), (52, 8831), (55, 8843), (57, 8870),

Gene: Feastonyeet_13 Start: 8662, Stop: 8937, Start Num: 17

Candidate Starts for Feastonyeet_13:
(Start: 17 @8662 has 47 MA's), (32, 8734), (44, 8830), (49, 8857), (52, 8881), (55, 8893), (58, 8926),

Gene: Fribs8_15 Start: 9689, Stop: 9964, Start Num: 17
Candidate Starts for Fribs8_15:
(6, 9578), (7, 9581), (Start: 17 @9689 has 47 MA's), (32, 9761), (44, 9857), (49, 9884), (52, 9908), (55, 9920), (57, 9947),

Gene: Frickyeah_15 Start: 8335, Stop: 8613, Start Num: 18
Candidate Starts for Frickyeah_15:
(12, 8314), (Start: 18 @8335 has 7 MA's), (46, 8500), (53, 8554), (54, 8560), (55, 8563), (57, 8590),

Gene: GTE2_12 Start: 8563, Stop: 8856, Start Num: 17
Candidate Starts for GTE2_12:
(Start: 10 @8527 has 1 MA's), (Start: 17 @8563 has 47 MA's), (32, 8635), (49, 8758), (52, 8782), (55, 8794), (57, 8821),

Gene: Getalong_15 Start: 8315, Stop: 8596, Start Num: 16
Candidate Starts for Getalong_15:
(Start: 16 @8315 has 23 MA's), (46, 8480), (53, 8534), (54, 8540), (55, 8543), (57, 8570),

Gene: GiKK_17 Start: 9200, Stop: 9493, Start Num: 19
Candidate Starts for GiKK_17:
(11, 9167), (Start: 19 @9200 has 8 MA's), (25, 9230), (39, 9305), (49, 9392), (52, 9416), (55, 9428), (58, 9461),

Gene: Gibbous_14 Start: 9121, Stop: 9396, Start Num: 16
Candidate Starts for Gibbous_14:
(14, 9112), (Start: 16 @9121 has 23 MA's), (32, 9193), (49, 9316), (52, 9340), (55, 9352), (57, 9379),

Gene: GoldHunter_14 Start: 8886, Stop: 9191, Start Num: 17
Candidate Starts for GoldHunter_14:
(Start: 17 @8886 has 47 MA's), (32, 8970), (47, 9084), (48, 9090), (49, 9093), (52, 9117), (55, 9129),

Gene: Hexbug_16 Start: 9883, Stop: 10176, Start Num: 19
Candidate Starts for Hexbug_16:
(Start: 19 @9883 has 8 MA's), (28, 9937), (31, 9940), (55, 10111), (58, 10144),

Gene: HippoPololi_16 Start: 9778, Stop: 10053, Start Num: 16
Candidate Starts for HippoPololi_16:
(14, 9769), (Start: 16 @9778 has 23 MA's), (32, 9850), (44, 9946), (49, 9973), (52, 9997), (55, 10009), (57, 10036),

Gene: Holliday_16 Start: 8319, Stop: 8597, Start Num: 16
Candidate Starts for Holliday_16:
(8, 8271), (Start: 16 @8319 has 23 MA's), (46, 8484), (53, 8538), (54, 8544), (55, 8547), (57, 8574),

Gene: Horseradish_15 Start: 8771, Stop: 9064, Start Num: 17
Candidate Starts for Horseradish_15:
(Start: 17 @8771 has 47 MA's), (49, 8966), (52, 8990), (55, 9002), (57, 9029),

Gene: Horus_15 Start: 8335, Stop: 8613, Start Num: 18
Candidate Starts for Horus_15:

(12, 8314), (Start: 18 @8335 has 7 MA's), (46, 8500), (53, 8554), (54, 8560), (55, 8563), (57, 8590),

Gene: Jamzy_17 Start: 9210, Stop: 9503, Start Num: 19
Candidate Starts for Jamzy_17:
(11, 9177), (Start: 19 @9210 has 8 MA's), (25, 9240), (39, 9315), (49, 9402), (52, 9426), (55, 9438), (58, 9471),

Gene: Kamaru_15 Start: 8319, Stop: 8597, Start Num: 16
Candidate Starts for Kamaru_15:
(8, 8271), (Start: 16 @8319 has 23 MA's), (46, 8484), (53, 8538), (54, 8544), (55, 8547), (57, 8574),

Gene: KayGee_14 Start: 8643, Stop: 8918, Start Num: 17
Candidate Starts for KayGee_14:
(Start: 17 @8643 has 47 MA's), (32, 8715), (49, 8838), (52, 8862), (55, 8874),

Gene: Lauer_13 Start: 8692, Stop: 8967, Start Num: 17
Candidate Starts for Lauer_13:
(Start: 17 @8692 has 47 MA's), (32, 8764), (49, 8887), (52, 8911), (55, 8923), (58, 8956),

Gene: Leroy_15 Start: 8336, Stop: 8614, Start Num: 18
Candidate Starts for Leroy_15:
(12, 8315), (Start: 18 @8336 has 7 MA's), (46, 8501), (53, 8555), (54, 8561), (55, 8564), (57, 8591),

Gene: LilSpotty_13 Start: 8433, Stop: 8762, Start Num: 20
Candidate Starts for LilSpotty_13:
(Start: 20 @8433 has 1 MA's), (33, 8502), (35, 8508), (41, 8559), (48, 8604), (53, 8634), (56, 8652),

Gene: LitninMcQueen_15 Start: 8320, Stop: 8598, Start Num: 16
Candidate Starts for LitninMcQueen_15:
(Start: 16 @8320 has 23 MA's), (46, 8485), (53, 8539), (54, 8545), (55, 8548), (57, 8575),

Gene: Lutum_15 Start: 8335, Stop: 8613, Start Num: 18
Candidate Starts for Lutum_15:
(12, 8314), (Start: 18 @8335 has 7 MA's), (46, 8500), (53, 8554), (54, 8560), (55, 8563), (57, 8590),

Gene: MAnor_14 Start: 8635, Stop: 8910, Start Num: 17
Candidate Starts for MAnor_14:
(Start: 17 @8635 has 47 MA's), (32, 8707), (49, 8830), (52, 8854), (55, 8866),

Gene: MScarn_16 Start: 8857, Stop: 9150, Start Num: 17
Candidate Starts for MScarn_16:
(Start: 9 @8815 has 1 MA's), (Start: 17 @8857 has 47 MA's), (49, 9052), (52, 9076), (55, 9088), (57, 9115),

Gene: MaVan_16 Start: 9884, Stop: 10159, Start Num: 16
Candidate Starts for MaVan_16:
(14, 9875), (Start: 16 @9884 has 23 MA's), (24, 9914), (31, 9944), (49, 10079), (52, 10103), (55, 10115),

Gene: Malisha_16 Start: 10116, Stop: 10397, Start Num: 16
Candidate Starts for Malisha_16:
(Start: 16 @10116 has 23 MA's), (46, 10281), (53, 10335), (54, 10341), (55, 10344), (57, 10371),

Gene: Malvina_16 Start: 9781, Stop: 10056, Start Num: 16
Candidate Starts for Malvina_16:
(14, 9772), (Start: 16 @9781 has 23 MA's), (32, 9853), (44, 9949), (49, 9976), (52, 10000), (55, 10012), (57, 10039),

Gene: Margaret_17 Start: 9558, Stop: 9884, Start Num: 10
Candidate Starts for Margaret_17:
(2, 9264), (3, 9306), (4, 9381), (5, 9432), (Start: 10 @9558 has 1 MA's), (15, 9582), (Start: 19 @9591 has 8 MA's), (25, 9621), (31, 9648), (42, 9744), (49, 9783), (54, 9816), (55, 9819), (58, 9852),

Gene: Mayweather_15 Start: 9265, Stop: 9540, Start Num: 17
Candidate Starts for Mayweather_15:
(Start: 17 @9265 has 47 MA's), (32, 9337), (49, 9460), (52, 9484), (55, 9496),

Gene: McDazzle_13 Start: 9106, Stop: 9381, Start Num: 17
Candidate Starts for McDazzle_13:
(Start: 17 @9106 has 47 MA's), (32, 9178), (49, 9301), (52, 9325), (55, 9337),

Gene: MunkgeeRoachy_14 Start: 8933, Stop: 9238, Start Num: 17
Candidate Starts for MunkgeeRoachy_14:
(Start: 17 @8933 has 47 MA's), (32, 9017), (48, 9137), (49, 9140), (52, 9164), (55, 9176),

Gene: Nebkiss_11 Start: 8761, Stop: 9018, Start Num: 22
Candidate Starts for Nebkiss_11:
(Start: 22 @8761 has 1 MA's), (30, 8806), (41, 8890), (42, 8899), (45, 8914), (48, 8935), (51, 8959),

Gene: Nibbles_16 Start: 9884, Stop: 10159, Start Num: 16
Candidate Starts for Nibbles_16:
(14, 9875), (Start: 16 @9884 has 23 MA's), (24, 9914), (26, 9923), (31, 9944), (49, 10079), (52, 10103), (55, 10115),

Gene: Nina_15 Start: 9918, Stop: 10223, Start Num: 17
Candidate Starts for Nina_15:
(Start: 17 @9918 has 47 MA's), (32, 10002), (48, 10122), (49, 10125), (52, 10149), (55, 10161),

Gene: Nodigi_16 Start: 9874, Stop: 10167, Start Num: 19
Candidate Starts for Nodigi_16:
(Start: 19 @9874 has 8 MA's), (25, 9904), (49, 10066), (55, 10102), (58, 10135),

Gene: Orla_16 Start: 9878, Stop: 10171, Start Num: 19
Candidate Starts for Orla_16:
(Start: 19 @9878 has 8 MA's), (25, 9908), (49, 10070), (55, 10106), (58, 10139),

Gene: Periwinkle_15 Start: 8315, Stop: 8593, Start Num: 16
Candidate Starts for Periwinkle_15:
(Start: 16 @8315 has 23 MA's), (46, 8480), (53, 8534), (54, 8540), (55, 8543), (57, 8570),

Gene: Phabuloso_15 Start: 8320, Stop: 8598, Start Num: 16
Candidate Starts for Phabuloso_15:
(Start: 16 @8320 has 23 MA's), (46, 8485), (53, 8539), (54, 8545), (55, 8548), (57, 8575),

Gene: Phistory_15 Start: 8304, Stop: 8582, Start Num: 16
Candidate Starts for Phistory_15:

(Start: 16 @8304 has 23 MA's), (46, 8469), (53, 8523), (54, 8529), (55, 8532), (57, 8559),

Gene: Pons_14 Start: 8643, Stop: 8918, Start Num: 17
Candidate Starts for Pons_14:
(Start: 17 @8643 has 47 MA's), (32, 8715), (49, 8838), (52, 8862), (55, 8874),

Gene: PotPie_14 Start: 9496, Stop: 9771, Start Num: 17
Candidate Starts for PotPie_14:
(Start: 17 @9496 has 47 MA's), (32, 9568), (49, 9691), (52, 9715), (55, 9727), (58, 9760),

Gene: PsychoKiller_14 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for PsychoKiller_14:
(Start: 17 @8885 has 47 MA's), (32, 8969), (49, 9092), (52, 9116), (55, 9128),

Gene: Quasar_15 Start: 9494, Stop: 9799, Start Num: 17
Candidate Starts for Quasar_15:
(Start: 17 @9494 has 47 MA's), (32, 9578), (49, 9701), (52, 9725), (55, 9737),

Gene: RADical_15 Start: 8886, Stop: 9191, Start Num: 17
Candidate Starts for RADical_15:
(Start: 17 @8886 has 47 MA's), (32, 8970), (48, 9090), (49, 9093), (52, 9117), (55, 9129),

Gene: RSchmailzl_15 Start: 9029, Stop: 9334, Start Num: 17
Candidate Starts for RSchmailzl_15:
(Start: 17 @9029 has 47 MA's), (32, 9113), (47, 9227), (48, 9233), (49, 9236), (52, 9260), (55, 9272),

Gene: RanchParmCat_17 Start: 9591, Stop: 9884, Start Num: 19
Candidate Starts for RanchParmCat_17:
(15, 9582), (Start: 19 @9591 has 8 MA's), (25, 9621), (31, 9648), (42, 9744), (49, 9783), (54, 9816), (55, 9819), (58, 9852),

Gene: RedBaron_16 Start: 8929, Stop: 9234, Start Num: 17
Candidate Starts for RedBaron_16:
(Start: 17 @8929 has 47 MA's), (32, 9013), (34, 9019), (47, 9127), (48, 9133), (49, 9136), (52, 9160), (55, 9172),

Gene: ShawBrad_15 Start: 8340, Stop: 8618, Start Num: 18
Candidate Starts for ShawBrad_15:
(12, 8319), (Start: 18 @8340 has 7 MA's), (46, 8505), (53, 8559), (54, 8565), (55, 8568), (57, 8595),

Gene: SheckWes_13 Start: 8631, Stop: 8906, Start Num: 17
Candidate Starts for SheckWes_13:
(Start: 17 @8631 has 47 MA's), (32, 8703), (49, 8826), (52, 8850), (55, 8862),

Gene: SketchMex_13 Start: 8872, Stop: 9165, Start Num: 17
Candidate Starts for SketchMex_13:
(Start: 9 @8830 has 1 MA's), (Start: 17 @8872 has 47 MA's), (49, 9067), (52, 9091), (55, 9103), (57, 9130),

Gene: Socotra_15 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Socotra_15:
(Start: 17 @8885 has 47 MA's), (32, 8969), (39, 9005), (49, 9092), (52, 9116), (55, 9128),

Gene: Sopespian_14 Start: 8886, Stop: 9191, Start Num: 17
Candidate Starts for Sopespian_14:
(1, 8451), (Start: 17 @8886 has 47 MA's), (32, 8970), (49, 9093), (52, 9117), (55, 9129),

Gene: Spooky_15 Start: 8326, Stop: 8601, Start Num: 16
Candidate Starts for Spooky_15:
(Start: 16 @8326 has 23 MA's), (50, 8527), (53, 8545), (54, 8551), (55, 8554),

Gene: Squiddly_17 Start: 9737, Stop: 10018, Start Num: 16
Candidate Starts for Squiddly_17:
(Start: 16 @9737 has 23 MA's), (46, 9902), (53, 9956), (54, 9962), (55, 9965), (57, 9992),

Gene: Starburst_15 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Starburst_15:
(Start: 17 @8885 has 47 MA's), (32, 8969), (48, 9089), (49, 9092), (52, 9116), (55, 9128),

Gene: SteamedHams_16 Start: 8902, Stop: 9195, Start Num: 17
Candidate Starts for SteamedHams_16:
(Start: 17 @8902 has 47 MA's), (32, 8974), (34, 8980), (49, 9097), (52, 9121), (55, 9133), (57, 9160),

Gene: Stellammi_11 Start: 7669, Stop: 7914, Start Num: 21
Candidate Starts for Stellammi_11:
(Start: 21 @7669 has 1 MA's), (34, 7717), (39, 7747), (40, 7750), (41, 7783), (42, 7792), (45, 7807), (50, 7840), (54, 7864),

Gene: SummitAcademy_13 Start: 8711, Stop: 8986, Start Num: 17
Candidate Starts for SummitAcademy_13:
(Start: 17 @8711 has 47 MA's), (32, 8783), (49, 8906), (52, 8930), (55, 8942), (58, 8975),

Gene: Survivors_16 Start: 9739, Stop: 10014, Start Num: 16
Candidate Starts for Survivors_16:
(14, 9730), (Start: 16 @9739 has 23 MA's), (31, 9799), (43, 9898), (49, 9934), (52, 9958), (55, 9970),

Gene: SweatNTears_16 Start: 9383, Stop: 9676, Start Num: 17
Candidate Starts for SweatNTears_16:
(Start: 9 @9341 has 1 MA's), (Start: 17 @9383 has 47 MA's), (49, 9578), (52, 9602), (55, 9614), (57, 9641),

Gene: Tarnish_14 Start: 9010, Stop: 9285, Start Num: 17
Candidate Starts for Tarnish_14:
(Start: 17 @9010 has 47 MA's), (32, 9082), (49, 9205), (52, 9229), (55, 9241),

Gene: Tolls_16 Start: 8905, Stop: 9198, Start Num: 17
Candidate Starts for Tolls_16:
(Start: 17 @8905 has 47 MA's), (32, 8977), (34, 8983), (49, 9100), (52, 9124), (55, 9136), (57, 9163),

Gene: Troje_14 Start: 8815, Stop: 9150, Start Num: 9
Candidate Starts for Troje_14:
(Start: 9 @8815 has 1 MA's), (Start: 17 @8857 has 47 MA's), (49, 9052), (52, 9076), (55, 9088), (57, 9115),

Gene: Typhonomachy_14 Start: 8885, Stop: 9190, Start Num: 17
Candidate Starts for Typhonomachy_14:

(Start: 17 @8885 has 47 MA's), (32, 8969), (48, 9089), (49, 9092), (52, 9116), (55, 9128),

Gene: Vine_15 Start: 9640, Stop: 9915, Start Num: 17
Candidate Starts for Vine_15:
(Start: 17 @9640 has 47 MA's), (32, 9712), (49, 9835), (52, 9859), (55, 9871),

Gene: Wallaby_18 Start: 9883, Stop: 10158, Start Num: 16
Candidate Starts for Wallaby_18:
(14, 9874), (Start: 16 @9883 has 23 MA's), (24, 9913), (31, 9943), (49, 10078), (52, 10102), (55, 10114),

Gene: Whitney_15 Start: 8315, Stop: 8596, Start Num: 16
Candidate Starts for Whitney_15:
(Start: 16 @8315 has 23 MA's), (46, 8480), (53, 8534), (54, 8540), (55, 8543), (57, 8570),

Gene: Wolfwood_16 Start: 9883, Stop: 10158, Start Num: 16
Candidate Starts for Wolfwood_16:
(14, 9874), (Start: 16 @9883 has 23 MA's), (24, 9913), (31, 9943), (49, 10078), (52, 10102), (55, 10114),

Gene: Yakult_15 Start: 8776, Stop: 9066, Start Num: 19
Candidate Starts for Yakult_15:
(Start: 19 @8776 has 8 MA's), (24, 8803), (31, 8833), (32, 8845), (55, 9004), (58, 9037),

Gene: Yarn_13 Start: 8895, Stop: 9188, Start Num: 17
Candidate Starts for Yarn_13:
(Start: 17 @8895 has 47 MA's), (32, 8967), (34, 8973), (49, 9090), (52, 9114), (55, 9126), (57, 9153),

Gene: Yucky_14 Start: 9500, Stop: 9775, Start Num: 17
Candidate Starts for Yucky_14:
(Start: 17 @9500 has 47 MA's), (32, 9572), (49, 9695), (52, 9719), (55, 9731),

Gene: Yummy_15 Start: 8771, Stop: 9064, Start Num: 17
Candidate Starts for Yummy_15:
(Start: 17 @8771 has 47 MA's), (49, 8966), (52, 8990), (55, 9002), (57, 9029),

Gene: Zareef_16 Start: 9885, Stop: 10160, Start Num: 16
Candidate Starts for Zareef_16:
(14, 9876), (Start: 16 @9885 has 23 MA's), (24, 9915), (31, 9945), (49, 10080), (52, 10104), (55, 10116),