# Pham 282278



1: Richo_65 + 5
2: LaterM_63
3: Megsy_65
4: Stinson_64
5: Validus_67
6: LastHope_67
7: BoostSeason_66 + 5
8: Milly_66 + 1
9: TM4_64
10: ZoeJ_65
11: Doughnut_66
12: Pixie_62 + 2
13: TribleTrouble_63
14: Keshu_65
15: MacnCheese_65
16: Hurricane_63
17: Pharb_62
18: Unicorn_64 + 1
19: Hammy_62 + 3
20: Sunflower1121_68 + 1
21: Yuna_68
22: Ximenita_68
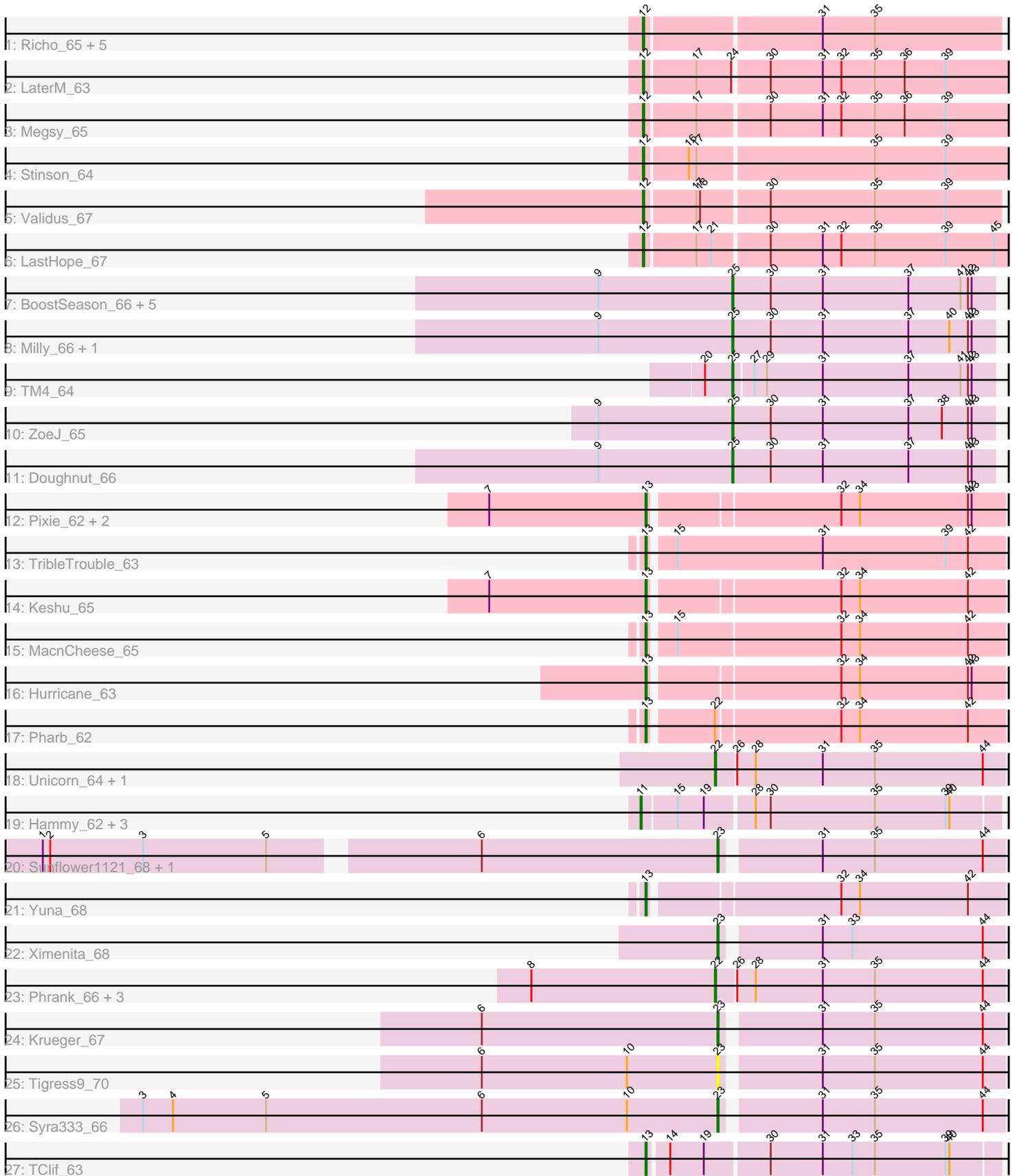23: Phrank_66 + 3
24: Krueger_67
25: Tigress9_70
26: Syra333_66
27: TClif_63

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 282278 Report

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

Pham number 282278 has 48 members, 4 are drafts.

Phages represented in each track:
• Track 1 : Richo_65, Niklas_65, McMater_65, Shaobing_65, Dartin_65, Peanam_65
• Track 2 : LaterM_63
• Track 3 : Megsy_65
• Track 4 : Stinson_64
• Track 5 : Validus_67
• Track 6 : LastHope_67
• Track 7 : BoostSeason_66, Marcoliusprime_66, DismalStressor_66, DismalFunk_66, Findley_66, Strobilo_67
• Track 8 : Milly_66, Mufasa_66
• Track 9 : TM4_64
• Track 10 : ZoeJ_65
• Track 11 : Doughnut_66
• Track 12 : Pixie_62, ShedlockHolmes_64, Lea83_63
• Track 13 : TribleTrouble_63
• Track 14 : Keshu_65
• Track 15 : MacnCheese_65
• Track 16 : Hurricane_63
• Track 17 : Pharb_62
• Track 18 : Unicorn_64, PhelpsODU_64
• Track 19 : Hammy_62, Amohnition_62, DarthP_62, November_60
• Track 20 : Sunflower1121_68, Shadow1_67
• Track 21 : Yuna_68
• Track 22 : Ximenita_68
• Track 23 : Phrank_66, Tierra_66, Cain_66, Bryler_66
• Track 24 : Krueger_67
• Track 25 : Tigress9_70
• Track 26 : Syra333_66
• Track 27 : TClif_63

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

The start number called the most often in the published annotations is 25, it was called in 11 of the 44 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• BoostSeason_66, DismalFunk_66, DismalStressor_66, Doughnut_66, Findley_66, Marcoliusprime_66, Milly_66, Mufasa_66, Strobilo_67, TM4_64, ZoeJ_65,

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

Genes that do not have the "Most Annotated" start:
• Amohnition_62, Bryler_66, Cain_66, DarthP_62, Dartin_65, Hammy_62, Hurricane_63, Keshu_65, Krueger_67, LastHope_67, LaterM_63, Lea83_63, MacnCheese_65, McMater_65, Megsy_65, Niklas_65, November_60, Peanam_65, Pharb_62, PhelpsODU_64, Phrank_66, Pixie_62, Richo_65, Shadow1_67, Shaobing_65, ShedlockHolmes_64, Stinson_64, Sunflower1121_68, Syra333_66, TClif_63, Tierra_66, Tigress9_70, TribleTrouble_63, Unicorn_64, Validus_67, Ximenita_68, Yuna_68,

**Summary by start number:**

Start 11:
• Found in 4 of 48 ( 8.3% ) of genes in pham
• Manual Annotations of this start: 4 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Amohnition_62 (K6), DarthP_62 (K6), Hammy_62 (K6), November_60 (K6),

Start 12:
• Found in 11 of 48 ( 22.9% ) of genes in pham
• Manual Annotations of this start: 8 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dartin_65 (K1), LastHope_67 (K1), LaterM_63 (K1), McMater_65 (K1), Megsy_65 (K1), Niklas_65 (K1), Peanam_65 (K1), Richo_65 (K1), Shaobing_65 (K1), Stinson_64 (K1), Validus_67 (K1),

Start 13:
• Found in 10 of 48 ( 20.8% ) of genes in pham
• Manual Annotations of this start: 10 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Hurricane_63 (K3), Keshu_65 (K3), Lea83_63 (K3), MacnCheese_65 (K3), Pharb_62 (K3), Pixie_62 (K3), ShedlockHolmes_64 (K3), TClif_63 (K6), TribleTrouble_63 (K3), Yuna_68 (K6),

Start 22:
• Found in 7 of 48 ( 14.6% ) of genes in pham
• Manual Annotations of this start: 6 of 44
• Called 85.7% of time when present
• Phage (with cluster) where this start called: Bryler_66 (K6), Cain_66 (K6), PhelpsODU_64 (K6), Phrank_66 (K6), Tierra_66 (K6), Unicorn_64 (K6),

Start 23:
• Found in 6 of 48 ( 12.5% ) of genes in pham
• Manual Annotations of this start: 5 of 44
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Krueger_67 (K6), Shadow1_67 (K6), Sunflower1121_68 (K6), Syra333_66 (K6), Tigress9_70 (K6), Ximenita_68 (K6),

Start 25:
• Found in 11 of 48 ( 22.9% ) of genes in pham
• Manual Annotations of this start: 11 of 44
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BoostSeason_66 (K2), DismalFunk_66 (K2), DismalStressor_66 (K2), Doughnut_66 (K2), Findley_66 (K2), Marcoliusprime_66 (K2), Milly_66 (K2), Mufasa_66 (K2), Strobilo_67 (K2), TM4_64 (K2), ZoeJ_65 (K2),

**Summary by clusters:**

There are 4 clusters represented in this pham: K3, K2, K1, K6,

Info for manual annotations of cluster K1:
•Start number 12 was manually annotated 8 times for cluster K1.

Info for manual annotations of cluster K2:
•Start number 25 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K3:
•Start number 13 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K6:
•Start number 11 was manually annotated 4 times for cluster K6.
•Start number 13 was manually annotated 2 times for cluster K6.
•Start number 22 was manually annotated 6 times for cluster K6.
•Start number 23 was manually annotated 5 times for cluster K6.


*Gene Information:*
Gene: Amohnition_62 Start: 42807, Stop: 43085, Start Num: 11
Candidate Starts for Amohnition_62:
(Start: 11 @42807 has 4 MA's), (15, 42834), (19, 42855), (28, 42891), (30, 42903), (35, 42987), (39, 43044), (40, 43047),

Gene: BoostSeason_66 Start: 44610, Stop: 44819, Start Num: 25
Candidate Starts for BoostSeason_66:
(9, 44502), (Start: 25 @44610 has 11 MA's), (30, 44640), (31, 44682), (37, 44751), (41, 44793), (42, 44799), (43, 44802),

Gene: Bryler_66 Start: 42196, Stop: 42426, Start Num: 22
Candidate Starts for Bryler_66:
(8, 42049), (Start: 22 @42196 has 6 MA's), (26, 42211), (28, 42226), (31, 42280), (35, 42322), (44, 42409),

Gene: Cain_66 Start: 42184, Stop: 42414, Start Num: 22
Candidate Starts for Cain_66:

(8, 42037), (Start: 22 @42184 has 6 MA's), (26, 42199), (28, 42214), (31, 42268), (35, 42310), (44, 42397),

Gene: DarthP_62 Start: 42661, Stop: 42939, Start Num: 11
Candidate Starts for DarthP_62:
(Start: 11 @42661 has 4 MA's), (15, 42688), (19, 42709), (28, 42745), (30, 42757), (35, 42841), (39, 42898), (40, 42901),

Gene: Dartin_65 Start: 42809, Stop: 43087, Start Num: 12
Candidate Starts for Dartin_65:
(Start: 12 @42809 has 8 MA's), (31, 42944), (35, 42986),

Gene: DismalFunk_66 Start: 45035, Stop: 45244, Start Num: 25
Candidate Starts for DismalFunk_66:
(9, 44927), (Start: 25 @45035 has 11 MA's), (30, 45065), (31, 45107), (37, 45176), (41, 45218), (42, 45224), (43, 45227),

Gene: DismalStressor_66 Start: 45035, Stop: 45244, Start Num: 25
Candidate Starts for DismalStressor_66:
(9, 44927), (Start: 25 @45035 has 11 MA's), (30, 45065), (31, 45107), (37, 45176), (41, 45218), (42, 45224), (43, 45227),

Gene: Doughnut_66 Start: 44652, Stop: 44861, Start Num: 25
Candidate Starts for Doughnut_66:
(9, 44544), (Start: 25 @44652 has 11 MA's), (30, 44682), (31, 44724), (37, 44793), (42, 44841), (43, 44844),

Gene: Findley_66 Start: 45028, Stop: 45237, Start Num: 25
Candidate Starts for Findley_66:
(9, 44920), (Start: 25 @45028 has 11 MA's), (30, 45058), (31, 45100), (37, 45169), (41, 45211), (42, 45217), (43, 45220),

Gene: Hammy_62 Start: 42649, Stop: 42927, Start Num: 11
Candidate Starts for Hammy_62:
(Start: 11 @42649 has 4 MA's), (15, 42676), (19, 42697), (28, 42733), (30, 42745), (35, 42829), (39, 42886), (40, 42889),

Gene: Hurricane_63 Start: 42638, Stop: 42913, Start Num: 13
Candidate Starts for Hurricane_63:
(Start: 13 @42638 has 10 MA's), (32, 42782), (34, 42797), (42, 42884), (43, 42887),

Gene: Keshu_65 Start: 42736, Stop: 43011, Start Num: 13
Candidate Starts for Keshu_65:
(7, 42610), (Start: 13 @42736 has 10 MA's), (32, 42880), (34, 42895), (42, 42982),

Gene: Krueger_67 Start: 42484, Stop: 42702, Start Num: 23
Candidate Starts for Krueger_67:
(6, 42295), (Start: 23 @42484 has 5 MA's), (31, 42556), (35, 42598), (44, 42685),

Gene: LastHope_67 Start: 41744, Stop: 42028, Start Num: 12
Candidate Starts for LastHope_67:
(Start: 12 @41744 has 8 MA's), (17, 41783), (21, 41795), (30, 41837), (31, 41879), (32, 41894), (35, 41921), (39, 41978), (45, 42017),

Gene: LaterM_63 Start: 43006, Stop: 43290, Start Num: 12
Candidate Starts for LaterM_63:
(Start: 12 @43006 has 8 MA's), (17, 43045), (24, 43072), (30, 43099), (31, 43141), (32, 43156), (35, 43183), (36, 43207), (39, 43240),

Gene: Lea83_63 Start: 42673, Stop: 42948, Start Num: 13
Candidate Starts for Lea83_63:
(7, 42547), (Start: 13 @42673 has 10 MA's), (32, 42817), (34, 42832), (42, 42919), (43, 42922),

Gene: MacnCheese_65 Start: 43252, Stop: 43530, Start Num: 13
Candidate Starts for MacnCheese_65:
(Start: 13 @43252 has 10 MA's), (15, 43270), (32, 43399), (34, 43414), (42, 43501),

Gene: Marcoliusprime_66 Start: 45035, Stop: 45244, Start Num: 25
Candidate Starts for Marcoliusprime_66:
(9, 44927), (Start: 25 @45035 has 11 MA's), (30, 45065), (31, 45107), (37, 45176), (41, 45218), (42, 45224), (43, 45227),

Gene: McMater_65 Start: 42809, Stop: 43087, Start Num: 12
Candidate Starts for McMater_65:
(Start: 12 @42809 has 8 MA's), (31, 42944), (35, 42986),

Gene: Megsy_65 Start: 42722, Stop: 43006, Start Num: 12
Candidate Starts for Megsy_65:
(Start: 12 @42722 has 8 MA's), (17, 42761), (30, 42815), (31, 42857), (32, 42872), (35, 42899), (36, 42923), (39, 42956),

Gene: Milly_66 Start: 45008, Stop: 45217, Start Num: 25
Candidate Starts for Milly_66:
(9, 44900), (Start: 25 @45008 has 11 MA's), (30, 45038), (31, 45080), (37, 45149), (40, 45182), (42, 45197), (43, 45200),

Gene: Mufasa_66 Start: 44595, Stop: 44804, Start Num: 25
Candidate Starts for Mufasa_66:
(9, 44487), (Start: 25 @44595 has 11 MA's), (30, 44625), (31, 44667), (37, 44736), (40, 44769), (42, 44784), (43, 44787),

Gene: Niklas_65 Start: 42870, Stop: 43148, Start Num: 12
Candidate Starts for Niklas_65:
(Start: 12 @42870 has 8 MA's), (31, 43005), (35, 43047),

Gene: November_60 Start: 42559, Stop: 42837, Start Num: 11
Candidate Starts for November_60:
(Start: 11 @42559 has 4 MA's), (15, 42586), (19, 42607), (28, 42643), (30, 42655), (35, 42739), (39, 42796), (40, 42799),

Gene: Peanam_65 Start: 42828, Stop: 43106, Start Num: 12
Candidate Starts for Peanam_65:
(Start: 12 @42828 has 8 MA's), (31, 42963), (35, 43005),

Gene: Pharb_62 Start: 41985, Stop: 42260, Start Num: 13
Candidate Starts for Pharb_62:

(Start: 13 @41985 has 10 MA's), (Start: 22 @42033 has 6 MA's), (32, 42129), (34, 42144), (42, 42231),

Gene: PhelpsODU_64 Start: 42110, Stop: 42340, Start Num: 22
Candidate Starts for PhelpsODU_64:
(Start: 22 @42110 has 6 MA's), (26, 42125), (28, 42140), (31, 42194), (35, 42236), (44, 42323),

Gene: Phrank_66 Start: 42174, Stop: 42404, Start Num: 22
Candidate Starts for Phrank_66:
(8, 42027), (Start: 22 @42174 has 6 MA's), (26, 42189), (28, 42204), (31, 42258), (35, 42300), (44, 42387),

Gene: Pixie_62 Start: 42158, Stop: 42433, Start Num: 13
Candidate Starts for Pixie_62:
(7, 42032), (Start: 13 @42158 has 10 MA's), (32, 42302), (34, 42317), (42, 42404), (43, 42407),

Gene: Richo_65 Start: 42809, Stop: 43087, Start Num: 12
Candidate Starts for Richo_65:
(Start: 12 @42809 has 8 MA's), (31, 42944), (35, 42986),

Gene: Shadow1_67 Start: 42637, Stop: 42855, Start Num: 23
Candidate Starts for Shadow1_67:
(1, 42115), (2, 42121), (3, 42196), (5, 42295), (6, 42448), (Start: 23 @42637 has 5 MA's), (31, 42709), (35, 42751), (44, 42838),

Gene: Shaobing_65 Start: 42846, Stop: 43124, Start Num: 12
Candidate Starts for Shaobing_65:
(Start: 12 @42846 has 8 MA's), (31, 42981), (35, 43023),

Gene: ShedlockHolmes_64 Start: 42677, Stop: 42952, Start Num: 13
Candidate Starts for ShedlockHolmes_64:
(7, 42551), (Start: 13 @42677 has 10 MA's), (32, 42821), (34, 42836), (42, 42923), (43, 42926),

Gene: Stinson_64 Start: 42939, Stop: 43223, Start Num: 12
Candidate Starts for Stinson_64:
(Start: 12 @42939 has 8 MA's), (16, 42972), (17, 42978), (35, 43116), (39, 43173),

Gene: Strobilo_67 Start: 45010, Stop: 45219, Start Num: 25
Candidate Starts for Strobilo_67:
(9, 44902), (Start: 25 @45010 has 11 MA's), (30, 45040), (31, 45082), (37, 45151), (41, 45193), (42, 45199), (43, 45202),

Gene: Sunflower1121_68 Start: 42783, Stop: 43001, Start Num: 23
Candidate Starts for Sunflower1121_68:
(1, 42261), (2, 42267), (3, 42342), (5, 42441), (6, 42594), (Start: 23 @42783 has 5 MA's), (31, 42855), (35, 42897), (44, 42984),

Gene: Syra333_66 Start: 42496, Stop: 42714, Start Num: 23
Candidate Starts for Syra333_66:
(3, 42034), (4, 42058), (5, 42133), (6, 42307), (10, 42424), (Start: 23 @42496 has 5 MA's), (31, 42568), (35, 42610), (44, 42697),

Gene: TClif_63 Start: 42277, Stop: 42549, Start Num: 13
Candidate Starts for TClif_63:

(Start: 13 @42277 has 10 MA's), (14, 42292), (19, 42319), (30, 42367), (31, 42409), (33, 42433), (35, 42451), (39, 42508), (40, 42511),

Gene: TM4_64 Start: 39676, Stop: 39882, Start Num: 25
Candidate Starts for TM4_64:
(20, 39655), (Start: 25 @39676 has 11 MA's), (27, 39691), (29, 39700), (31, 39745), (37, 39814), (41, 39856), (42, 39862), (43, 39865),

Gene: Tierra_66 Start: 42985, Stop: 43215, Start Num: 22
Candidate Starts for Tierra_66:
(8, 42838), (Start: 22 @42985 has 6 MA's), (26, 43000), (28, 43015), (31, 43069), (35, 43111), (44, 43198),

Gene: Tigress9_70 Start: 42813, Stop: 43031, Start Num: 23
Candidate Starts for Tigress9_70:
(6, 42624), (10, 42741), (Start: 23 @42813 has 5 MA's), (31, 42885), (35, 42927), (44, 43014),

Gene: TribleTrouble_63 Start: 43151, Stop: 43432, Start Num: 13
Candidate Starts for TribleTrouble_63:
(Start: 13 @43151 has 10 MA's), (15, 43169), (31, 43286), (39, 43385), (42, 43403),

Gene: Unicorn_64 Start: 42110, Stop: 42340, Start Num: 22
Candidate Starts for Unicorn_64:
(Start: 22 @42110 has 6 MA's), (26, 42125), (28, 42140), (31, 42194), (35, 42236), (44, 42323),

Gene: Validus_67 Start: 43191, Stop: 43469, Start Num: 12
Candidate Starts for Validus_67:
(Start: 12 @43191 has 8 MA's), (17, 43230), (18, 43233), (30, 43284), (35, 43368), (39, 43425),

Gene: Ximenita_68 Start: 42822, Stop: 43040, Start Num: 23
Candidate Starts for Ximenita_68:
(Start: 23 @42822 has 5 MA's), (31, 42894), (33, 42918), (44, 43023),

Gene: Yuna_68 Start: 43889, Stop: 44164, Start Num: 13
Candidate Starts for Yuna_68:
(Start: 13 @43889 has 10 MA's), (32, 44033), (34, 44048), (42, 44135),

Gene: ZoeJ_65 Start: 44414, Stop: 44623, Start Num: 25
Candidate Starts for ZoeJ_65:
(9, 44306), (Start: 25 @44414 has 11 MA's), (30, 44444), (31, 44486), (37, 44555), (38, 44582), (42, 44603), (43, 44606),