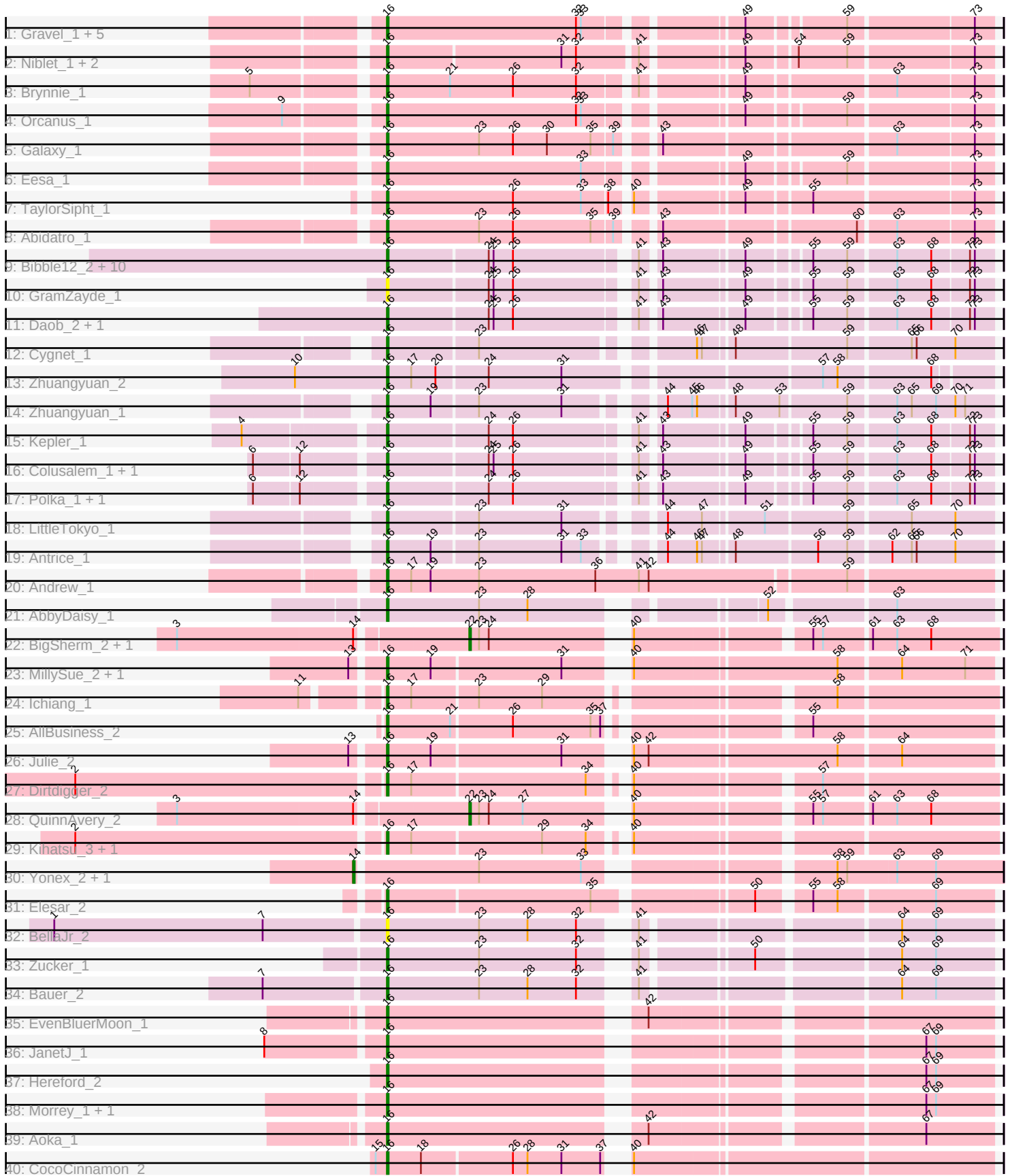


Pham 328962



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 328962 Report

This analysis was run 09/05/26 on database version 662.

Pham number 328962 has 65 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Gravel_1, Amanises_1, Shen_1, KendraB23_1, Pelletreau_1, Westrich_1
- Track 2 : Niblet_1, Chicken_1, Zixiang_1
- Track 3 : Brynnie_1
- Track 4 : Orcanus_1
- Track 5 : Galaxy_1
- Track 6 : Eesa_1
- Track 7 : TaylorSipht_1
- Track 8 : Abidatro_1
- Track 9 : Bibble12_2, Amelia_2, HannahPhantana_2, Pineda_2, Melons_2, BadWillHunting_2, Jerole_2, Cote_2, Damocles_2, Bedetta_2, Lunar_2
- Track 10 : GramZayde_1
- Track 11 : Daob_2, PhirstandPhine_2
- Track 12 : Cygnet_1
- Track 13 : Zhuangyuan_2
- Track 14 : Zhuangyuan_1
- Track 15 : Kepler_1
- Track 16 : ColusaTem_1, Coral_1
- Track 17 : Polka_1, OtsoOtso_1
- Track 18 : LittleTokyo_1
- Track 19 : Antrice_1
- Track 20 : Andrew_1
- Track 21 : AbbyDaisy_1
- Track 22 : BigSherm_2, Saintcarr_2
- Track 23 : MillySue_2, IsHungry_2
- Track 24 : Ichiang_1
- Track 25 : AllBusiness_2
- Track 26 : Julie_2
- Track 27 : Dirdigger_2
- Track 28 : QuinnAvery_2
- Track 29 : Kihatsu_3, ToastyOats_3
- Track 30 : Yonex_2, Ryan_2
- Track 31 : Elesar_2
- Track 32 : BellaJr_2
- Track 33 : Zucker_1
- Track 34 : Bauer_2
- Track 35 : EvenBluerMoon_1
- Track 36 : JanetJ_1

- Track 37 : Hereford_2
- Track 38 : Morrey_1, PrairieDogTown_1
- Track 39 : Aoka_1
- Track 40 : CocoCinnamon_2

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

The start number called the most often in the published annotations is 16, it was called in 48 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbyDaisy_1, Abidatro_1, AllBusiness_2, Amanises_1, Amelia_2, Andrew_1, Antrice_1, Aoka_1, BadWillHunting_2, Bauer_2, Bedetta_2, BellaJr_2, Bibble12_2, Brynnie_1, Chicken_1, CocoCinnamon_2, Colusalem_1, Coral_1, Cote_2, Cygnet_1, Damocles_2, Daob_2, Dirtdigger_2, Eesa_1, Elesar_2, EvenBluerMoon_1, Galaxy_1, GramZayde_1, Gravel_1, HannahPhantana_2, Hereford_2, Ichiang_1, IsHungry_2, JanetJ_1, Jerole_2, Julie_2, KendraB23_1, Kepler_1, Kihatsu_3, LittleTokyo_1, Lunar_2, Melons_2, MillySue_2, Morrey_1, Niblet_1, Orcanus_1, OtsoOtso_1, Pelletreau_1, PhirstandPhine_2, Pineda_2, Polka_1, PrairieDogTown_1, Shen_1, TaylorSipht_1, ToastyOats_3, Westrich_1, Zhuangyuan_1, Zhuangyuan_2, Zixiang_1, Zucker_1,

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

-

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

- BigSherm_2, QuinnAvery_2, Ryan_2, Saintcarr_2, Yonex_2,

Summary by start number:

Start 14:

- Found in 5 of 65 (7.7%) of genes in pham
- Manual Annotations of this start: 1 of 51
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Ryan_2 (FF), Yonex_2 (FF),

Start 16:

- Found in 60 of 65 (92.3%) of genes in pham
- Manual Annotations of this start: 48 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy_1 (AY), Abidatro_1 (AS1), AllBusiness_2 (FF), Amanises_1 (AS1), Amelia_2 (AS2), Andrew_1 (AS3), Antrice_1 (AS2), Aoka_1 (FO), BadWillHunting_2 (AS2), Bauer_2 (FN), Bedetta_2 (AS2), BellaJr_2 (FN), Bibble12_2 (AS2), Brynnie_1 (AS1), Chicken_1 (AS1), CocoCinnamon_2 (FO), Colusalem_1 (AS2), Coral_1 (AS2), Cote_2 (AS2), Cygnet_1 (AS2), Damocles_2 (AS2), Daob_2 (AS2), Dirtdigger_2 (FF), Eesa_1 (AS1), Elesar_2 (FF), EvenBluerMoon_1 (FO), Galaxy_1 (AS1), GramZayde_1 (AS2), Gravel_1 (AS1), HannahPhantana_2 (AS2), Hereford_2 (FO), Ichiang_1 (FF), IsHungry_2 (FF), JanetJ_1 (FO), Jerole_2 (AS2), Julie_2 (FF), KendraB23_1 (AS1), Kepler_1 (AS2), Kihatsu_3 (FF), LittleTokyo_1 (AS2), Lunar_2 (AS2), Melons_2 (AS2), MillySue_2

(FF), Morrey_1 (FO), Niblet_1 (AS1), Orcanus_1 (AS1), OtsoOtso_1 (AS2), Pelletreau_1 (AS1), PhirstandPhine_2 (AS2), Pineda_2 (AS2), Polka_1 (AS2), PrairieDogTown_1 (FO), Shen_1 (AS1), TaylorSipht_1 (AS1), ToastyOats_3 (FF), Westrich_1 (AS1), Zhuangyuan_1 (AS2), Zhuangyuan_2 (AS2), Zixiang_1 (AS1), Zucker_1 (FN),

Start 22:

- Found in 3 of 65 (4.6%) of genes in pham
- Manual Annotations of this start: 2 of 51
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigSherm_2 (FF), QuinnAvery_2 (FF), Saintcarr_2 (FF),

Summary by clusters:

There are 7 clusters represented in this pham: AS3, AS2, AS1, FF, AY, FN, FO,

Info for manual annotations of cluster AS1:

- Start number 16 was manually annotated 10 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 16 was manually annotated 19 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 16 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster AY:

- Start number 16 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster FF:

- Start number 14 was manually annotated 1 time for cluster FF.
- Start number 16 was manually annotated 9 times for cluster FF.
- Start number 22 was manually annotated 2 times for cluster FF.

Info for manual annotations of cluster FN:

- Start number 16 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FO:

- Start number 16 was manually annotated 6 times for cluster FO.

Gene Information:

Gene: AbbyDaisy_1 Start: 69, Stop: 401, Start Num: 16

Candidate Starts for AbbyDaisy_1:

(Start: 16 @69 has 48 MA's), (23, 126), (28, 156), (52, 273), (63, 342),

Gene: Abidatro_1 Start: 98, Stop: 442, Start Num: 16

Candidate Starts for Abidatro_1:

(Start: 16 @98 has 48 MA's), (23, 155), (26, 176), (35, 224), (39, 236), (43, 254), (60, 365), (63, 386), (73, 431),

Gene: AllBusiness_2 Start: 425, Stop: 763, Start Num: 16

Candidate Starts for AllBusiness_2:

(Start: 16 @425 has 48 MA's), (21, 464), (26, 500), (35, 548), (37, 554), (55, 656),

Gene: Amanises_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Amanises_1:

(Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: Amelia_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Amelia_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Andrew_1 Start: 98, Stop: 463, Start Num: 16

Candidate Starts for Andrew_1:

(Start: 16 @98 has 48 MA's), (17, 113), (19, 125), (23, 155), (36, 227), (41, 254), (42, 260), (59, 377),

Gene: Antrice_1 Start: 92, Stop: 430, Start Num: 16

Candidate Starts for Antrice_1:

(Start: 16 @92 has 48 MA's), (19, 119), (23, 146), (31, 197), (33, 209), (44, 242), (46, 260), (47, 263), (48, 278), (56, 326), (59, 344), (62, 368), (65, 380), (66, 383), (70, 407),

Gene: Aoka_1 Start: 69, Stop: 407, Start Num: 16

Candidate Starts for Aoka_1:

(Start: 16 @69 has 48 MA's), (42, 213), (67, 366),

Gene: BadWillHunting_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for BadWillHunting_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Bauer_2 Start: 736, Stop: 1071, Start Num: 16

Candidate Starts for Bauer_2:

(7, 664), (Start: 16 @736 has 48 MA's), (23, 793), (28, 823), (32, 853), (41, 874), (64, 1015), (69, 1036),

Gene: Bedetta_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Bedetta_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: BellaJr_2 Start: 735, Stop: 1070, Start Num: 16

Candidate Starts for BellaJr_2:

(1, 534), (7, 663), (Start: 16 @735 has 48 MA's), (23, 792), (28, 822), (32, 852), (41, 873), (64, 1014), (69, 1035),

Gene: Bibble12_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Bibble12_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: BigSherm_2 Start: 377, Stop: 667, Start Num: 22

Candidate Starts for BigSherm_2:

(3, 206), (Start: 14 @314 has 1 MA's), (Start: 22 @377 has 2 MA's), (23, 383), (24, 389), (40, 461), (55, 557), (57, 563), (61, 590), (63, 605), (68, 626),

Gene: Brynnie_1 Start: 98, Stop: 439, Start Num: 16

Candidate Starts for Brynnie_1:

(5, 26), (Start: 16 @98 has 48 MA's), (21, 137), (26, 176), (32, 215), (41, 245), (49, 299), (63, 383), (73, 428),

Gene: Chicken_1 Start: 98, Stop: 439, Start Num: 16

Candidate Starts for Chicken_1:

(Start: 16 @98 has 48 MA's), (31, 203), (32, 212), (41, 245), (49, 299), (54, 326), (59, 356), (73, 428),

Gene: CocoCinnamon_2 Start: 287, Stop: 631, Start Num: 16

Candidate Starts for CocoCinnamon_2:

(15, 281), (Start: 16 @287 has 48 MA's), (18, 308), (26, 362), (28, 371), (31, 392), (37, 416), (40, 419),

Gene: Colusalem_1 Start: 100, Stop: 432, Start Num: 16

Candidate Starts for Colusalem_1:

(6, 28), (12, 55), (Start: 16 @100 has 48 MA's), (24, 160), (25, 163), (26, 175), (41, 241), (43, 250), (49, 295), (55, 328), (59, 349), (63, 376), (68, 397), (72, 418), (73, 421),

Gene: Coral_1 Start: 100, Stop: 432, Start Num: 16

Candidate Starts for Coral_1:

(6, 28), (12, 55), (Start: 16 @100 has 48 MA's), (24, 160), (25, 163), (26, 175), (41, 241), (43, 250), (49, 295), (55, 328), (59, 349), (63, 376), (68, 397), (72, 418), (73, 421),

Gene: Cote_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Cote_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Cygnet_1 Start: 92, Stop: 430, Start Num: 16

Candidate Starts for Cygnet_1:

(Start: 16 @92 has 48 MA's), (23, 146), (46, 260), (47, 263), (48, 278), (59, 344), (65, 380), (66, 383), (70, 407),

Gene: Damocles_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Damocles_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Daob_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Daob_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Dirtdigger_2 Start: 468, Stop: 809, Start Num: 16

Candidate Starts for Dirtdigger_2:

(2, 285), (Start: 16 @468 has 48 MA's), (17, 483), (34, 588), (40, 603), (57, 705),

Gene: Eesa_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Eesa_1:

(Start: 16 @97 has 48 MA's), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: Elesar_2 Start: 346, Stop: 690, Start Num: 16

Candidate Starts for Elesar_2:

(Start: 16 @346 has 48 MA's), (35, 469), (50, 556), (55, 583), (58, 598), (69, 655),

Gene: EvenBluerMoon_1 Start: 69, Stop: 407, Start Num: 16

Candidate Starts for EvenBluerMoon_1:

(Start: 16 @69 has 48 MA's), (42, 213),

Gene: Galaxy_1 Start: 98, Stop: 442, Start Num: 16

Candidate Starts for Galaxy_1:

(Start: 16 @98 has 48 MA's), (23, 155), (26, 176), (30, 197), (35, 224), (39, 236), (43, 254), (63, 386), (73, 431),

Gene: GramZayde_1 Start: 101, Stop: 433, Start Num: 16

Candidate Starts for GramZayde_1:

(Start: 16 @101 has 48 MA's), (24, 161), (25, 164), (26, 176), (41, 242), (43, 251), (49, 296), (55, 329), (59, 350), (63, 377), (68, 398), (72, 419), (73, 422),

Gene: Gravel_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Gravel_1:

(Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: HannahPhantana_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for HannahPhantana_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Hereford_2 Start: 250, Stop: 588, Start Num: 16

Candidate Starts for Hereford_2:

(Start: 16 @250 has 48 MA's), (67, 547), (69, 553),

Gene: Ichiang_1 Start: 90, Stop: 431, Start Num: 16

Candidate Starts for Ichiang_1:

(11, 51), (Start: 16 @90 has 48 MA's), (17, 105), (23, 144), (29, 183), (58, 336),

Gene: IsHungry_2 Start: 328, Stop: 672, Start Num: 16

Candidate Starts for IsHungry_2:

(13, 310), (Start: 16 @328 has 48 MA's), (19, 355), (31, 433), (40, 460), (58, 580), (64, 616), (71, 655),

Gene: JanetJ_1 Start: 70, Stop: 408, Start Num: 16

Candidate Starts for JanetJ_1:

(8, 1), (Start: 16 @70 has 48 MA's), (67, 367), (69, 373),

Gene: Jerole_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Jerole_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Julie_2 Start: 328, Stop: 672, Start Num: 16

Candidate Starts for Julie_2:

(13, 310), (Start: 16 @328 has 48 MA's), (19, 355), (31, 433), (40, 460), (42, 469), (58, 580), (64, 616),

Gene: KendraB23_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for KendraB23_1:

(Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: Kepler_1 Start: 99, Stop: 431, Start Num: 16

Candidate Starts for Kepler_1:

(4, 21), (Start: 16 @99 has 48 MA's), (24, 159), (26, 174), (41, 240), (43, 249), (49, 294), (55, 327), (59, 348), (63, 375), (68, 396), (72, 417), (73, 420),

Gene: Kihatsu_3 Start: 685, Stop: 1026, Start Num: 16

Candidate Starts for Kihatsu_3:

(2, 502), (Start: 16 @685 has 48 MA's), (17, 700), (29, 778), (34, 805), (40, 820),

Gene: LittleTokyo_1 Start: 92, Stop: 430, Start Num: 16

Candidate Starts for LittleTokyo_1:

(Start: 16 @92 has 48 MA's), (23, 146), (31, 197), (44, 242), (47, 263), (51, 296), (59, 344), (65, 380), (70, 407),

Gene: Lunar_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Lunar_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Melons_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Melons_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: MillySue_2 Start: 328, Stop: 672, Start Num: 16

Candidate Starts for MillySue_2:

(13, 310), (Start: 16 @328 has 48 MA's), (19, 355), (31, 433), (40, 460), (58, 580), (64, 616), (71, 655),

Gene: Morrey_1 Start: 71, Stop: 409, Start Num: 16

Candidate Starts for Morrey_1:

(Start: 16 @71 has 48 MA's), (67, 368), (69, 374),

Gene: Niblet_1 Start: 98, Stop: 439, Start Num: 16

Candidate Starts for Niblet_1:

(Start: 16 @98 has 48 MA's), (31, 203), (32, 212), (41, 245), (49, 299), (54, 326), (59, 356), (73, 428),

Gene: Orcanus_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Orcanus_1:

(9, 46), (Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: OtsoOtso_1 Start: 100, Stop: 432, Start Num: 16

Candidate Starts for OtsoOtso_1:

(6, 28), (12, 55), (Start: 16 @100 has 48 MA's), (24, 160), (26, 175), (41, 241), (43, 250), (49, 295), (55, 328), (59, 349), (63, 376), (68, 397), (72, 418), (73, 421),

Gene: Pelletreau_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Pelletreau_1:

(Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: PhirstandPhine_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for PhirstandPhine_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Pineda_2 Start: 264, Stop: 596, Start Num: 16

Candidate Starts for Pineda_2:

(Start: 16 @264 has 48 MA's), (24, 324), (25, 327), (26, 339), (41, 405), (43, 414), (49, 459), (55, 492), (59, 513), (63, 540), (68, 561), (72, 582), (73, 585),

Gene: Polka_1 Start: 100, Stop: 432, Start Num: 16

Candidate Starts for Polka_1:

(6, 28), (12, 55), (Start: 16 @100 has 48 MA's), (24, 160), (26, 175), (41, 241), (43, 250), (49, 295), (55, 328), (59, 349), (63, 376), (68, 397), (72, 418), (73, 421),

Gene: PrairieDogTown_1 Start: 71, Stop: 409, Start Num: 16

Candidate Starts for PrairieDogTown_1:

(Start: 16 @71 has 48 MA's), (67, 368), (69, 374),

Gene: QuinnAvery_2 Start: 377, Stop: 667, Start Num: 22

Candidate Starts for QuinnAvery_2:

(3, 206), (Start: 14 @314 has 1 MA's), (Start: 22 @377 has 2 MA's), (23, 383), (24, 389), (27, 410), (40, 461), (55, 557), (57, 563), (61, 590), (63, 605), (68, 626),

Gene: Ryan_2 Start: 306, Stop: 668, Start Num: 14

Candidate Starts for Ryan_2:

(Start: 14 @306 has 1 MA's), (23, 378), (33, 441), (58, 567), (59, 573), (63, 603), (69, 627),

Gene: Saintcarr_2 Start: 377, Stop: 667, Start Num: 22

Candidate Starts for Saintcarr_2:

(3, 206), (Start: 14 @314 has 1 MA's), (Start: 22 @377 has 2 MA's), (23, 383), (24, 389), (40, 461), (55, 557), (57, 563), (61, 590), (63, 605), (68, 626),

Gene: Shen_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Shen_1:

(Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: TaylorSipht_1 Start: 118, Stop: 459, Start Num: 16

Candidate Starts for TaylorSipht_1:

(Start: 16 @118 has 48 MA's), (26, 196), (33, 238), (38, 253), (40, 262), (49, 319), (55, 355), (73, 448),

Gene: ToastyOats_3 Start: 685, Stop: 1026, Start Num: 16

Candidate Starts for ToastyOats_3:

(2, 502), (Start: 16 @685 has 48 MA's), (17, 700), (29, 778), (34, 805), (40, 820),

Gene: Westrich_1 Start: 97, Stop: 435, Start Num: 16

Candidate Starts for Westrich_1:

(Start: 16 @97 has 48 MA's), (32, 214), (33, 217), (49, 298), (59, 352), (73, 424),

Gene: Yonex_2 Start: 306, Stop: 668, Start Num: 14

Candidate Starts for Yonex_2:

(Start: 14 @306 has 1 MA's), (23, 378), (33, 441), (58, 567), (59, 573), (63, 603), (69, 627),

Gene: Zhuangyuan_2 Start: 439, Stop: 780, Start Num: 16

Candidate Starts for Zhuangyuan_2:

(10, 382), (Start: 16 @439 has 48 MA's), (17, 454), (20, 469), (24, 499), (31, 544), (57, 685), (58, 694), (68, 748),

Gene: Zhuangyuan_1 Start: 92, Stop: 430, Start Num: 16

Candidate Starts for Zhuangyuan_1:

(Start: 16 @92 has 48 MA's), (19, 119), (23, 146), (31, 197), (44, 242), (45, 257), (46, 260), (48, 278), (53, 305), (59, 344), (63, 371), (65, 380), (69, 395), (70, 407), (71, 413),

Gene: Zixiang_1 Start: 98, Stop: 439, Start Num: 16

Candidate Starts for Zixiang_1:

(Start: 16 @98 has 48 MA's), (31, 203), (32, 212), (41, 245), (49, 299), (54, 326), (59, 356), (73, 428),

Gene: Zucker_1 Start: 39, Stop: 374, Start Num: 16

Candidate Starts for Zucker_1:

(Start: 16 @39 has 48 MA's), (23, 96), (32, 156), (41, 177), (50, 237), (64, 318), (69, 339),