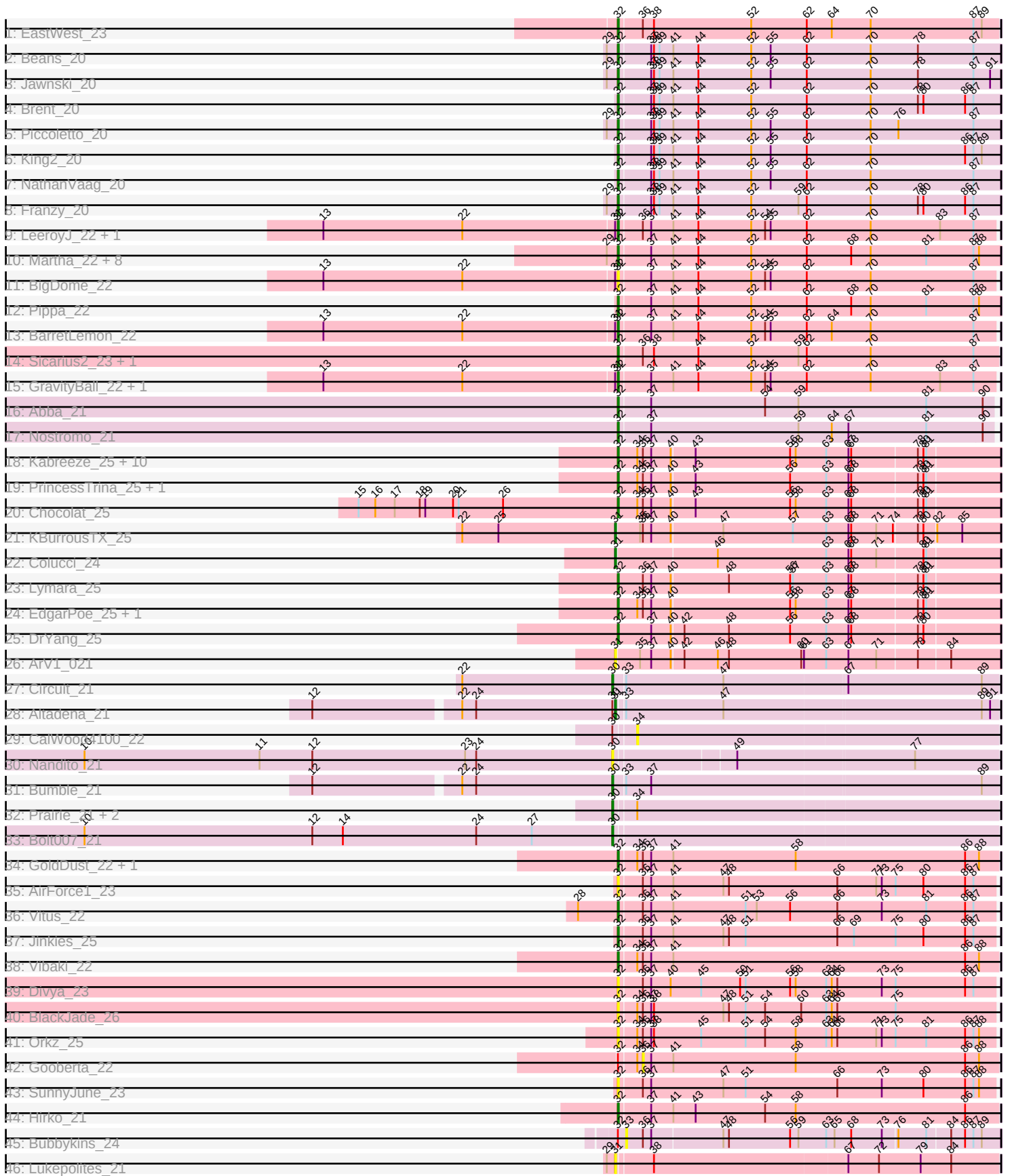


Zoomed Pham 278152



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 278152 Report

This analysis was run 02/07/26 on database version 634.

Pham number 278152 has 72 members, 14 are drafts.

Phages represented in each track:

- Track 1 : EastWest_23
- Track 2 : Beans_20
- Track 3 : Jawnski_20
- Track 4 : Brent_20
- Track 5 : Piccoletto_20
- Track 6 : King2_20
- Track 7 : NathanVaag_20
- Track 8 : Franzy_20
- Track 9 : LeeroyJ_22, Timinator_22
- Track 10 : Martha_22, Zartrosa_22, BossLady_22, Grekaycon_22, TaeYoung_22, JKerns_22, Sonny_22, Shade_22, Jordan_22
- Track 11 : BigDome_22
- Track 12 : Pippa_22
- Track 13 : BarretLemon_22
- Track 14 : Sicarius2_23, Wyborn_23
- Track 15 : GravityBall_22, StevieBAY_22
- Track 16 : Abba_21
- Track 17 : Nostromo_21
- Track 18 : Kabreeze_25, MoyaNatalis_25, Scavito_25, Chipper1996_250, Chubster_25, JayCookie_25, RosiePosie_25, Mordred_25, JaNo_25, Tophat_25, HumptyDumpty_25
- Track 19 : PrincessTrina_25, Linus_25
- Track 20 : Chocolat_25
- Track 21 : KBurrousTX_25
- Track 22 : Colucci_24
- Track 23 : Lymara_25
- Track 24 : EdgarPoe_25, Conboy_25
- Track 25 : DrYang_25
- Track 26 : ArV1_021
- Track 27 : Circuit_21
- Track 28 : Altadena_21
- Track 29 : CalWood4100_22
- Track 30 : Nandito_21
- Track 31 : Bumble_21
- Track 32 : Prairie_21, Lilmac1015_22, Klevey_21
- Track 33 : Bolt007_21
- Track 34 : GoldDust_22, Music_22

- Track 35 : AirForce1_23
- Track 36 : Vitus_22
- Track 37 : Jinkies_25
- Track 38 : Vibaki_22
- Track 39 : Divya_23
- Track 40 : BlackJade_26
- Track 41 : Orkz_25
- Track 42 : Gooberta_22
- Track 43 : SunnyJune_23
- Track 44 : Hirko_21
- Track 45 : Bubbykins_24
- Track 46 : Lukepolites_21

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

The start number called the most often in the published annotations is 32, it was called in 49 of the 58 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Abba_21, AirForce1_23, BarretLemon_22, Beans_20, BigDome_22, BlackJade_26, BossLady_22, Brent_20, Chipper1996_250, Chocolat_25, Chubster_25, Conboy_25, Divya_23, DrYang_25, EastWest_23, EdgarPoe_25, Franzy_20, GoldDust_22, GravityBall_22, Grekaycon_22, Hirko_21, HumptyDumpty_25, JKerns_22, JaNo_25, Jawnski_20, JayCookie_25, Jinkies_25, Jordan_22, Kabreeze_25, King2_20, LeeroyJ_22, Linus_25, Lymara_25, Martha_22, Mordred_25, MoyaNatalis_25, Music_22, NathanVaag_20, Nostromo_21, Orkz_25, Piccoletto_20, Pippa_22, PrincessTrina_25, RosiePosie_25, Scavito_25, Shade_22, Sicarius2_23, Sonny_22, StevieBAY_22, SunnyJune_23, TaeYoung_22, Timinator_22, Tophat_25, Vibaki_22, Vitus_22, Wyborn_23, Zartrosa_22,

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

• Bubbykins_24, Gooberta_22,

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

• Altadena_21, ArV1_021, Bolt007_21, Bumble_21, CalWood4100_22, Circuit_21, Colucci_24, KBurroustX_25, Klevey_21, Lilmac1015_22, Lukepolites_21, Nandito_21, Prairie_21,

Summary by start number:

Start 30:

- Found in 9 of 72 (12.5%) of genes in pham
- Manual Annotations of this start: 6 of 58
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Bolt007_21 (FH), Bumble_21 (FH), Circuit_21 (FH), Klevey_21 (FH), Lilmac1015_22 (FH), Nandito_21 (FH), Prairie_21 (FH),

Start 31:

- Found in 11 of 72 (15.3%) of genes in pham

- Manual Annotations of this start: 3 of 58
- Called 45.5% of time when present
- Phage (with cluster) where this start called: Altadena_21 (FH), ArV1_021 (AR), Colucci_24 (AR), KBurroustX_25 (AR), Lukepolites_21 (singleton),

Start 32:

- Found in 59 of 72 (81.9%) of genes in pham
- Manual Annotations of this start: 49 of 58
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Abba_21 (AO3), AirForce1_23 (FL), BarretLemon_22 (AO2), Beans_20 (AO1), BigDome_22 (AO2), BlackJade_26 (FL), BossLady_22 (AO2), Brent_20 (AO1), Chipper1996_250 (AR), Chocolat_25 (AR), Chubster_25 (AR), Conboy_25 (AR), Divya_23 (FL), DrYang_25 (AR), EastWest_23 (AO), EdgarPoe_25 (AR), Franzy_20 (AO1), GoldDust_22 (FL), GravityBall_22 (AO2), Grekaycon_22 (AO2), Hirko_21 (FL), HumptyDumpty_25 (AR), JKerns_22 (AO2), JaNo_25 (AR), Jawnski_20 (AO1), JayCookie_25 (AR), Jinkies_25 (FL), Jordan_22 (AO2), Kabreeze_25 (AR), King2_20 (AO1), LeeroyJ_22 (AO2), Linus_25 (AR), Lymara_25 (AR), Martha_22 (AO2), Mordred_25 (AR), MoyaNatalis_25 (AR), Music_22 (FL), NathanVaag_20 (AO1), Nostromo_21 (AO3), Orkz_25 (FL), Piccoletto_20 (AO1), Pippa_22 (AO2), PrincessTrina_25 (AR), RosiePosie_25 (AR), Scavito_25 (AR), Shade_22 (AO2), Sicarius2_23 (AO2), Sonny_22 (AO2), StevieBAY_22 (AO2), SunnyJune_23 (FL), TaeYoung_22 (AO2), Timinator_22 (AO2), Tophat_25 (AR), Vibaki_22 (FL), Vitus_22 (FL), Wyborn_23 (AO2), Zartrosa_22 (AO2),

Start 33:

- Found in 4 of 72 (5.6%) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Bubbykins_24 (UNK),

Start 34:

- Found in 26 of 72 (36.1%) of genes in pham
- No Manual Annotations of this start.
- Called 3.8% of time when present
- Phage (with cluster) where this start called: CalWood4100_22 (FH),

Start 36:

- Found in 35 of 72 (48.6%) of genes in pham
- No Manual Annotations of this start.
- Called 2.9% of time when present
- Phage (with cluster) where this start called: Gooberta_22 (FL),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, AO, AR, AO3, AO2, AO1, FH, UNK, FL,

Info for manual annotations of cluster AO:

- Start number 32 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 32 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 32 was manually annotated 17 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 32 was manually annotated 2 times for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 31 was manually annotated 2 times for cluster AR.
- Start number 32 was manually annotated 17 times for cluster AR.

Info for manual annotations of cluster FH:

- Start number 30 was manually annotated 6 times for cluster FH.
- Start number 31 was manually annotated 1 time for cluster FH.

Info for manual annotations of cluster FL:

- Start number 32 was manually annotated 5 times for cluster FL.

Gene Information:

Gene: Abba_21 Start: 18695, Stop: 19096, Start Num: 32

Candidate Starts for Abba_21:

(Start: 32 @18695 has 49 MA's), (37, 18728), (54, 18851), (59, 18887), (81, 19025), (90, 19085),

Gene: AirForce1_23 Start: 18660, Stop: 19064, Start Num: 32

Candidate Starts for AirForce1_23:

(Start: 32 @18660 has 49 MA's), (36, 18684), (37, 18693), (41, 18717), (47, 18771), (48, 18777), (66, 18894), (71, 18936), (73, 18942), (75, 18957), (80, 18987), (86, 19032), (87, 19041),

Gene: Altadena_21 Start: 17723, Stop: 18124, Start Num: 31

Candidate Starts for Altadena_21:

(12, 17408), (22, 17558), (24, 17573), (Start: 30 @17720 has 6 MA's), (Start: 31 @17723 has 3 MA's), (33, 17729), (47, 17834), (89, 18107), (91, 18116),

Gene: ArV1_021 Start: 19604, Stop: 20008, Start Num: 31

Candidate Starts for ArV1_021:

(Start: 31 @19604 has 3 MA's), (35, 19628), (37, 19640), (40, 19661), (42, 19673), (46, 19709), (48, 19721), (60, 19799), (61, 19802), (63, 19826), (67, 19850), (71, 19880), (78, 19922), (84, 19955),

Gene: BarretLemon_22 Start: 18387, Stop: 18791, Start Num: 32

Candidate Starts for BarretLemon_22:

(13, 18072), (22, 18222), (Start: 31 @18384 has 3 MA's), (Start: 32 @18387 has 49 MA's), (37, 18420), (41, 18444), (44, 18471), (52, 18528), (54, 18543), (55, 18549), (62, 18588), (64, 18615), (70, 18657), (87, 18768),

Gene: Beans_20 Start: 18099, Stop: 18509, Start Num: 32

Candidate Starts for Beans_20:

(29, 18087), (Start: 32 @18099 has 49 MA's), (37, 18132), (38, 18135), (39, 18141), (41, 18156), (44, 18183), (52, 18240), (55, 18261), (62, 18300), (70, 18369), (78, 18420), (87, 18480),

Gene: BigDome_22 Start: 18375, Stop: 18779, Start Num: 32

Candidate Starts for BigDome_22:

(13, 18060), (22, 18210), (Start: 31 @18372 has 3 MA's), (Start: 32 @18375 has 49 MA's), (37, 18408), (41, 18432), (44, 18459), (52, 18516), (54, 18531), (55, 18537), (62, 18576), (70, 18645), (87, 18756),

Gene: BlackJade_26 Start: 20596, Stop: 21000, Start Num: 32

Candidate Starts for BlackJade_26:

(Start: 32 @20596 has 49 MA's), (34, 20614), (36, 20620), (37, 20629), (38, 20632), (47, 20707), (48, 20713), (51, 20731), (54, 20752), (60, 20791), (63, 20818), (64, 20824), (66, 20830), (75, 20893),

Gene: Bolt007_21 Start: 17572, Stop: 17976, Start Num: 30

Candidate Starts for Bolt007_21:

(1, 16441), (2, 16558), (3, 16582), (4, 16693), (5, 16732), (6, 16777), (7, 16795), (10, 17002), (12, 17248), (14, 17281), (24, 17425), (27, 17485), (Start: 30 @17572 has 6 MA's),

Gene: BossLady_22 Start: 18413, Stop: 18823, Start Num: 32

Candidate Starts for BossLady_22:

(29, 18401), (Start: 32 @18413 has 49 MA's), (37, 18446), (41, 18470), (44, 18497), (52, 18554), (62, 18614), (68, 18662), (70, 18683), (81, 18743), (87, 18794), (88, 18800),

Gene: Brent_20 Start: 18082, Stop: 18492, Start Num: 32

Candidate Starts for Brent_20:

(Start: 32 @18082 has 49 MA's), (37, 18115), (38, 18118), (39, 18124), (41, 18139), (44, 18166), (52, 18223), (62, 18283), (70, 18352), (78, 18403), (80, 18409), (86, 18454), (87, 18463),

Gene: Bubbykins_24 Start: 20887, Stop: 21282, Start Num: 33

Candidate Starts for Bubbykins_24:

(Start: 32 @20878 has 49 MA's), (33, 20887), (36, 20905), (37, 20914), (47, 20989), (48, 20995), (56, 21061), (59, 21070), (63, 21100), (65, 21109), (68, 21127), (73, 21160), (76, 21175), (81, 21205), (84, 21229), (86, 21244), (87, 21253), (89, 21262),

Gene: Bumble_21 Start: 17728, Stop: 18135, Start Num: 30

Candidate Starts for Bumble_21:

(12, 17416), (22, 17566), (24, 17581), (Start: 30 @17728 has 6 MA's), (33, 17740), (37, 17767), (89, 18118),

Gene: CalWood4100_22 Start: 17591, Stop: 17974, Start Num: 34

Candidate Starts for CalWood4100_22:

(Start: 30 @17570 has 6 MA's), (34, 17591),

Gene: Chipper1996_250 Start: 21286, Stop: 21690, Start Num: 32

Candidate Starts for Chipper1996_250:

(Start: 32 @21286 has 49 MA's), (34, 21307), (36, 21313), (37, 21322), (40, 21343), (43, 21367), (56, 21469), (58, 21475), (63, 21508), (67, 21532), (68, 21535), (78, 21604), (80, 21610), (81, 21613),

Gene: Chocolat_25 Start: 21286, Stop: 21690, Start Num: 32

Candidate Starts for Chocolat_25:

(15, 21007), (16, 21025), (17, 21046), (18, 21073), (19, 21079), (20, 21109), (21, 21115), (26, 21163), (Start: 32 @21286 has 49 MA's), (34, 21307), (36, 21313), (37, 21322), (40, 21343), (43, 21367), (56, 21469), (58, 21475), (63, 21508), (67, 21532), (68, 21535), (78, 21604), (80, 21610), (81, 21613),

Gene: Chubster_25 Start: 21057, Stop: 21461, Start Num: 32

Candidate Starts for Chubster_25:

(Start: 32 @21057 has 49 MA's), (34, 21078), (36, 21084), (37, 21093), (40, 21114), (43, 21138), (56, 21240), (58, 21246), (63, 21279), (67, 21303), (68, 21306), (78, 21375), (80, 21381), (81, 21384),

Gene: Circuit_21 Start: 17723, Stop: 18130, Start Num: 30

Candidate Starts for Circuit_21:

(22, 17561), (Start: 30 @17723 has 6 MA's), (33, 17735), (47, 17840), (67, 17969), (89, 18113),

Gene: Colucci_24 Start: 20753, Stop: 21157, Start Num: 31

Candidate Starts for Colucci_24:

(Start: 31 @20753 has 3 MA's), (46, 20858), (63, 20975), (67, 20999), (68, 21002), (71, 21029), (80, 21077), (81, 21080),

Gene: Conboy_25 Start: 21285, Stop: 21689, Start Num: 32

Candidate Starts for Conboy_25:

(Start: 32 @21285 has 49 MA's), (34, 21306), (36, 21312), (37, 21321), (40, 21342), (56, 21468), (58, 21474), (63, 21507), (67, 21531), (68, 21534), (78, 21603), (80, 21609), (81, 21612),

Gene: Divya_23 Start: 18003, Stop: 18407, Start Num: 32

Candidate Starts for Divya_23:

(Start: 32 @18003 has 49 MA's), (36, 18027), (37, 18036), (40, 18057), (45, 18090), (50, 18132), (51, 18138), (56, 18186), (58, 18192), (63, 18225), (64, 18231), (66, 18237), (73, 18285), (75, 18300), (86, 18375), (87, 18384),

Gene: DrYang_25 Start: 21484, Stop: 21888, Start Num: 32

Candidate Starts for DrYang_25:

(Start: 32 @21484 has 49 MA's), (37, 21520), (40, 21541), (42, 21553), (48, 21601), (56, 21667), (63, 21706), (67, 21730), (68, 21733), (78, 21802), (80, 21808),

Gene: EastWest_23 Start: 18389, Stop: 18796, Start Num: 32

Candidate Starts for EastWest_23:

(Start: 32 @18389 has 49 MA's), (36, 18413), (38, 18425), (52, 18530), (62, 18590), (64, 18617), (70, 18659), (87, 18770), (89, 18779),

Gene: EdgarPoe_25 Start: 21285, Stop: 21689, Start Num: 32

Candidate Starts for EdgarPoe_25:

(Start: 32 @21285 has 49 MA's), (34, 21306), (36, 21312), (37, 21321), (40, 21342), (56, 21468), (58, 21474), (63, 21507), (67, 21531), (68, 21534), (78, 21603), (80, 21609), (81, 21612),

Gene: Franzy_20 Start: 18081, Stop: 18491, Start Num: 32

Candidate Starts for Franzy_20:

(29, 18069), (Start: 32 @18081 has 49 MA's), (37, 18114), (38, 18117), (39, 18123), (41, 18138), (44, 18165), (52, 18222), (59, 18273), (62, 18282), (70, 18351), (78, 18402), (80, 18408), (86, 18453), (87, 18462),

Gene: GoldDust_22 Start: 20455, Stop: 20862, Start Num: 32

Candidate Starts for GoldDust_22:

(Start: 32 @20455 has 49 MA's), (34, 20473), (36, 20479), (37, 20488), (41, 20512), (58, 20644), (86, 20827), (88, 20842),

Gene: Gooberta_22 Start: 20478, Stop: 20861, Start Num: 36

Candidate Starts for Gooberta_22:

(Start: 32 @20454 has 49 MA's), (34, 20472), (36, 20478), (37, 20487), (41, 20511), (58, 20643), (86, 20826), (88, 20841),

Gene: GravityBall_22 Start: 18386, Stop: 18790, Start Num: 32

Candidate Starts for GravityBall_22:

(13, 18071), (22, 18221), (Start: 31 @18383 has 3 MA's), (Start: 32 @18386 has 49 MA's), (37, 18419), (41, 18443), (44, 18470), (52, 18527), (54, 18542), (55, 18548), (62, 18587), (70, 18656), (83, 18731), (87, 18767),

Gene: Grekaycon_22 Start: 18422, Stop: 18832, Start Num: 32

Candidate Starts for Grekaycon_22:

(29, 18410), (Start: 32 @18422 has 49 MA's), (37, 18455), (41, 18479), (44, 18506), (52, 18563), (62, 18623), (68, 18671), (70, 18692), (81, 18752), (87, 18803), (88, 18809),

Gene: Hirko_21 Start: 19941, Stop: 20348, Start Num: 32

Candidate Starts for Hirko_21:

(Start: 32 @19941 has 49 MA's), (37, 19974), (41, 19998), (43, 20022), (54, 20097), (58, 20130), (86, 20313),

Gene: HumptyDumpty_25 Start: 21284, Stop: 21688, Start Num: 32

Candidate Starts for HumptyDumpty_25:

(Start: 32 @21284 has 49 MA's), (34, 21305), (36, 21311), (37, 21320), (40, 21341), (43, 21365), (56, 21467), (58, 21473), (63, 21506), (67, 21530), (68, 21533), (78, 21602), (80, 21608), (81, 21611),

Gene: JKerns_22 Start: 18449, Stop: 18859, Start Num: 32

Candidate Starts for JKerns_22:

(29, 18437), (Start: 32 @18449 has 49 MA's), (37, 18482), (41, 18506), (44, 18533), (52, 18590), (62, 18650), (68, 18698), (70, 18719), (81, 18779), (87, 18830), (88, 18836),

Gene: JaNo_25 Start: 21284, Stop: 21688, Start Num: 32

Candidate Starts for JaNo_25:

(Start: 32 @21284 has 49 MA's), (34, 21305), (36, 21311), (37, 21320), (40, 21341), (43, 21365), (56, 21467), (58, 21473), (63, 21506), (67, 21530), (68, 21533), (78, 21602), (80, 21608), (81, 21611),

Gene: Jawnski_20 Start: 18094, Stop: 18504, Start Num: 32

Candidate Starts for Jawnski_20:

(29, 18082), (Start: 32 @18094 has 49 MA's), (37, 18127), (38, 18130), (39, 18136), (41, 18151), (44, 18178), (52, 18235), (55, 18256), (62, 18295), (70, 18364), (78, 18415), (87, 18475), (91, 18493),

Gene: JayCookie_25 Start: 21287, Stop: 21691, Start Num: 32

Candidate Starts for JayCookie_25:

(Start: 32 @21287 has 49 MA's), (34, 21308), (36, 21314), (37, 21323), (40, 21344), (43, 21368), (56, 21470), (58, 21476), (63, 21509), (67, 21533), (68, 21536), (78, 21605), (80, 21611), (81, 21614),

Gene: Jinkies_25 Start: 21328, Stop: 21732, Start Num: 32

Candidate Starts for Jinkies_25:

(Start: 32 @21328 has 49 MA's), (36, 21352), (37, 21361), (41, 21385), (47, 21439), (48, 21445), (51, 21463), (66, 21562), (69, 21580), (75, 21625), (80, 21655), (86, 21700), (87, 21709),

Gene: Jordan_22 Start: 18419, Stop: 18829, Start Num: 32

Candidate Starts for Jordan_22:

(29, 18407), (Start: 32 @18419 has 49 MA's), (37, 18452), (41, 18476), (44, 18503), (52, 18560), (62, 18620), (68, 18668), (70, 18689), (81, 18749), (87, 18800), (88, 18806),

Gene: KBurrousTX_25 Start: 21312, Stop: 21716, Start Num: 31

Candidate Starts for KBurrousTX_25:

(22, 21147), (25, 21186), (Start: 31 @21312 has 3 MA's), (35, 21336), (36, 21339), (37, 21348), (40, 21369), (47, 21423), (57, 21498), (63, 21534), (67, 21558), (68, 21561), (71, 21588), (74, 21606), (78, 21630), (80, 21636), (82, 21648), (85, 21675),

Gene: Kabreeze_25 Start: 21284, Stop: 21688, Start Num: 32

Candidate Starts for Kabreeze_25:

(Start: 32 @21284 has 49 MA's), (34, 21305), (36, 21311), (37, 21320), (40, 21341), (43, 21365), (56, 21467), (58, 21473), (63, 21506), (67, 21530), (68, 21533), (78, 21602), (80, 21608), (81, 21611),

Gene: King2_20 Start: 18085, Stop: 18495, Start Num: 32

Candidate Starts for King2_20:

(Start: 32 @18085 has 49 MA's), (37, 18118), (38, 18121), (39, 18127), (41, 18142), (44, 18169), (52, 18226), (55, 18247), (62, 18286), (70, 18355), (86, 18457), (87, 18466), (89, 18475),

Gene: Klevey_21 Start: 17580, Stop: 17984, Start Num: 30

Candidate Starts for Klevey_21:

(Start: 30 @17580 has 6 MA's), (34, 17601),

Gene: LeeroyJ_22 Start: 18386, Stop: 18790, Start Num: 32

Candidate Starts for LeeroyJ_22:

(13, 18071), (22, 18221), (Start: 31 @18383 has 3 MA's), (Start: 32 @18386 has 49 MA's), (36, 18410), (37, 18419), (41, 18443), (44, 18470), (52, 18527), (54, 18542), (55, 18548), (62, 18587), (70, 18656), (83, 18731), (87, 18767),

Gene: Lilmac1015_22 Start: 17570, Stop: 17974, Start Num: 30

Candidate Starts for Lilmac1015_22:

(Start: 30 @17570 has 6 MA's), (34, 17591),

Gene: Linus_25 Start: 21284, Stop: 21688, Start Num: 32

Candidate Starts for Linus_25:

(Start: 32 @21284 has 49 MA's), (34, 21305), (36, 21311), (37, 21320), (40, 21341), (43, 21365), (56, 21467), (63, 21506), (67, 21530), (68, 21533), (78, 21602), (80, 21608), (81, 21611),

Gene: Lukepolites_21 Start: 17611, Stop: 18012, Start Num: 31

Candidate Starts for Lukepolites_21:

(29, 17602), (Start: 31 @17611 has 3 MA's), (38, 17647), (67, 17851), (72, 17884), (79, 17929), (84, 17962),

Gene: Lymara_25 Start: 21282, Stop: 21686, Start Num: 32

Candidate Starts for Lymara_25:

(Start: 32 @21282 has 49 MA's), (36, 21309), (37, 21318), (40, 21339), (48, 21399), (56, 21465), (57, 21468), (63, 21504), (67, 21528), (68, 21531), (78, 21600), (80, 21606), (81, 21609),

Gene: Martha_22 Start: 18360, Stop: 18770, Start Num: 32

Candidate Starts for Martha_22:

(29, 18348), (Start: 32 @18360 has 49 MA's), (37, 18393), (41, 18417), (44, 18444), (52, 18501), (62, 18561), (68, 18609), (70, 18630), (81, 18690), (87, 18741), (88, 18747),

Gene: Mordred_25 Start: 21284, Stop: 21688, Start Num: 32

Candidate Starts for Mordred_25:

(Start: 32 @21284 has 49 MA's), (34, 21305), (36, 21311), (37, 21320), (40, 21341), (43, 21365), (56, 21467), (58, 21473), (63, 21506), (67, 21530), (68, 21533), (78, 21602), (80, 21608), (81, 21611),

Gene: MoyaNatalis_25 Start: 21287, Stop: 21691, Start Num: 32

Candidate Starts for MoyaNatalis_25:

(Start: 32 @21287 has 49 MA's), (34, 21308), (36, 21314), (37, 21323), (40, 21344), (43, 21368), (56, 21470), (58, 21476), (63, 21509), (67, 21533), (68, 21536), (78, 21605), (80, 21611), (81, 21614),

Gene: Music_22 Start: 20323, Stop: 20730, Start Num: 32

Candidate Starts for Music_22:

(Start: 32 @20323 has 49 MA's), (34, 20341), (36, 20347), (37, 20356), (41, 20380), (58, 20512), (86, 20695), (88, 20710),

Gene: Nandito_21 Start: 17654, Stop: 18052, Start Num: 30

Candidate Starts for Nandito_21:

(2, 16640), (3, 16664), (4, 16775), (5, 16814), (6, 16859), (7, 16877), (8, 16892), (9, 16913), (10, 17084), (11, 17273), (12, 17330), (23, 17495), (24, 17507), (Start: 30 @17654 has 6 MA's), (49, 17777), (77, 17963),

Gene: NathanVaag_20 Start: 18091, Stop: 18501, Start Num: 32

Candidate Starts for NathanVaag_20:

(Start: 32 @18091 has 49 MA's), (37, 18124), (38, 18127), (39, 18133), (41, 18148), (44, 18175), (52, 18232), (55, 18253), (62, 18292), (70, 18361), (87, 18472),

Gene: Nostromo_21 Start: 18327, Stop: 18728, Start Num: 32

Candidate Starts for Nostromo_21:

(Start: 32 @18327 has 49 MA's), (37, 18360), (59, 18519), (64, 18555), (67, 18573), (81, 18657), (90, 18717),

Gene: Orkz_25 Start: 17987, Stop: 18391, Start Num: 32

Candidate Starts for Orkz_25:

(Start: 32 @17987 has 49 MA's), (34, 18005), (36, 18011), (37, 18020), (38, 18023), (45, 18074), (51, 18122), (54, 18143), (58, 18176), (63, 18209), (64, 18215), (66, 18221), (71, 18263), (73, 18269), (75, 18284), (81, 18317), (86, 18359), (87, 18368), (88, 18374),

Gene: Piccoletto_20 Start: 18090, Stop: 18500, Start Num: 32

Candidate Starts for Piccoletto_20:

(29, 18078), (Start: 32 @18090 has 49 MA's), (37, 18123), (38, 18126), (39, 18132), (41, 18147), (44, 18174), (52, 18231), (55, 18252), (62, 18291), (70, 18360), (76, 18390), (87, 18471),

Gene: Pippa_22 Start: 18458, Stop: 18868, Start Num: 32

Candidate Starts for Pippa_22:

(Start: 32 @18458 has 49 MA's), (37, 18491), (41, 18515), (44, 18542), (52, 18599), (62, 18659), (68, 18707), (70, 18728), (81, 18788), (87, 18839), (88, 18845),

Gene: Prairie_21 Start: 17577, Stop: 17981, Start Num: 30

Candidate Starts for Prairie_21:

(Start: 30 @17577 has 6 MA's), (34, 17598),

Gene: PrincessTrina_25 Start: 21287, Stop: 21691, Start Num: 32

Candidate Starts for PrincessTrina_25:

(Start: 32 @21287 has 49 MA's), (34, 21308), (36, 21314), (37, 21323), (40, 21344), (43, 21368), (56, 21470), (63, 21509), (67, 21533), (68, 21536), (78, 21605), (80, 21611), (81, 21614),

Gene: RosiePosie_25 Start: 21287, Stop: 21691, Start Num: 32

Candidate Starts for RosiePosie_25:

(Start: 32 @21287 has 49 MA's), (34, 21308), (36, 21314), (37, 21323), (40, 21344), (43, 21368), (56, 21470), (58, 21476), (63, 21509), (67, 21533), (68, 21536), (78, 21605), (80, 21611), (81, 21614),

Gene: Scavito_25 Start: 21284, Stop: 21688, Start Num: 32

Candidate Starts for Scavito_25:

(Start: 32 @21284 has 49 MA's), (34, 21305), (36, 21311), (37, 21320), (40, 21341), (43, 21365), (56, 21467), (58, 21473), (63, 21506), (67, 21530), (68, 21533), (78, 21602), (80, 21608), (81, 21611),

Gene: Shade_22 Start: 18398, Stop: 18808, Start Num: 32

Candidate Starts for Shade_22:

(29, 18386), (Start: 32 @18398 has 49 MA's), (37, 18431), (41, 18455), (44, 18482), (52, 18539), (62, 18599), (68, 18647), (70, 18668), (81, 18728), (87, 18779), (88, 18785),

Gene: Sicarius2_23 Start: 18879, Stop: 19286, Start Num: 32

Candidate Starts for Sicarius2_23:

(Start: 32 @18879 has 49 MA's), (36, 18903), (38, 18915), (44, 18963), (52, 19020), (59, 19071), (62, 19080), (70, 19149), (87, 19260),

Gene: Sonny_22 Start: 18419, Stop: 18829, Start Num: 32

Candidate Starts for Sonny_22:

(29, 18407), (Start: 32 @18419 has 49 MA's), (37, 18452), (41, 18476), (44, 18503), (52, 18560), (62, 18620), (68, 18668), (70, 18689), (81, 18749), (87, 18800), (88, 18806),

Gene: StevieBAY_22 Start: 18386, Stop: 18790, Start Num: 32

Candidate Starts for StevieBAY_22:

(13, 18071), (22, 18221), (Start: 31 @18383 has 3 MA's), (Start: 32 @18386 has 49 MA's), (37, 18419), (41, 18443), (44, 18470), (52, 18527), (54, 18542), (55, 18548), (62, 18587), (70, 18656), (83, 18731), (87, 18767),

Gene: SunnyJune_23 Start: 19719, Stop: 20123, Start Num: 32

Candidate Starts for SunnyJune_23:

(Start: 32 @19719 has 49 MA's), (36, 19743), (37, 19752), (47, 19830), (51, 19854), (66, 19953), (73, 20001), (80, 20046), (86, 20091), (87, 20100), (88, 20106),

Gene: TaeYoung_22 Start: 18423, Stop: 18833, Start Num: 32

Candidate Starts for TaeYoung_22:

(29, 18411), (Start: 32 @18423 has 49 MA's), (37, 18456), (41, 18480), (44, 18507), (52, 18564), (62, 18624), (68, 18672), (70, 18693), (81, 18753), (87, 18804), (88, 18810),

Gene: Timinator_22 Start: 18386, Stop: 18790, Start Num: 32

Candidate Starts for Timinator_22:

(13, 18071), (22, 18221), (Start: 31 @18383 has 3 MA's), (Start: 32 @18386 has 49 MA's), (36, 18410), (37, 18419), (41, 18443), (44, 18470), (52, 18527), (54, 18542), (55, 18548), (62, 18587), (70, 18656), (83, 18731), (87, 18767),

Gene: Tophat_25 Start: 21286, Stop: 21690, Start Num: 32

Candidate Starts for Tophat_25:

(Start: 32 @21286 has 49 MA's), (34, 21307), (36, 21313), (37, 21322), (40, 21343), (43, 21367), (56, 21469), (58, 21475), (63, 21508), (67, 21532), (68, 21535), (78, 21604), (80, 21610), (81, 21613),

Gene: Vibaki_22 Start: 20336, Stop: 20743, Start Num: 32

Candidate Starts for Vibaki_22:

(Start: 32 @20336 has 49 MA's), (34, 20354), (36, 20360), (37, 20369), (41, 20393), (86, 20708), (88, 20723),

Gene: Vitus_22 Start: 19478, Stop: 19882, Start Num: 32

Candidate Starts for Vitus_22:

(28, 19436), (Start: 32 @19478 has 49 MA's), (36, 19502), (37, 19511), (41, 19535), (51, 19613), (53, 19625), (56, 19661), (66, 19712), (73, 19760), (81, 19808), (86, 19850), (87, 19859),

Gene: Wyborn_23 Start: 18737, Stop: 19144, Start Num: 32

Candidate Starts for Wyborn_23:

(Start: 32 @18737 has 49 MA's), (36, 18761), (38, 18773), (44, 18821), (52, 18878), (59, 18929), (62, 18938), (70, 19007), (87, 19118),

Gene: Zartrosa_22 Start: 18422, Stop: 18832, Start Num: 32

Candidate Starts for Zartrosa_22:

(29, 18410), (Start: 32 @18422 has 49 MA's), (37, 18455), (41, 18479), (44, 18506), (52, 18563), (62, 18623), (68, 18671), (70, 18692), (81, 18752), (87, 18803), (88, 18809),