Genomes	Vertices and edges	Pathgroups with Priorities	Chromosomal fragments
Genome G1: Chr1: -2 -1 3 7 Chr2: 6 4 5 Genome G2: Chr1: 2 3 -1 4 5 Chr2: 6 7 Genome G3: Chr1: 1 -4 -3 -2 7 Chr2: 6 5	T_1—2_h 2_t—1_h 1_t—3_t 3_h—7_t 7_h—T_1 T_1—6_t 6_h—4_t 4_h—5_t 5_h—T_1 T_2—2_t 2_h—3_t 3_h—1_h 1_t—4_t 4_h—5_t 5_h—T_2 T_2—6_t 6_h—7_t 7_h—T_2 T_3—1_t 1_h—4_h 4_t—3_h 3_t—2_h 2_t—7_t 7_h—T_3 T_3—6_t 6_h—5_t 5_h—T_3	7 { 1_t—3_t, 1_t—4_t, 1_t—T_3 } 6 { 1_h—2_t, 1_h—3_h, 1_h—4_h } 6 { 2_t—1_h, 2_t—T_2, 2_t—7_t } 3 { 2_h—T_1, 2_h—3_t, 2_h—3_t } 3 { 3_t—1_t, 3_t—2_h, 3_t—2_h } 6 { 3_h—7_t, 3_h—1_h, 3_h—4_t } 6 { 4_t—6_h, 4_t—1_t, 4_t—3_h } 4 { 4_h—5_t, 4_h—5_t, 4_h—1_h } 4 { 5_t—4_h, 5_t—4_h, 5_t—6_h } { 5_h—T_1, 5_h—T_2, 5_h—T_3 } { 6_t—T_1, 6_t—T_2, 6_t—T_3 } 6 { 6_h—4_t, 6_h—7_t, 6_h—5_t } 6 { 7_t—3_h, 7_t—6_h, 7_t—2_t } { 7_h—T_1, 7_h—T_2, 7_h—T_3 }	1 2 3 4 5 6 7

Add red edge (2_h,3_t) to Priority 3 pathgroup { 2_h—T_1, 2_h—3_t, 2_h—3_t } 3

7 { 1_t—3_t—2_h—T_1, 1_t—4_t, 1_t—T_3 } 6 { 1_h—2_t, 1_h—3_h, 1_h—4_h } 6 { 2_t—1_h, 2_t—T_2, 2_t—7_t } { 3_h—7_t, 3_h—1_h, 3_h—4_t } { 4_t—6_h, 4_t—1_t, 4_t—3_h } { 4_h—5_t, 4_h—5_t, 4_h—1_h }	1 2 3 4 5 6 7
{ 5_t—4_h, 5_t—4_h, 5_t—6_h } { 5_h—T_1, 5_h—T_2, 5_h—T_3 } { 6_t—T_1, 6_t—T_2, 6_t—T_3 } { 6_h—4_t, 6_h—7_t, 6_h—5_t } { 7_t—3_h, 7_t—6_h, 7_t—2_t } { 7_h—T_1, 7_h—T_2, 7_h—T_3 }	

Add red edge (4_h,5_t) to Priority 4 pathgroup { 4_h—5_t, 4_h—5_t, 4_h—1_h }

{ 1_t—3_t—2_h—T_1, 1_t—4_t, 1_t—T_3 } { 1_h—2_t, 1_h—3_h, 1_h—4_h—5_t—6_h } { 2_t—1_h, 2_t—T_2, 2_t—7_t } { 3_h—7_t, 3_h—1_h, 3_h—4_t } { 4_t—6_h, 4_t—1_t, 4_t—3_h }	1 2 3 4 5 6 7
{ 5_h—T_1, 5_h—T_2, 5_h—T_3 } { 6_t—T_1, 6_t—T_2, 6_t—T_3 } { 6_h—4_t, 6_h—7_t, 6_h—5_t—4_h—1_h } { 7_t—3_h, 7_t—6_h, 7_t—2_t } { 7_h—T_1, 7_h—T_2, 7_h—T_3 }	

Add red edge (1_h,2_t) to Priority 6 pathgroup { 1_h—2_t, 1_h—3_h, 1_h—4_h—5_t—6_h }

{ 1_t—3_t—2_h—T_1, 1_t—4_t, 1_t—T_3 } { 3_h—7_t, 3_h—1_h—2_t—T_2, 3_h—4_t } { 4_t—6_h, 4_t—1_t, 4_t—3_h } { 5_h—T_1, 5_h—T_2, 5_h—T_3 } { 6_t—T_1, 6_t—T_2, 6_t—T_3 }	1 2 3 4 5 6 7
{ 6_h—4_t, 6_h—7_t, 6_h—5_t—4_h—1_h—2_t—7_t } { 7_t—3_h, 7_t—6_h, 7_t—2_t—1_h—4_h—5_t—6_h } { 7_h—T_1, 7_h—T_2, 7_h—T_3 }	

Add red edge (6_h,7_t) to Priority 3 pathgroup { 6_h—4_t, 6_h—7_t, 6_h—5_t—4_h—1_h—2_t—7_t }

{ 1_t—3_t—2_h—T_1, 1_t—4_t, 1_t—T_3 } { 3_h—7_t—6_h—4_t, 3_h—1_h—2_t—T_2, 3_h—4_t } { 4_t—6_h—7_t—3_h, 4_t—1_t, 4_t—3_h } { 6_t—T_1, 6_t—T_2, 6_t—T_3 }	1 2 3 4 5 6 7
{ 5_h—T_1, 5_h—T_2, 5_h—T_3 } { 7_h—T_1, 7_h—T_2, 7_h—T_3 }	

Add red edge (3_h,4_t) to Priority 2 pathgroup { 3_h—7_t—6_h—4_t, 3_h—1_h—2_t—T_2, 3_h—4_t }

{ 1_t—3_t—2_h—T_1, 1_t—4_t—3_h—1_h—2_t—T_2, 1_t—T_3 } { 5_h—T_1, 5_h—T_2, 5_h—T_3 } { 6_t—T_1, 6_t—T_2, 6_t—T_3 } { 7_h—T_1, 7_h—T_2, 7_h—T_3 }	1 2 3 4 5 6 7

Reconstructed median genome:
Chr1: 1 2 3 4 5
Chr2: 6 7