fatgraph name: C5
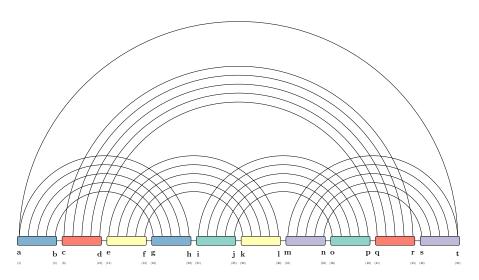

first and last anchors, already given: a, t

$$A = \min_{m,n,r} \left(B[r,n,m,a] + M[r,t,n,m] \right)$$

$$B\left[a,m,n,r\right] = \min_{l} \left(C[r,n,l,a] \right)$$

$$C\left[a,l,n,r\right] = \min_{h,k,p} \left(D\left[a,h \mid r,p,l,k\right] + J[n,a,k,h,p] \right)$$

$$D'\left[a,h \mid r,p,l,k\right] = \min \begin{cases} D'\left[a,h-1 \mid r,p,l,k\right], & \text{if } h-1, \notin \{a,r,p,l,k\} \\ D\left[a+1,h-1 \mid r,p,l,k\right] + \Delta G(a,h) & \text{if } \{a+1,h-1\} \cap \{r,p,l,k\} = \emptyset \end{cases}$$

$$D\left[a,h \mid r,p,l,k\right] = \min \begin{cases} D\left[a+1,h \mid r,p,l,k\right], & \text{if } a+1 \notin \{h,r,p,l,k\} \\ D'\left[a,h-1 \mid r,p,l,k\right], & \text{if } h-1, \notin \{a,r,p,l,k\} \\ D\left[a+1,h-1 \mid r,p,l,k\right] + \Delta G(a,h) & \text{if } \{a+1,h-1\} \cap \{r,p,l,k\} = \emptyset, \\ E[h,k,r,p,l,a] \end{cases}$$

$$E\left[b,g,k,l,p,r\right] = \min_{e} \left(F[r,p,b,e] + I[k,e,g,l,b] \right)$$

$$F\left[b,e,p,r\right] = \min_{c} \left(G[r,p,c,e] \right)$$

$$G\left[c,e,p,r\right] = \min_{q} \left(H[r,c,e,q] \right)$$

$$H\left[c,e,q,r\right] = \min_{d} \left(C_{\boxtimes}\left[c,d,q,r\right] \right)$$

$$I\left[b,e,g,k,l\right] = \min_{f} \left(C_{\boxtimes}\left[e,f,k,l\right] \right)$$

1

$$J[a, h, k, n, p] = \min_i \left(K[n, i, p, k] \right)$$

$$K[i, k, n, p] = \min_o \left(L[p, o, i, k] \right)$$

$$L[i, k, o, p] = \min_j \left(\boxed{C_\boxtimes}[i, j, o, p] \right)$$

$$M[m, n, r, t] = \min_s \left(\boxed{C_\boxtimes}[m, n, s, t] \right)$$

1 31 35 45 50

31 35 45 46 50 | 1 30 31 35 45

H2 (31-35-46-50) (clique)

50 32 **31**
46 35

50 49 32
46 35

33 49 32
46 35

33 48 49
46 35

33 34 48
46 35

47 34 48
46 35

1 20 26 30 35 40 45

H4 (1-5-16-20) (diag)

2 **20 1**
30 45 40 26

2 **20** 19
30 45 40 26

2 3 19
30 45 40 26

18 19 3
30 45 40 26

18 3 4
30 45 40 26

17 18 4
30 45 40 26

4 **5** 17
30 45 40 26

5 16 17
30 45 40 26

1 20 21 26 35 40

21 26 35 36 40

21 25 26 36 40

H0 (21-25-36-40) (clique)

21 40 22
25 36

40 22 39
25 36

23 22 39
25 36

23 38 39
25 36

23 24 38
25 36

24 37 38
25 36

11 16 26 30 40 45 5

11 15 16 26 30 5 | 11 40 45 5 6

H1 (11-15-26-30) (clique)

12 **30 11**
15 26

12 **30** 29
15 26

12 29 13
15 26

28 29 13
15 26

14 28 13
15 26

14 27 28
15 26

11 40 41 45 6

10 11 41 45 6

H3 (6-10-41-45) (clique)

7 **6 45**
10 41

7 44 **45**
10 41

8 7 44
10 41

8 43 44
10 41

8 43 9
10 41

43 9 42
10 41

```
                        -1

                   A  1  31  35  45

        O 31 35 45  46              B 1  30 31 35

H2 (31-35-46-50) (diag)        C 1  20  26 30 35  40
   P 46 35
                         H4 (1-5-16-20) (diag)          K 1 20  21 26 35
   46 35
                            D 20 1
   31 50                     26 40 30                   L 21 26 35  36
   46 35
                             5 16
                            26 40 30                    M 21  25 26 36

                  E 11  16 26 30 40 45          H0 (21-25-36-40) (diag)
                                                    N 36 25
    F 11 40 45  5        J 11  15 16 26 30
                                                    36 25
    G 11 40  41 45      H1 (11-15-26-30) (clique)
                            11 15 26 30              21 40
                                                    36 25
    H  10 11 41 45

H3 (6-10-41-45) (diag)
    I 41 10
    6 10 45 41

    6 10 41 45
```