

Network no.1

for string quartet

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Performance Notes

Network and notation

Each performer's score for *Network no.1* exists in two parts: the structural network map and the (traditional) musical notation. There is no 'full' score: each performance is the assembly of its individual parts. Each of the nodes (numerated circles) on the network map relate to one of the musical events on the notation page. The figures below show the nodes VII – X, and their relative notated parts.

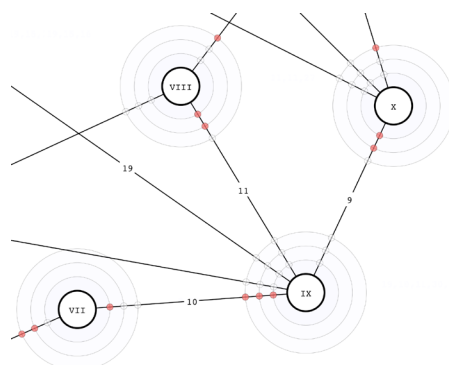


Figure 1: excerpt from Cello's network map

Figure 2: related events from Cello's score part

Node connections

The lines that connect the nodes on the map ('edges' in graph theory) signify potentially linked events. From a given node, a possible succeeding node is any other connected by a line. However, performers must follow the specific pathway signaled by the Volta marks (the three red circles surrounding each node). These markers are rearranged along with the edges each time the score is generated; they are performance specific.

The Volta marks act like 1st, 2nd, 3rd- time repeat bars in a standard score: the red circle closest to the node is the 1st-time, the next one moving out is the 2nd, the outermost is the 3rd. If a node is played more than 3 times in a performance, simply loop back to the start and begin again.¹

¹ Performers may discover that some nodes become 'unreachable' as no volta paths lead there. This is simply part of the nature of the stochastic score system.

(Performance notes: Node connections, continued)

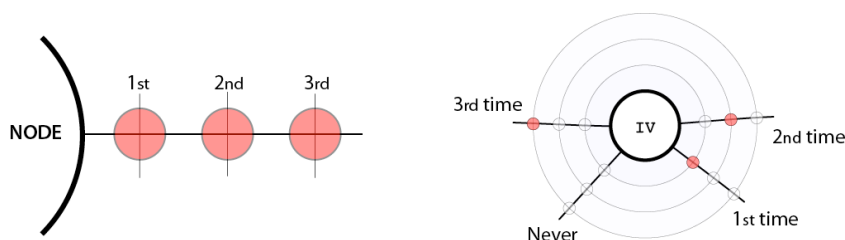


Figure 5: Volta repeat marks as encountered in the network map

The durations in the piece are scalable to the score map. For sustained tones and non-repeating bars, the bar length/note duration is scaled to the length of the edge. The number shown at the mid-point of the connecting line gives the duration in seconds. For instance, in the map example shown above, playing from node *VII* to *IX* lasts 10 seconds, then playing from *IX* to *VII* also lasts 10 seconds.

Durations of musical events that require a tempo and are repeated however, are slightly more complex. Depending on the length of the connecting line, tempos are scaled relatively; a longer length gives a slower tempo to a shorter (faster) line length. These tempos should be calculated before the performance using the following algorithm:

$$\text{tempo} = (20 / \text{edge length}) \times 60$$

As a guide, an edge length of 16 would produce a tempo of 75 b.p.m., whilst an edge length of 30 yeilds a tempo of 40 b.p.m.

Performance

Unless specified otherwise, all sounds should be performed as a gradual swell: emerging from (near) silence (*dal niente*), reaching their dynamic peak at roughly the mid-point of their total duration, before slowly fading back into nothing (*al niente*). On sustained nodes it is assumed that all bowing is slow, *ad lib*.

The piece begins with all players choosing a node as their starting position. The quartet should work to a common clock source to count the durations. When ready, all players should begin by following the first line's duration in silence, then begin performing at the next node. This staggers the entrance of all the instruments.

The piece ends after an elapsed time pre-decided by performers (minimum of 12.3 minutes). Once the timer reaches this point, performers finish their current part and then wait in silence for the last player to finish.

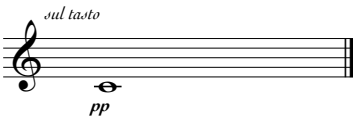
Oliver Thurley,
Spring 2013

Network no.1

Violin I

Oliver Thurley, 2013

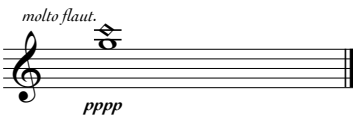
Node I



II



III



Molto flaut. focusing on the point where the harmonic is barely distinguishable from air-noise.

IV



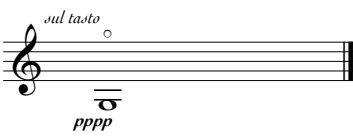
V



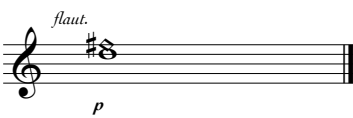
VI



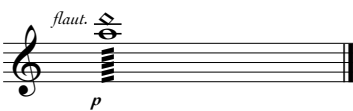
VII



VIII



IX

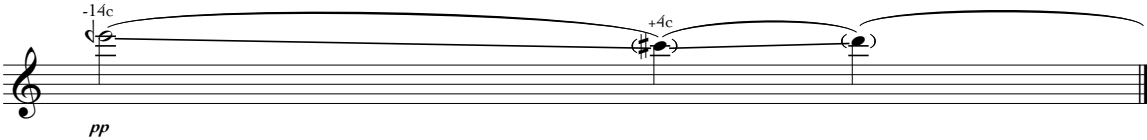


Gradually accelerate bowing into tremolo by $\partial/2$, then decelerate to normal bowing by ∂ .


X



XI



XII



Network no.1

Violin II

Oliver Thurley, 2013

Node I *sul tasto*
p

II *flaut.* +4c
pp

III -49c
p

IV *sul pont.* -2c
ppp

V *sul tasto* -12c
p

VI
ppp

VII *sul tasto* +28c
p

VIII -14c
ppp

IX *sul tasto* -29c
pp

X *pizz. sul II* +40c *(let ring...)*
ppp

XI -12c -31c +40c -31c
ppp *p* *ppp*

XII *molto flaut.*
pppp

Gradually accelerate bowing into tremolo by $\partial/2$, then decelerate to normal by ∂ .

The score consists of 12 staves, each representing a node. Node I is a single note on the G string, marked *sul tasto* and *p*. Node II has two notes, marked *flaut.*, +4c, and *pp*. Node III has two notes, marked -49c and *p*. Node IV has two notes, marked *sul pont.*, -2c, and *ppp*. Node V has two notes, marked *sul tasto*, -12c, and *p*. Node VI has two notes, marked *ppp*. Node VII has two notes, marked *sul tasto*, +28c, and *p*. Node VIII has two notes, marked -14c and *ppp*. Node IX has two notes, marked *sul tasto*, -29c, and *pp*. Node X has a single note on the second string, marked *pizz. sul II*, +40c, and *(let ring...)*, with a *ppp* dynamic. Node XI has four notes, marked -12c, -31c, +40c, and -31c, with dynamics *ppp*, *p*, and *ppp* respectively. Node XII has a single note on the G string, marked *molto flaut.* and *pppp*.

Network no.1

Viola

Oliver Thurley, 2013

Node I

II

III

IV

V

VI

VII

VIII

IX

X

XI

XII

sul tasto
pp

ppp

sul pont.
pp

p *ppp* *p*

flaut. *+31c*
pp

sul II *-2c* *-28c*
pp

molto flaut. *flaut.*
pp

flaut. *molto flaut.*
ppp

-28c
pppp

pizz.
pppp

sul pont. *+40c* *pp* *sul tasto*

ppp

Gradually accelerate bowing into tremolo by $\partial/2$, then decelerate to normal by ∂ .

Clearer tone slowly emerges out of smooth air-like noise.

Network no.1

Violoncello

Oliver Thurley, 2013

Node I

molto sul pont.

II

+2c

p

3

III

pp

IV

ppp

V

-31c

Played on strings I & IV, underbowing sul pont.

VI

flautando

ppp

Finger positioning morphs from touch-fifth into touch-fourth harmonics. Harmonic instability & air-noise during this transformation is intended.

VII

-49c

pp

VIII

+4c

p

pppp

+31c

p

IX

+2c

ppp

X

ppp

XI

sul tasto

p

XII

molto flautando

pppp

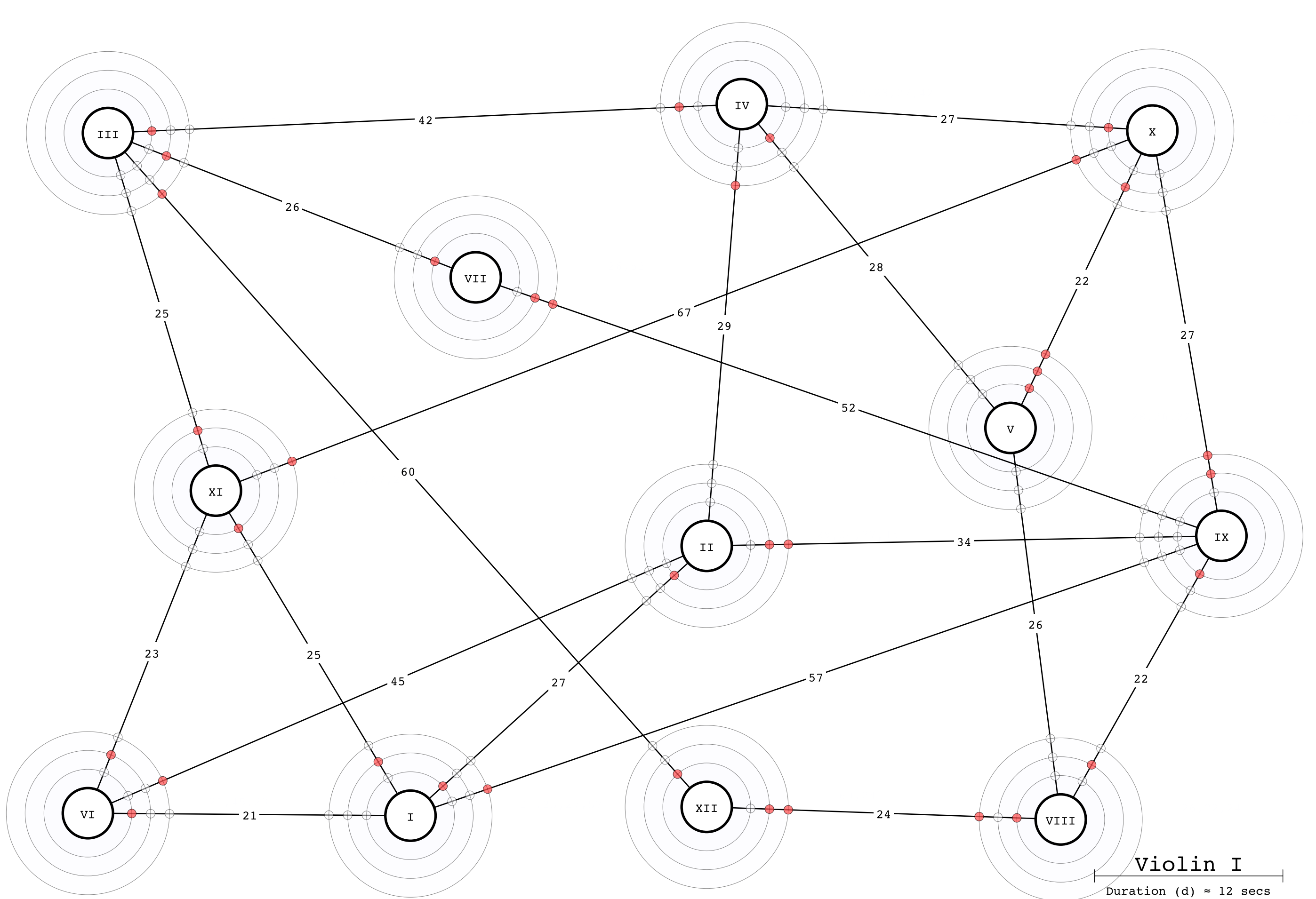
flaut.

pp

molto flaut.

pppp

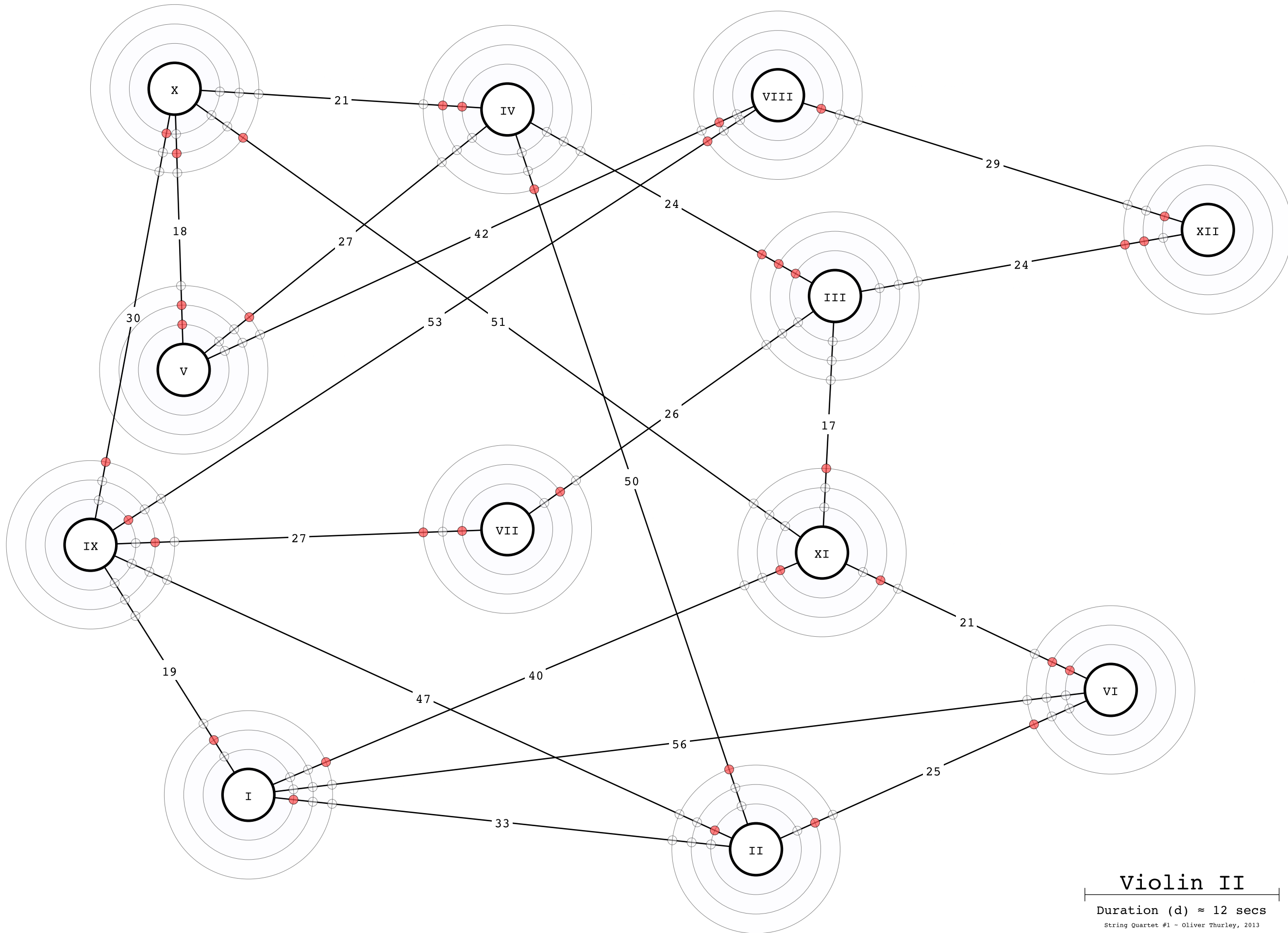
Delicate air-noise for *molto flaut.*, gradually introducing only hints of the harmonic at a time, as though easing into (and then out of) a clearer, sustained tone.



Violin I

Duration (d) ≈ 12 secs

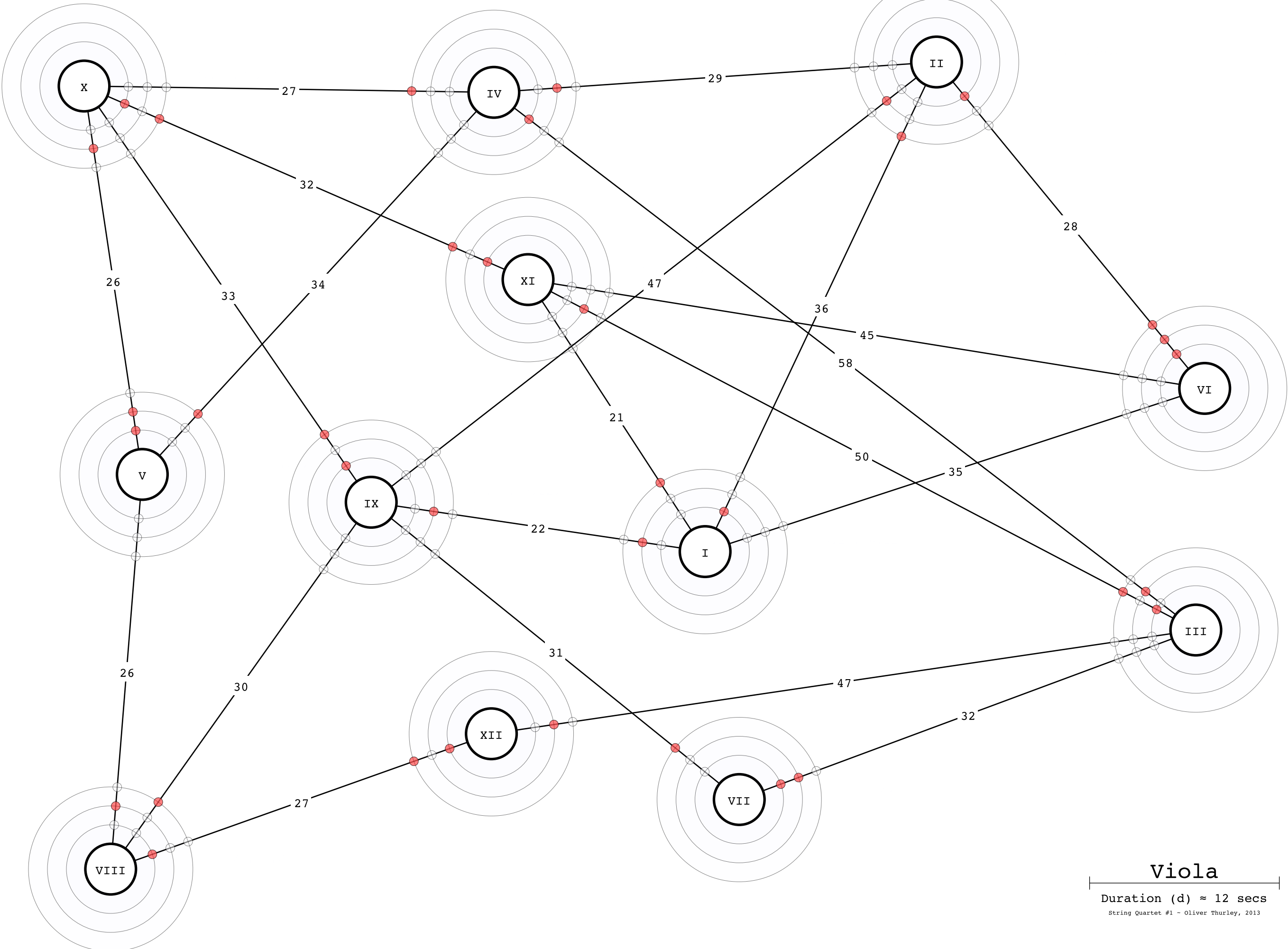
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Violin II

Duration (d) ≈ 12 secs

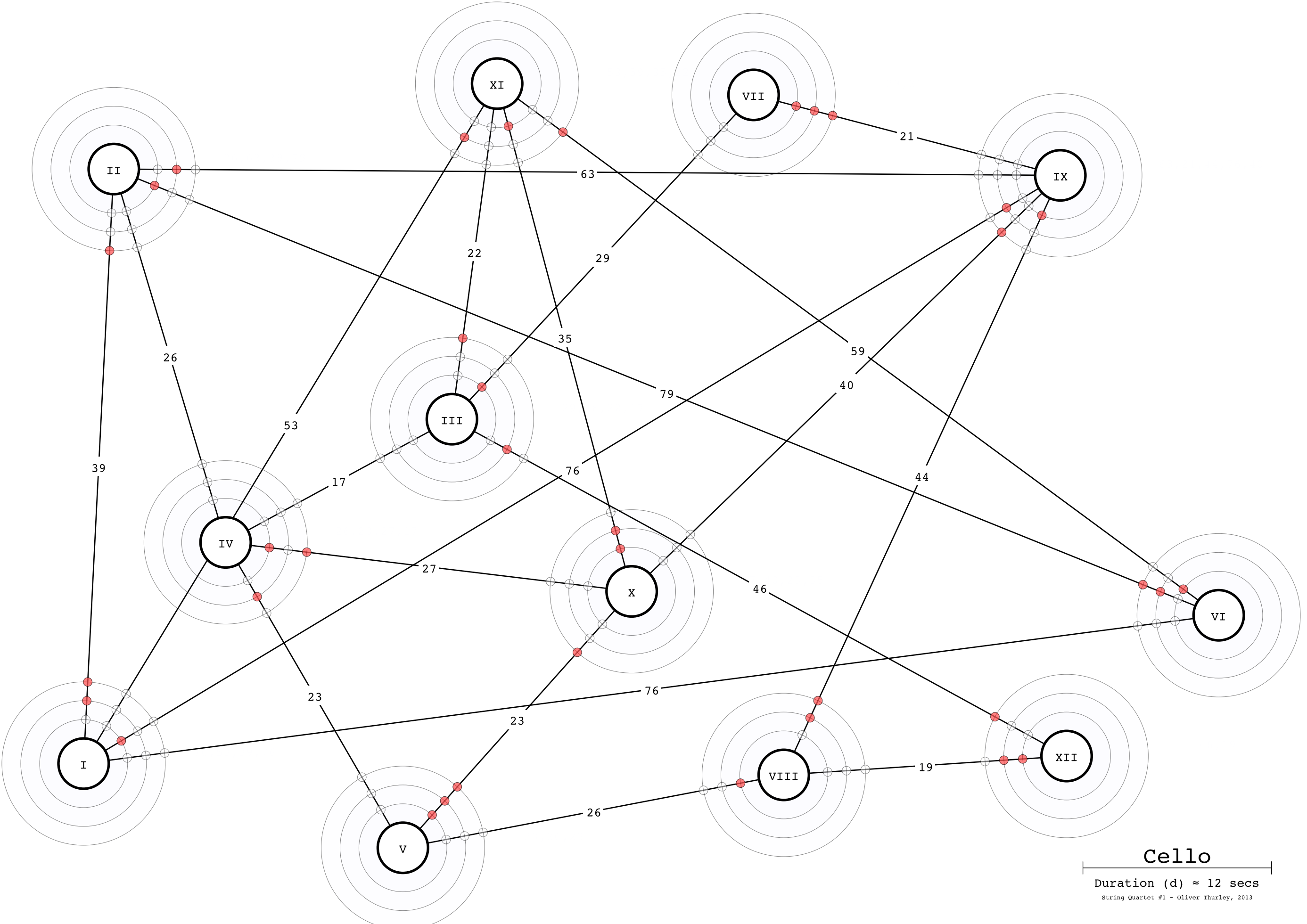
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Viola

Duration (d) ≈ 12 secs

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Cello

Duration (d) ≈ 12 secs

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