AMY BRANDON

TSIYR

for mixed chamber ensemble

Program Note

Tsiyr is an Old Hebrew word which means 'pivot of a door' or 'hinge' as well as 'envoy' or 'messenger'. I find the duality of this word beautiful and fascinating, that a physical pivot is in some way the transmitter of messages. This piece began with the concept of 'imaginary tunings' which came up in a conversation with Chris Otto at the Banff Centre in 2019. After that conversation I came up with a grid of tunings, wherein the horizontal line of 11th partials are the open strings of the quartet, justly-tuned to a C fundamental:

11	#4	-49	**C: 0**	**G: 702**	**D: 204**	**A: 884**	**E: 386**	**B: 1088**

From that beginning I worked vertically down and then up to fill in the 'imaginary fundamentals' for these 11th partials.

31	7	45	F#:594	C: 096	G#: 798	D: 278	A: 980	482
30	7	-12	**F:537**	C:039	G:741	D:221	A:923	425
29	7	30	E: 479	B: 1181	F#: 683	C#: 163	Ab: 865	367
28	b7	-31	E: 418	B: 1120	F#: 622	C#:102	Ab: 804	E: 306
27	6	6	**D#: 355**	A#: 1057	F:559	C:039	G: 741	243
26	b6	41	D:290	A:992	E: 494	B: 1174	Gb:676	C#: 178
25	b6	-27	D: 222	A: 924	E: 426	B: 1106	F: 608	C#: 110
24	5	2	**C#: 151**	**G#: 853**	D#: 355	**A#:1035**	**F: 537**	C:039
23	#4	28	C: 077	G: 779	D: 281	A: 961	E: 463	B: 1165
22	#4	-49	C: 0	G: 702	D: 204	**A: 884**	**E: 386**	B: 1088
21	4	-29	B: 1120	F#: 622	C#: 124	G#: 804	Eb: 306	Bb:1008
20	3	-14	**A#: 1035**	**E#: 537**	B#:039	G:719	D:221	A: 923
19	b3	-2	A: 947	E: 449	B: 1151	F#: 631	C#: 133	G#: 835
18	9	4	**G#: 853**	**D#:355**	A#:1057	E#: 537	C:039	G: 741
17	b9	5	G: 754	D: 256	A: 958	E: 438	B: 1140	F#: 642
16	F	0	**F#: 649**	**C#: 151**	**G#: 853**	D#:333	**Bb:1035**	**F: 537**
15	7	-12	**F:537**	C:039	G:741	D:221	A:923	E: 425
14	b7	-31	E: 418	B:1120	F#: 622	C#:102	Ab: 804	Eb: 306
13	b6	41	D:290	A:992	F: 494	B: 1174	Gb:676	C#: 178
12	5	2	**C#: 151**	**G#: 853**	**D#: 355**	**A#:1035**	**F: 537**	C:039
11	#4	-49	**C: 0**	**G: 702**	**D: 204**	**A: 884**	**E: 386**	**B: 1088**
10	3	-14	**A#: 1035**	**E#: 537**	B#:039	F#:619	D:221	A: 923
9	9	4	**G#: 853**	D#:355	A#:1057	**E#: 537**	C:039	G: 741
8	F	0	**F#: 649**	**C#: 151**	**G#: 853**	D#:333	**Bb:1035**	**F: 537**
7	b7	-31	E: 418	B: 1120	F#: 622	C#:102	Ab: 804	Eb: 306
6	5	2	**C#: 151**	**G#: 853**	D#: 355	**A#:1035**	**F: 537**	C:039
5	3	-14	**A#: 1035**	**E#: 537**	B#:039	G:719	D:221	A: 923
4	F	0	**F#: 649**	**C#: 151**	**G#: 853**	D#:333	**Bb:1035**	**F: 537**
3	5	2	**C#: 151**	**G#: 853**	**D#: 355**	**A#:1035**	**F: 537**	C:039
2	F	0	**F#: 649**	**C#: 151**	**G#: 853**	D#:333	**Bb:1035**	**F: 537**
1	F	0	**F#: 649**	**C#: 151**	**G#: 853**	D#:333	**Bb:1035**	**F: 537**

What I discovered in doing this was the set of common tones across these five vertices, which are used to generate a 'scale' which forms the piano tuning:

C0	C#: 151	D: 204	D#:355	E: 386	F: 537	F#: 649	G: 702	G#: 853	A: 884	A#:1035	B: 1088

What I perceive in this system are the possibilities to pivot or send messages between two universes - our universe (the horizontal harmonic series of C natural) and the vertical 'imaginary tuning' universe it spawns.

Only with the use of a 'hinge' or 'messenger' - a pitch which is barely perceptibly common to both, or by travelling through a series of just 5th and just 3rd tunings - can travel between these universes be reached.

Of course, when one moves unnaturally between universes there are disruptions in the stasis.

Instrumentation:
Flute
Clarinet in Bb
Piano (with scordatura)
Violin I
Violin II
Viola (with optional 2nd instrument tuned -50 cents / A=427.5 Hz)
Violoncello

Duration: ca. 10'

Performance Notes (General):

1. Pitches outside of ordinary 24EDO are marked in the score with 'Helmholtz notation' (the cent derivation and partial) in a text box above the respective staff (e.g. F537). This is to indicate from which harmonics series of the tuning grid the pitch belongs to, and to provide accurate pitch information for the conductor. The Helmholtz notation and staff notation are often marked in enharmonic cross-relationship as to best exemplify the pitch-universe relationships for analysis, while maximizing readability for the performers.

2. Pitches in the parts are marked only with standard 1/4-tone accidentals, with specific cent derivations written above, only as needed.

3. For executing microtones outside of the 24EDO scale, performers will be given a reference point (where possible) in the form of just-intonation tuning ratios (e.g. 3:2, 4:3, 5:4, 6:5) with a note specifying which instrument to tune to. Tuning to the exact cent is not always possible nor expected, but the closer to the written ratio the richer the harmonic result. When tuning is being obscured by 'noise' effects (e.g. over-pressure bowing) the need for precise tuning is less so.

4. Dotted ties indicate a fluid transition between two sounds. This transition does not need to be strictly rhythmically measured.

Piano:

Retuning a piano is expensive and difficult. Although acoustic piano with scordatura is preferable, the scordatura may be achieved with alternate means (e.g. electronic piano with retuning software, retuned harpsichord).

Piano notes should be tuned to the following cent derivations in their respective pitch classes:
C: 0; C#: 151; D: 204; D#: 355; E: 386; F: 537; F#: 649; G: 702; G#: 853; A: 884; A#: 1035; B: 1088

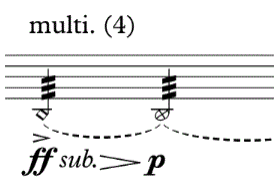
Winds:

NOTE 1: Clarinet from mm. 77 is requested to slowly gliss. upwards 1/3 of a tone. This may be difficult in this register and so the player may take alternative means to achieve this (e.g. instrument switch, transposing an octave) or else disregard the gliss. altogether and simply jump in pitch to match the piano at mm. 87.

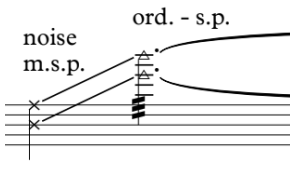
Strings:

Players may tune in just 5^{ths} or to 12EDO. A legend for special noteheads is as follows:

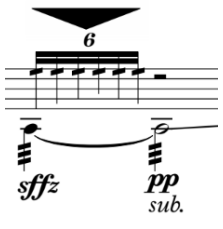
Diamond noteheads are used for various types of flageolet and multiphonics, and are informed further through text notes **(2)**, **(3)**, and **(4)**.



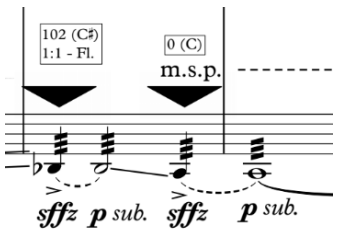
Triangle noteheads indicate the highest/lowest pitch attainable on the instrument through any means.



Headless notes indicate random microtonal pitch.

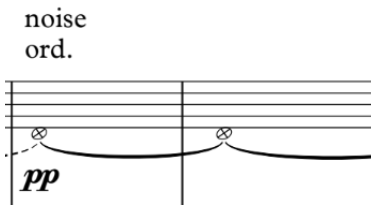


Dark wedges indicate overpressure/distorted bowing.



A waveform above the staff indicates a sifting vibrato width which should mimic the contour of the wave.

An "X" notehead denotes a dead string/white noise effect. Ex. https://youtu.be/ky0d8AVBPgE?t=42



NOTE 2: Wild, dark harmonic vibrato.
Example: https://drive.google.com/file/d/1rBLonai4imS1BLNMzTGFSX9R4Vvlh7c7/edit

NOTE 3: Rasping effect. Example: https://www.youtube.com/watchv=fHYYxXRGmjI&feature=youtu.be&t=273

NOTE 4: Slow, heavy bow molto sul pont., producing a noisy fluttering multiphonic.
Example: https://vimeo.com/92219934

NOTE 5: Non-syncronous rhythm – play a burst of notes as fast as possible, then resume tempo.

NOTE 6: String noise with vibrato (dead string, very distorted). Example. https://youtu.be/fHYYxXRGmjI?t=4

NOTE 7: Distorted (over-pressure) trill. Example: https://youtu.be/lZwU7QmnCFo?t=429

NOTE 8: m.s.p., punta d'arco. Example: https://youtu.be/gYsJNrLiYiM?t=49

N.B. - If any particular sound or effect is impractical or not possible, one of similar character can be substituted.

N.B. - In mm. 113-150 the viola plays an extended melodic passage in the key of 'D major' a quarter-tone flat. The player may either tune these microtones by ear, or they may elect to use a 2nd viola tuned 50 cents flat (A=427.5 Hz). Two copies of the part will be made available (one with an instrument change and one without) so the player may take their choice.

Score in C

Tsiyr

AMY BRANDON
(2019)

Freely, piano guides (♩ = ca. 100)

Emerge like a resonant piano harmonic, mirror piano decay for overall arc.

Flute

0 (C)
11:8 (Fund.)

air ord. half-air air

096 (C♯)
31:16 (Fund.)

sim.

n *p* *mp* *pp* *n*

p *mp* *pp* *n*

Emerge from piano resonance, mirror piano decay for arc and endpoint.

Clarinet in B♭

853 (G♯)
9:8 (Fund.)

n *ppp* *pppp* *n*

702 (G)
11:8 (Fund.)

ppp *pppp*

Piano cues each gesture, if no conductor. Sounding pitches in cents, above.
Allow piano resonance to decay, and begin next instance at the moment of complete decay.

Piano

15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

ff

Ped.

4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (E♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

Freely, piano guides (♩ = ca. 100)

Violin I

0 (C)
11:8 (Fund.)

pizz.

f l.v. sempre

702 (G)
11:8 (Fund.)

f

Violin II

pizz.

3

f l.v. sempre

3

f

Viola

pizz.

5

f l.v. sempre

5

f

Violoncello

pizz.

f l.v. sempre

f

10

Fl.

494 (F)
13:8 (Fund.)

p *mp* *pp* *n*

102 (C♯)
7:4 (Fund.)

p *mp* *pp* *n*

Cl.

702 (G)
11:6 (Fund.)

n

ppp *pppp* *n*

804 (G♯)
21:16 (Fund.)

ppp *pppp*

Pno.

11:6 - 702 (G)
3:2 - 355 (D♯)
1:1 - 853 (G♯)

11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

Vln. I

204 (D)
11:8 (Fund.)

f

498 (F)
7:4 (Fund.)

f

Vln. II

3

f

3

f

Vla.

f 5

5

f

Vc.

f

f

18

804 (A♭)
7:4 (Fund.)

306 (E♭)
7:4 (Fund.)

Fl.

306 (E♭)
11:8 (Fund.)

425 (E)
15:8 (Fund.)

Cl.

11:6 - 884 (A)
9:5 - 853 (G♯)
11:8 - 386 (E)
3:2 - 537 (F)
1:1 - 1035 (B♭)

11:10 - 702 (G)
15:8 - 649 (F♯)
1:1 - 537 (F)

Pno.

386 (E)
11:8 (Fund.)

306 (E♭)
7:4 (Fund.)

Vln. I

Vln. II

Vla.

Vc.

Tempo giusto, cello guides

26

0 (C)
11:8 (Fund.)

096 (C♯)
31:16 (Fund.)

494 (F)
13:8 (Fund.)

Fl.

853 (G♯)
9:8 (Fund.)

702 (G)
11:8 (Fund.)

702 (G)
11:6 (Fund.)

Cl.

15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (E♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

11:6 - 702 (G)
3:2 - 355 (D♯)
1:1 - 853 (G♯)

Pno.

Tempo giusto, cello guides

0 (C)
11:8 (Fund.)

702 (G)
11:8 (Fund.)

204 (D)
11:8 (Fund.)

Vln. I

Vln. II

Vla.

0 (C)
11:8 (Fund.)

151 (C♯)
1:1 - Pno.

102 (C♯)
16:15 - Fl.

102 (C♯)
16:15 - Fl.

151 (C♯)
1:1 - Pno.

039 (C)
3:2 - Pno.

355 (D♯)
1:1 - Pno.

(approx. 039 (C))

arco

s.p.

ord.

s.p.

wild, shifting dark vibrato (2)
m.s.p.

Vc.

gliss.

35

Fl.

102 (C♯)
7:4 (Fund.)

804 (A♭)
7:4 (Fund.)

0 (C)
11:8 (Fund.)

Cl.

804 (G♯)
21:16 (Fund.)

306 (E♭)
11:8 (Fund.)

853 (G♯)
9:8 (Fund.)

Pno.

11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

11:6 - 884 (A)
9:5 - 853 (G♯)
11:8 - 386 (E)
3:2 - 537 (F)
1:1 - 1035 (B♭)

15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

Vln. I

498 (F)
7:4 (Fund.)

386 (E)
11:8 (Fund.)

0 (C)
11:8 (Fund.)

Vln. II

0 (C)
arco
s.p.

039 (C)
3:2 - Pno.
ord.

102 (C♯)
3:2 - Fl.
s.p.
noise

039 (C)
3:2 - Pno.
ord.

Vla.

gliss.

Vc.

102 (C♯)
1:1 - Fl.

0 (C)
m.s.p.

0 (C)
ord.

039 (C)
3:2 - Pno.

102 (C♯)
3:2 - Fl.
s.p.

0 (C)
11:8 (Fund.)
ord.

039 (C)
3:2 - Pno.

43

Fl.

096 (C♯)
31:16 (Fund.)

0 (C)
11:8 (Fund.)

096 (C♯)
31:16 (Fund.)

Cl.

702 (G)
11:8 (Fund.)

853 (G♯)
9:8 (Fund.)

702 (G)
11:8 (Fund.)

Pno.

4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (E♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

11:8 - 0 (C)
15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

11:8 - 702 (G)
4:3 - 649 (F♯)
11:6 - 0 (B♯)
5:4 - 537 (E♯)
1:1 - 151 (C♯)

Vln. I

702 (G)
11:8 (Fund.)

rasp. (3)
m.s.t.

noise
ord.

Vln. II

rasp. (3)
m.s.t.

noise
ord.

204 (D)
3:2 - Cl.
s.p.

gliss.

Vla.

s.p.

0 (C)

151 (C♯)
1:1 - Pno.

ord.

0 (C)

151 (C♯)
3:2 - Cl.

0 (C)
wild, shifting dark vibrato (2)
m.s.p.

702 (G)
3:2 - Cl.
ord.

Vc.

s.p.

0 (C)

151 (C♯)
1:1 - Pno.

ord.

0 (C)

151 (C♯)
3:2 - Cl.

0 (C)

151 (C♯) (3:2 - Cl.)
wild, shifting vibrato (2)
m.s.p.

51

Fl.

494 (F)
13:8 (Fund.)

102 (C♯)
7:4 (Fund.)

p mp pp n p mp pp n p mp

Cl.

702 (G)
11:6 (Fund.)

804 (G♯)
21:16 (Fund.)

ppp pppp n ppp pppp n ppp

Pno.

16:9 - 649 (F♯)
11:6 - 702 (G)
6:5 - 537 (F)
16:11 - 204 (D)
4:3 - 151 (C♯)
3:2 - 355 (D♯)
1:1 - 853 (G♯)

(C: 0)
17:11 - 755 (B)
27:20 - 843 (G♯)
9:5 - 151 (C♯)
9:8 - 537 (F)
3:2 - 1035 (A♯)

Vln. I

355 (D♯)
1:1 - Pno.

204 (D)
3:2 - Pno.

m.s.p. multi. (4) noise ord.

p ff sub. p

noise m.s.p. multi. (4)

702 (G)
Open

1035 (A♯)
3:2 - Pno.

1106 (B)
25:16 (Fund.)

204 (D)
1:1 - Pno.

noise ord.

mp f

1174 (B)
13:8 (Fund.)

333 (D)
1:1 (Fund.)

102 (C♯)
1:1 - Fl.

Vln. II

mp p ff sub. p mp f

537 (F)
1:1 - Pno.

853 (G♯)
1:1 - Pno.

494 (F)
1:1 - Fl.

798 (G♯)
16:15 - Cl.

804 (G♯)
21:16 - Vln. II

884 (A)
1:1 - Pno.

Vla.

mf p ff sub. p mp f

096 (C♯)
1:1 - Fl.

039 (C)
3:2 - Pno.

204 (D)
1:1 - Pno.

355 (D♯)
1:1 - Pno.

ord. m.s.p. multi. (4) ord.

333 (D)
1:1 (Fund.)

102 (C♯)
1:1 - Fl.

Vc.

pp mf p ff sub. p mp f

58

Free, ritualistically

Fl.

pp n pppp n

Cl.

Pno.

151 (C♯)
537 (E♯)
1035 (A♯)
649 (F♯)
355 (D♯)
853 (G♯)

mf

non-syncronous, as fast as possible (5)
s.p.

Free, ritualistically

Vln. I

ffff

non-syncronous, as fast as possible (5)
s.p.

Vln. II

ffff

non-syncronous, as fast as possible (5)
s.p.

Vla.

ffff

non-syncronous, as fast as possible (5)
s.p.

Vc.

ffff

61

C: 0
Start when piano decay is almost gone
breathy, stagger breathing

Fl.

pppp

F: 498
Start when piano decay is almost gone
breathy, stagger breathing

Cl.

pppp

l.v. until natural decay

F: 537
Sparse / intermittent long tones on this pitch ad. lib., hesitant, continuous sound

Pno.

p

Ped. *sempre*

Vln. I

Vln. II

Vla.

Vc.

70

Fl.

NOTE 1: Steady gliss. (if possible)

Cl.

Pno.

Vln. I

Vln. II

ord.
sul G

112 (C♯)
8:5 - Cl.

Vla.

pppp

Vc.

79

Strings guide

Fl.

Cl.

F: 510

F: 522

Pno.

Strings guide

814 (A♭)
3:2 - Vla.

ord.

Vln. I

pppp

Vln. II

702 (G)

pppp

814 (G♯)
1:1 - Vln.1

926 (A)
3:2 - Vla.

316 (D♯)
3:2 - Vln. I

428 (E)
5:4 - Vln. II

Vla.

Vc.

87

Fl.

F: 537 **Match piano note**

Cl.

Pno.

1130 (B)
3:2 - Vla.

039 (C)
3:2 - Vla.

Vln. I

Vln. II

537 (F)
1:1 - Pno./Cl.

Vla.

151 (C♯)
5:4 - Vla.

ord.

Vc.

pppp

94

Fl.

Cl.

Pno.

Vln. I

Vln. II

Vla.

Vc.

n

ff

101

Tempo giusto (♩ = ca. 100)

4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (E♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

11:6 - 702 (G)
3:2 - 355 (D♯)
1:1 - 853 (G♯)

p

Ped.

Tempo giusto (♩ = ca. 100)

non-syncronous, as fast as possible (5)

s.p.

ffff

1035 (A♯)
5:4 - Vc.

ord., sul G

pppp

mp

537 (E♯)
5:4 - Vc.

sul G

tr

151 (C♯)
649 (F♯)
3:2

108

Fl.

Cl.

Pno.

11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

11:6 - 884 (A)
9:5 - 853 (G♯)
11:8 - 386 (E)
3:2 - 537 (F)
1:1 - 1035 (B♭)

Vln. I

multi. (4)
m.s.p.

p 3 *ff* *p*

1035 (A♯)
5:4 - Vc.
ord.

pppp

mp

Vln. II

multi. (4)
m.s.p.

3

p *ff* *p*

537 (E♯)
5:4 - Vc.
ord.

pppp

mp

B♯: 039 (15:8)
A♯: 1035 (5:3)
G♯: 853 (3:2)
F♯: 649 (4:3)
E♯: 537 (5:4)
D♯: 355 (9:8)
C♯: 151 (1:1)

Vla.

1:1 - Vc.
solo

f

750 (G)

Vc.

multi. (4)
m.s.p.

p *ff* *p*

151 (C♯)
649 (F♯)
3:2
ord.

pppp

mp

117

Fl.

Cl.

15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (E♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

Pno.

750 (G)
1:1 - Vla.

Vln. I

853 (G♯)
3:2 - Vc.
non-syncronous, as fast as possible (5)
s.p. ----------▸ ord.

sffz *p sub.*

as before (5)
s.p. ----------▸ ord.

sffz *p sub.*

1035 (A♯)
6:5 - Vc.

mp

Vln. II

1035 (A♯)
6:5 - Vc.
non-syncronous, as fast as possible (5)
s.p. ----------▸ ord.

7

sffz *p sub.*

853 (G♯)
3:2 - Vc.
as before (5)
s.p. ----------▸ ord.

7

sffz *p sub.*

Vla.

Vc.

s.p. ----------▸ ord.

tr

pp *sffz* *pp sub.* *mp* *sffz* *pp sub.*

125

Fl.

Cl.

Pno.

Vln. I

Vln. II

Vla.

Vc.

F: 498 C: 0

mf

p

15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

f

4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (E♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

s.p. ord.

sffz pp

mp

853 (G♯)
3:2 - Vc.

as before (5)

sffz p sub.

tr

mf sffz pp sub.

132

A: 884
1:1 - Pno.

A: 884
1:1 - Pno

11:6 - 884 (A)
9:5 - 853 (G♯)
11:8 - 386 (E)
3:2 - 537 (F)
1:1 - 1035 (B♭)

11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

649 (F♯)
1:1 - Vc.

1035 (A♯)

039 (C)

B: 1150

noise w/ vib. (6)
m.s.p. ord.

537 (F)
5:4 - Vc.

140

Fl.

A: 884
1:1 - Pno.

mf

G: 702

Cl.

A: 884
1:1 - Pno.

mp

G: 702

Pno.

(G: 702)
11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

Vln. I

m.s.p. (7)
tr ord.

sffz *pp sub.* *mp* *pp*

Vln. II

m.s.p. (7)
tr ord.

sffz *pp sub.* *mp* *mf* *p*

Vla.

B: 1150

6 3

D:236

p

Vc.

s.p. ord.
tr

sffz *pp sub.* *mf* *p* *mf*

147

Fl.

F: 498 C: 0
stagger breathing

f

Cl.

F: 498 C: 0
stagger breathing

mf

Pno.

15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

ff

C: 0
4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (B♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

f

Vln. I

as before (5)
s.p. ord.

A♯: 1035

sffz *p sub.* *mp*

Vln. II

as before (5)
s.p. ord.

F: 537
5:4 - Vc.

7

sffz *p sub.*

F: 537
1:1 - Vla.

f

Vla.

E: 437

F: 537
5:4 - Vc.

f *n*

Vc.

s.p. ord.
tr

sffz *pp sub.* *mf*

154

A: 884
1:1 - Pno.

Fl.

mf

A: 884
1:1 - Pno.

Cl.

mp

Pno.

11:6 - 702 (G)
3:2 - 355 (D♯)
1:1 - 853 (G♯)

ff

11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

A: 926
approx. 5:4 - Vln. II

Vln. I

mf

A♭: 814
6:5 - Vla.

A: 926
1:1 - Vln. I.

E: 428
3:2

Vln. II

mf

E: 428
1:1 - Vln. II

B: 1130
3:2

Vla.

n

mf

Vc.

161

Fl.

Cl.

(G: 702)
(D: 204)
(C: 0)
11:6 - 884 (A)
9:5 - 853 (G♯)
11:8 - 386 (E)
3:2 - 537 (F)
1:1 - 1035 (B♭)

Pno.

A♭: 814
D♭: 112
3:2

Vln. I

0

mf cresc.

m.s.p. - punta d'arco (8)
exact pitches not imperative

Vln. II

0

mf cresc.

Vla.

mf cresc.

Vc.

mf cresc.

165

Fl.

Cl.

Pno.

(D: 204)
(C: 0)
11:10 - 702 (G)
15:8 - 649 (F♯)
1:1 - 537 (F)

Vln. I

Vln. II

Vla.

Vc.

f cresc.

168

f

mf

171

Fl.

Cl.

B♭: 1000

mf

mp

(G: 702)
(D: 204)
(C: 0)
15:8 - 537 (F)
27:16 - 355 (D♯)
9:8 - 853 (G♯)
5:4 - 1035 (A♯)
3:2 - 151 (C♯)
1:1 - 649 (F♯)

Pno.

Vln. I

Vln. II

Vla.

Vc.

ff cresc.

5 7

174

vib.

Fl.

Cl.

f

E: 400

(G: 702)
(D: 204)
4:3 - 649 (F♯)
11:6 - 0 (B♯)
9:8 - 355 (D♯)
5:4 - 537 (B♯)
3:2 - 853 (G♯)
1:1 - 151 (C♯)

Pno.

Vln. I

Vln. II

m.s.p. - punta d'arco (8)
exact pitches not imperative

Vla.

Vc.

fff

176

D: 200
C: 0

Fl.

Cl.

Pno.

non-syncronous, as fast as possible (5)
s.p.

ord.

Vln. I

ffff

f

m.s.p. - punta d'arco (8)
exact pitches not imperative

non-syncronous, as fast as possible (5)
s.p.

Vln. II

ffff

f

m.s.p. - punta d'arco (8)
exact pitches not imperative

s.p.

Vla.

ffff

f

non-syncronous, as fast as possible (5)
s.p.

ord.
II

Vc.

ffff

f

178

Fl.

f

p

Cl.

p

f

(D: 204)
11:6 - 702 (G)
3:2 - 355 (D♯)
1:1 - 853 (G♯)

Pno.

Vln. I

ff

Vln. II

Vla.

Vc.

ff

181

Fl.

ord.

f

B♭: 1000

Cl.

Pno.

Vln. I

as before (5)
s.p.

ffff

Vln. II

as before (5)
s.p.

ffff

Vla.

s.p.

ffff

Vc.

as before (5)
s.p.

ffff

183

Fl.

B♭: 1000

Cl.

B♭: 1000

11:8 - 884 (A)
9:8 - 537 (F)
9:5 - 151 (C♯)
3:2 - 1035 (A♯)

Pno.

Vln. I

noise
m.s.p.

ord. - s.p.

Vln. II

m.s.p. - punta d'arco (8)
exact pitches not imperative

Vla.

m.s.p. - punta d'arco (8)
exact pitches not imperative

Vc.

186

Fl.

Cl.

ff

11:6 - 884 (A)
9:5 - 853 (G♯)
11:8 - 386 (E)
3:2 - 537 (F)
1:1 - 1035 (B♭)

Pno.

Vln. I

Vln. II

Vla.

Vc.

189

Fl.

Cl.

mf

Pno.

as before (5)
s.p.

Vln. I

ffff

as before (5)
s.p.

Vln. II

ffff

s.p.

Vla.

ffff

as before (5)
s.p.

Vc.

ffff