SAMUEL BURT

FOUNTAIN RESONANCES

for alto saxophone
computer processing
and optional string parts

SAMUEL BURT

FOUNTAIN RESONANCES

for

alto saxophone

with

computer processing
on accompanying CD-ROM

and/or

optional string parts

Violin I
Violin II
Viola
Violoncello I
Violoncello II
Contrabass

Composed:
Baltimore, MD 2005

Commissioned by Cory Kasprzyk

First performance:
Cory Kasprzyk
30 March 2005
Peabody Conservatory

Performance Time:
approx. 9-14 minutes

Transposed

Slowly

plops

Alto Sax

fundamental

A1 A2 A3 A4

Violin I

pont.

sempre ***p***

Violin II

ric.

pont.

sempre ***p***

Viola

pont.

sempre ***p***

Violoncello I

pont.

sempre ***p***

Violoncello II

pont.

3

sempre ***p***

Contrabass

sempre ***p***

*all string parts should be played *punta del arco* throughout unless marked otherwise or impossible

Sax

B1 B2 B3 B4 B5 C1

pont.

agitato

pont.

Vla.

Vc. I

Vc. II

n.

Sax

C2 C3 C4 D1 D2 D3 D4 E1

Vln. I — pont. — random order, sparcely — pont. — n.

Vln. II — pont. — random order, sparcely — pont. — n.

Vla.

Vc. I — random order, sparcely — pizz. — n.

Vc. II — random order, sparcely — pizz. — n.

Cb. — agitato pont. — n.

Sax

E2 E3 E4 E5 F1 F2 F3

Vln. I — pont. — n.

Vln. II — pont. — agitato — n.

Vla. — non vib. — pont. — n.

Vc. I — pont. — n. — non vib. — non vib.

Vc. II — non vib. — pont. — n. — non vib. — n.

Cb. — pont. agitato

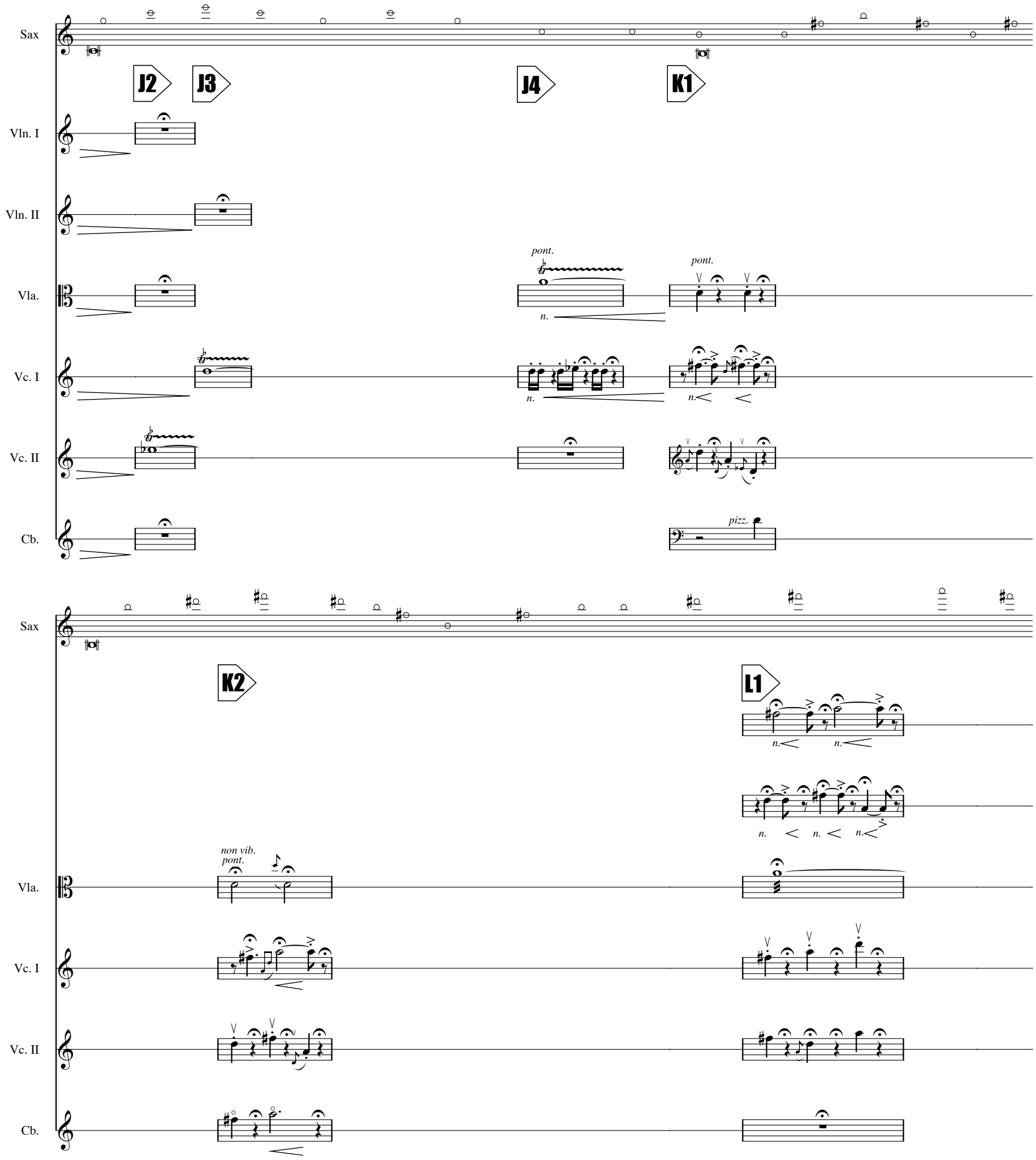
Sax
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
Cb.

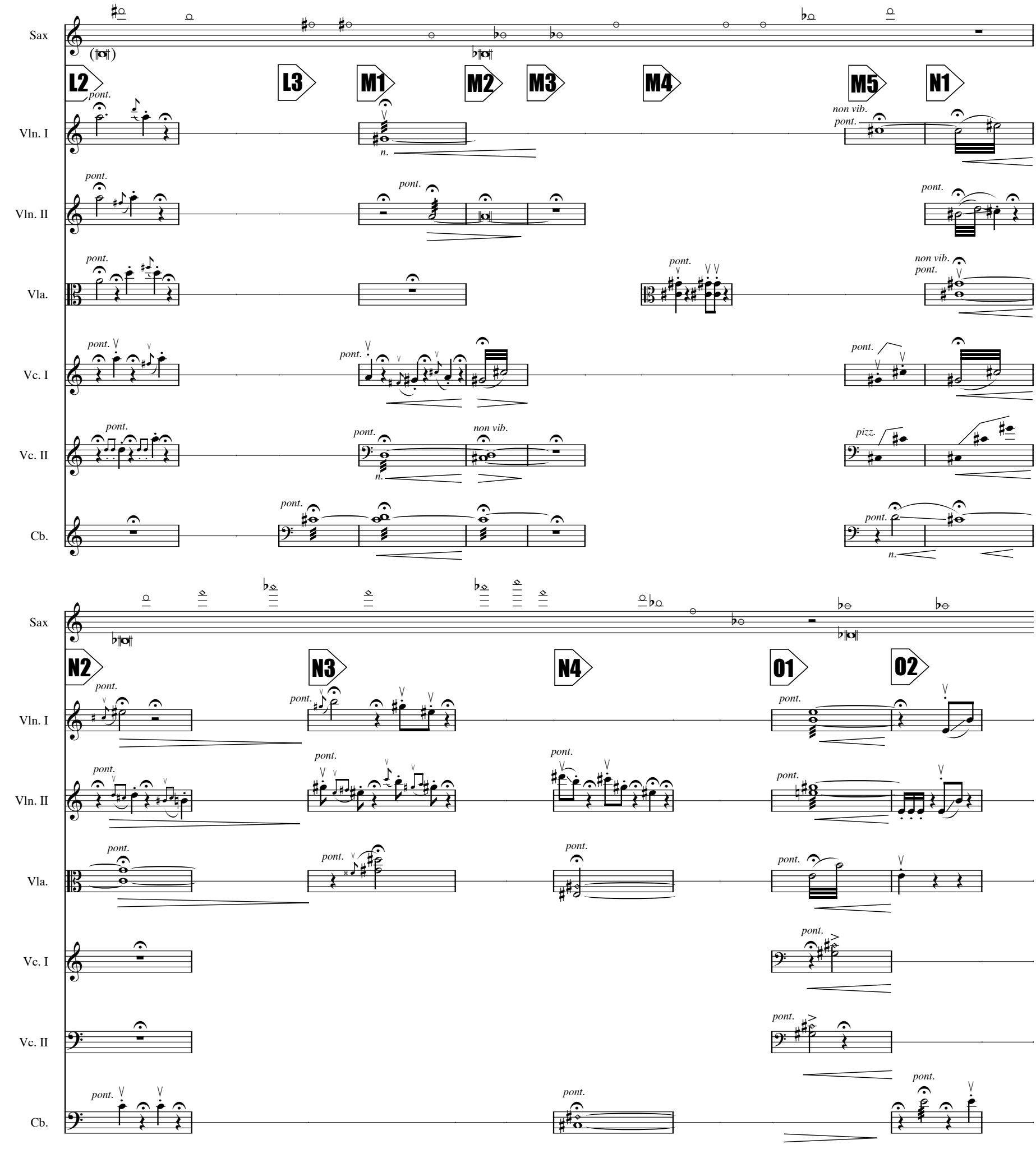
G1 G2 G3 G4 H1 H2

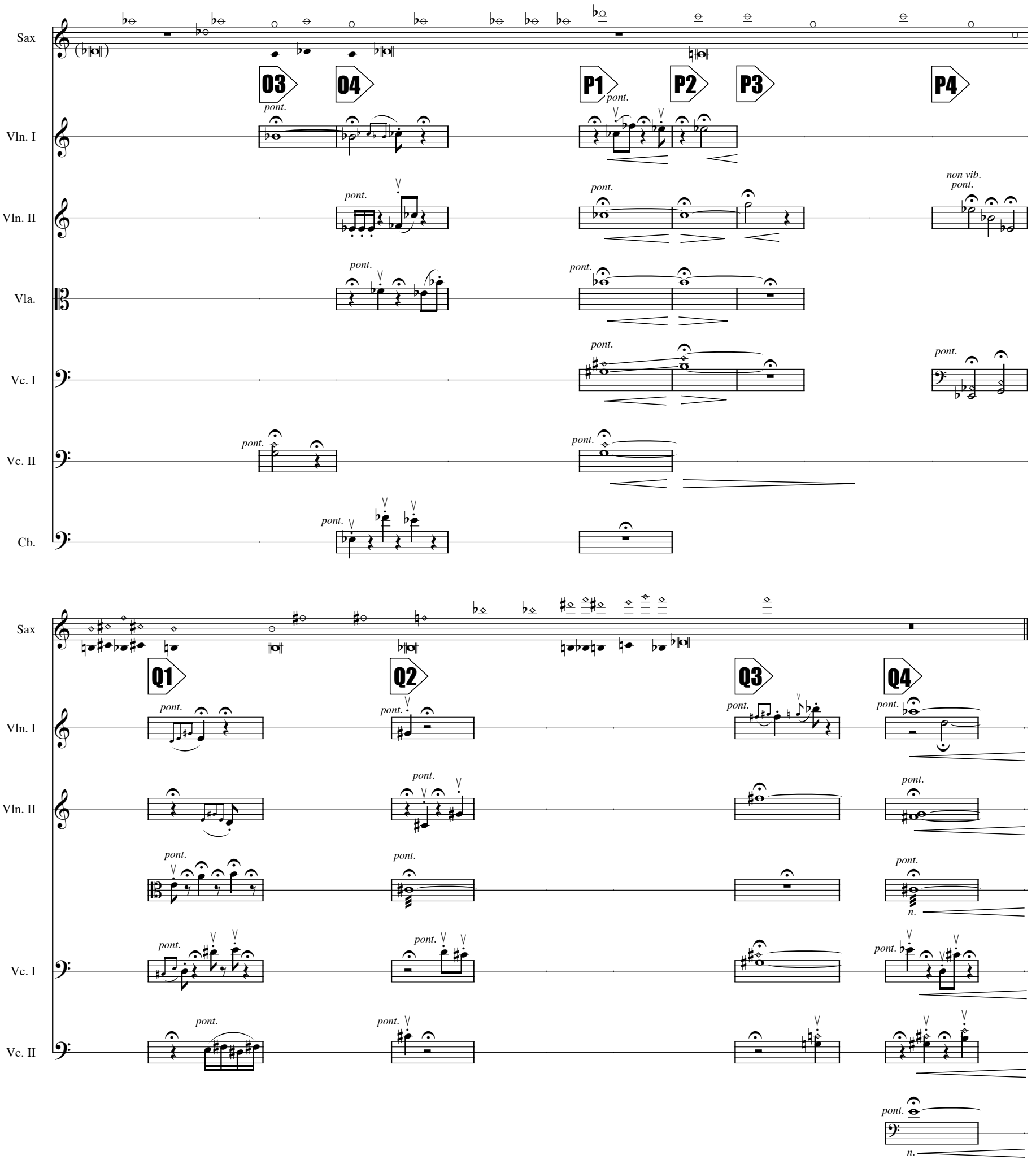
pont.
non vib.
3
n.

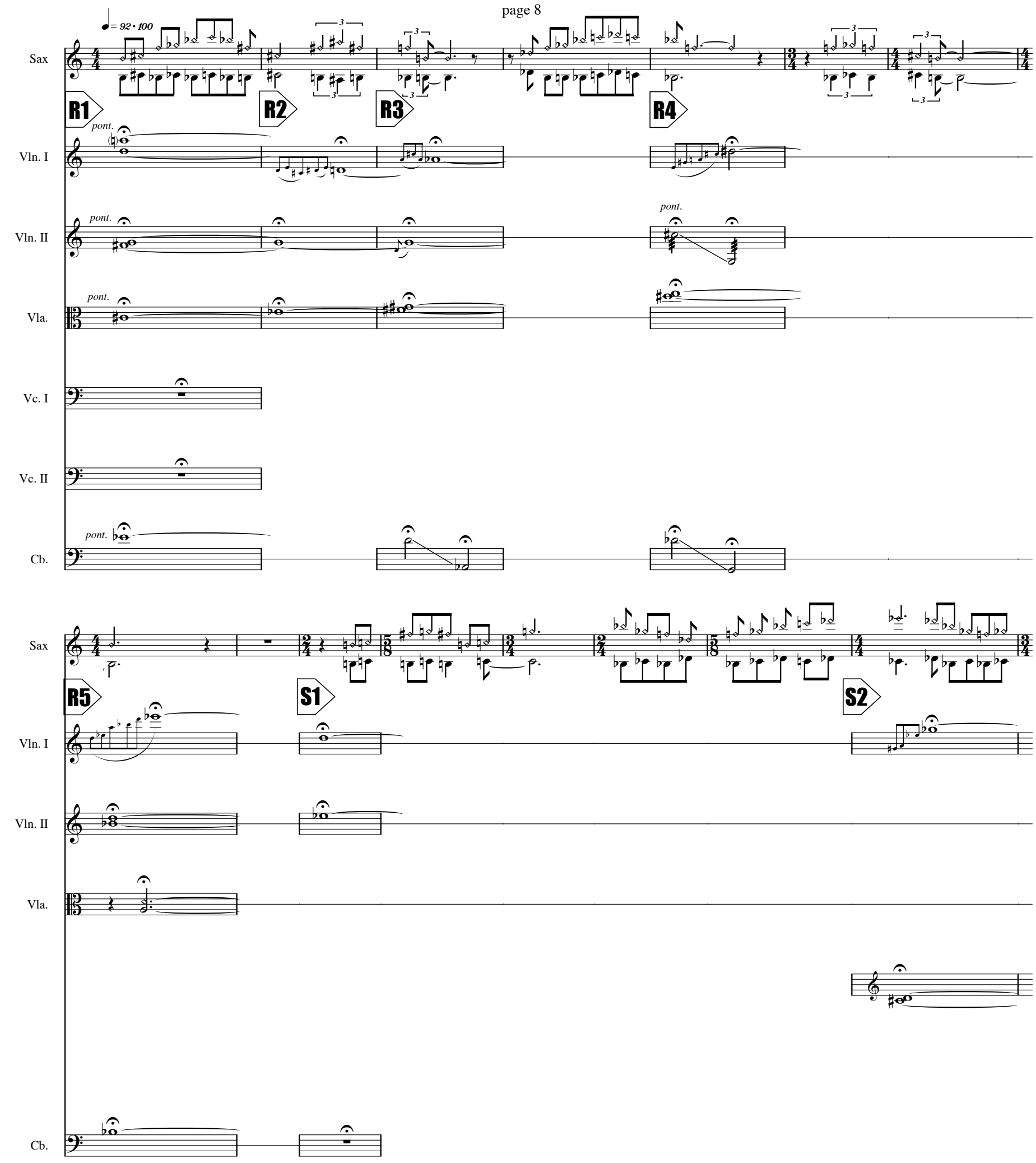
I1 I2 I3 J1

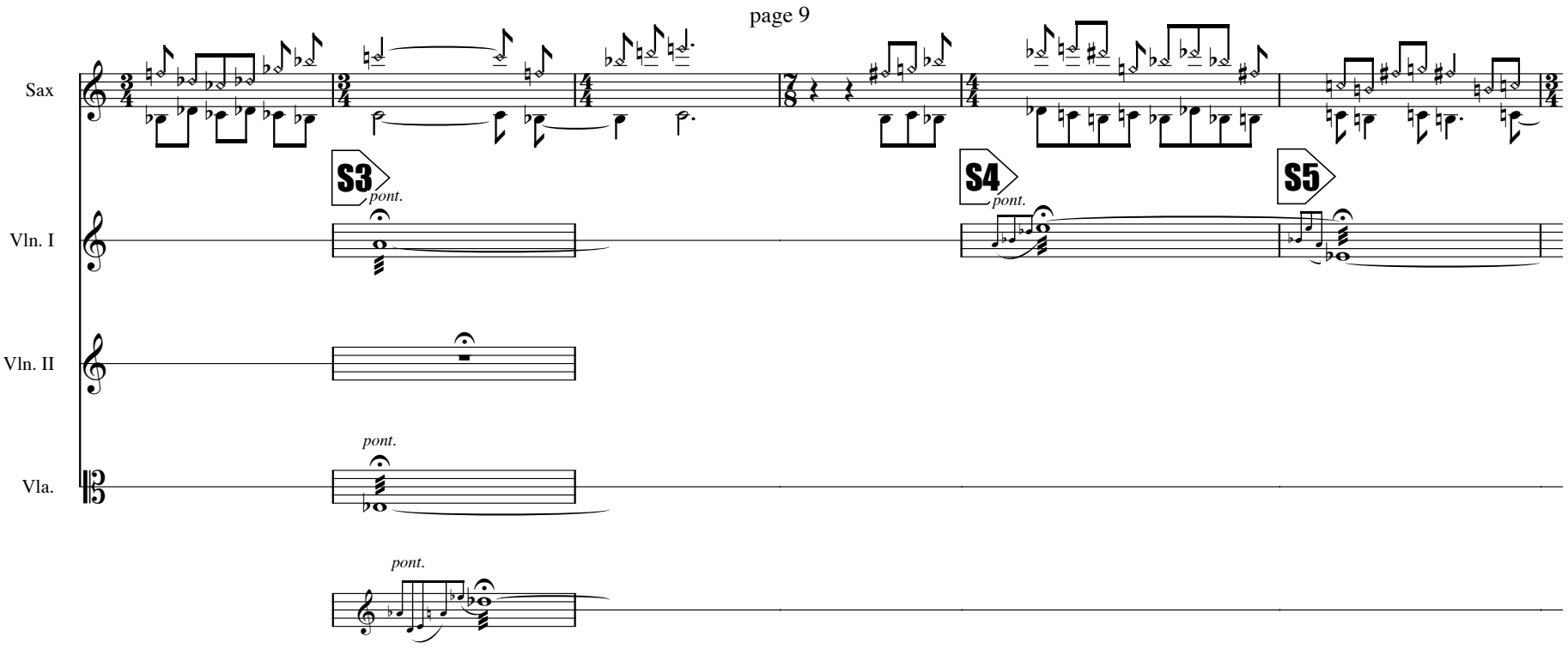
pizz.
arco
random order, sparcely

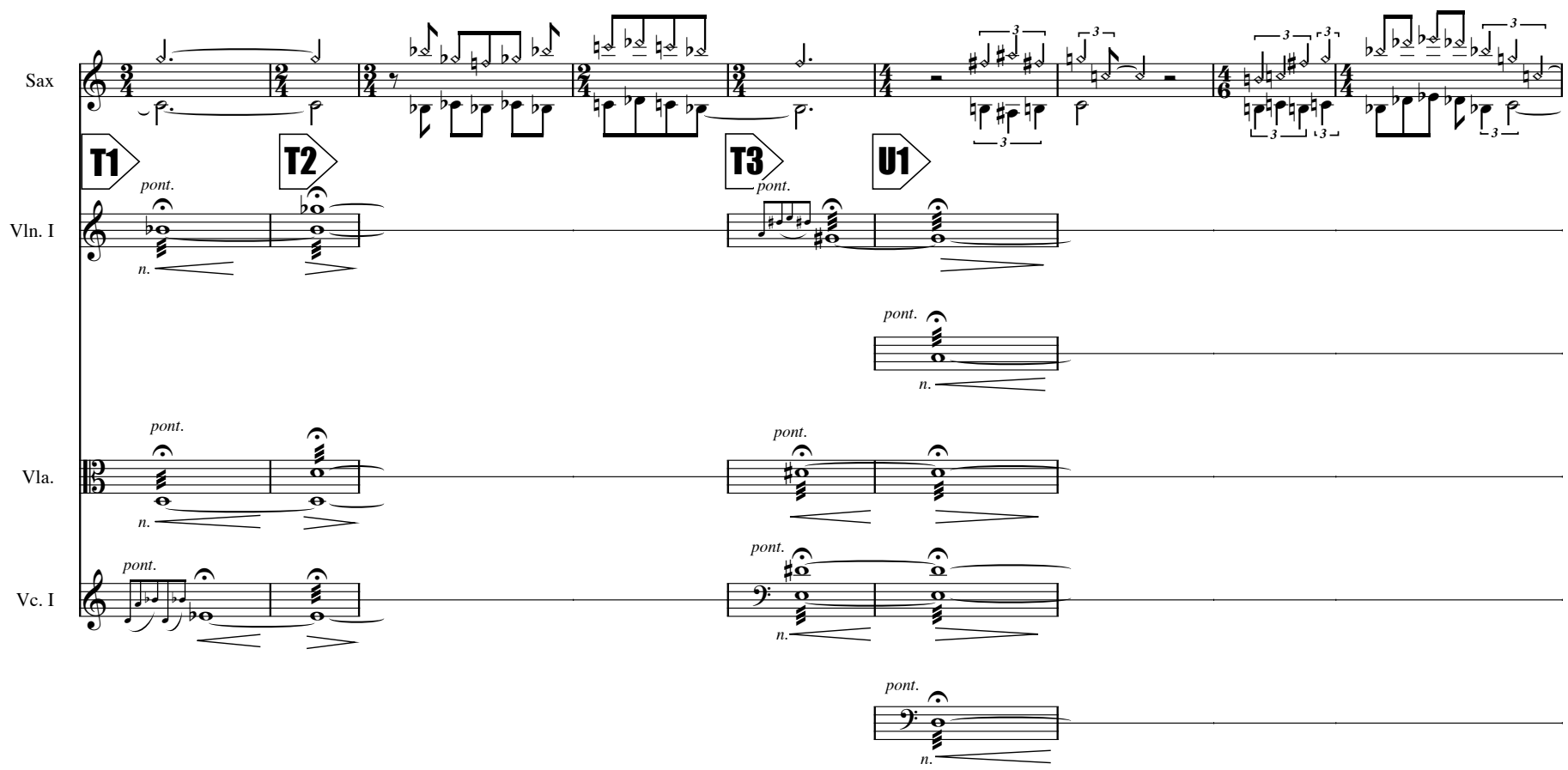

Sax
J2
J3
J4
K1
Vln. I
Vln. II
Vla.
pont.
n.
pont.
Vc. I
n.
n.
Vc. II
Cb.
pizz.
Sax
K2
L1
n.
n.
n.
n.
n.
non vib.
pont.
Vla.
Vc. I
Vc. II
Cb.


Sax
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
Cb.
L2
L3
M1
M2
M3
M4
M5
N1
N2
N3
N4
01
02
pont.
non vib.
n.
pizz.


Sax
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
Cb.
03
04
P1
P2
P3
P4
Q1
Q2
Q3
Q4
pont.
non vib.
n.


= 92 • 100
Sax
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
Cb.
R1
R2
R3
R4
R5
S1
S2
pont.


Sax
Vln. I
Vln. II
Vla.
S3
S4
S5
pont.


Sax
Vln. I
Vla.
Vc. I
T1
T2
T3
U1
pont.
n.

Sax

U2 U3 U4

Vln. I

Vln. II

Vla.

Vc. I — *pont.* — *pont.*

Vc. II — *pont.* — *pont.*

Cb. — *pont.*

Sax

U5 V1

Vc. I

Vc. II — *pont.*

Sax

V2

V3

W1

Vln. I

Vln. II

pont.

pont.

n.

Vc. I

Vc. II

pont.
non vib.

pont.

pont.

n.

Sax

W2

W3

Vln. I

Vln. II

Vla.

Vc. I

Vc. II

Cb.

Sax

W4

X1

Vln. I

pont.

n.

pont.

non vib.

Vln. II

pont.

Vla.

pont.

Vc. I

pont.

Vc. II

pont.

Cb.

pont.

Sax

X2

X3

X4

Vln. I

Vln. II

Vla.

n.

Vc. I

n.

Vc. II

n.

Cb.

Sax

X5

Vln. I

Vln. II

Vla.

Vc. I

Vc. II

n. n.

Sax

Y1

Vln. I

Vln. II

pont.

Vla.

pont.

Vc. I

pont.

Vc. II

pont.

Cb.

Sax

Y2

Y3

Y4

pont.

ric.

pont.

Vla.

Vc. I

Vc. II

Cb.

Sax

Z1

Z2

Z3

Vln. I

Vln. II

n.

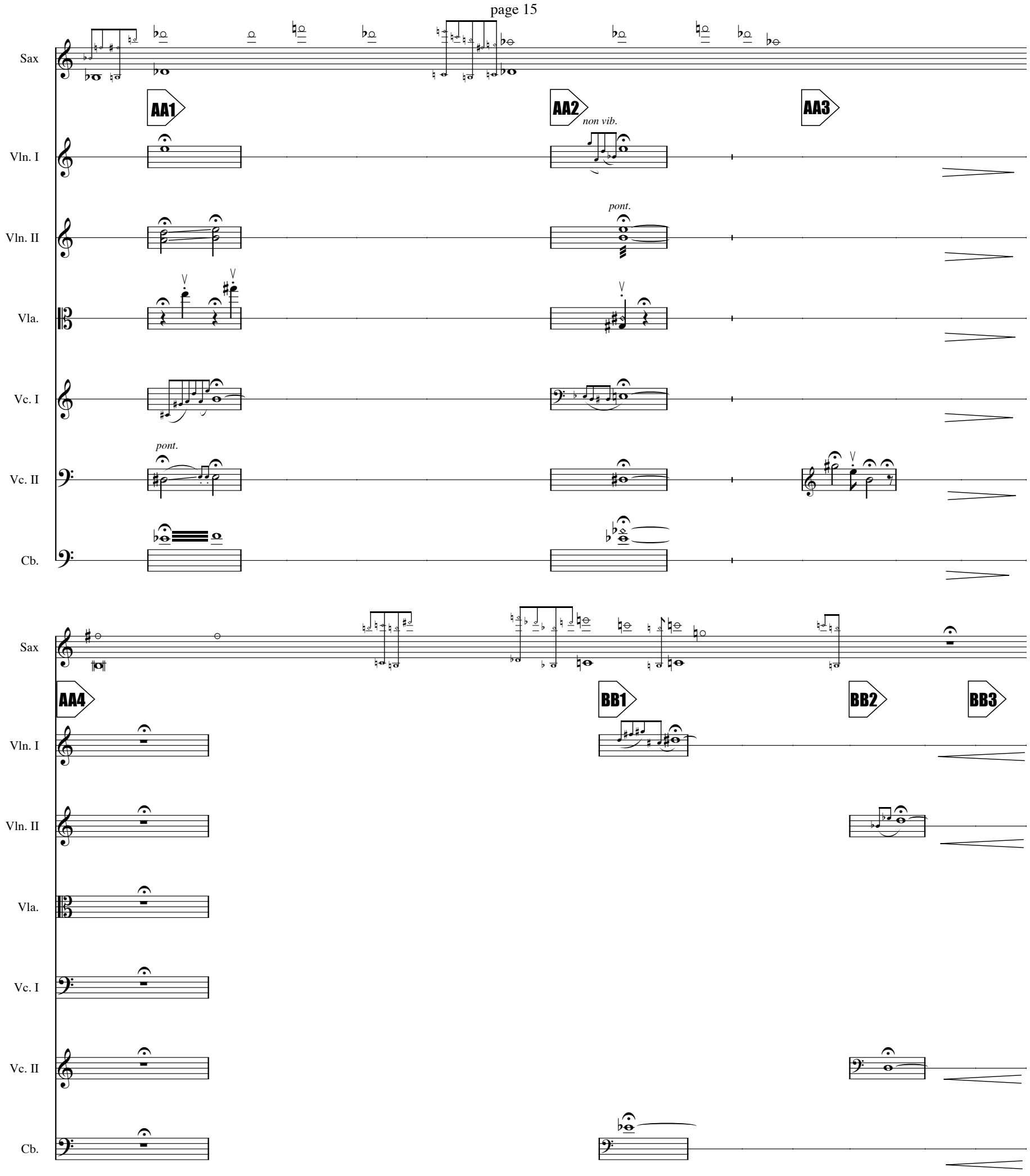
Vla.

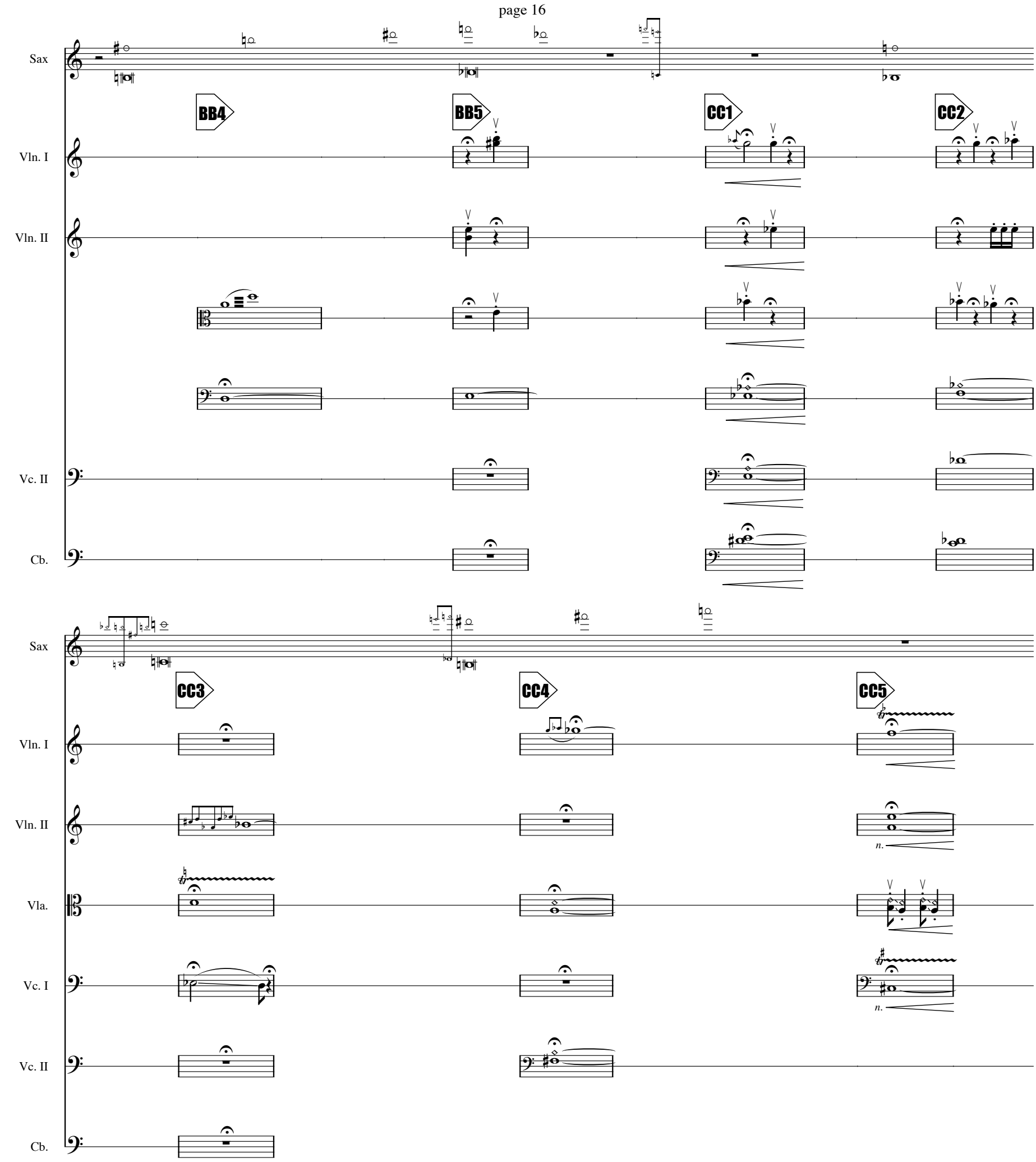
n.

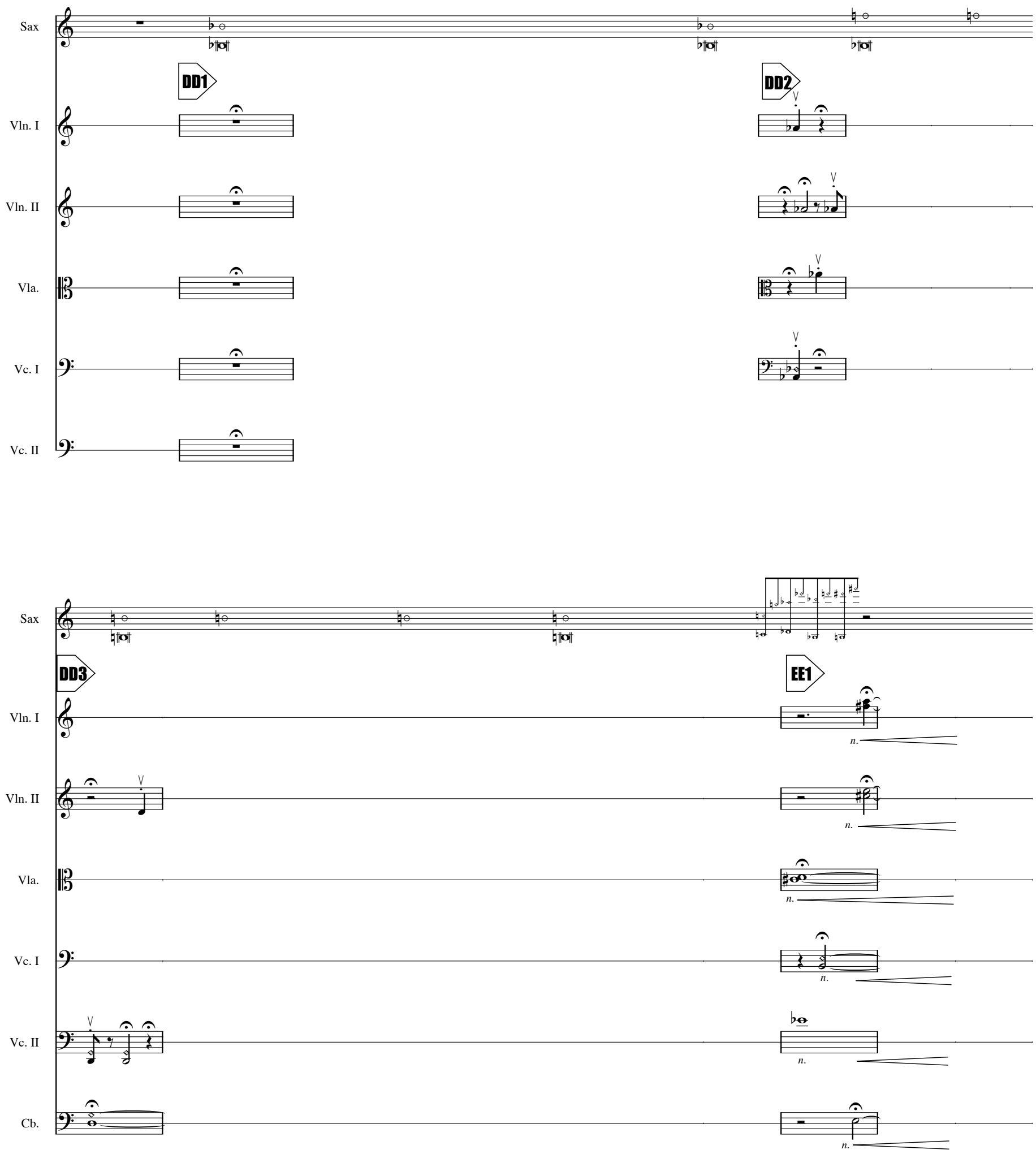
Vc. I

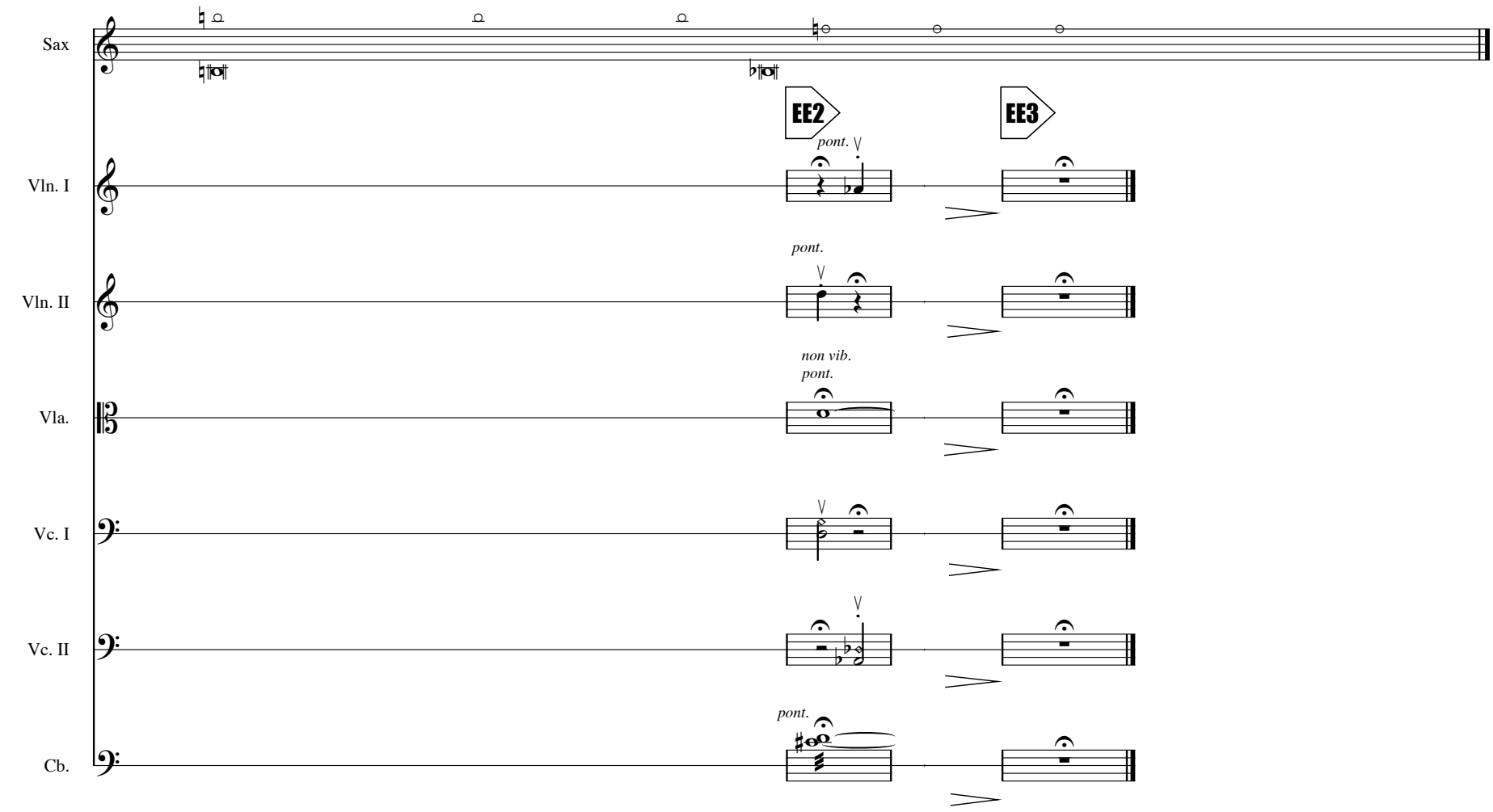
Vc. II

n.


Sax
AA1
AA2
non vib.
AA3
Vln. I
Vln. II
pont.
Vla.
Vc. I
Vc. II
pont.
Cb.
Sax
AA4
BB1
BB2
BB3
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
Cb.


Sax
BB4
BB5
CC1
CC2
Vln. I
Vln. II
Vc. II
Cb.
Sax
CC3
CC4
CC5
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
Cb.
n.
n.


Sax
DD1
DD2
Vln. I
Vln. II
Vla.
Vc. I
Vc. II
DD3
EE1
Cb.
n.


Sax
EE2
EE3
pont.
Vln. I
pont.
Vln. II
non vib.
pont.
Vla.
Vc. I
Vc. II
pont.
Cb.

SAMUEL BURT
FOUNTAIN RESONANCES
Supplemental Instructions

Synchronizing with the Saxophone

The supplemental instructions in the saxophone part describe in detail the techniques the saxophonist must employ. What follows is a brief description so that the conductor will be able to monitor the solo saxophone part as he provides cues to the ensemble. The saxophonist will be reclined and his instrument will most likely be suspended from a device so that as he lays back he can blow saliva upwards into the saxophone. The resulting sound will sound like hissing water in a pipe with resonantly pitched plops that at times will become more like a sustained screech. The pitch of the plops and screeching are a result of the saxophonist changing his embouchure to produce different partials of a fundamental tone. The fundamental is notated either as a breve (double whole note) for free tempo sections or as specific rhythms where the saxophonist has metered material, and the fundamental will always appear as the bottom note in the part. The partials to be played above it appear either as circular noteheads without stems (when sounding as plops) or as diamond noteheads (when played as screeches). The saxophone part should be easy to synchronize with by following the contour of the partials, the change of the fundamentals, and especially the periodic rests.

Cueing System

The work is not conducted metrically as in traditional music. The conductor's role is to follow the saxophone part and synchronize the string players by means of a series of cues labeled alpha-numerically. Generally, cues increase sequentially from one up to five, resetting to one on major synchronization points (where almost all the string players have a cue together). The cue numbers may not even reach five if one of these synchronization points happens earlier in the sequence of numbers. The cues are labeled with letters to make rehearsals more effective by providing reference points. The purpose of labeling the cues one through five is to allow the conductor to demonstrate digitally--that is manually with the hand (puns intended)--with his fingers the five cues by counting off silently by raising his hand with a number of fingers extended to indicate the present cue. An alternative and more effective method may be devised including a set of cue cards with each alpha-numeric cue clearly labeled in large font for the conductor to raise at the beginning of each indicated cue. Also, a monitor or small projection screen may be set up in clear view of the string players so that the conductor or someone from the ensemble may trigger a slide show of alpha-numeric cue indications.

Interpreting Cues

As the conductor cues (with fingers or with cards), the performers should repeat the material within the measure below each cue until given the next cue. At the initialization of a new cue, the material in the previous cue should immediately end even if in mid-measure.

Bracketed Noteheads
If there are bracketed noteheads without stems in a measure, they are to be played repeatedly in a random order as a moderately sparse texture. At softer dynamics, they should be played more sparsely; at louder dynamics, they should occur more frequently.

Fermata with a Tie
Any note with a fermata that is tied over the barline is to be held to the next cue without repeating any of the preceding notes in the measure. All the previous notes should be thought of as an ornamented attack that initializes the cue.

Side-by-Side Cues
Even when measures are side-by-side, they still count as individual cues and should each be treated separately with the first being sustained or repeated until the second is started.

Style of Playing

Several markings appear at the beginning of the score. "*all string parts should be played *punta del arco* throughout unless marked otherwise or impossible" and "*sempre piano.*" The strings are to be light and delicate, played as much as possible with at the tip of the bow. They should be rather soft dynamically except at moments where there is a surge of energy. One of the major formal roles of these outbursts is to cover rests in the saxophone part, especially at page turns. Some dynamic hairpins may appear just before or after a cue. In these cases, watch the conductor to see the rate and amount of dynamic change.

Computer Component

The accompanying CD-ROM contains software to be installed on a computer for the purpose of processing the saxophone. It was tested on a PowerBook 1.33 GHz G4 with 512 MB of RAM and an iBook 1 GHz G4 with 256 MB of RAM. The CD-ROM contains:

fountainresonances/
My program for processing the saxphone to be run in Pure Data

Pd-0.38-3.app
Pure Data, open source audio software development environment created by Miller Puckette and developed by many others

org.puredata.pd.plist
A preference file to enable necessary externals for my software

README.rtf
A description of the software installation and operation.

Equipment Needed

Computer (advisably with 1 GHz processor and 256 MB RAM)
Accompanying CD-ROM
One microphone with pre-amp
Two loudspeakers with an amplifier
A MIDI or software pedal

Saxophone Instructions

SAMUEL BURT
FOUNTAIN RESONANCES

for Saxophone with Computer Processing
marching band flip-folder sized-score

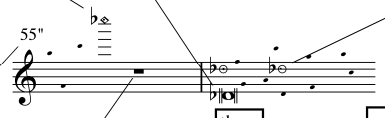
approximate duration 9:05

saxophone static geyser "Spectral Gargle" technique
reclined gargling in the mouthpiece and neck
With the saxophone tilted horizontally overhead, blow enough saliva up into the mouthpiece and neck so a small pool is formed. Learn to blow air (and more saliva if needed) through the pool so the water is disturbed. Some water will shoot upwards and then be pulled back down by gravity plopping in the pool and on the reed causing a pitched percussive sound tuned to a harmonic of the fingered fundamental based on your embouchure placement.

upper harmonics
harmonics that will sound
Higher frequency harmonics will screech more steadily than lower pitched harmonics. When possible, play the upper harmonics while allowing other lower partials to *plop* out unexpectedly.

fundamental
fingered note
Hold keys as if playing the indicated pitch.

embouchure placement
position mouth to play indicated harmonic
Maintaining the correct amount of air pressure and embouchure pressure, the indicated note should occasionally *plop* out of the texture.



approximate timing
minutes/seconds
Computer part is unmetered. Let the music flow, but be somewhat conscious of how much time you are taking.

rests
a chance to catch a breath
Take your time on rests, especially a rest with a fermata.

pedal cues
hit the pedal to advance the computer
Tapping the MIDI control pedal will advance the computer processing to its next state.
A quick glance at the screen will show whether or not you are on the same cue as the computer.
If you are not, holding the pedal for about a second will reverse the processing one cue.

metered sections
play in tempo and rhythm
Play harmonics as well as possible in tempo with the given rhythms. If some notes do not sound, give priority to maintaining the rhythm. Lower pitches may be less reliable and can be treated as plops. (See embouchure placement and upper harmonics.)