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Febrile Swing: for Drummer, Synthesizer, and Ensemble

By

Jeremy Wexler

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Music Composition

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Ken Ueno, Chair
Professor Edmund Campion
Professor Myra Melford

Spring 2023

Abstract

Febrile Swing: for Drummer, Synthesizer, and Ensemble

by

Jeremy Wexler

Doctor of Philosophy in Music Composition

University of California, Berkeley

Professor Ken Ueno, Chair

I have always considered the explorative aspect of music making to be an essential part of my creative practice. I am not only a composer of acoustic and electroacoustic music, but I am also a drummer, a percussionist, a field recordist, an improvisor, and a sound designer. This piece combines all these creative practices into a longform composition. *Febrile Swing* serves as my dissertation — final requirement of my Ph.D. from the University of California, Berkeley — completed in May of 2023.

The first movement, *11-tone mashing*, is a solo for the keyboardist. It is a somber ambient composition utilizing an 11-note scale (the octave is divided into 11 unequal tones) and features a fixed media backing track of my field recordings. The mood of this composition is both relaxing and unsettling due to its "mashing" of relaxing synth sounds, unusual harmonies, and earthly sounds recorded from various places and times. Movement II, *Fields*, opens with pointillistic unison strikes involving the entire ensemble, interspersed with glitchy electromagnetic field recordings captured around the city of Kraków. It gradually crescendos in volume and density over the course of minutes as it climbs towards its apex— deep, loud drones are combined with chaotic, energetic improvisation from the performers.

I composed the third movement, *Brushstrokes*, with a jazz combo in mind; only the drummer, keyboardist, trumpeter, saxophonist, and contrabassist perform in this section. The synthesizer is tuned to a highly unusual scale in which every perfect fifth interval on the keyboard sounds a perfect octave. The keys in between the perfect fifth essentially divide the sounding octave into seven [almost] equal tones. The tones of the synthesizer are transcribed and provided to the acoustic performers in the form of chord changes, and they are asked to improvise using these chord tones. The final movement, *Head above water*, once again incorporates the full ensemble and utilizes a 21-tone EDO (equally divided octave) scale in the synthesizer. The clustery nature of the synth inspired the orchestration of the piece; dense tone clusters gradually climb and fall by way of alternating half and quarter tone intervals at a brisk tempo.

Instrumentation:

1 Flute
1 Clarinet (clarinet in Bb and bass clarinet in Bb)
1 Saxophone (alto, tenor, baritone)
1 Trumpet in C (w/ straight mute, harmon mute)
1 Percussion (on drum kit)
1 Keyboard (Novation Peak + Ableton)
1 Violin
1 Violoncello
1 Contrabass (with low C extension)

Score in concert pitch

Performance notes:

All winds:

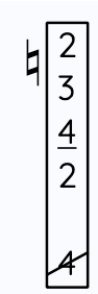
The following techniques are used:
- Jet whistle (flute)
- Slap tongue
- Full air/half-air/full tone
- Microtonality in quarter-tone increments
- Multiphonics
- Altissimo
- Fluttertongue

If certain multiphonics do not work, then the players can pick similar multiphonics at their discretion. The only stipulation is that they should work harmoniously in the context of the music.

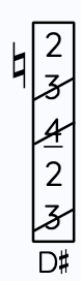
Flute:

Multiphonics source: The Techniques of Flute Playing (Carin Levin, Christina Mitropoulos-Bott)

Multiphonic 24



Multiphonic 177



Multiphonic 181

Clarinet:

Multiphonics source: https://gregoryoakes.com/multiphonics/index.php

Multiphonic 1

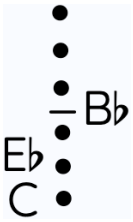
Multiphonic 3

Multiphonic 80

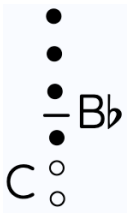
Saxophone:

Multiphonics source: The Techniques of Saxophone Playing (Marcus Weiss, Giorgio Netti)

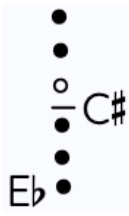
Alto Sax. Multiphonic 2 30



Alto Sax. Multiphonic 12



Alto Sax. Multiphonic



Drummer:

The part of the percussionist/drummer in this piece is almost completely improvised. There is some guidance given in the score (text instructions, time, or notated crucial hits), but for the most part the drummer is improvising their part.

A standard jazz drum kit should be used. At the bare minimum, the performance will require:

- 1 kick drum, 1 snare drum, 1 hi-hat, 1 tom (such as a floor tom), and 1 cymbal (18" crash/ride or larger)
- Sticks, brushes, felt mallets, dowel rods, fans (such as Dem'Sticks), hands

The percussionist can adjust their instrument and implement roster to their taste (extra cymbals, drums, even other percussion instruments can be added). They can also feel free to try different timbres, such as riveted cymbals and cloth-muted drums.

Keyboards:

Three staves are used: the grand staff (connected with a bracket) is the Novation Peak synthesizer. The top staff is the Ableton controller.

Two MIDI keyboards will be needed, and the MIDI channels must be routed correctly in the Ableton Live set. For example, the keyboard used for the synthesizer can be set to MIDI channel 1, and the keyboard used to trigger samples can be set to MIDI channel 2. If this is the case, then all the tracks in the Ableton Live set must be adjusted accordingly. The synthesizer has preprogrammed patches, and many of them use custom microtonal scales. The grand staff in the score will always have the *played pitch*, but it will rarely equate to the *sounding pitch*.
The keyboardist plays and extremely important role in this piece, not only by being the sole source of electronic sounds, but also by cueing the ensemble at key points. The cueing must be done by the keyboardist because they will be using certain timecodes from the DAW.

Strings:

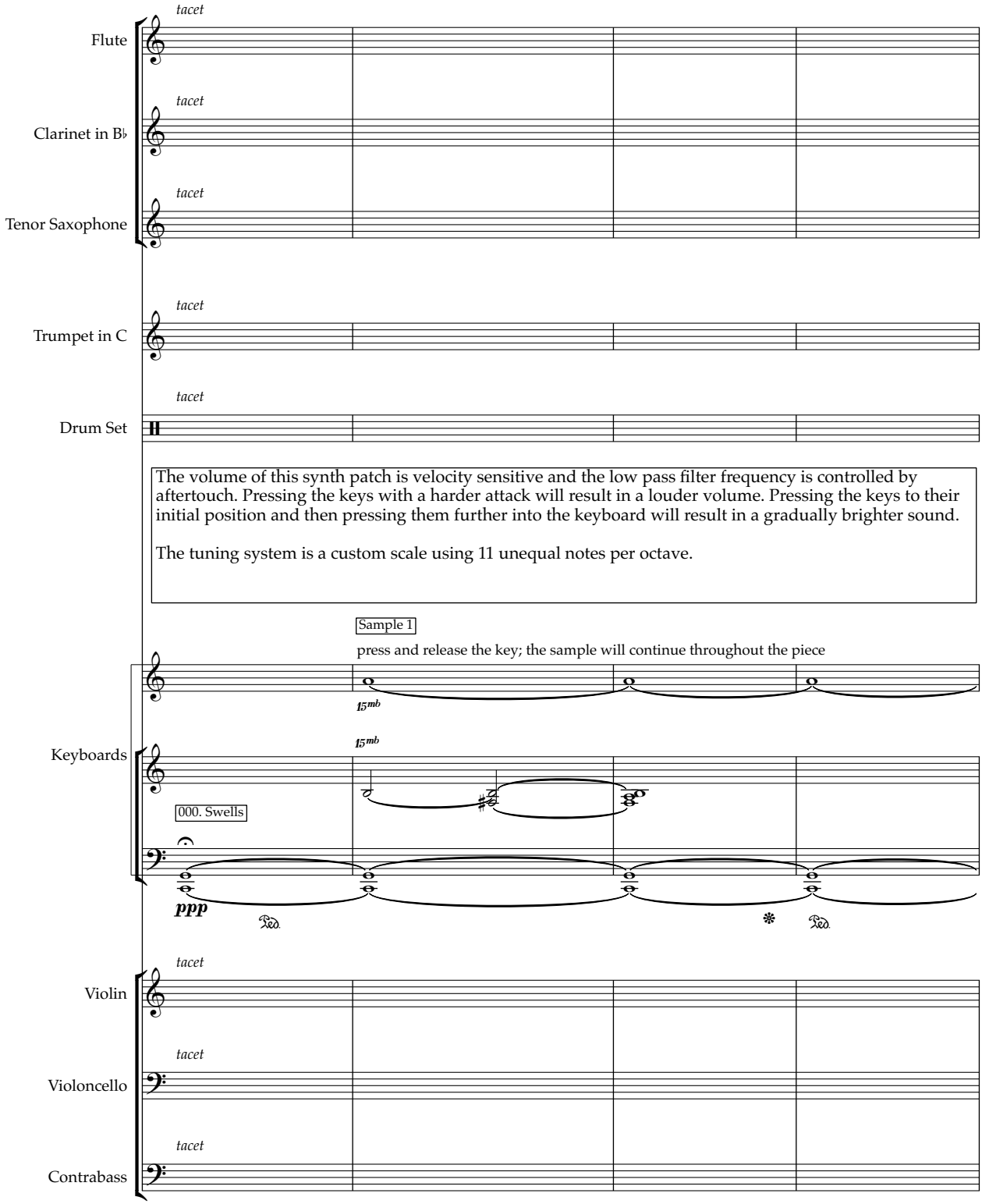
All instruments are in standard tuning; no scordatura is used.

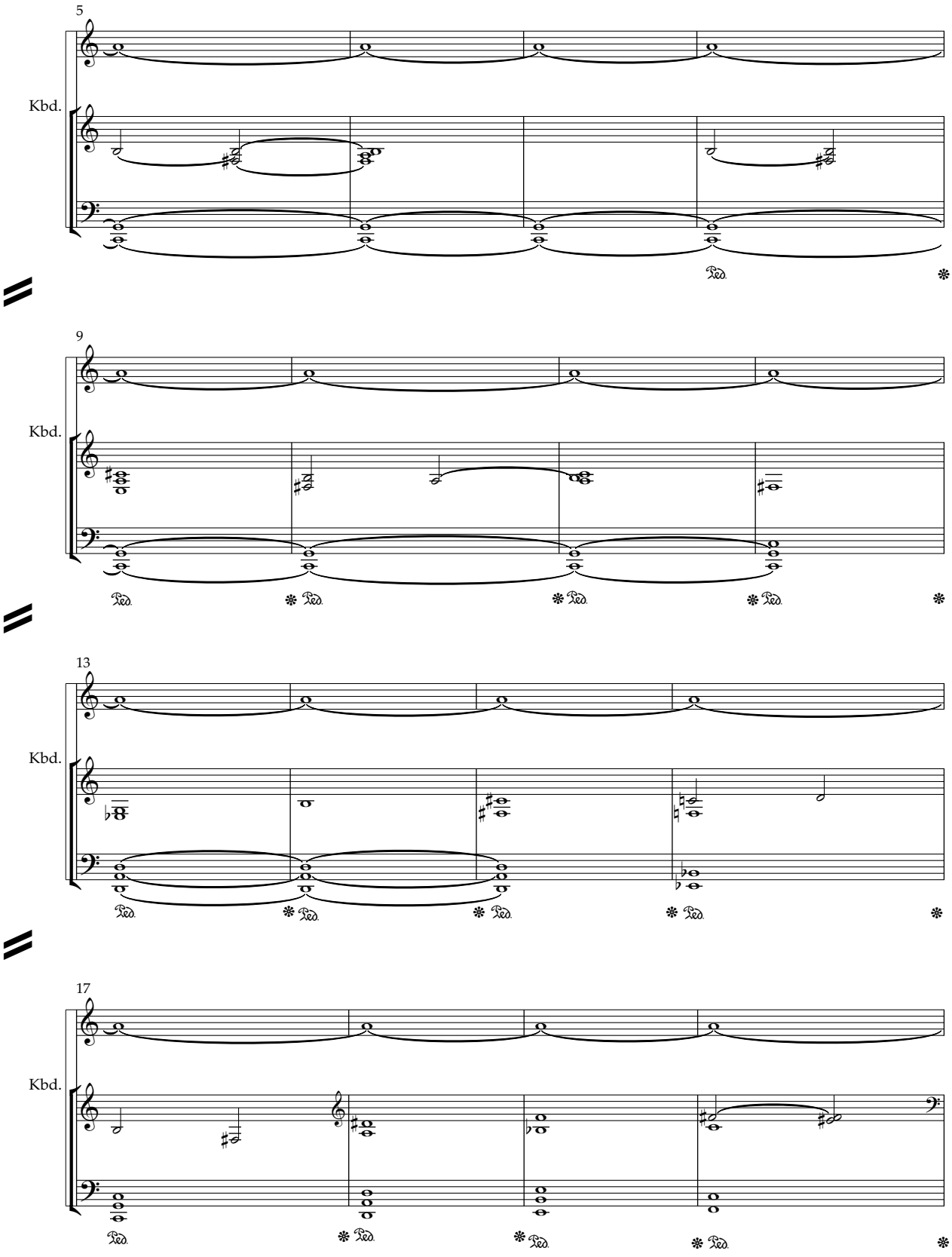
Bow positions and techniques may be written in the following ways:
- Molto sul tasto / m.s.t.
- Sul tasto / s.t.
- Normal bow position / norm.
- Sul ponticello / s.p.
- Molto sul ponticello / m.s.p.
- On bridge
- Behind bridge
- Pizzicato / pizz.
- Bartók Pizzicato
- Arco

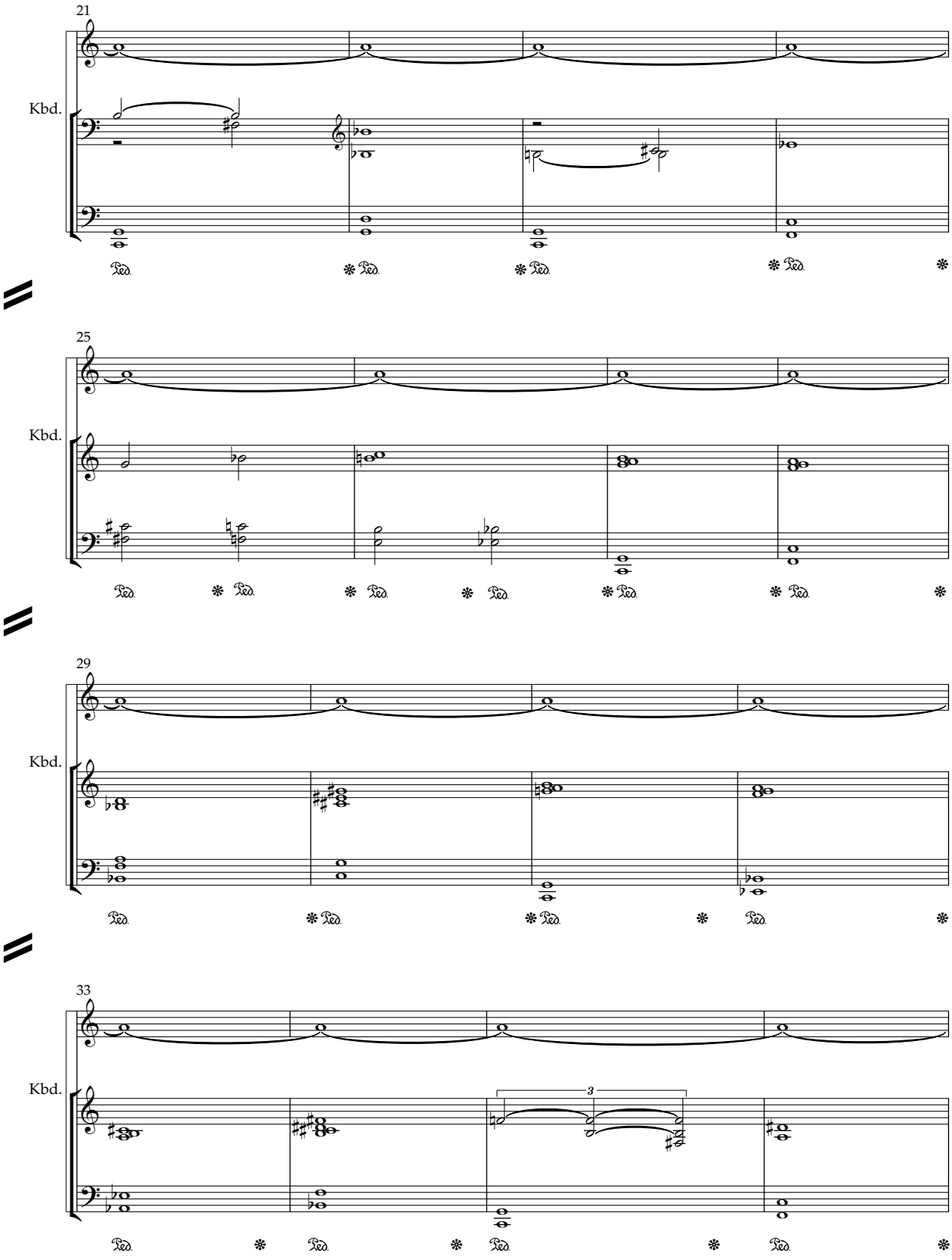
General notes for all instruments:

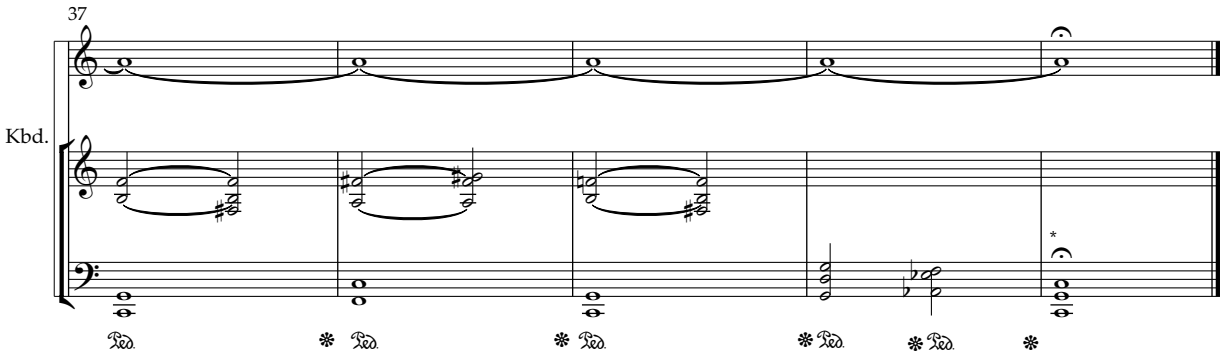
The effect and emotion of the music should always be privileged over the sheer accuracy of the notes or timing. Happy accidents are welcome. If a technique— such as a multiphonic— does not work, then the player has the discretion to adjust to their taste. Have fun!

I. 11-tone mashing



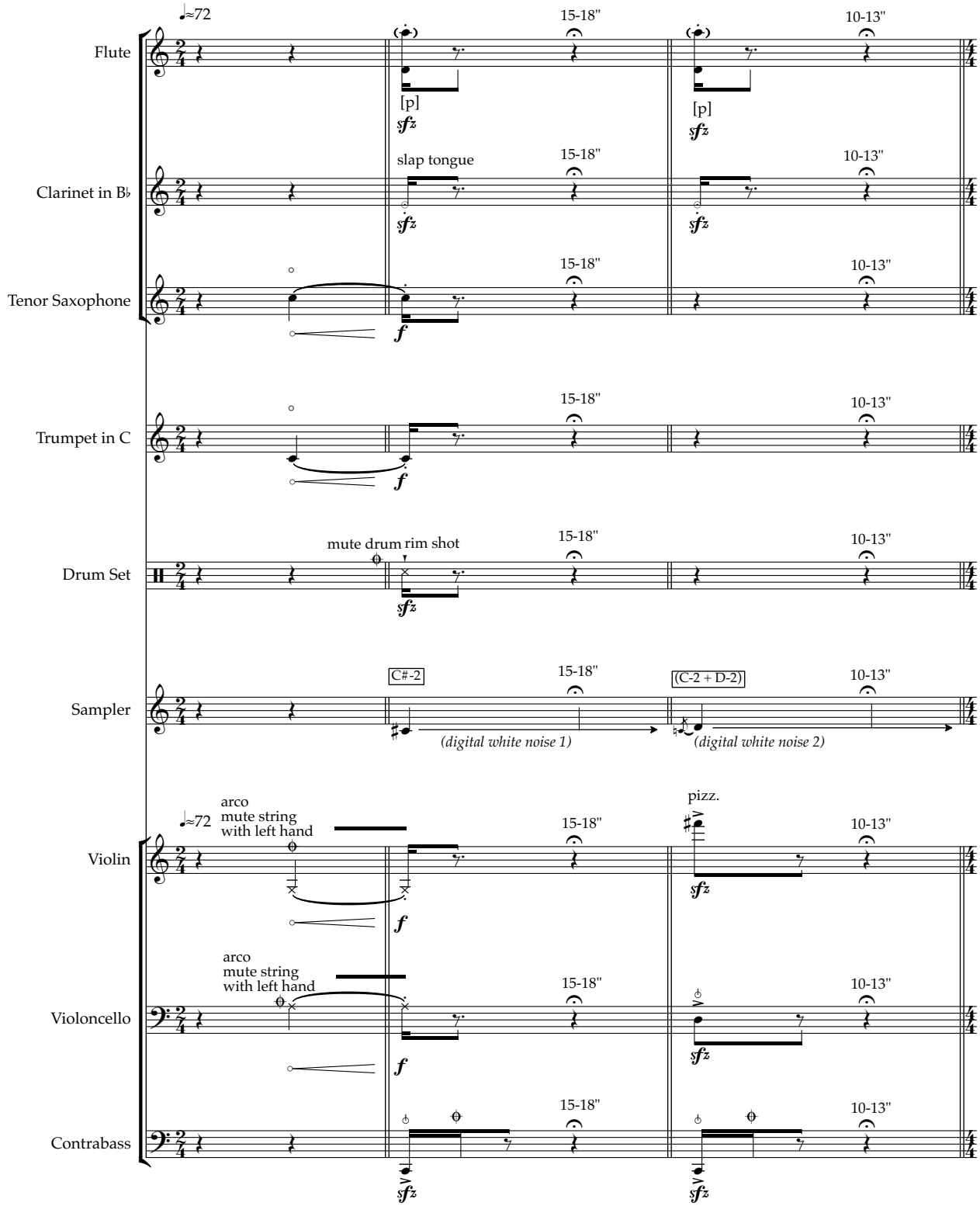

5
Kbd.
Ped.
9
Kbd.
Ped.
13
Kbd.
Ped.
17
Kbd.
Ped.

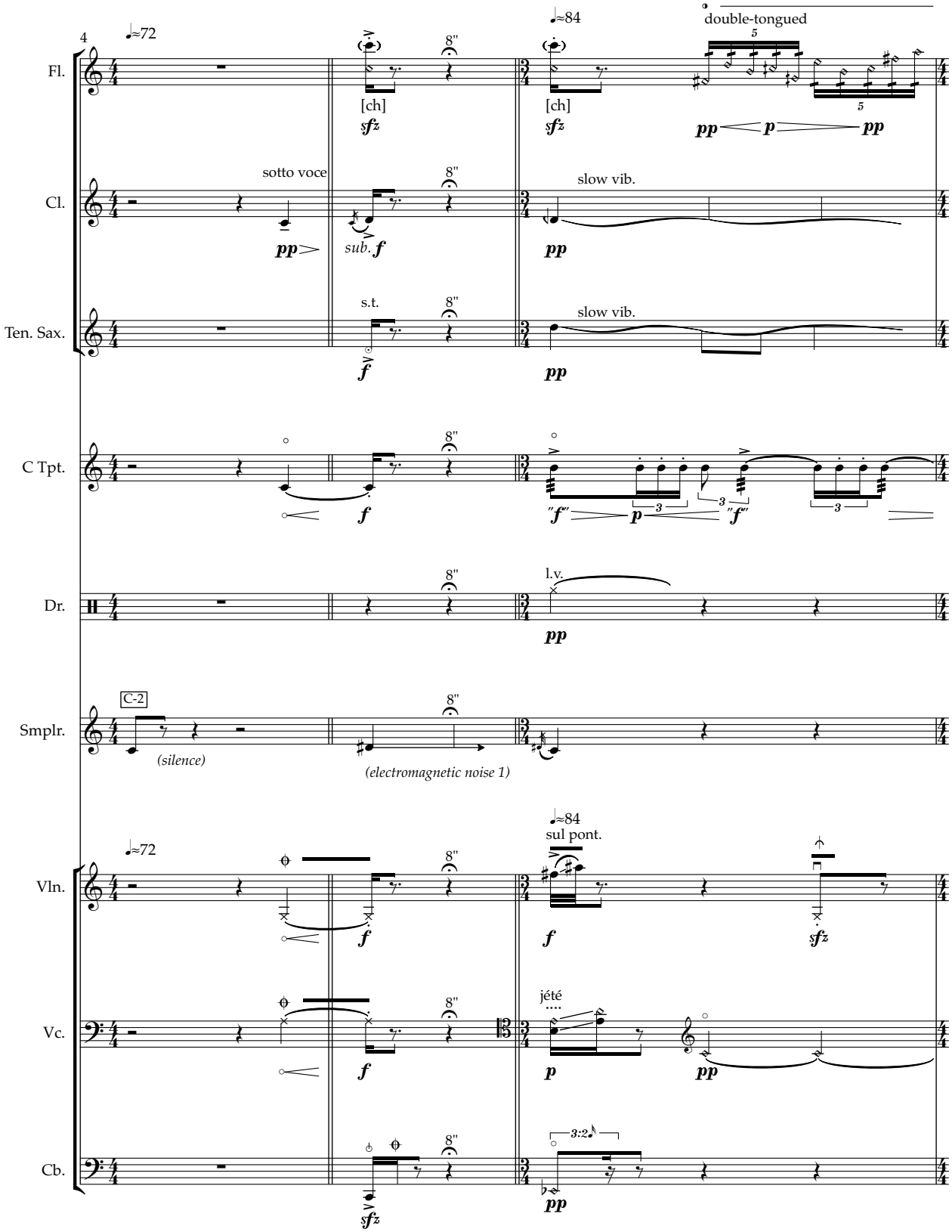

21
Kbd.
25
Kbd.
29
Kbd.
33
Kbd.
3

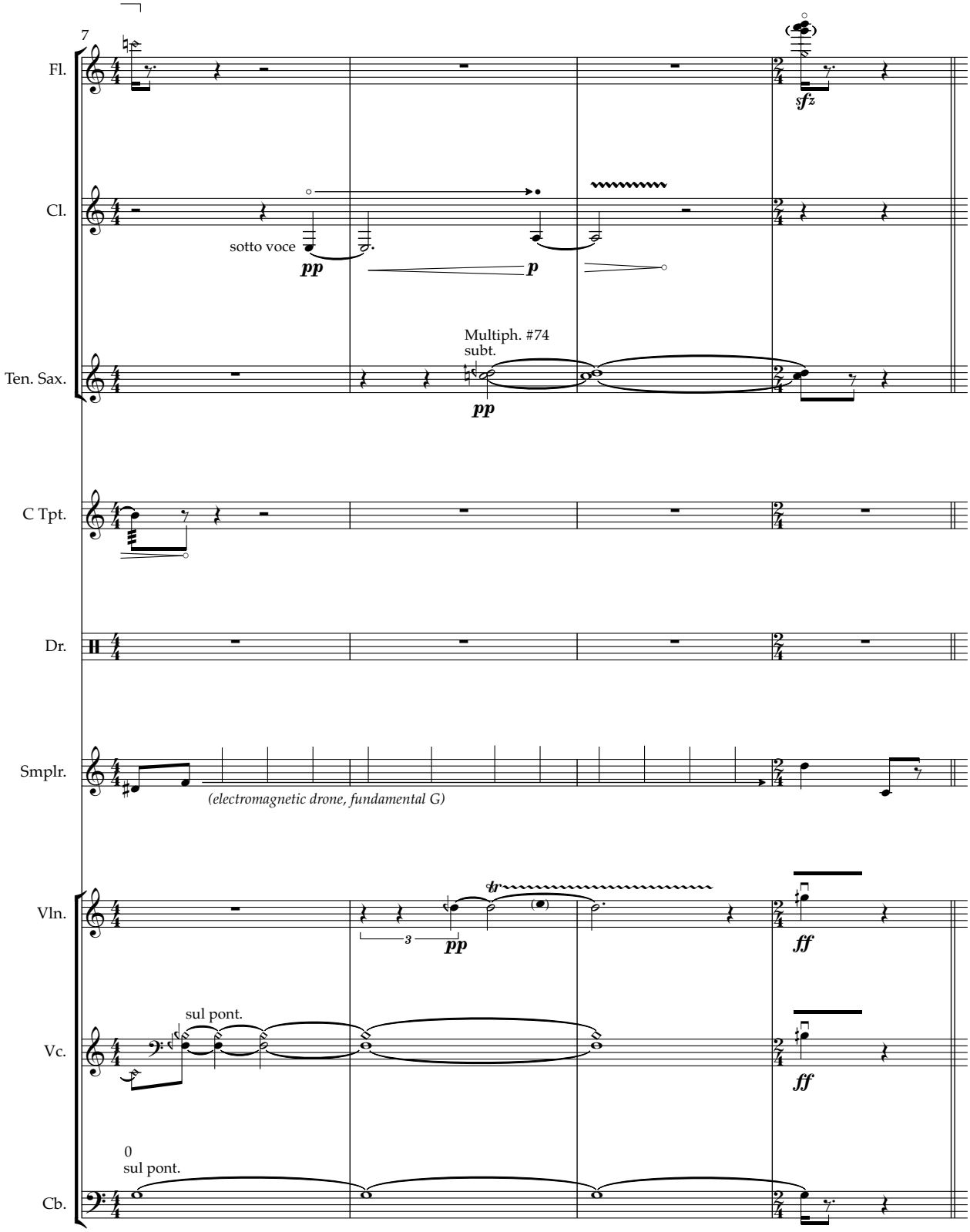


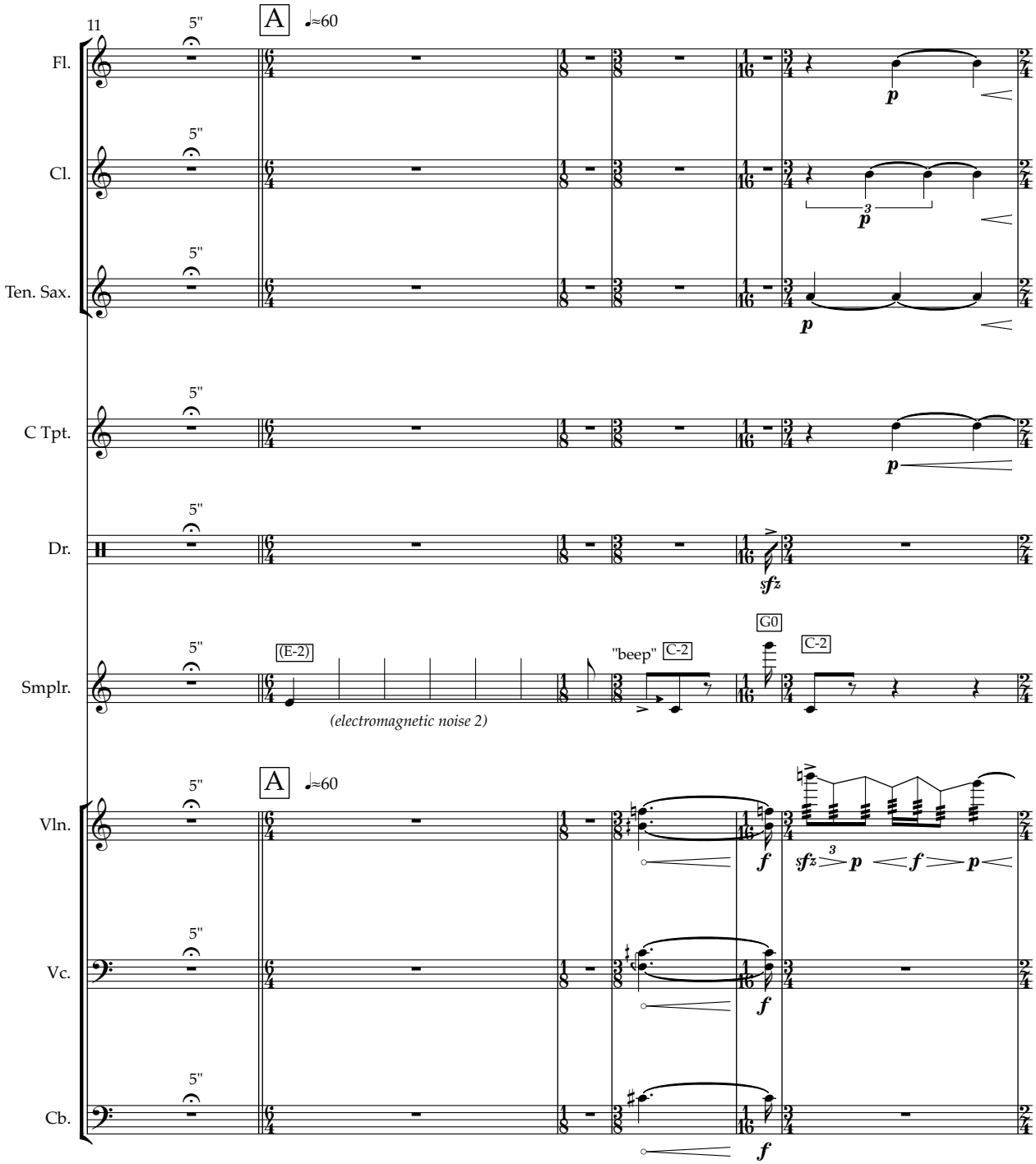
* If you finish before the sample playback ends, you can release the final chord and let the sample play solo.

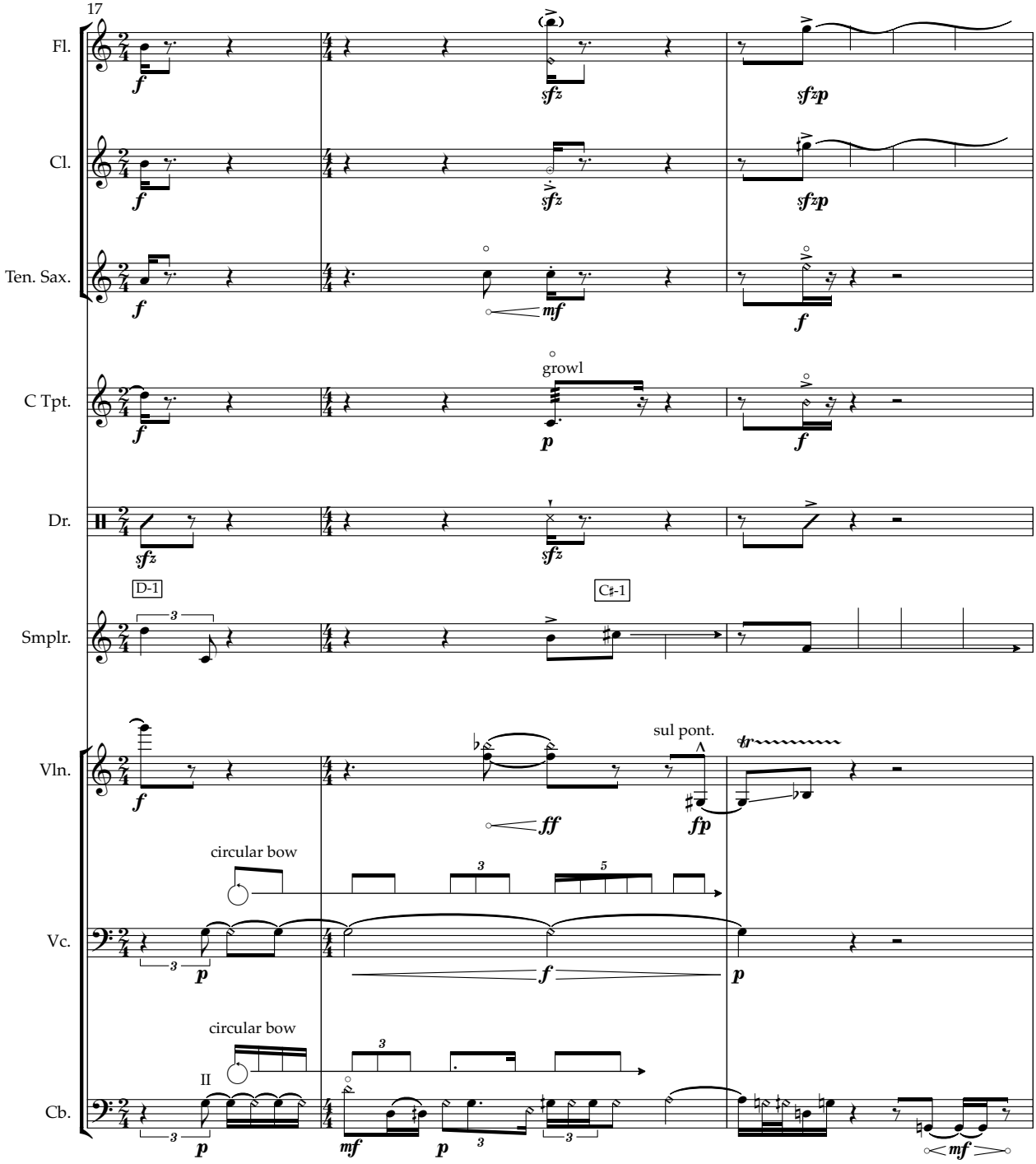
II. Fields

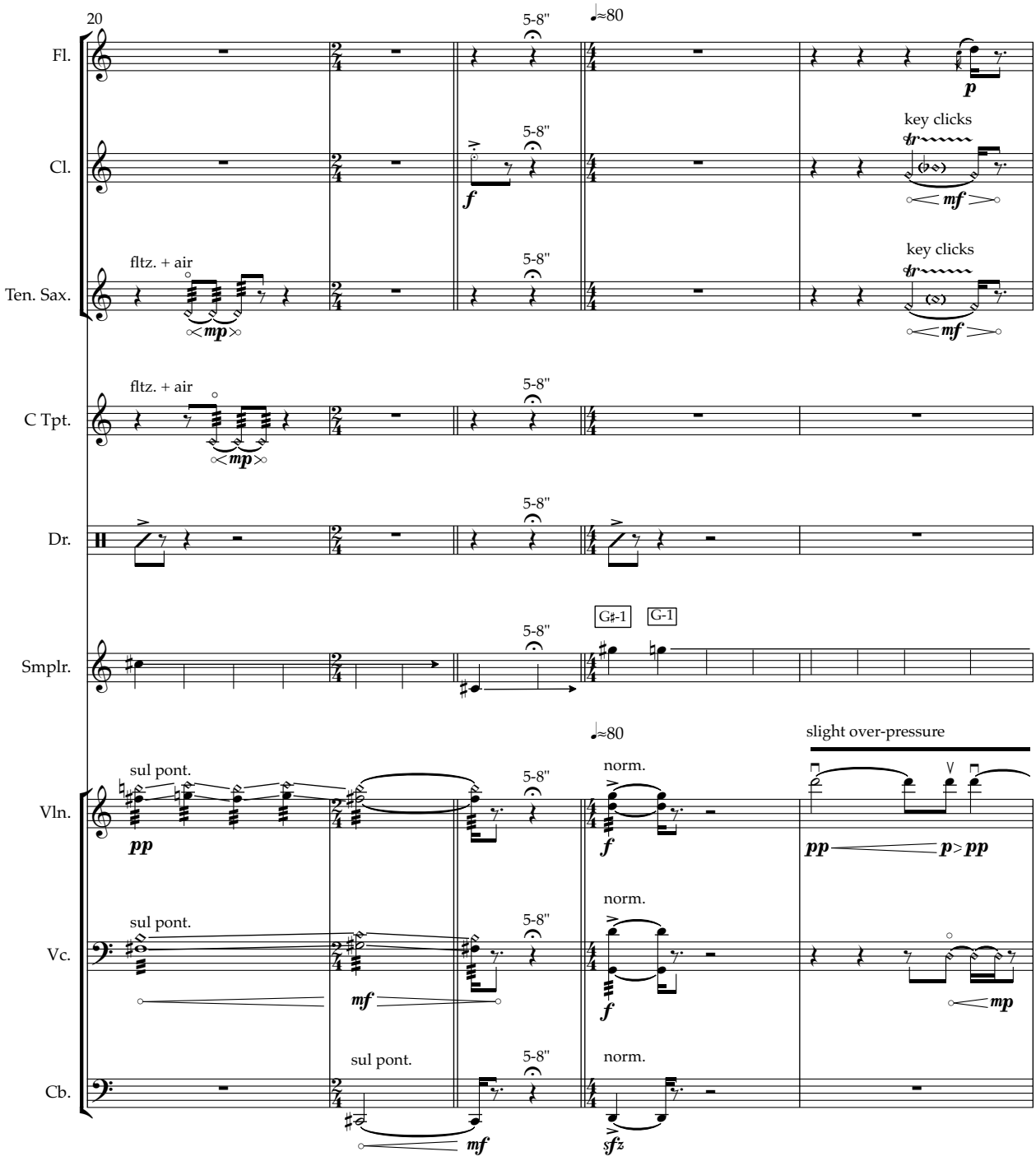

♩≈72
Flute
Clarinet in B♭
Tenor Saxophone
Trumpet in C
Drum Set
Sampler
Violin
Violoncello
Contrabass
15-18"
10-13"
[p]
sfz
slap tongue
f
mute drum rim shot
C#-2
(C-2 + D-2)
(digital white noise 1)
(digital white noise 2)
arco
mute string
with left hand
pizz.

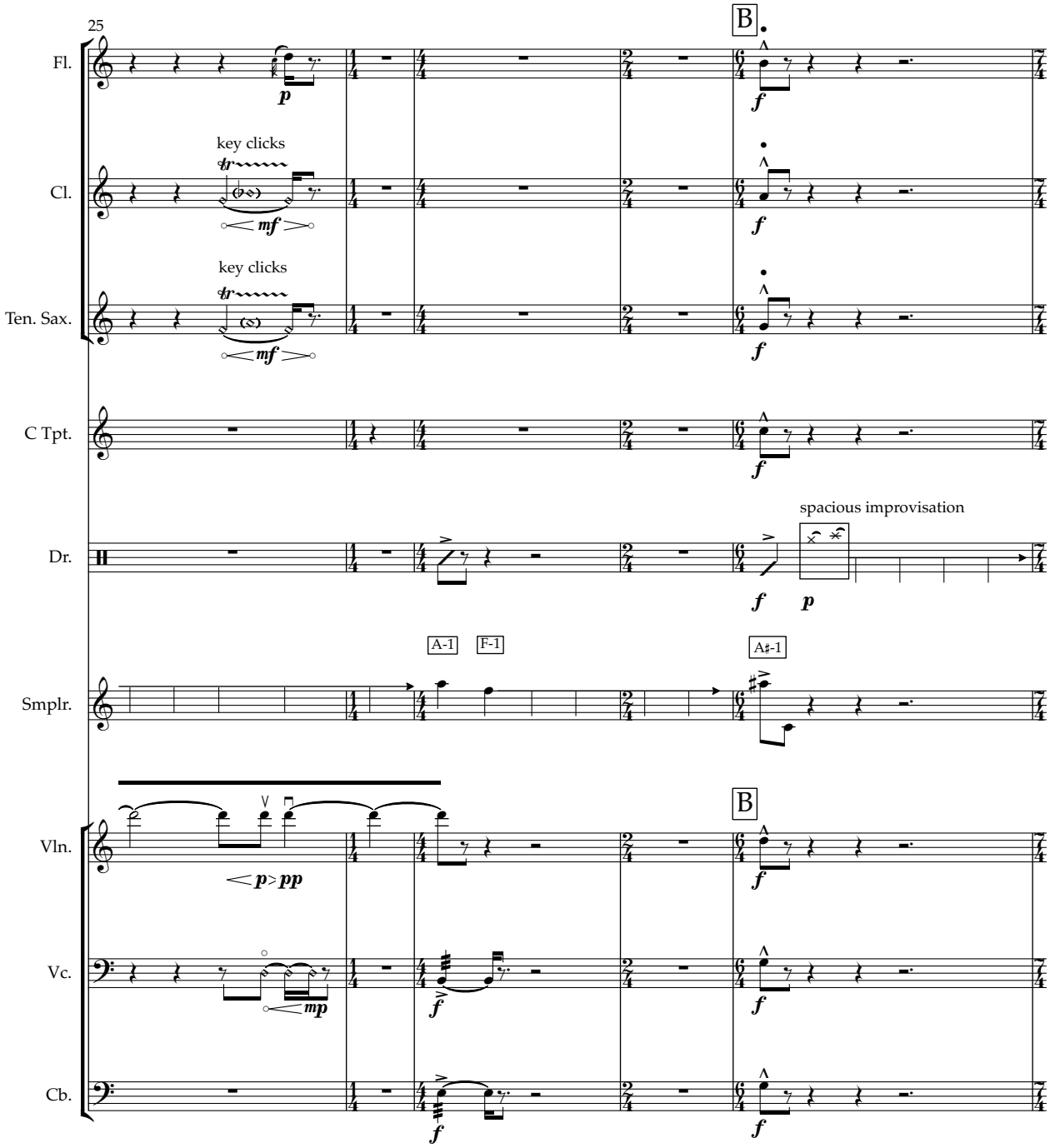

4
♩≈72
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
8"
[ch]
sfz
sotto voce
pp
sub. f
s.t.
f
♩≈84
double-tongued
5
pp p pp
slow vib.
"f" p "f"
3
l.v.
C-2
(silence)
(electromagnetic noise 1)
sul pont.
jété
3:2

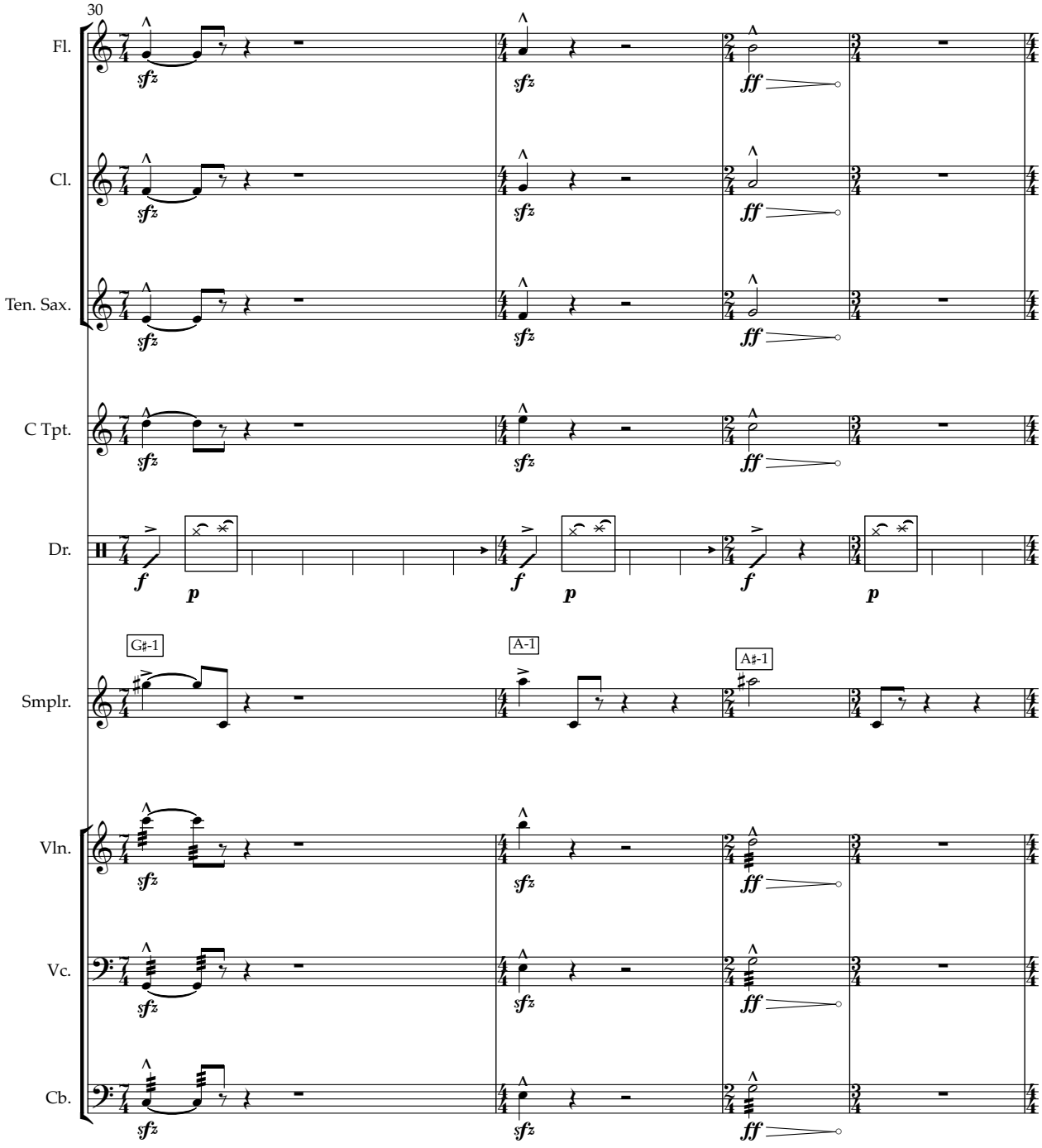

7
Fl.
Cl.
sotto voce
pp
p
Multiph. #74
subt.
Ten. Sax.
pp
C Tpt.
Dr.
Smplr.
(electromagnetic drone, fundamental G)
Vln.
tr
3
pp
ff
sul pont.
Vc.
ff
0
sul pont.
Cb.

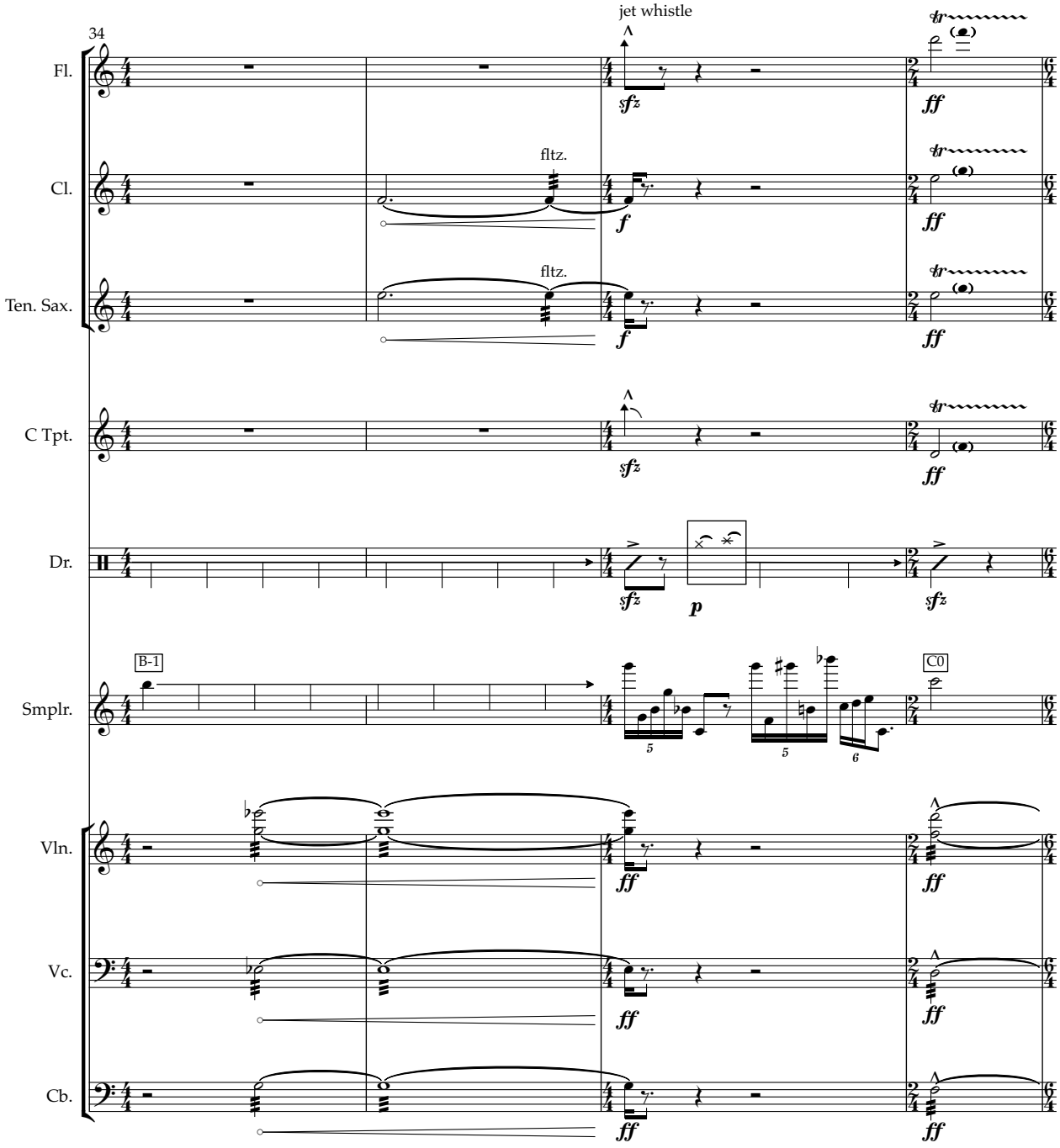

11
A
≈60
5"
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
p
sfz
f
(E-2)
"beep"
C-2
G0
(electromagnetic noise 2)

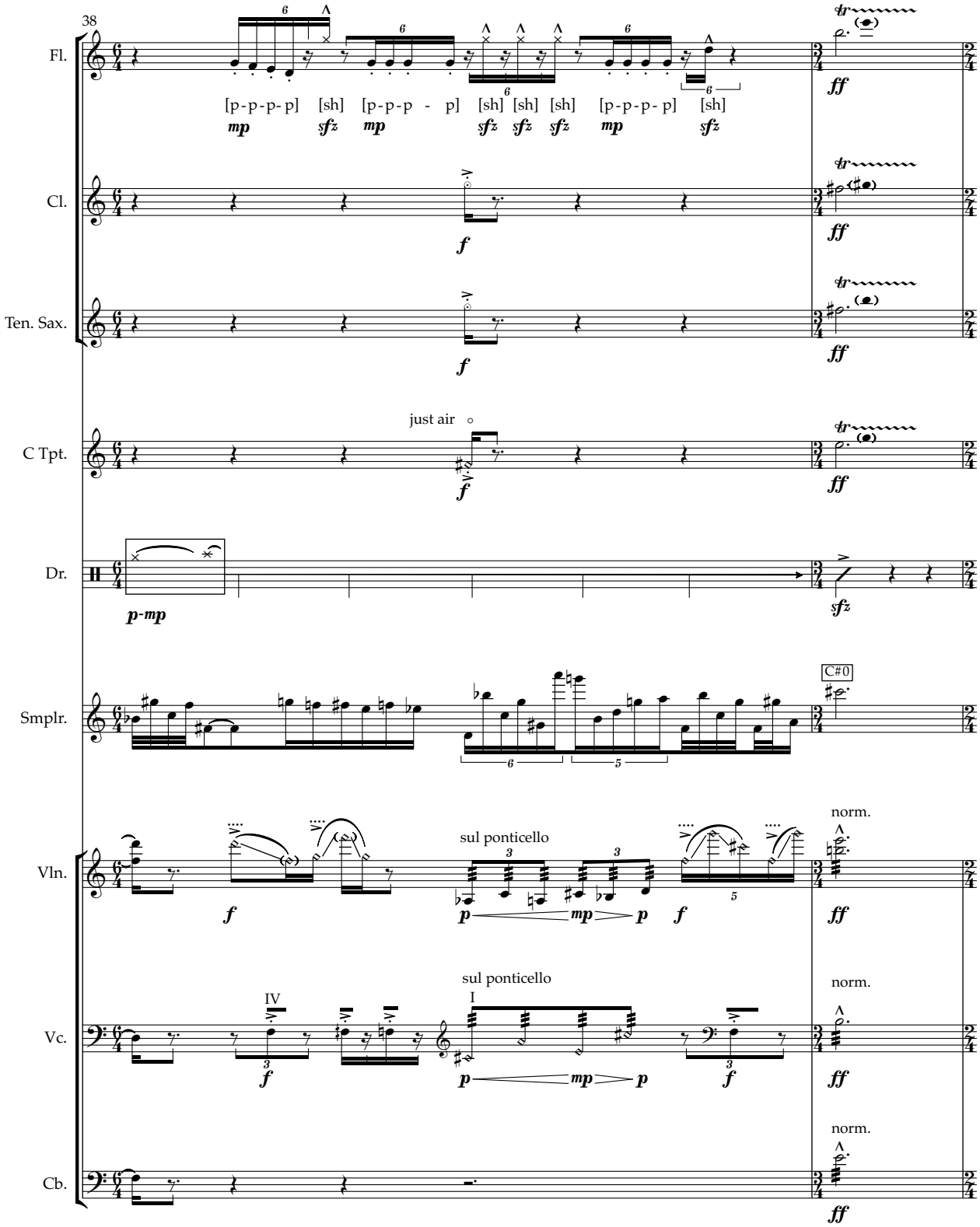

17
Fl.
Cl.
Ten. Sax.
C Tpt.
growl
Dr.
D-1
C♯-1
Smplr.
Vln.
sul pont.
circular bow
Vc.
circular bow
II
Cb.

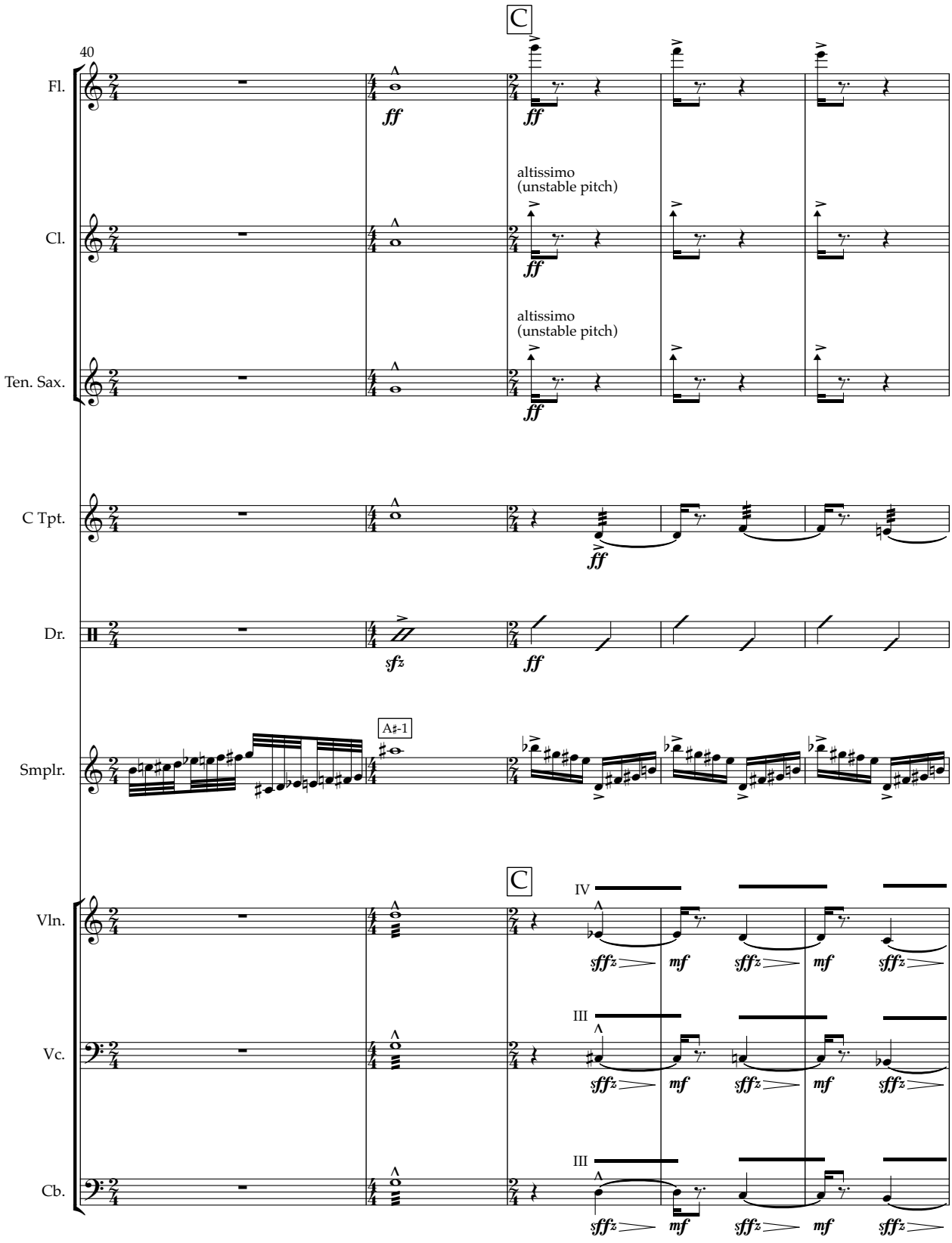

20
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
5-8"
♩≈80
fltz. + air
key clicks
G♯-1
G-1
sul pont.
norm.
slight over-pressure

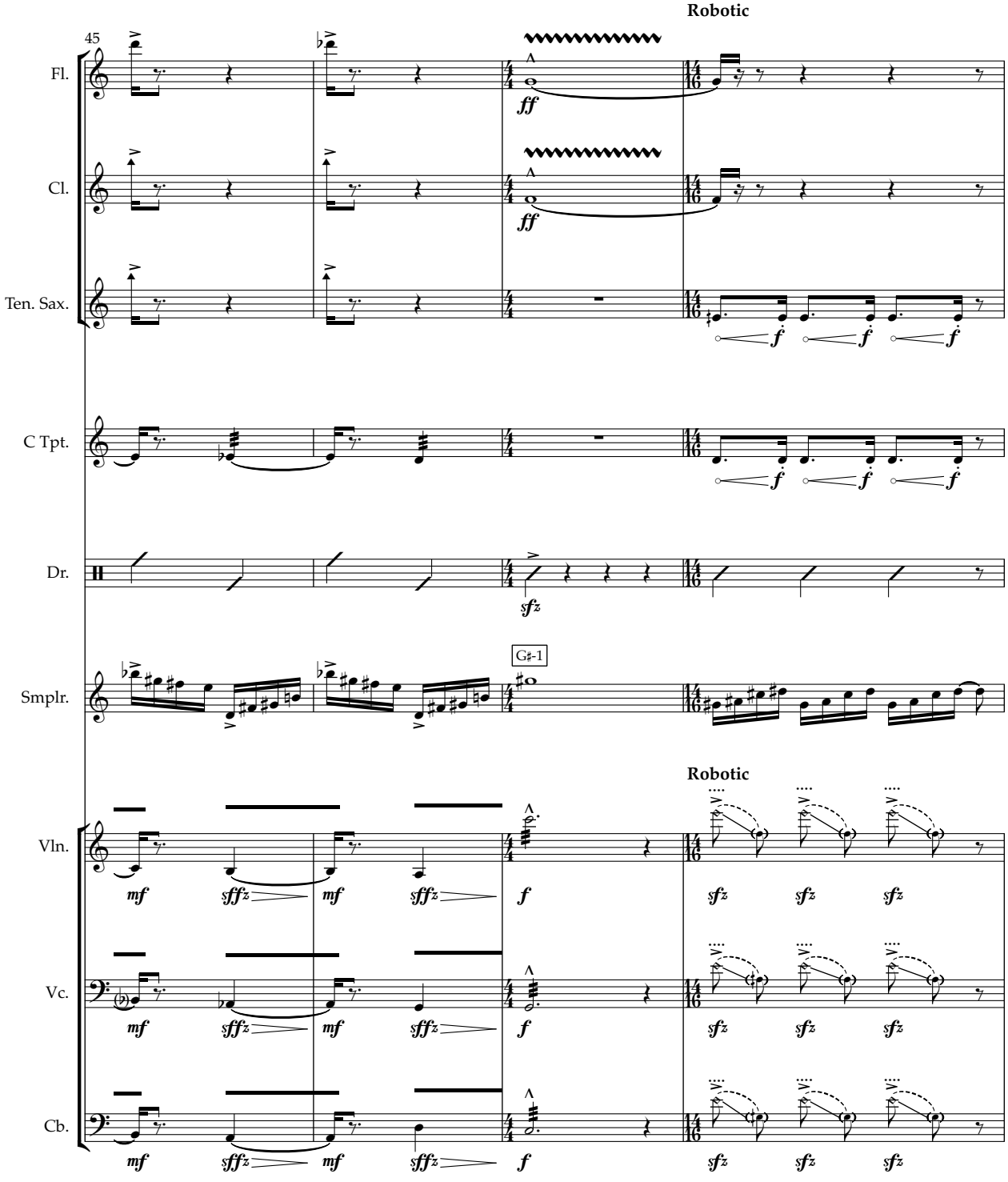

25
B
Fl.
p
f
key clicks
Cl.
mf
f
key clicks
Ten. Sax.
mf
f
C Tpt.
f
spacious improvisation
Dr.
f
p
A-1
F-1
A♯-1
Smplr.
B
Vln.
p > pp
f
Vc.
mp
f
Cb.
f
f

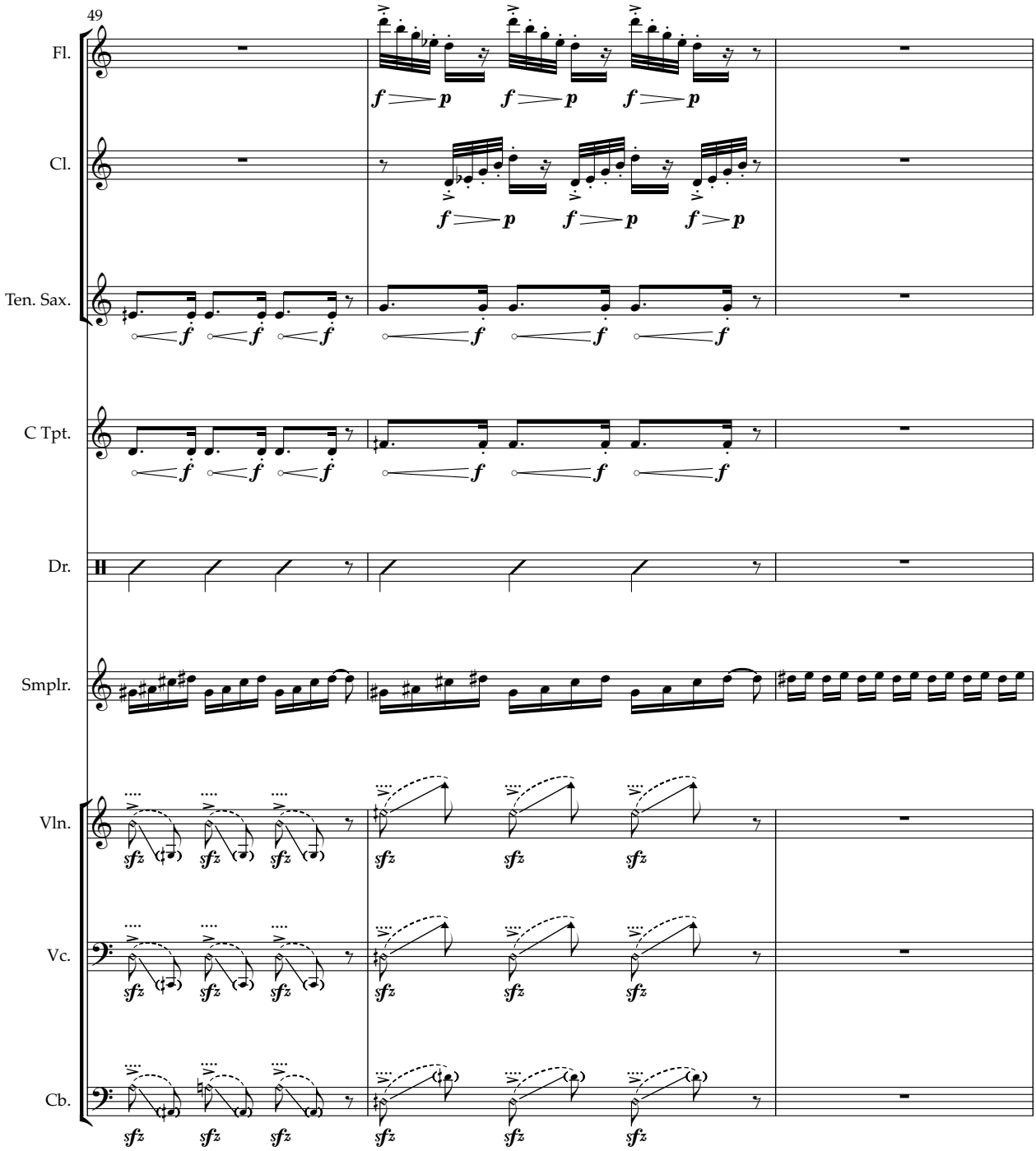

30
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
G♯-1
A-1
A♯-1
sfz
ff
f
p

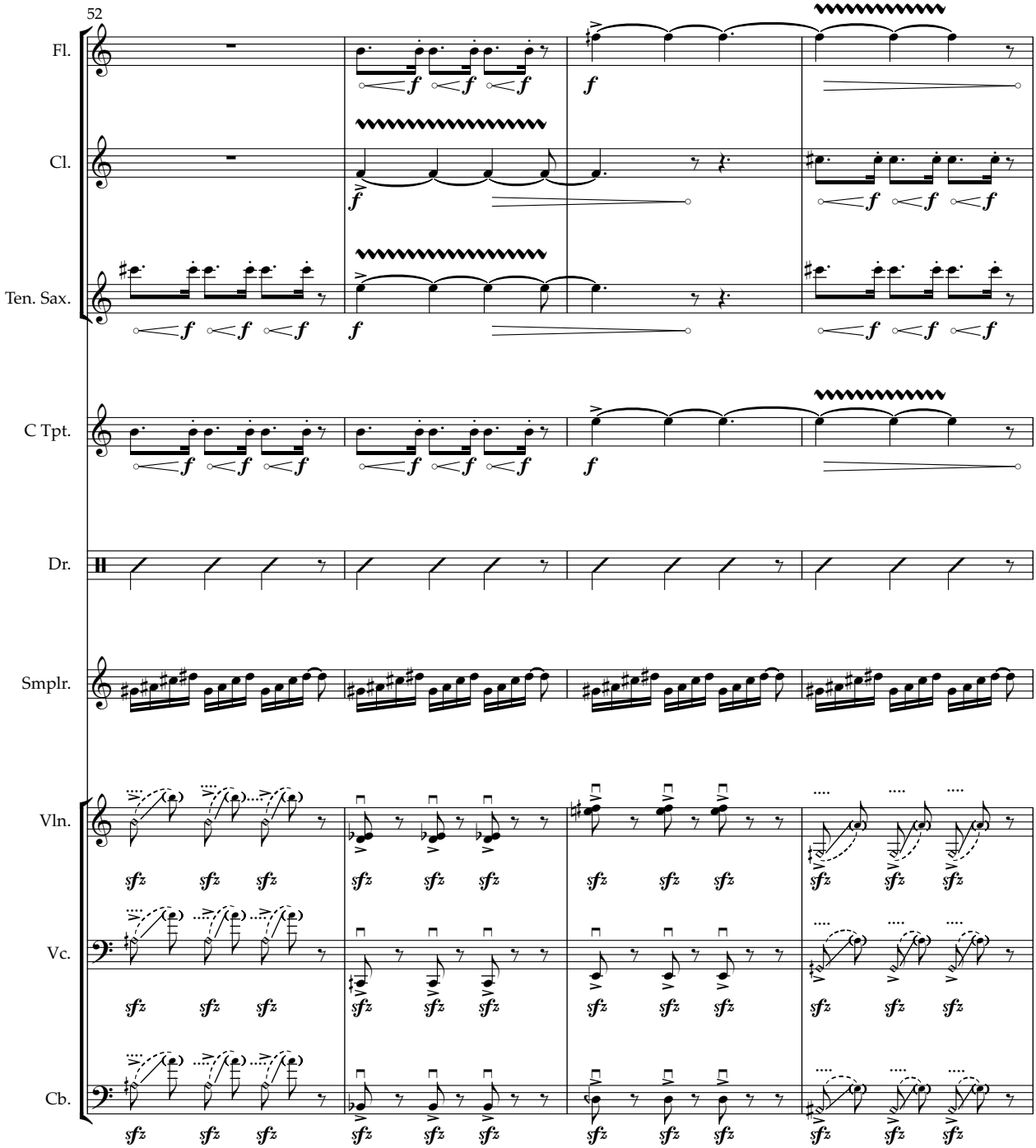

34
jet whistle
Fl.
Cl.
fltz.
Ten. Sax.
fltz.
C Tpt.
Dr.
B-1
C0
Smplr.
Vln.
Vc.
Cb.
sfz
f
ff
p

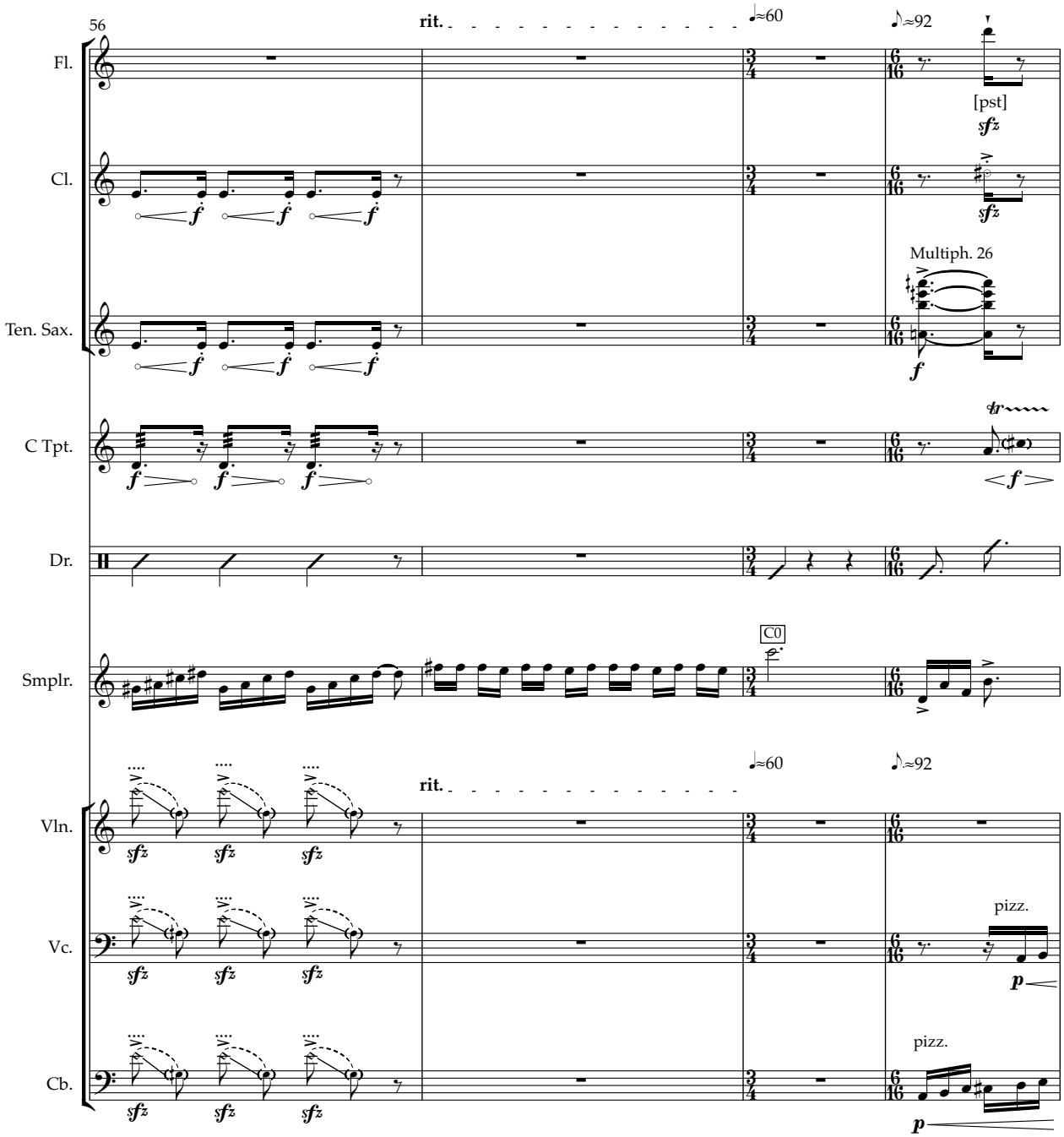

38
Fl.
[p-p-p-p] [sh] [p-p-p - p] [sh] [sh] [sh] [p-p-p-p] [sh]
mp sfz mp sfz sfz sfz mp sfz
ff
Cl.
f
ff
Ten. Sax.
f
ff
just air
C Tpt.
f
ff
Dr.
p-mp
sfz
Smplr.
C#0
Vln.
f
sul ponticello
p mp p
f
norm.
ff
Vc.
IV
f
sul ponticello
I
p mp p
f
norm.
ff
Cb.
norm.
ff

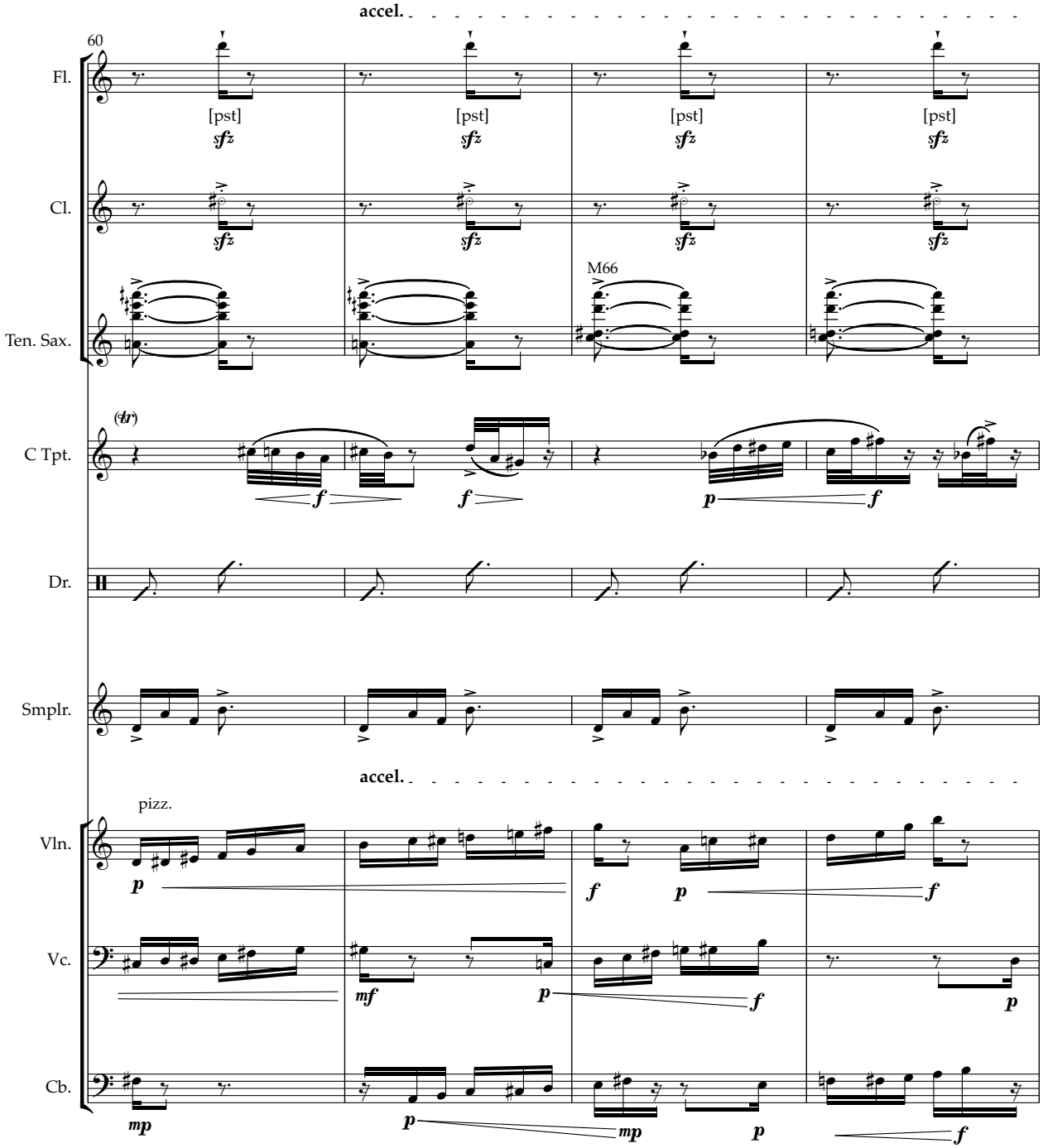

40
C
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
ff
sfz
altissimo
(unstable pitch)
A♯-1
IV
III
III
mf

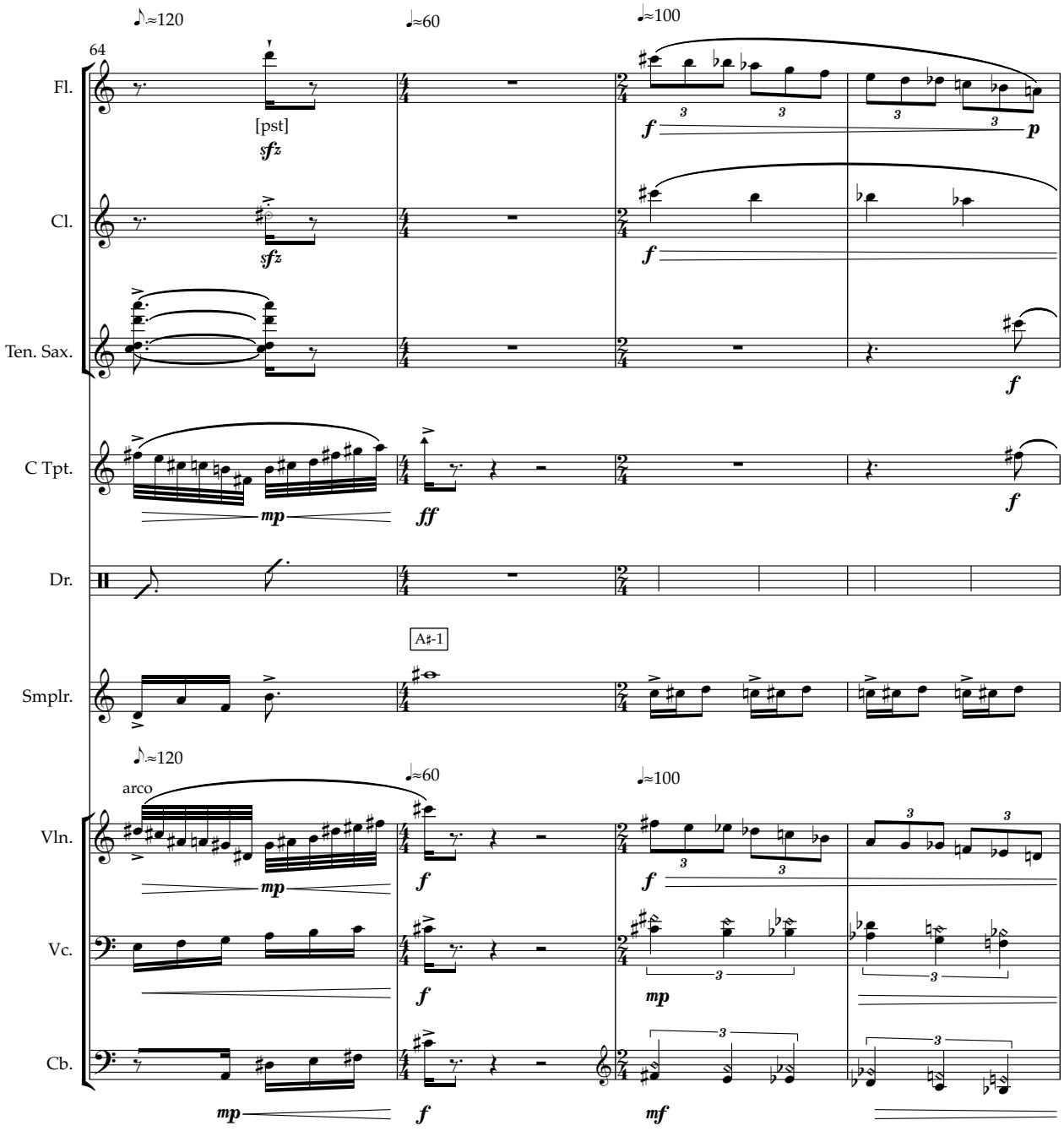

Robotic
45
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
G♯-1
Robotic
Vln.
Vc.
Cb.

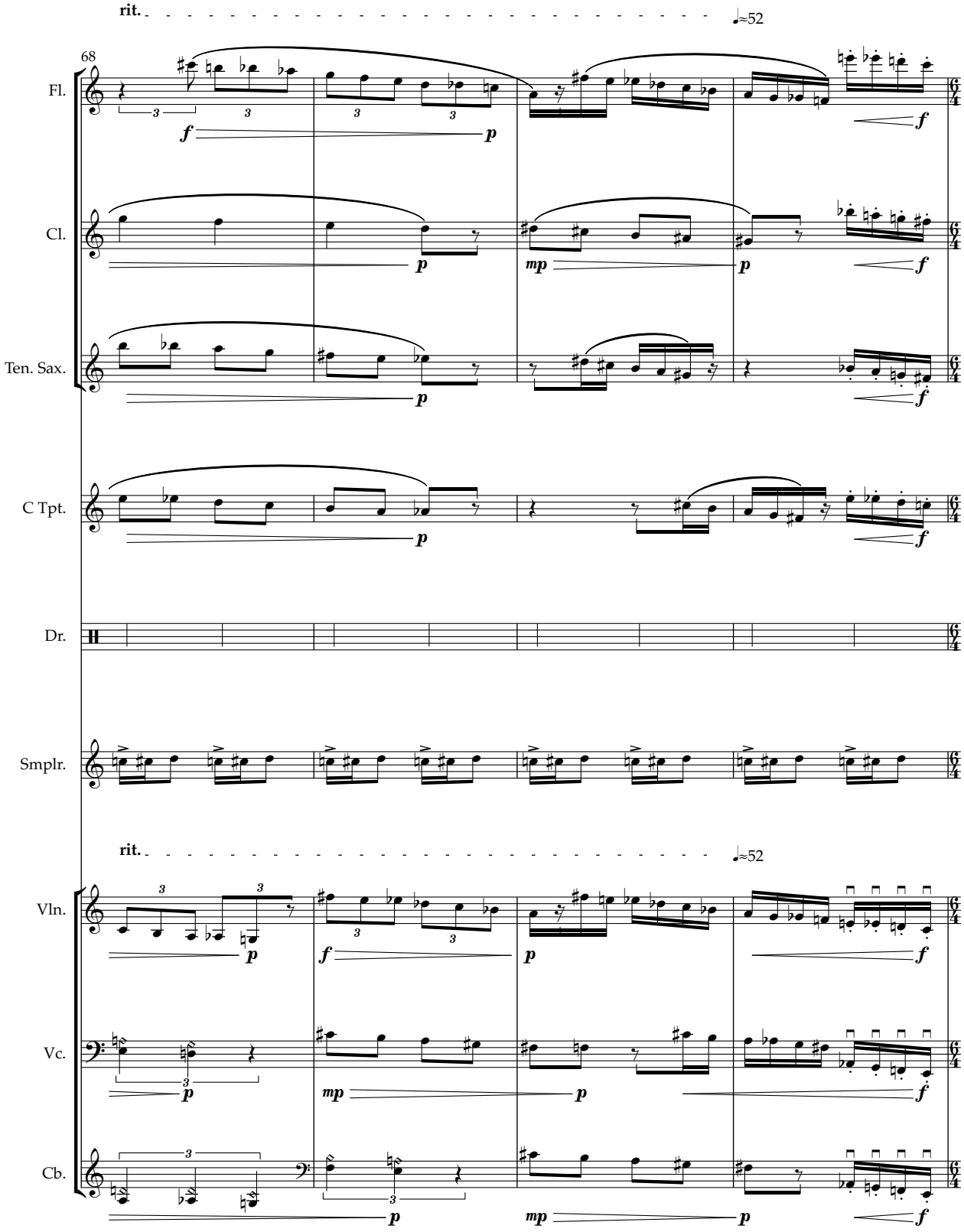

49
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.

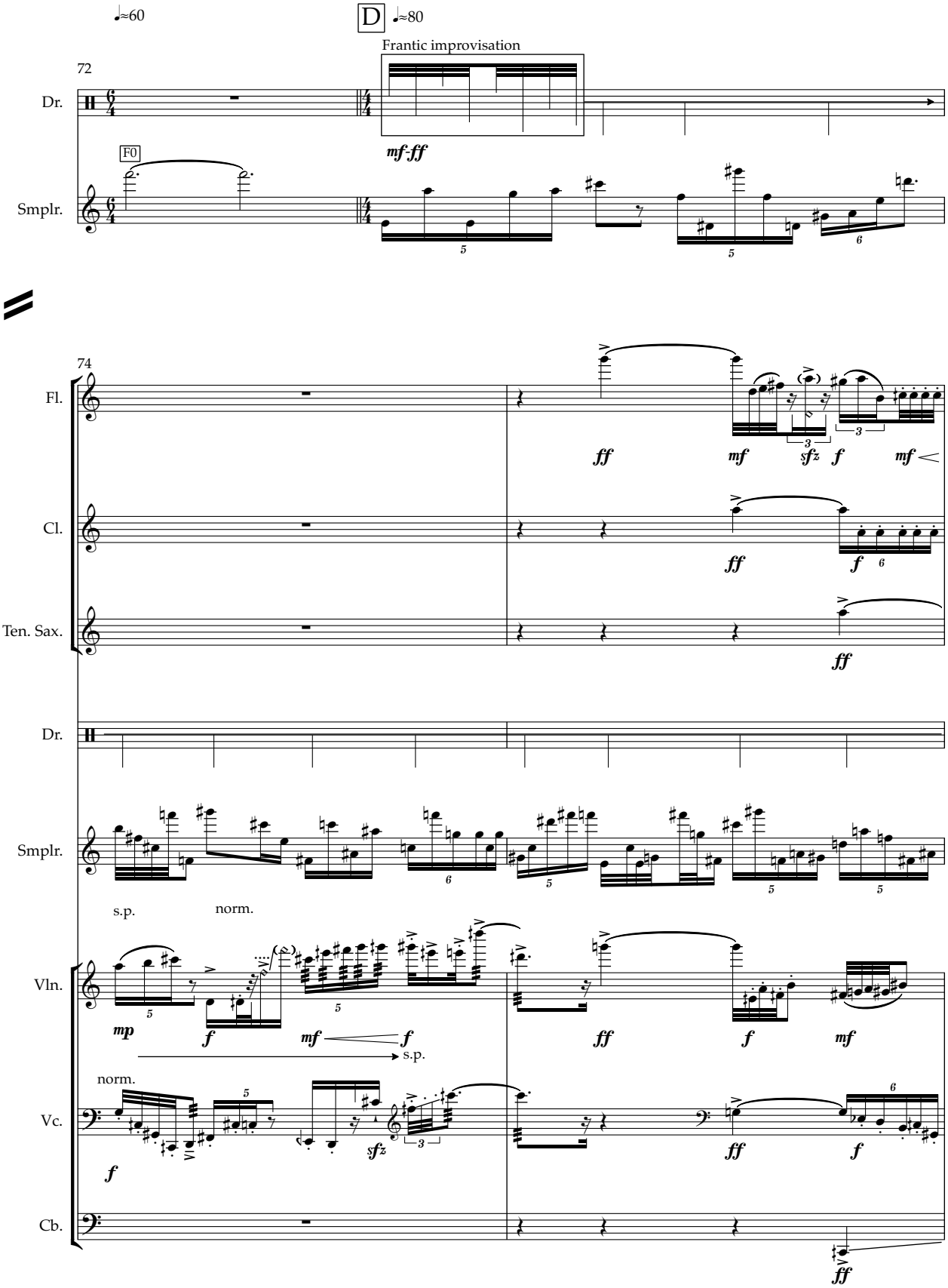

52
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.

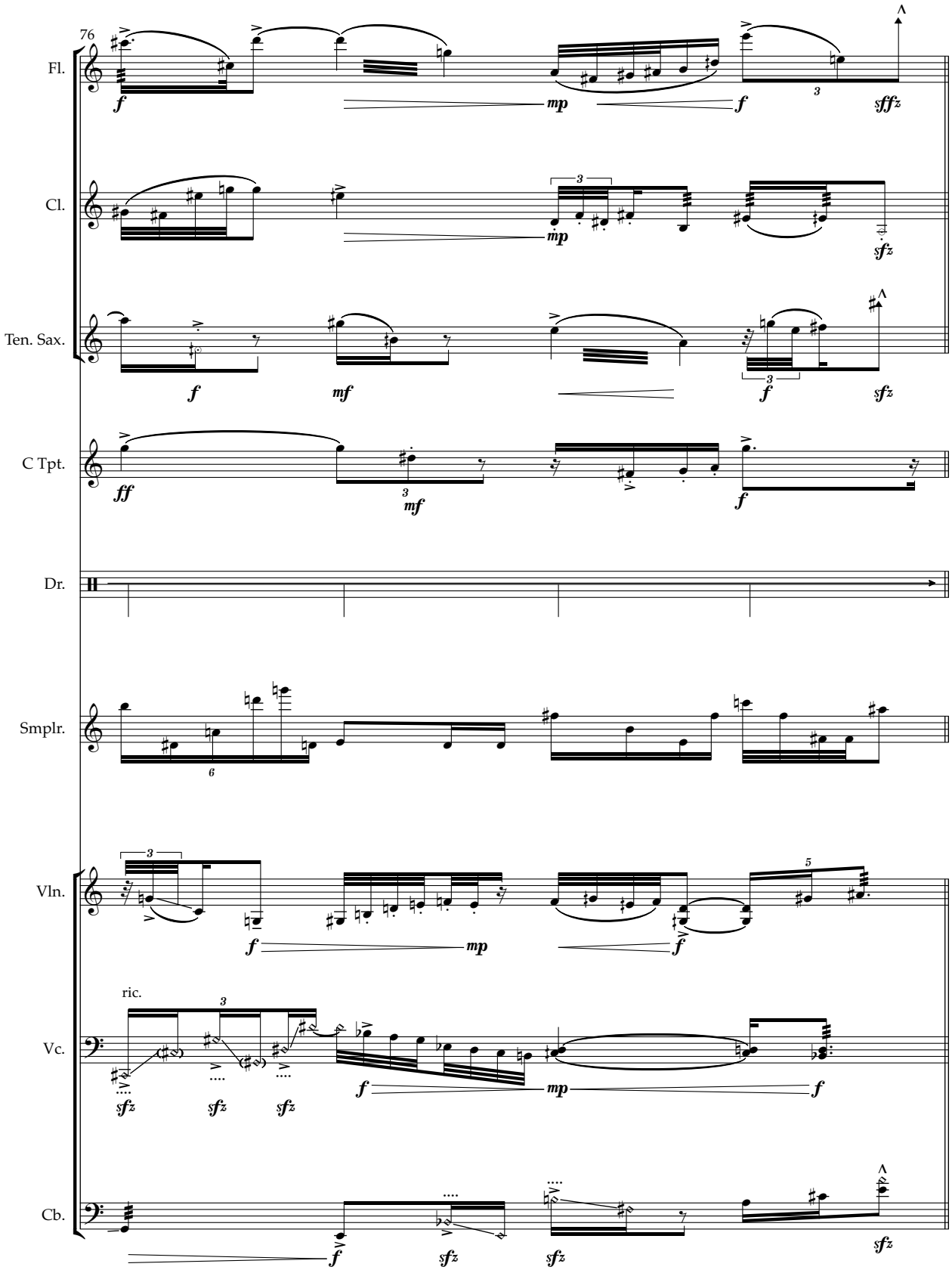

56
rit.
♩≈60
♪≈92
Fl.
[pst]
sfz
Cl.
sfz
Multiph. 26
Ten. Sax.
f
C Tpt.
tr
Dr.
Smplr.
C0
Vln.
Vc.
pizz.
p
Cb.
pizz.
p

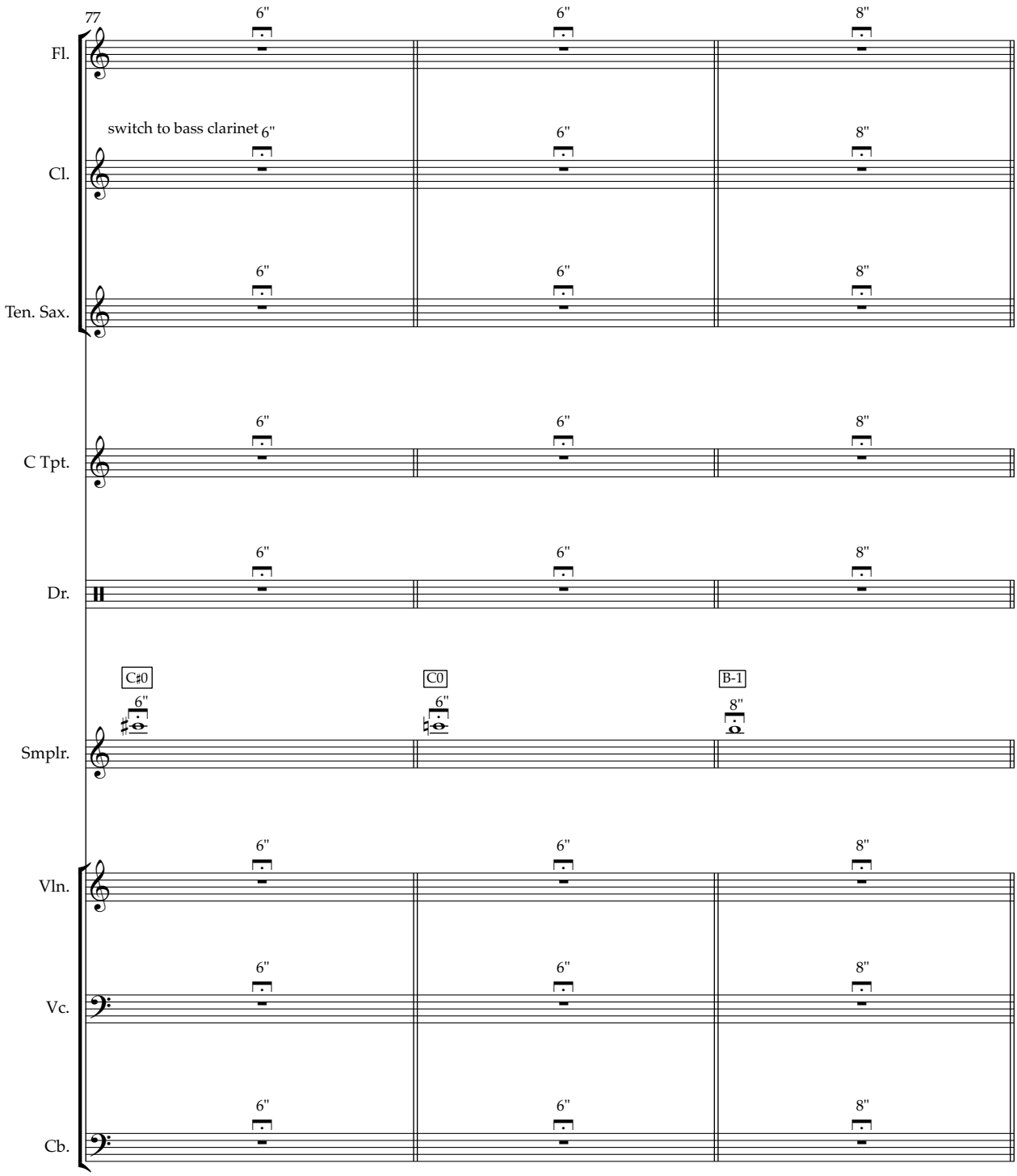

accel.
60
Fl.
[pst]
sfz
Cl.
M66
Ten. Sax.
(tr)
C Tpt.
f
p
Dr.
Smplr.
accel.
pizz.
Vln.
Vc.
Cb.
mf
mp

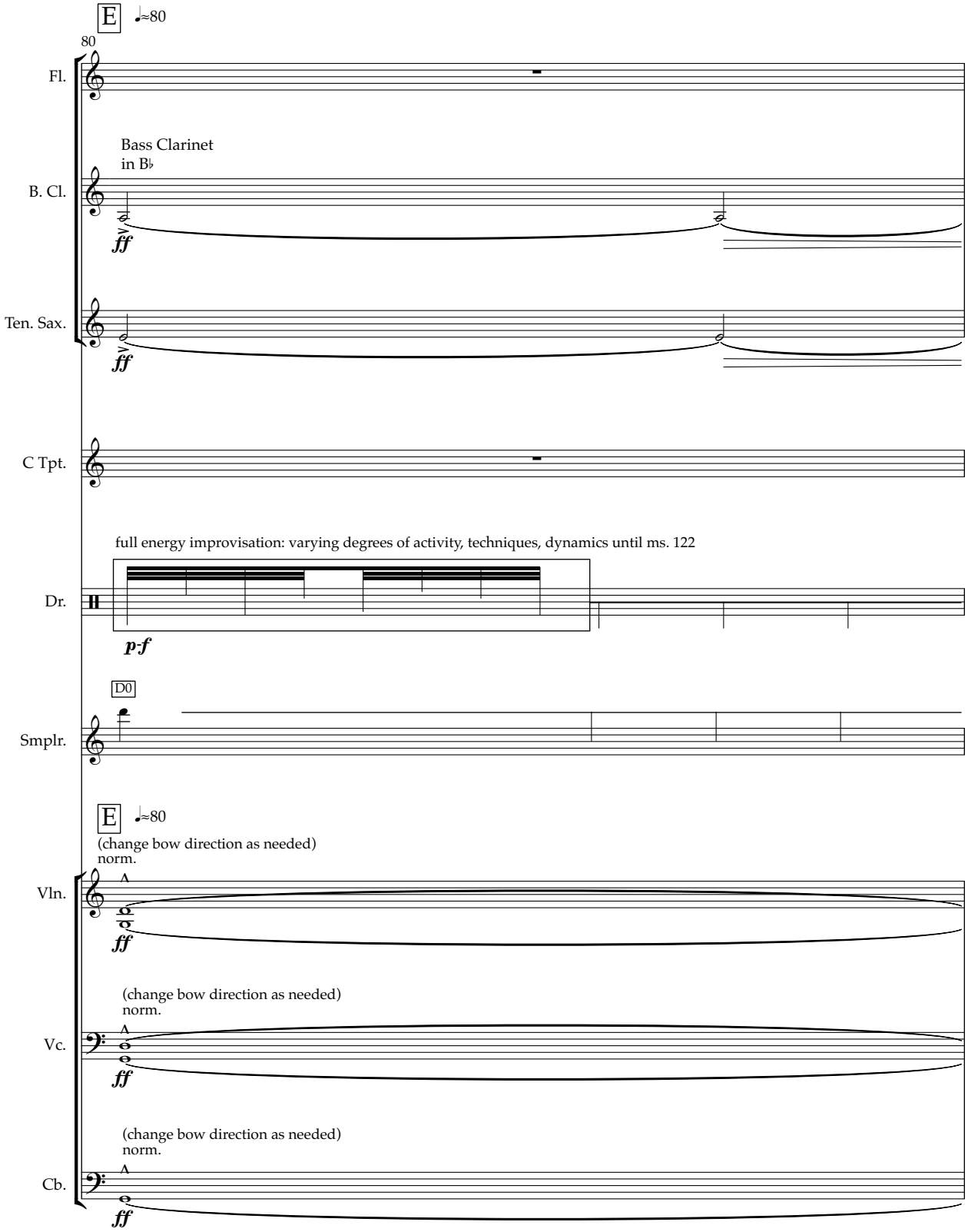

64
♪≈120
♩≈60
♩≈100
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
[pst]
sfz
f
p
mp
ff
A♯-1
arco
mf

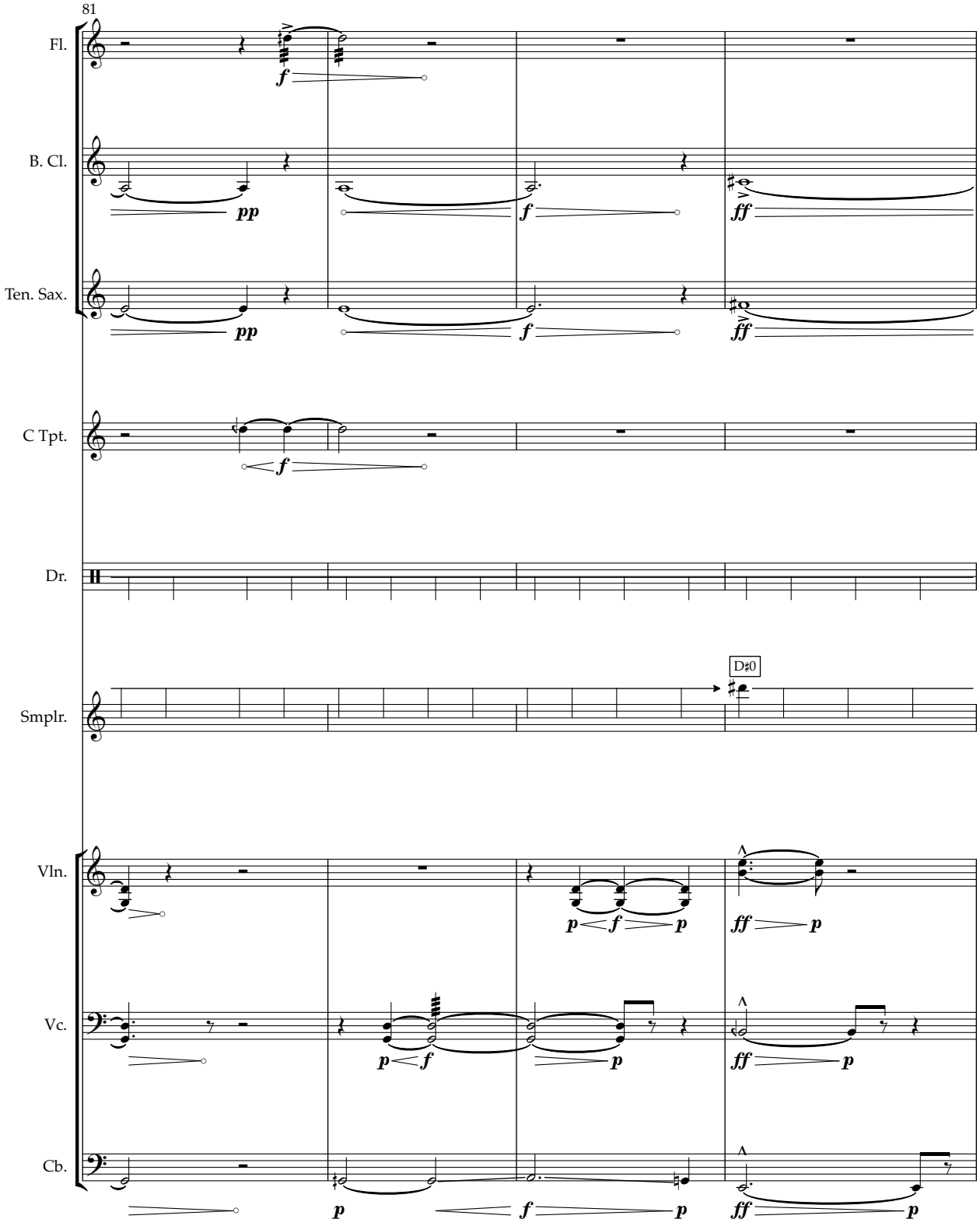

rit.
♩≈52
68
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
rit.
♩≈52
Vln.
Vc.
Cb.

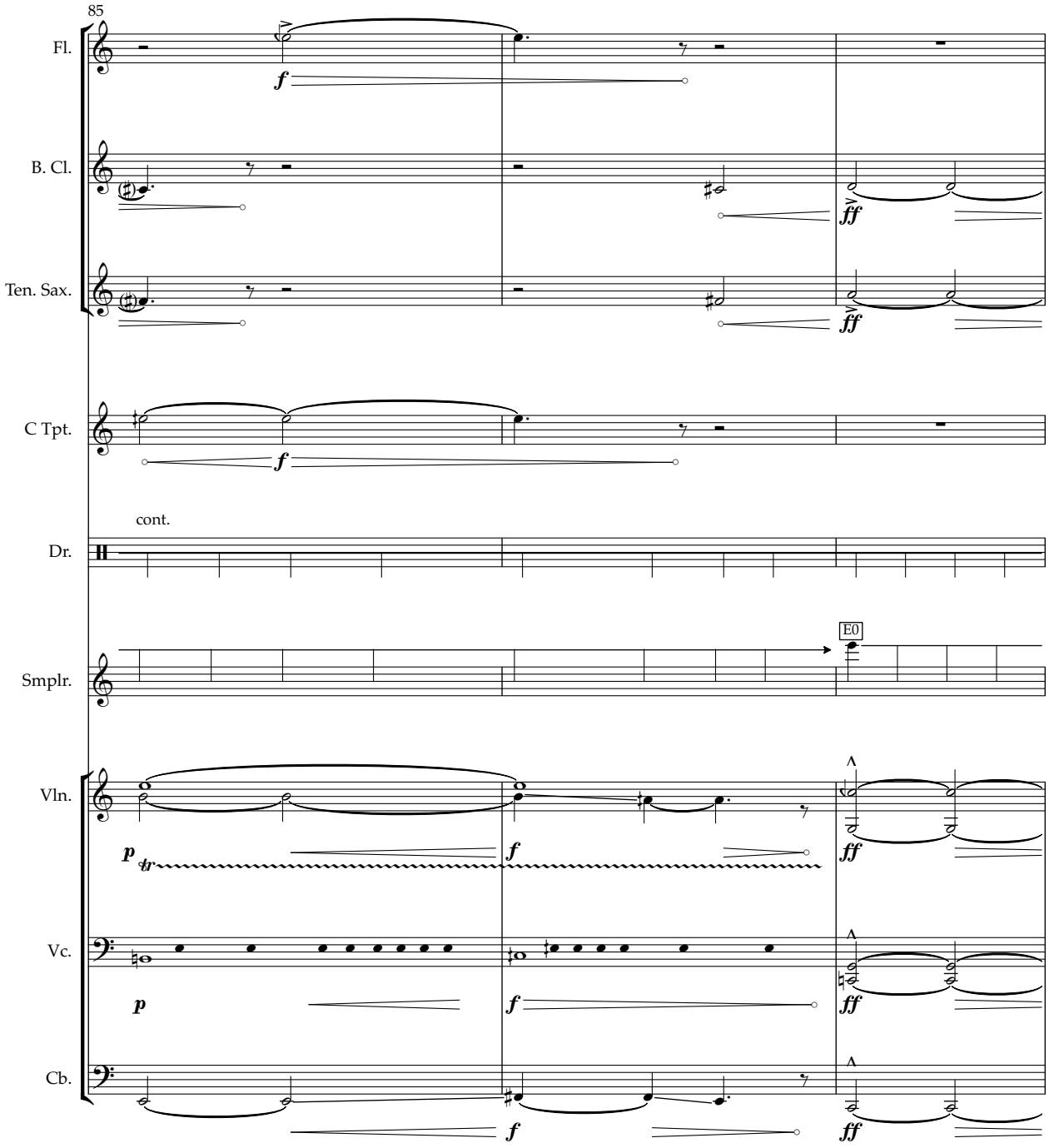

♩≈60
D
♩≈80
Frantic improvisation
72
Dr.
mf-ff
F0
Smplr.
74
Fl.
ff
mf
sfz
f
mf
Cl.
ff
f
Ten. Sax.
ff
Dr.
Smplr.
s.p.
norm.
Vln.
mp
f
mf
f
s.p.
ff
f
mf
norm.
Vc.
f
sfz
ff
f
Cb.
ff

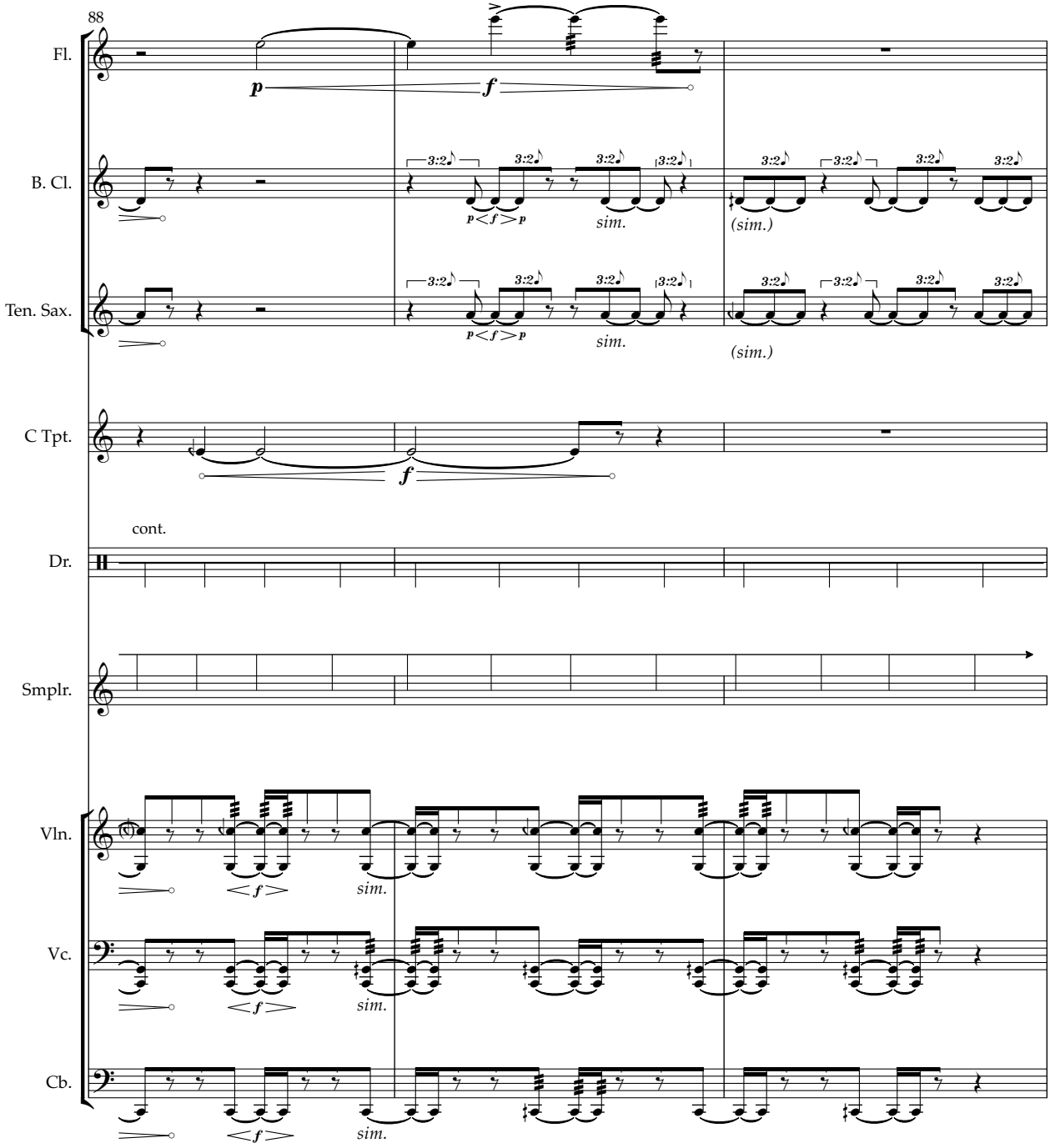

76
Fl.
Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
ric.

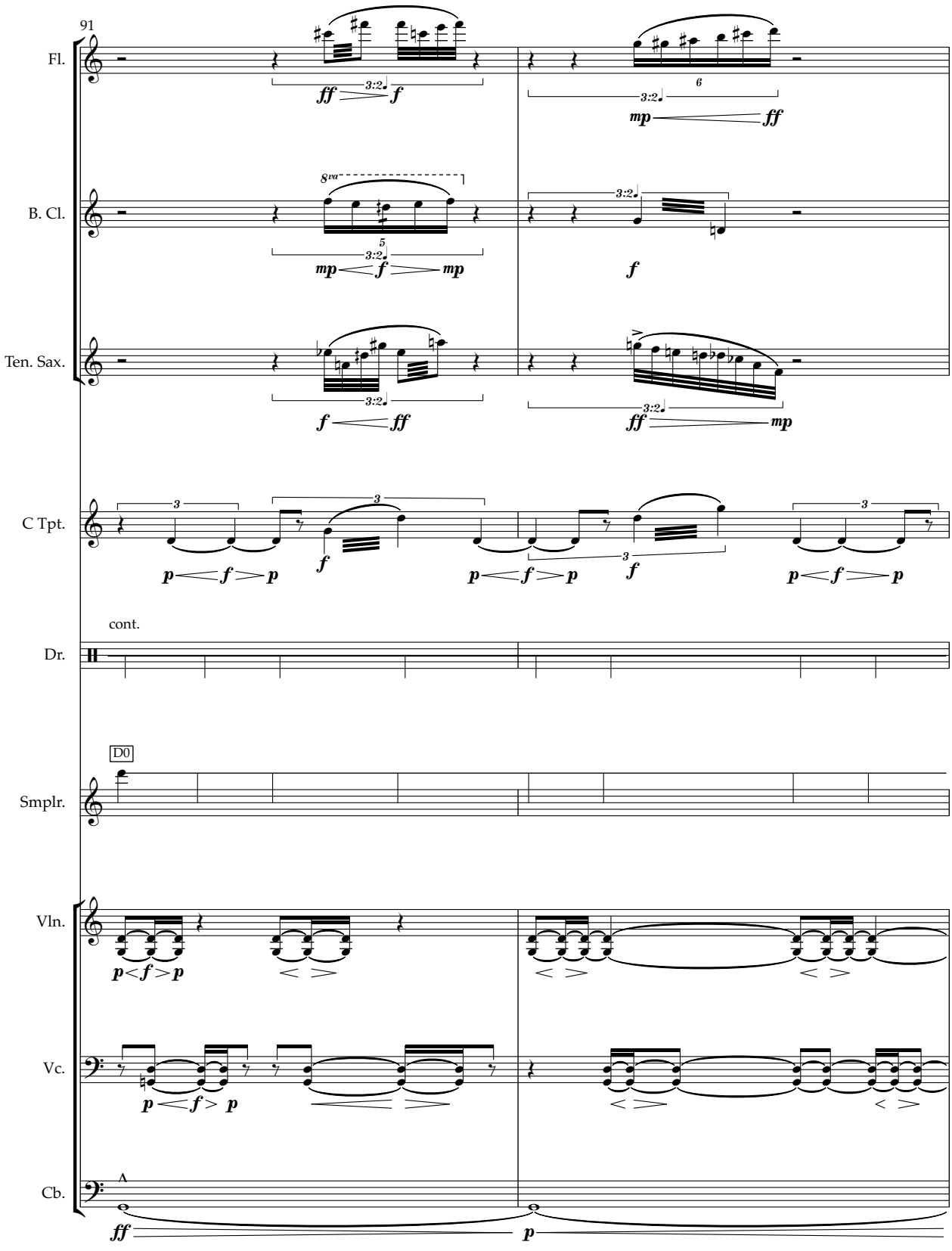

77
Fl.
Cl.
switch to bass clarinet
Ten. Sax.
C Tpt.
Dr.
Smplr.
C♯0
C0
B-1
Vln.
Vc.
Cb.
6"
8"

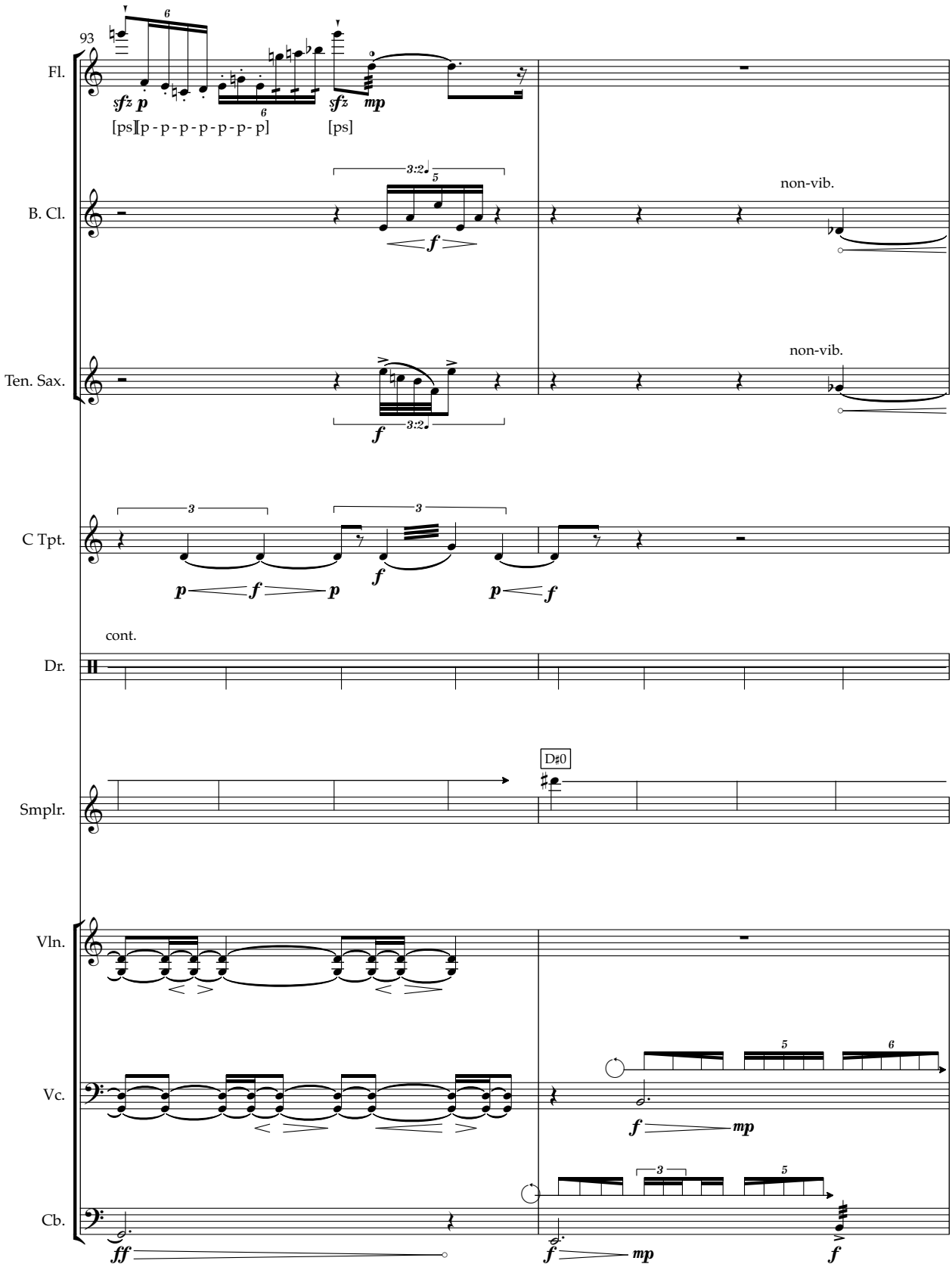

E
♩≈80
80
Fl.
Bass Clarinet
in B♭
B. Cl.
ff
Ten. Sax.
ff
C Tpt.
full energy improvisation: varying degrees of activity, techniques, dynamics until ms. 122
Dr.
p-f
D0
Smplr.
E
♩≈80
(change bow direction as needed)
norm.
Vln.
ff
(change bow direction as needed)
norm.
Vc.
ff
(change bow direction as needed)
norm.
Cb.
ff

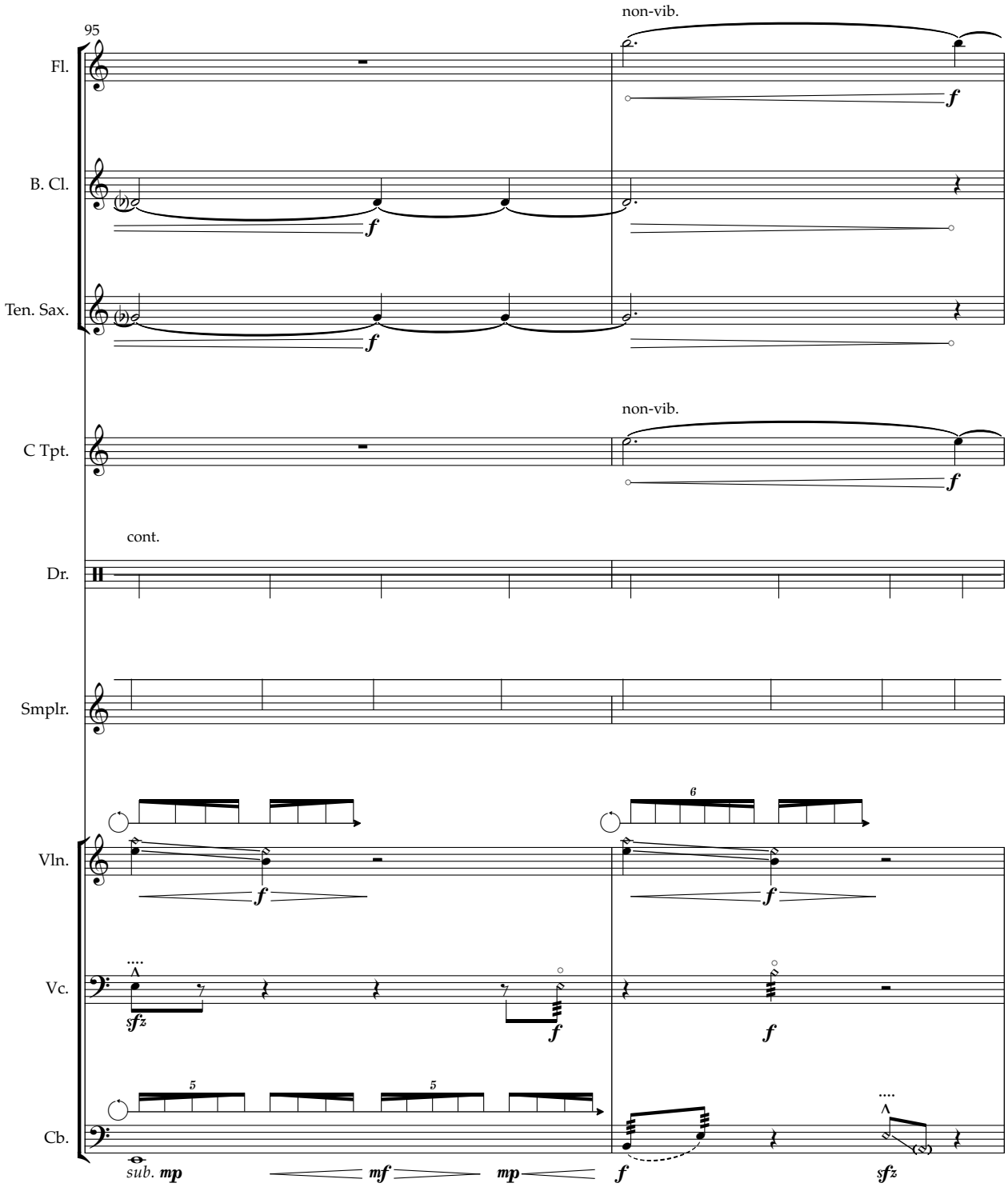

81
Fl.
B. Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
D♯0
Vln.
Vc.
Cb.
f
pp
ff
p

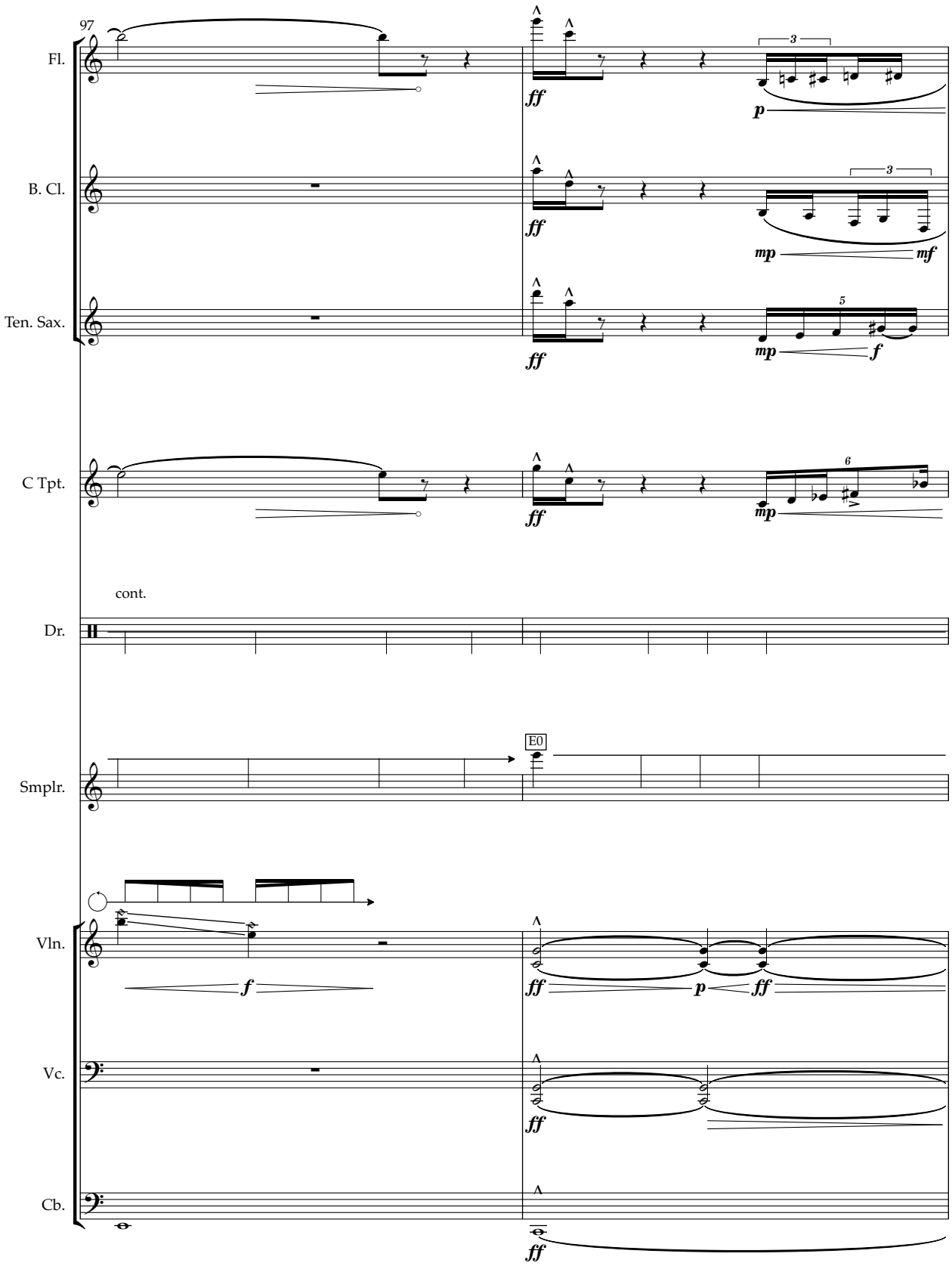

85
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
Smplr.
E0
Vln.
Vc.
Cb.
f
ff
p
tr

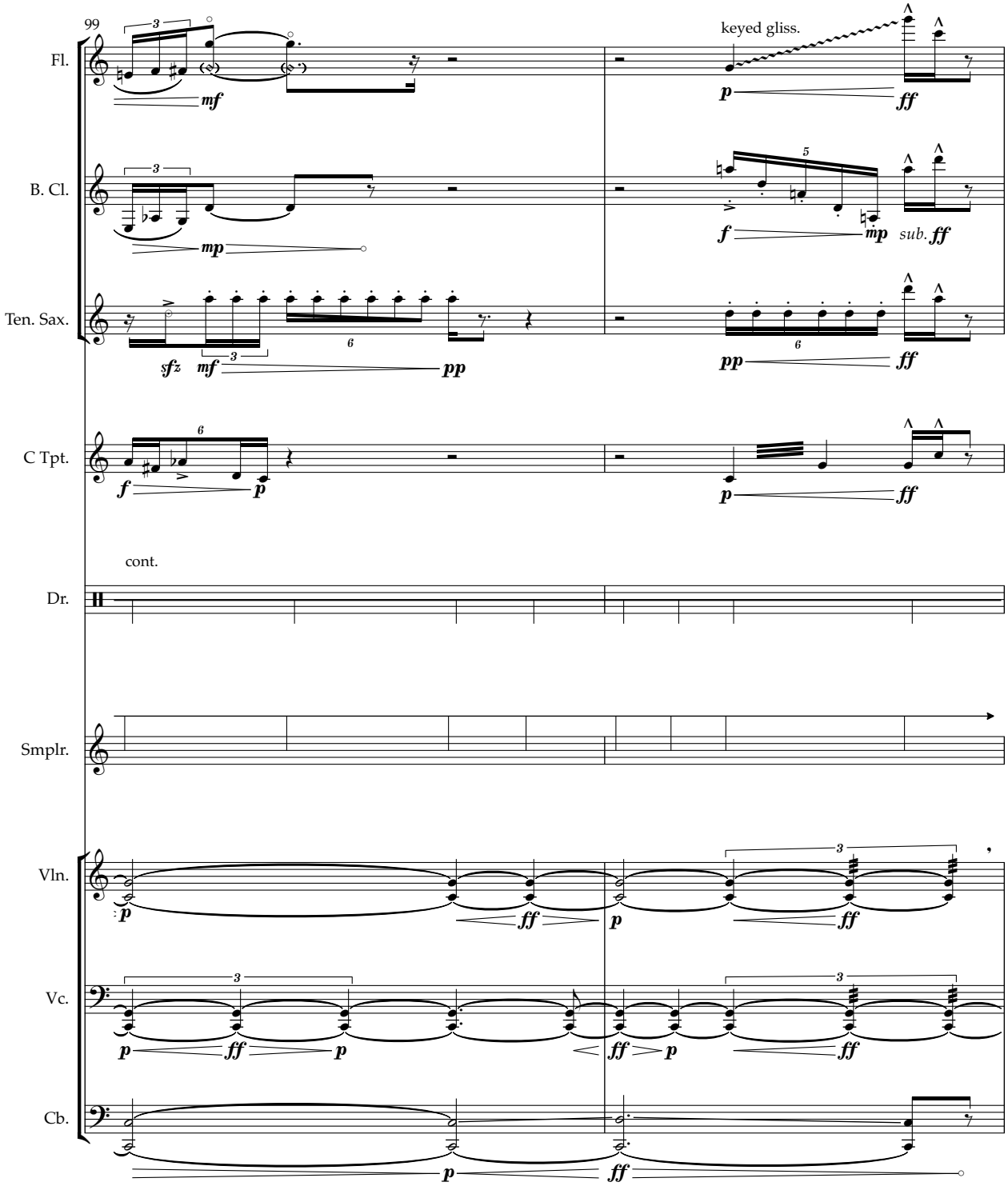

88
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
Smplr.
Vln.
Vc.
Cb.
p
f
3:2
p < f > p
sim.
(sim.)


91
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
D0
Smplr.
Vln.
Vc.
Cb.

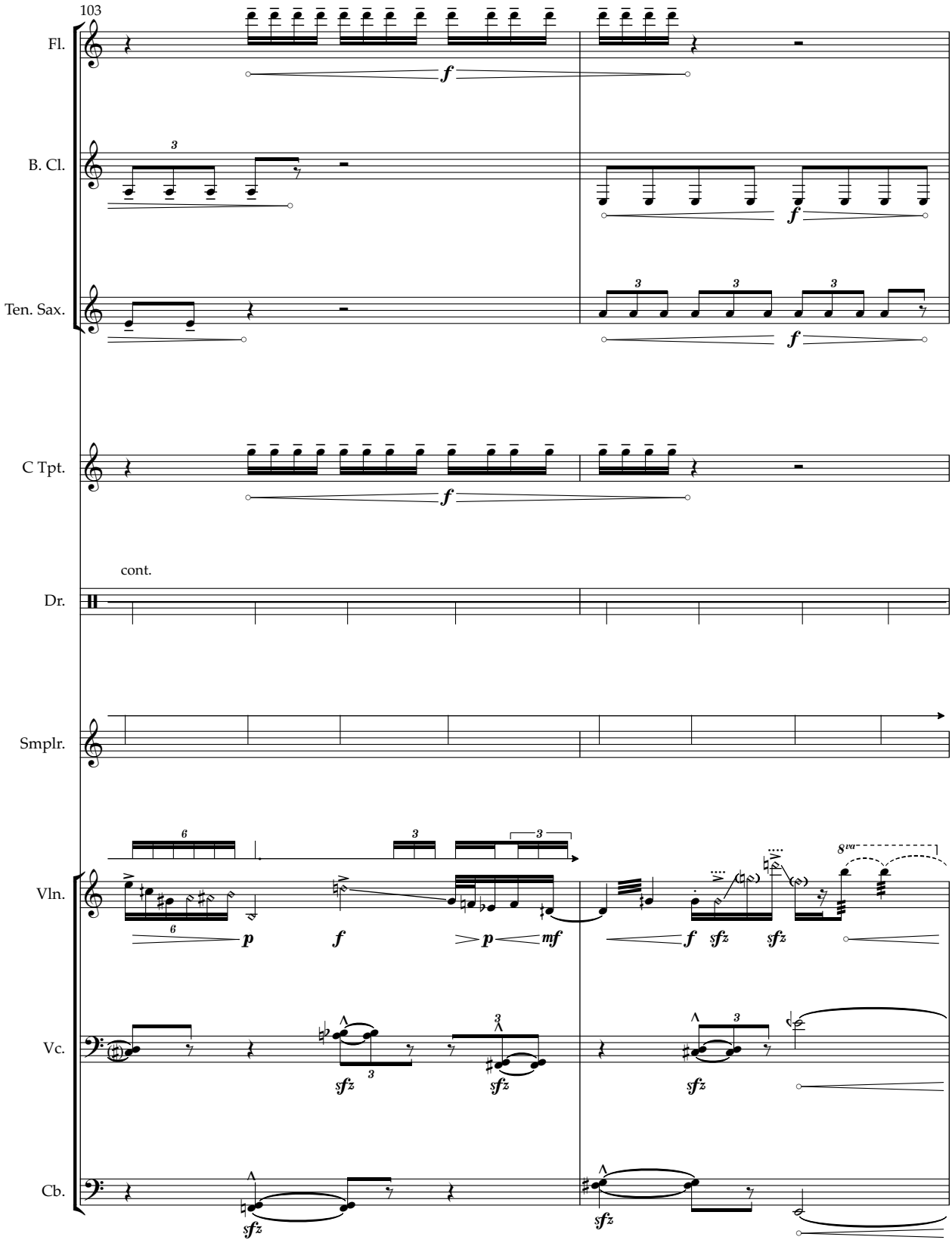

93
Fl.
sfz p
[ps][p - p - p - p - p - p - p]
sfz mp
[ps]
B. Cl.
non-vib.
Ten. Sax.
non-vib.
C Tpt.
cont.
Dr.
Smplr.
D♯0
Vln.
Vc.
Cb.
ff
mp
f
mp
f

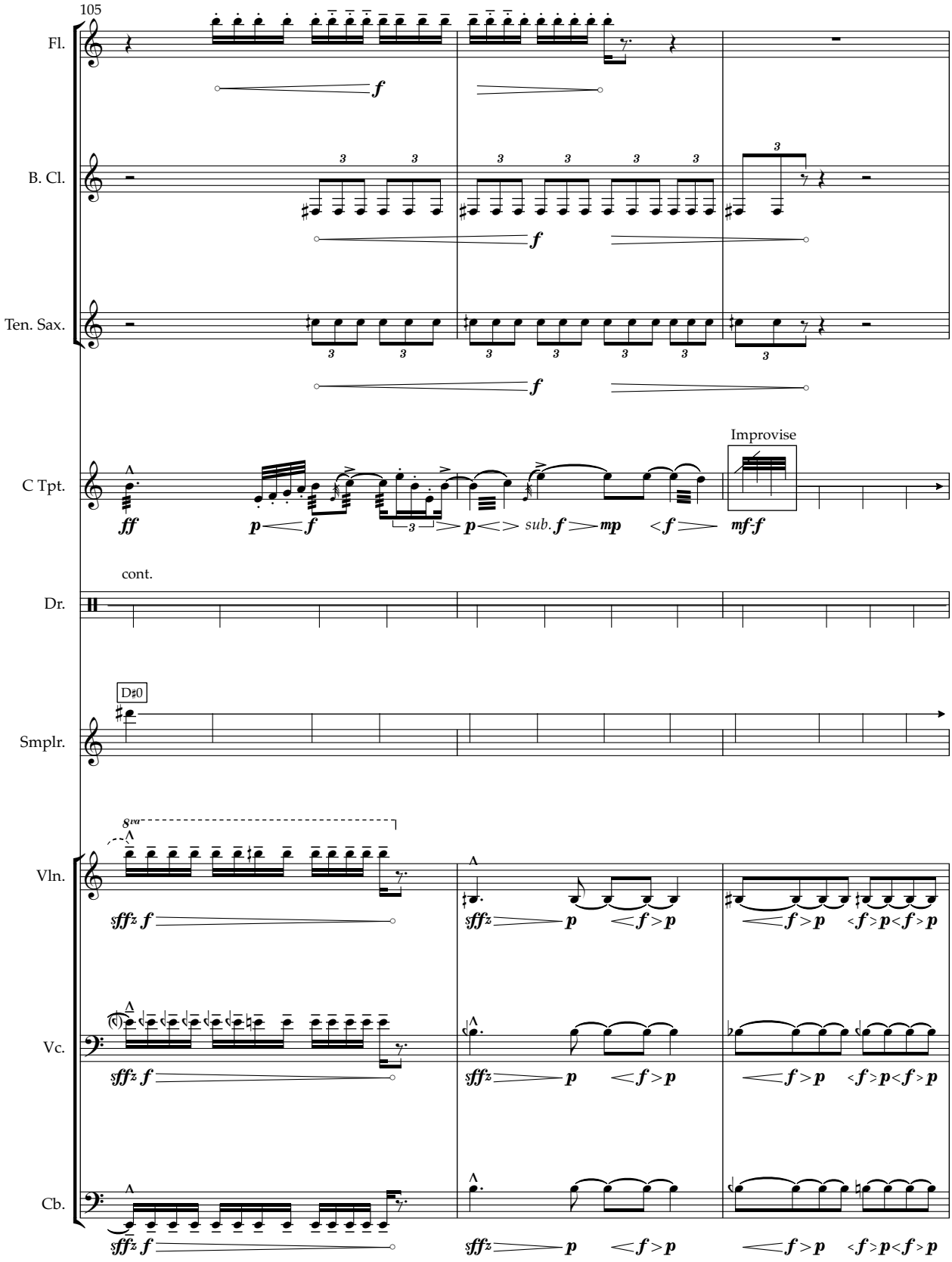

95
non-vib.
Fl.
B. Cl.
Ten. Sax.
non-vib.
C Tpt.
cont.
Dr.
Smplr.
Vln.
Vc.
Cb.
sub. mp
mf
mp
f
sfz

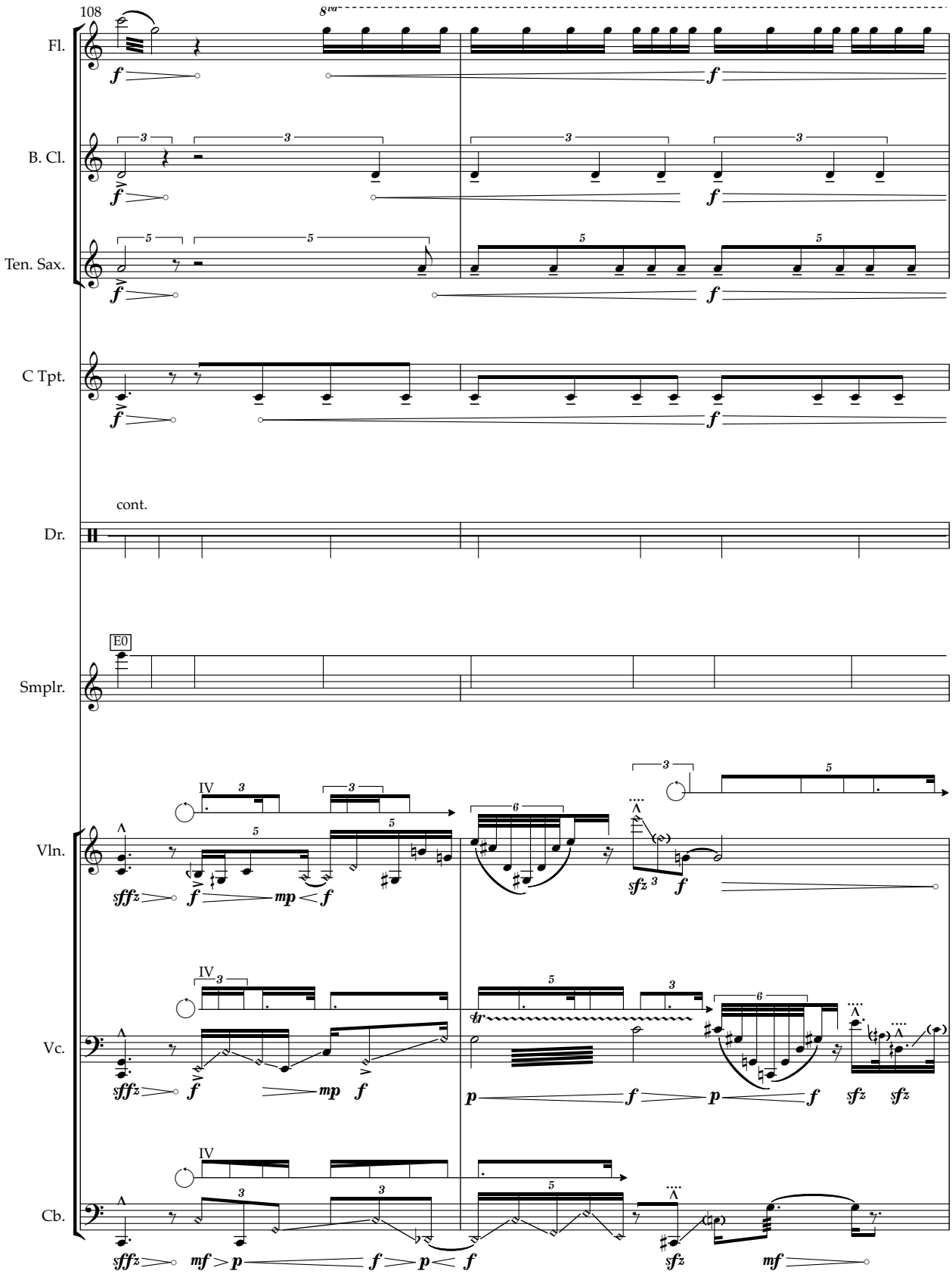

97
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
Smplr.
E0
Vln.
Vc.
Cb.
ff
p
mp
mf
f

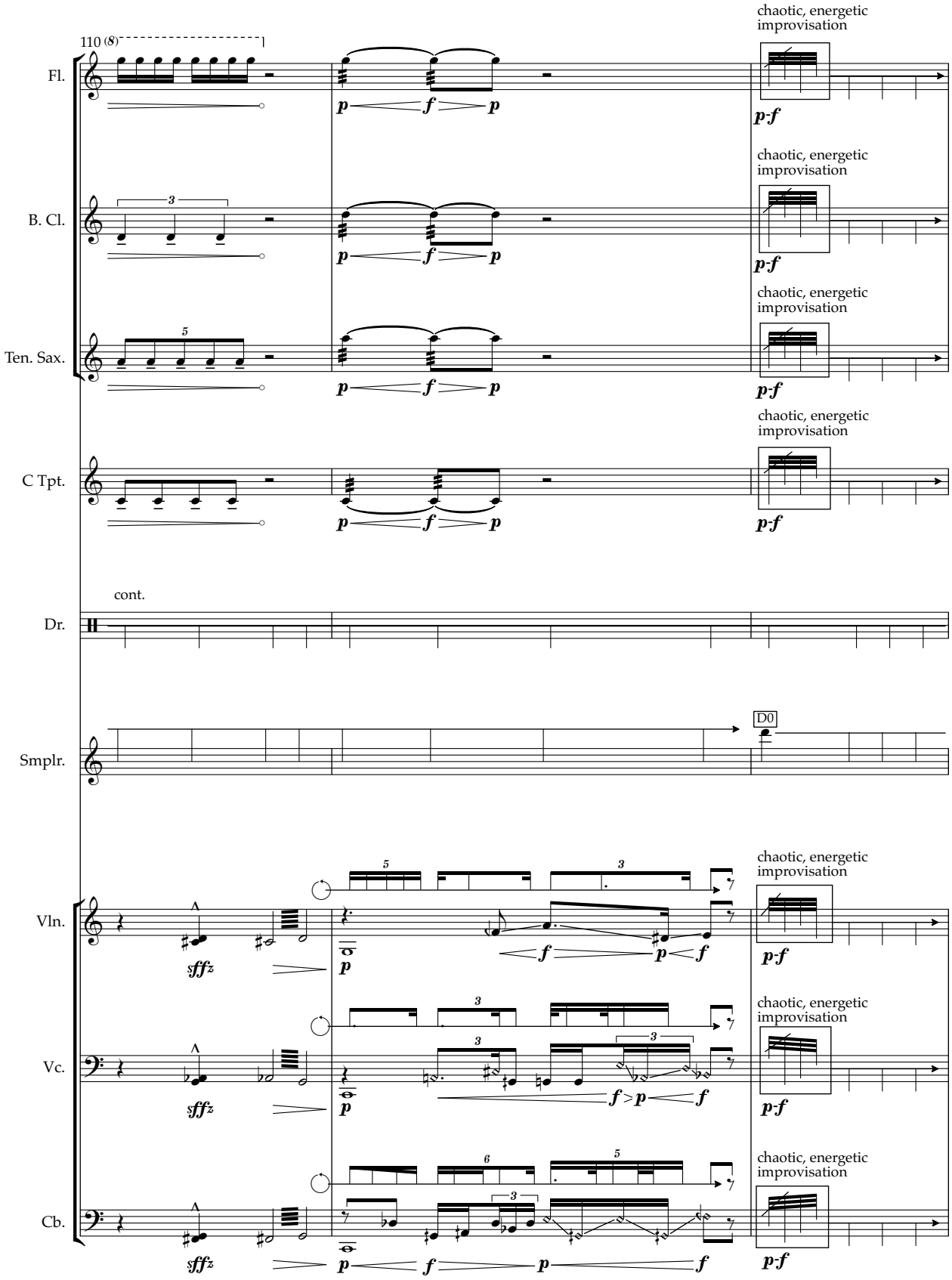

99
Fl.
B. Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
keyed gliss.
sub.
cont.

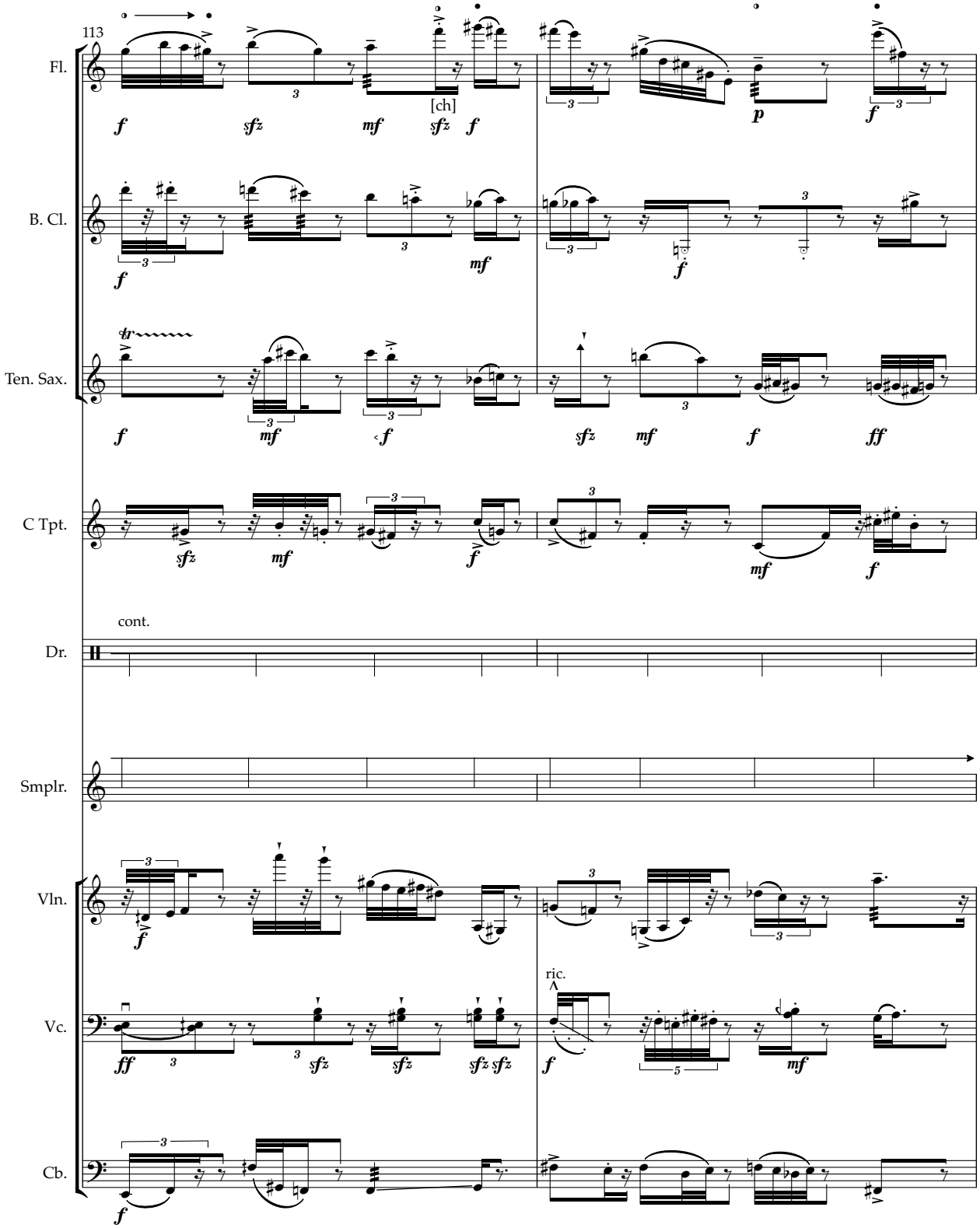
F
101
Fl.
sffz
B. Cl.
ff
p
3
f
Ten. Sax.
C Tpt.
cont.
Dr.
mf-ff
D0
Smplr.
F
Vln.
sfz
mp
fp
5
Vc.
Cb.

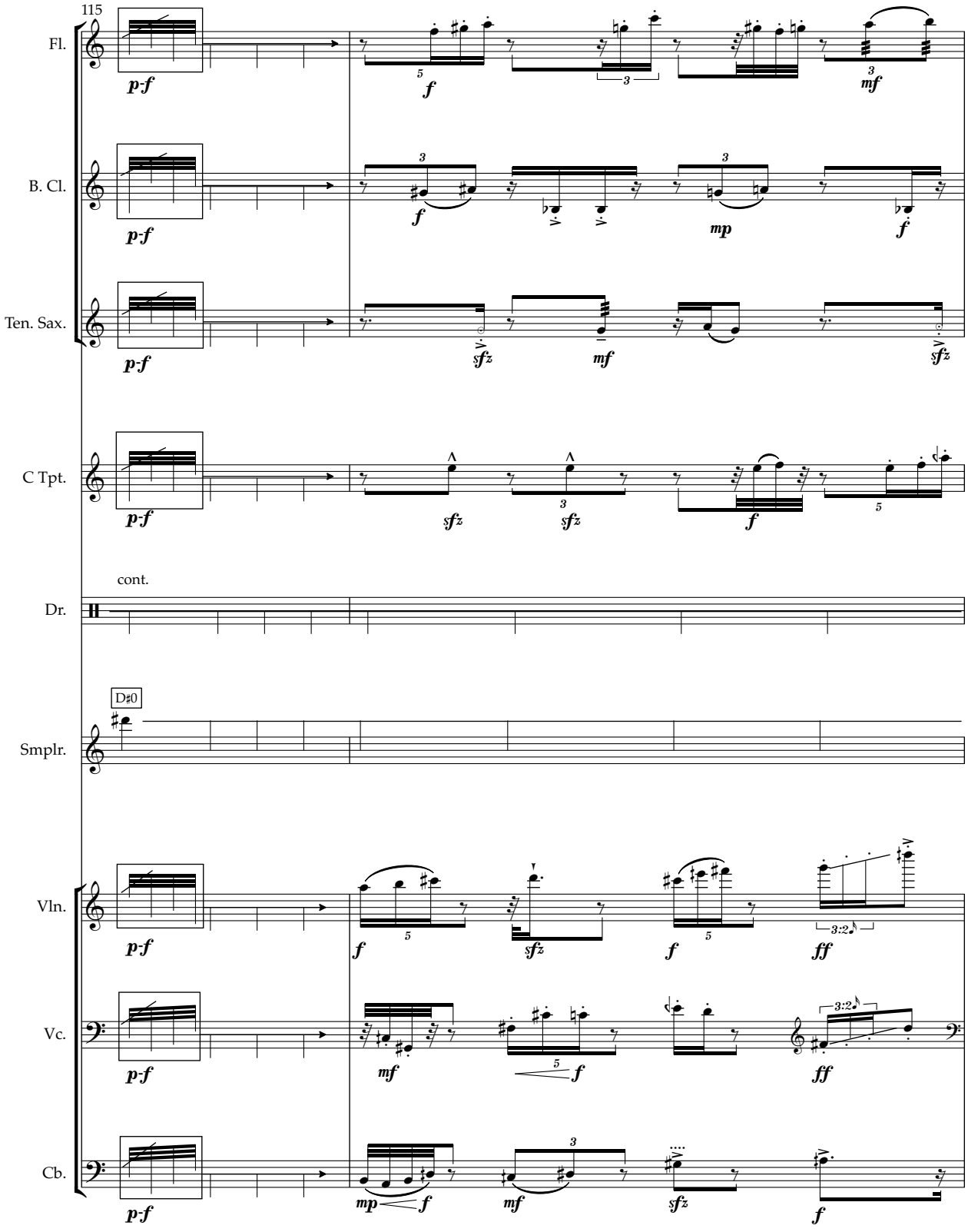

103
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
Smplr.
Vln.
Vc.
Cb.
8va

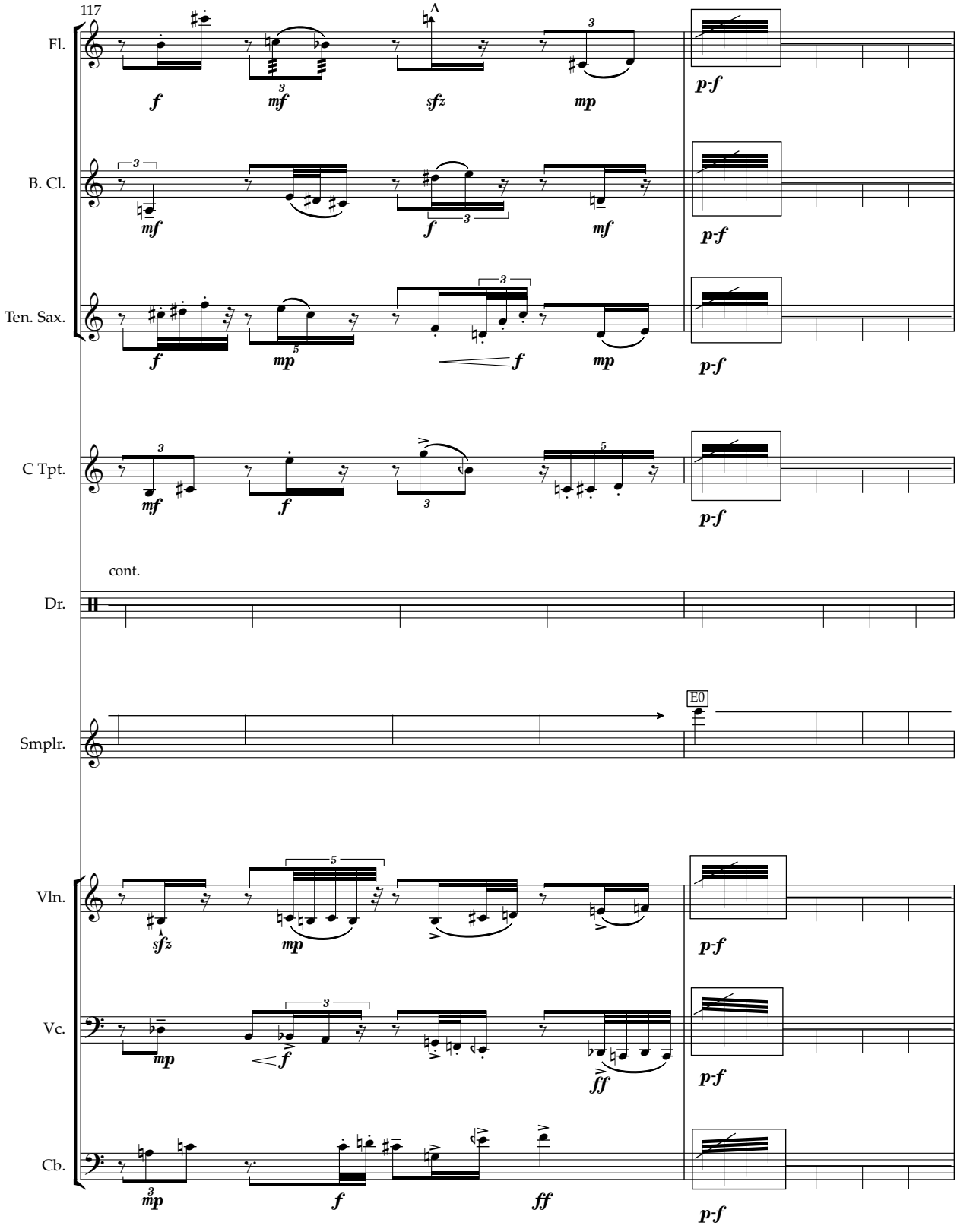

105
Fl.
B. Cl.
Ten. Sax.
C Tpt.
Improvise
cont.
Dr.
D♯0
Smplr.
Vln.
Vc.
Cb.

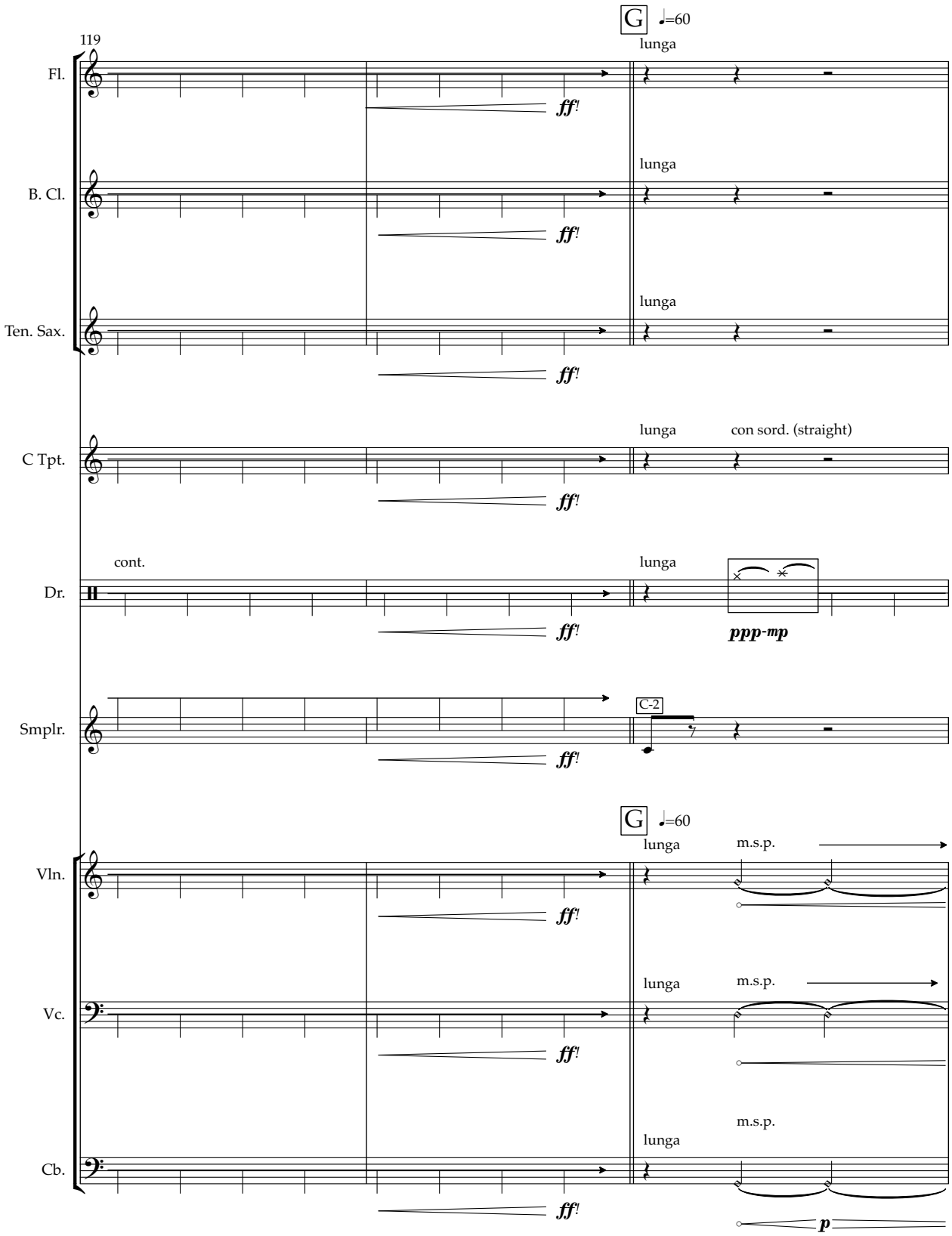

108
8va
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
E0
Smplr.
Vln.
Vc.
Cb.

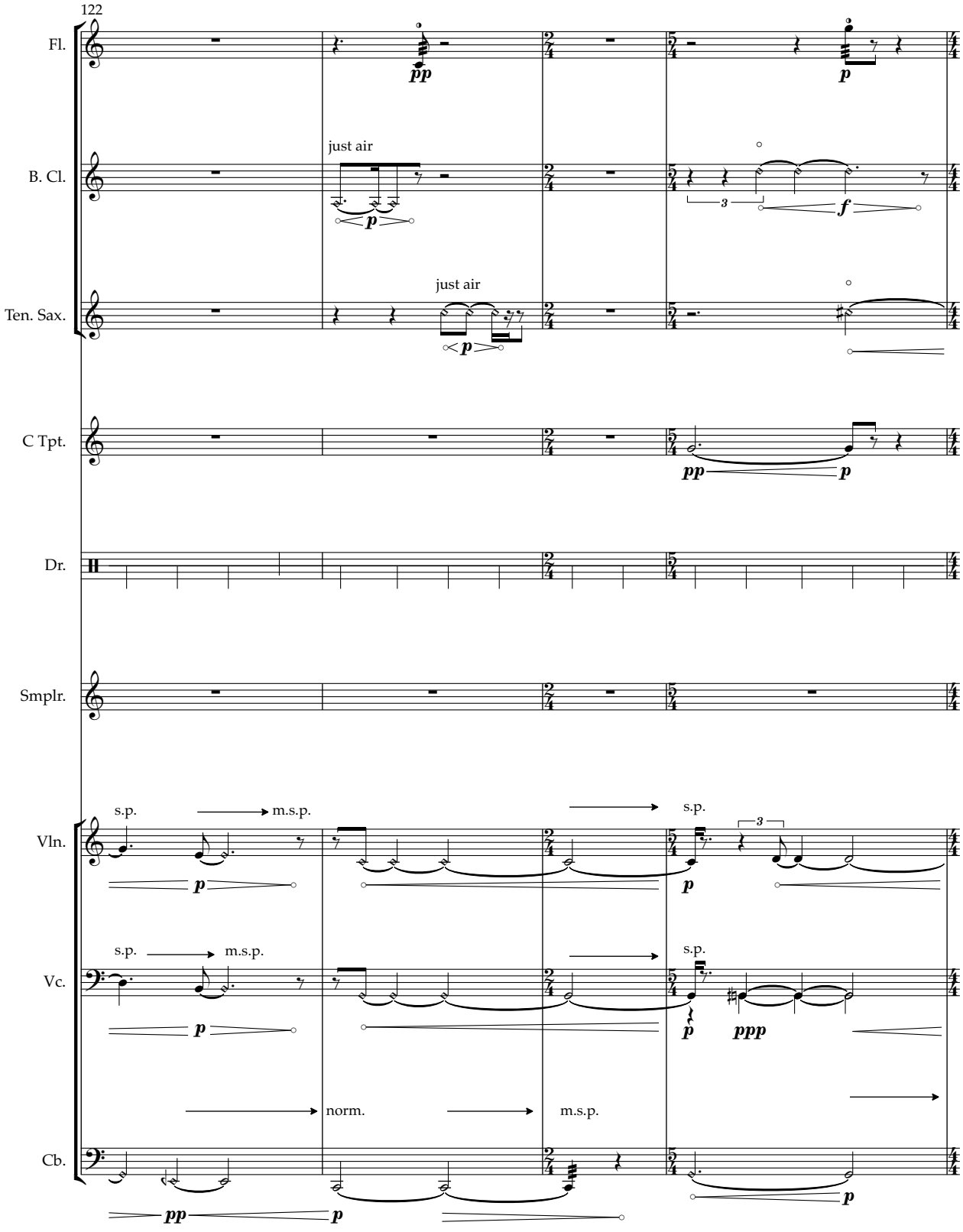

110 (8)
Fl.
B. Cl.
Ten. Sax.
C Tpt.
Dr.
Smplr.
Vln.
Vc.
Cb.
cont.
D0
chaotic, energetic improvisation
p
f
p
p-f
sfffz

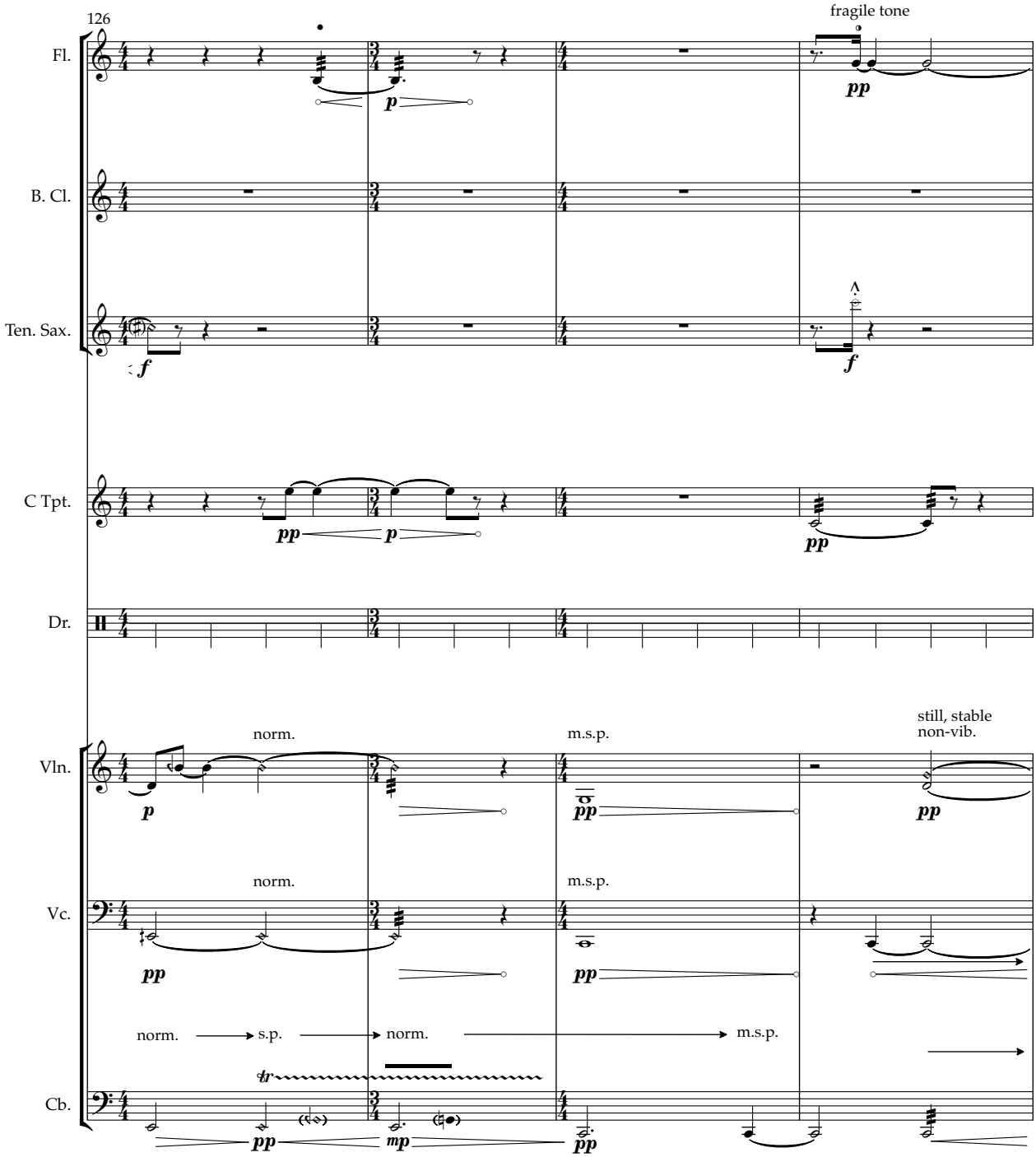

113
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
Smplr.
Vln.
Vc.
Cb.
[ch]
ric.

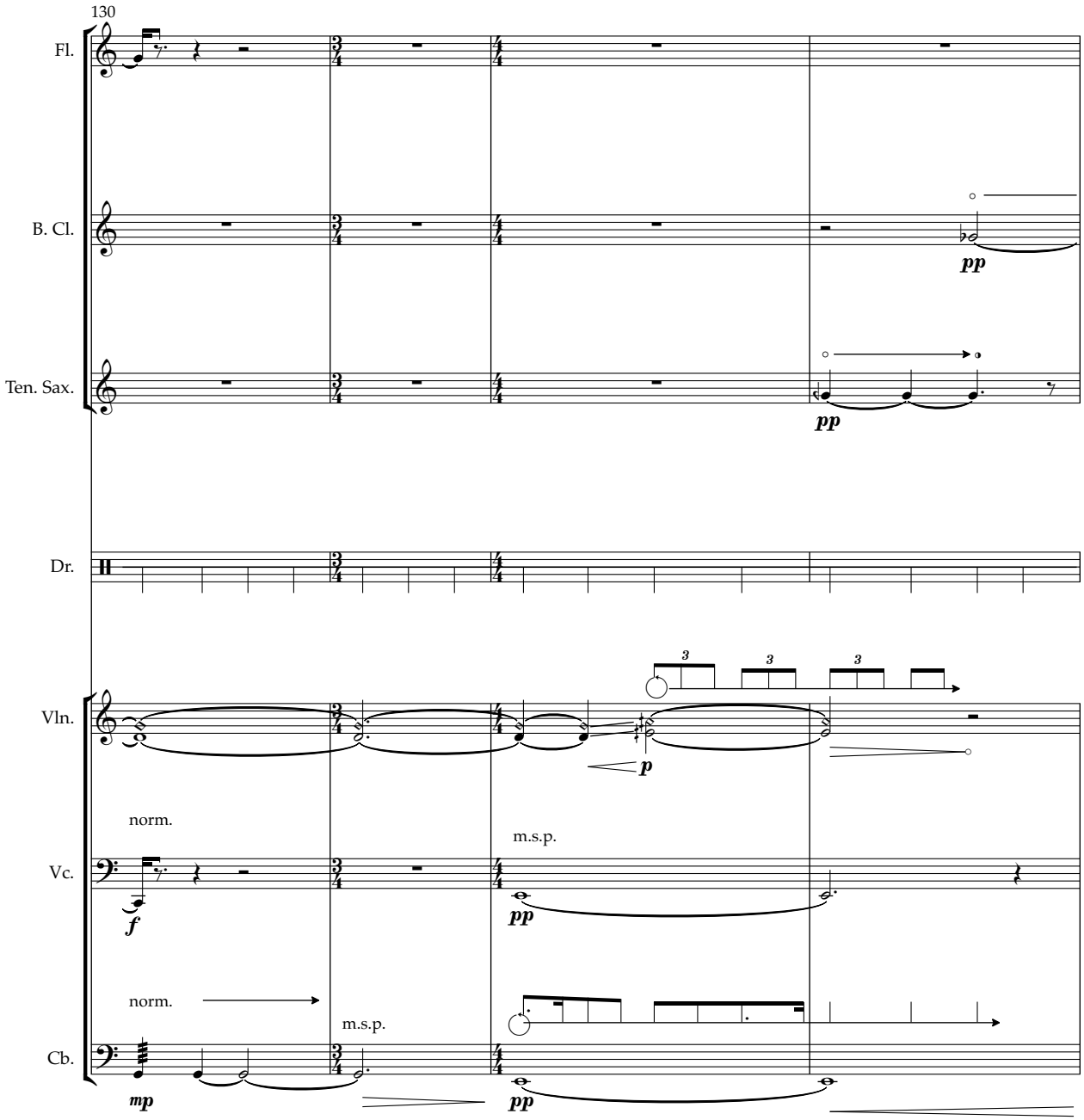

115
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
D♯0
Smplr.
Vln.
Vc.
Cb.
p-f
f
mf
mp
sfz
3:2
ff

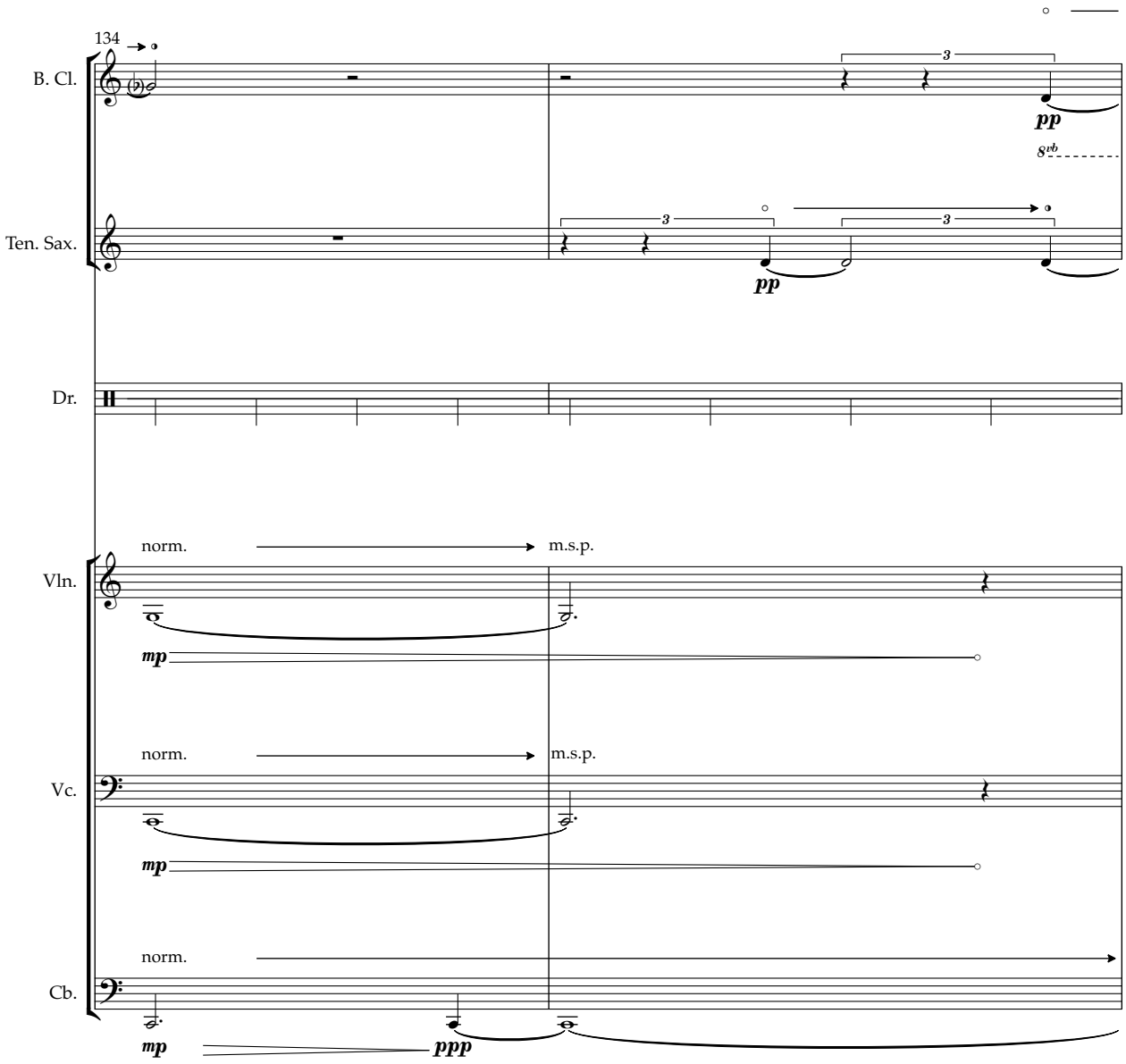

117
Fl.
B. Cl.
Ten. Sax.
C Tpt.
cont.
Dr.
Smplr.
E0
Vln.
Vc.
Cb.
f
mf
sfz
mp
p-f
ff

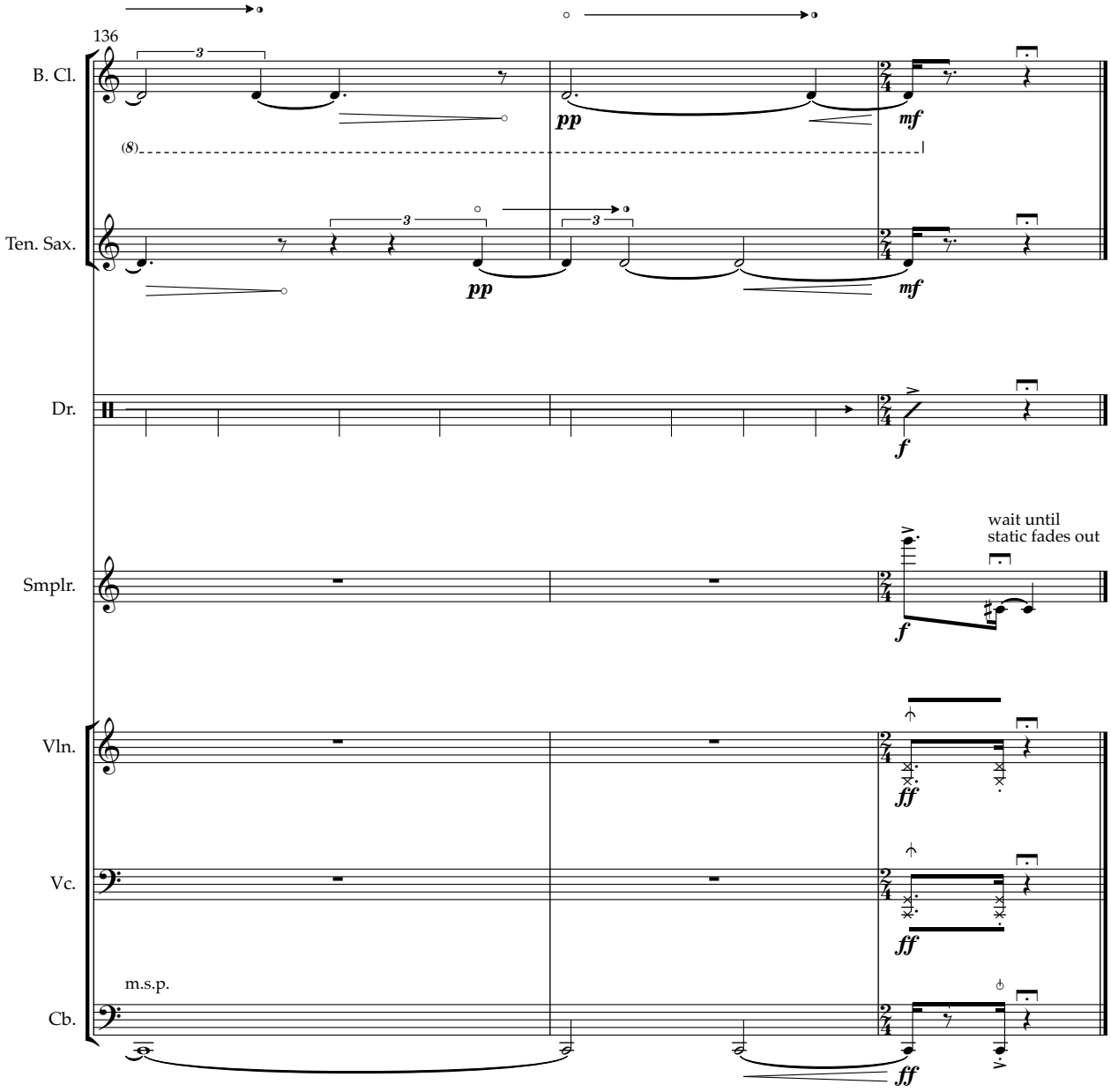

119
G
♩=60
lunga
Fl.
ff!
B. Cl.
Ten. Sax.
C Tpt.
con sord. (straight)
cont.
Dr.
ppp-mp
Smplr.
C-2
Vln.
m.s.p.
Vc.
Cb.
p


122
Fl.
B. Cl.
just air
Ten. Sax.
just air
C Tpt.
Dr.
Smplr.
Vln.
s.p.
m.s.p.
s.p.
Vc.
s.p.
m.s.p.
s.p.
Cb.
norm.
m.s.p.

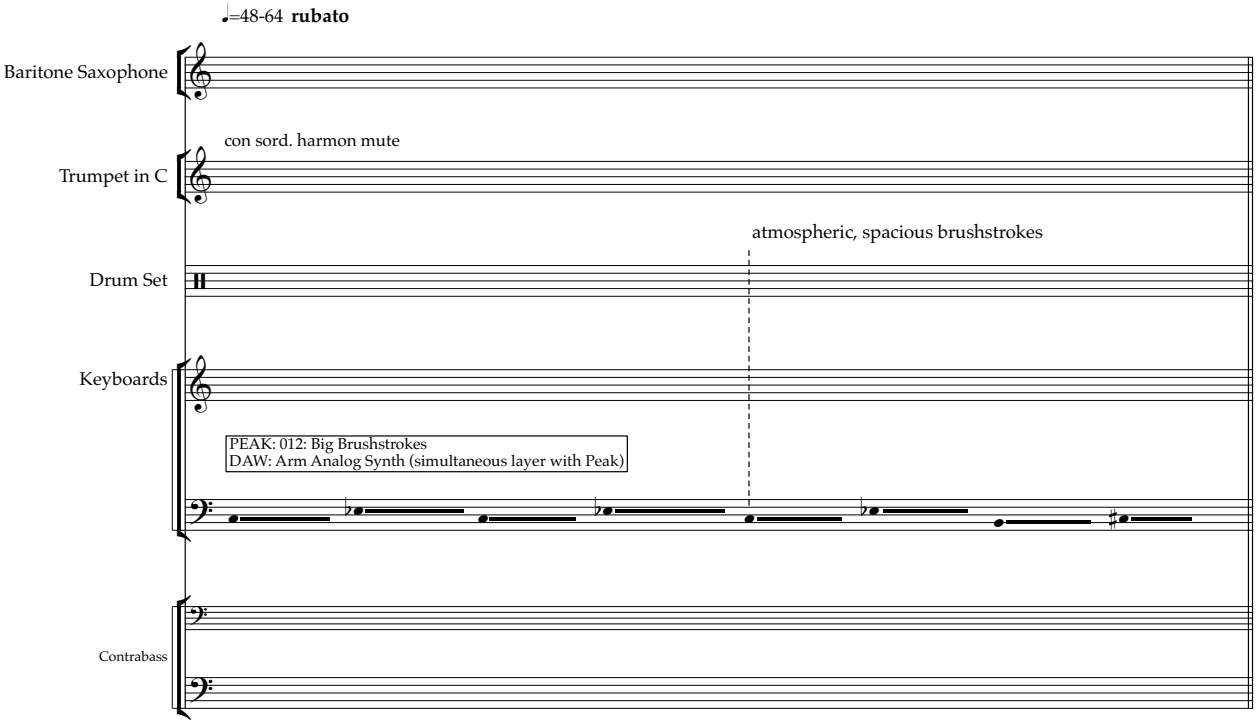

126
Fl.
B. Cl.
Ten. Sax.
C Tpt.
Dr.
Vln.
Vc.
Cb.
fragile tone
norm.
m.s.p.
still, stable
non-vib.
norm.
s.p.
norm.
m.s.p.

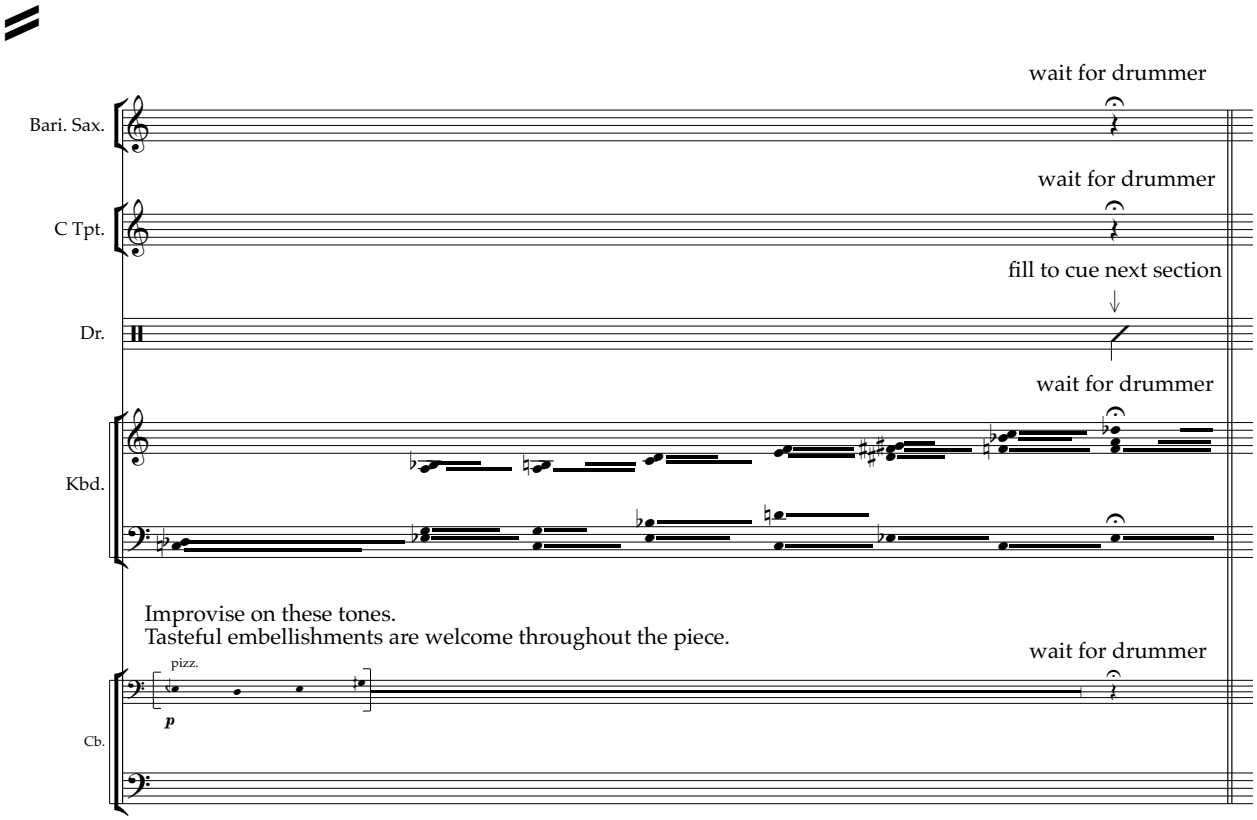

130
Fl.
B. Cl.
pp
Ten. Sax.
pp
Dr.
Vln.
3
3
3
p
norm.
m.s.p.
Vc.
f
pp
norm.
m.s.p.
Cb.
mp
pp

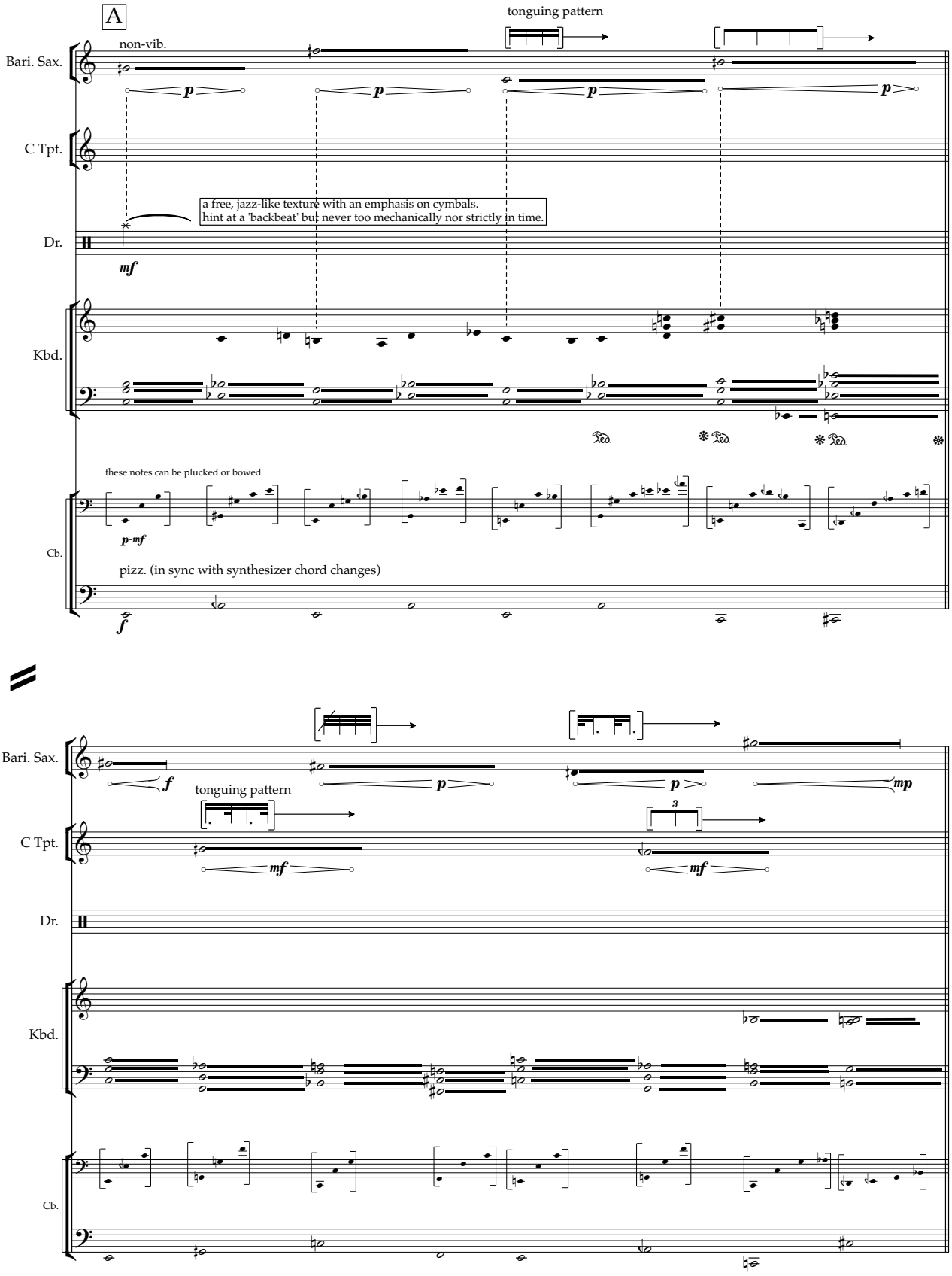

134
B. Cl.
Ten. Sax.
Dr.
Vln.
Vc.
Cb.
pp
8vb
norm.
m.s.p.
mp
ppp

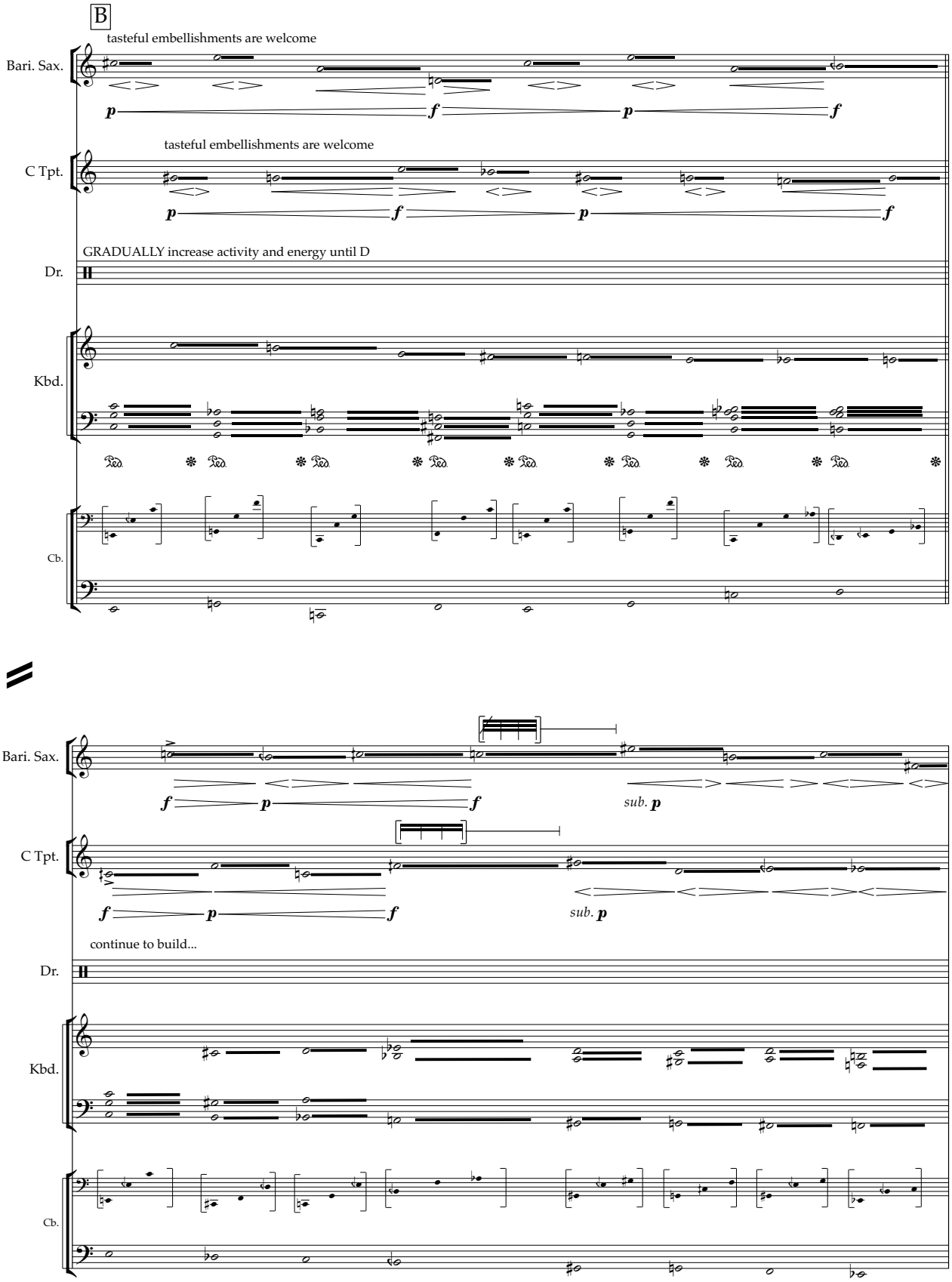

136
B. Cl.
Ten. Sax.
Dr.
Smplr.
Vln.
Vc.
Cb.
pp
mf
pp
mf
f
wait until
static fades out
f
ff
ff
m.s.p.
ff

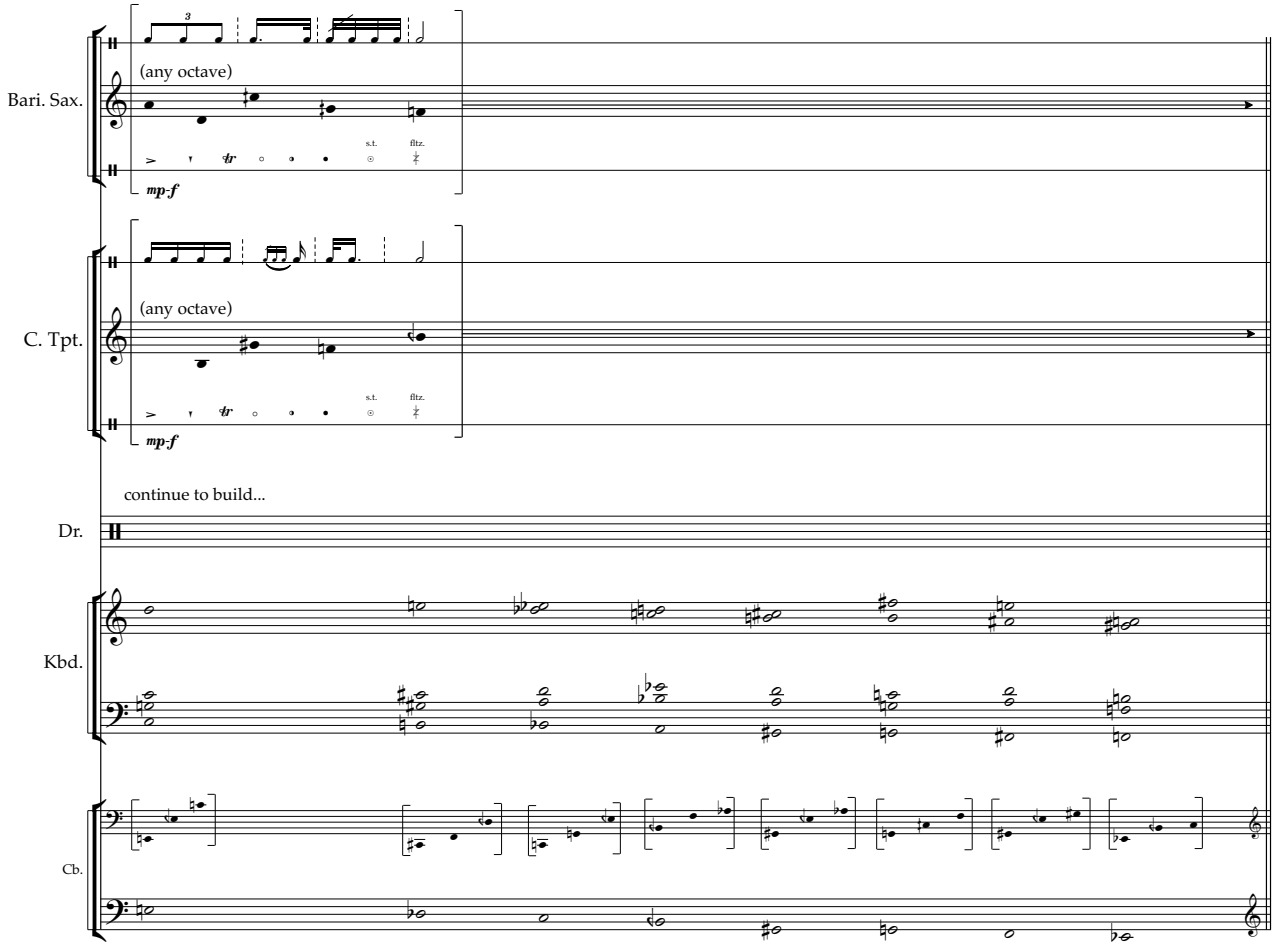
III. Brushstrokes

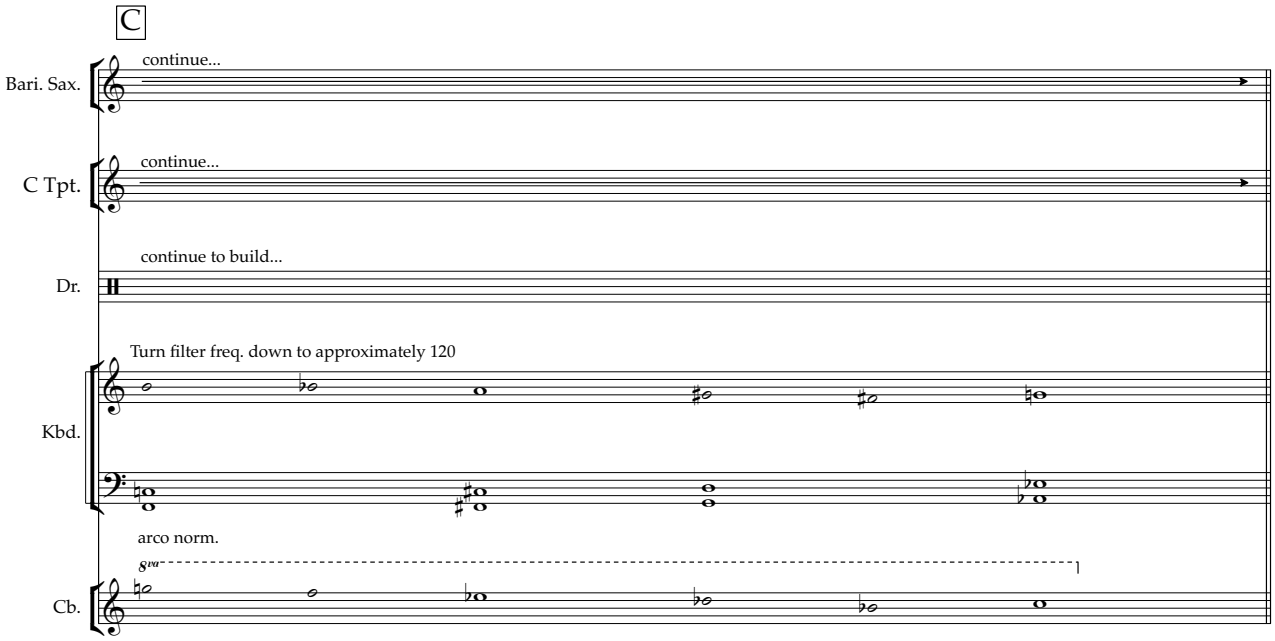


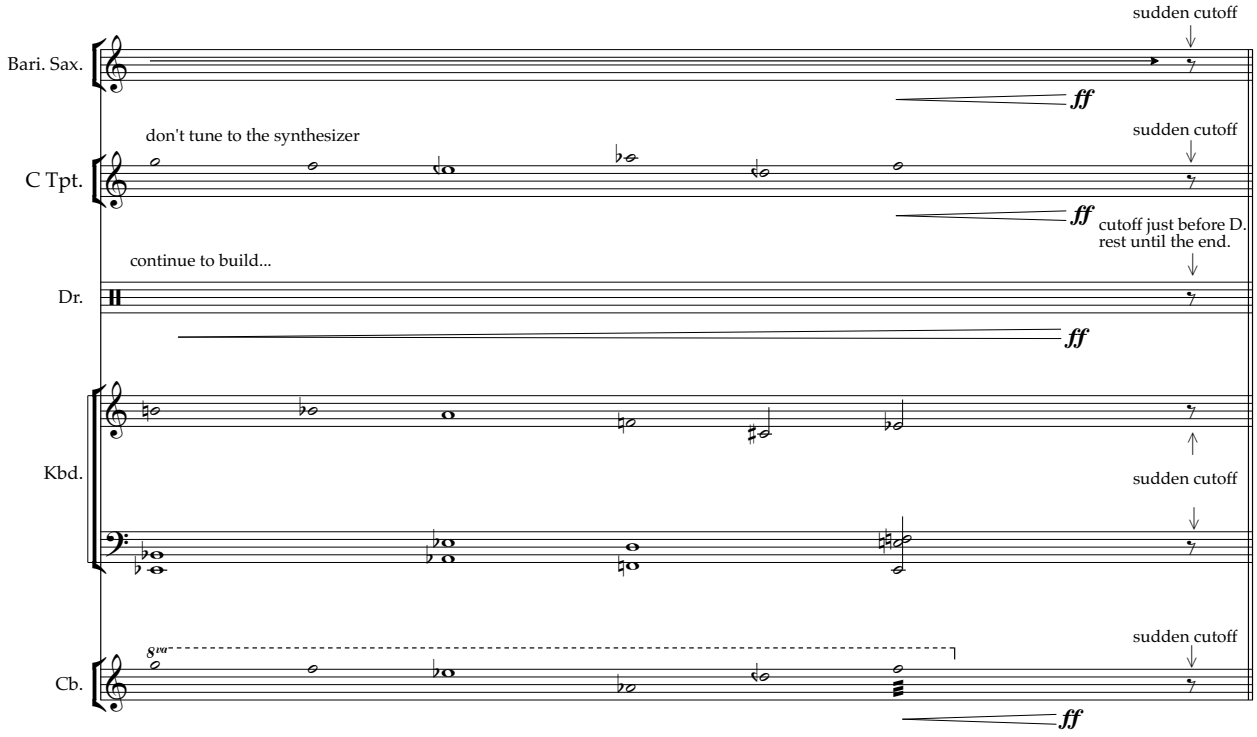


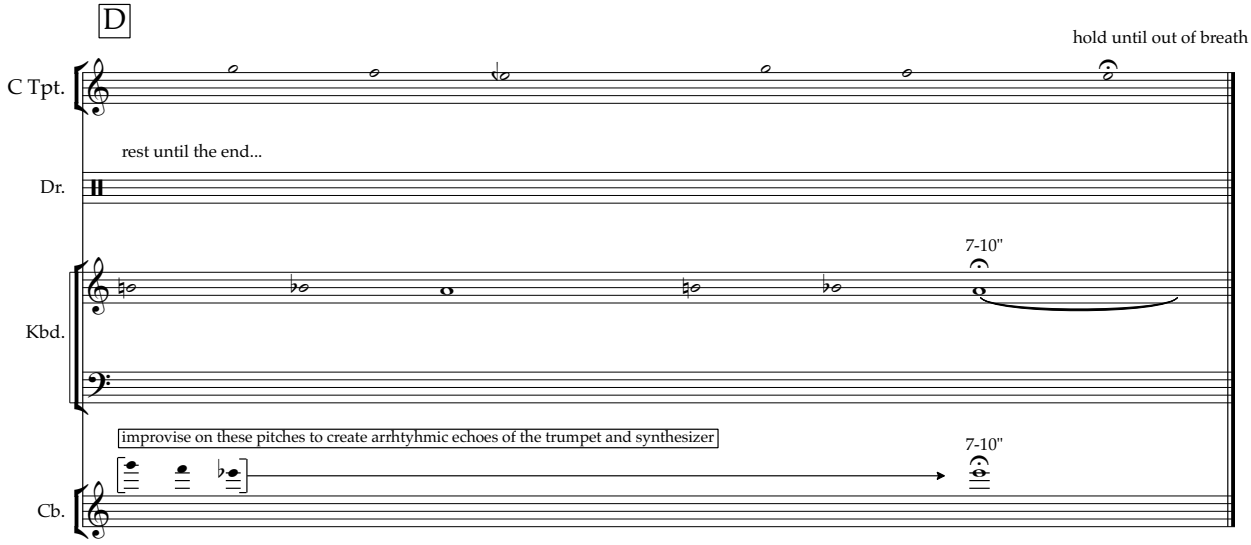

A
tonguing pattern
non-vib.
Bari. Sax.
C Tpt.
Dr.
Kbd.
Cb.
a free, jazz-like texture with an emphasis on cymbals.
hint at a 'backbeat' but never too mechanically nor strictly in time.
these notes can be plucked or bowed
pizz. (in sync with synthesizer chord changes)
tonguing pattern


B
tasteful embellishments are welcome
Bari. Sax.
p
f
p
f
tasteful embellishments are welcome
C Tpt.
p
f
p
f
GRADUALLY increase activity and energy until D
Dr.
Kbd.
Cb.
Bari. Sax.
f
p
f
sub. p
C Tpt.
f
p
f
sub. p
continue to build...
Dr.
Kbd.
Cb.

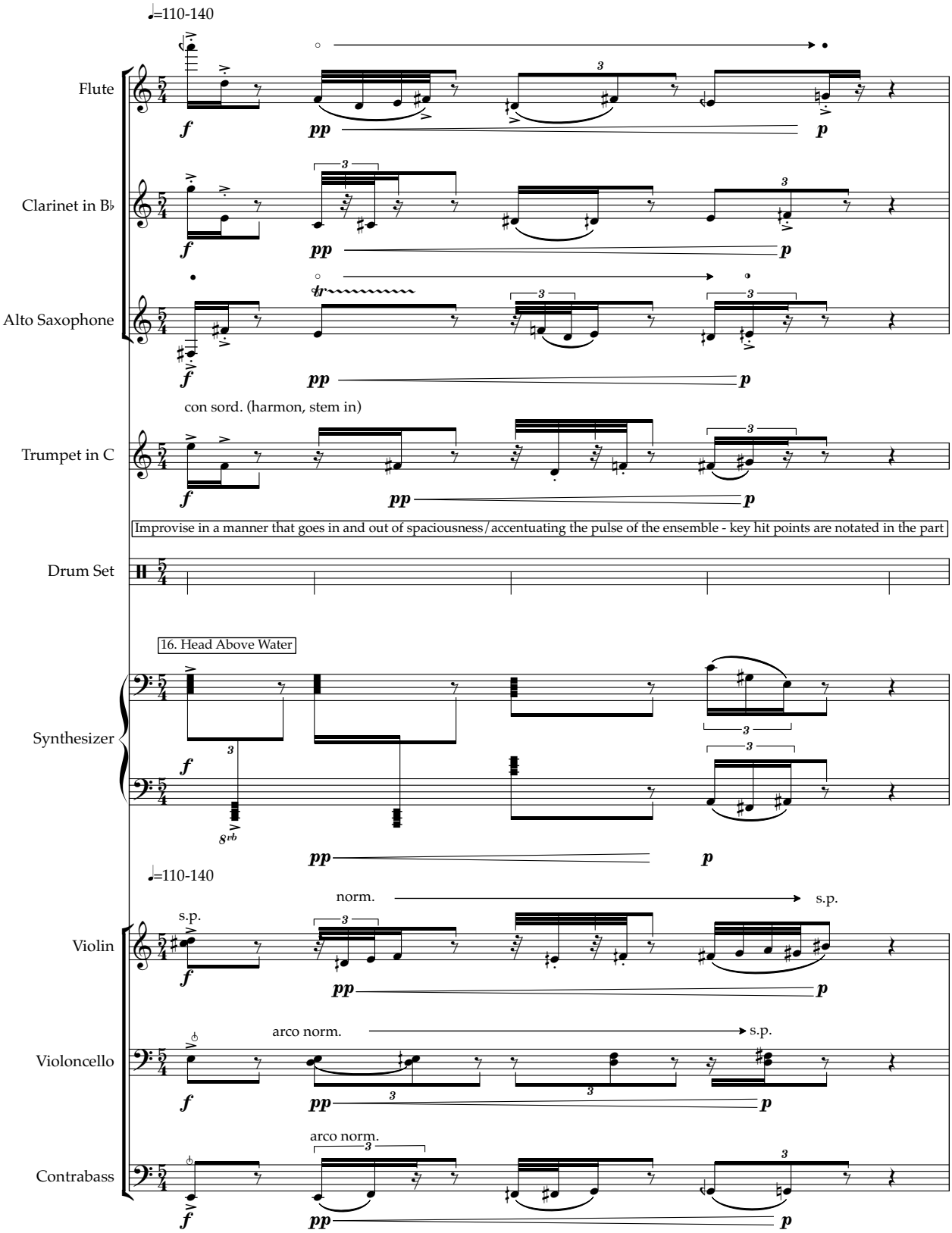

Bari. Sax.
(any octave)
s.t.
fltz.
mp-f
C. Tpt.
(any octave)
s.t.
fltz.
mp-f
continue to build...
Dr.
Kbd.
Cb.

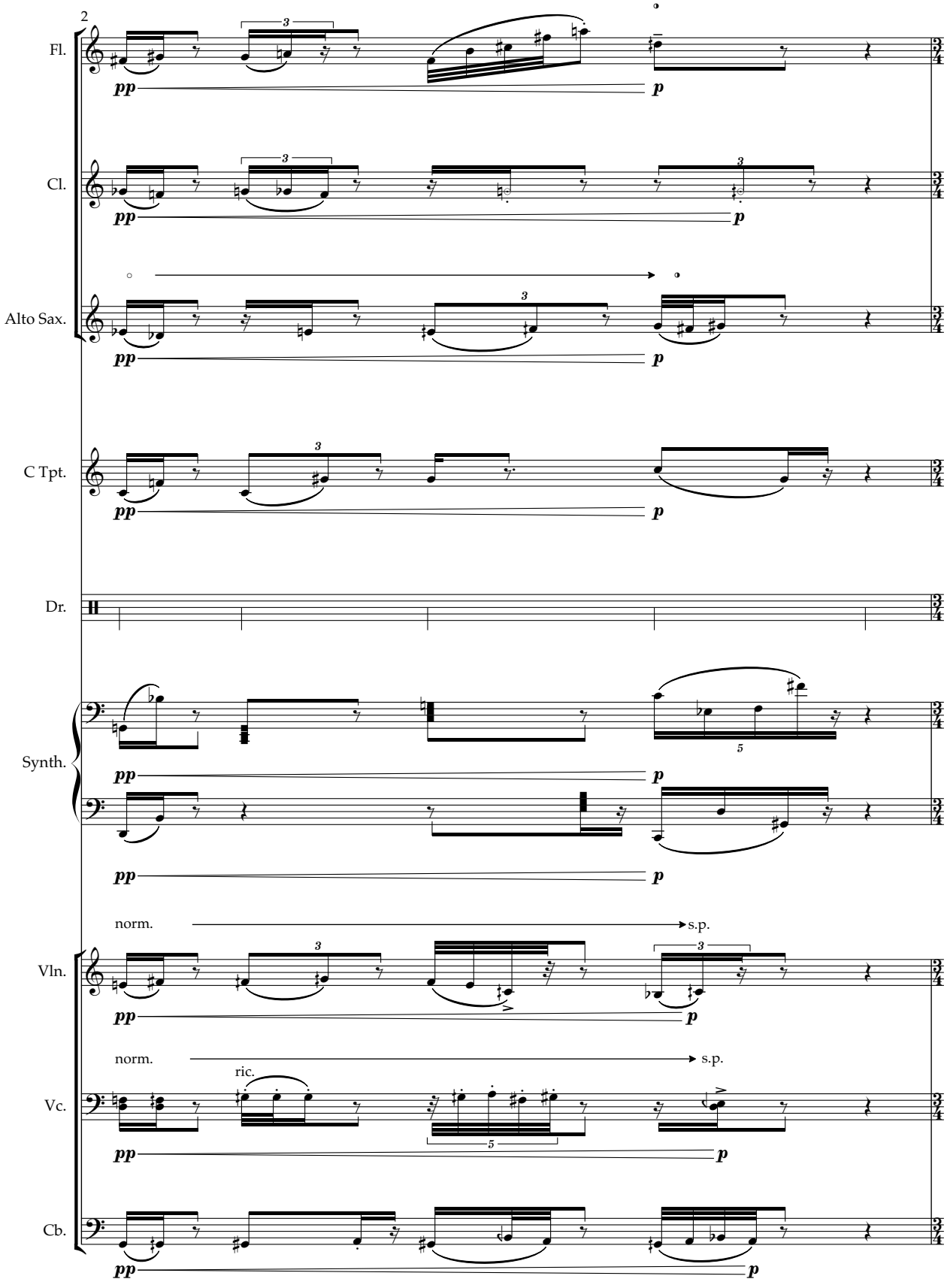

C
Bari. Sax.
continue...
C Tpt.
continue...
Dr.
continue to build...
Kbd.
Turn filter freq. down to approximately 120
arco norm.
8va
Cb.

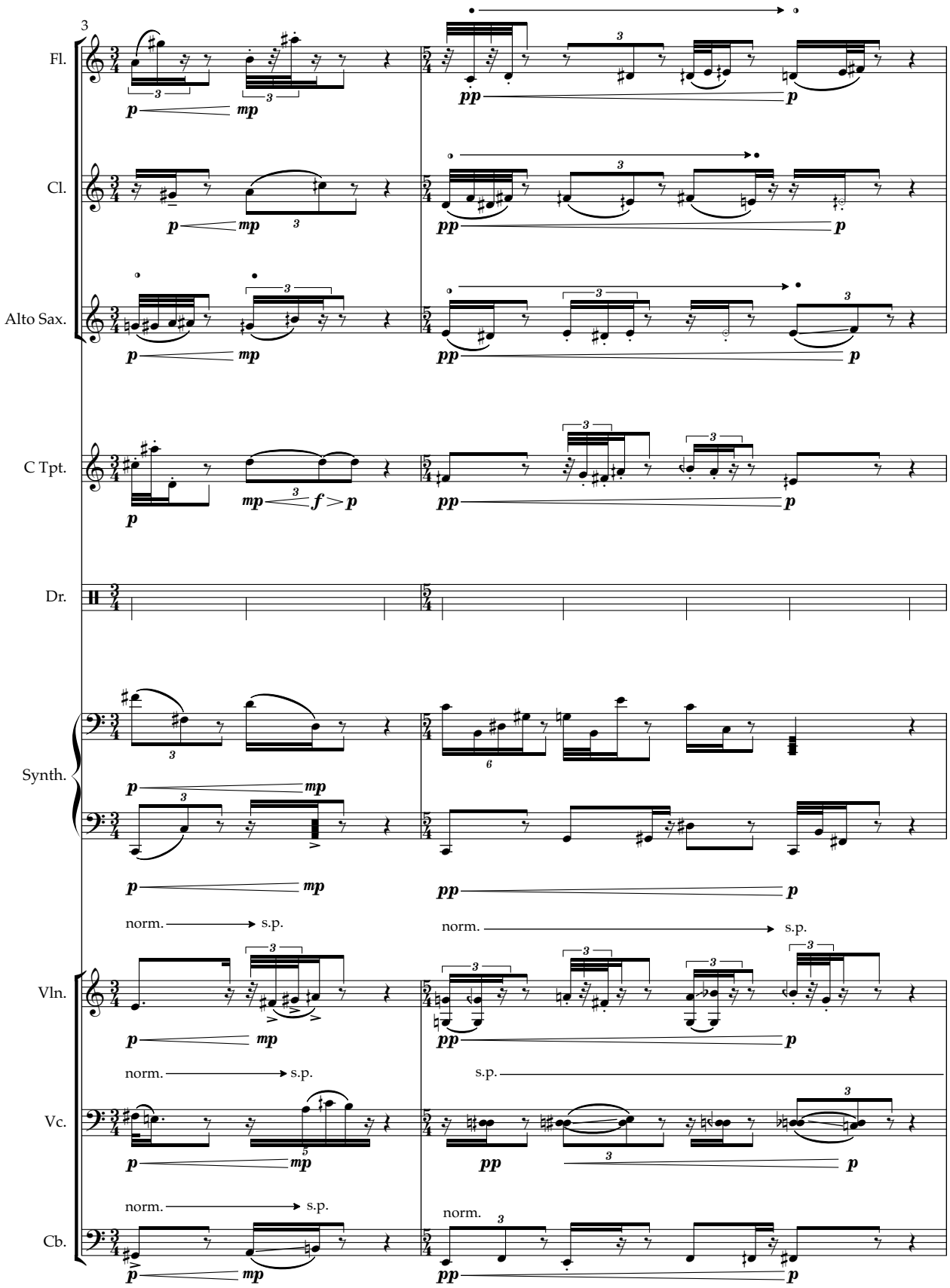

Bari. Sax.
sudden cutoff
ff
C Tpt.
don't tune to the synthesizer
sudden cutoff
ff
cutoff just before D.
rest until the end.
Dr.
continue to build...
ff
Kbd.
sudden cutoff
8va
Cb.
sudden cutoff
ff

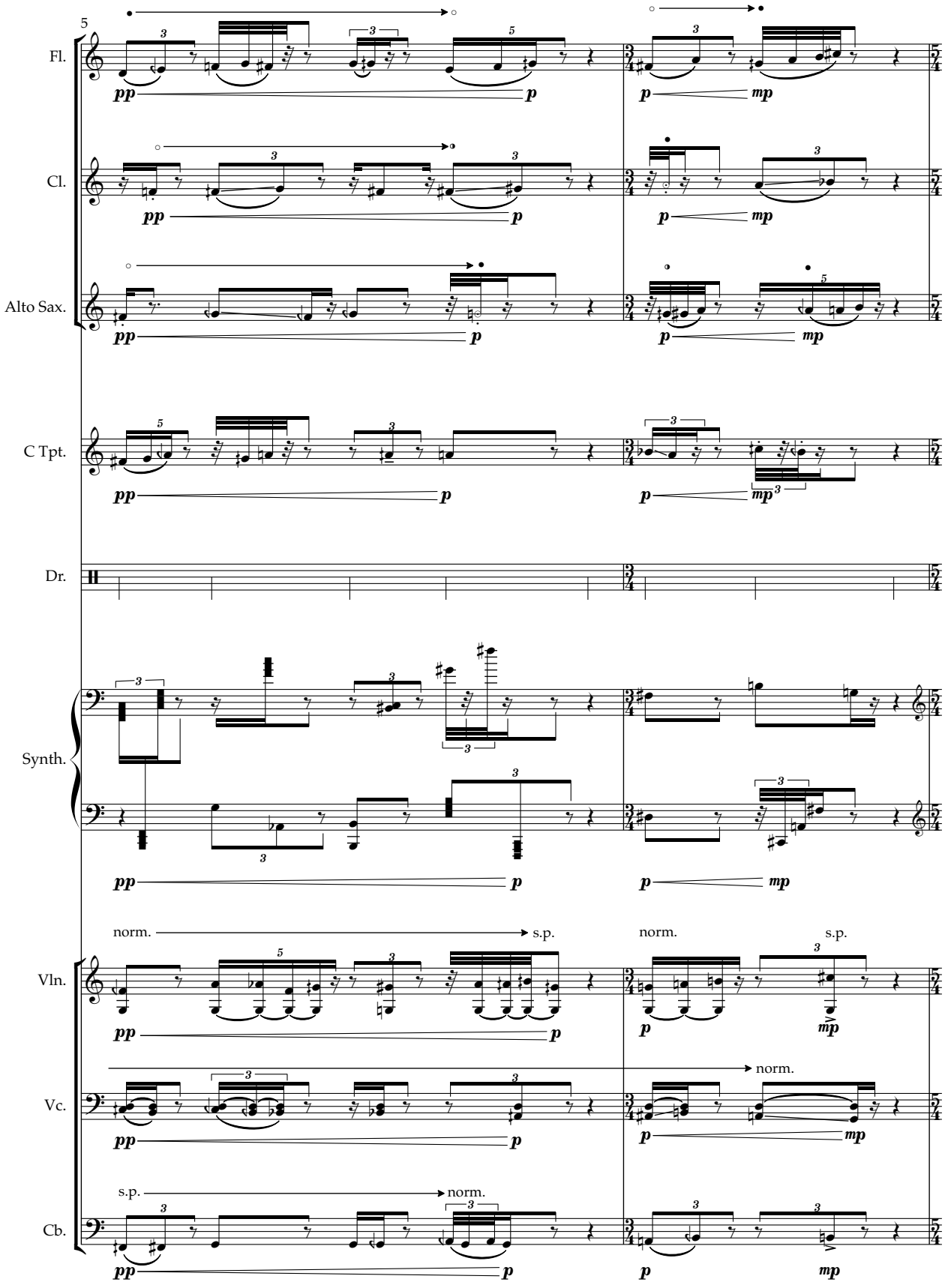

D
hold until out of breath
C Tpt.
rest until the end...
Dr.
7-10"
Kbd.
improvise on these pitches to create arrhtyhmic echoes of the trumpet and synthesizer
7-10"
Cb.

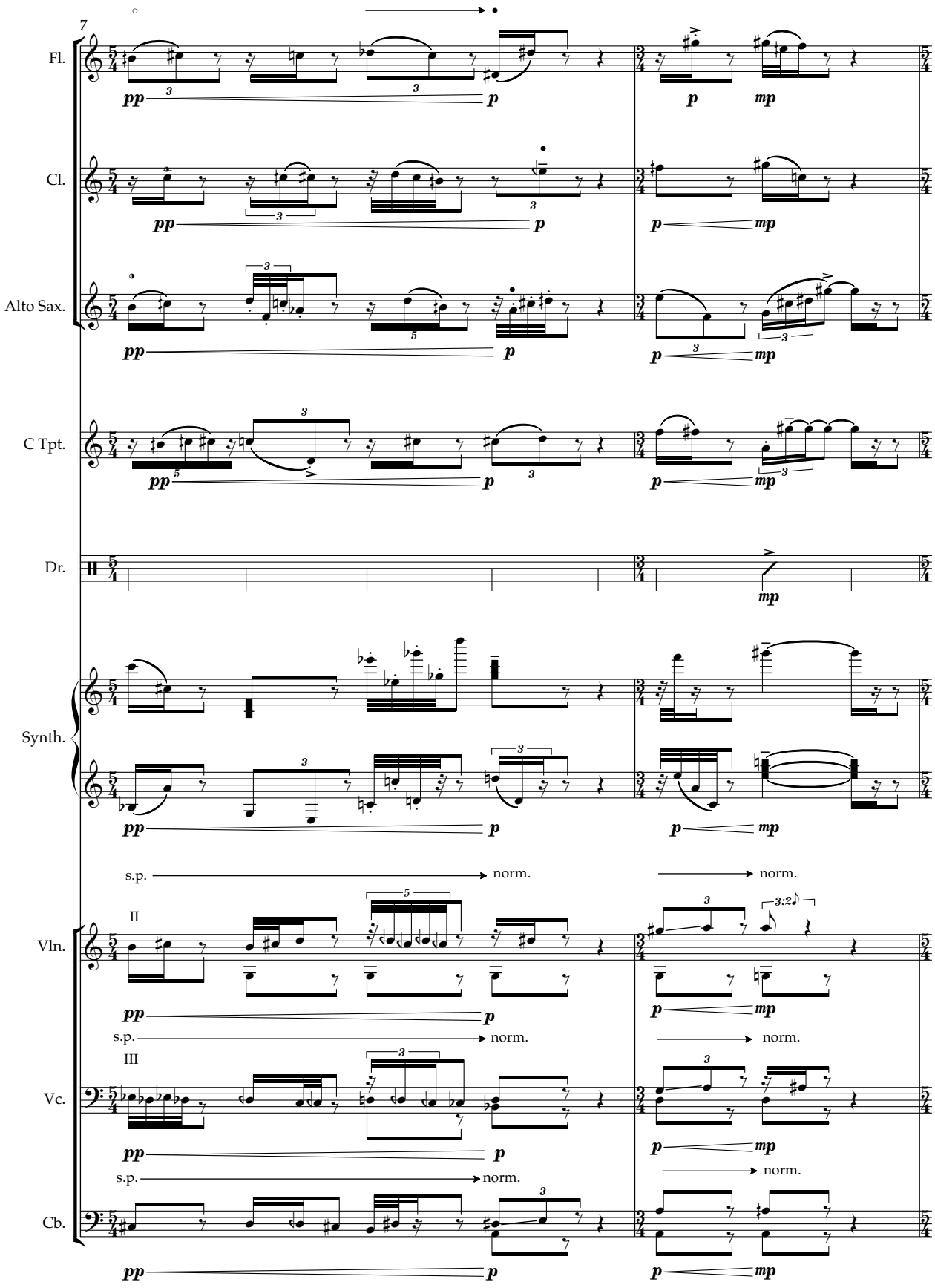
IV. Head above water

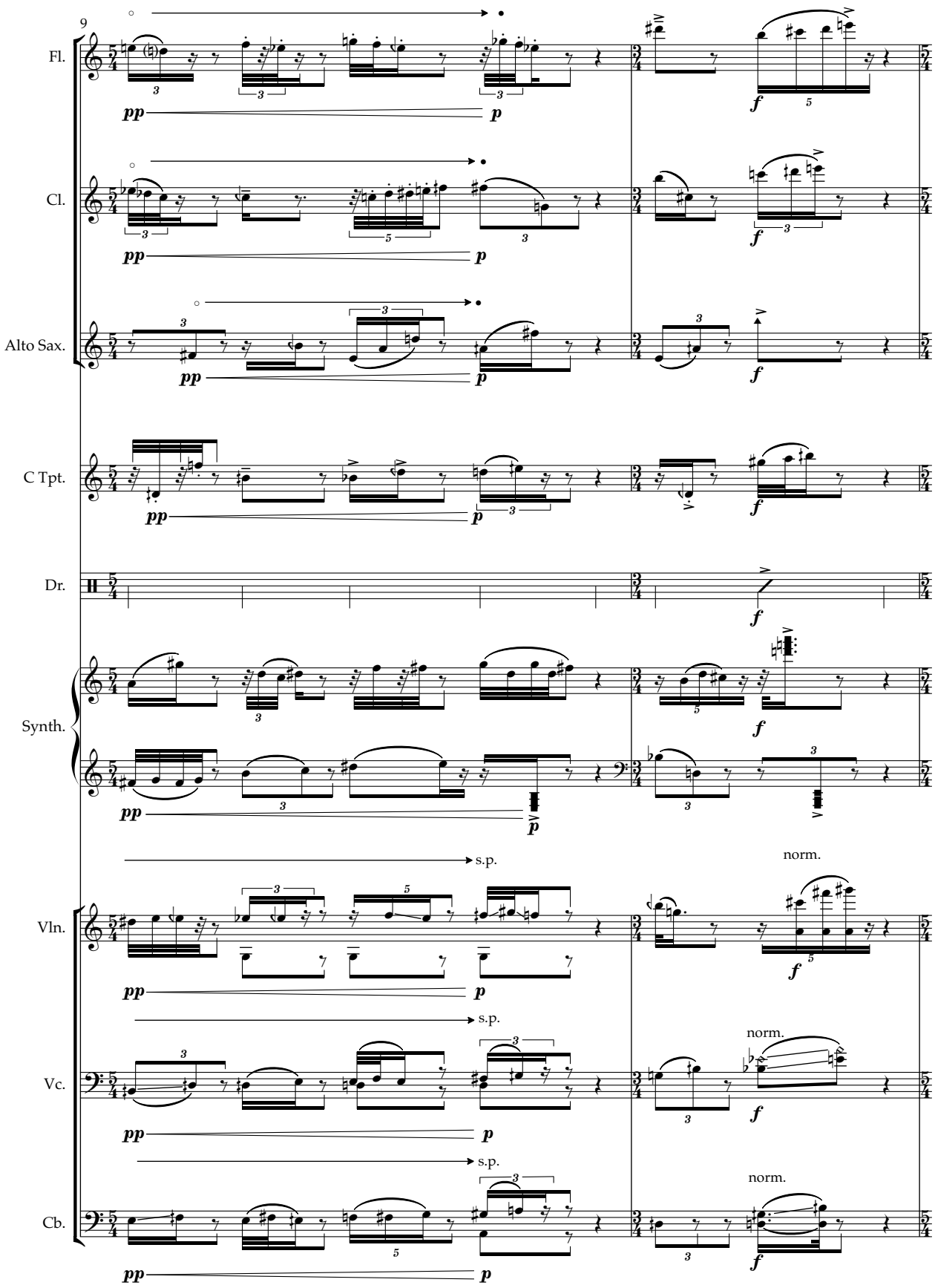


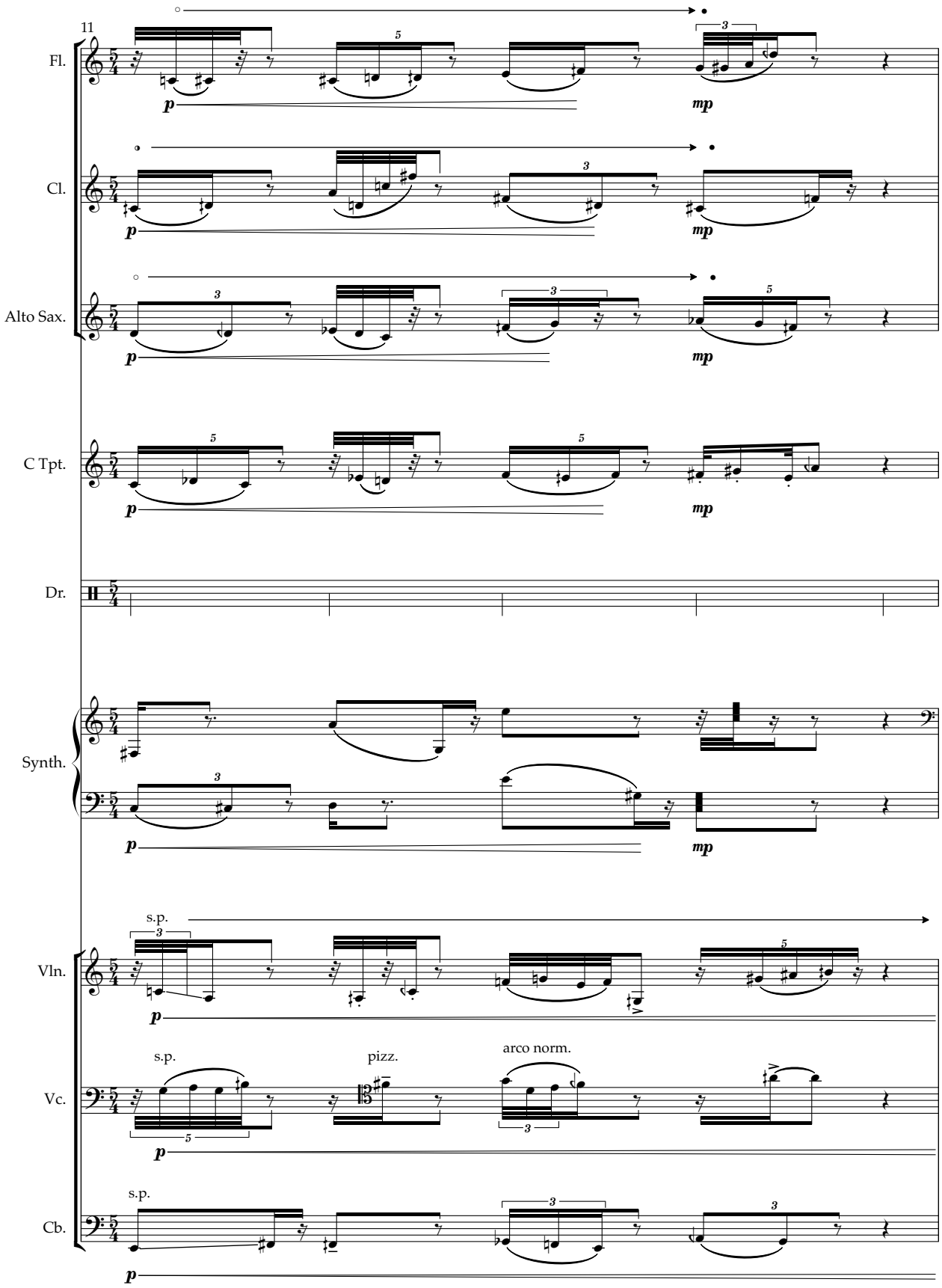

2
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
pp
p
norm.
s.p.
ric.

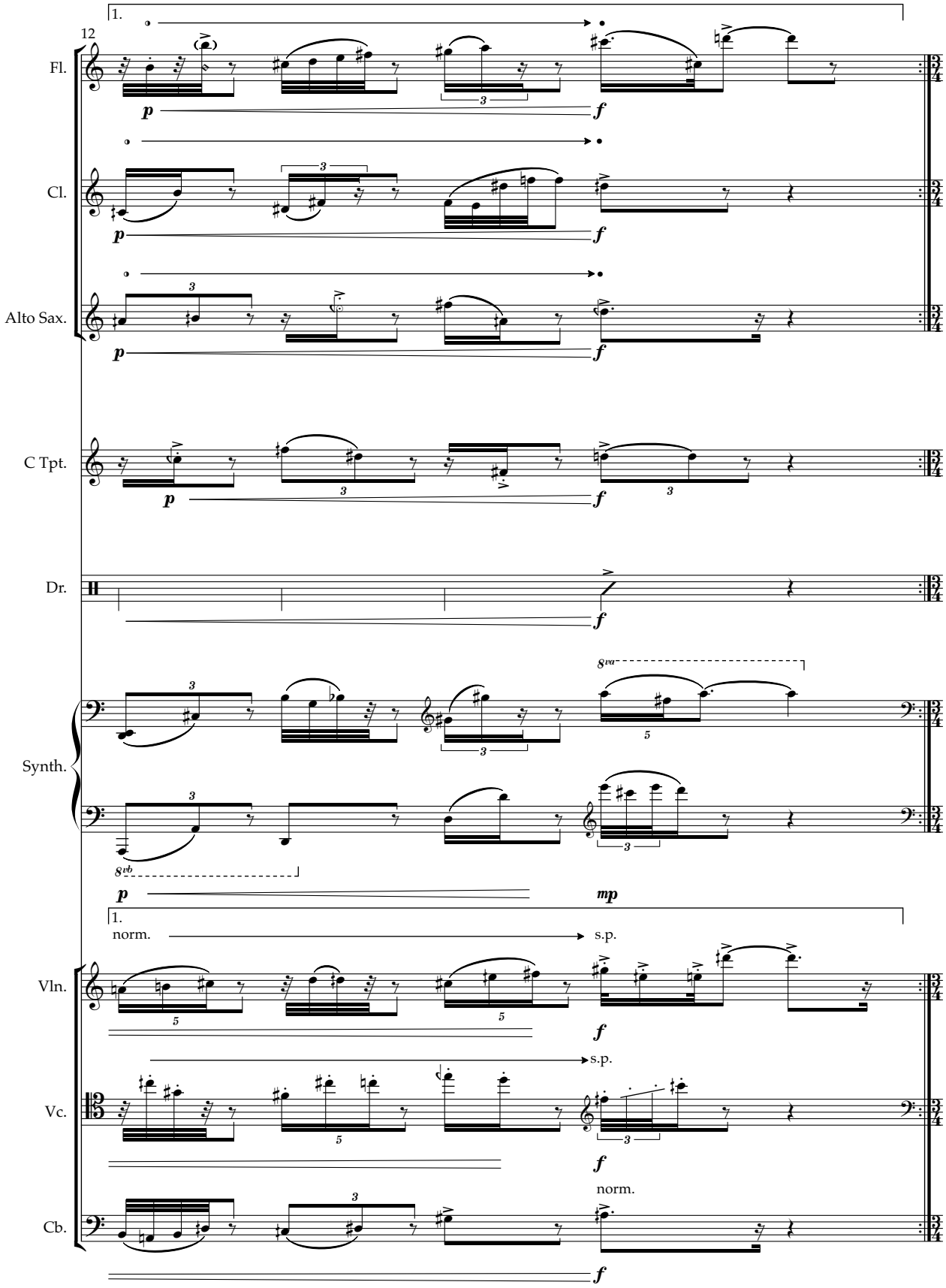

3
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
norm.
s.p.

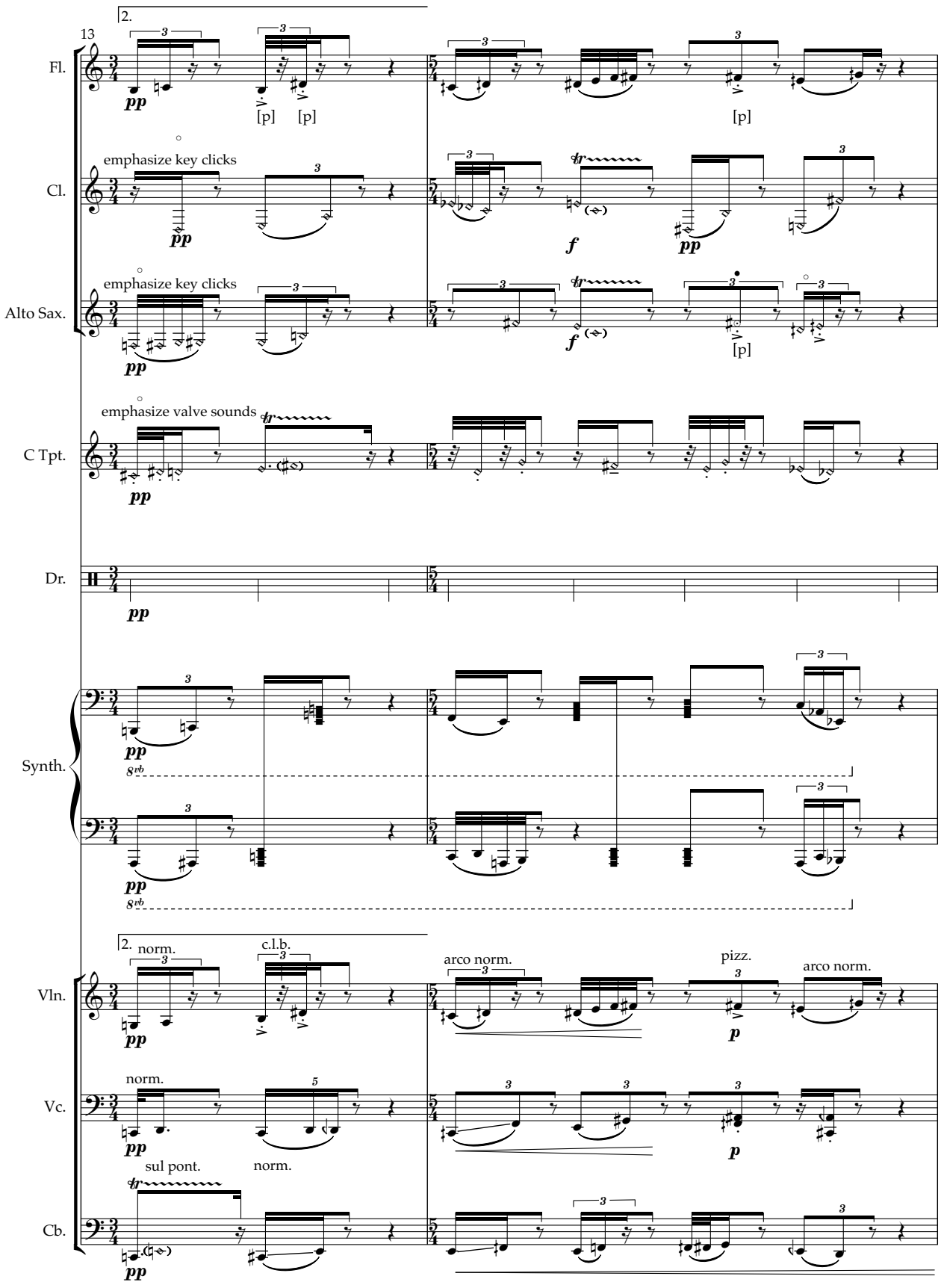

5
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
pp
p
mp
norm.
s.p.

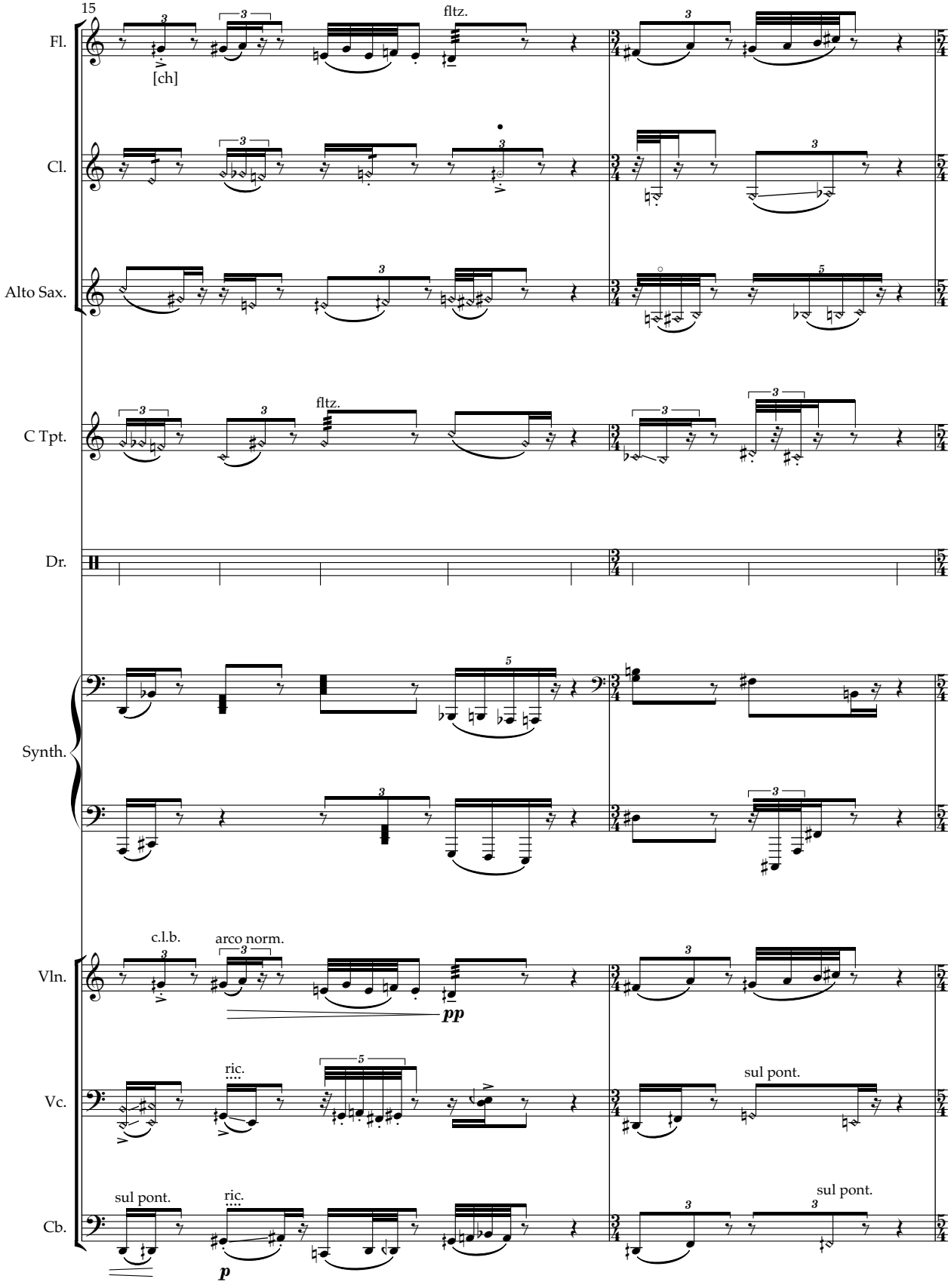

7
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
pp
p
mp
s.p.
norm.
II
III
3:2

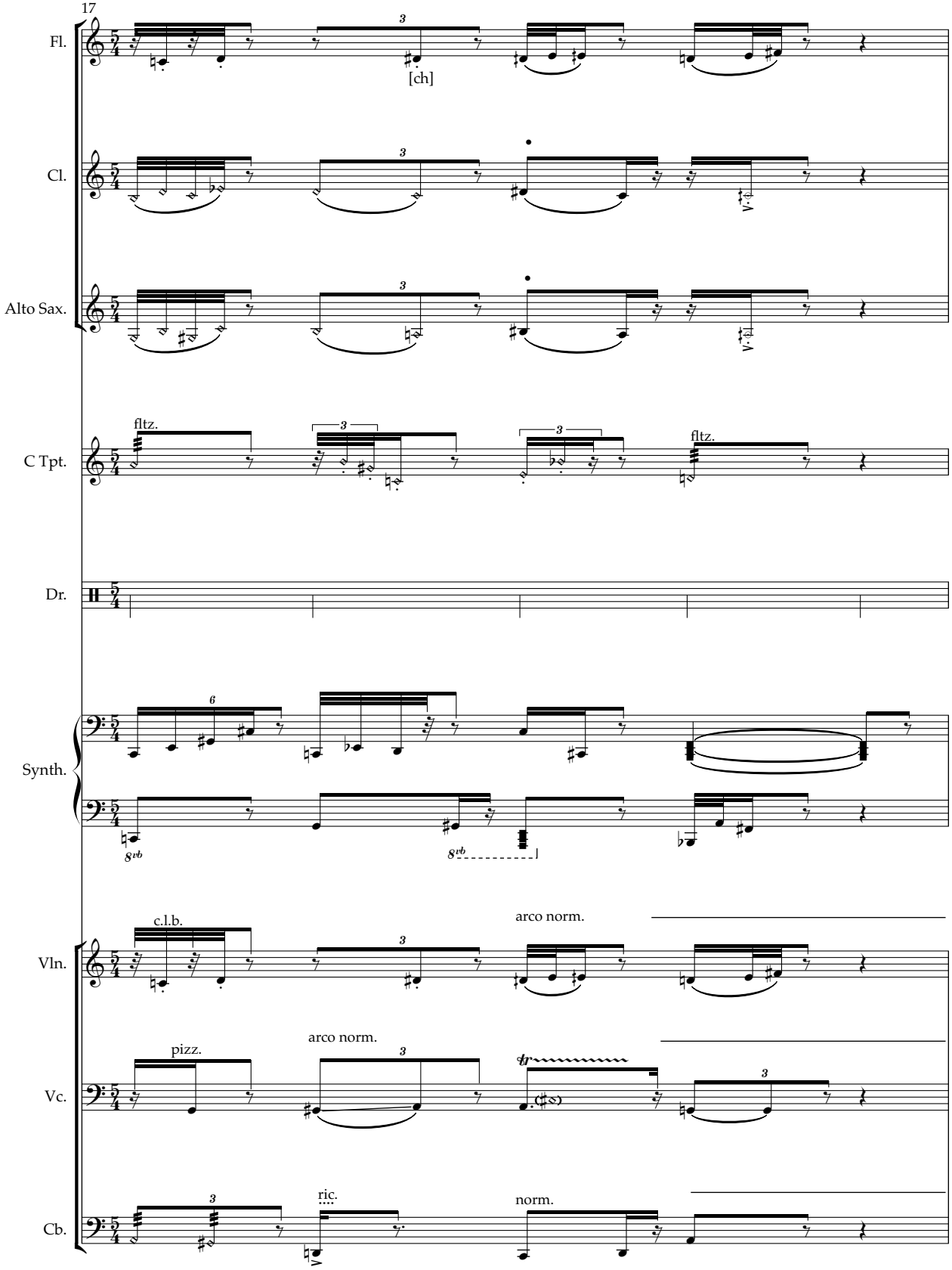

9
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
pp
p
f
s.p.
norm.

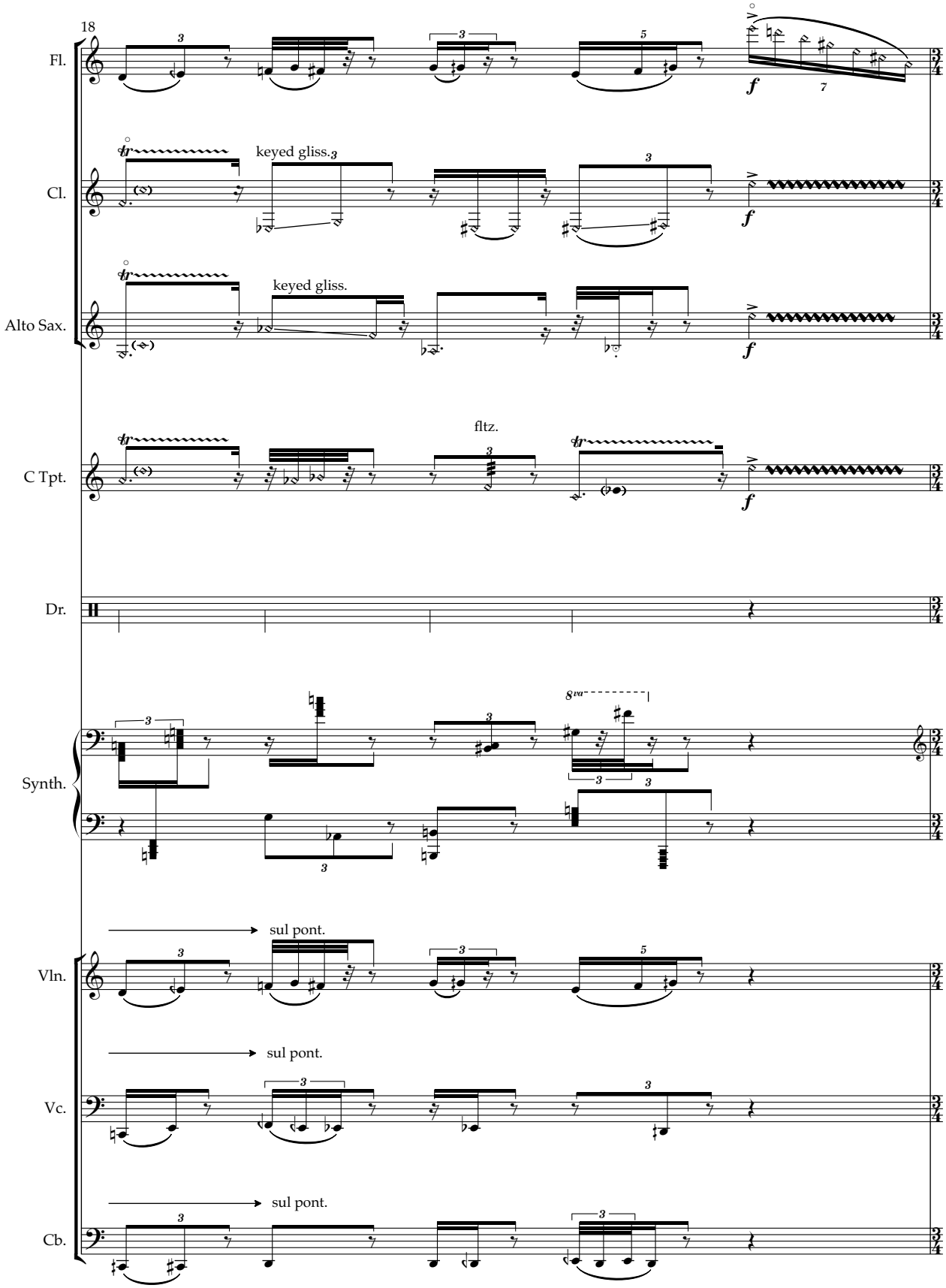

11
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
p
mp
s.p.
pizz.
arco norm.

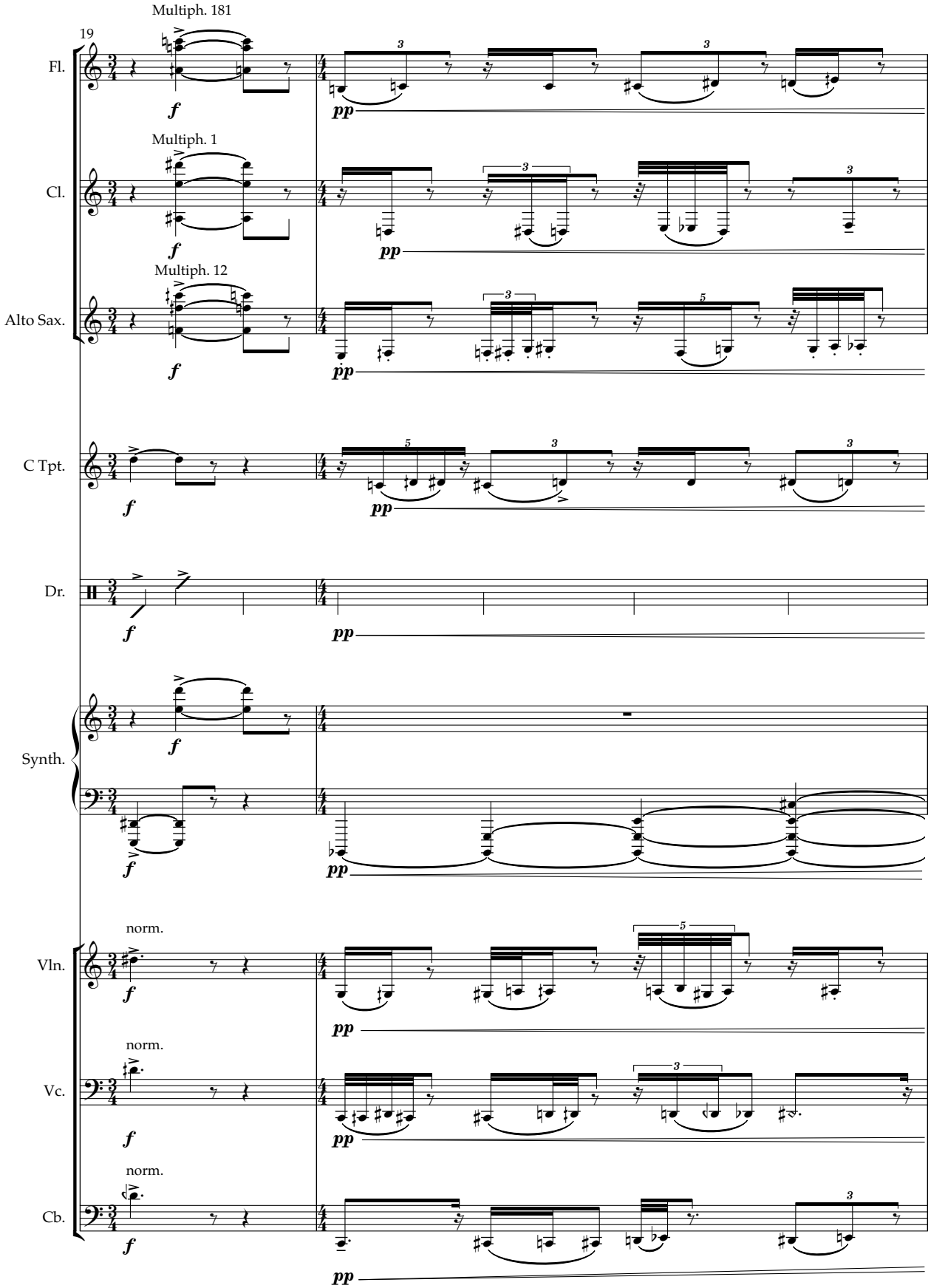

12
1.
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
8va
8vb
p
f
mp
1.
norm.
s.p.
Vln.
Vc.
Cb.

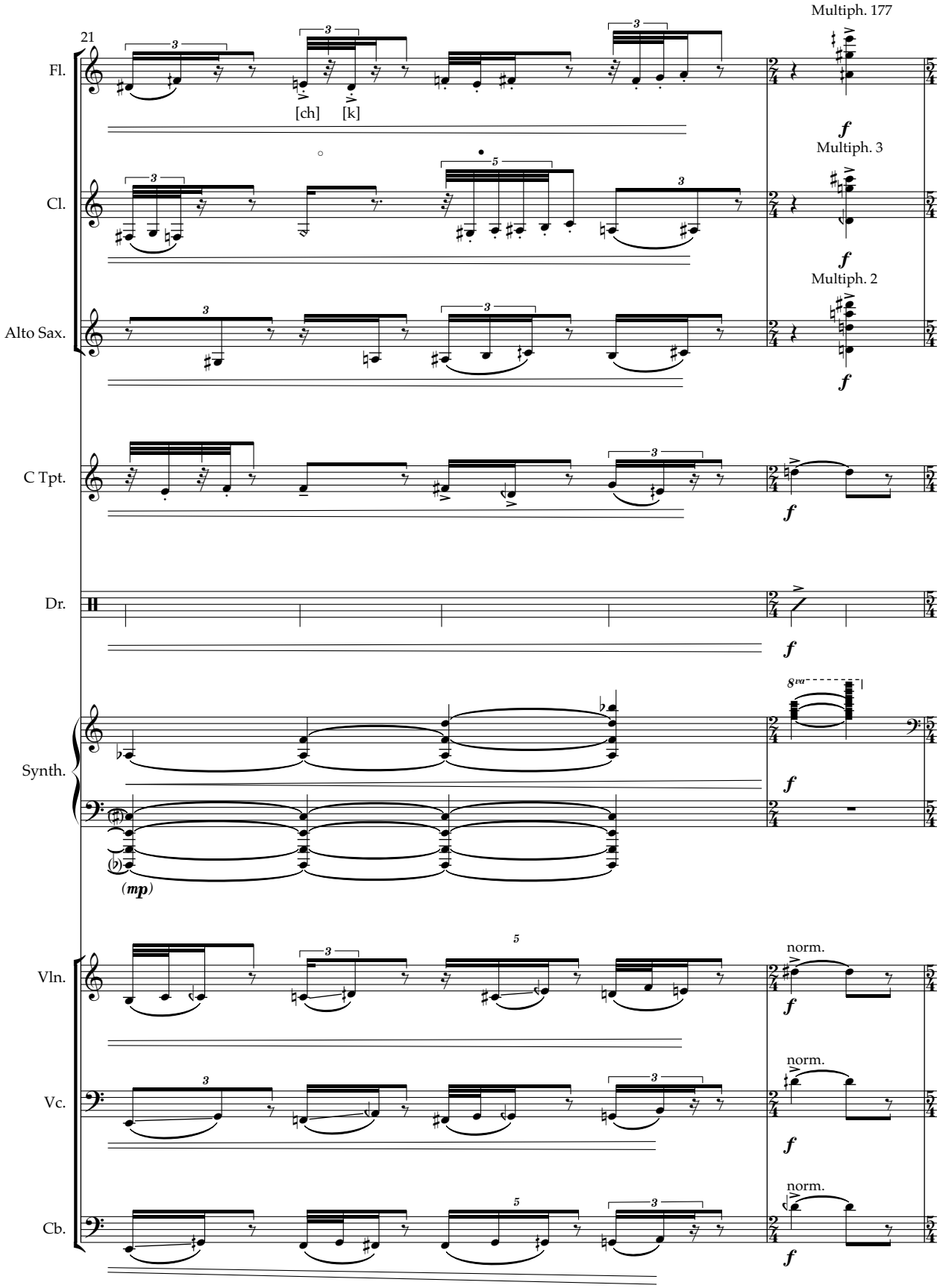

13
2.
Fl.
pp
[p] [p]
[p]
emphasize key clicks
Cl.
pp
f
pp
emphasize key clicks
Alto Sax.
pp
f
[p]
emphasize valve sounds
C Tpt.
pp
Dr.
pp
Synth.
pp
8vb
pp
8vb
2.
norm.
c.l.b.
Vln.
pp
arco norm.
pizz.
p
arco norm.
norm.
Vc.
pp
p
sul pont.
norm.
Cb.
pp

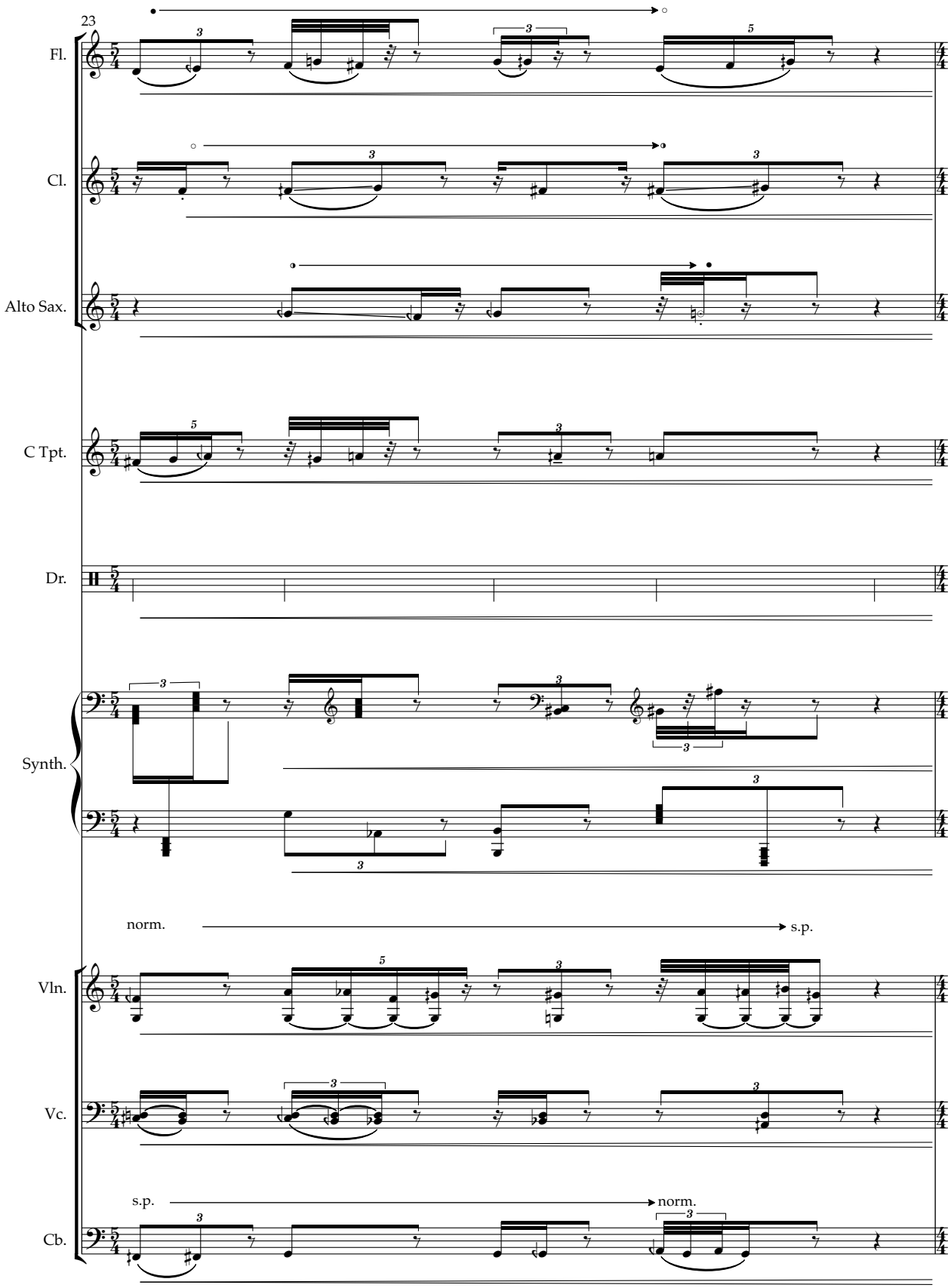

15
Fl.
[ch]
fltz.
Cl.
Alto Sax.
C Tpt.
fltz.
Dr.
Synth.
Vln.
c.l.b.
arco norm.
pp
Vc.
ric.
sul pont.
Cb.
sul pont.
ric.
p
sul pont.

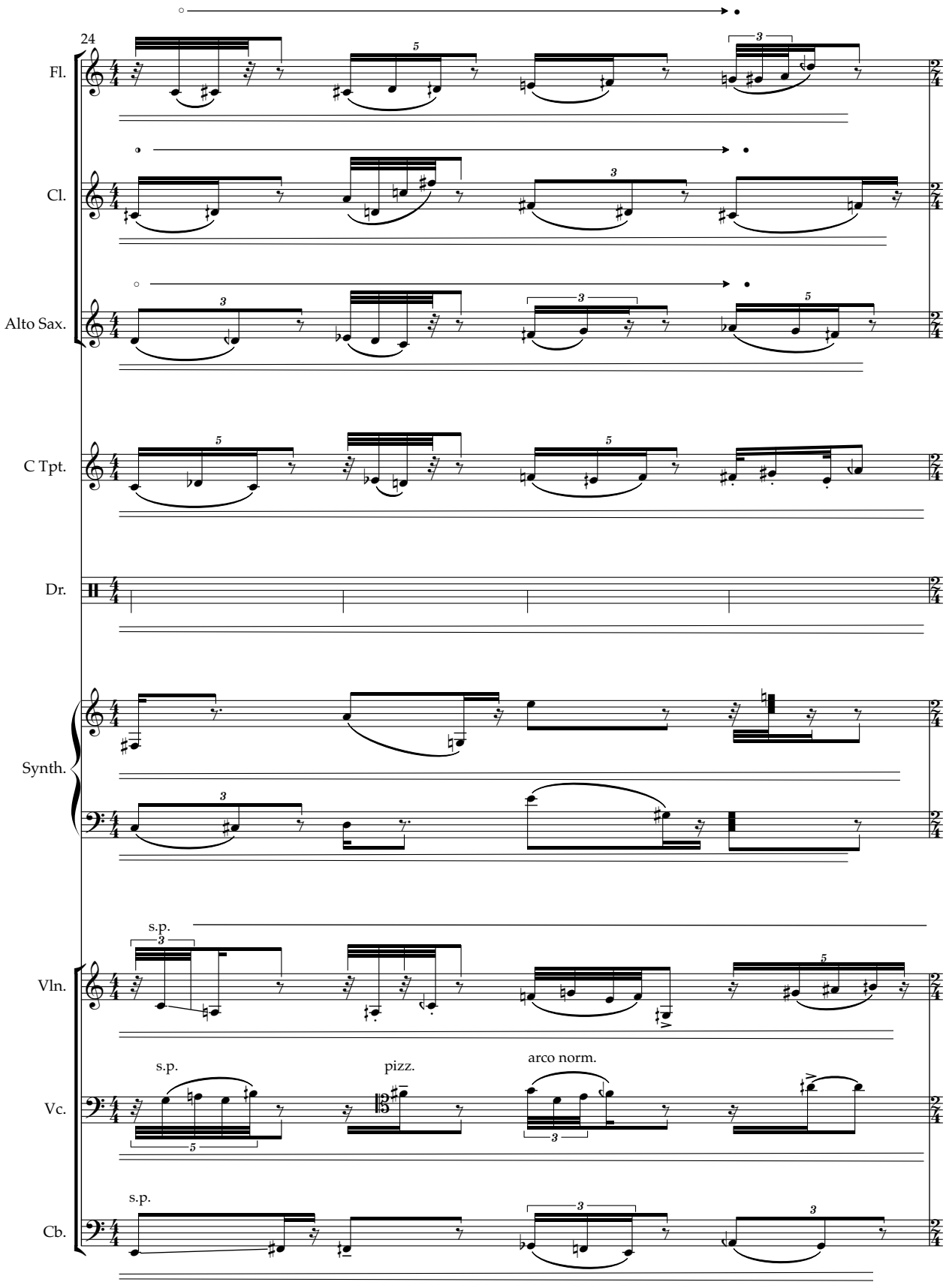

17
Fl.
[ch]
Cl.
Alto Sax.
fltz.
C Tpt.
fltz.
Dr.
Synth.
8vb
8vb
c.l.b.
arco norm.
Vln.
pizz.
arco norm.
Vc.
ric.
norm.
Cb.

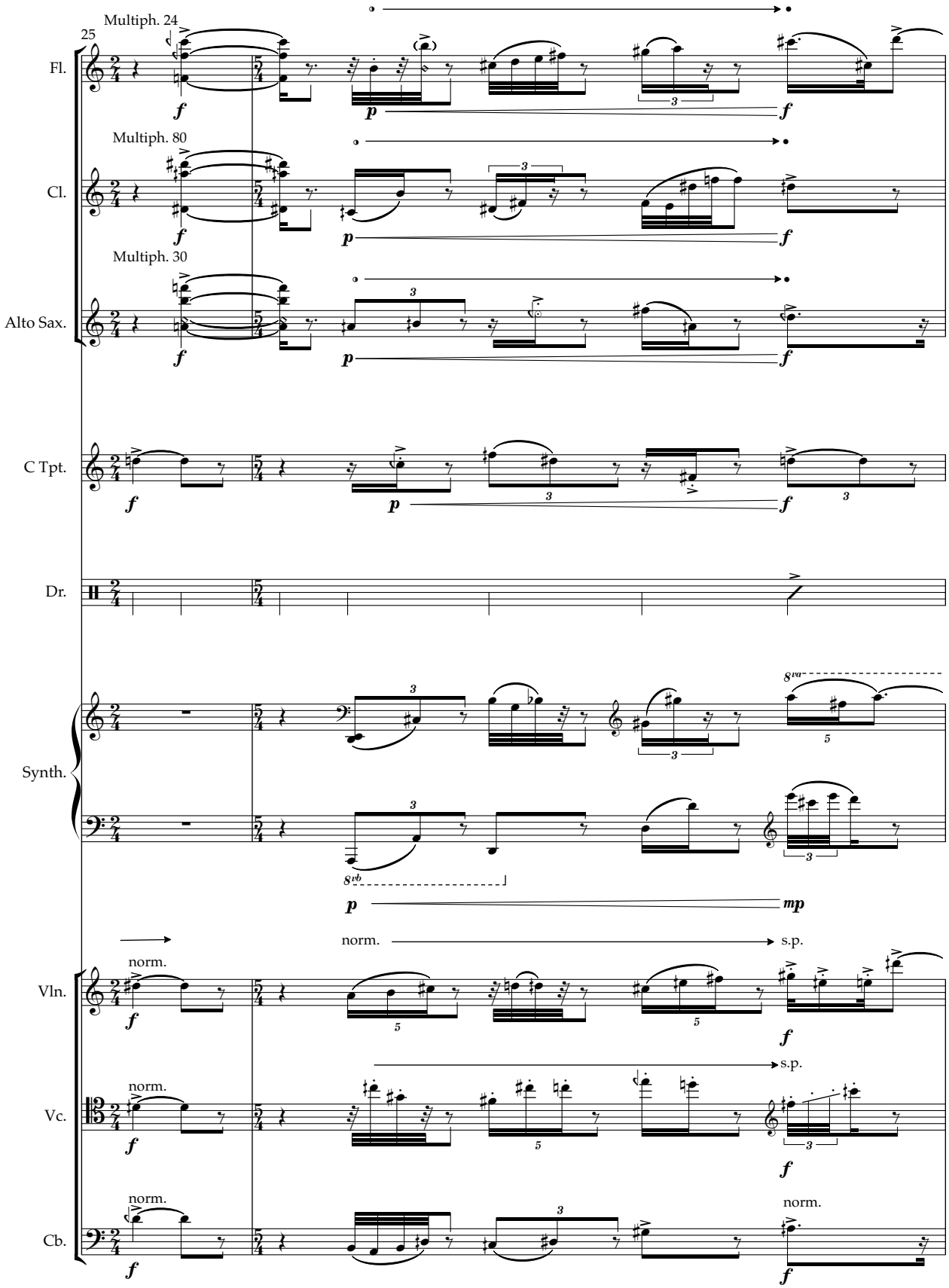

18
Fl.
Cl.
keyed gliss.
Alto Sax.
keyed gliss.
fltz.
C Tpt.
Dr.
Synth.
8va
Vln.
sul pont.
Vc.
sul pont.
Cb.
sul pont.


19
Multiph. 181
Fl.
Multiph. 1
Cl.
Multiph. 12
Alto Sax.
C Tpt.
Dr.
Synth.
norm.
Vln.
norm.
Vc.
norm.
Cb.
f
pp


21
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
[ch]
[k]
Multiph. 177
Multiph. 3
Multiph. 2
8va
(mp)
norm.
norm.
norm.


23
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
norm.
s.p.
Vln.
Vc.
s.p.
norm.
Cb.


24
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
s.p.
s.p.
pizz.
arco norm.
s.p.


25
Multiph. 24
Fl.
Multiph. 80
Cl.
Multiph. 30
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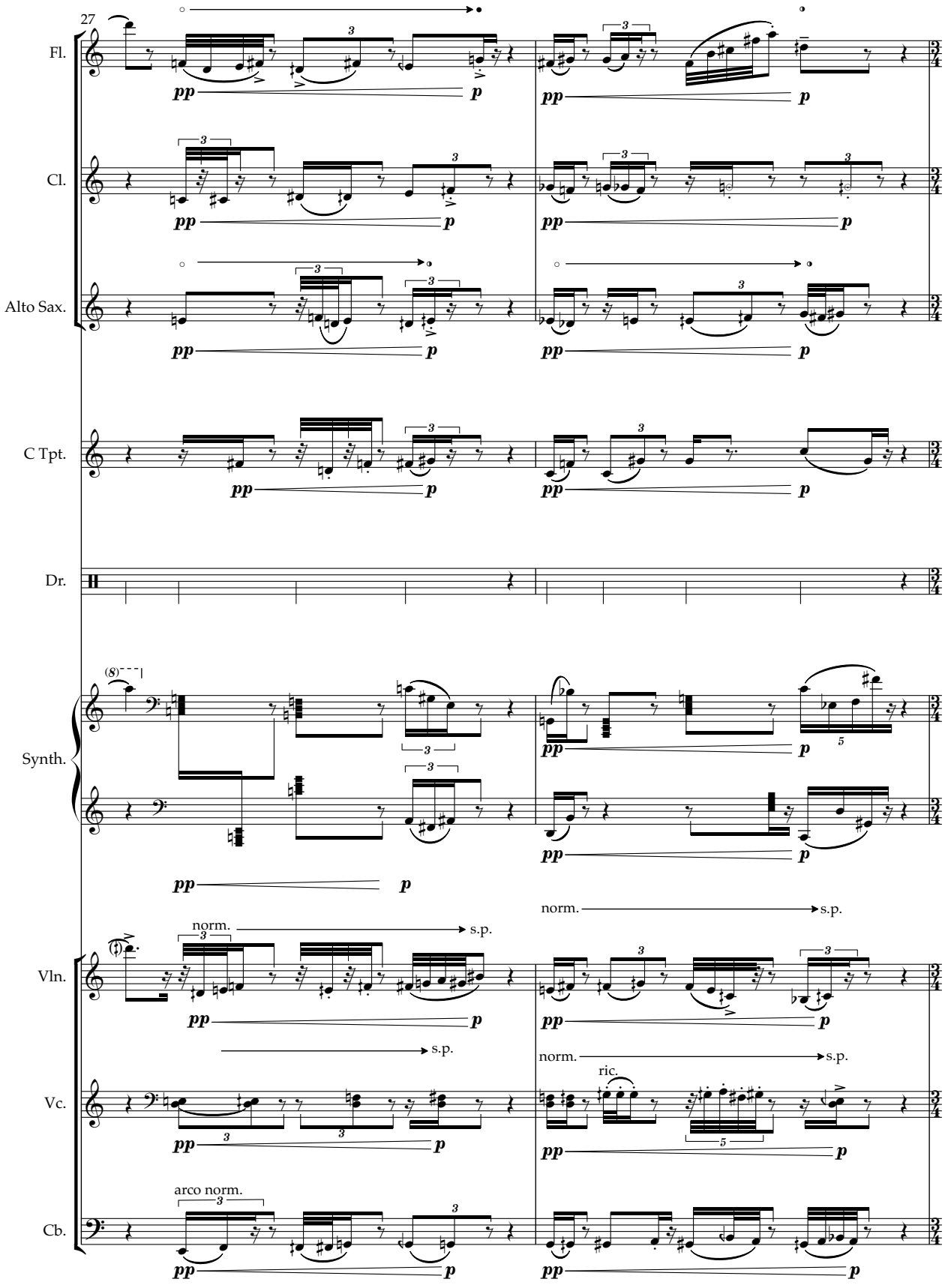
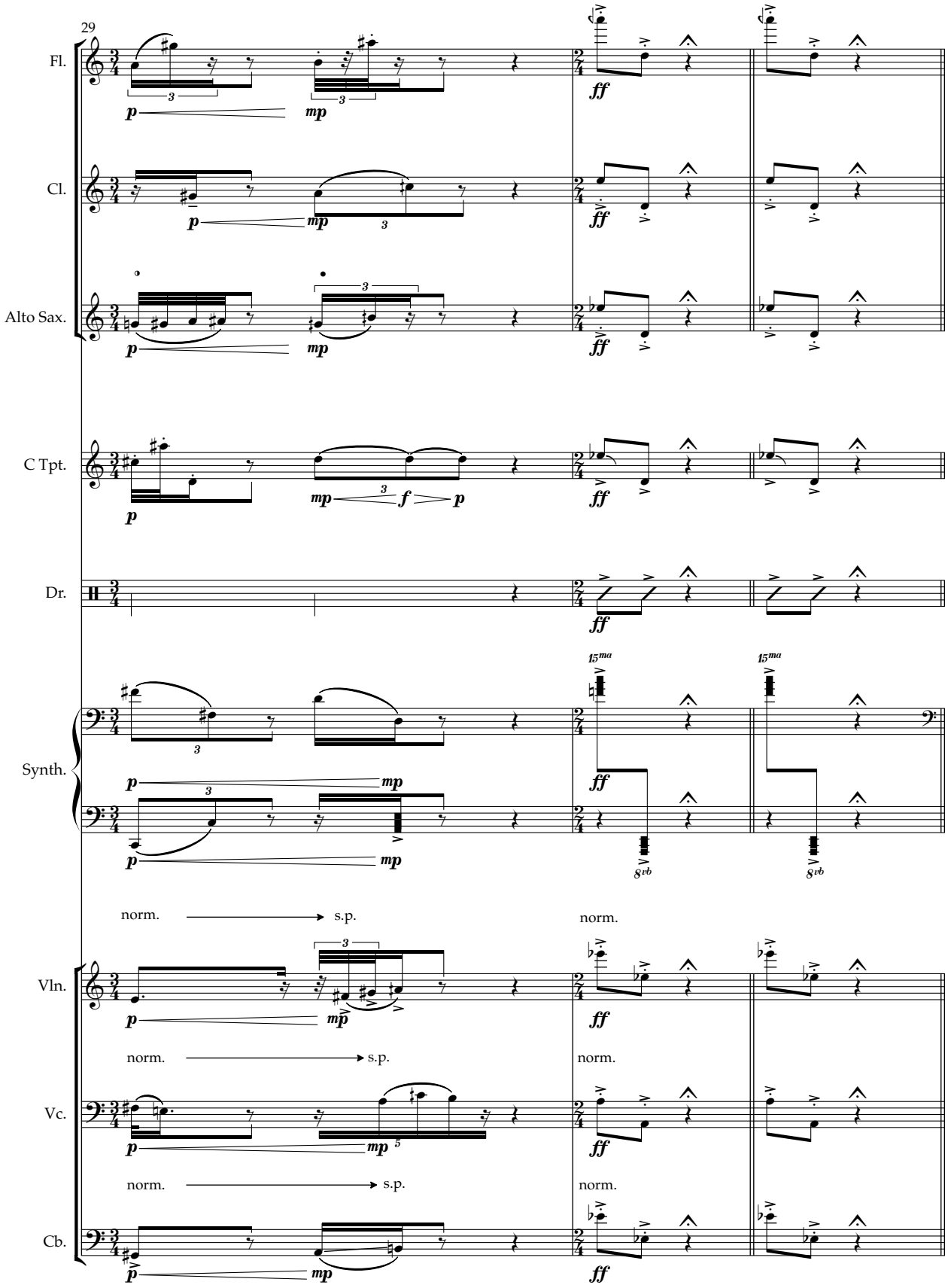
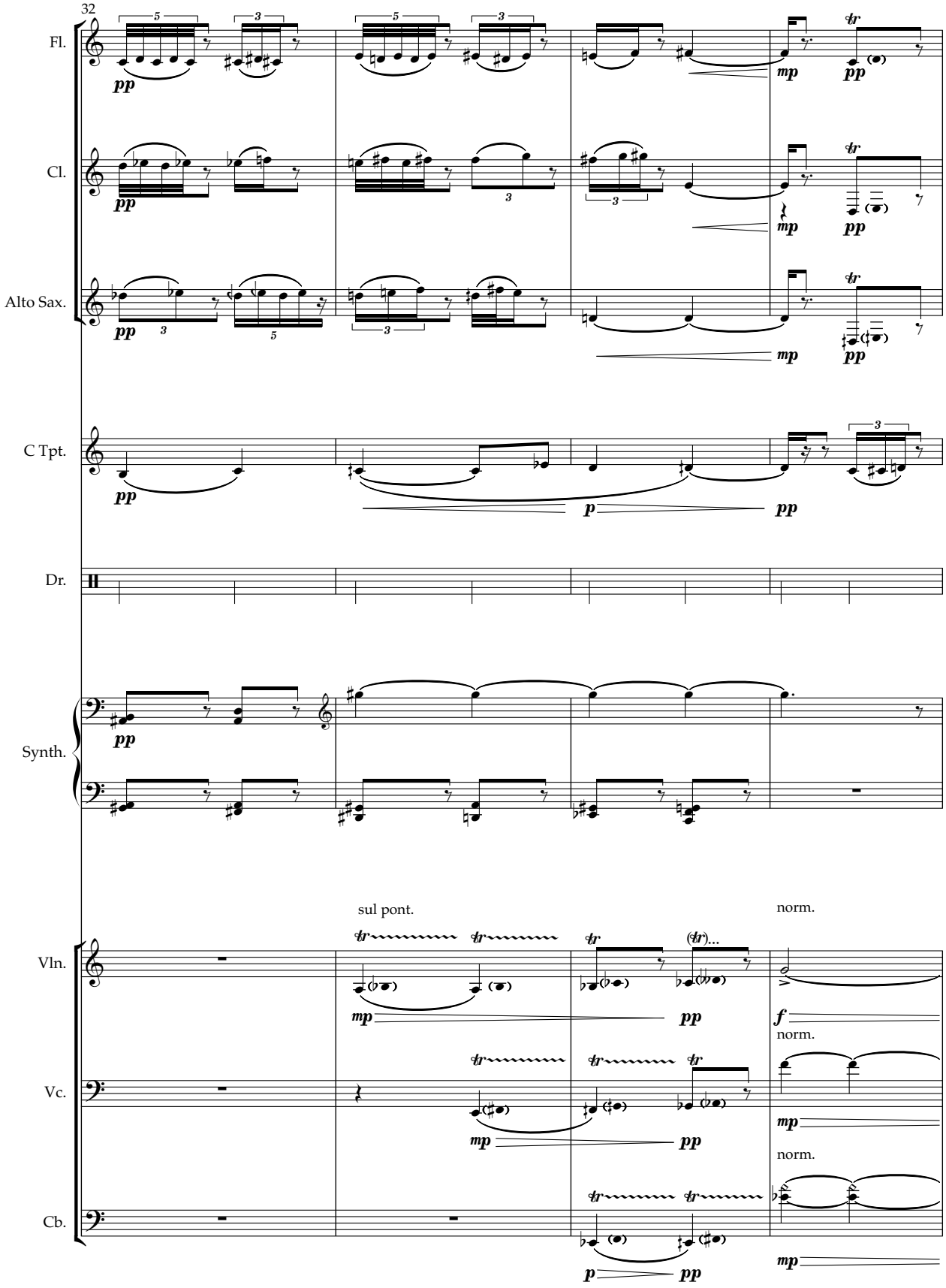
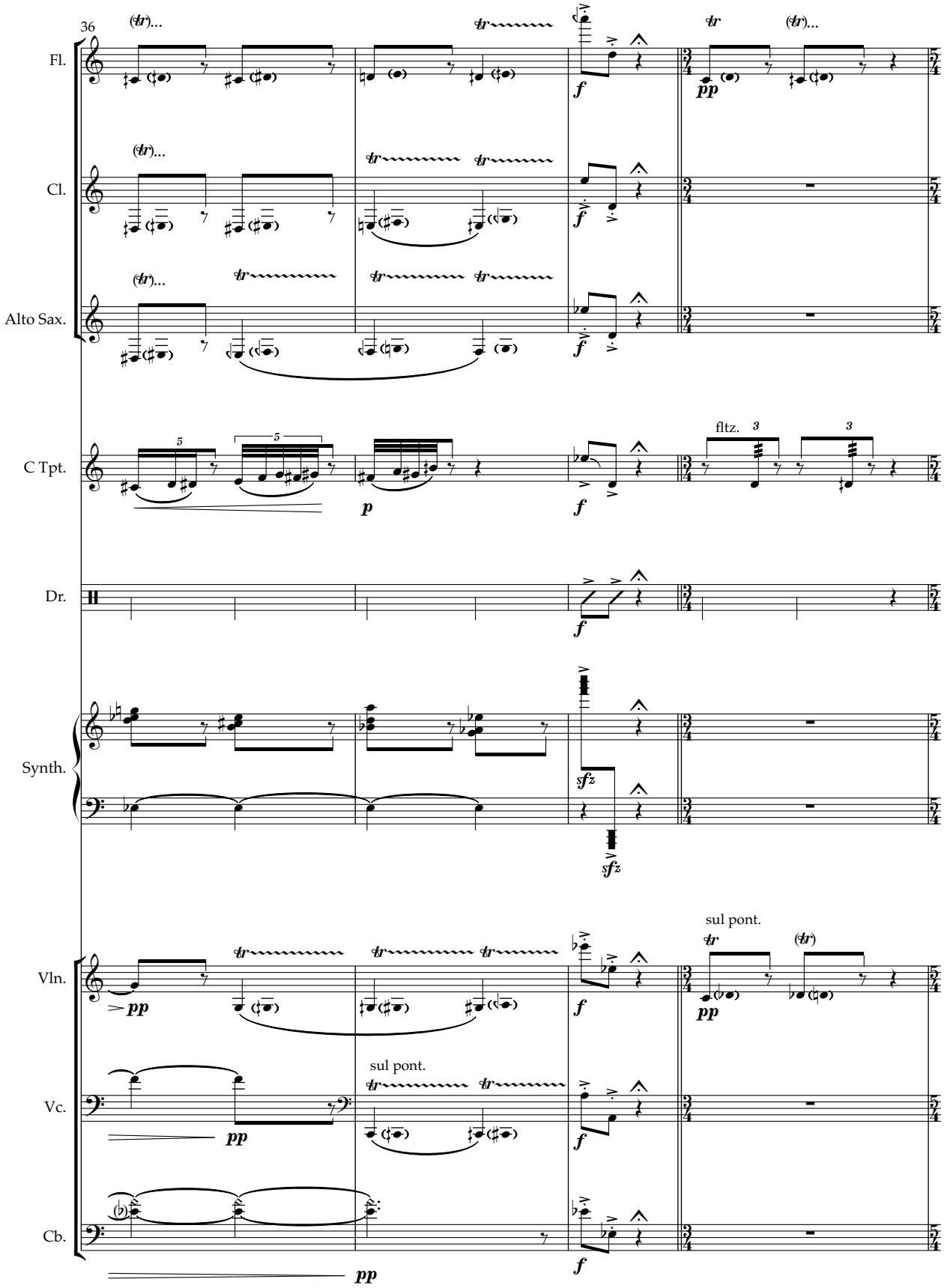
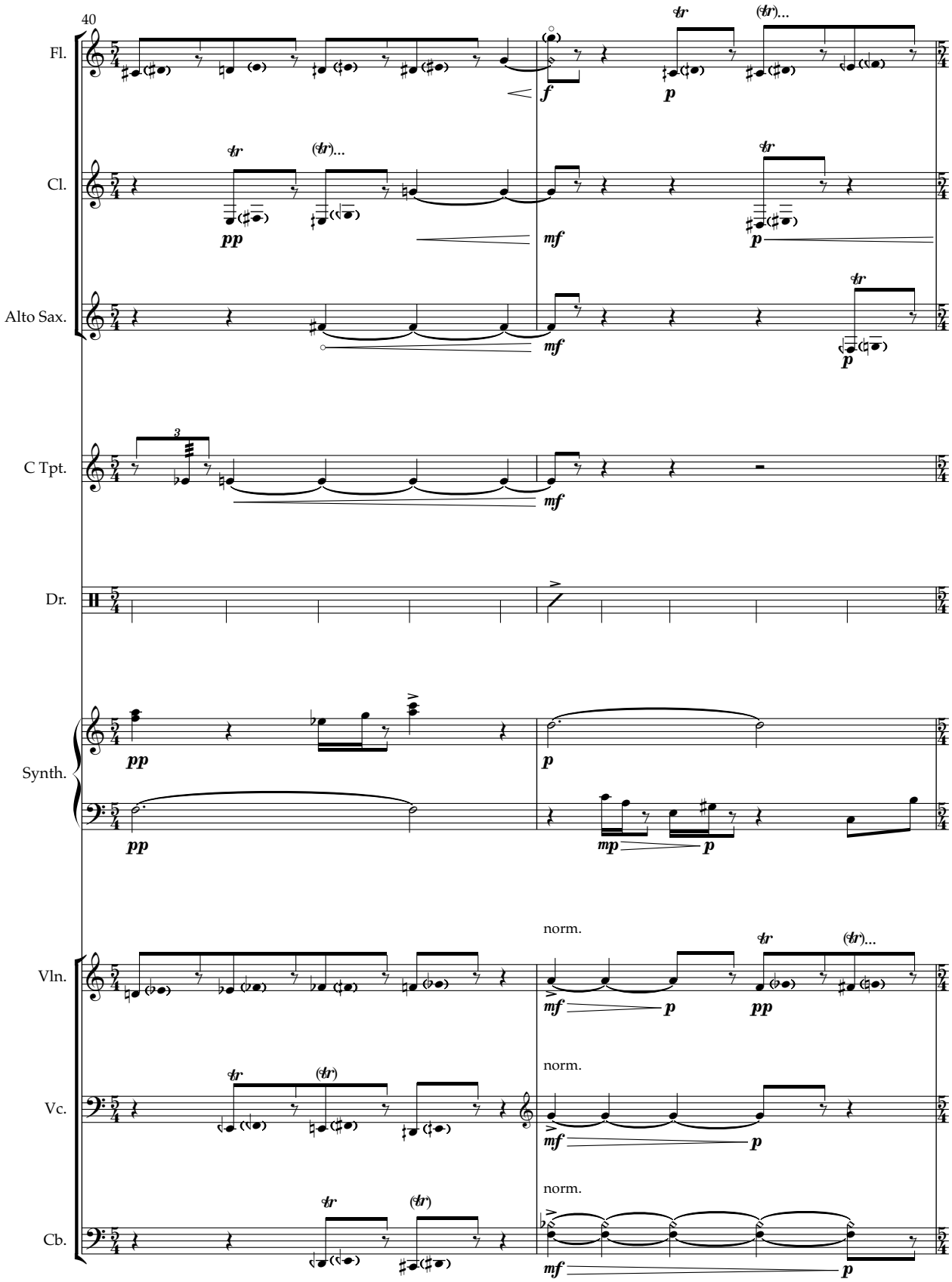
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
norm.
s.p.
f
p
mp

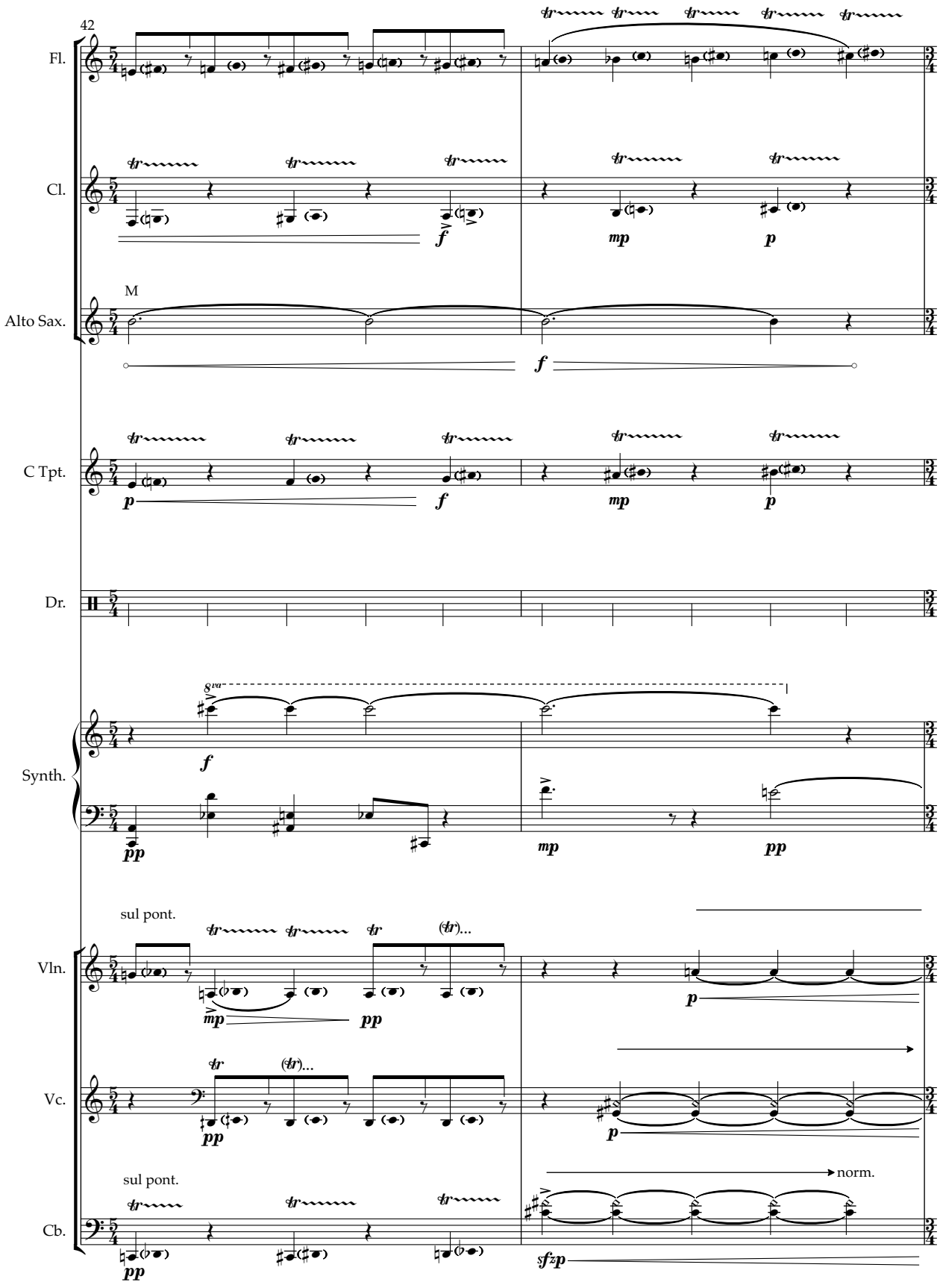

27
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
pp
p
norm.
s.p.
ric.
arco norm.

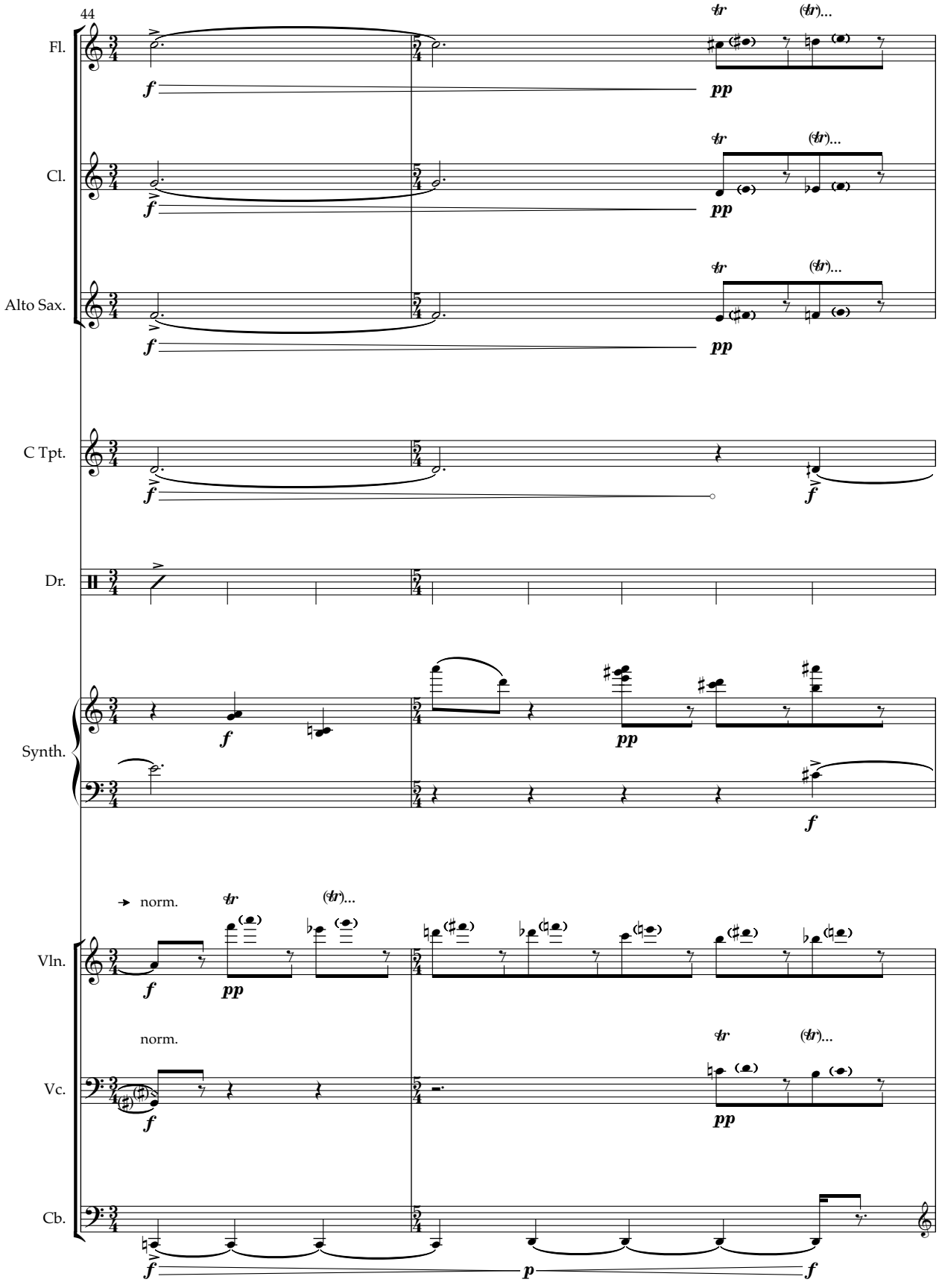

29
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
norm.
s.p.
norm.
norm.
s.p.
norm.
norm.
s.p.
norm.
15ma
8vb


32
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
sul pont.
norm.
norm.
norm.


36
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
(tr)...
tr
pp
f
p
fltz.
3
5
sfz
sul pont.


40
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
norm.
norm.
norm.


42
Fl.
Cl.
M
Alto Sax.
C Tpt.
Dr.
8va
Synth.
sul pont.
Vln.
Vc.
sul pont.
norm.
Cb.


44
Fl.
Cl.
Alto Sax.
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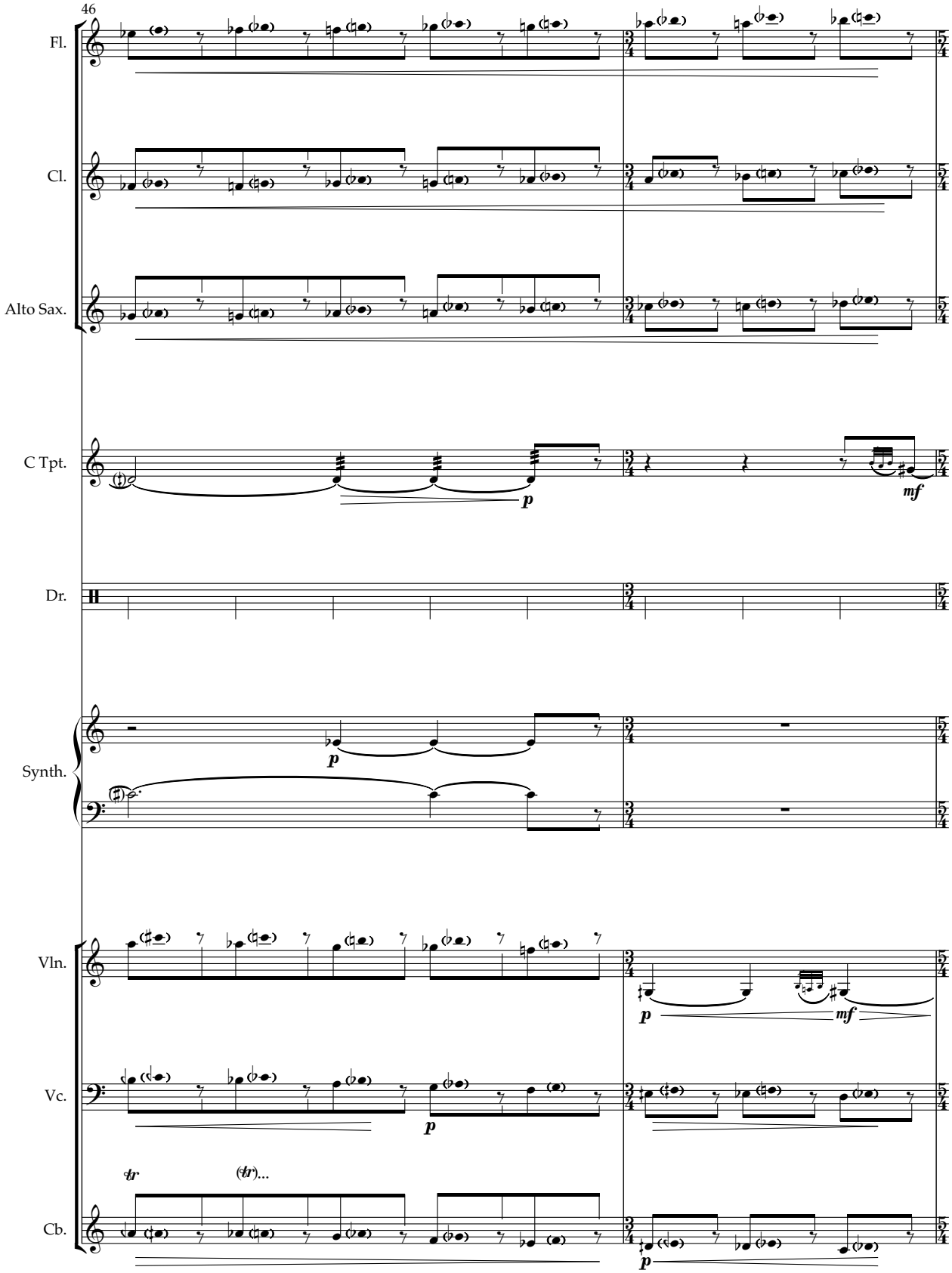
Dr.
Synth.
Vln.
Vc.
Cb.
norm.
norm.
tr
(tr)...
f
pp
p


46
Fl.
Cl.
Alto Sax.
C Tpt.
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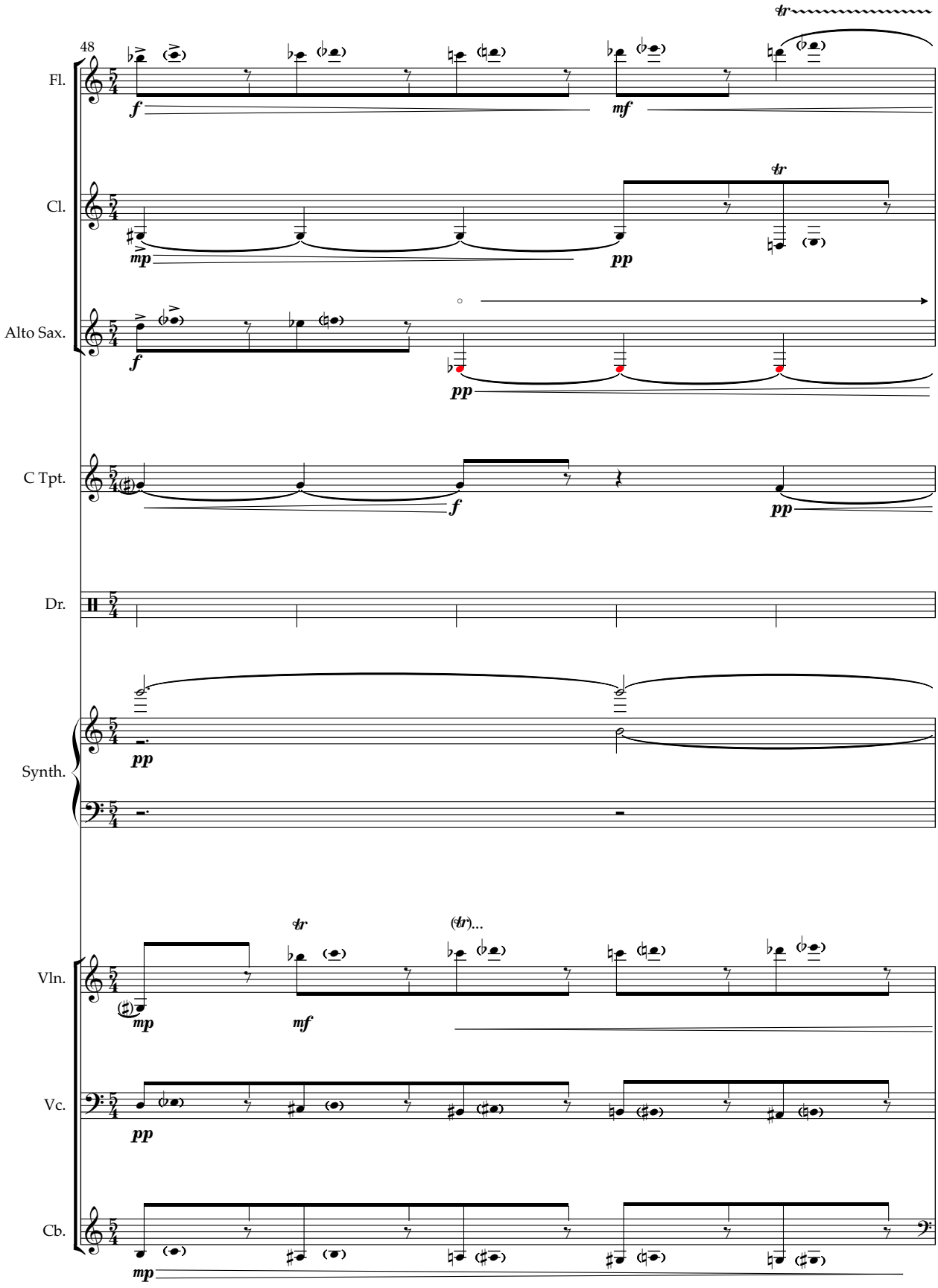
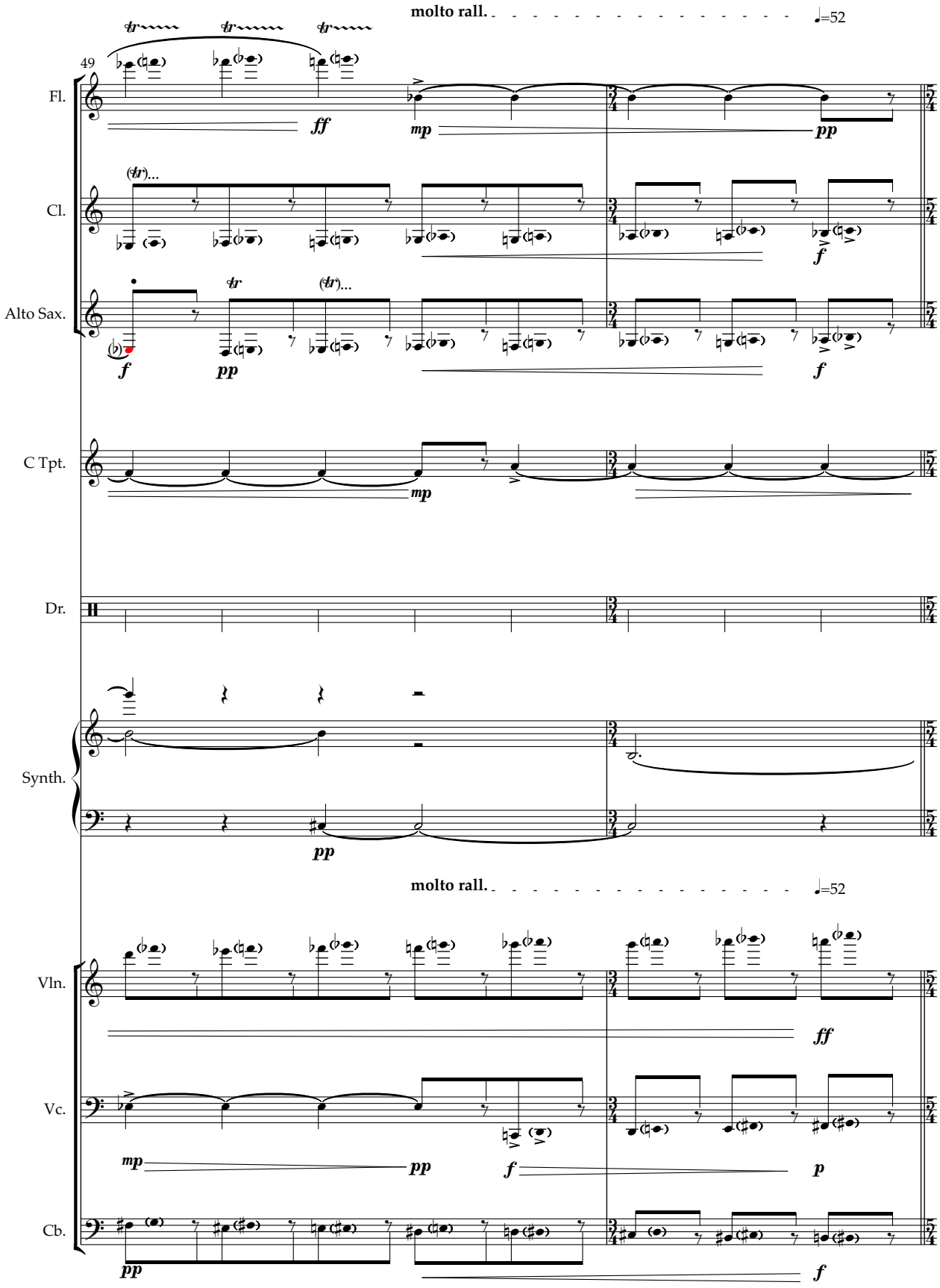
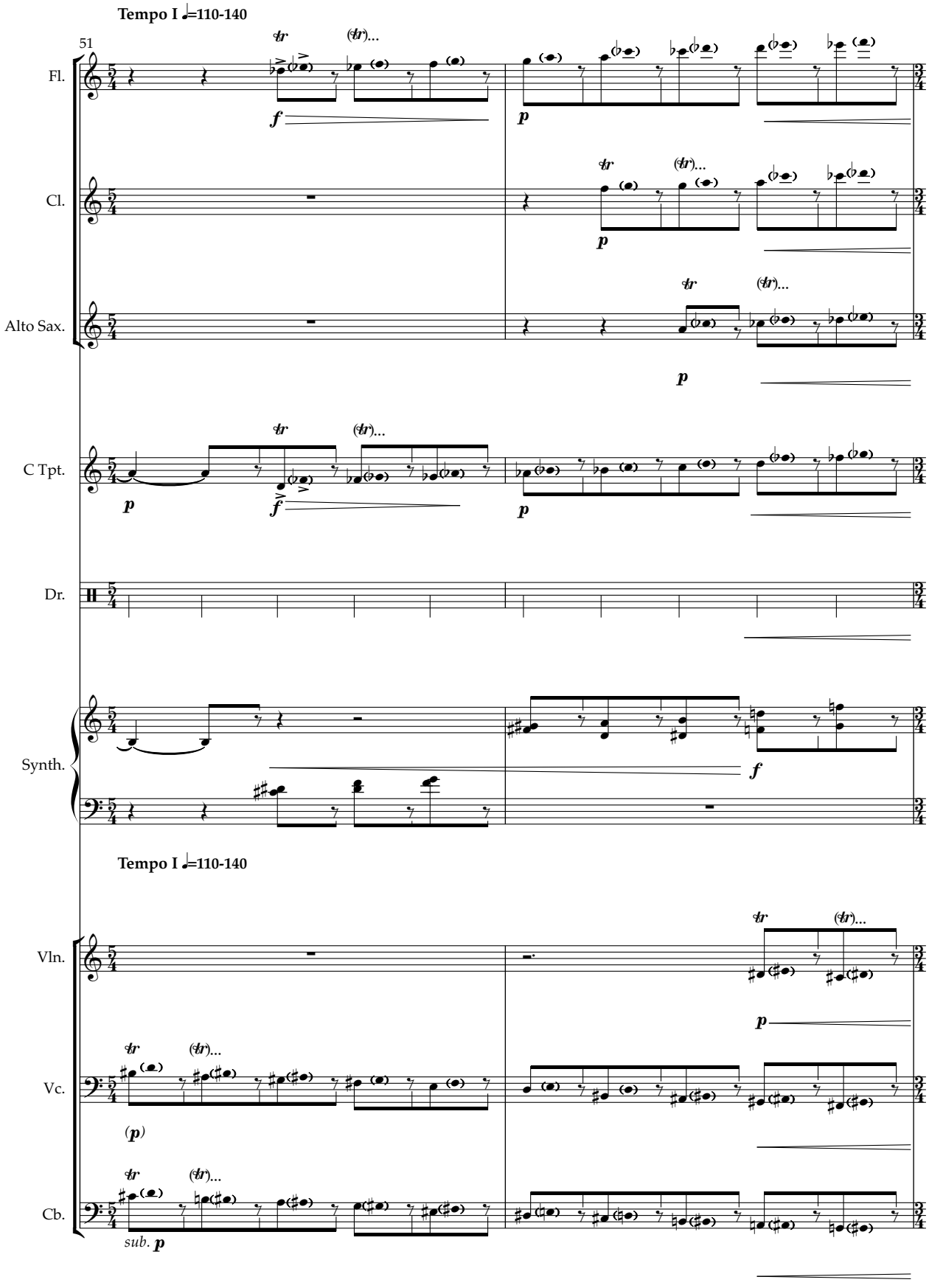
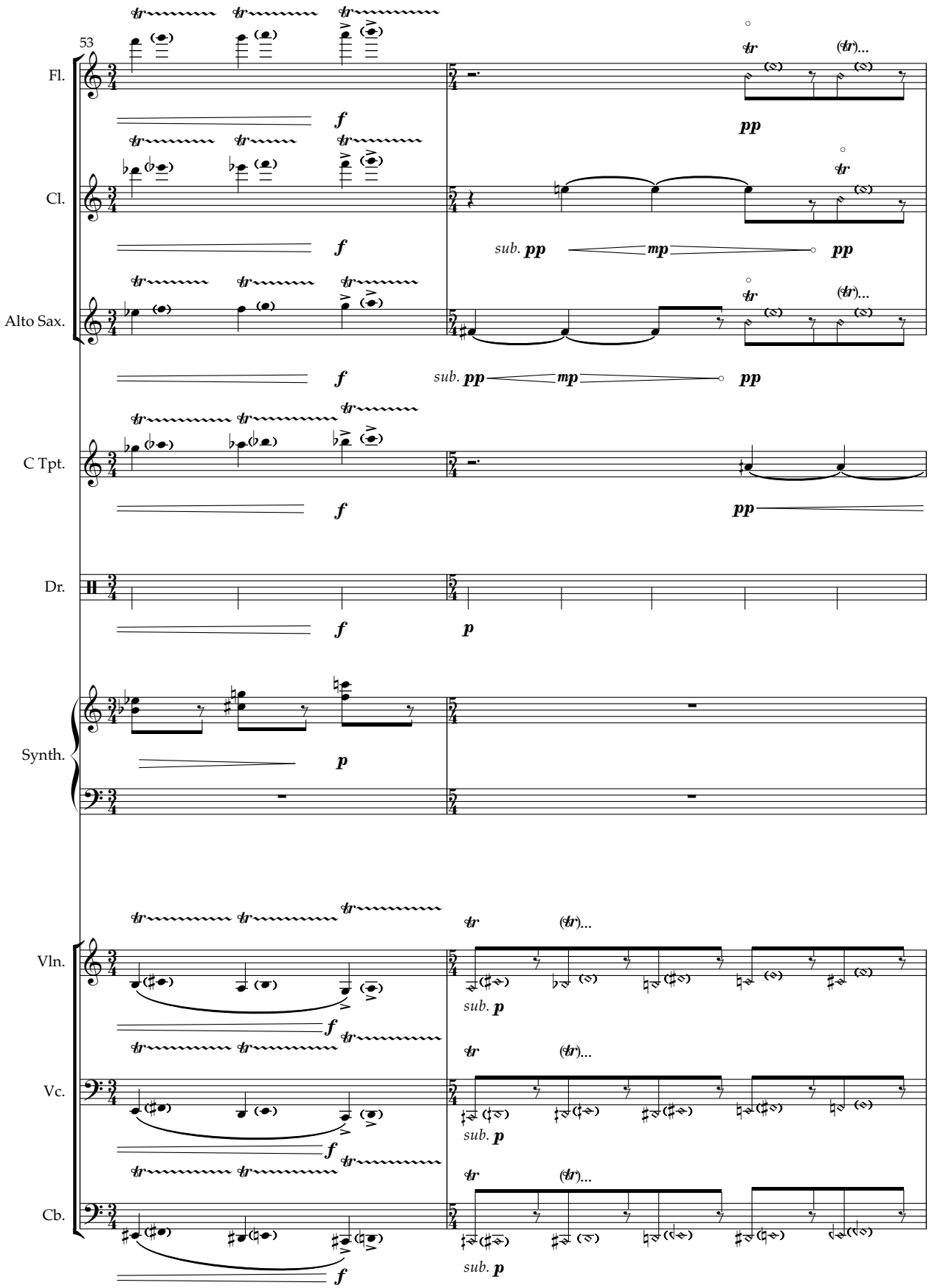
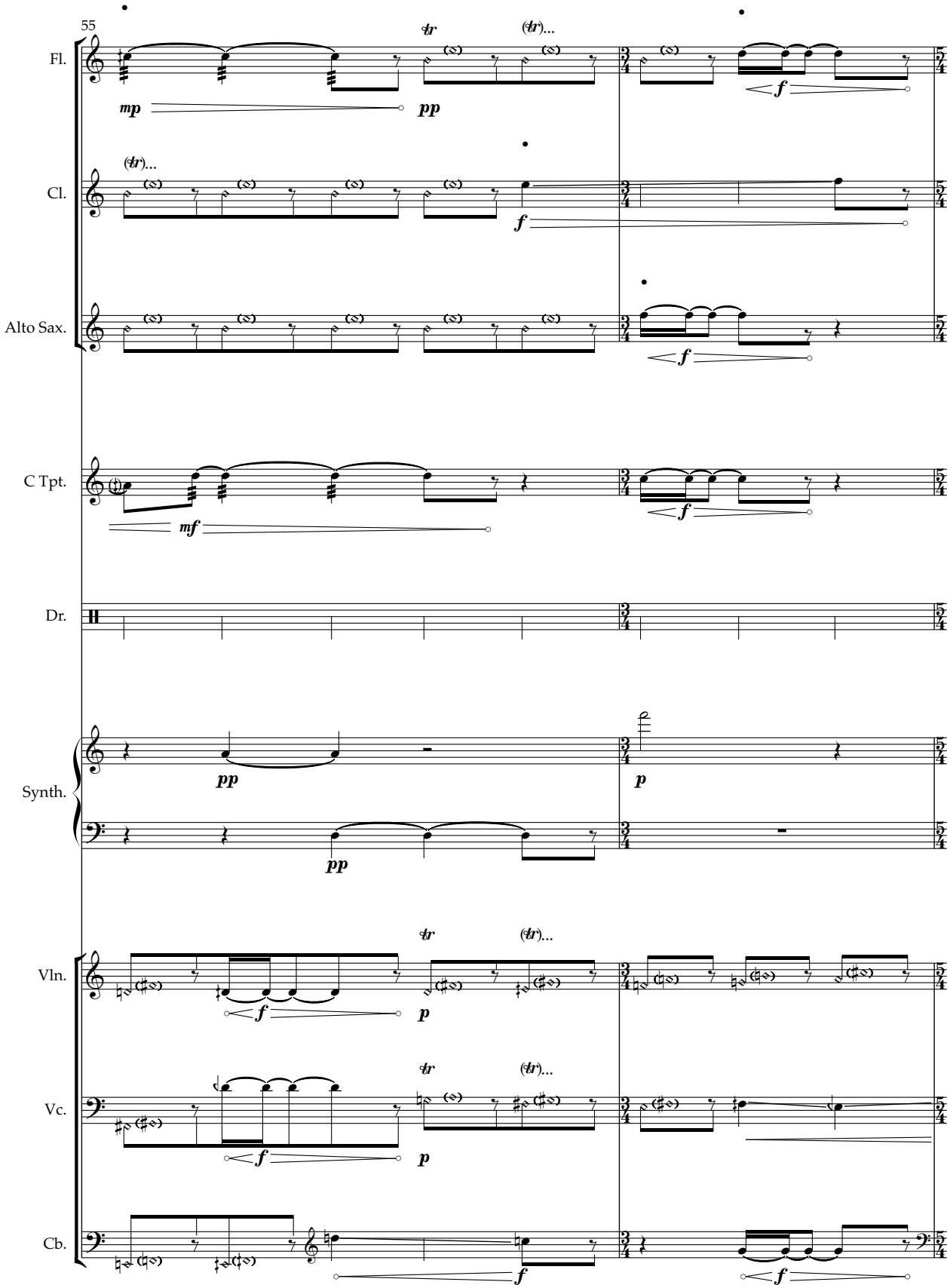
mf
Dr.
Synth.
p
Vln.
p
mf
Vc.
p
tr
(tr)...
Cb.
p


48
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
f
mf
mp
pp
tr
(tr)...


molto rall.
♩=52
49
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
molto rall.
♩=52
Vln.
Vc.
Cb.


Tempo I ♩=110-140
51
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Tempo I ♩=110-140
Vln.
Vc.
Cb.
sub. p


53
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
f
pp
sub. pp
mp
p


55
Fl.
Cl.
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Dr.
Synth.
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Vc.
Cb.
mp
pp
f
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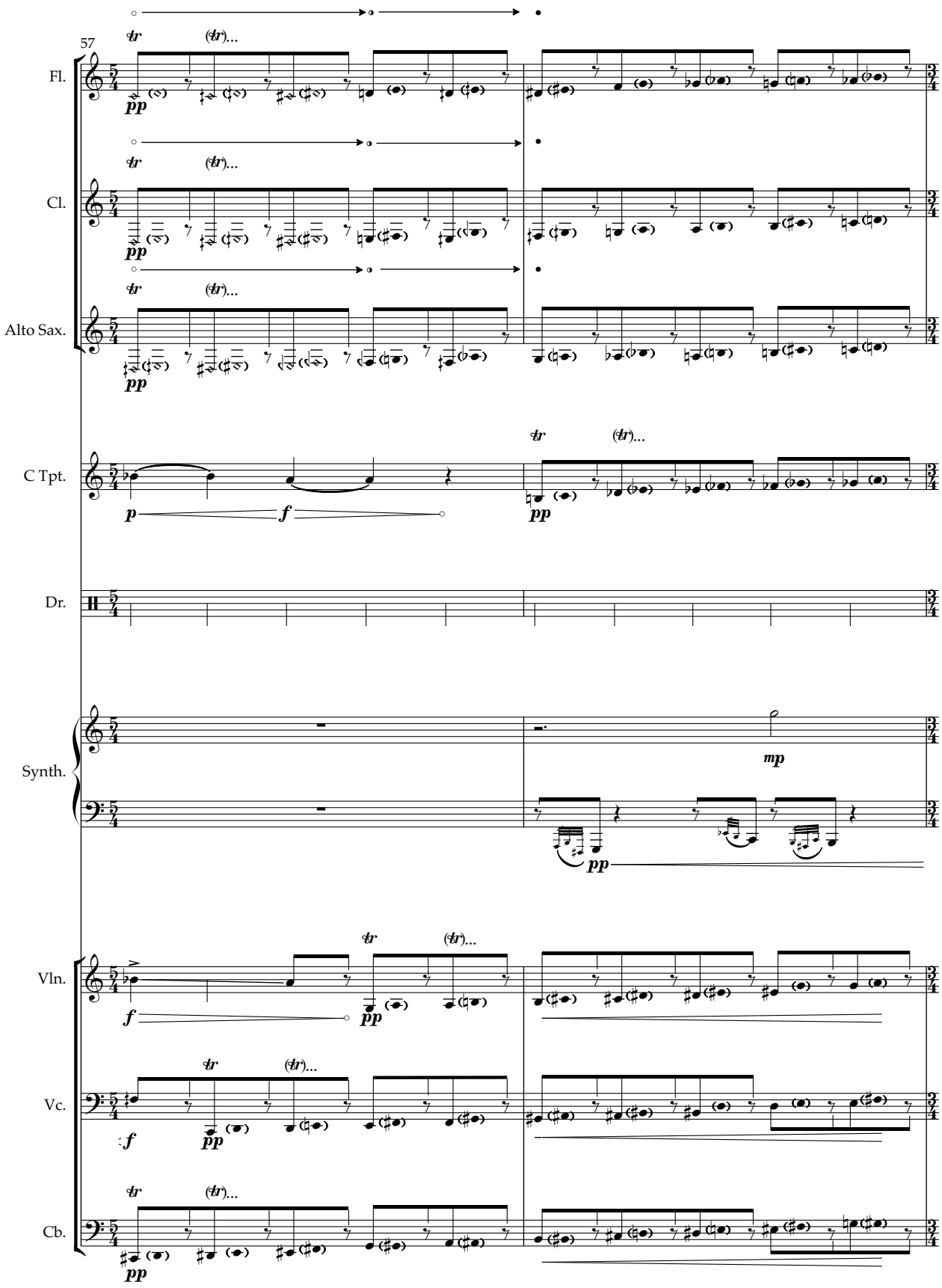
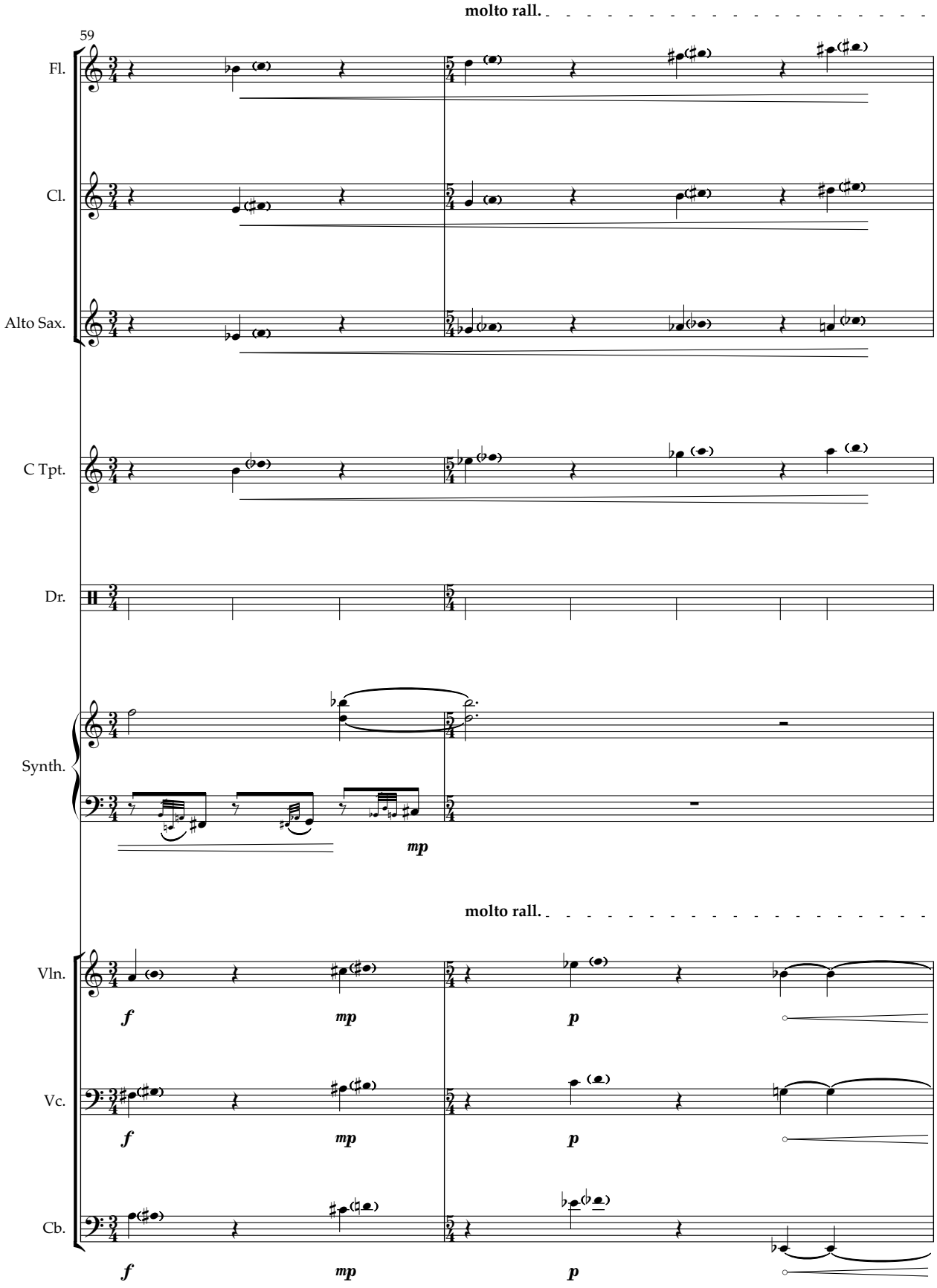
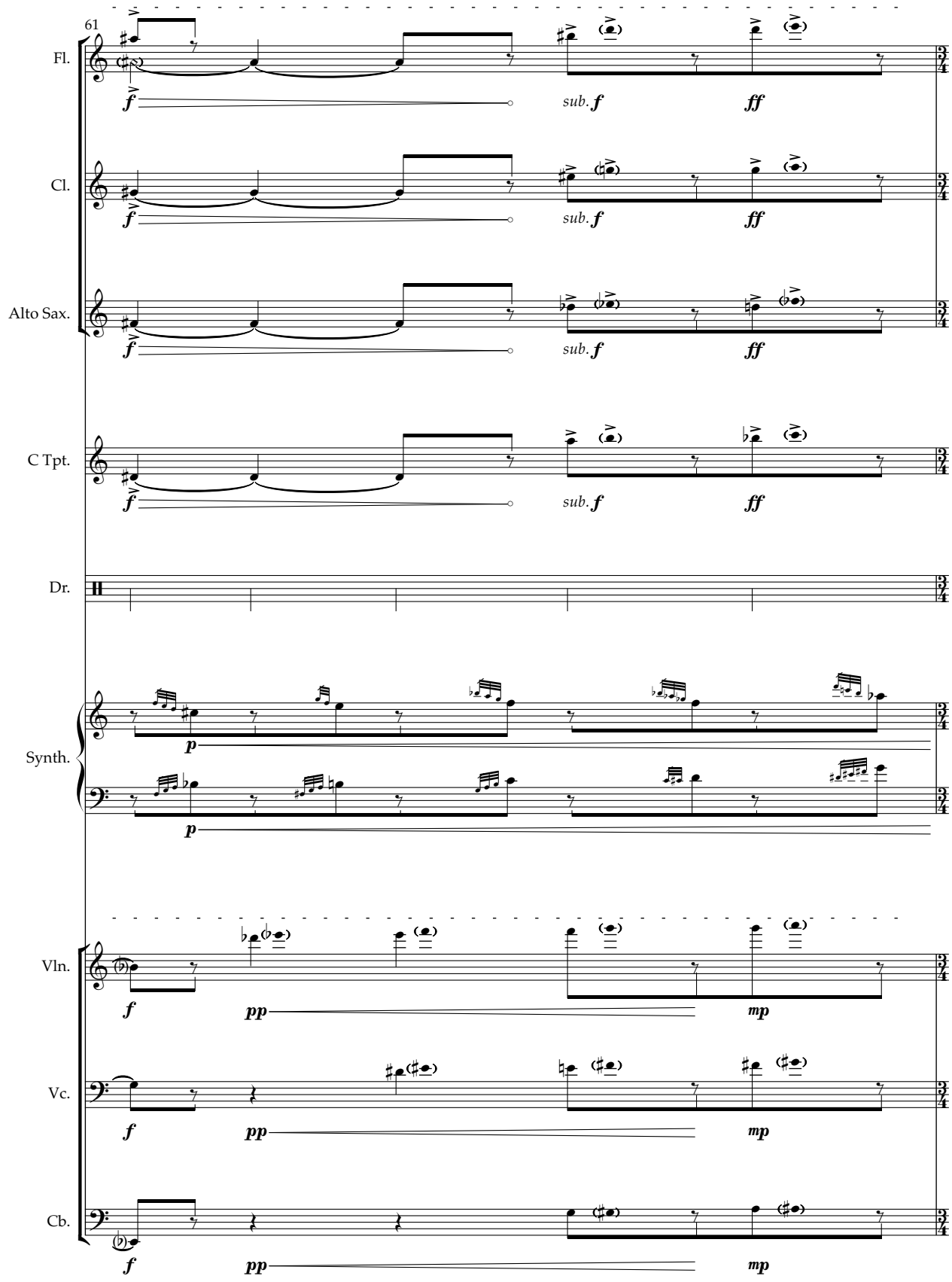
p
tr
(tr)...


57
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
Vln.
Vc.
Cb.
tr
(tr)...
pp
p
f
mp


molto rall.
59
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
mp
molto rall.
Vln.
Vc.
Cb.
f
mp
p


61
Fl.
Cl.
Alto Sax.
C Tpt.
Dr.
Synth.
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Vc.
Cb.
f
sub. f
ff
p
pp
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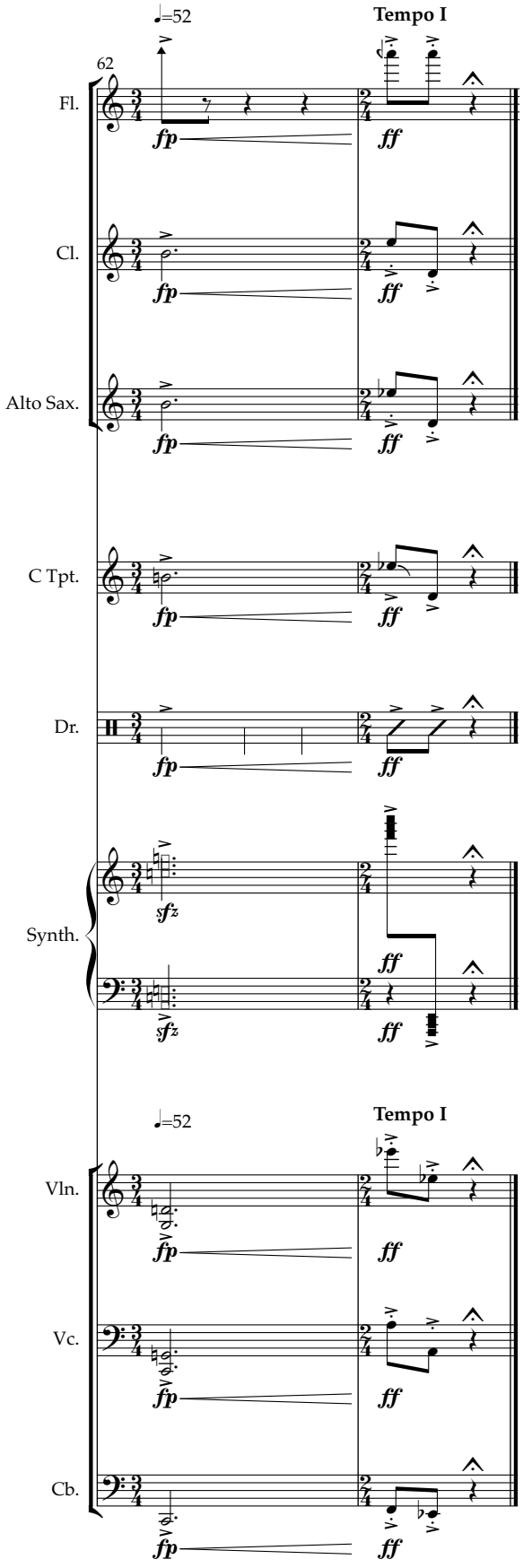

Febrile Swing
Jeremy Wexler
Kraków, Poland
— 2023 —