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Publication Date
2020

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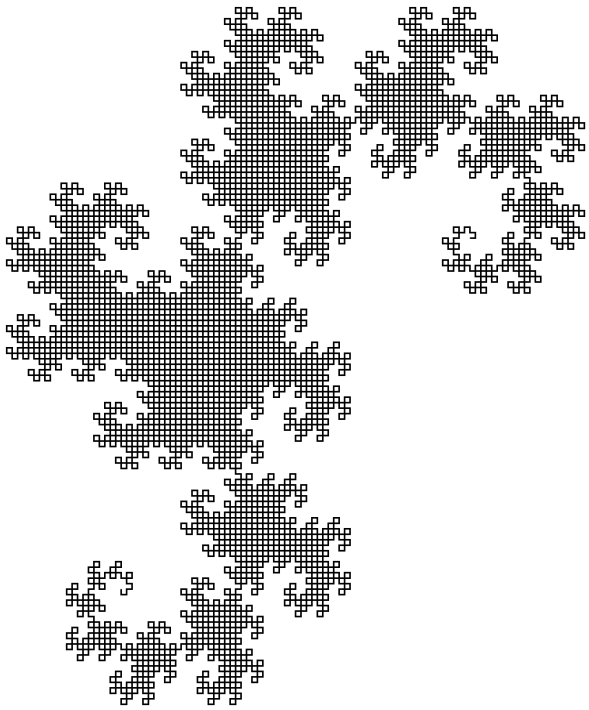
Roger Zare

Fractal Miniatures



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Instrumentation

Flute (doubles piccolo)
Clarinet in B♭ (doubles bass clarinet in B♭)
Trumpet in C
2 Violins
Viola
Cello
Piano
Percussion: One player
    Marimba, Suspended Cymbal, Snare Drum, Kick Bass

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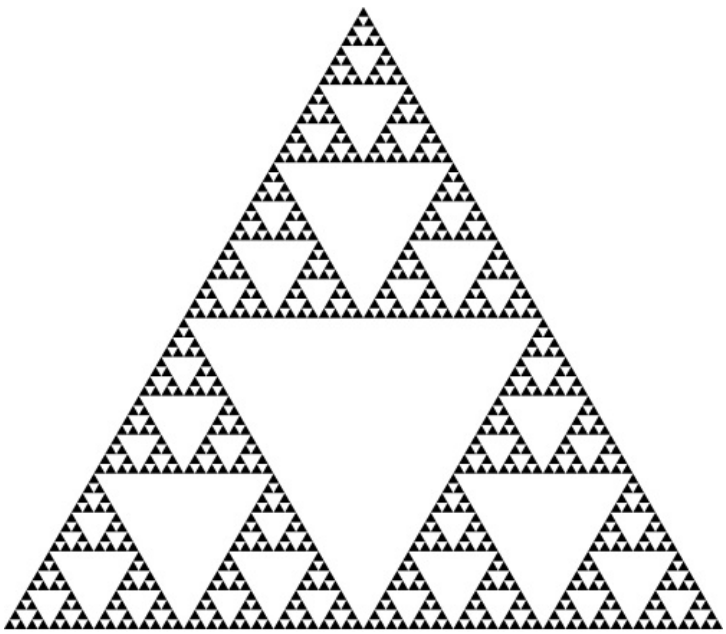


The beauty and order of fractals never ceases to amaze me, from the simplicity of the Sierpinski Triangle to the incredible complexity within the Mandelbrot set. I am mesmerized by videos that zoom ad infinitum into one of these fractals, revealing the same shapes over and over, gradually transformed by subtle and complex processes. In Fractal Miniatures,I have strung eight short movements together that each reflect my impressions of various fractals, taking them as pieces of art. Elements of fractal geometry, including symmetry and their additive nature, are used to construct the music.

The eight movements are arranged in a somewhat symmetrical layout, with the fifth movement as the focal point. The outer movements, named after the famous Sierpinski Triangle, are rhythmic and unyielding, pounding away at incessant rhythms through massive swells and dips. The second movement, flowsnake, is a spoonerism of snowflake, and is a simple space-filling fractal. This movement concentrates on sinewy flowing lines that spiral around one another. The third and seventh movements both open the same way, with the cello and percussion fading in ethereally into a pointillistic texture. The third movement, Newton Fractal continues this idea in a somewhat fitful manner, with various instruments taking turns with interjections. The seventh, Nova Fractal, is more linear, featuring a muted trumpet solo over an amorphous soup of string trills.

The fourth and sixth movements are named after the Dragon Curve, another space-filling curve. These two movements are abrupt and explosive, with sharp attacks and caustic gestures. They are also almost-exact mirror images of each other. The central movement of the set is named for arguably the most easily-recognized fractal, the Mandelbrot Set. Scored without percussion, the musical shape of this movement mimics the characteristic bulbous shape of the fractal. An underlying ostinato in 7/8 sets the stage for soaring lines and expansive harmonies.

Duration ca. 12'
Score is transposed

Written for Colin Sorgi and the SONAR New Music Ensemble

for more information or performance materials,
please visit www.rogerzare.com

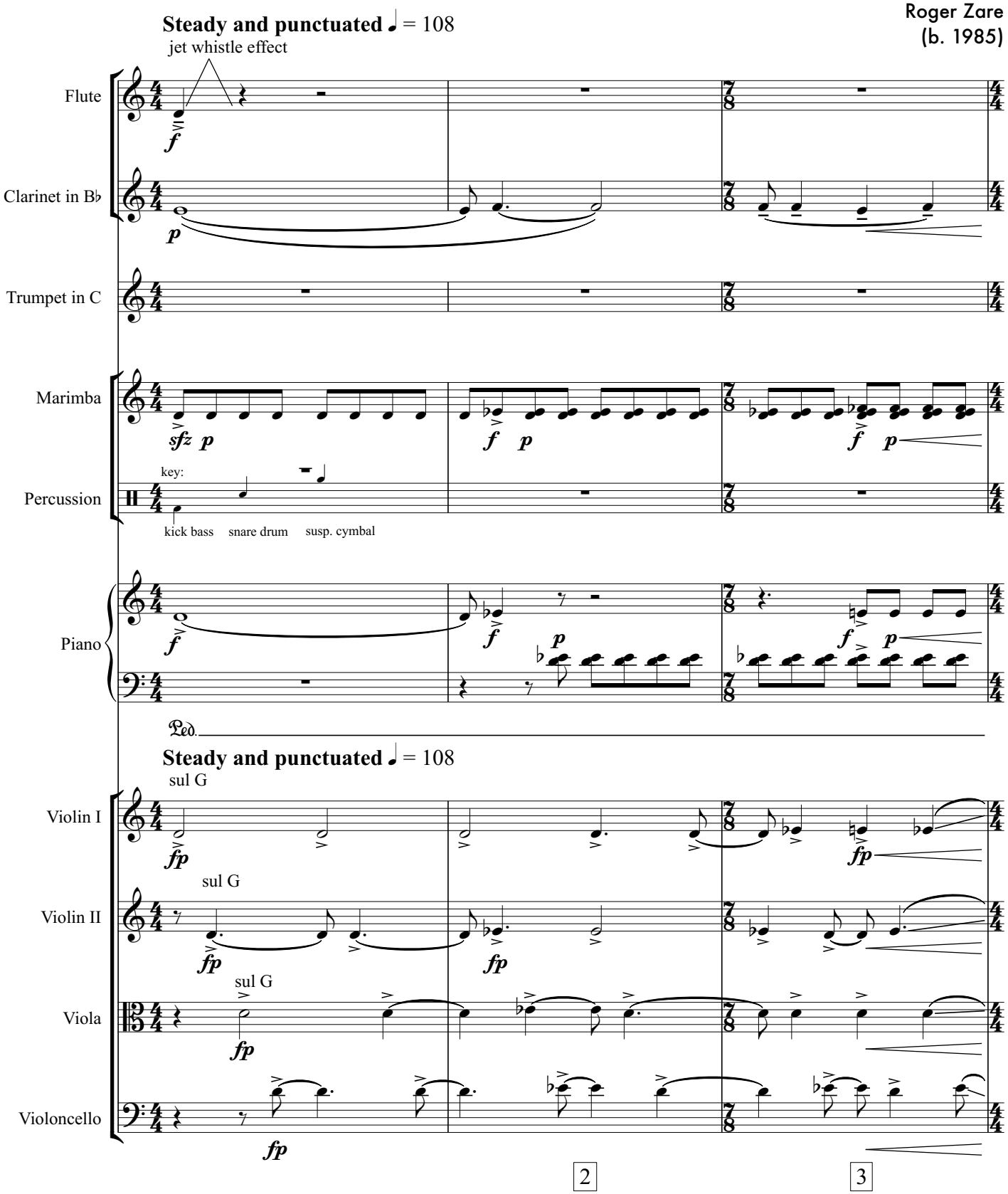
revised 3-1-2013

Fractal Miniatures

for mixed nonet

I. Sierpinski Triangle, Iteration 1

Roger Zare
(b. 1985)



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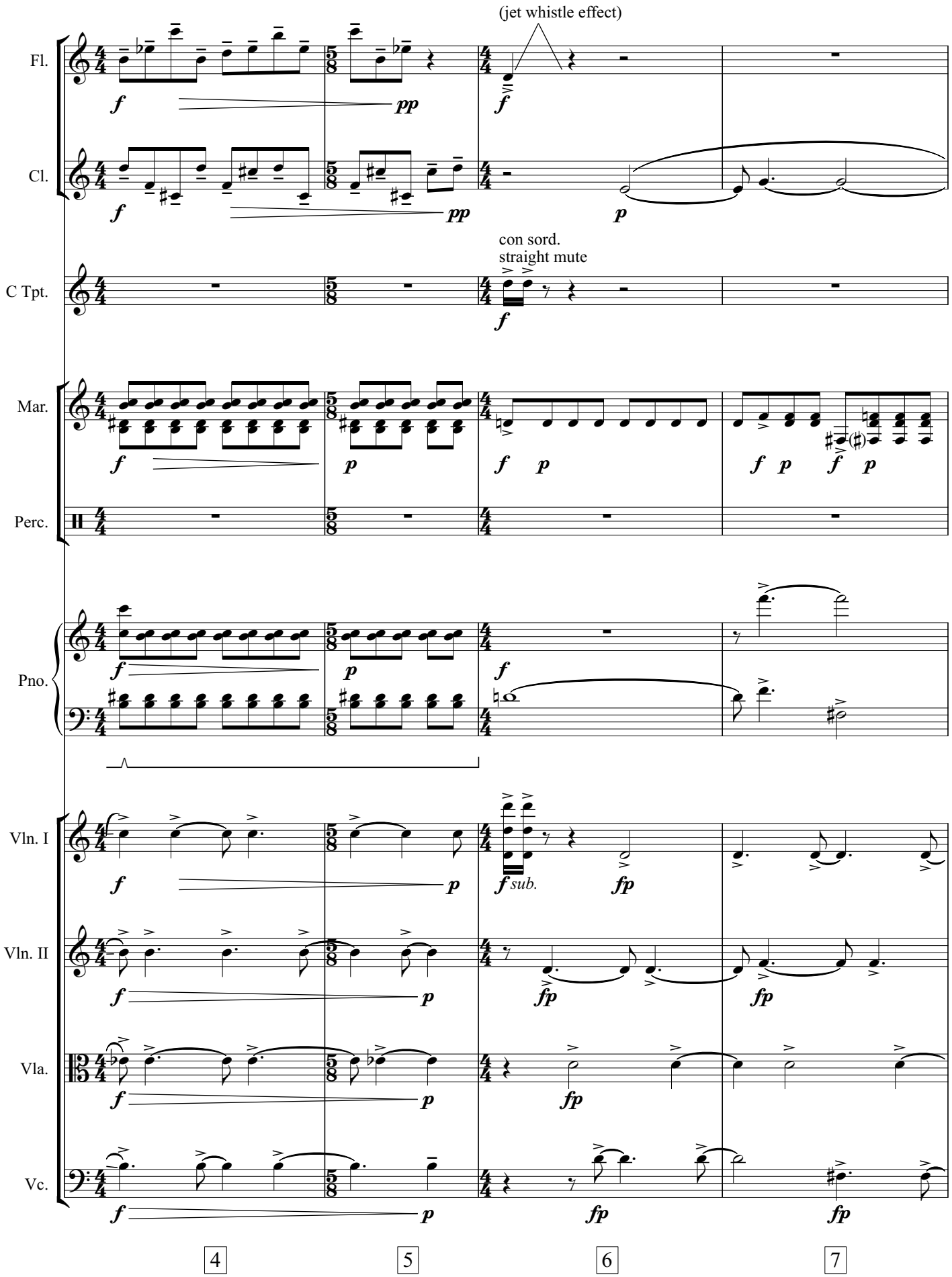
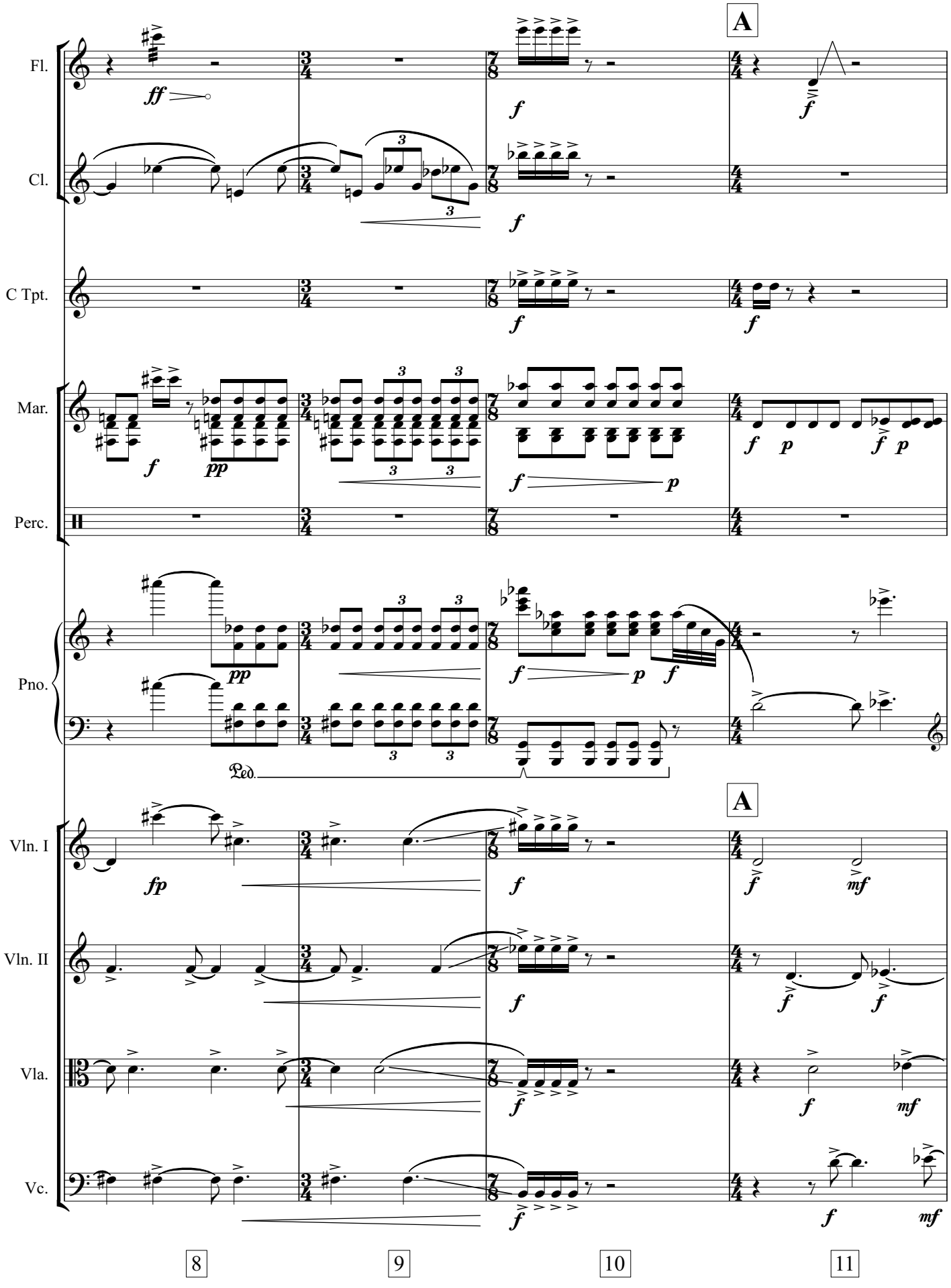
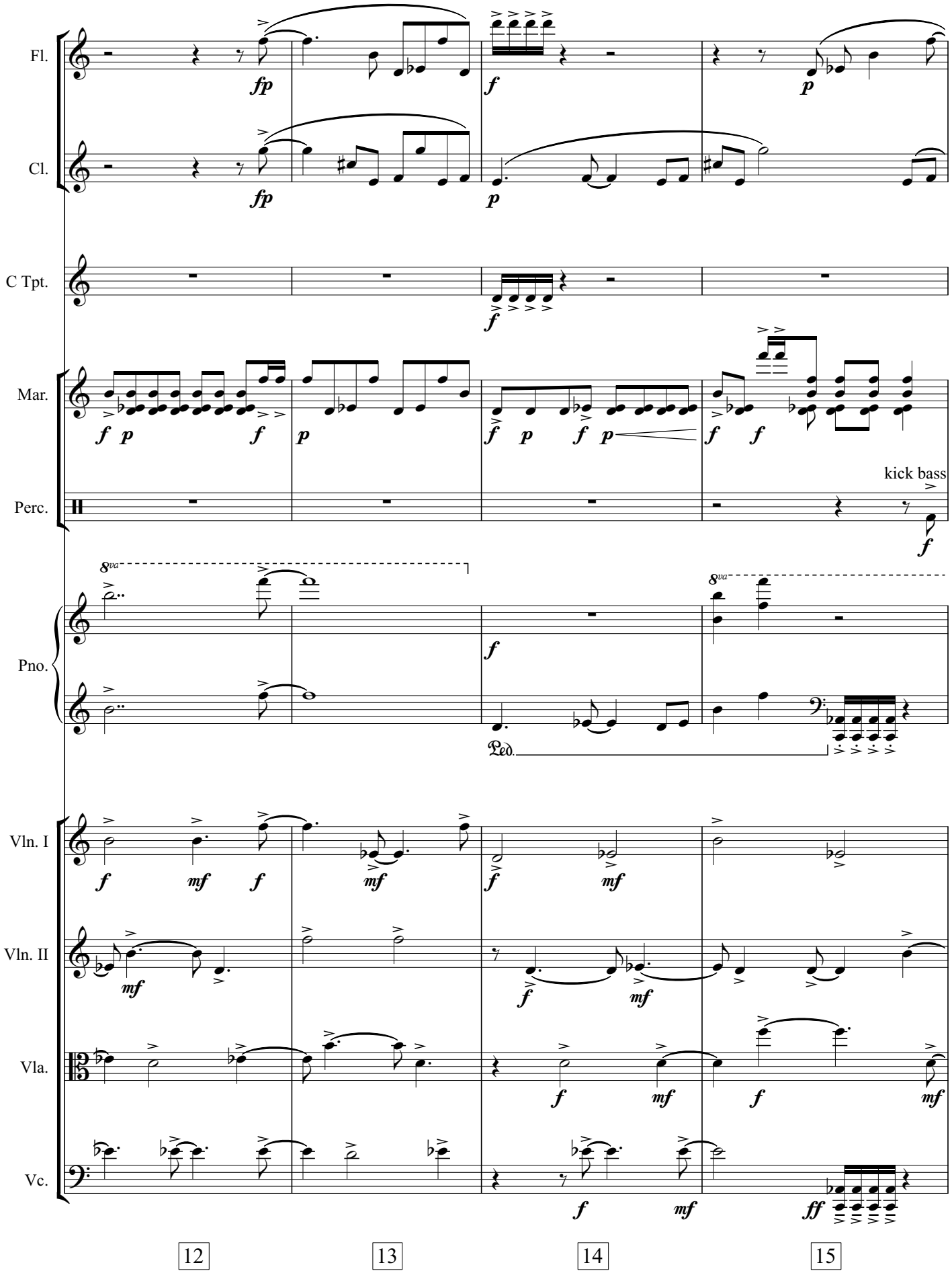
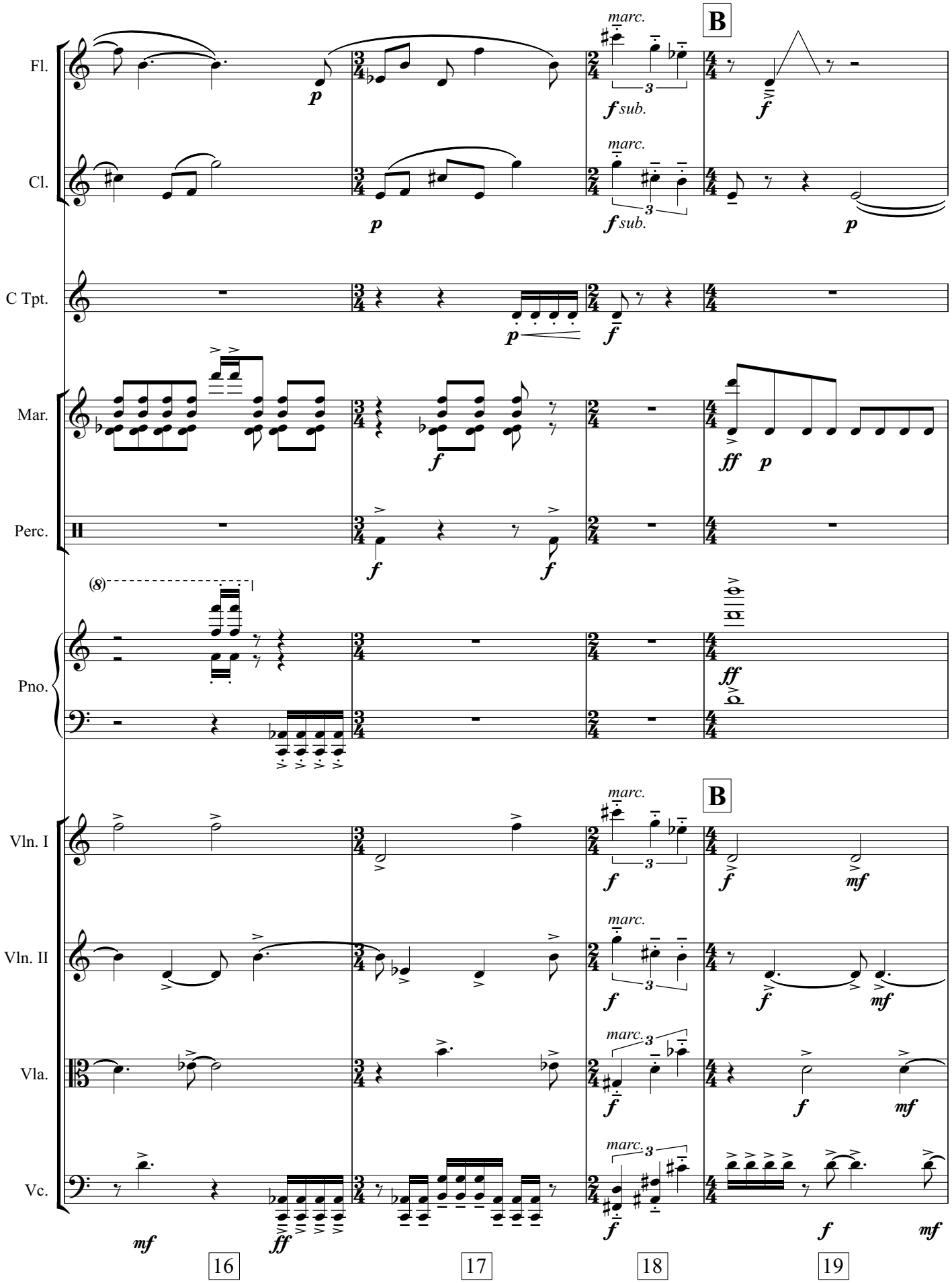
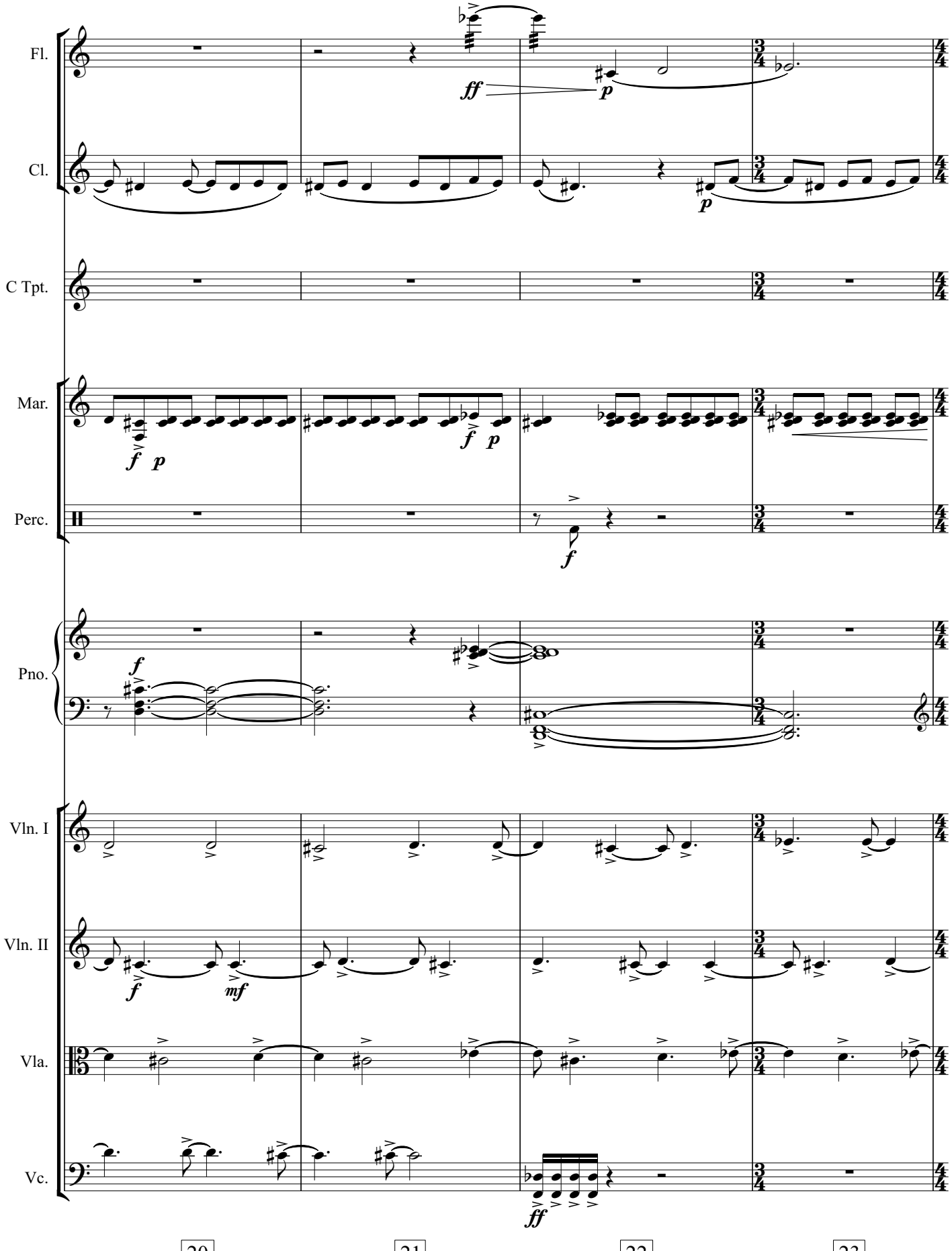
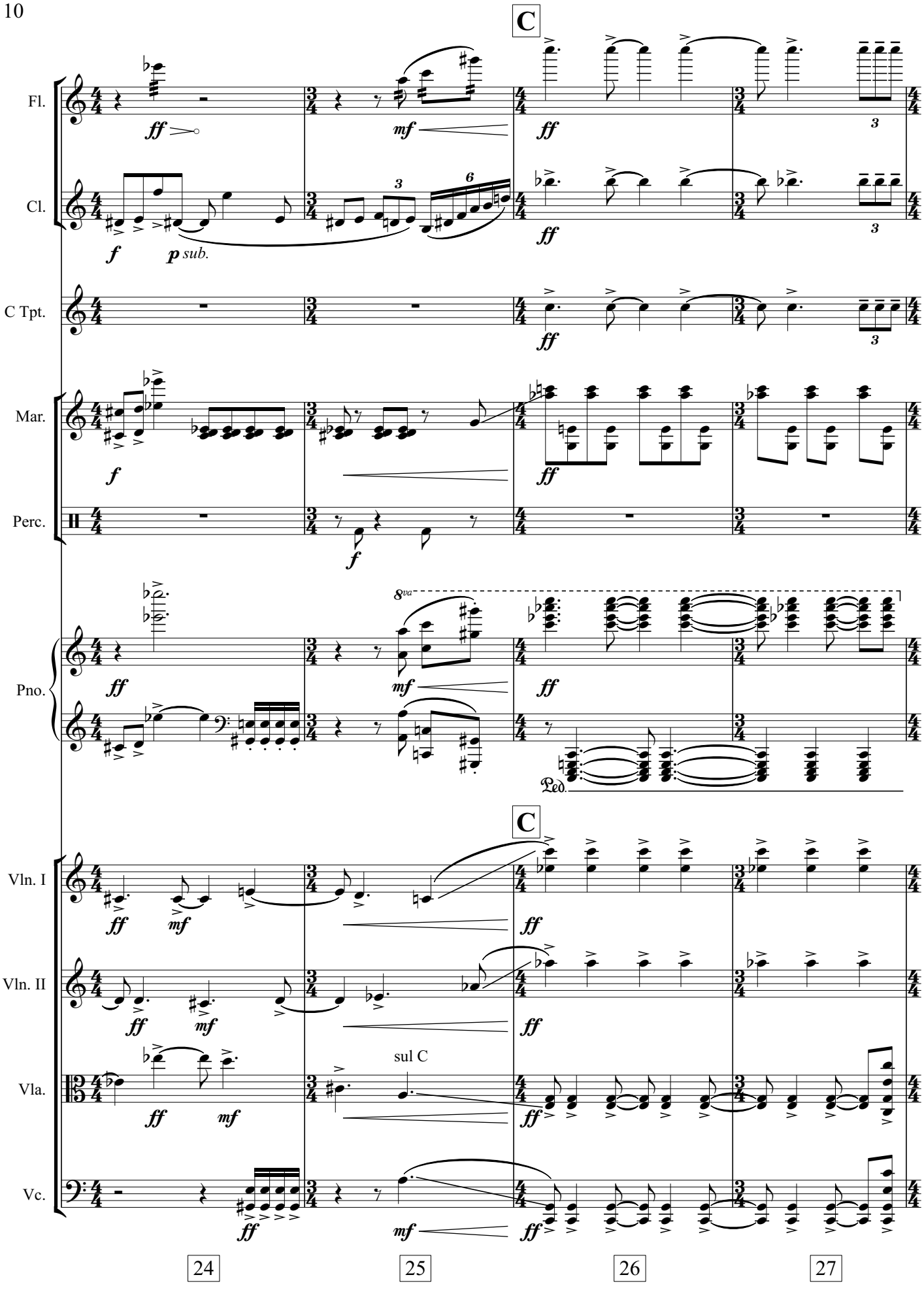

(jet whistle effect)
Fl.
Cl.
con sord.
straight mute
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
sub.
4
5
6
7

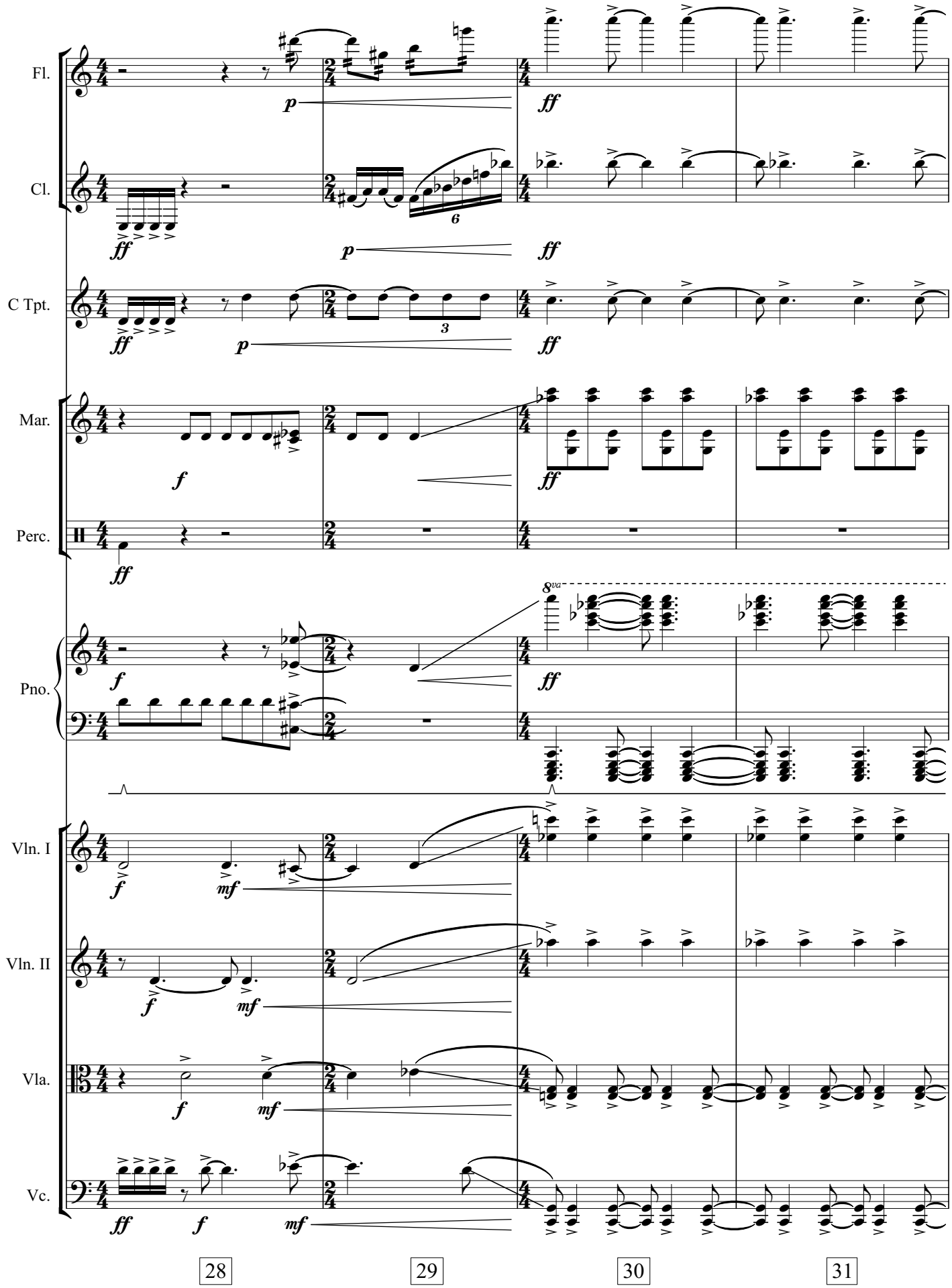

A
A
Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Ped.
8
9
10
11

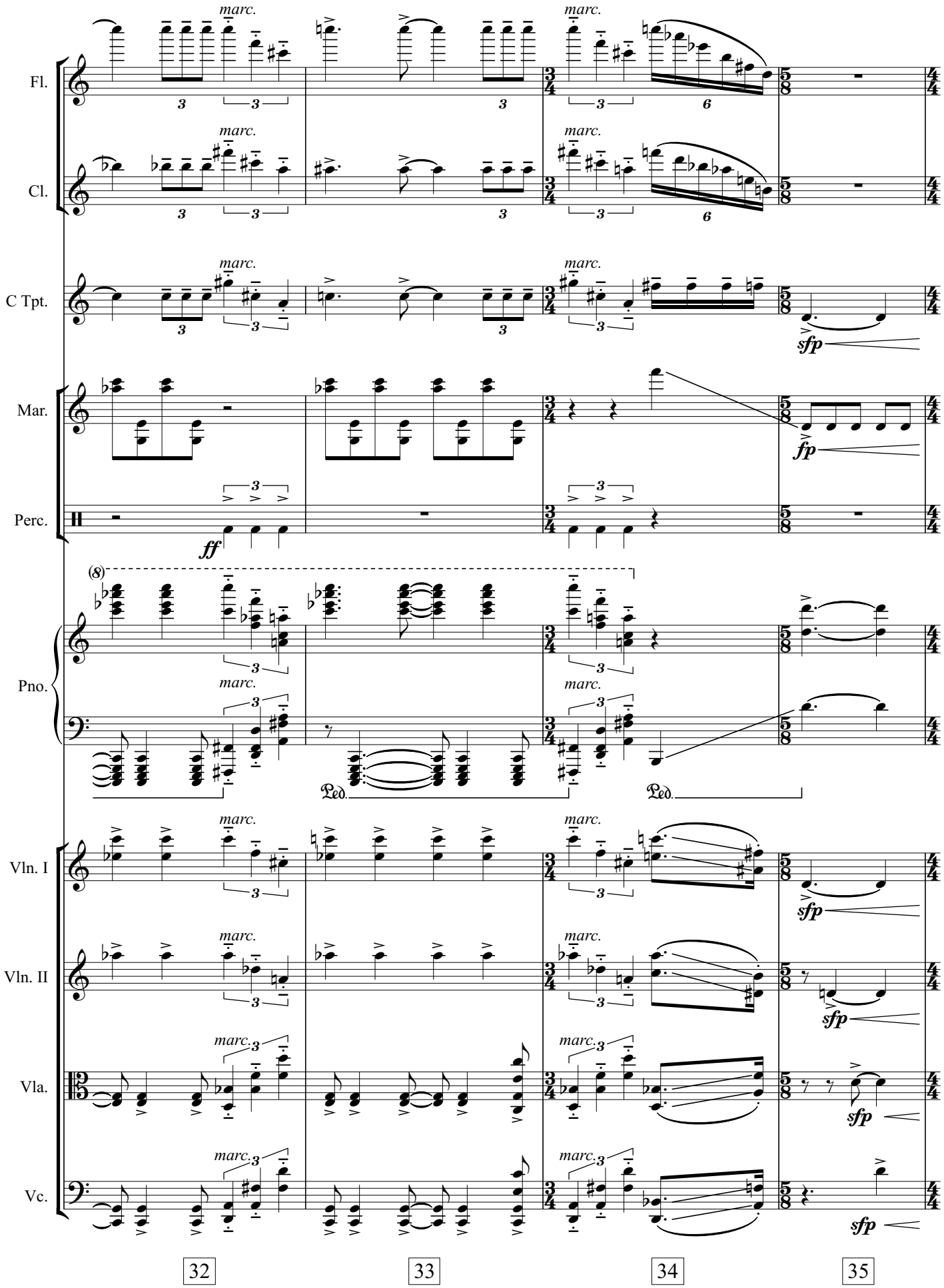

Fl.
Cl.
C Tpt.
Mar.
Perc.
kick bass
Pno.
Vln. I
Vln. II
Vla.
Vc.
12
13
14
15

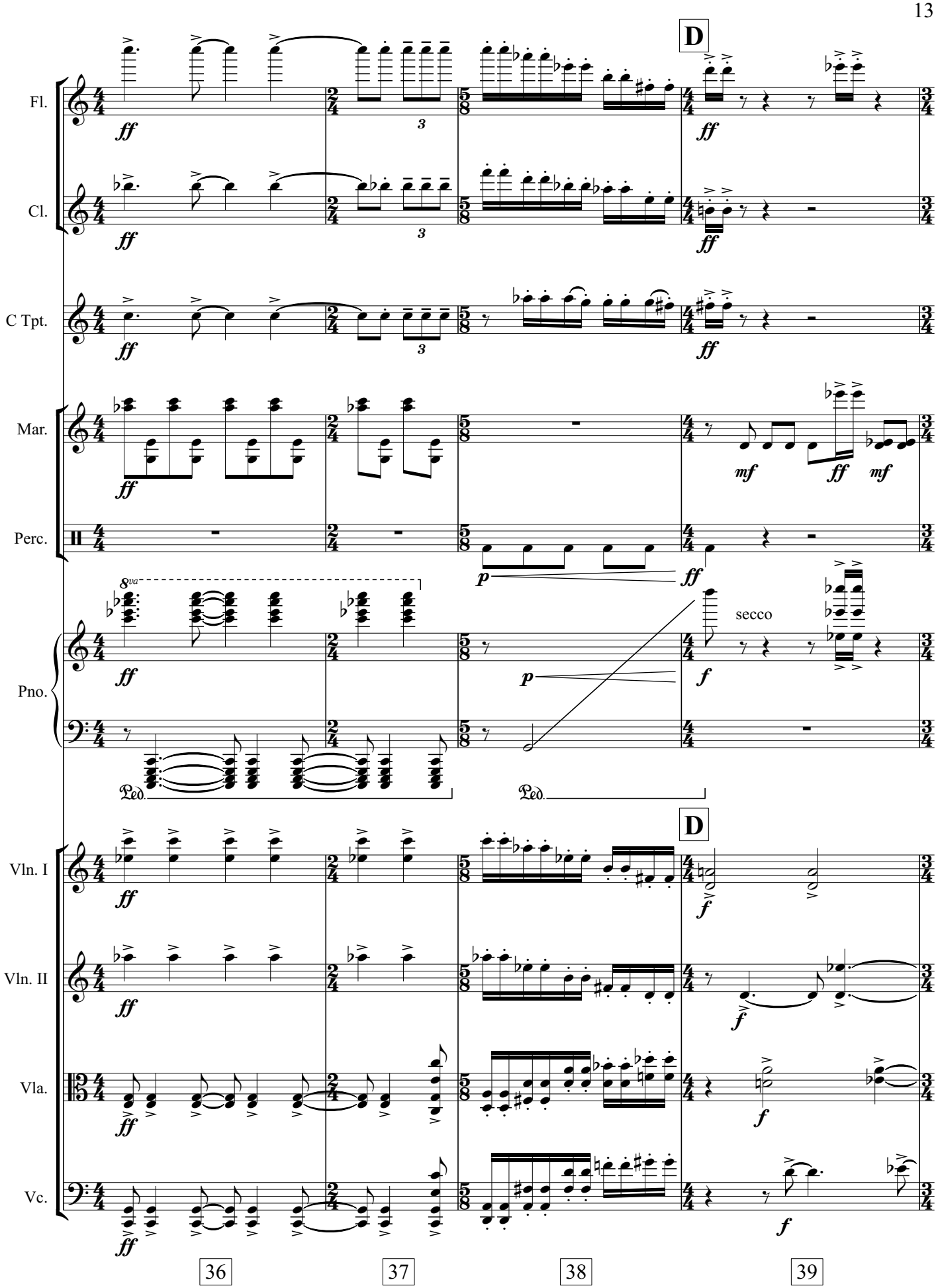

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
B
marc.
sub.
16
17
18
19

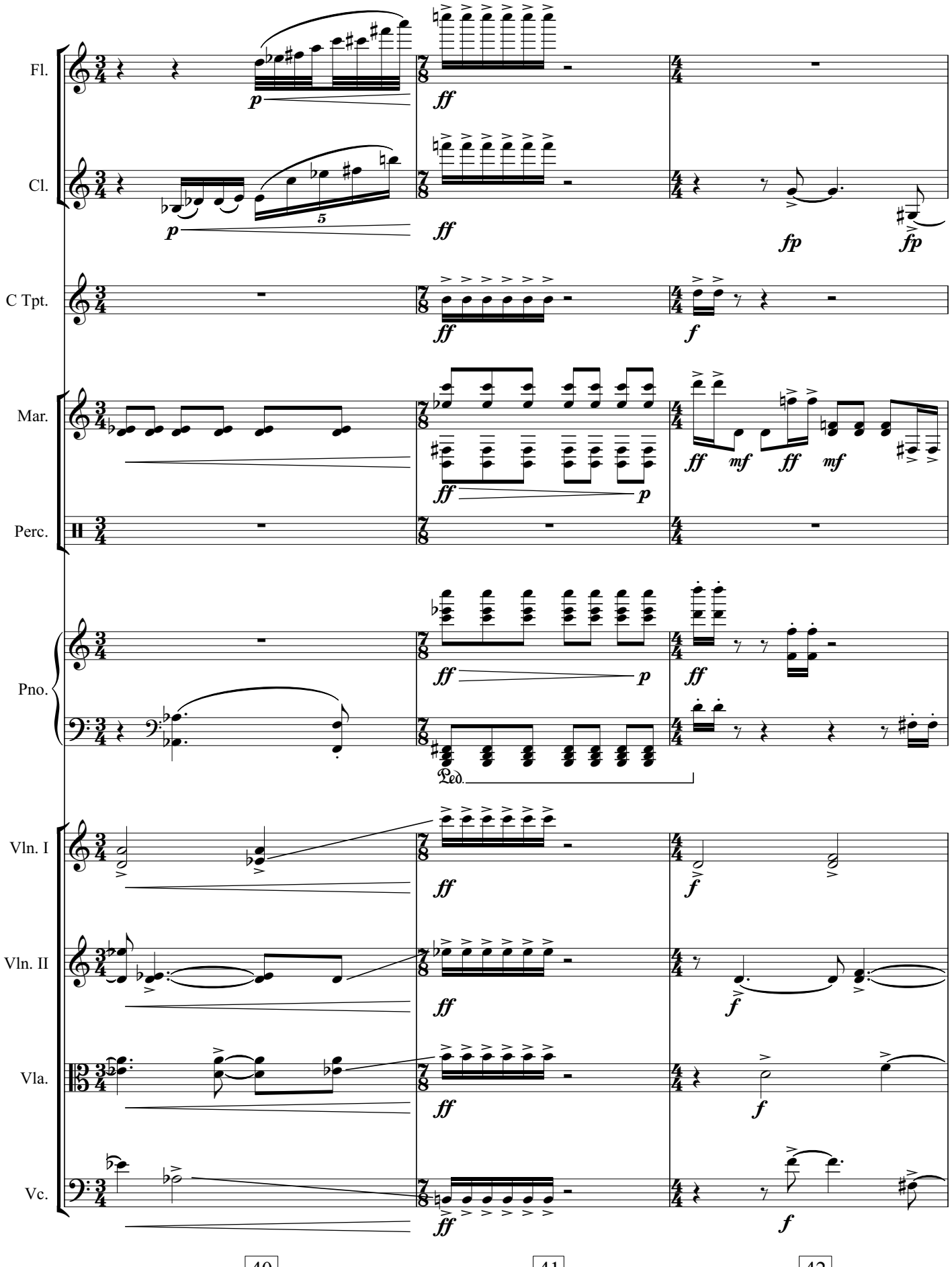

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
ff
p
f
mf
20
21
22
23

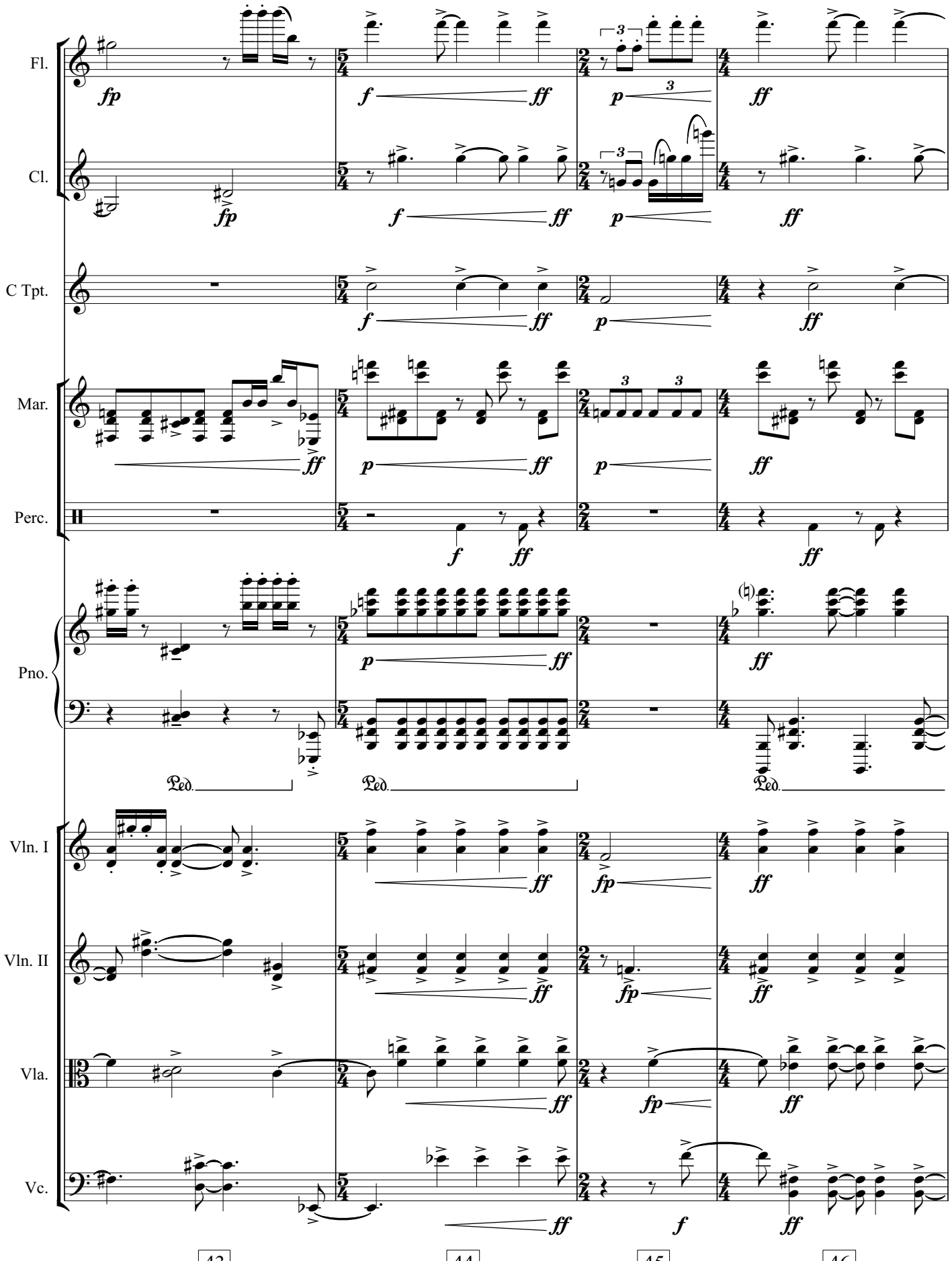

C
Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
sul C
Ped.
24
25
26
27

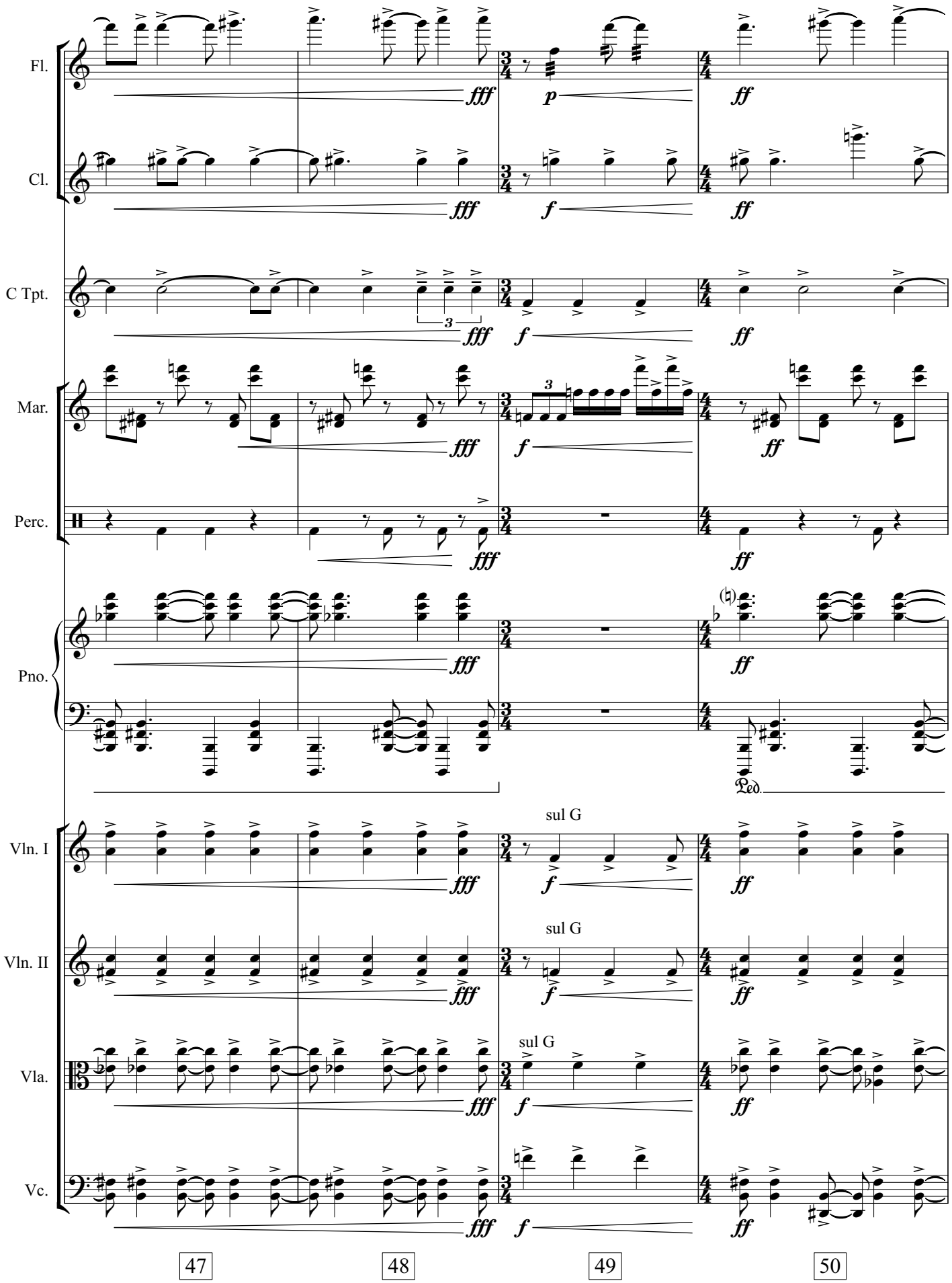

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
8va
28
29
30
31

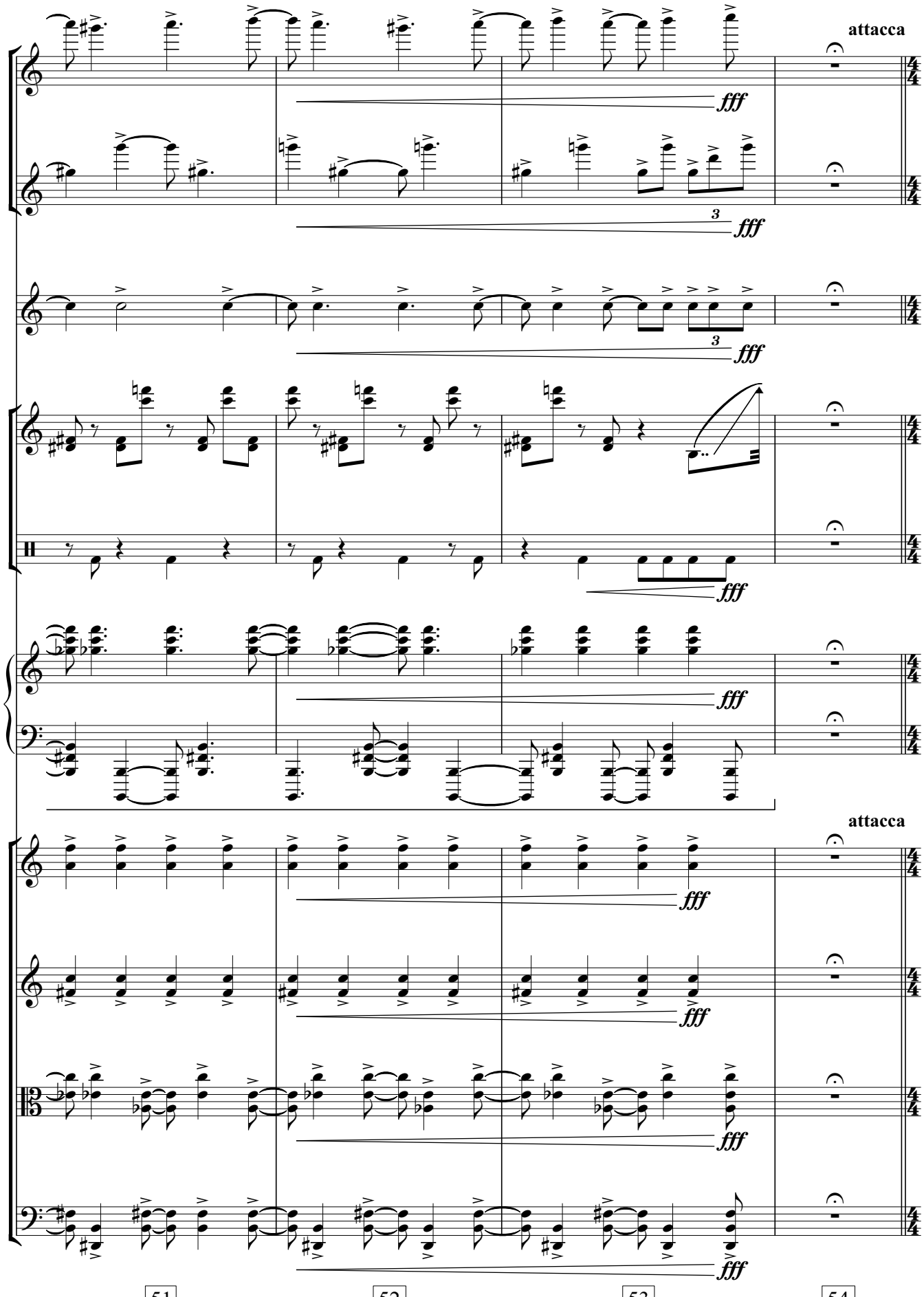

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
marc.
sfp
fp
ff
(8)
Ped.
32
33
34
35


D
Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
8va
secco
Ped.
Ped.
D
Vln. I
Vln. II
Vla.
Vc.
36
37
38
39

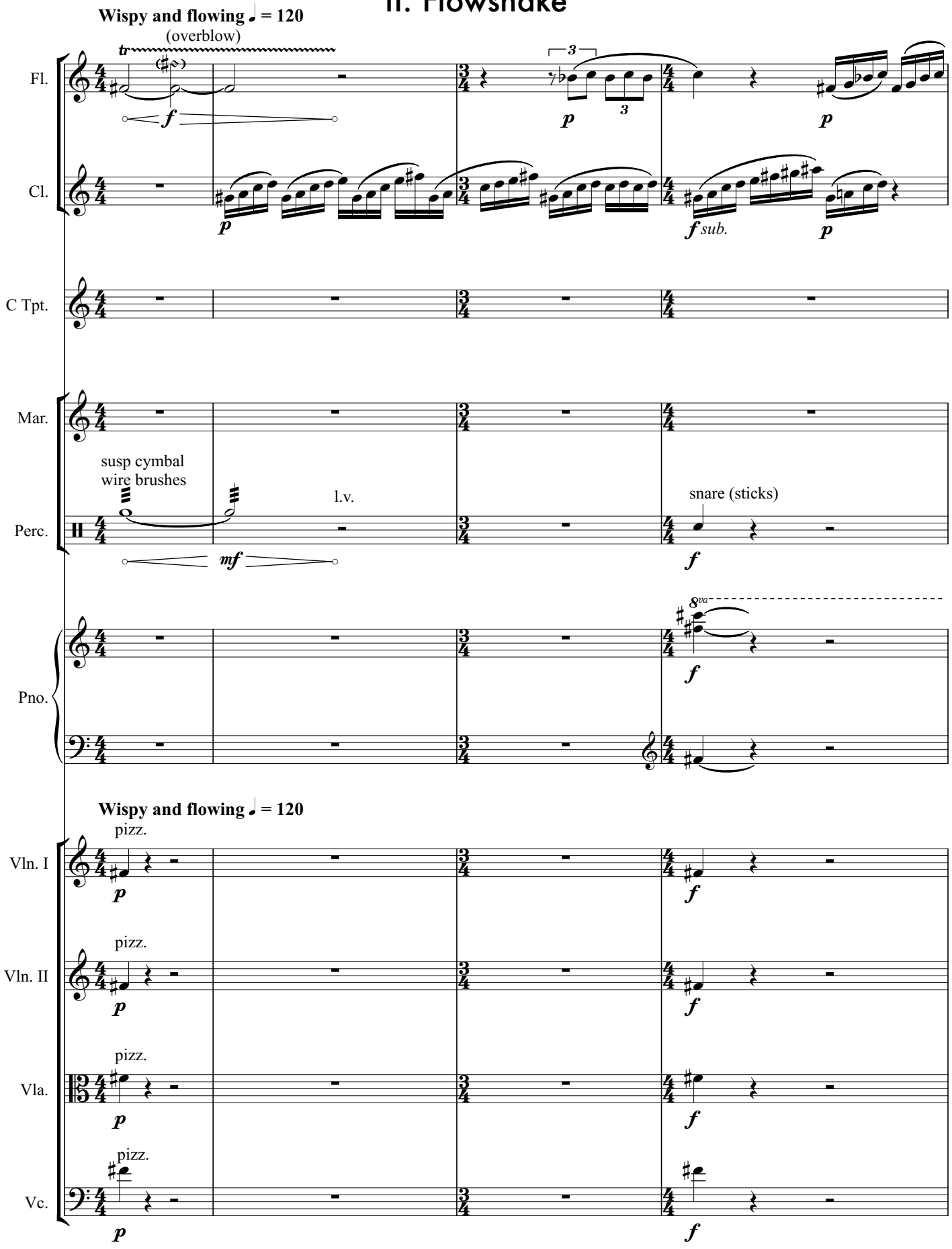

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
40
41
42

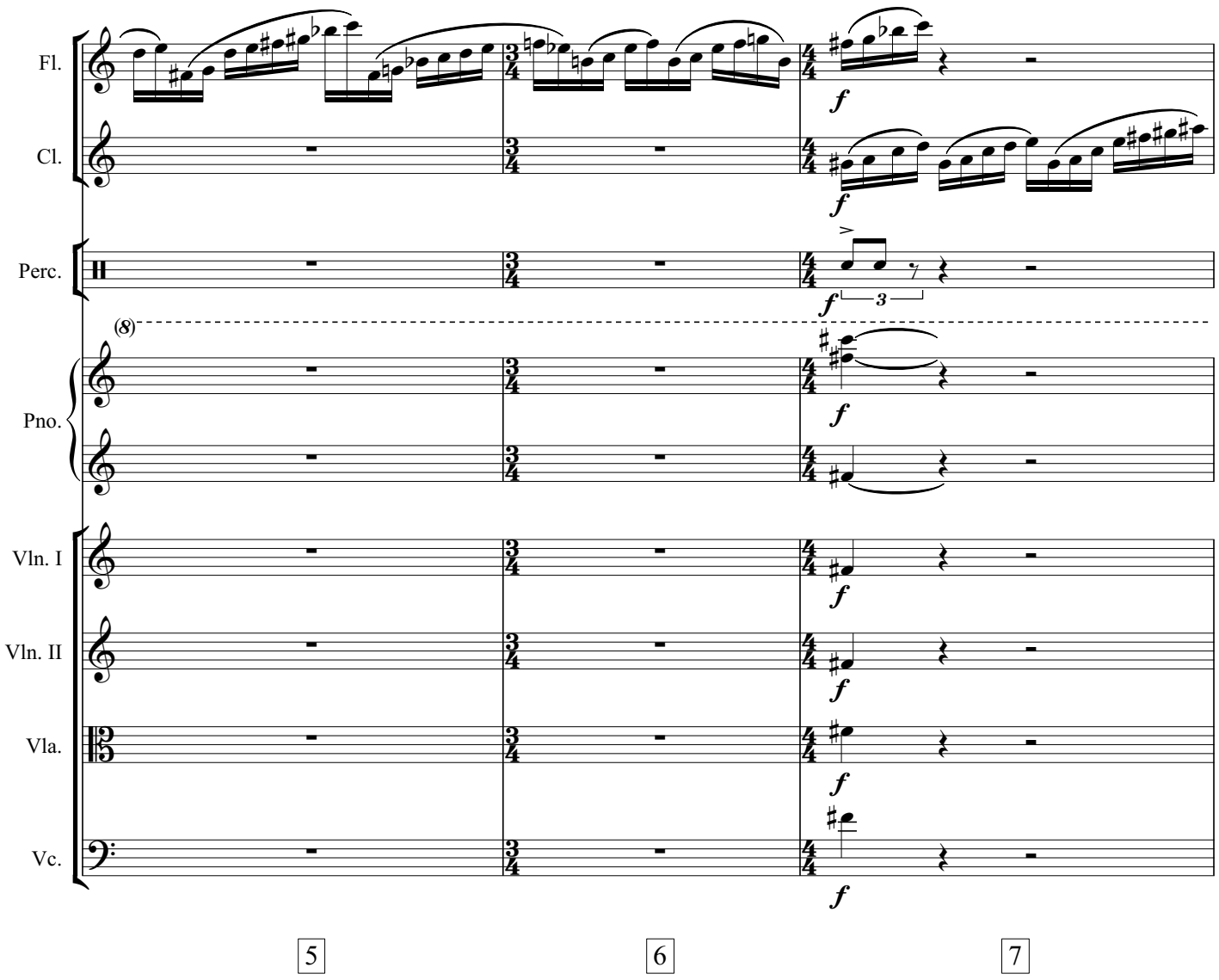

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Ped.
43
44
45
46

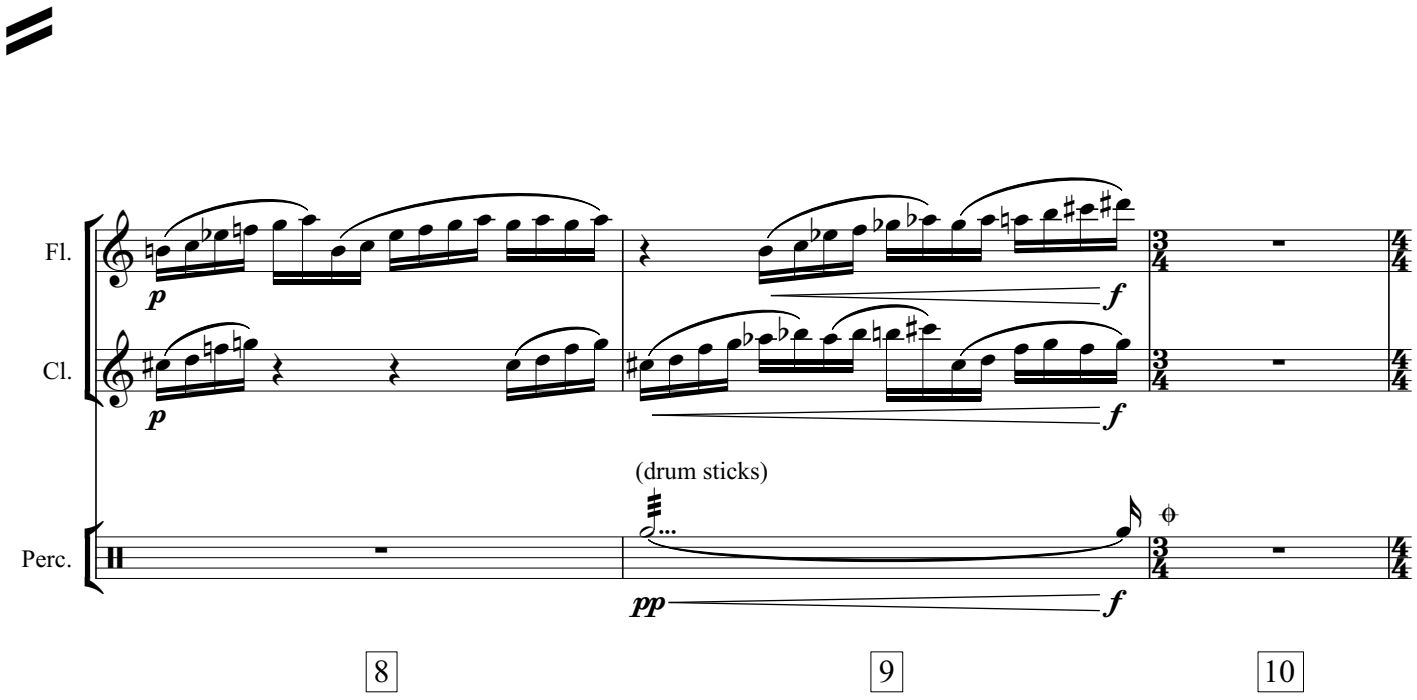

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
fff
f
p
ff
sul G
Ped.
47
48
49
50

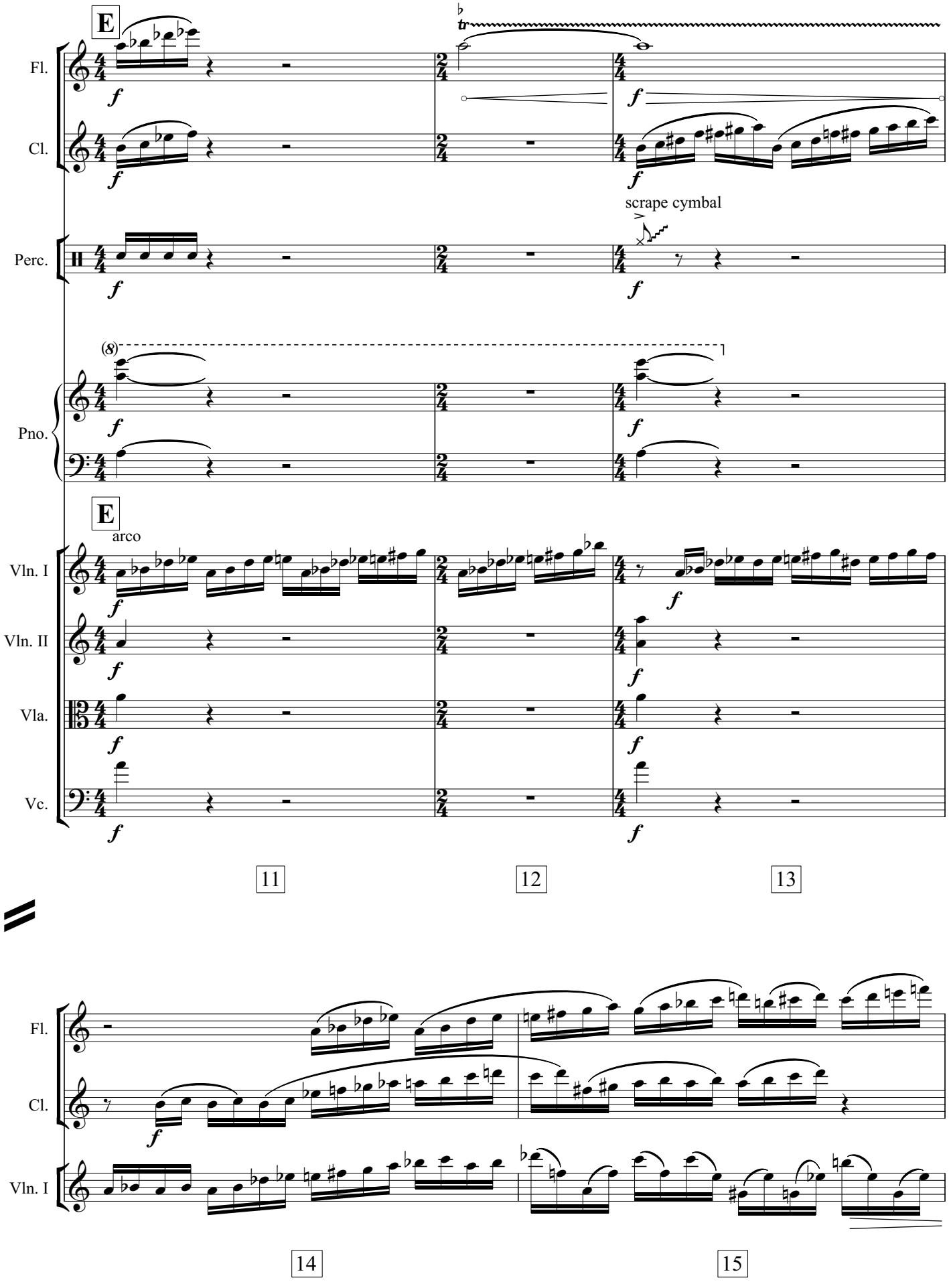

attacca
Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
attacca
Vln. I
Vln. II
Vla.
Vc.
fff
3
51
52
53
54

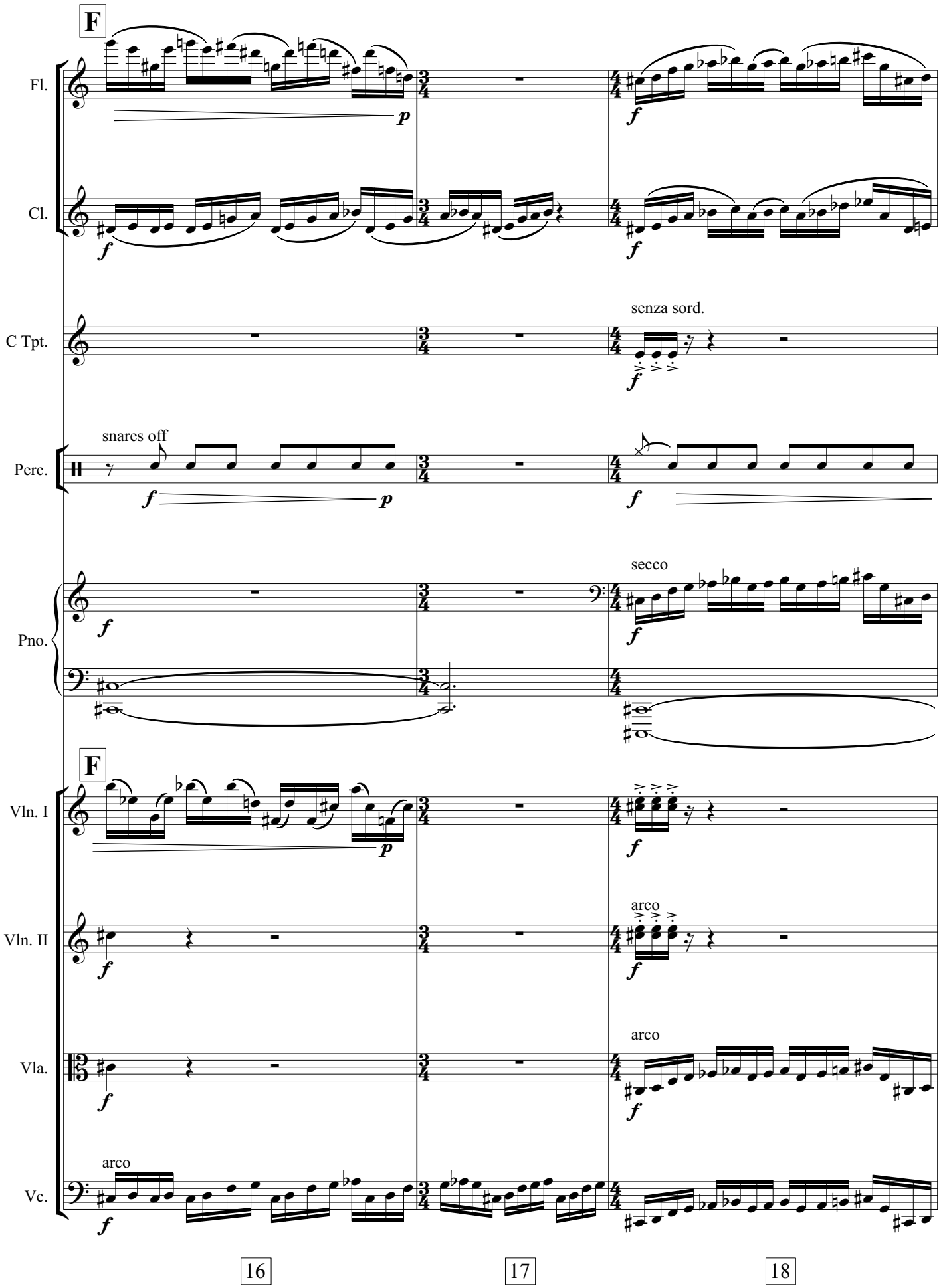
II. Flowsnake

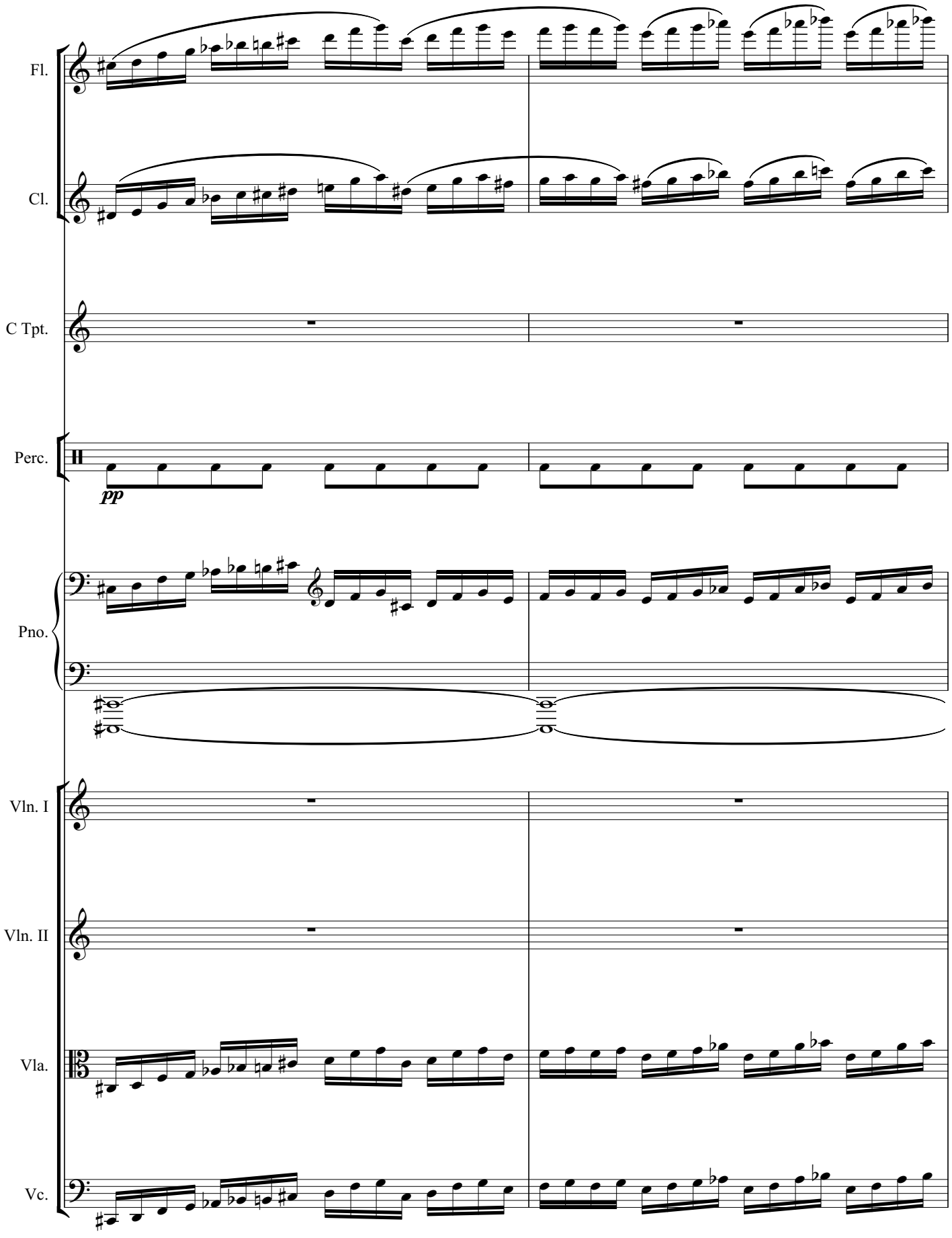


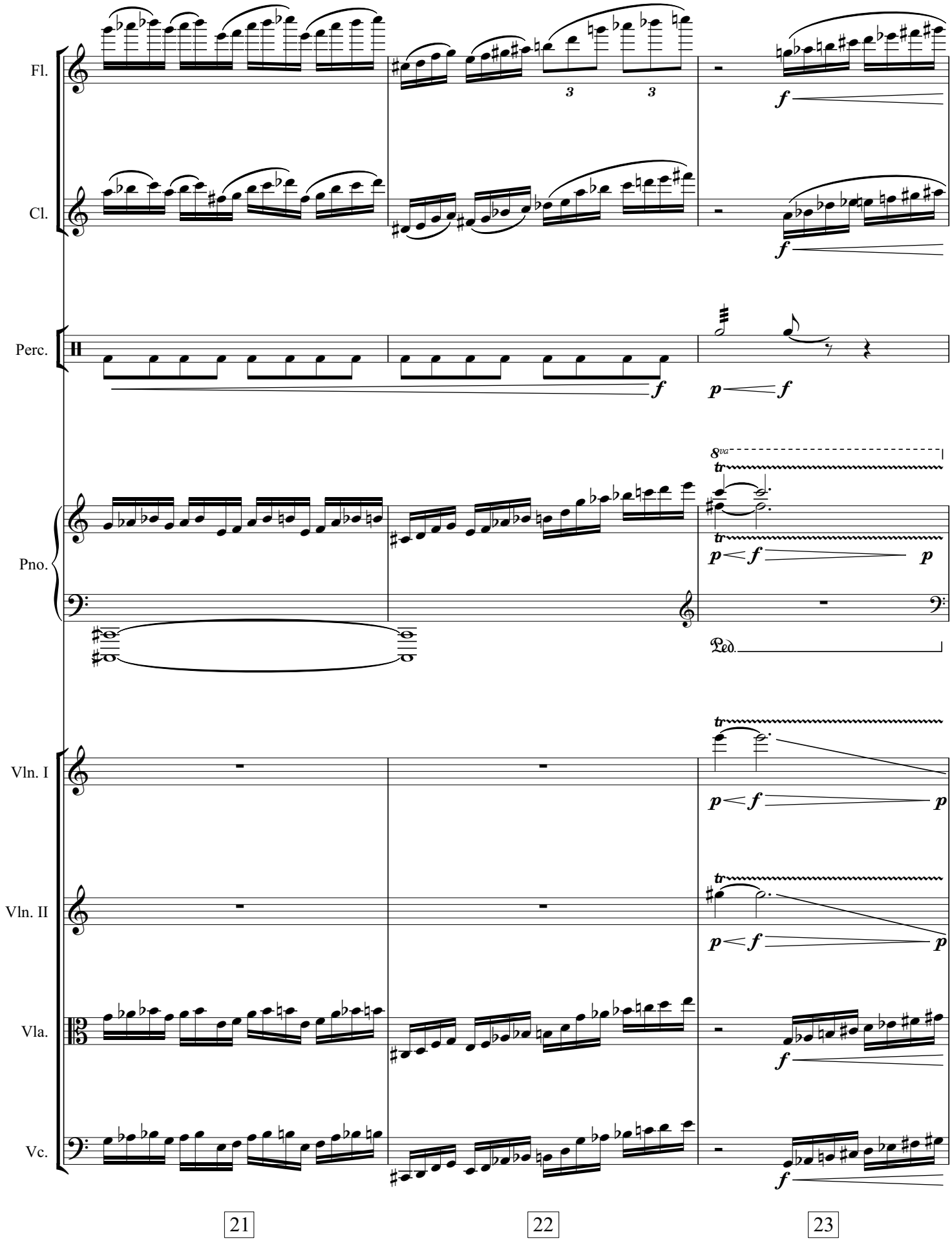

Fl.
Cl.
Perc.
(8)
Pno.
Vln. I
Vln. II
Vla.
Vc.
f
3
5
6
7

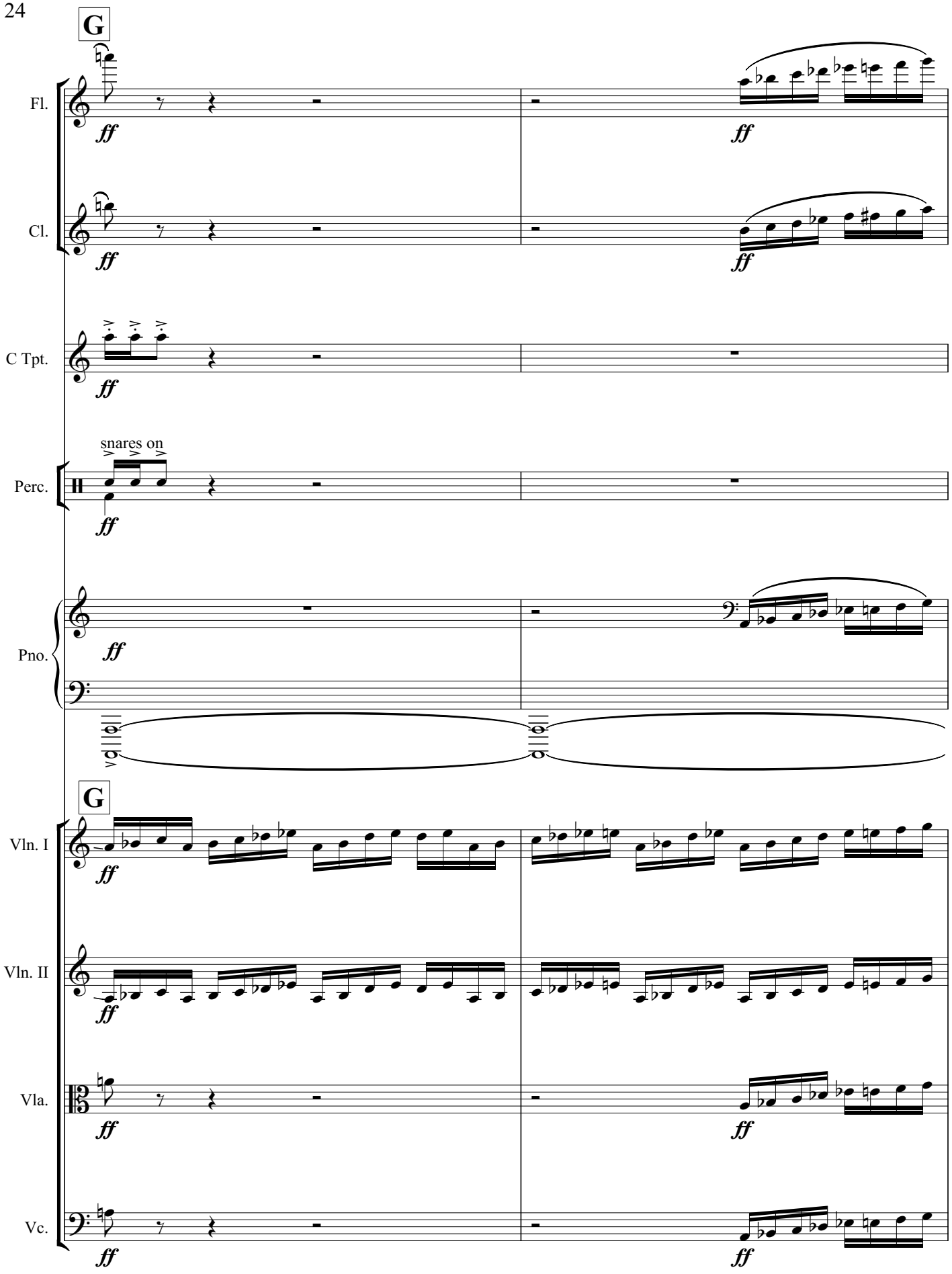

Fl.
Cl.
Perc.
p
f
(drum sticks)
pp
8
9
10

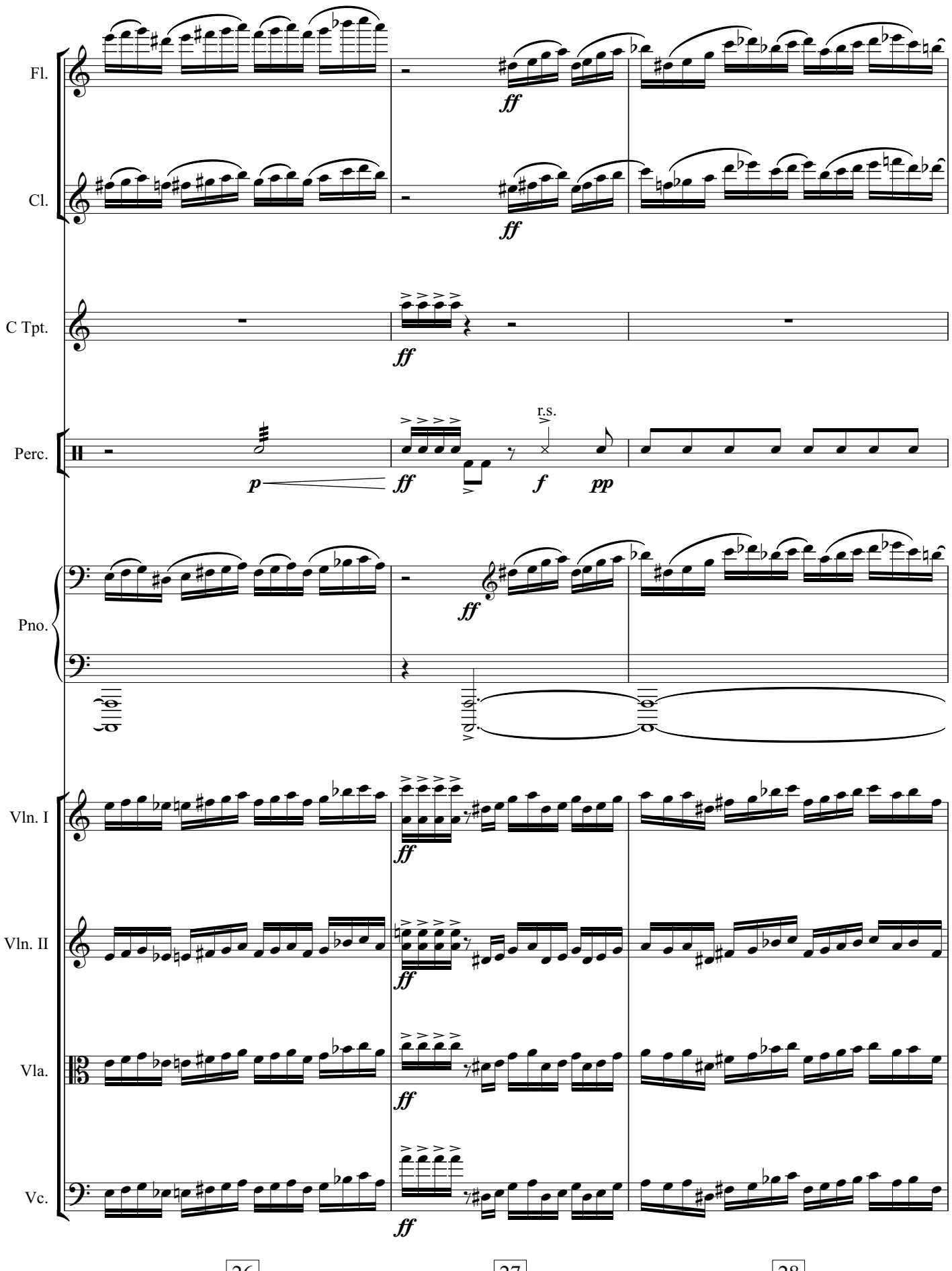

E
Fl.
Cl.
Perc.
scrape cymbal
Pno.
E
arco
Vln. I
Vln. II
Vla.
Vc.
11
12
13
Fl.
Cl.
Vln. I
14
15

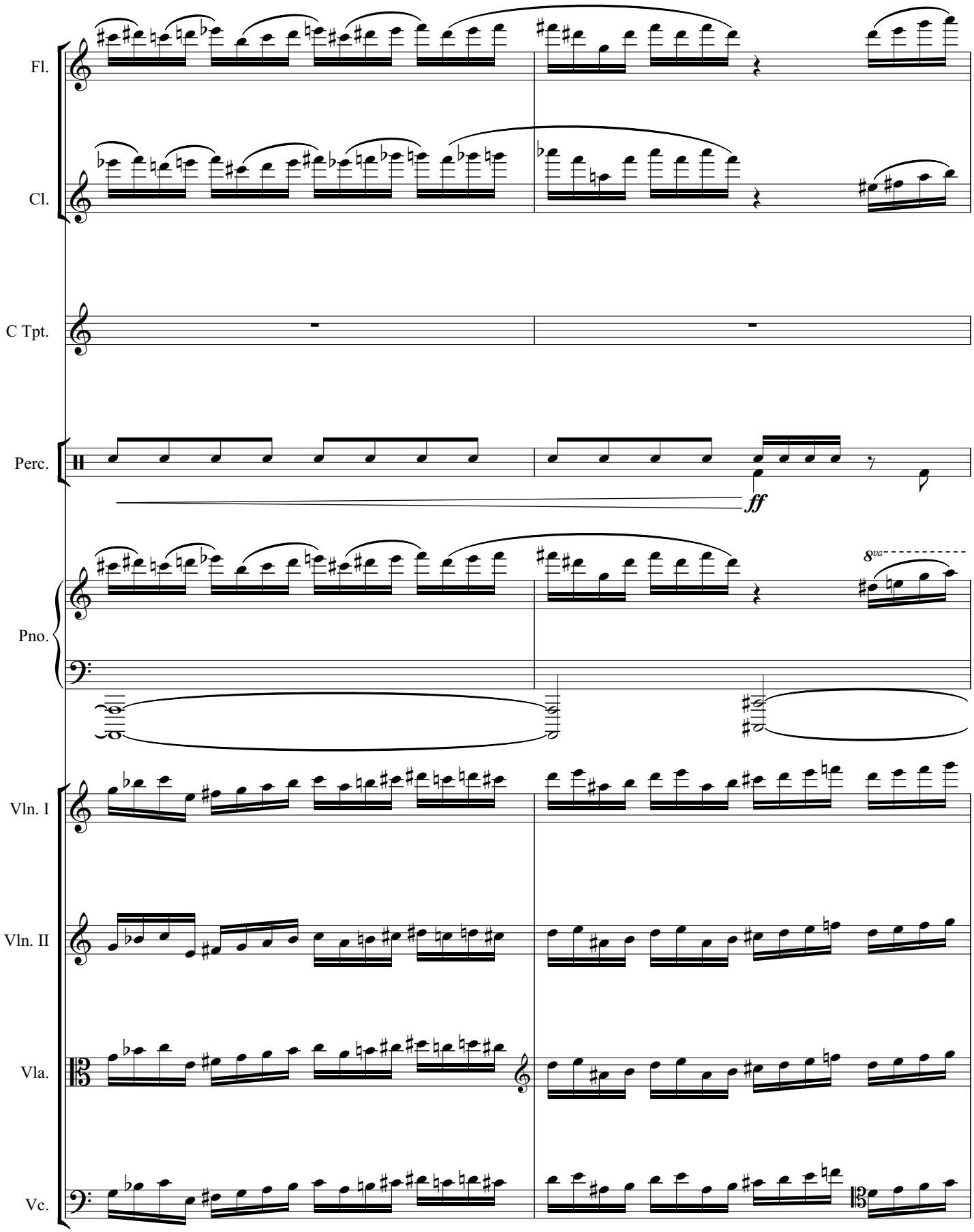

F
Fl.
Cl.
C Tpt.
senza sord.
Perc.
snares off
Pno.
secco
F
Vln. I
Vln. II
arco
Vla.
arco
Vc.
arco
16
17
18

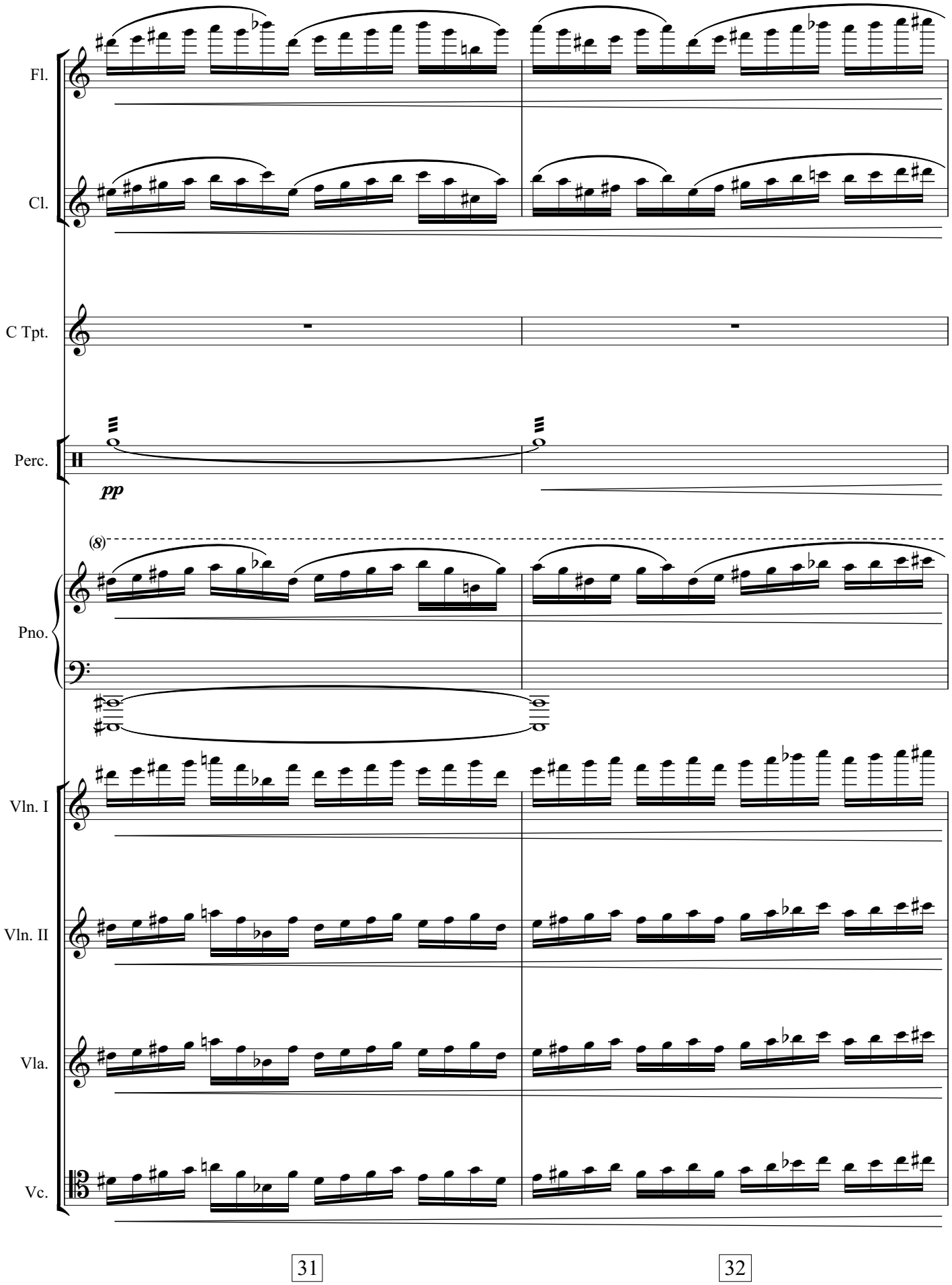

Fl.
Cl.
C Tpt.
Perc.
pp
Pno.
Vln. I
Vln. II
Vla.
Vc.
19
20

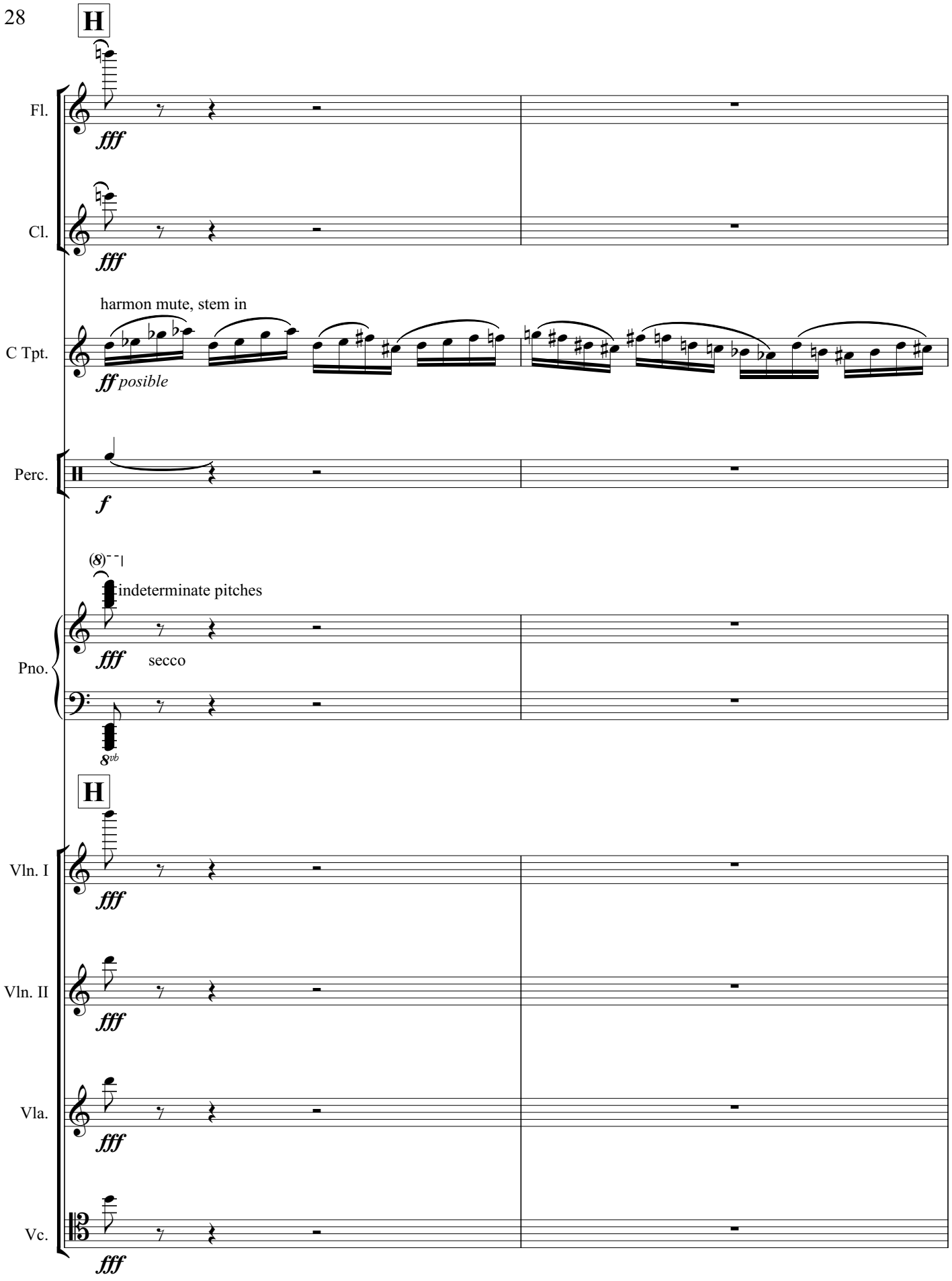

Fl.
Cl.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
8va
tr
Ped.
21
22
23

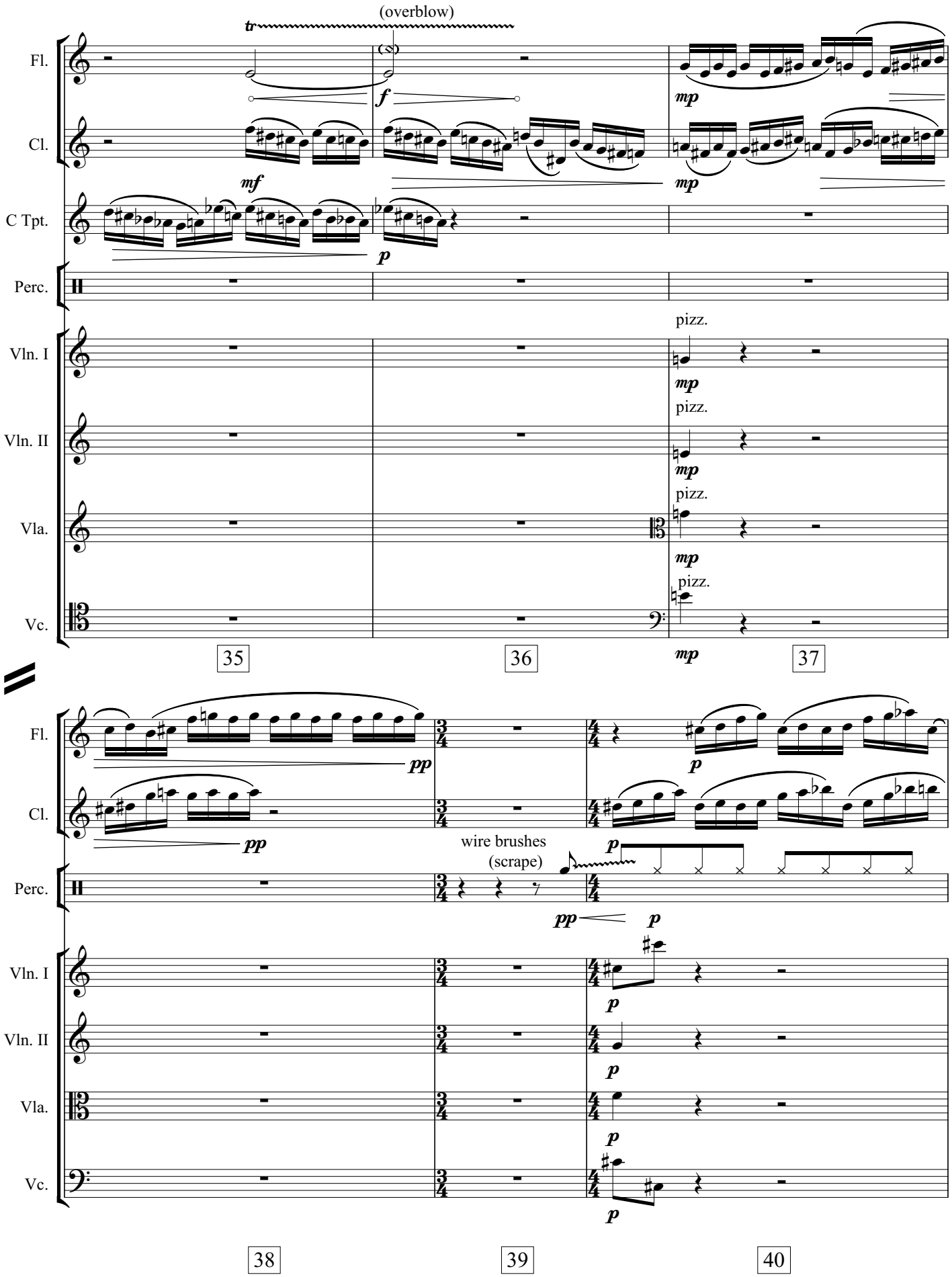

G
Fl.
Cl.
C Tpt.
snares on
Perc.
Pno.
G
Vln. I
Vln. II
Vla.
Vc.
ff

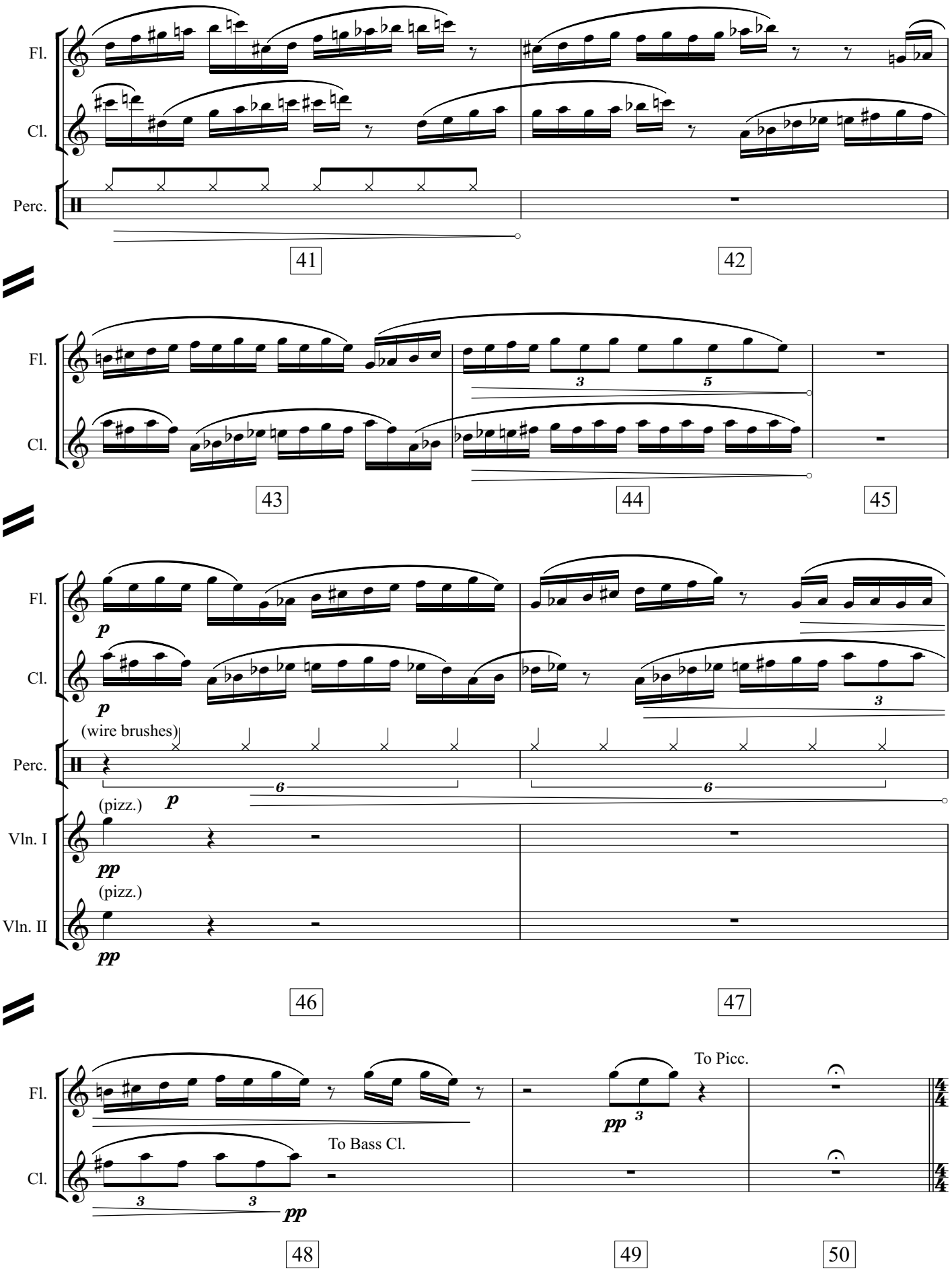

Fl.
Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
ff
p
f
pp
r.s.
26
27
28


Fl.
Cl.
C Tpt.
Perc.
ff
Pno.
8va
Vln. I
Vln. II
Vla.
Vc.

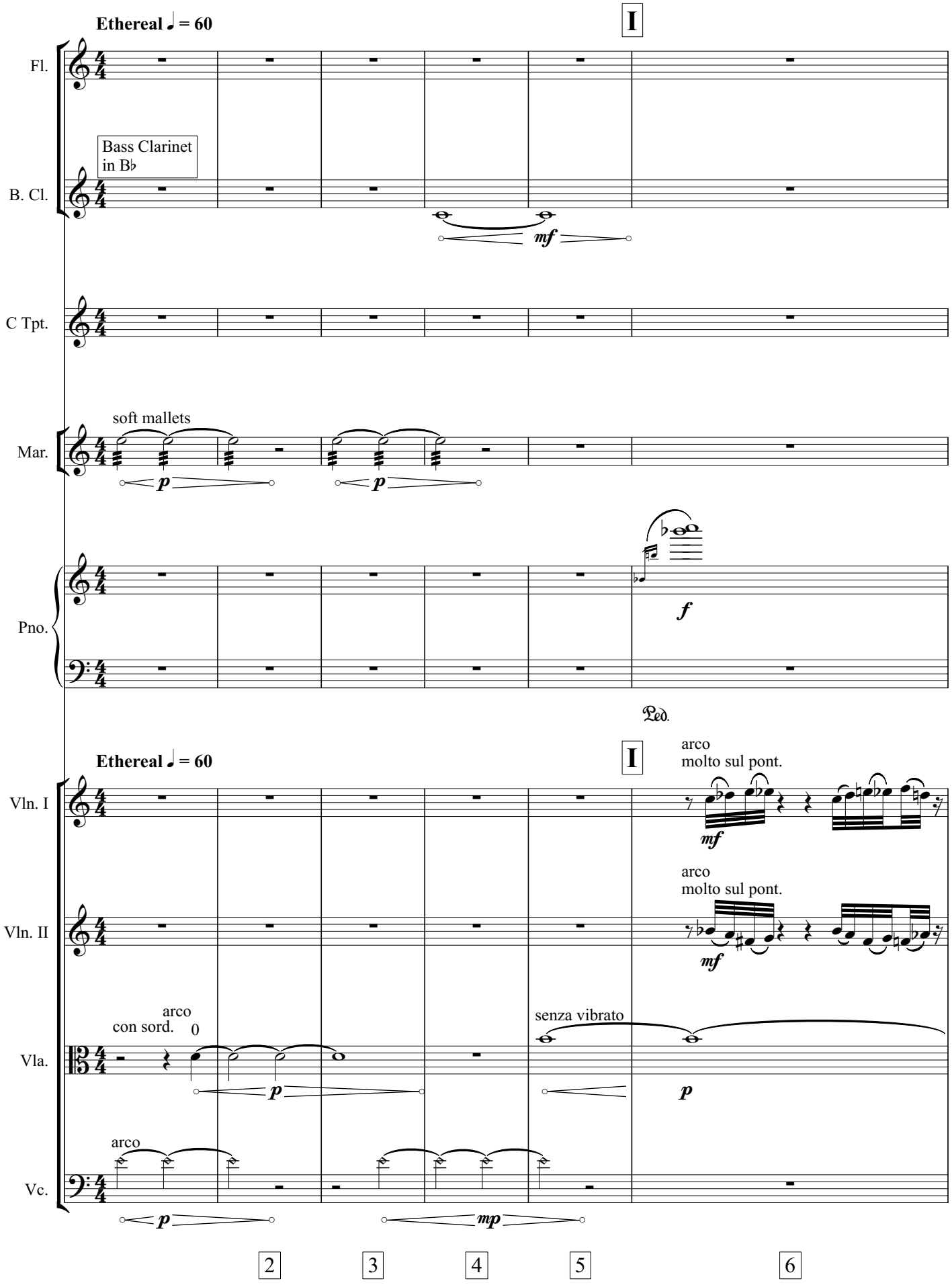

Fl.
Cl.
C Tpt.
Perc.
pp
(8)
Pno.
Vln. I
Vln. II
Vla.
Vc.
31
32

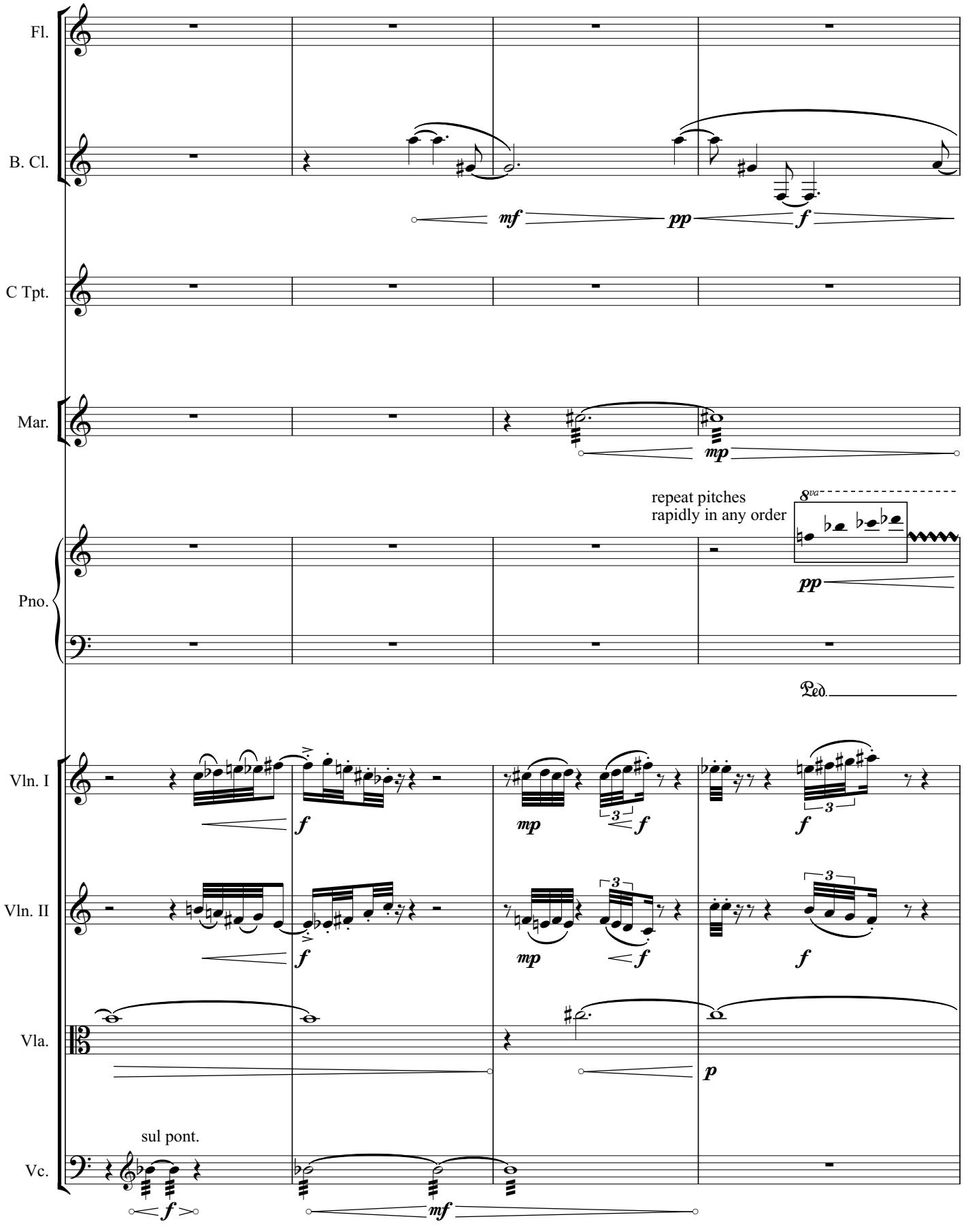

H
Fl.
fff
Cl.
fff
harmon mute, stem in
C Tpt.
ff posible
Perc.
f
(8)
indeterminate pitches
Pno.
fff
secco
8vb
H
Vln. I
fff
Vln. II
fff
Vla.
fff
Vc.
fff

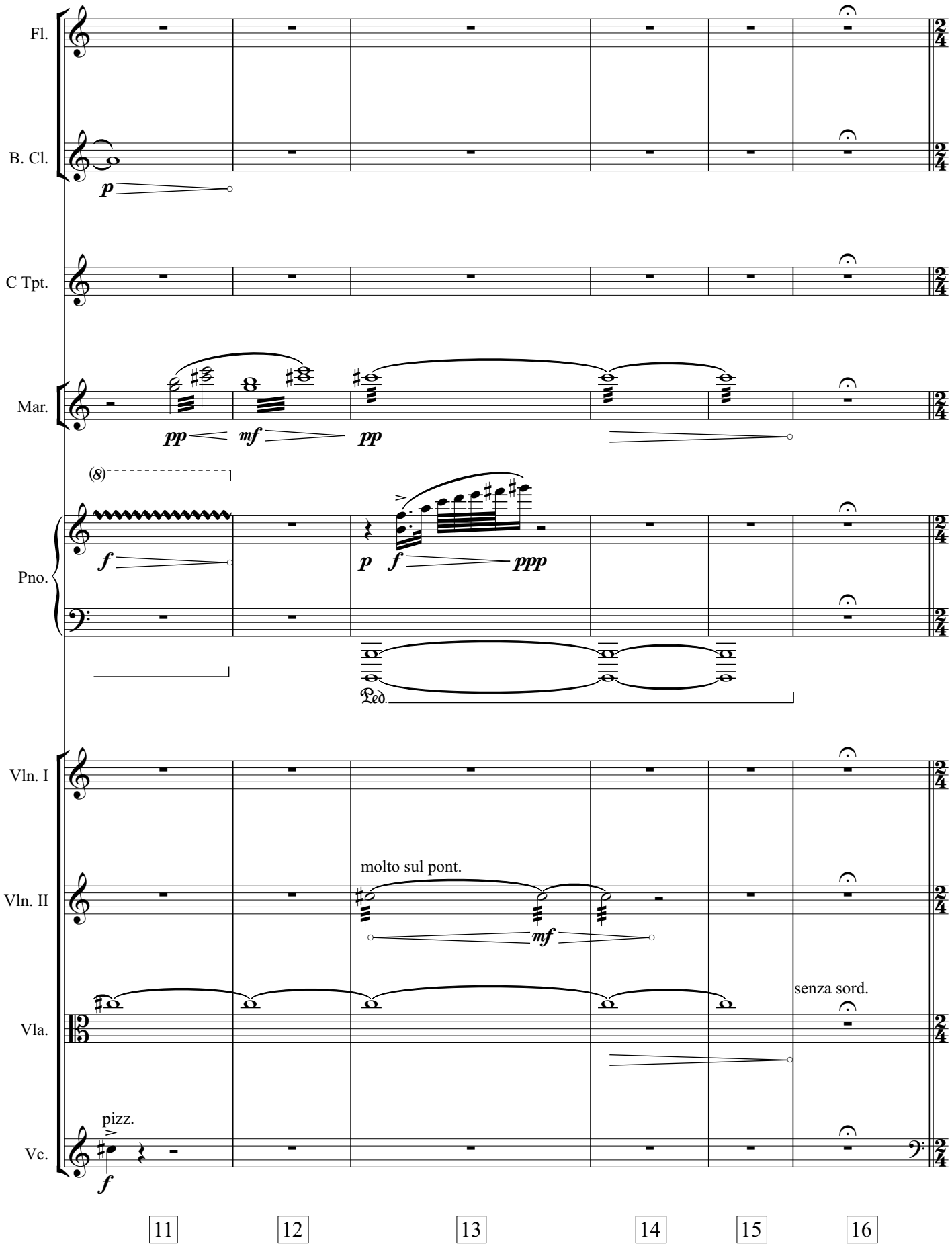

(overblow)
tr
Fl.
Cl.
C Tpt.
Perc.
Vln. I
Vln. II
Vla.
Vc.
mf
f
mp
p
pizz.
35
36
37
pp
wire brushes
(scrape)
38
39
40


Fl.
Cl.
Perc.
41
42
Fl.
Cl.
3
5
43
44
45
Fl.
p
Cl.
p
(wire brushes)
Perc.
6
6
(pizz.)
p
Vln. I
pp
(pizz.)
Vln. II
pp
46
47
Fl.
To Picc.
pp
3
Cl.
To Bass Cl.
3
3
pp
48
49
50

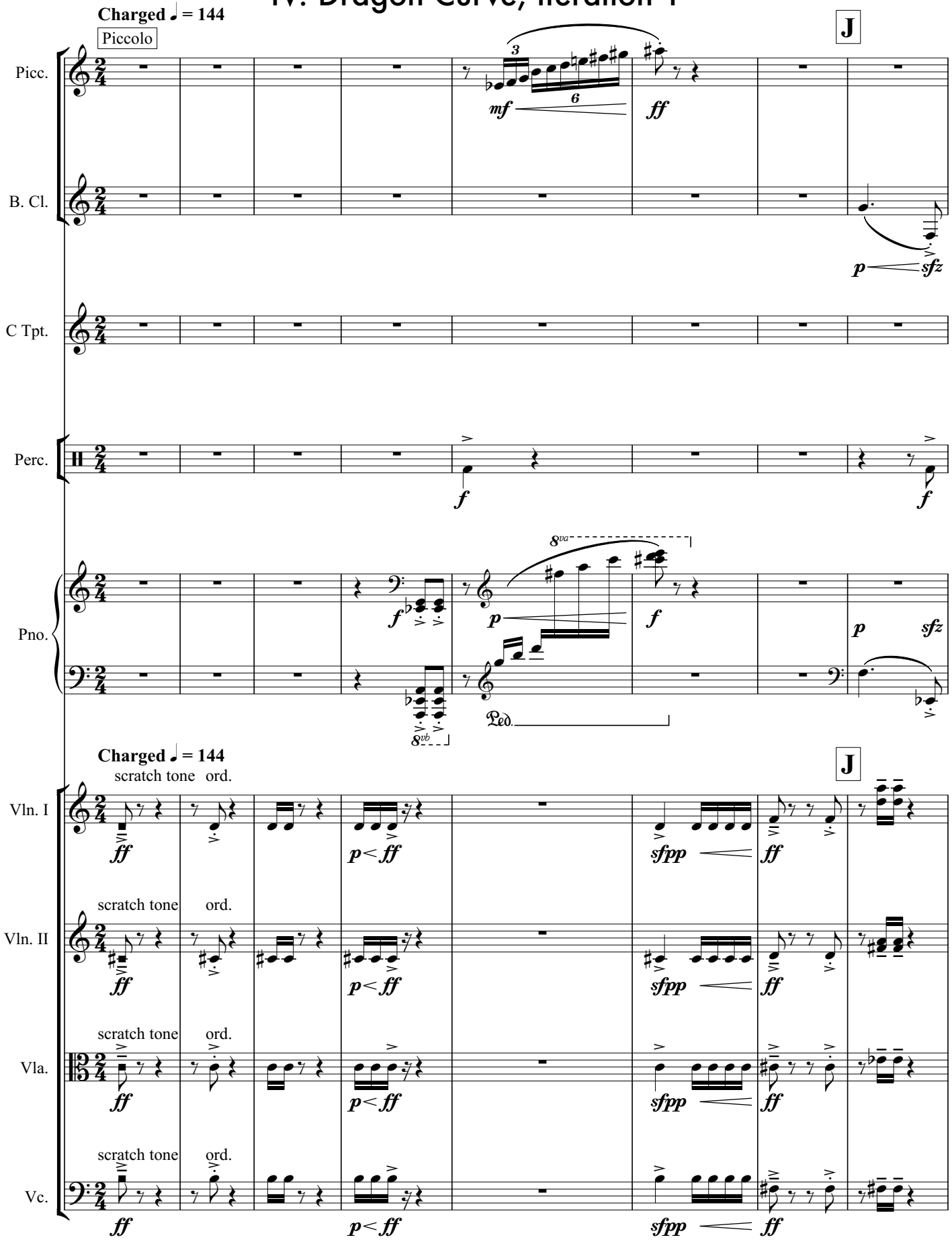
III. Newton Fractal

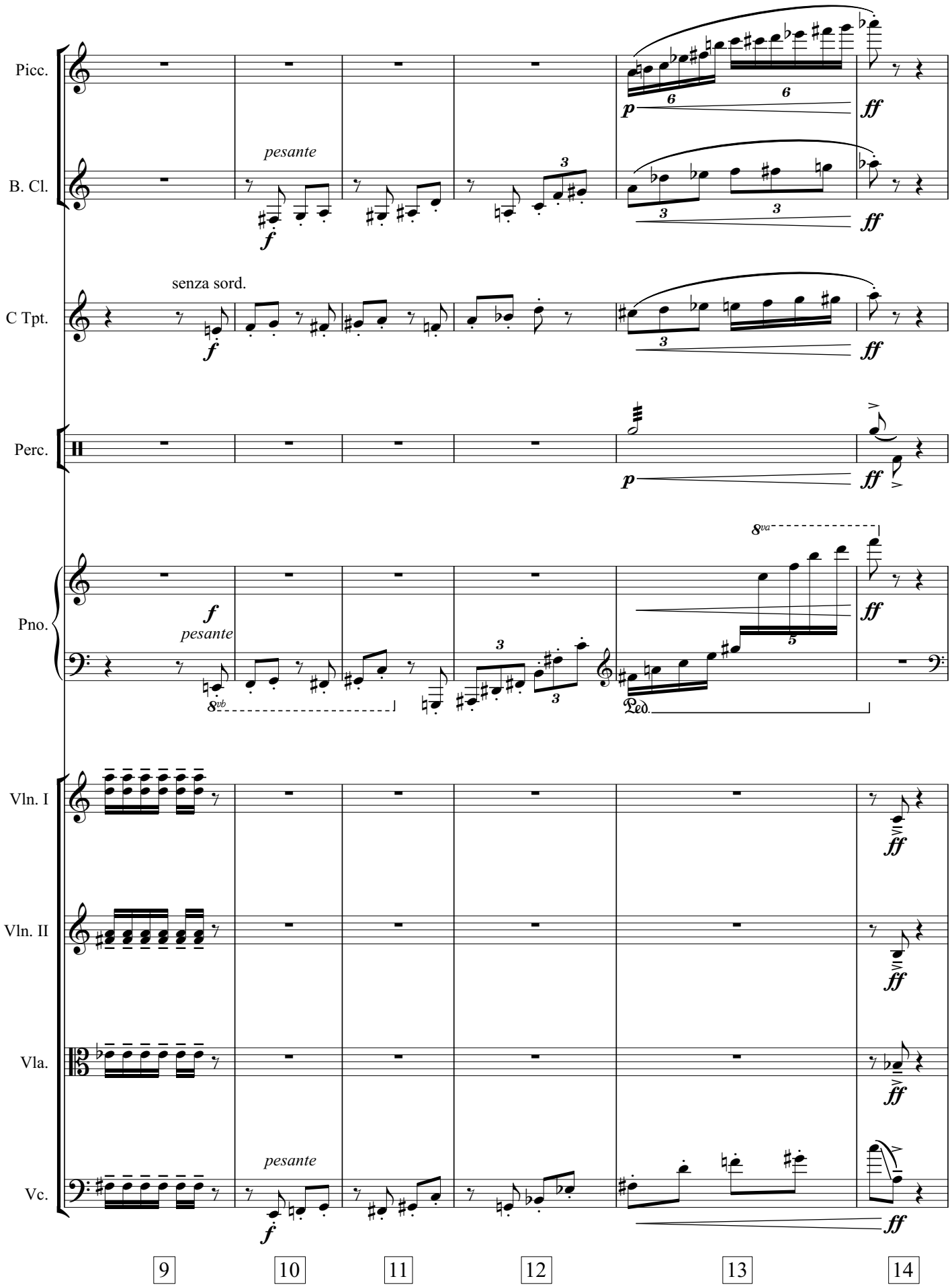


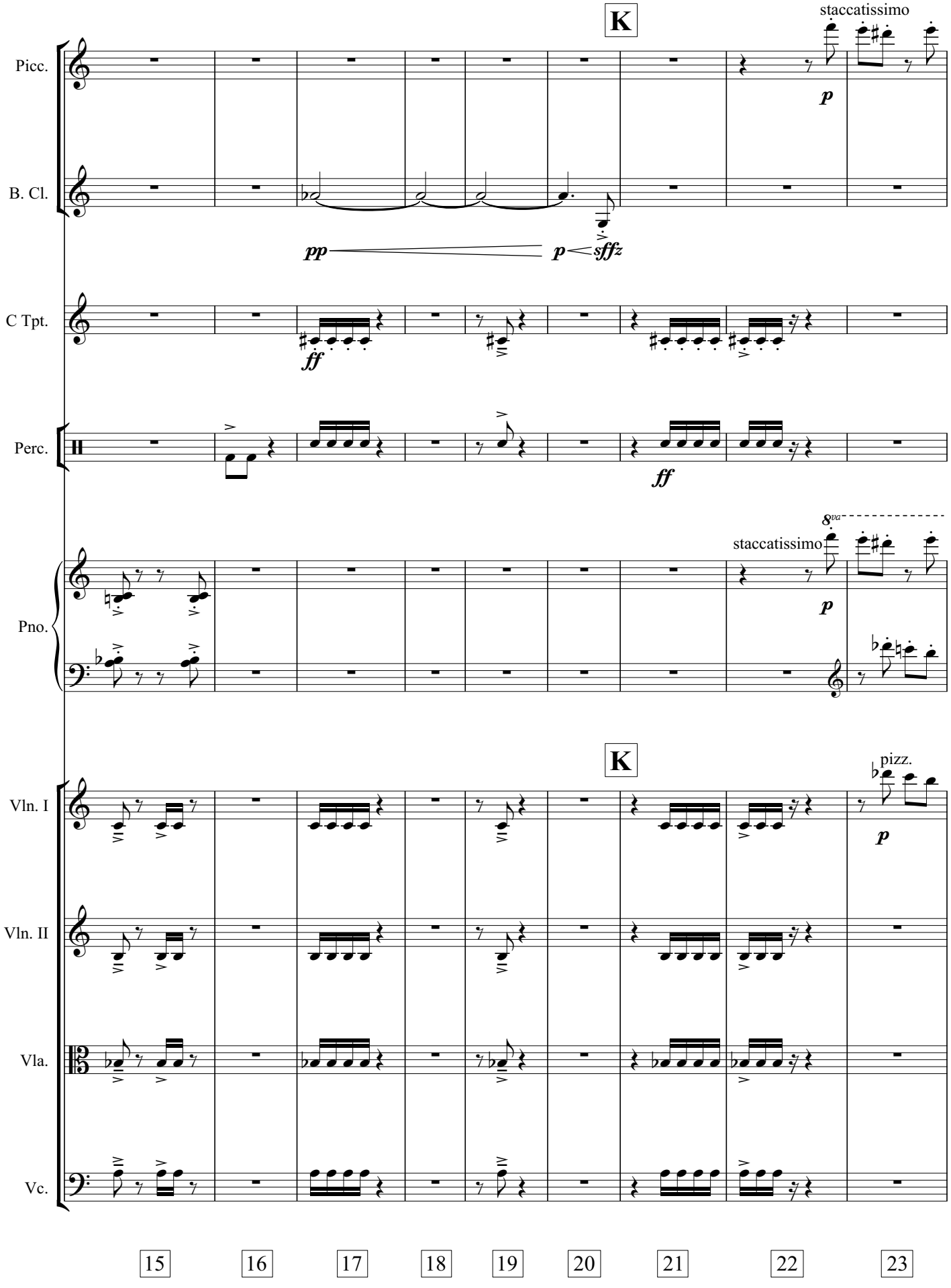

Fl.
B. Cl.
C Tpt.
Mar.
Pno.
Vln. I
Vln. II
Vla.
Vc.
mf
pp
f
mp
repeat pitches
rapidly in any order
8va
Ped.
sul pont.
7
8
9
10

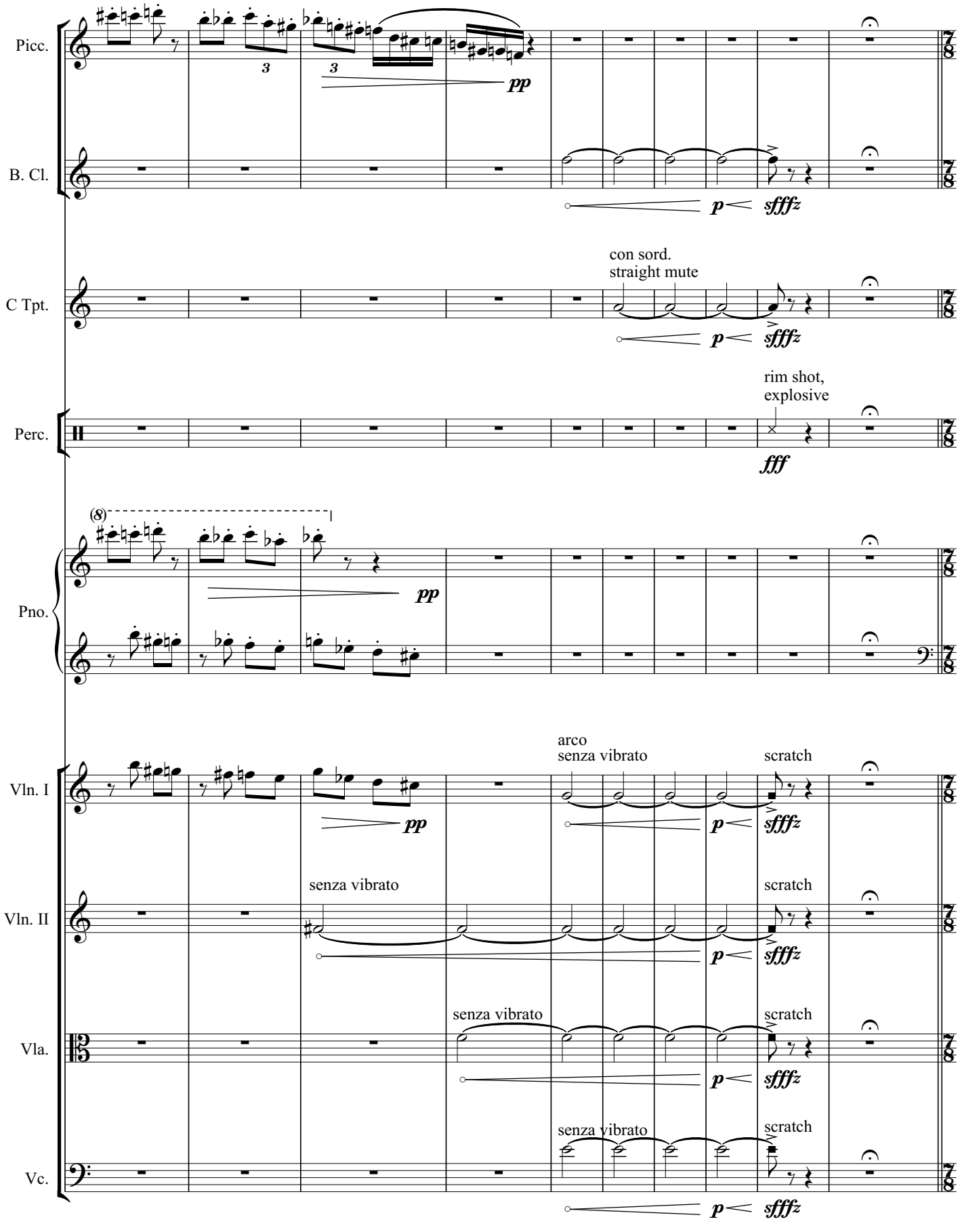

Fl.
B. Cl.
p
C Tpt.
Mar.
pp
mf
pp
(8)
Pno.
f
p
f
ppp
Ped.
Vln. I
Vln. II
molto sul pont.
mf
Vla.
senza sord.
Vc.
pizz.
f
11
12
13
14
15
16

IV. Dragon Curve, Iteration 1

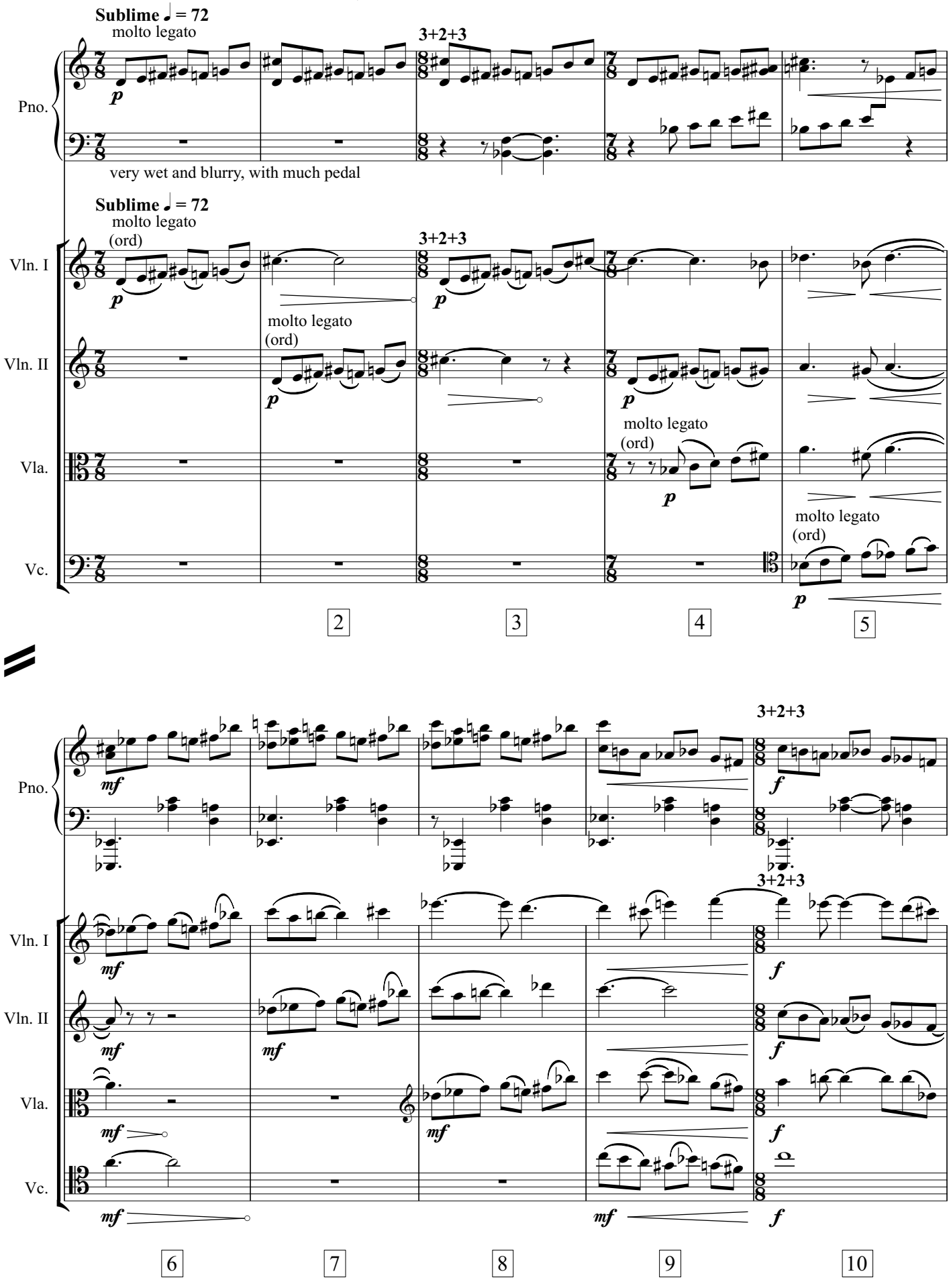


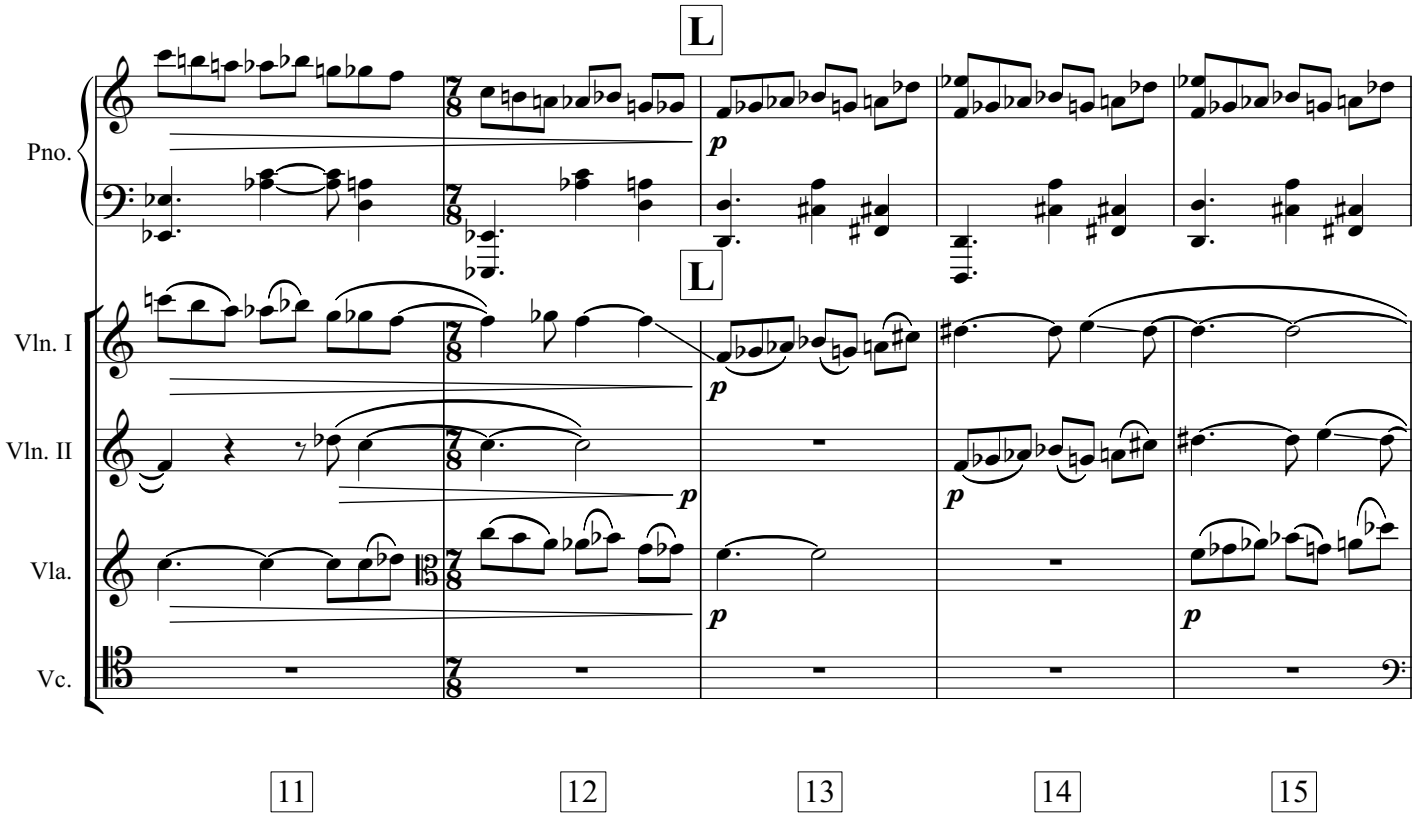

Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
pesante
senza sord.
pesante
pesante
8va
8vb
Ped.
9
10
11
12
13
14

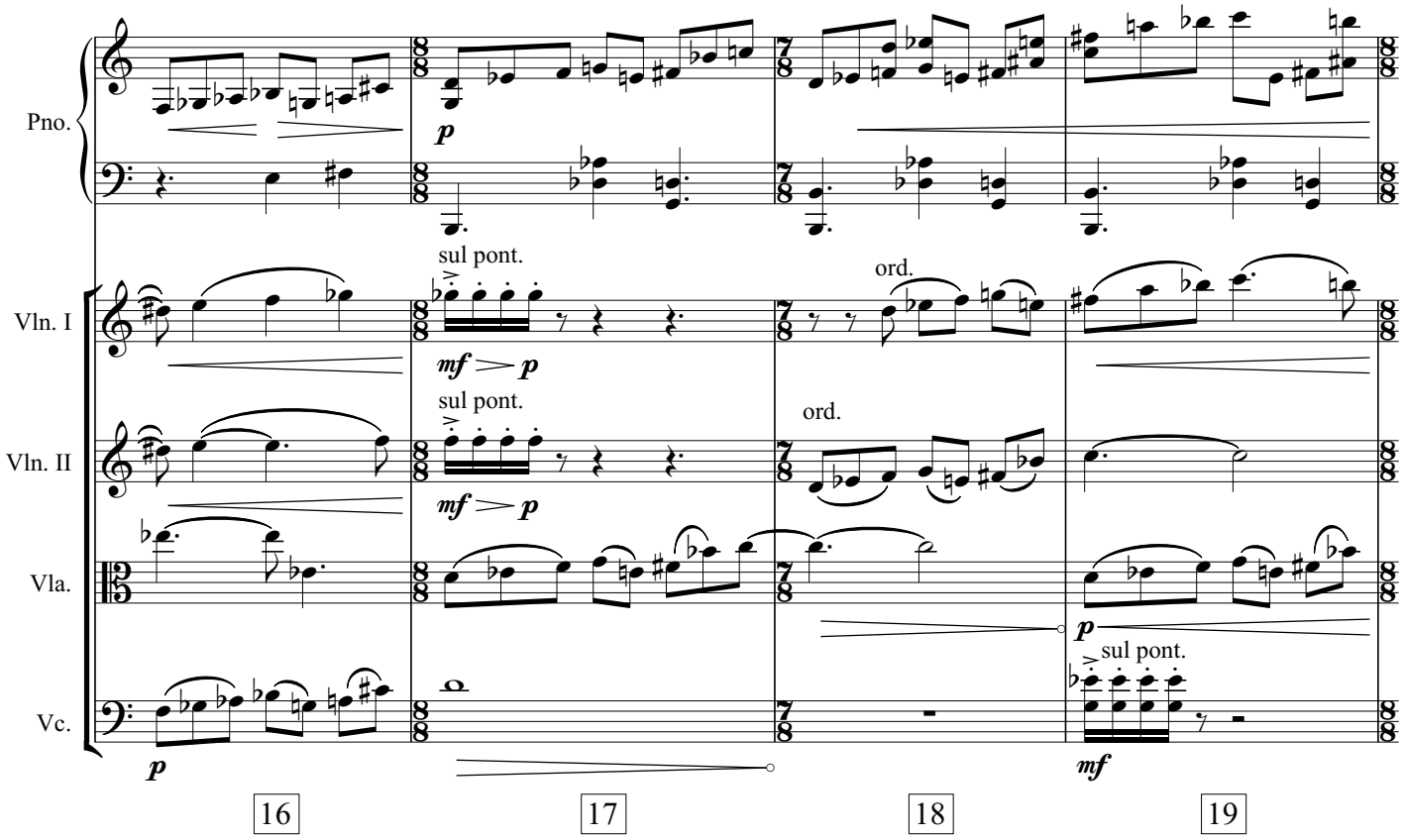

K
staccatissimo
Picc.
B. Cl.
pp
p
sffz
C Tpt.
ff
Perc.
ff
8va
staccatissimo
Pno.
K
pizz.
Vln. I
Vln. II
Vla.
Vc.
15
16
17
18
19
20
21
22
23

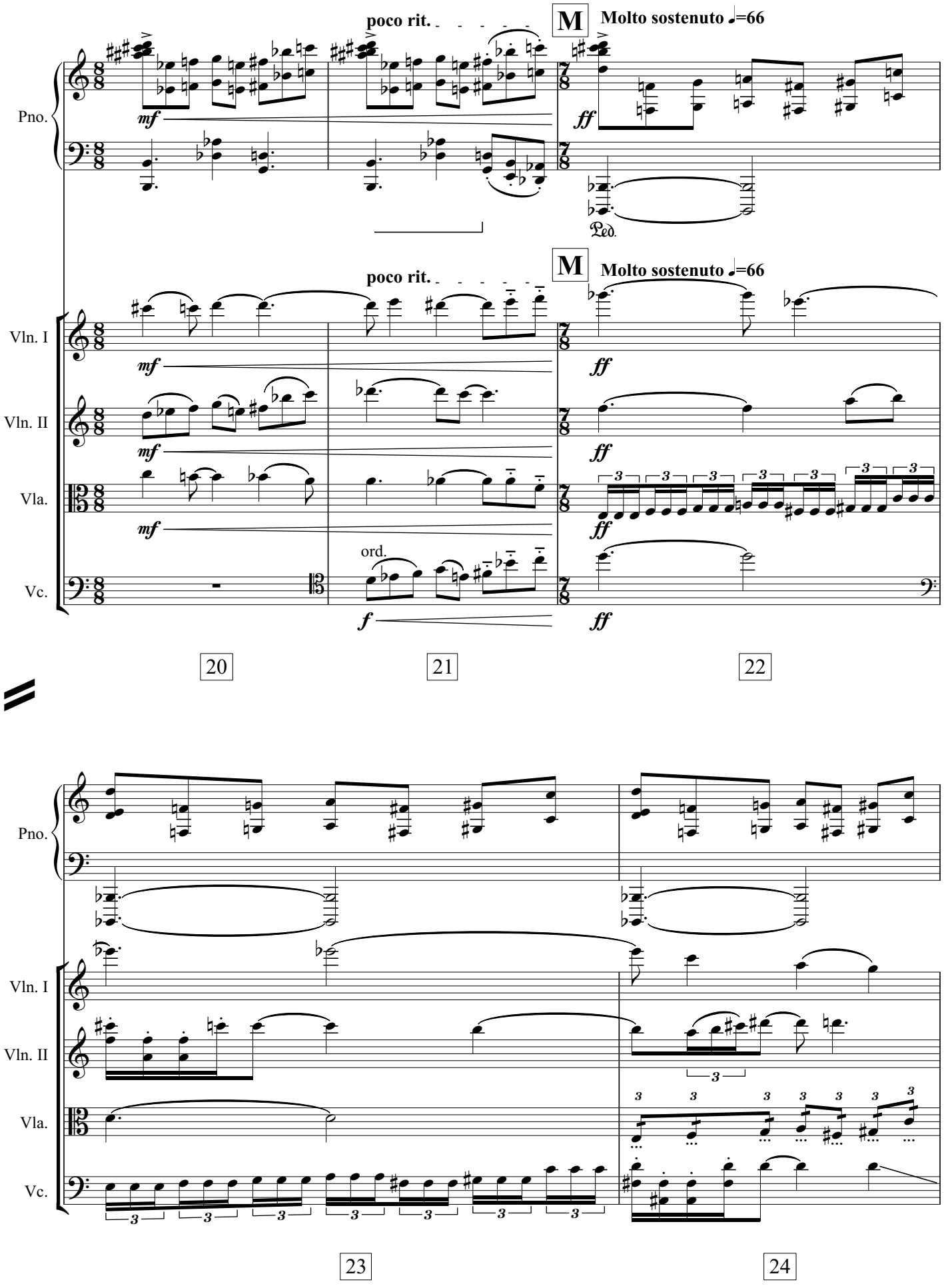

Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
pp
p
sfffz
fff
con sord.
straight mute
rim shot,
explosive
arco
senza vibrato
scratch
(8)
24
25
26
27
28
29
30
31
32
33

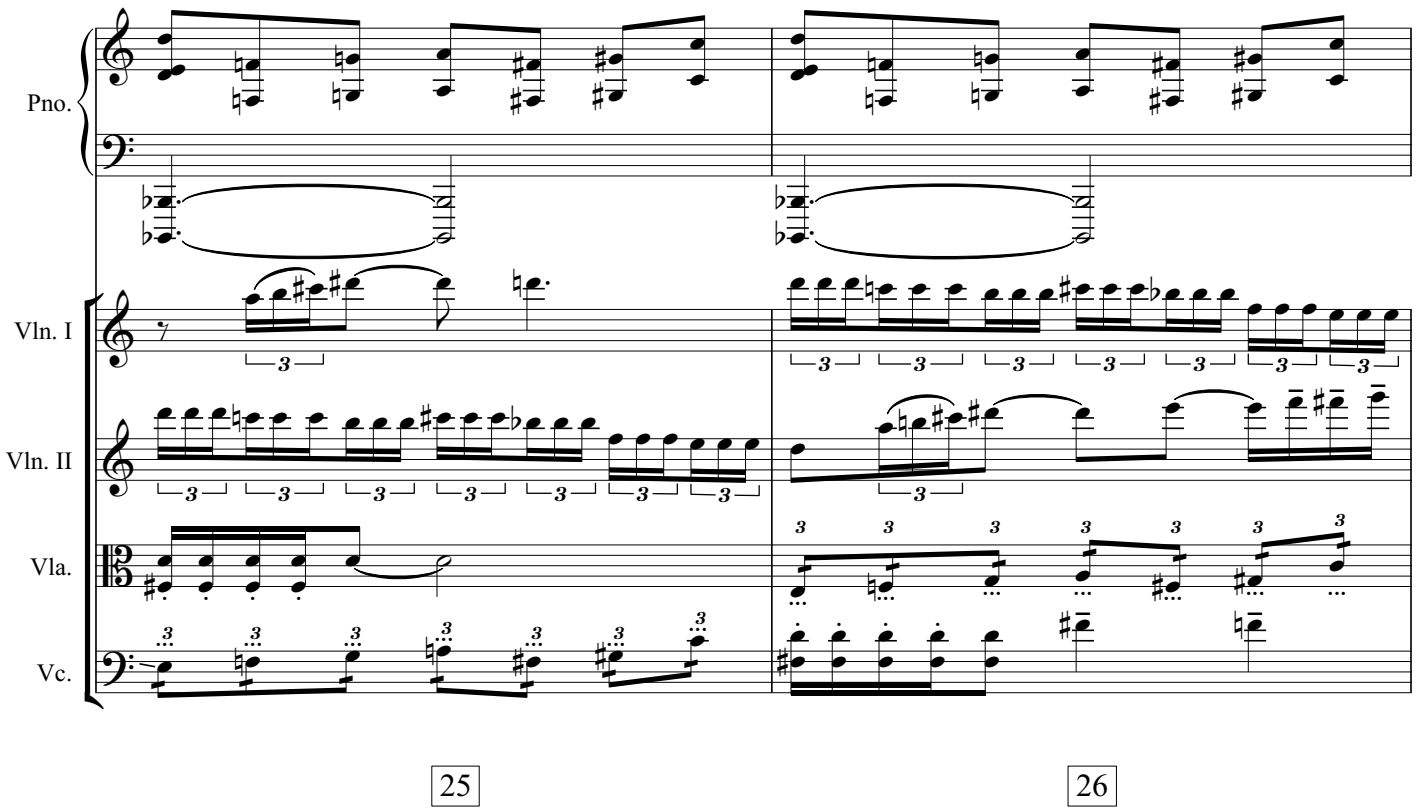
V. Mandelbrot Set

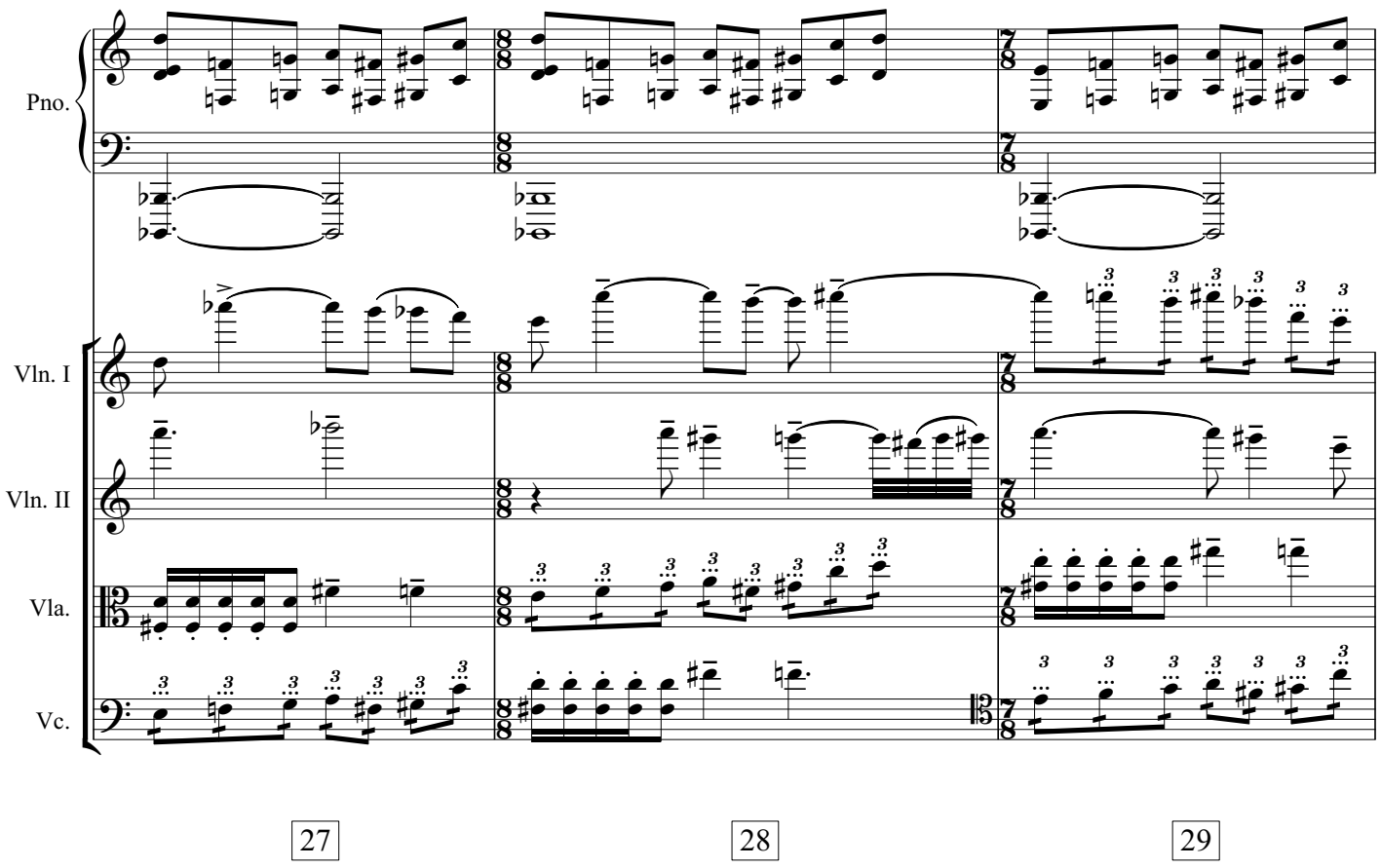


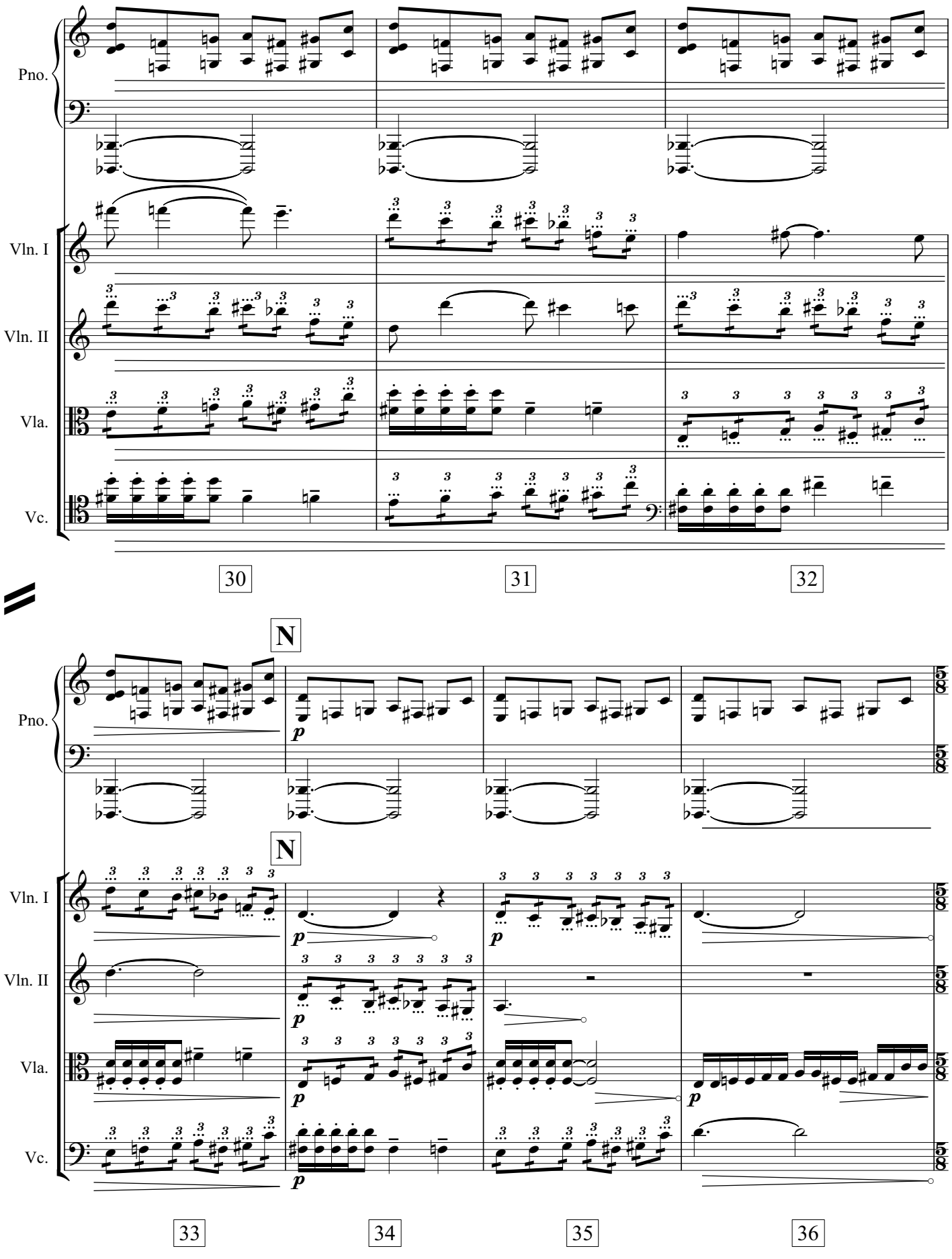

L
Pno.
L
Vln. I
Vln. II
Vla.
Vc.
p
11
12
13
14
15

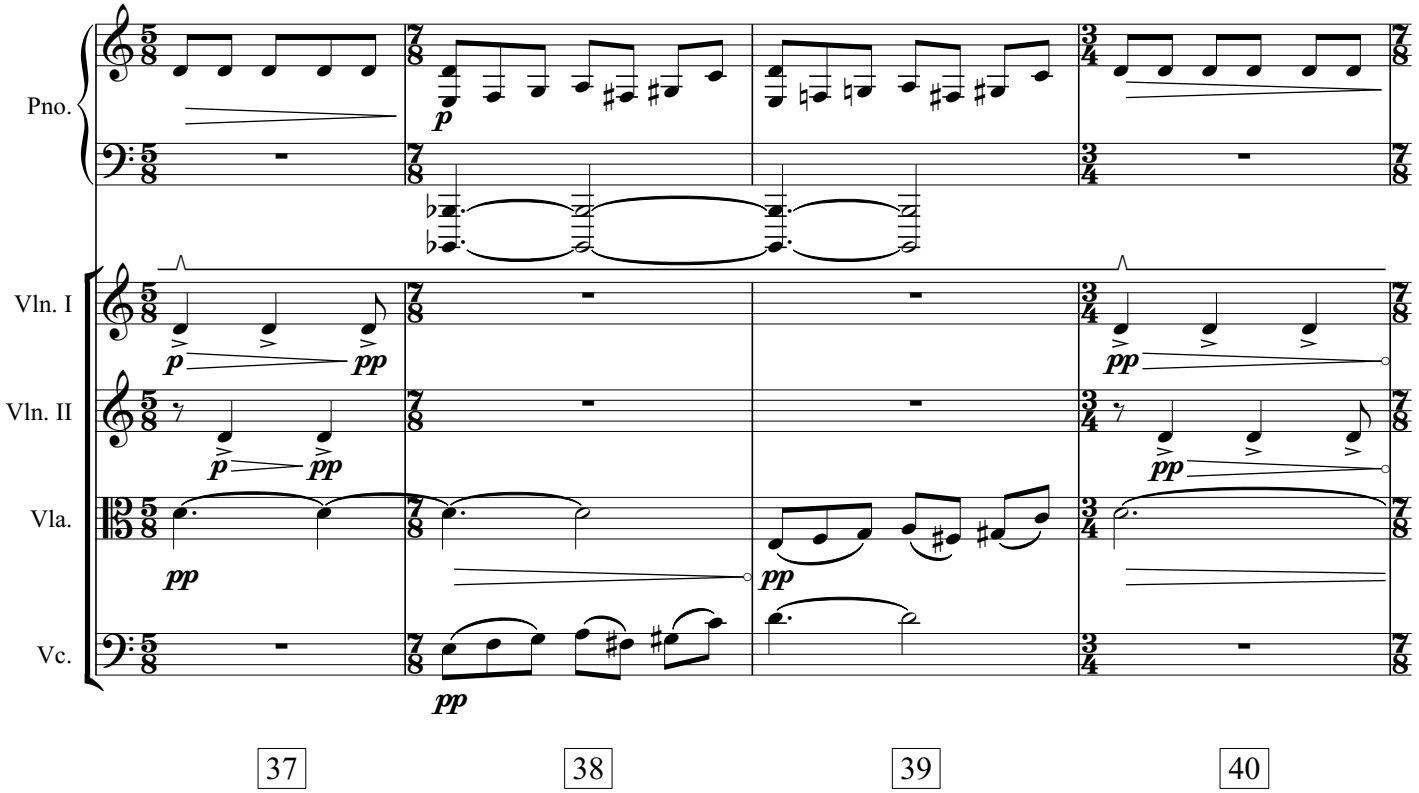

Pno.
Vln. I
Vln. II
Vla.
Vc.
sul pont.
ord.
mf > p
p
mf
16
17
18
19

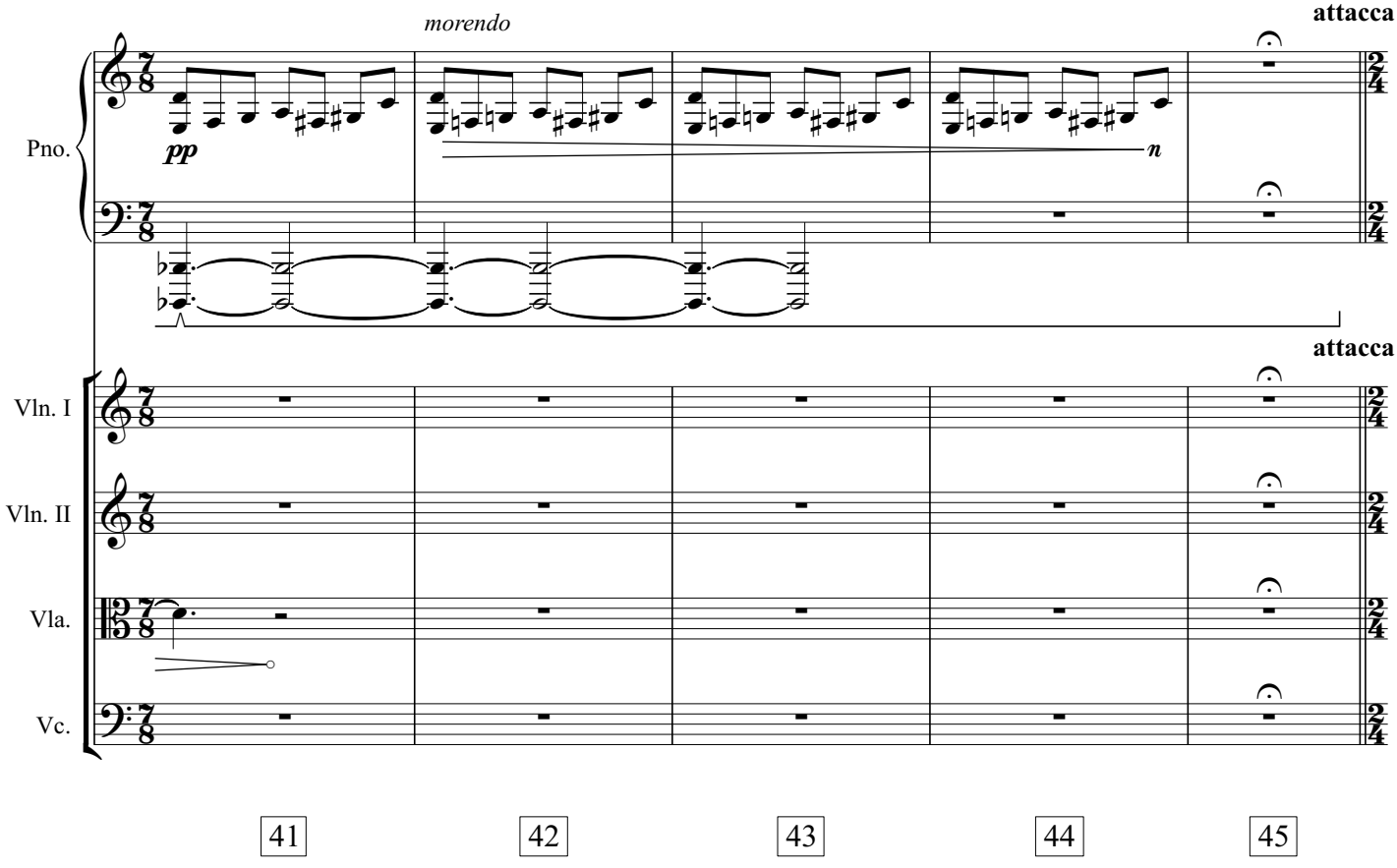

poco rit.
M
Molto sostenuto ♩=66
Pno.
mf
ff
Ped.
Vln. I
Vln. II
Vla.
Vc.
ord.
f
20
21
22
23
24


Pno.
Vln. I
Vln. II
Vla.
Vc.
25
26

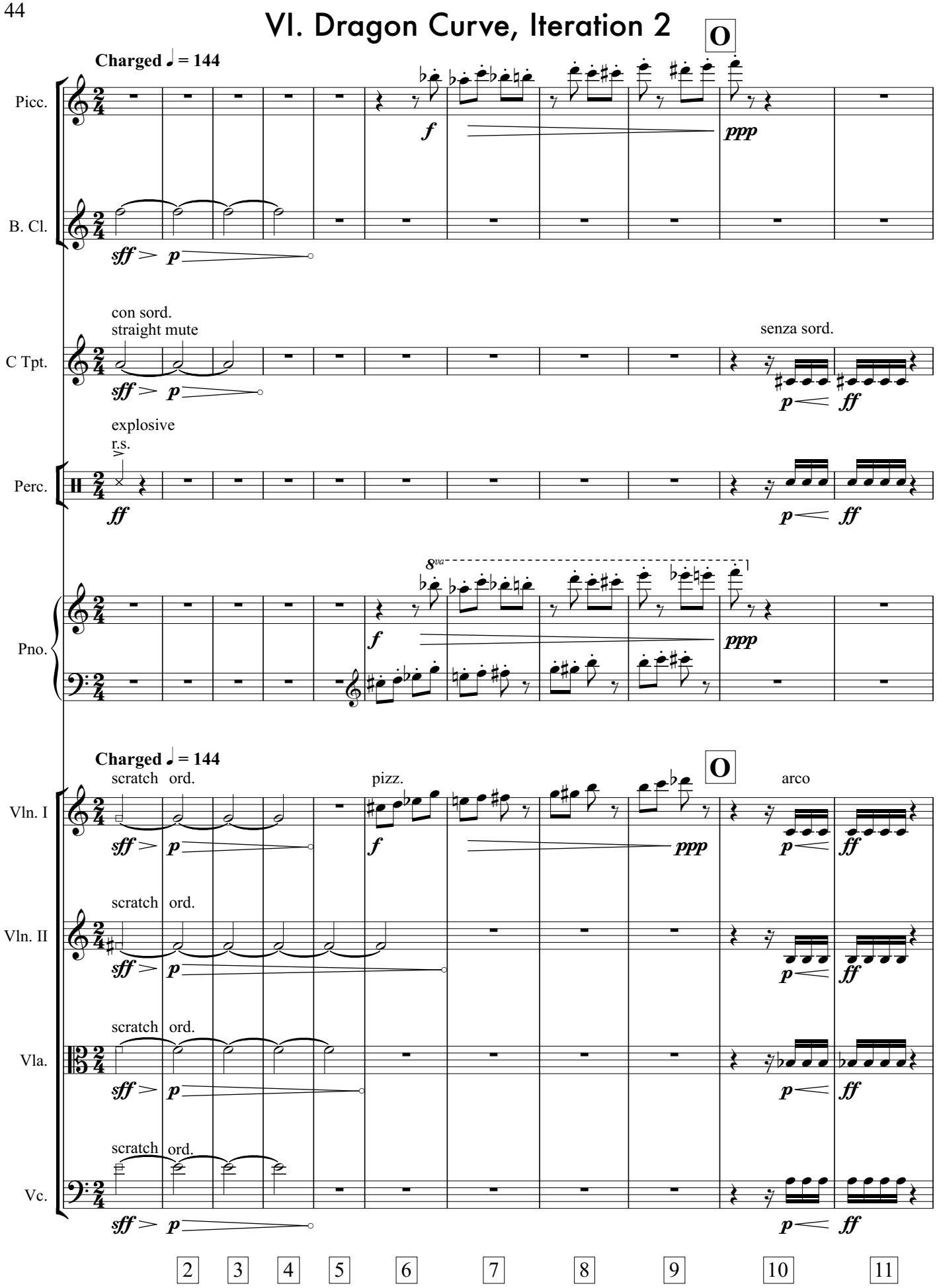

Pno.
Vln. I
Vln. II
Vla.
Vc.
27
28
29

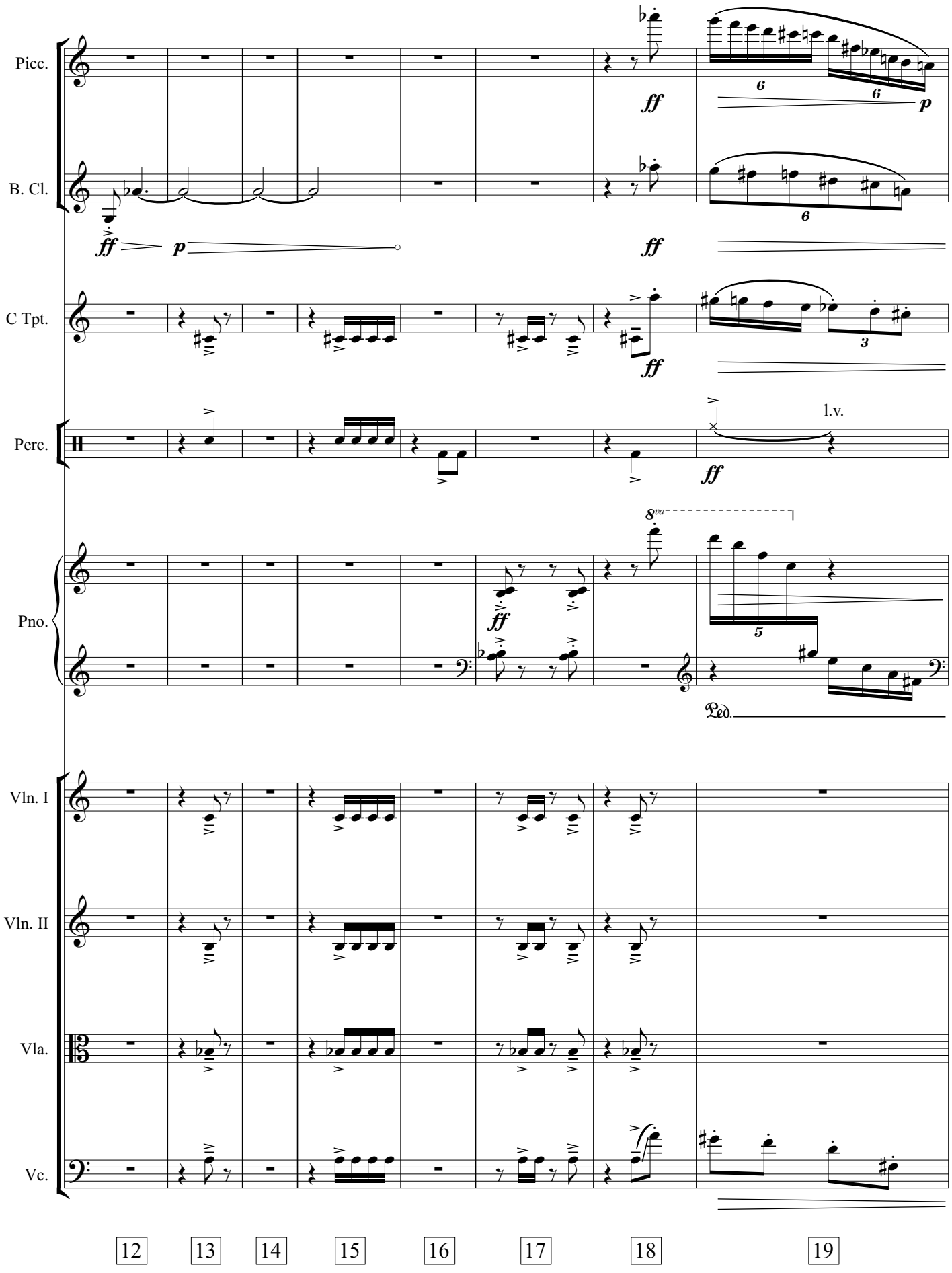

Pno.
Vln. I
Vln. II
Vla.
Vc.
30
31
32
N
Pno.
N
Vln. I
Vln. II
Vla.
Vc.
p
33
34
35
36

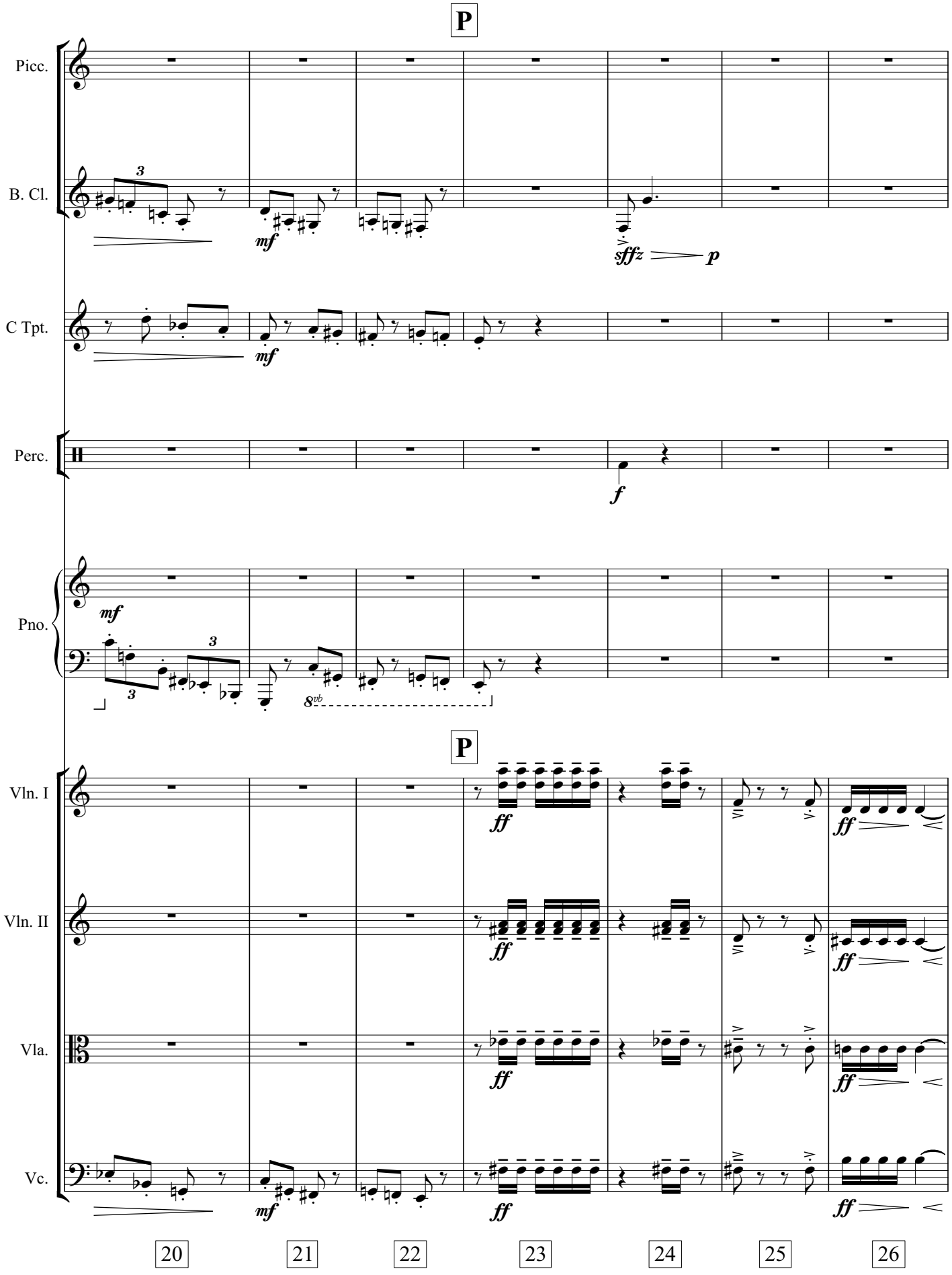

Pno.
Vln. I
Vln. II
Vla.
Vc.
p
pp
37
38
39
40

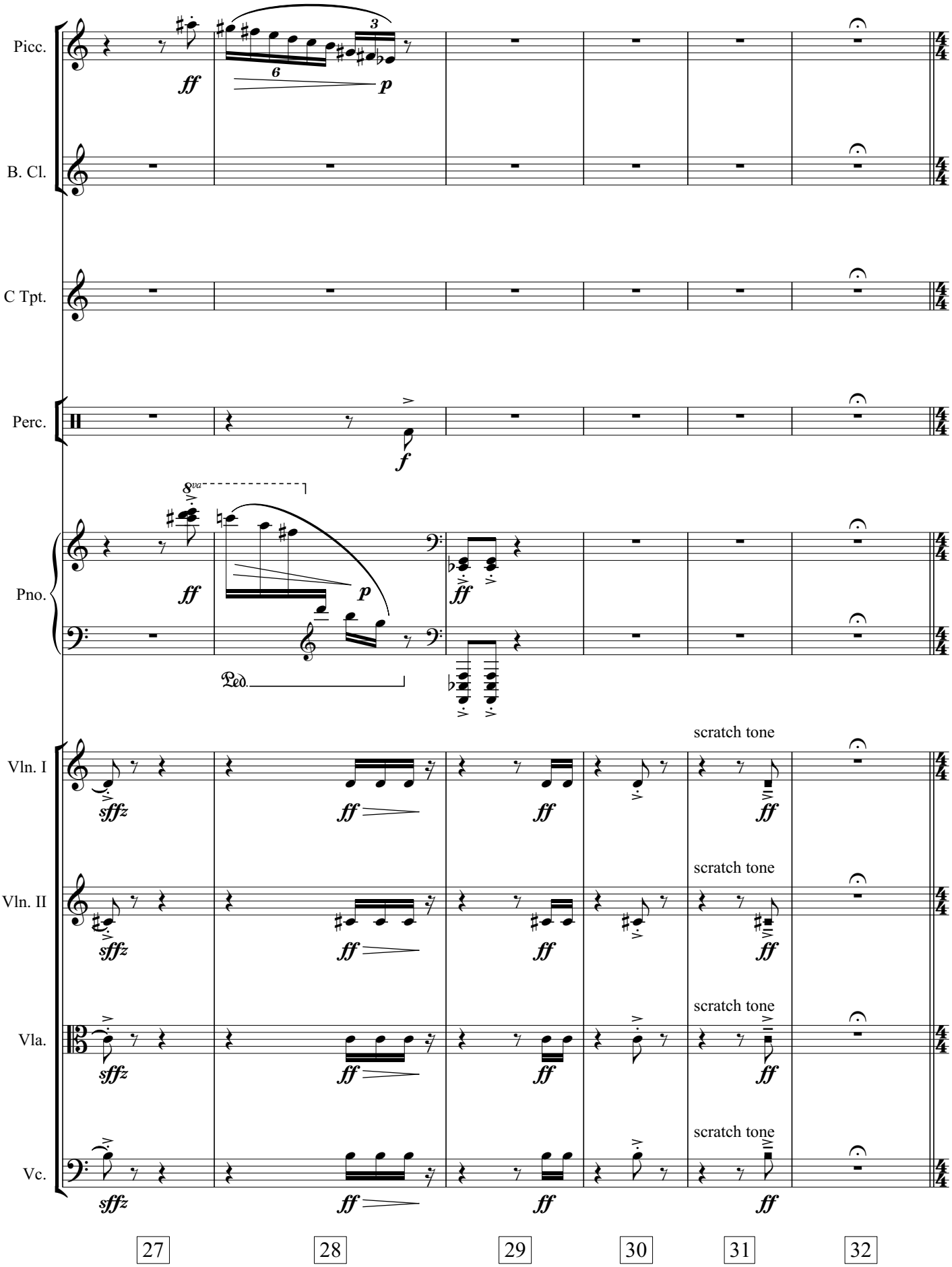

morendo
attacca
attacca
Pno.
Vln. I
Vln. II
Vla.
Vc.
pp
n
41
42
43
44
45

VI. Dragon Curve, Iteration 2

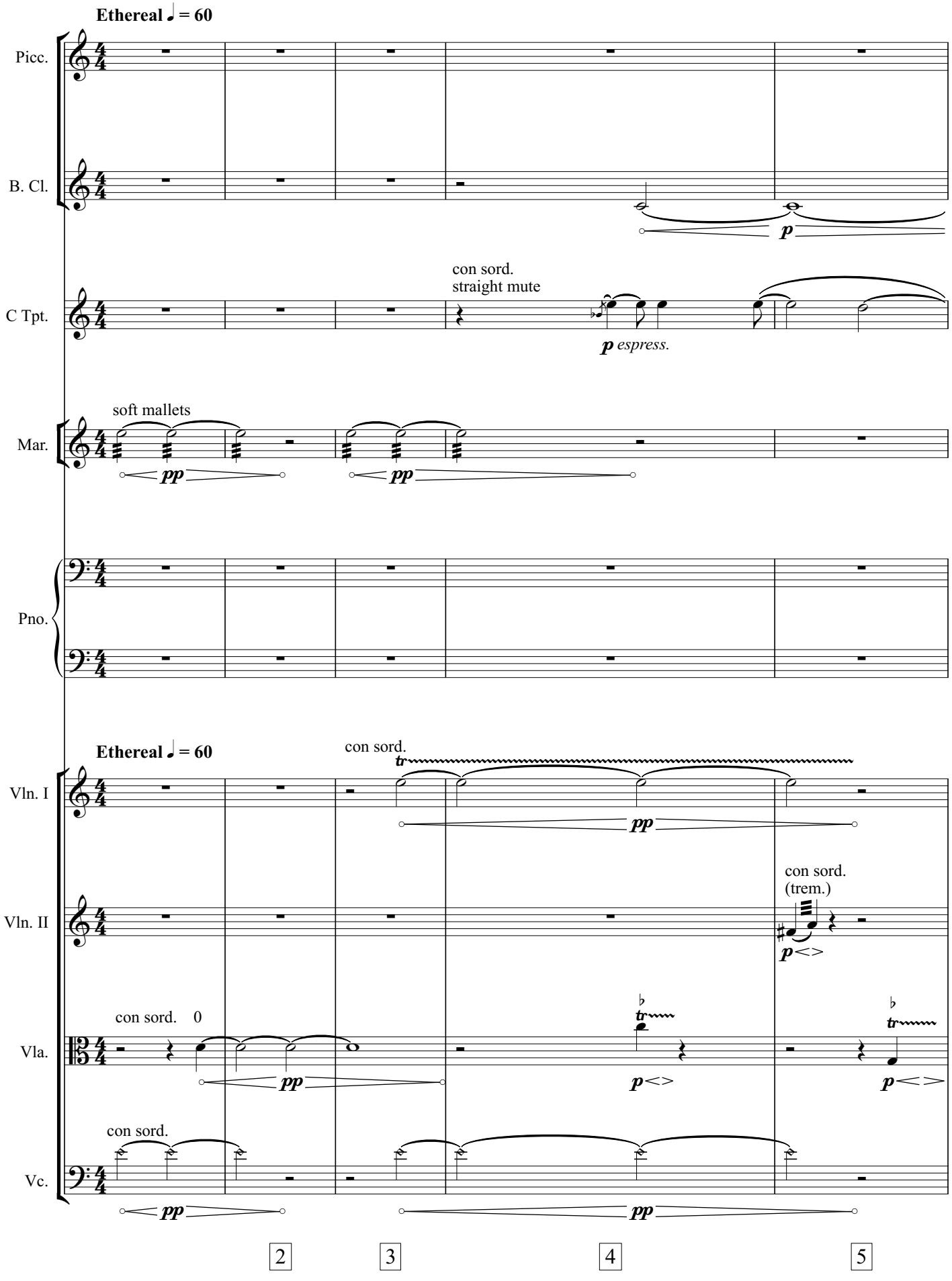


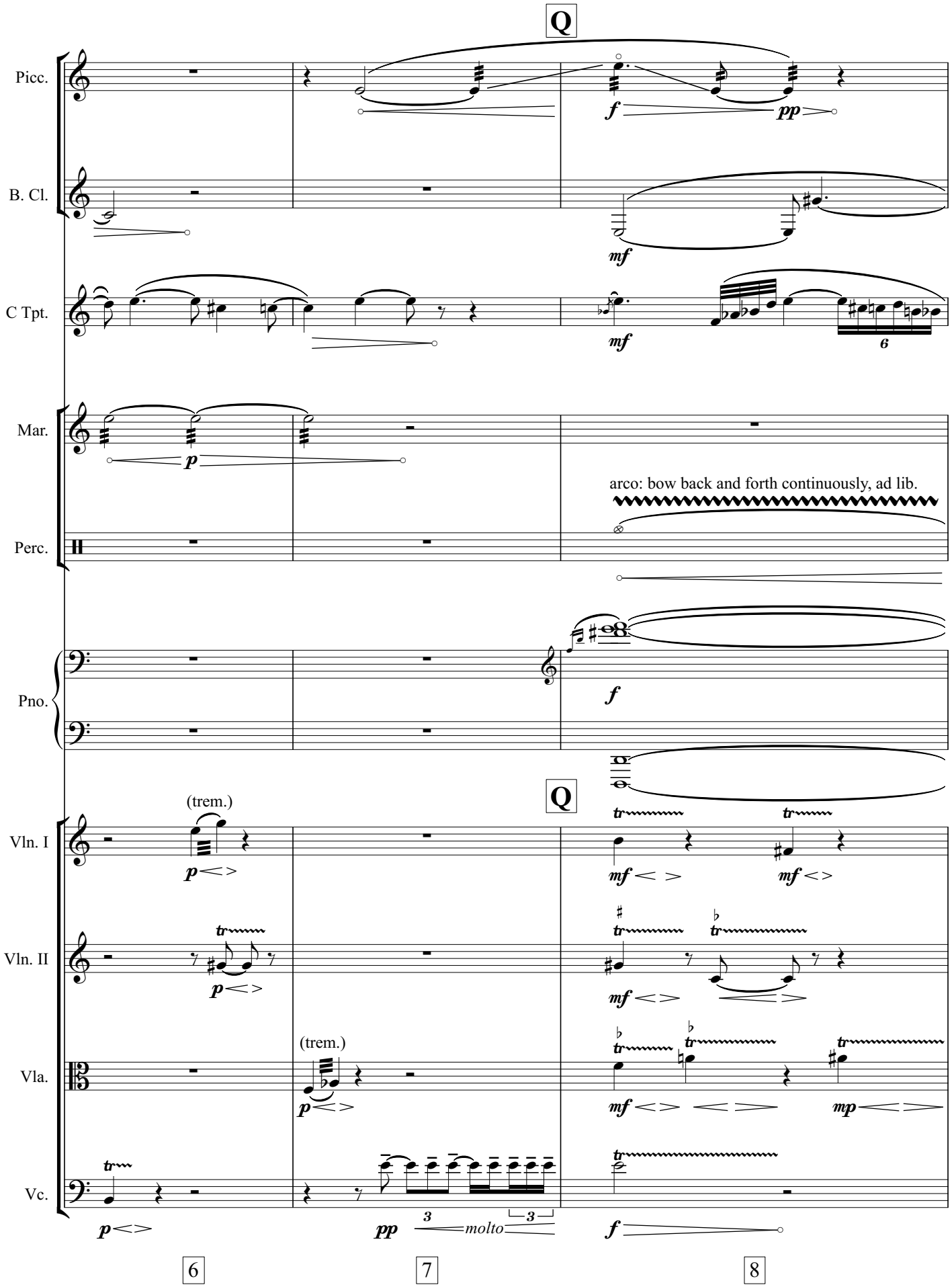

Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
ff
p
l.v.
8va
Ped.
12
13
14
15
16
17
18
19

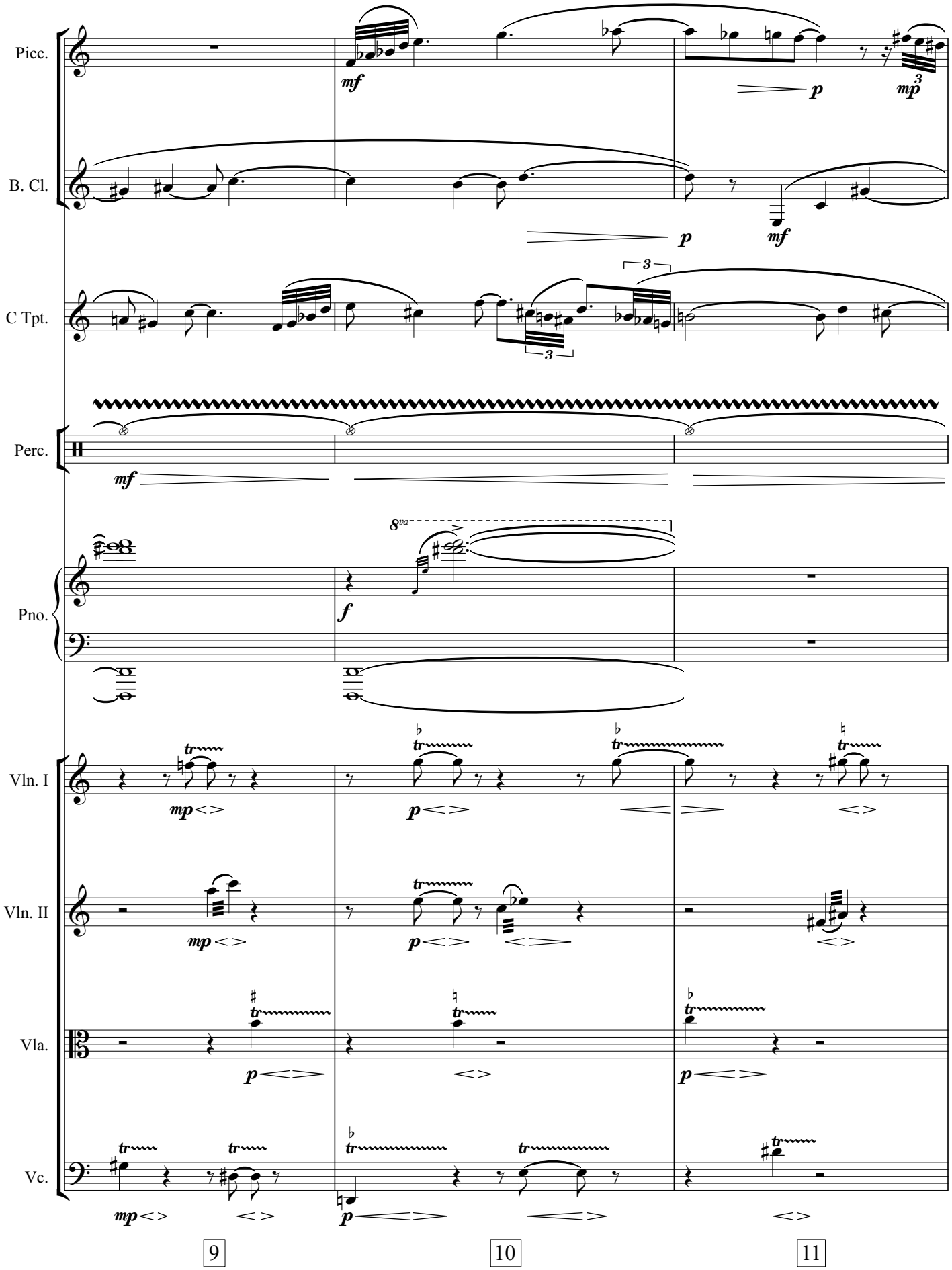

P
Picc.
B. Cl.
C Tpt.
Perc.
Pno.
P
Vln. I
Vln. II
Vla.
Vc.
mf
sffz
p
f
ff
8vb
20
21
22
23
24
25
26

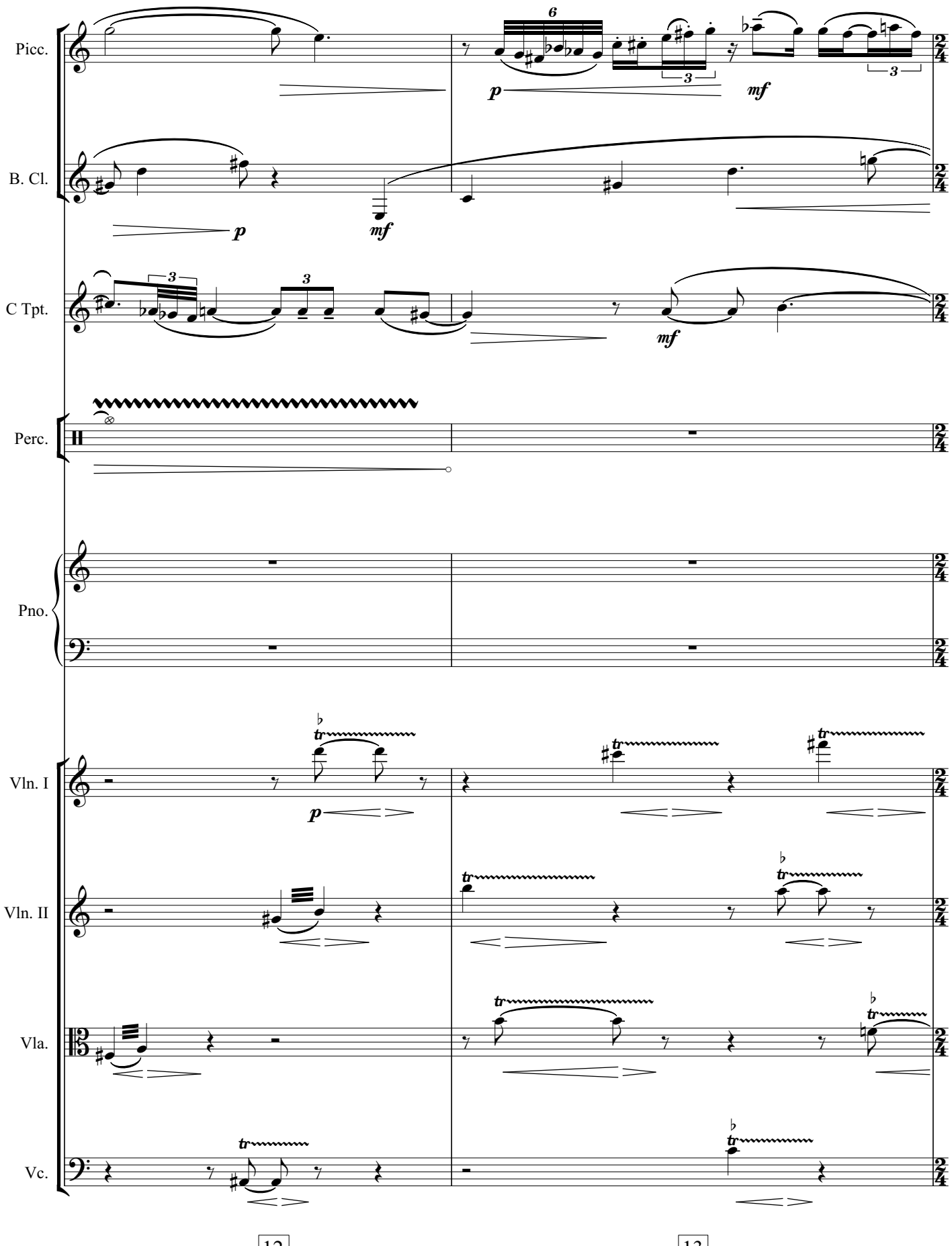

Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
scratch tone
scratch tone
scratch tone
scratch tone
27
28
29
30
31
32

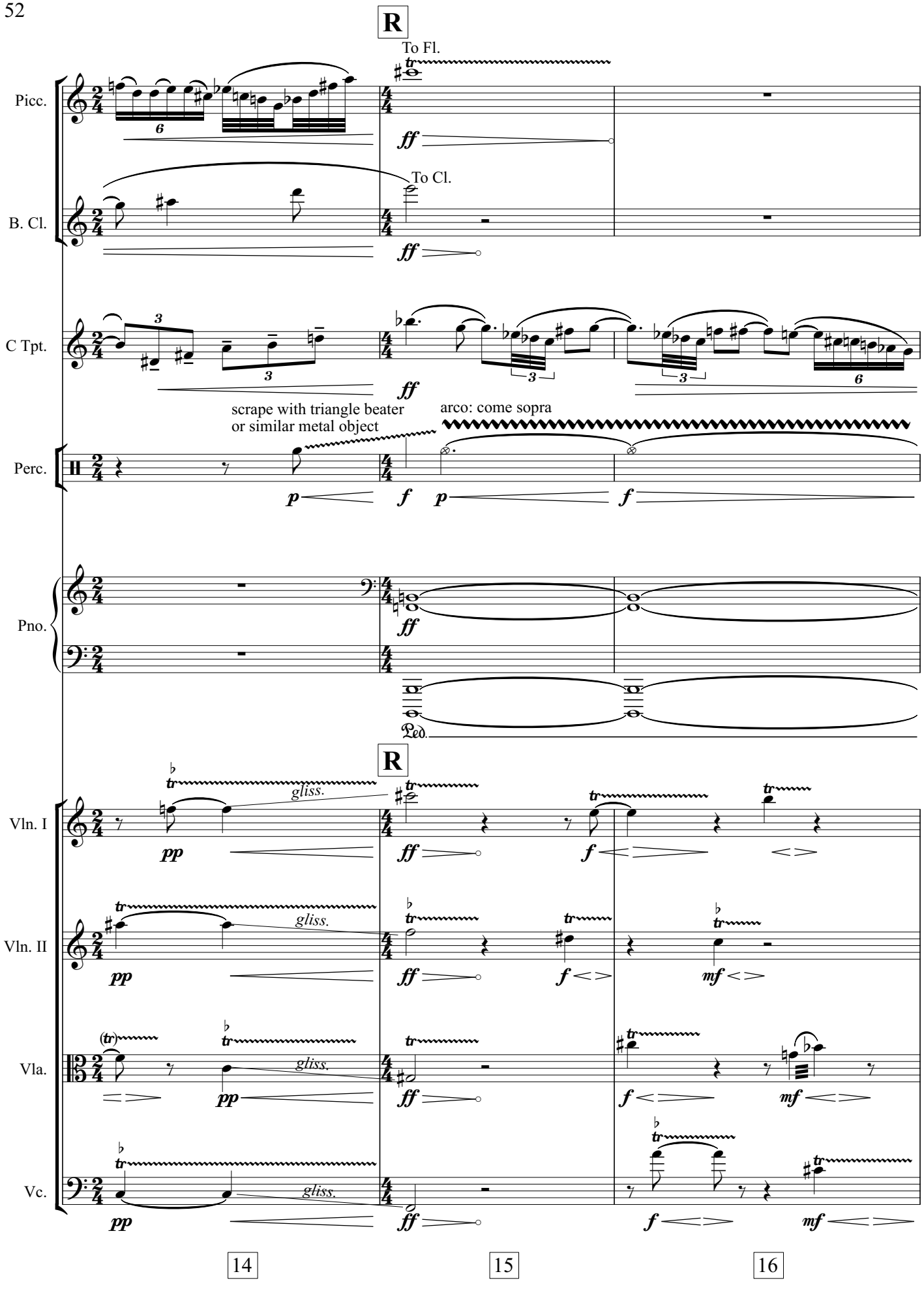
VII. Nova Fractal

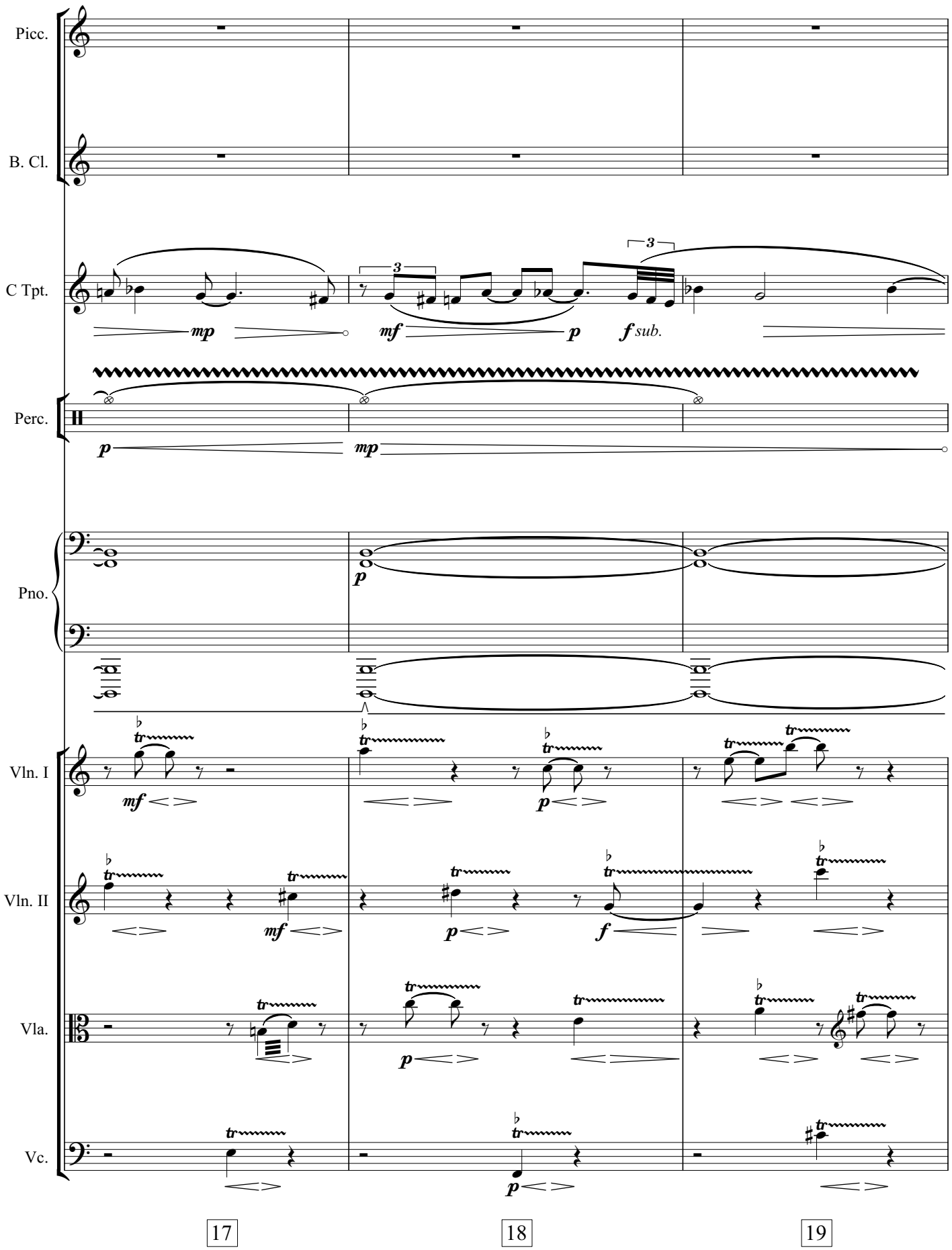


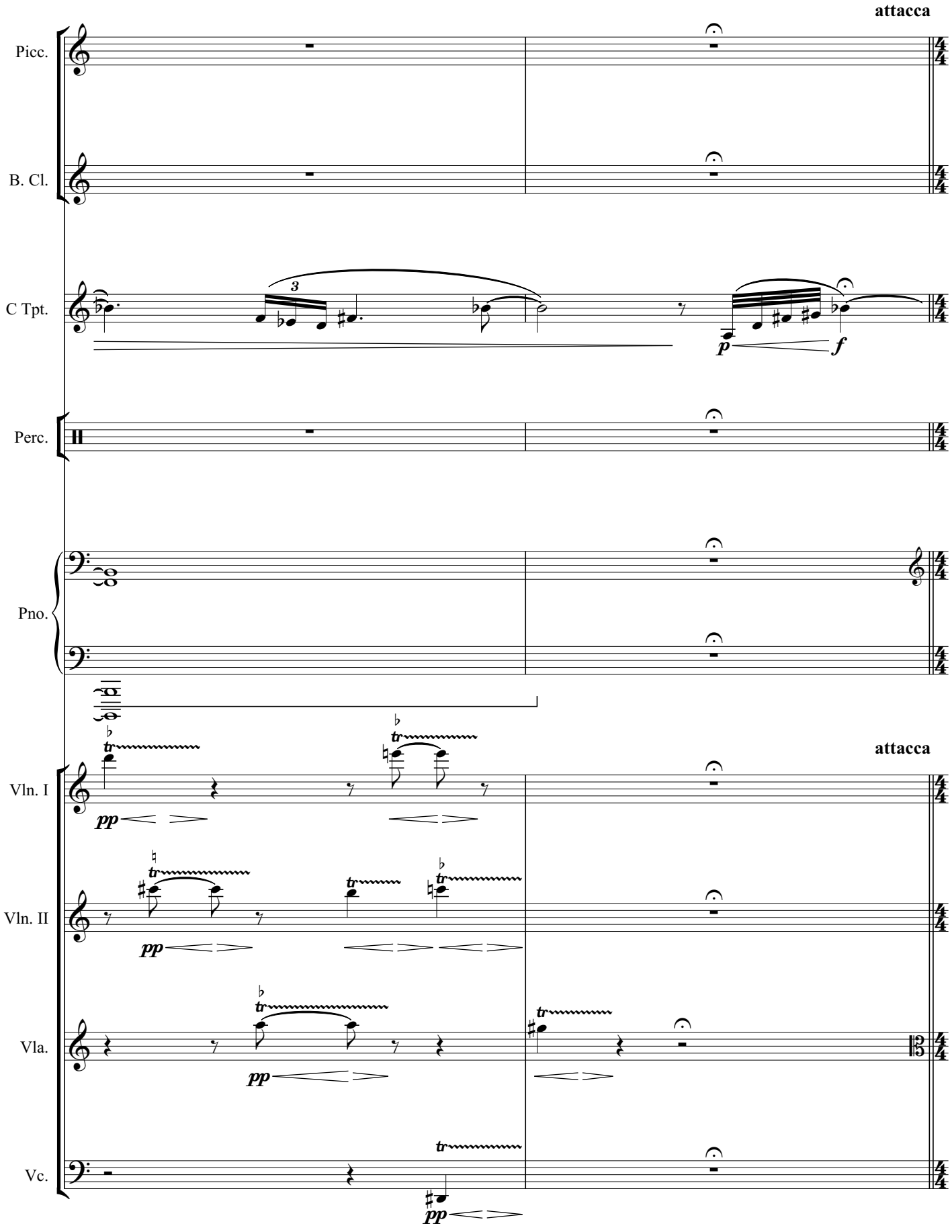

Q
Picc.
B. Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
arco: bow back and forth continuously, ad lib.
(trem.)
molto
6
7
8


Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
mf
p
mp
f
8va
tr
9
10
11


Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
12
13


R
To Fl.
Picc.
To Cl.
B. Cl.
C Tpt.
scrape with triangle beater
or similar metal object
arco: come sopra
Perc.
Pno.
Ped.
R
Vln. I
Vln. II
Vla.
Vc.
gliss.
14
15
16


Picc.
B. Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
mp
mf
p
f sub.
17
18
19


attacca
Picc.
B. Cl.
C Tpt.
Perc.
Pno.
attacca
Vln. I
Vln. II
Vla.
Vc.
20
21

VIII. Sierpinski Triangle, Iteration 2

Steady and punctuated ♩ = 108

Flute

Fl.

Clarinet in B♭

Cl.

C Tpt.

p

Mar.

pp

cresc. poco a poco

Pno.

8va

f

p

mf

Ped.

Steady and punctuated ♩ = 108

senza sord.
harmonic gliss.
sul D

rapidly, aim to let as many harmonics speak as possible

Vln. I

f

pp

p

cresc. poco a poco

senza sord.
harmonic gliss.
sul D

Vln. II

f

pp

p

cresc. poco a poco

senza sord.

4 0 4 0 sim.

Vla.

pp

cresc. poco a poco

senza sord.
pizz.

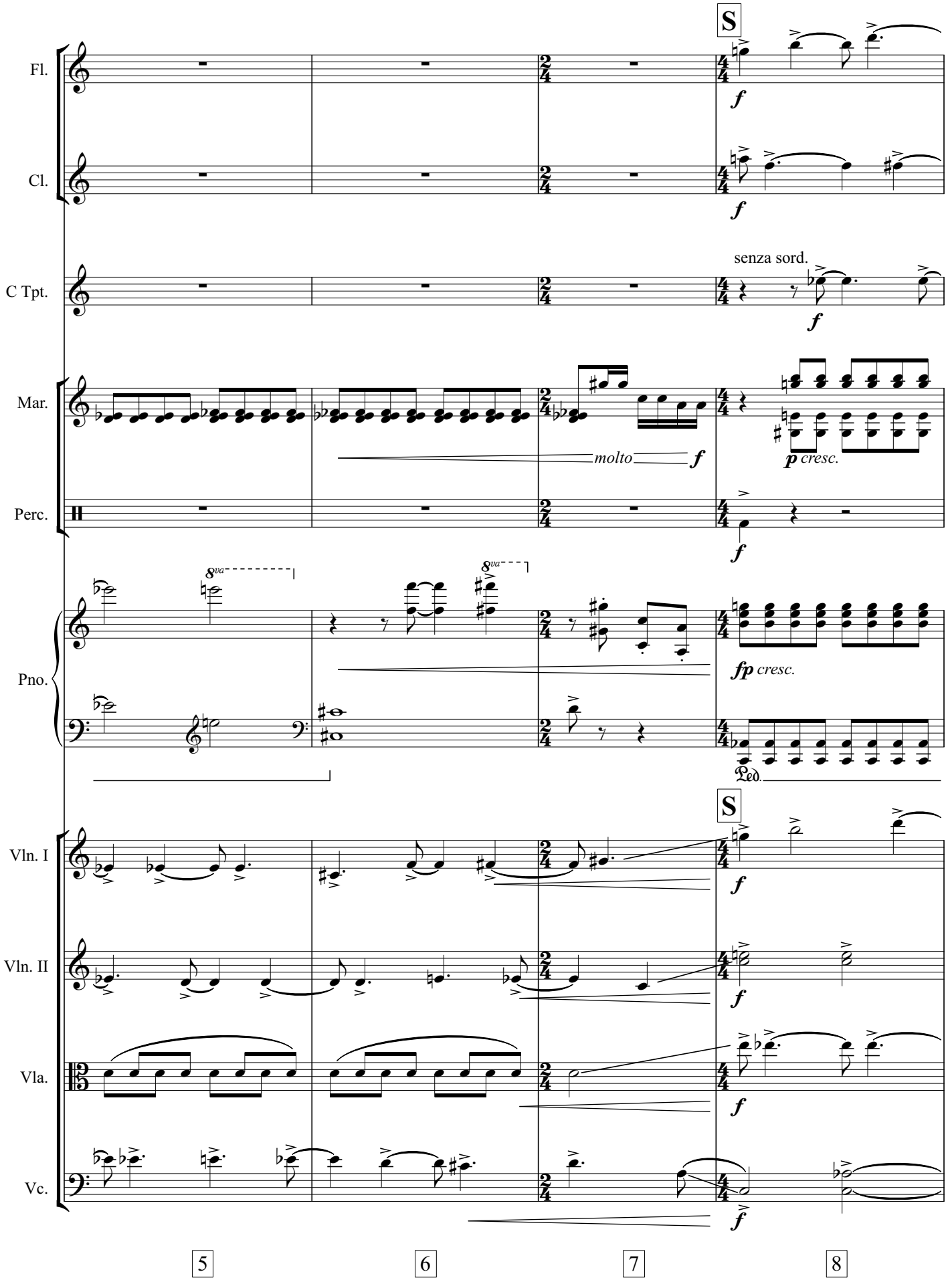
Vc.

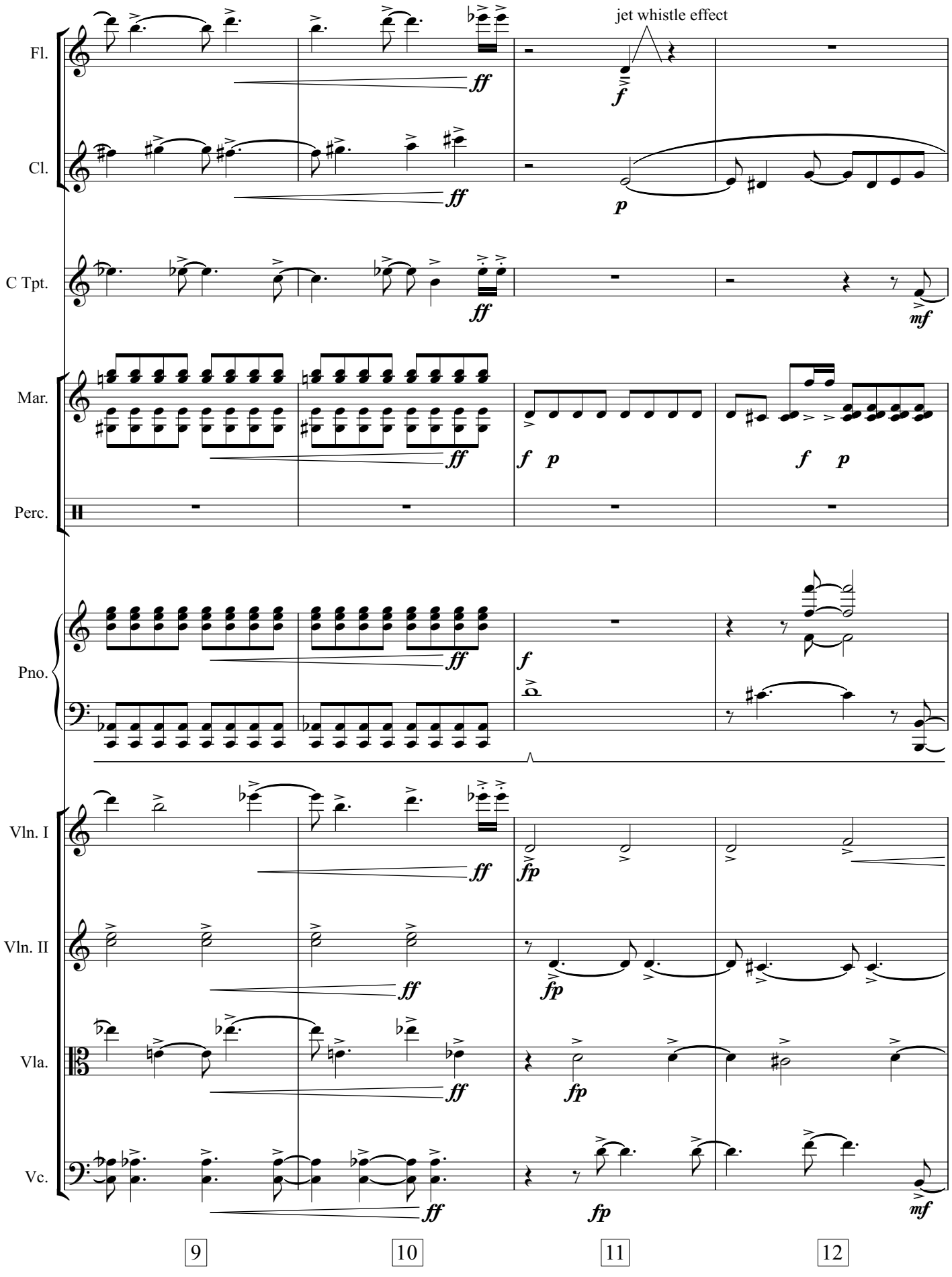
f

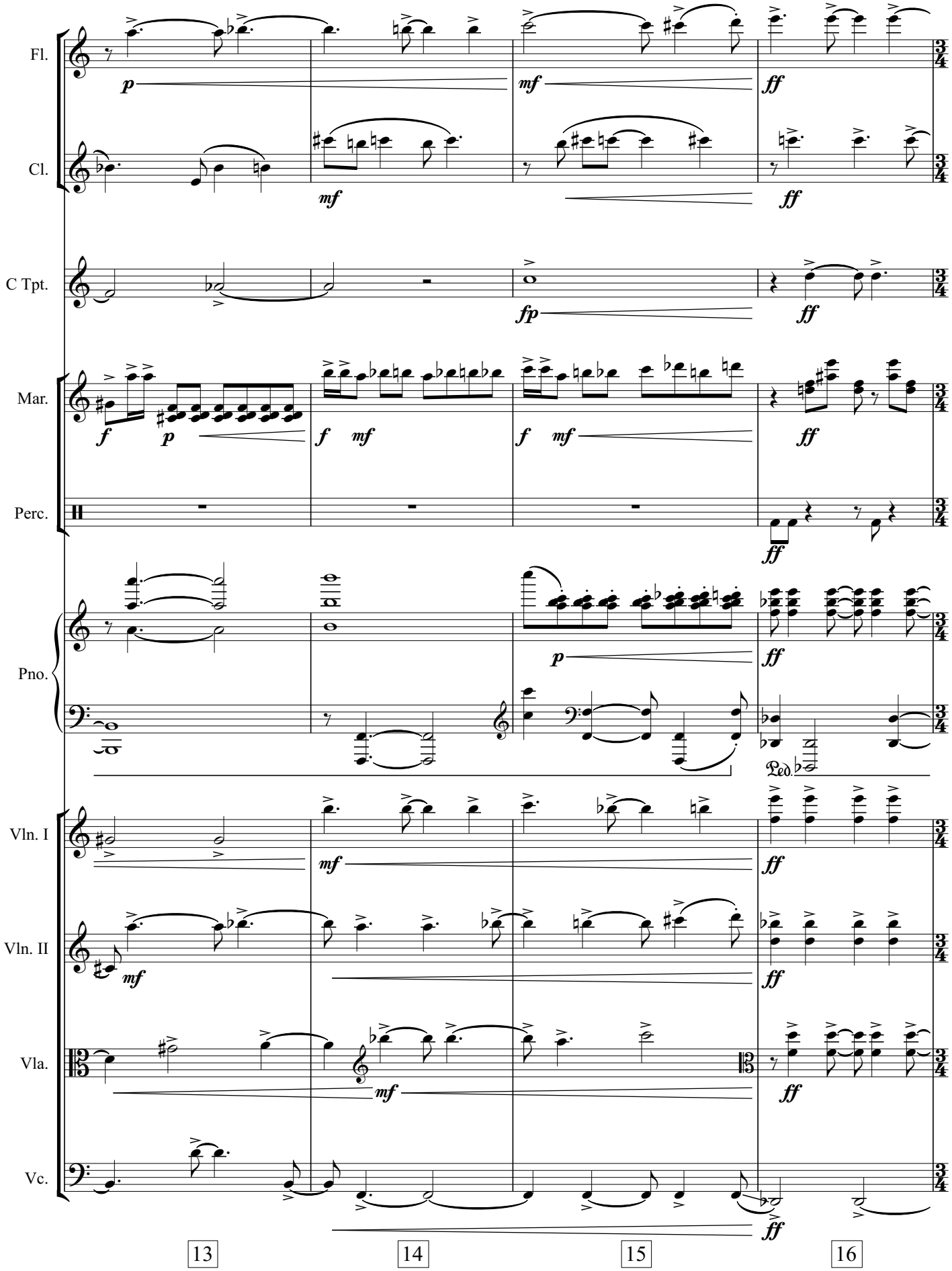
p

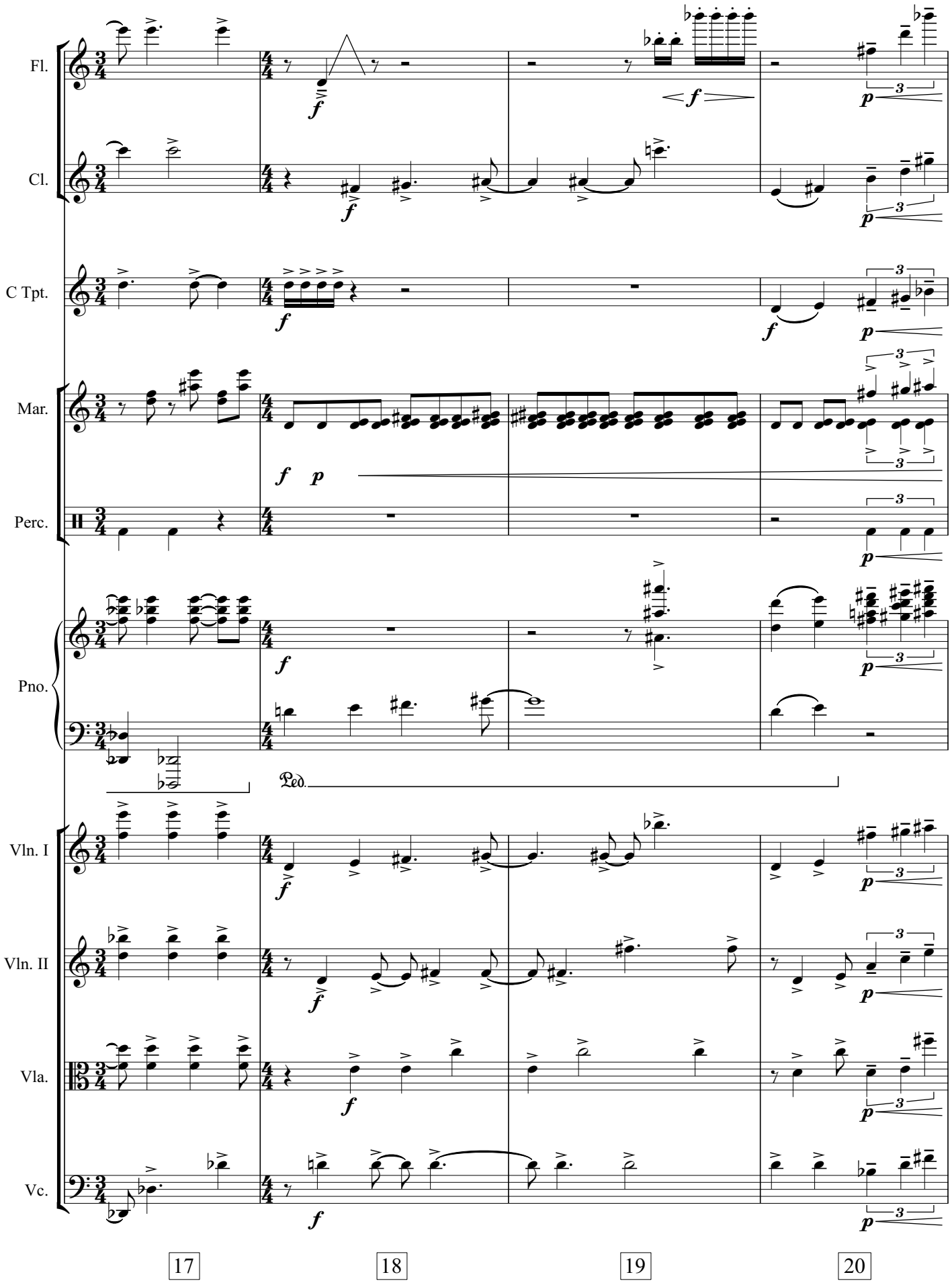
cresc. poco a poco

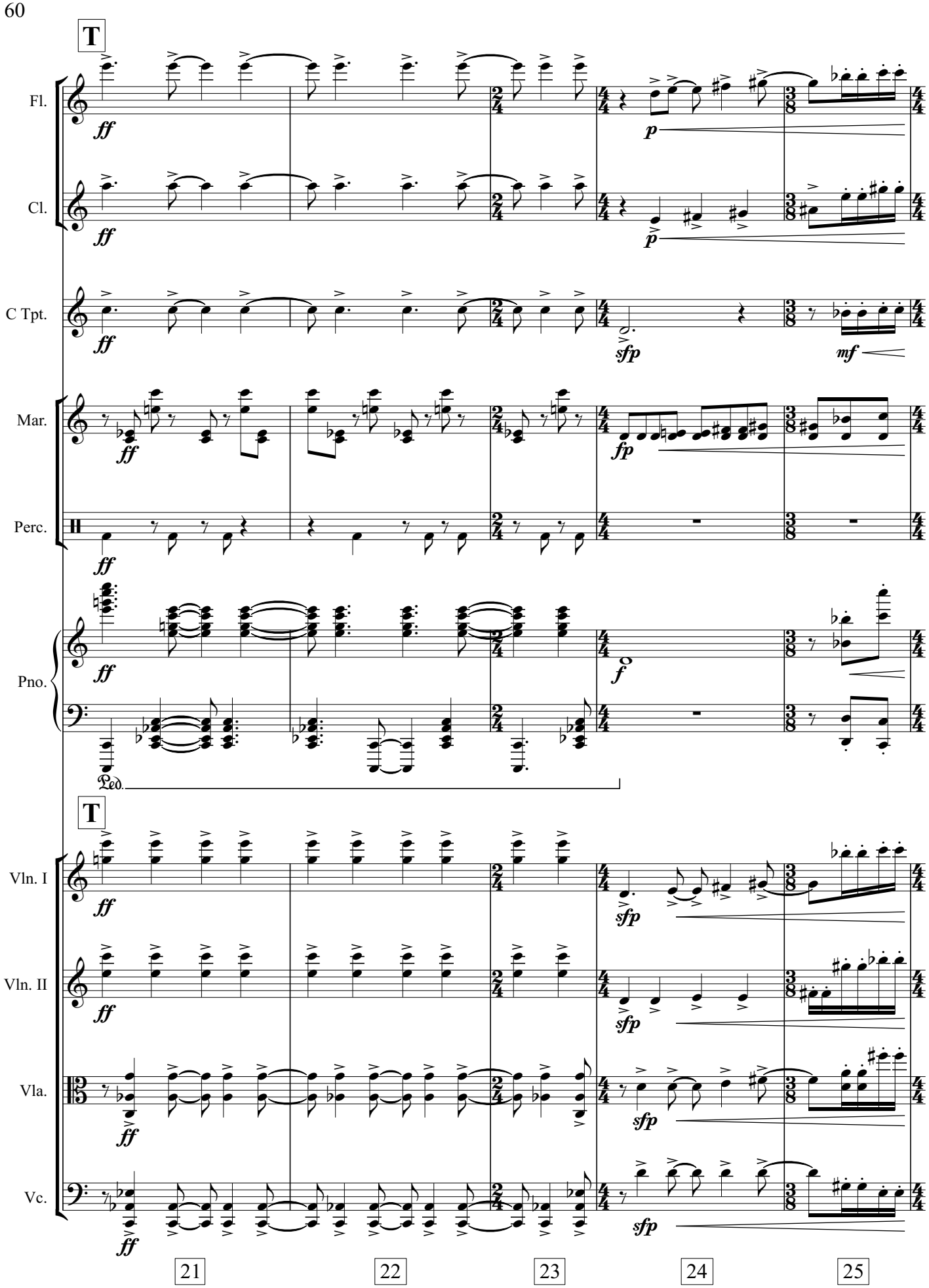
2 3 4

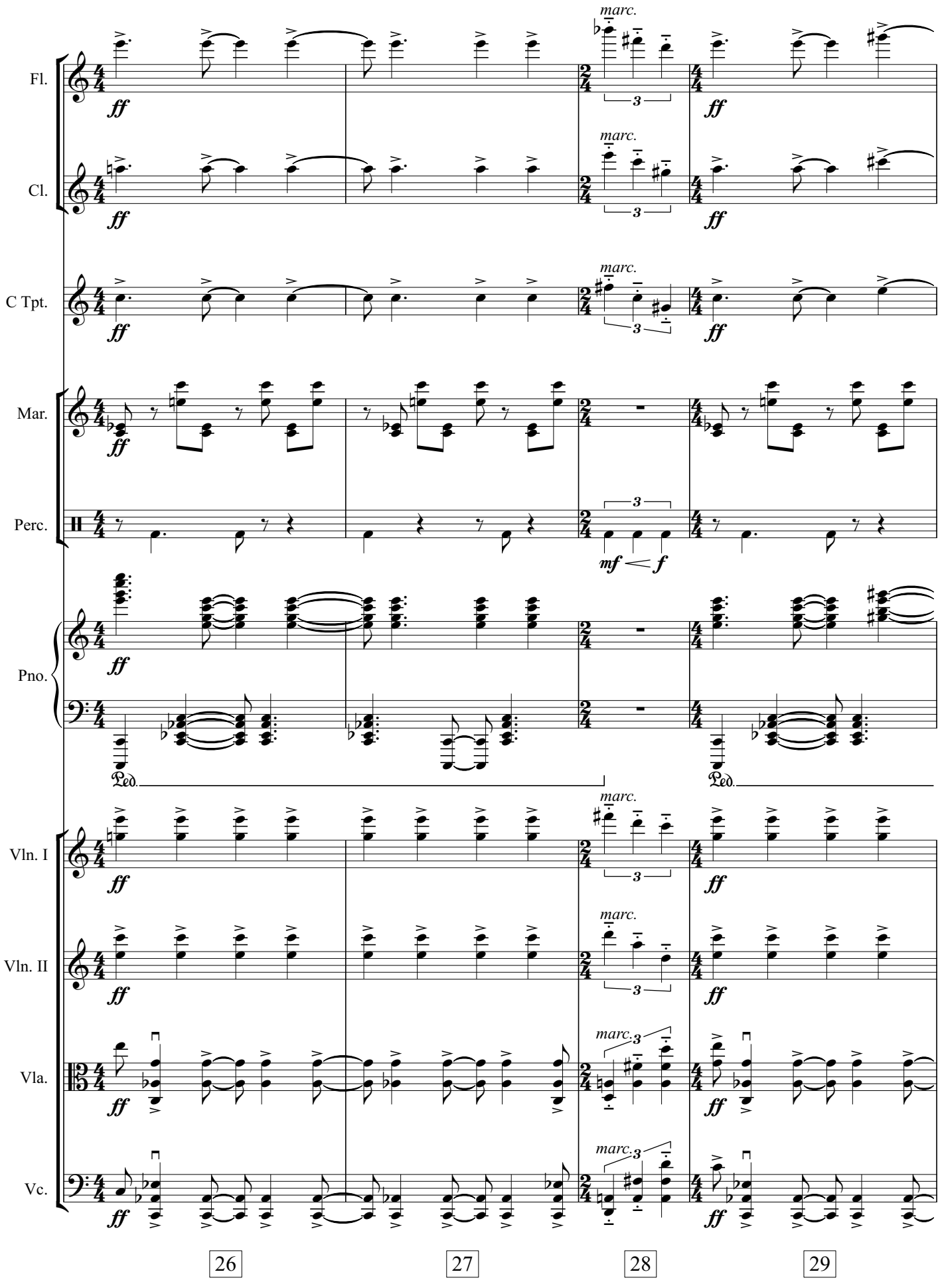

S
Fl.
Cl.
C Tpt.
senza sord.
Mar.
molto
Perc.
Pno.
8va
fp cresc.
Ped.
S
Vln. I
Vln. II
Vla.
Vc.
5
6
7
8

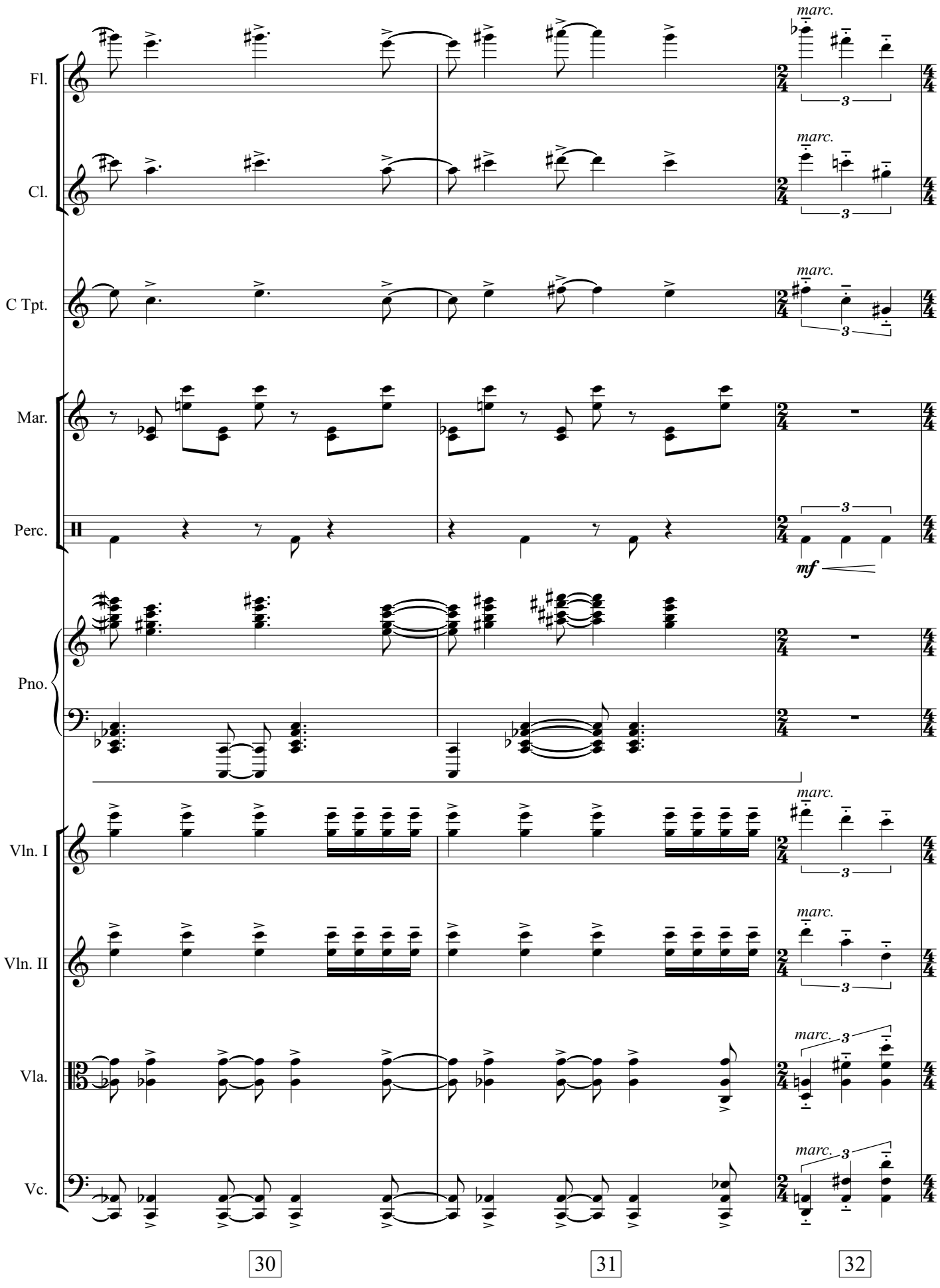

jet whistle effect
Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
9
10
11
12

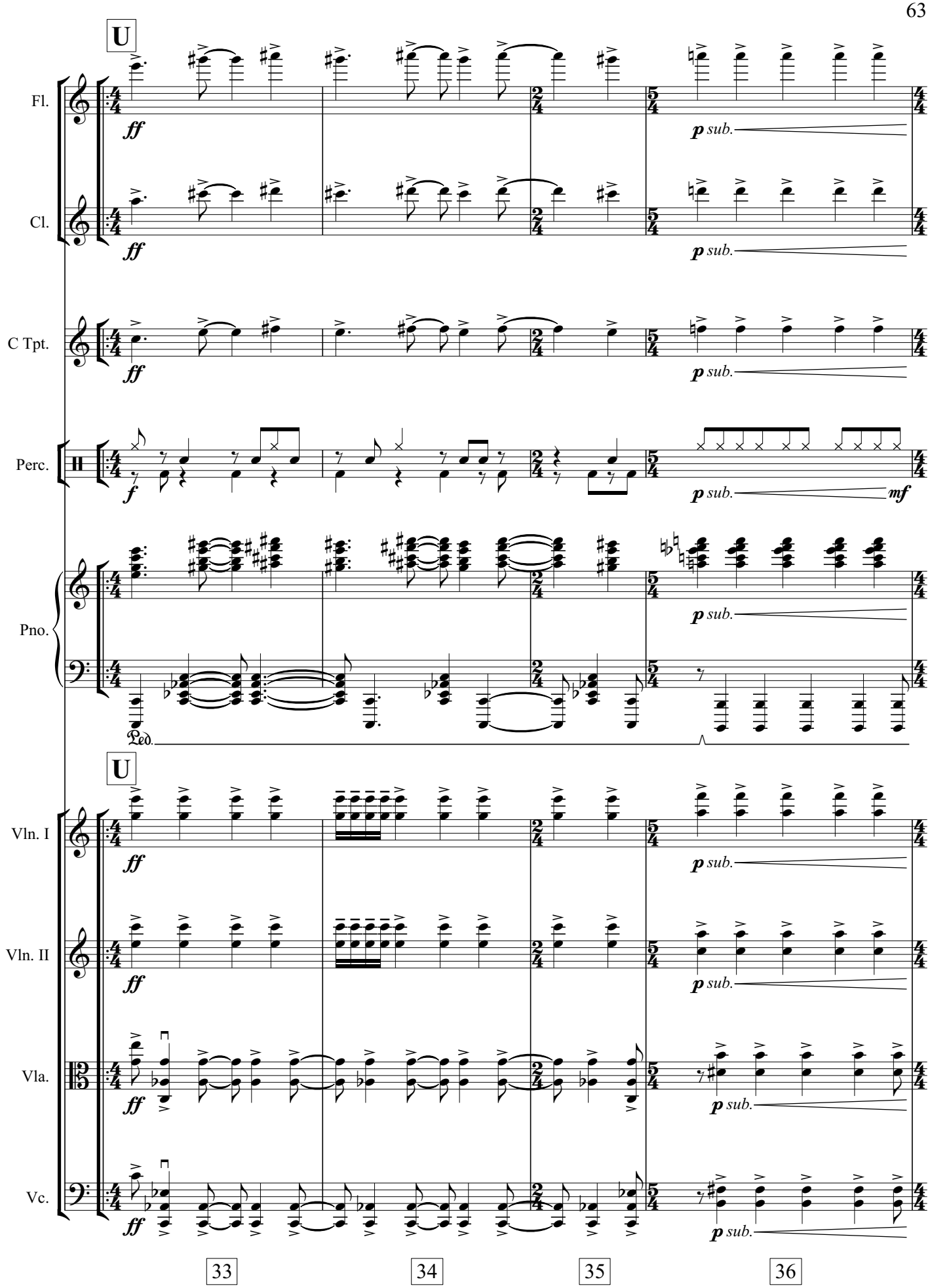

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
13
14
15
16

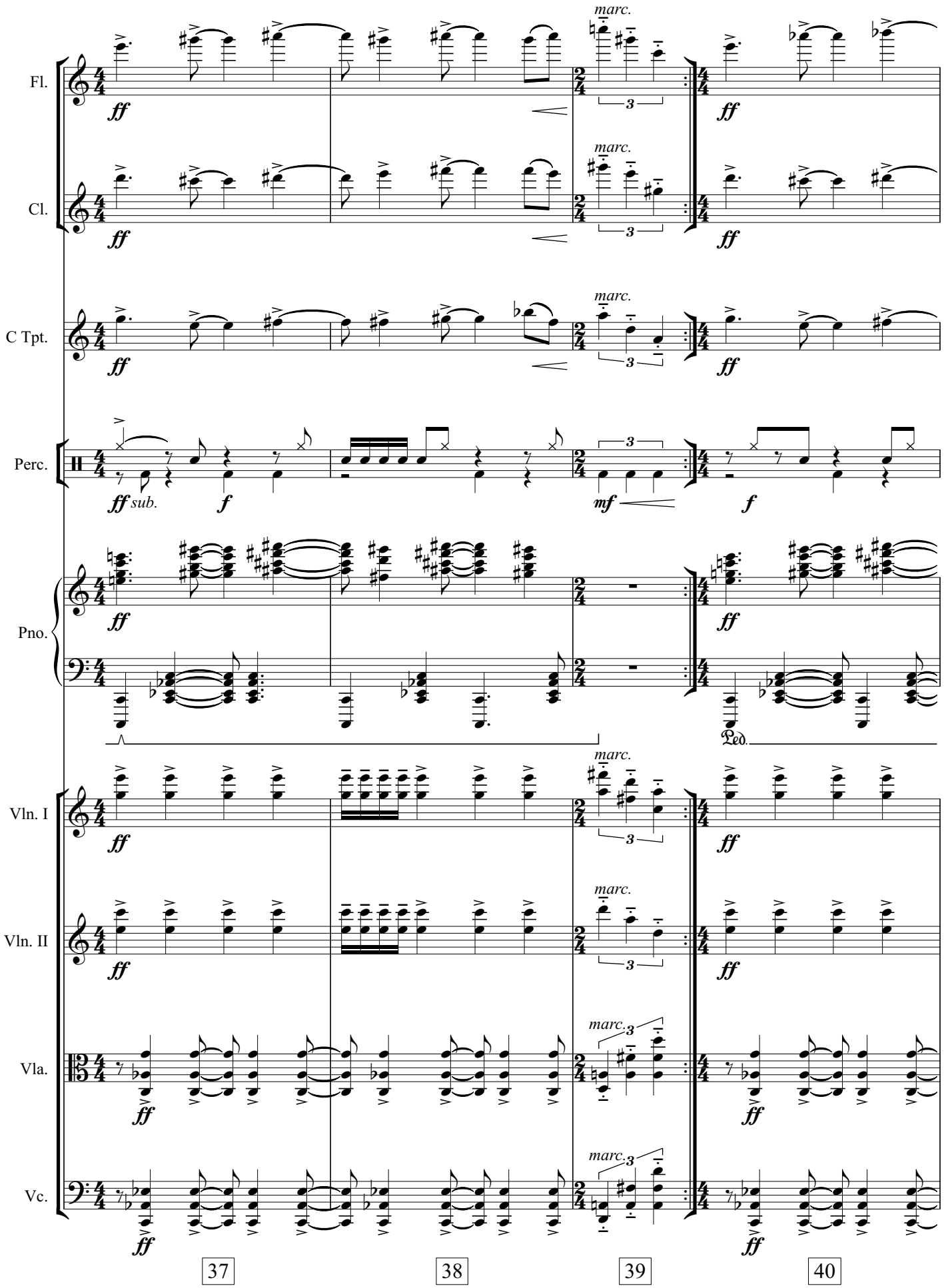

Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Ped.
Vln. I
Vln. II
Vla.
Vc.
17
18
19
20

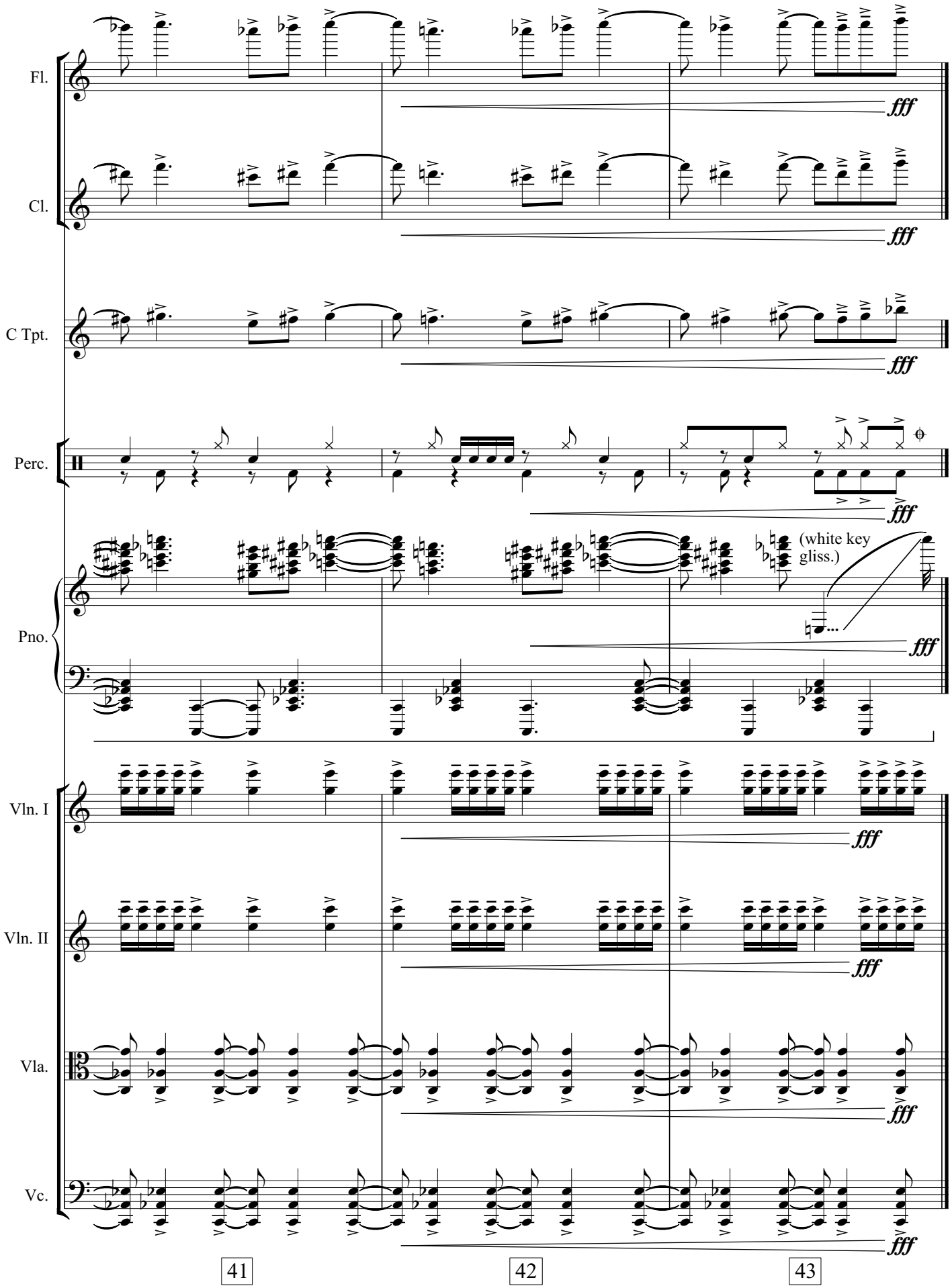

T
Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Ped.
T
Vln. I
Vln. II
Vla.
Vc.
21
22
23
24
25


Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
ff
marc.
3
mf < f
Ped.
26
27
28
29


Fl.
Cl.
C Tpt.
Mar.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
marc.
mf
30
31
32


U
Fl.
Cl.
C Tpt.
Perc.
Pno.
U
Vln. I
Vln. II
Vla.
Vc.
ff
f
p sub.
mf
Ped.
33
34
35
36


Fl.
Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
marc.
ff
f
mf
ff sub.
Ped.
37
38
39
40


Fl.
Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.
fff
(white key gliss.)
41
42
43