The Tree

Marc Sabat

"The Tree" is an ongoing cycle of pieces for open instrumentation inspired by the concept of *harmonic radius,* which is a way of comparing the relative harmonicities of chords sounding in rational or just intonation (JI). Any set of tones may be expressed, within some margin of error or *tolerance,* in one or several ways as a proportion of *odd whole numbers.* Each such proportion represents *harmonic partials* over a single fundamental and expresses the most *consonant voicing* of a particular JI tuning of the chord in question. Harmonic radius takes the proportional average or *geometric mean* of the partial numbers. Smaller values represent tunings that, *on average,* lie closer to their common fundamental, and therefore have greater potential to be perceived harmonically. In this context, the most consonant harmonic sound combining three different partials is 1°-3°-5°, a 5-limit JI major triad in root position, while the complementary 5-limit JI minor triad is first found as 3°-5°-15°, with its minor third in the lowest voice and somewhat greater harmonic radius.

All notes in "The Tree" are part of a collection of 81 tones tuned in JI as harmonic partials (overtones) of written C. The partials have been selected to minimise pitch-class harmonic radius of intervals and chords. The largest odd partial pitch class included is 255°; only those partials that combine to form an harmonic chord (i.e., a collection of 3 or more pitches following an harmonic series) are included. The set resulting from these two conditions has odd limit 255 and prime limit 47 (no partials with prime factors larger than 47 are included). These 81 tones *do not divide an octave into equal parts* and are *not* a temperament. The unequal microtonal steps are sufficiently large to be potentially melodic, and at the same time are sufficiently small to provide a rich palette of slightly mistuned "enharmonic" intervals (ratios of larger numbers that may be psychoacoustically mistaken for simpler proportions). In particular, the pitch set provides close JI approximations of notes in the conventionally used 12edo temperament. The odd partial numbers 1°-3°-9°-27°-81°-243° represent the diatonic hexachord C-G-D-A-E-B tuned in untempered perfect fifths. Adding four just major thirds, ♮E above C, ♮B above G, ♯F above D, and ♯C above A, makes a JI tuning of the three Guidonian hexachords, with ut = D, fa = G, sol = A.

The music is written, for the most part, at sounding pitch. Any reference frequency suitable to the instruments playing may be chosen freely. The microtonal JI tuning is notated using accidentals of the Helmholtz-Ellis JI Pitch Notation (HEJI), devised in collaboration by Marc Sabat and Wolfgang von Schweinitz. In addition, cents deviations from the nearest 12edo notes are given so that electronic tuners may be used to determine fingerings and verify accuracy. In this case, it is assumed that the note A will be assigned the reference frequency and have deviation 0 cents. In live performance, many vertical intervals or chords may be tuneable by ear by listening for smooth beatless consonance or a clear, steady periodic purring. While precise and stable tuning is central, phrasing and flow are equally important.

The textures include various contrapuntal lines and "continuo" materials (chords with some specified voice leading) that may be realised by tuning instruments in an appropriate scordatura to access the pitches needed. Scordatura tunings for Lumatone and chromatic pedal harp are provided in the score. Harp is notated in conventional notation (flat, natural, sharp), indicating the playing position of notes. Every octave of the harp is tuned differently, so transposing these pitches into different registers is not possible. Instead, harmonics 2° and 4° have been used liberally to bring pitches into higher registers. When impractical these may be played as fundamentals. Arpeggiation and occasional glissandi linking tones may be used when beautiful. Lumatone is notated either at sounding pitch, using a layout that maps the partials and their constituent prime factors onto associated colour combinations, or, alternately, using a tabulature in which the physical layout of tones is visualised and notated using multiple ranks of 7 diatonic + 5 chromatic keys.

In other instruments, octave transpositions may be made as needed, if the results sound harmonically clear and musically interesting. Players may choose to stay on a given line or to move between lines, shaping the melodies to their instruments as sounds best and sharing the parts appropriately amongst available players. The flow of time may be treated with great flexibility, fermatas applied where helpful, as long as vertical coordination and the sequence of tones is observed. Ornamental tones, glides, and very occasional expressive vibrati may be added where beautiful and as long as they aid and support accurate tuning. Dynamics are free. In general, slurs show legato, dashed slurs show phrasing, dotted slurs indicate notes that may be sustained through other intervening material.

Additionally, this piece may be thought of as continually evolving, welcoming arrangement, extension and ornamentation by the musicians in any manner, as long as the underlying collection of pitches, and a focus on hearing pitch relations and interactions, perceiving harmonicity, and playing in rational intonation (JI) are maintained. A performance of "The Tree" can include any of the scored pieces, played in any instrumentation and in any order, for any duration. On the following page an order for the currently completed pieces is suggested.

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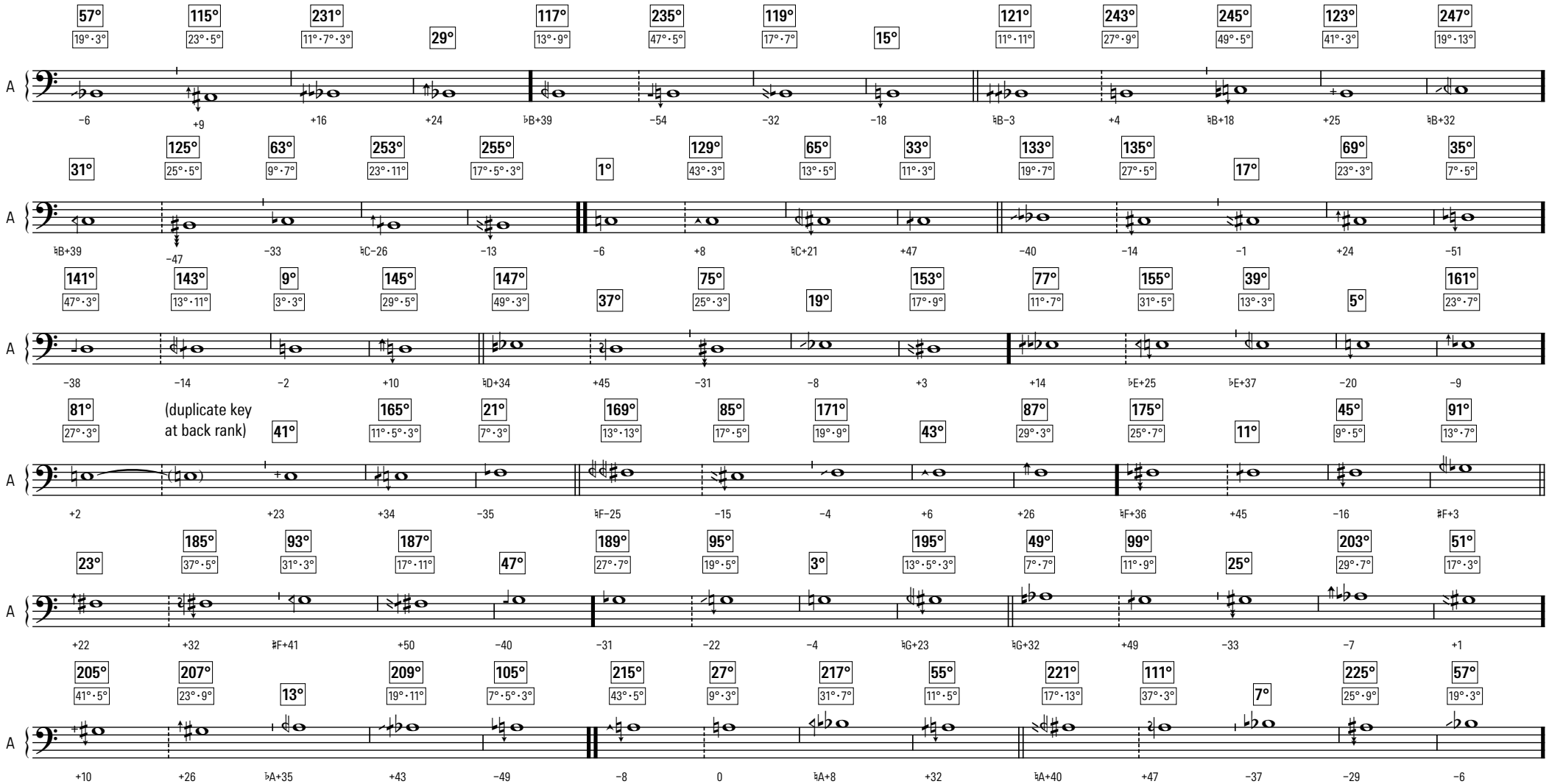
The Tree

LUMATONE 81-odd layout pitch map

Marc Sabat

The 81-tone odd partial pitch class set has a dedicated Lumatone layout in which each prime partial is assigned a characteristic colour to help identify different harmonically-related branches of the partial row.
1° is bright red ; 3° white ; 5° yellow ; 7° pink ; 11° bright green ; 13° violet ; 17° grey ; 19° pale sky blue ; 23° dark green ; 29° royal blue ; 31° turquoise ; 37° silver ; 41° dark rose ; 43° amber ; 47° magenta.
Combinations of primes are mirrored in colours : powers of a single prime increase in saturation ; mixtures combine the colours, i.e., 35° orange, 55° yellow-green, 77° pinkish-green, etc.
Notes begin from the top left of the Lumatone, moving towards the player rank-by-rank. Notes following a heavy bar line are in the first rank, and they visually present 5 blocks of a diatonic pattern of "9-comma tones" (moving rightward on a slight upward angle) and "5-comma semitones" (moving right-downward), i.e. 5x "A–B\C–D–E\F–G". A dashed barline indicates a move to the next column, which comprises 4 (or 5) additional ranks.



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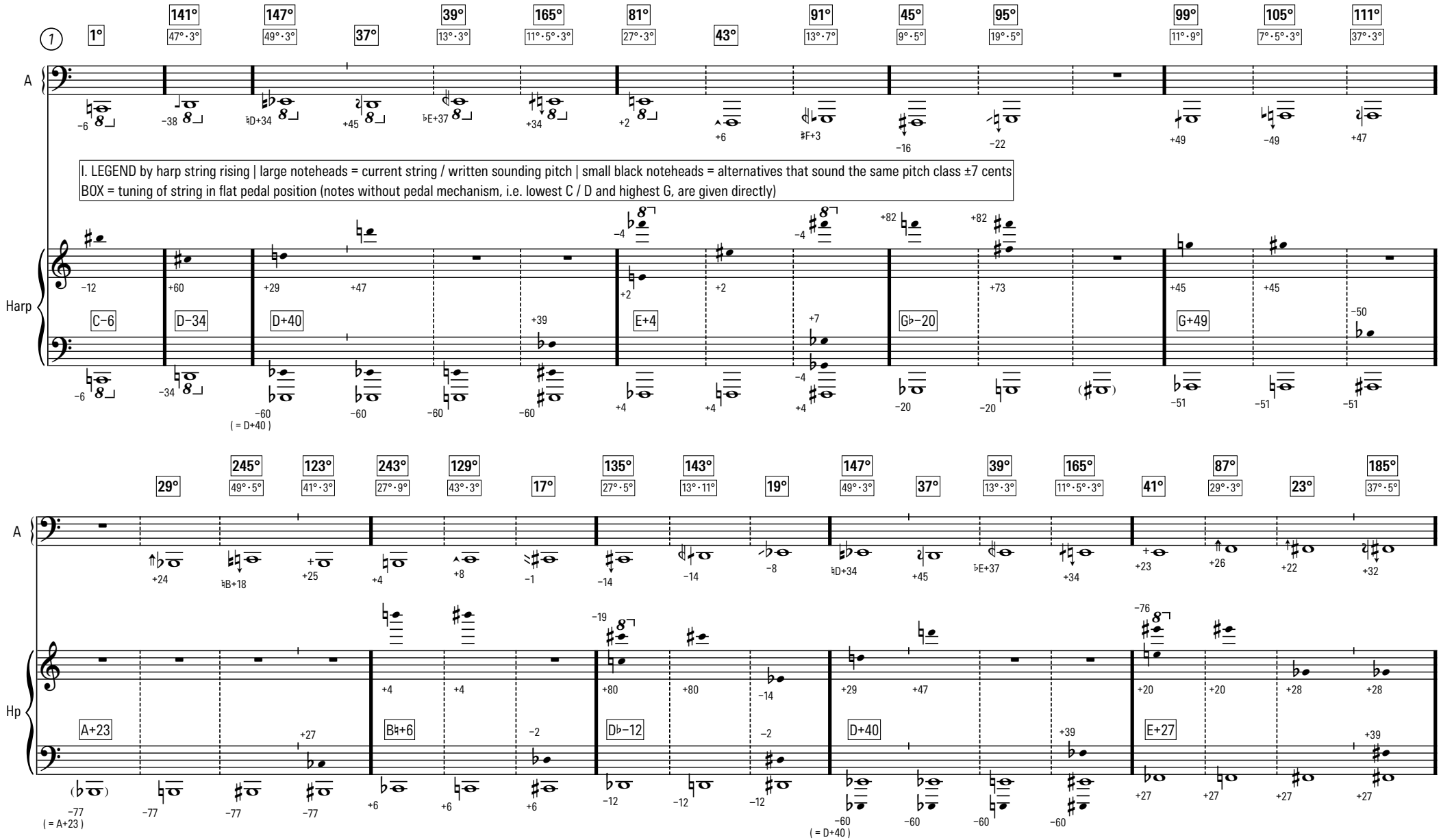
115° 23°·5° 231° 11°·7°·3° 29° 117° 13°·9° 235° 47°·5° 119° 17°·7° 15° 121° 11°·11° 243° 27°·9° 49°·5° 245° 123° 41°·3° 247° 19°·13° 31° 125° 25°·5°
A
+9 +16 +24 ♭B+39 −54 −32 −18 ♮B−3 +4 ♮B+18 +25 ♮B+32 ♮B+39 −47
63° 9°·7° (duplicate key at back rank) 253° 255° 17°·5°·3° 1° 129° 43°·3° 65° 13°·5° 33° 11°·3° 133° 19°·7° 135° 27°·5° 17° 69° 23°·3° 35° 7°·5° 141° 47°·3°
A
−33 ♮C−26 −13 −6 +8 ♮C+21 +47 −40 −14 −1 +24 −51 −38
143° 13°·11° 9° 3°·3° 145° 29°·5° 147° 49°·3° 37° 75° 25°·3° 19° 153° 17°·9° 77° 11°·7° 155° 31°·5° 39° 13°·3° 5° 161° 23°·7° 81° 27°·3°
A
−14 −2 +10 ♮D+34 +45 −31 −8 +3 +14 ♭E+25 ♭E+37 −20 −9 +2
41° 165° 11°·5°·3° 21° 7°·3° 169° 13°·13° 85° 17°·5° 171° 19°·9° 43° 87° 29°·3° 175° 25°·7° 11° 45° 9°·5° 91° 13°·7° 23° 185° 37°·5°
A
+23 +34 −35 ♮F−25 −15 −4 +6 +26 ♮F+36 +45 −16 ♯F+3 +22 +32
93° 31°·3° 187° 17°·11° 47° 189° 27°·7° 95° 19°·5° 3° 195° 13°·5°·3° 49° 7°·7° 99° 11°·9° 25° 203° 29°·7° 51° 17°·3° 205° 41°·5° 207° 23°·9°
A
♯F+41 +50 −40 −31 −22 −4 ♮G+23 ♮G+32 +49 −33 −7 +1 +10 +26
13° (duplicate key at back rank) 209° 19°·11° 105° 7°·5°·3° 215° 43°·5° 27° 9°·3° 217° 31°·7° 55° 11°·5° 221° 17°·13° 111° 37°·3° 7° 225° 25°·9° 57° 19°·3° 115° 23°·5°
A
♭A+35 +43 −49 −8 0 ♮A+8 +32 ♮A+40 +47 −37 −29 −6 +9
231° 11°·7°·3° 29° 117° 13°·9° 235° 47°·5° 119° 17°·7° 15° 121° 11°·11° 243° 27°·9° 245° 49°·5° 123° 41°·3° 247° 19°·13° 31° 125° 25°·5° 63° 9°·7°
A
+16 +24 ♭B+39 −54 −32 −18 ♮B−3 +4 ♮B+18 +25 ♮B+32 ♮B+39 −47 −33

253° 23°·11°
255° 17°·5°·3°
1°
129° 43°·3°
65° 13°·5°
33° 11°·3°
133° 19°·7°
135° 27°·5°
17°
69° 23°·3°
35° 7°·5°
141° 47°·3°
143° 13°·11°
9° 3°·3°
A
♮C−26 −13 −6 +8 ♮C+21 +47 −40 −14 −1 +24 −51 −38 −14 −2
145° 29°·5°
147° 49°·3°
37°
75° 25°·3°
19°
153° 17°·9°
77° 11°·7°
155° 31°·5°
39° 13°·3°
5°
161° 23°·7°
81° 27°·3°
41°
165° 11°·5°·3°
A
+10 ♮D+34 +45 −31 −8 +3 +14 ♭E+25 ♭E+37 −20 −9 +2 +23 +34
21° 7°·3°
(duplicate key at back rank)
169° 13°·13°
85° 17°·5°
171° 19°·9°
43°
87° 29°·3°
175° 25°·7°
11°
45° 9°·5°
91° 13°·7°
23°
185° 37°·5°
93° 31°·3°
A
−35 ♮F−25 −15 −4 +6 +26 ♮F+36 +45 −16 ♯F+3 +22 +32 ♯F+41
187° 17°·11°
47°
189° 27°·7°
95° 19°·5°
3°
195° 13°·5°·3°
49° 7°·7°
99° 11°·9°
25°
203° 29°·7°
51° 17°·3°
205° 41°·5°
207° 23°·9°
13°
A
+50 −40 −31 −22 −4 ♮G+23 ♮G+32 +49 −33 −7 +1 +10 +26 ♭A+35
209° 19°·11°
105° 7°·5°·3°
215° 43°·5°
27° 9°·3°
217° 31°·7°
55° 11°·5°
221° 17°·13°
111° 37°·3°
7°
225° 25°·9°
57° 19°·3°
115° 23°·5°
231° 11°·7°·3°
29°
A
+43 −49 −8 0 ♮A+8 +32 ♮A+40 +47 −37 −29 −6 +9 +16 +24
117° 13°·9°
235° 47°·5°
119° 17°·7°
15°
121° 11°·11°
243° 27°·9°
245° 49°·5°
123° 41°·3°
247° 19°·13°
31°
125° 25°·5°
63° 9°·7°
253° 23°·11°
255° 17°·5°·3°
A
♭B+39 −54 −32 −18 ♮B−3 +4 ♮B+18 +25 ♮B+32 ♮B+39 −47 −33 ♮C−26 −13
1°
(duplicate key at back rank)
129° 43°·3°
65° 13°·5°
33° 11°·3°
133° 19°·7°
135° 27°·5°
17°
69° 23°·3°
35° 7°·5°
141° 47°·3°
143° 13°·11°
9° 3°·3°
145° 29°·5°
147° 49°·3°
A
−6 +8 ♮C+21 +47 −40 −14 −1 +24 −51 −38 −14 −2 +10 ♮D+34

The Tree

HARP Pitch Map and Scordatura Notation

Marc Sabat



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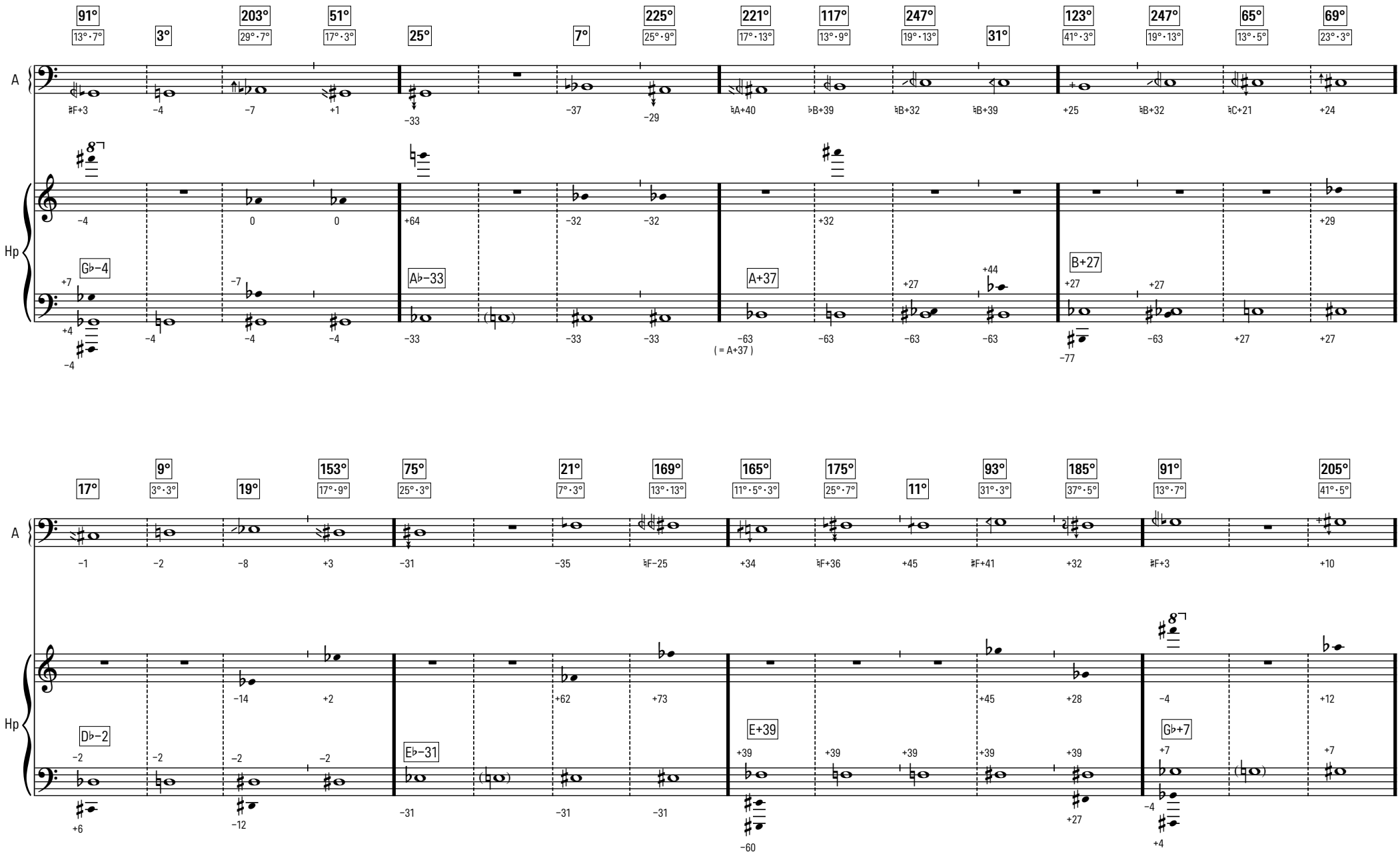
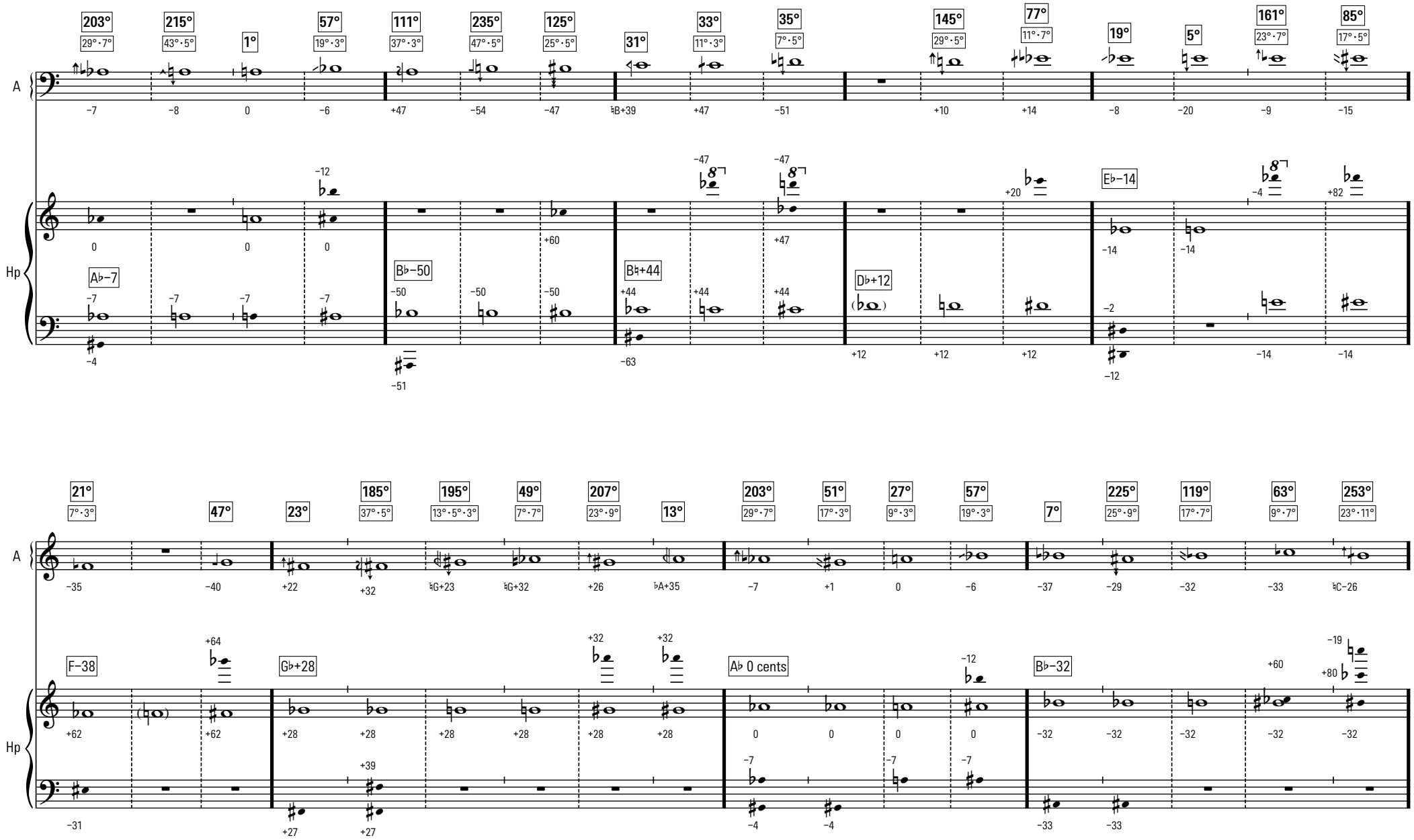
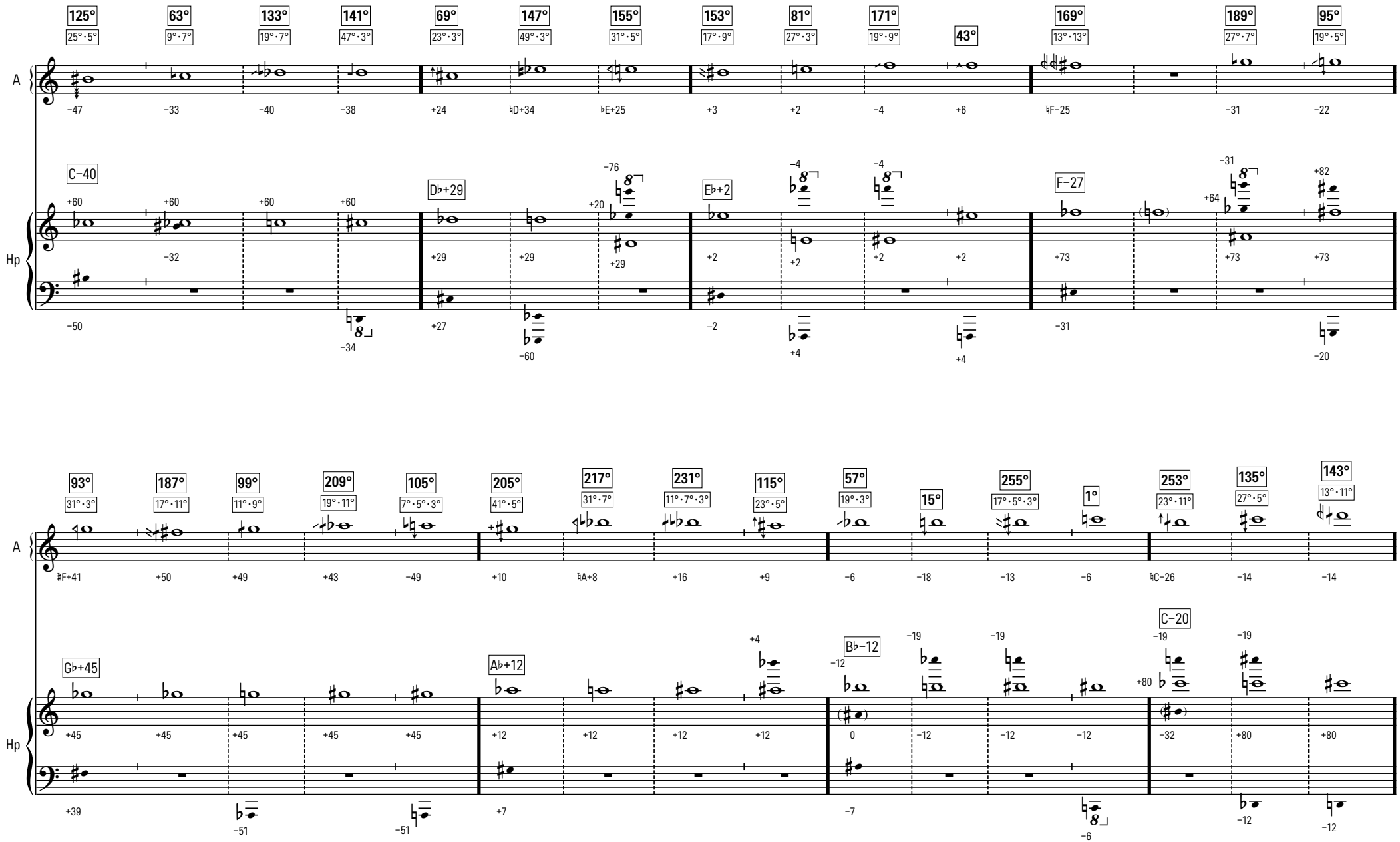
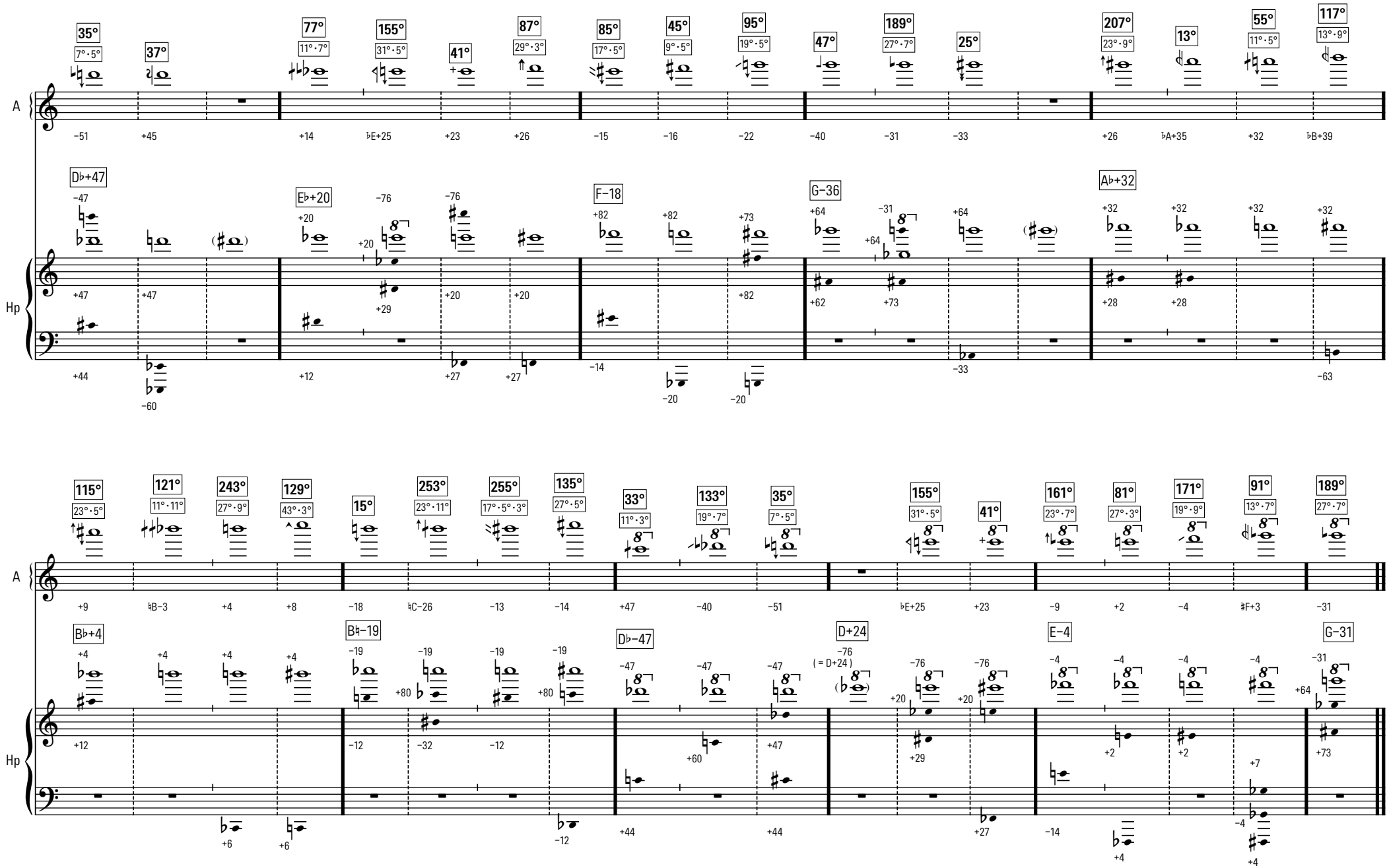
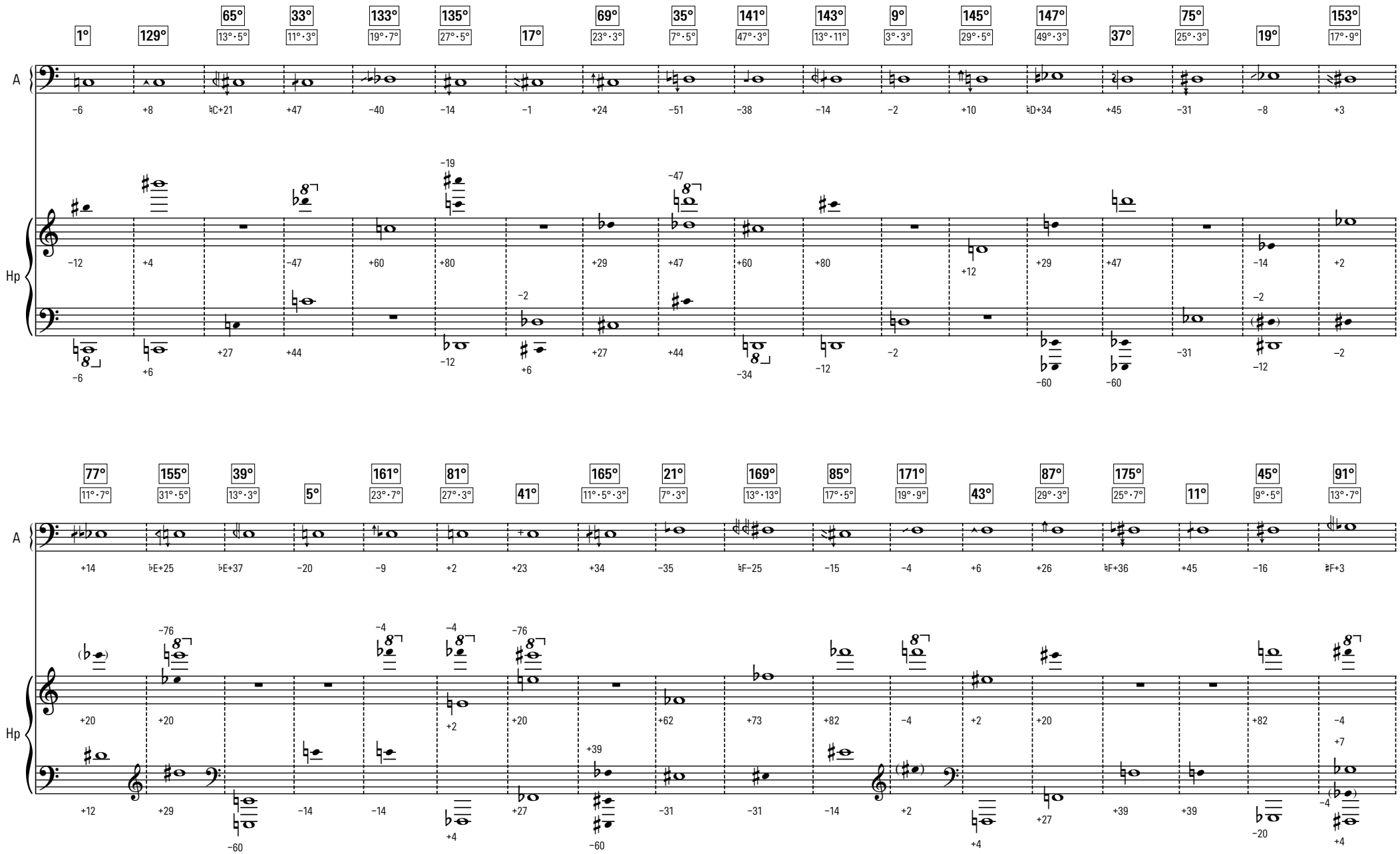

91° 13°·7° 3° 203° 29°·7° 51° 17°·3° 25° 7° 225° 25°·9° 221° 17°·13° 117° 13°·9° 247° 19°·13° 31° 123° 41°·3° 247° 19°·13° 65° 13°·5° 69° 23°·3°
A
Hp
Gb−4
Ab−33
A+37
(= A+37)
B+27
17° 9° 3°·3° 19° 153° 17°·9° 75° 25°·3° 21° 7°·3° 169° 13°·13° 165° 11°·5°·3° 175° 25°·7° 11° 93° 31°·3° 185° 37°·5° 91° 13°·7° 205° 41°·5°
Db−2
Eb−31
E+39
Gb+7

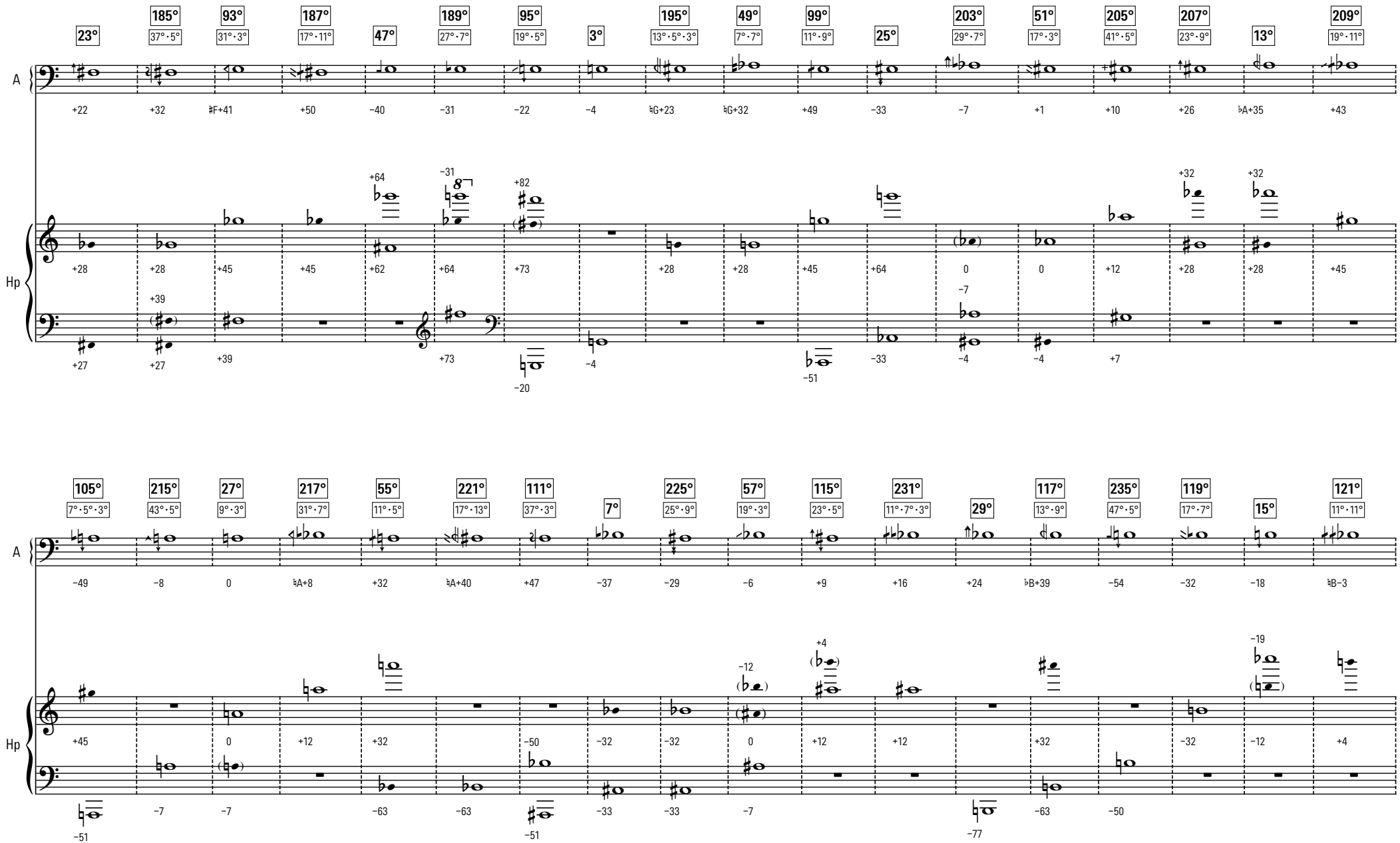

A
Hp
203° 29°·7°
215° 43°·5°
1° 57° 19°·3°
111° 37°·3°
235° 47°·5°
125° 25°·5°
31° 33° 11°·3°
35° 7°·5°
145° 29°·5°
77° 11°·7°
19° 5°
161° 23°·7°
85° 17°·5°
A♭−7
B♭−50
B♮+44
D♭+12
E♭−14
21° 7°·3°
47° 23°
185° 37°·5°
195° 13°·5°·3°
49° 7°·7°
207° 23°·9°
13° 203° 29°·7°
51° 17°·3°
27° 9°·3°
57° 19°·3°
7° 225° 25°·9°
119° 17°·7°
63° 9°·7°
253° 23°·11°
F−38
G♭+28
A♭ 0 cents
B♭−32

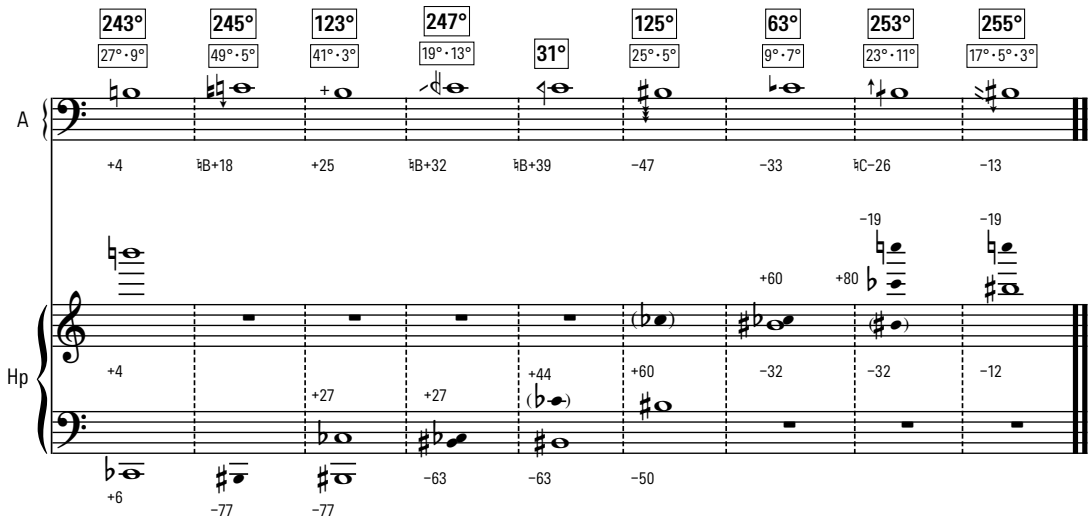

125° 25°·5°
63° 9°·7°
133° 19°·7°
141° 47°·3°
69° 23°·3°
147° 49°·3°
155° 31°·5°
153° 17°·9°
81° 27°·3°
171° 19°·9°
43°
169° 13°·13°
189° 27°·7°
95° 19°·5°
A
Hp
C–40
D♭+29
E♭+2
F–27
93° 31°·3°
187° 17°·11°
99° 11°·9°
209° 19°·11°
105° 7°·5°·3°
205° 41°·5°
217° 31°·7°
231° 11°·7°·3°
115° 23°·5°
57° 19°·3°
15°
255° 17°·5°·3°
1°
253° 23°·11°
135° 27°·5°
143° 13°·11°
G♭+45
A♭+12
B♭–12
C–20


A
Hp
35° 7°·5°
37°
77° 11°·7°
155° 31°·5°
41°
87° 29°·3°
85° 17°·5°
45° 9°·5°
95° 19°·5°
47°
189° 27°·7°
25°
207° 23°·9°
13°
55° 11°·5°
117° 13°·9°
D♭+47
E♭+20
F−18
G−36
A♭+32
115° 23°·5°
121° 11°·11°
243° 27°·9°
129° 43°·3°
15°
253° 23°·11°
255° 17°·5°·3°
135° 27°·5°
33° 11°·3°
133° 19°·7°
35° 7°·5°
155° 31°·5°
41°
161° 23°·7°
81° 27°·3°
171° 19°·9°
91° 13°·7°
189° 27°·7°
B♭+4
B♮−19
D♭−47
D+24
(= D+24)
E−4
G−31

II. LEGEND by 81-tone odd partial pitch class RISING | large white noteheads = pitches (in any octave) tuned ±4 cents | small black noteheads = pitches (in any octave) detuned by 4–7 cents from actual target note




23° 37°·5° 185° 31°·3° 93° 17°·11° 187° 47° 27°·7° 189° 19°·5° 95° 3° 13°·5°·3° 195° 7°·7° 49° 11°·9° 99° 25° 29°·7° 203° 17°·3° 51° 41°·5° 205° 23°·9° 207° 13° 19°·11° 209°
A
Hp


243°
27°·9°
245°
49°·5°
123°
41°·3°
247°
19°·13°
31°
125°
25°·5°
63°
9°·7°
253°
23°·11°
255°
17°·5°·3°
A
+4
♮B+18
+25
♮B+32
♮B+39
−47
−33
♮C−26
−13
−19
−19
+60
+80
Hp
+4
+27
+27
+44
+60
−32
−32
−12
+6
−77
−77
−63
−63
−50

List of pieces (instruments are transposed if the key is indicated in brackets; otherwise in C)

1. PRELUDE (Bass Flute, English Horn (F), Clarinet (C), Bassoon, Lumatone, Harp, Violin, Violoncello)

The fifths and fourths should sound clearly in tune and the overall feel is like an irregular waltz with swing and flow. The bars marked with a wedge (marcato) are to be strongly stressed, initiating a series of sustained, swung chords. The last chord before a new marcato is to be substantially shortened and separated from the new bass tone.

2. SKY (Flute, Oboe d'Amore, Clarinet, Bassoon/Contra, Harp, Violin, Violoncello)

Slowly moving time, take fermatas on chords as they emerge, establishing the most stable and accurate intonation possible to highlight the simple harmonic partial branches (over 1°, 3°, 5°, 7°) as well as the consonant tetrads including 7°, 11°, 13°, 15° in various combinations.

3. EARTH (Bass Flute, English Horn, Contralto Clarinet, Contraforte, Lumatone, Harp, Violin, Violoncello)

Seek a sustained low sonority, with clear beginnings and endings, still slow but with more forward momentum, especially as higher tones emerge.

4. GROUND (Flute, English Horn, Contralto Clarinet, Contraforte, Lumatone, Harp, Violin, Violoncello)

As before (SKY), reprise an octave lower, slightly extended by featuring a new counterpoint duo featuring violin and flute.

5. FALL (Alto Flute (G), English Horn (F), Bassett Horn, Bassoon, Lumatone, Harp, Violin, Violoncello)

First time through as written, but just the continuo group (Lumatone, Harp, Bassoon and in some places Violoncello), second time tutti: the six instrument lines play as scored, with a broader, more open sense of time (please take time to really find all the microtonal fingerings so the chords may be played clearly and purely!); Lumatone and Harp freely ornament/explore the written harmonic changes.

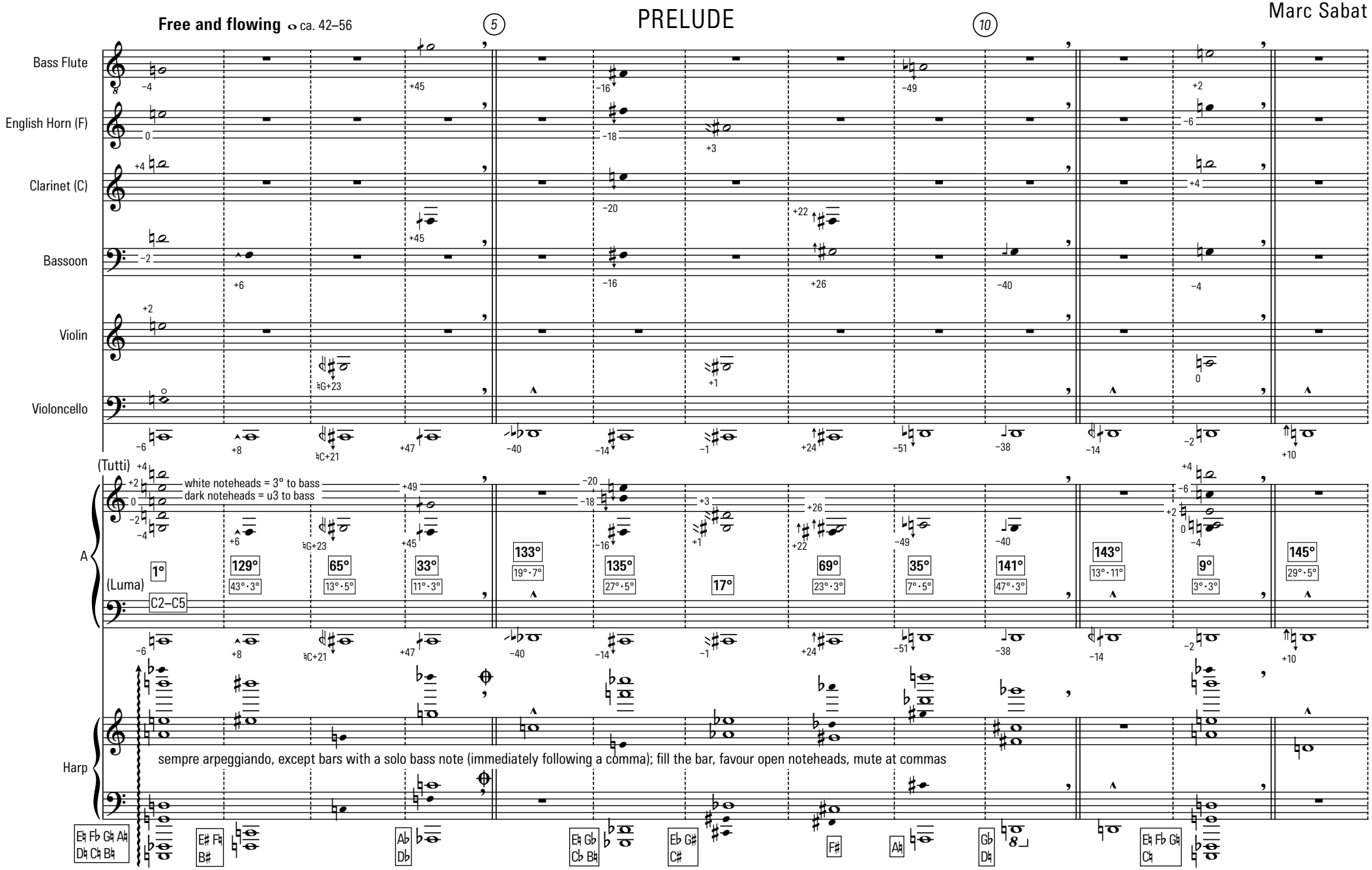
6. 47 CLOUDS (Flute, Oboe d'Amore, Clarinet, Bassoon, Lumatone, Harp, Violin, Violoncello)

Rhythm to be interpreted freely (not steady whole-notes; follow the melody and counterpoint phrasing, shape the time accordingly). Lumatone plays all the tones, overlapping suggested with dotted slurs; as an ossia part there is a step-sequence electronics part.

The Tree

PRELUDE

Marc Sabat



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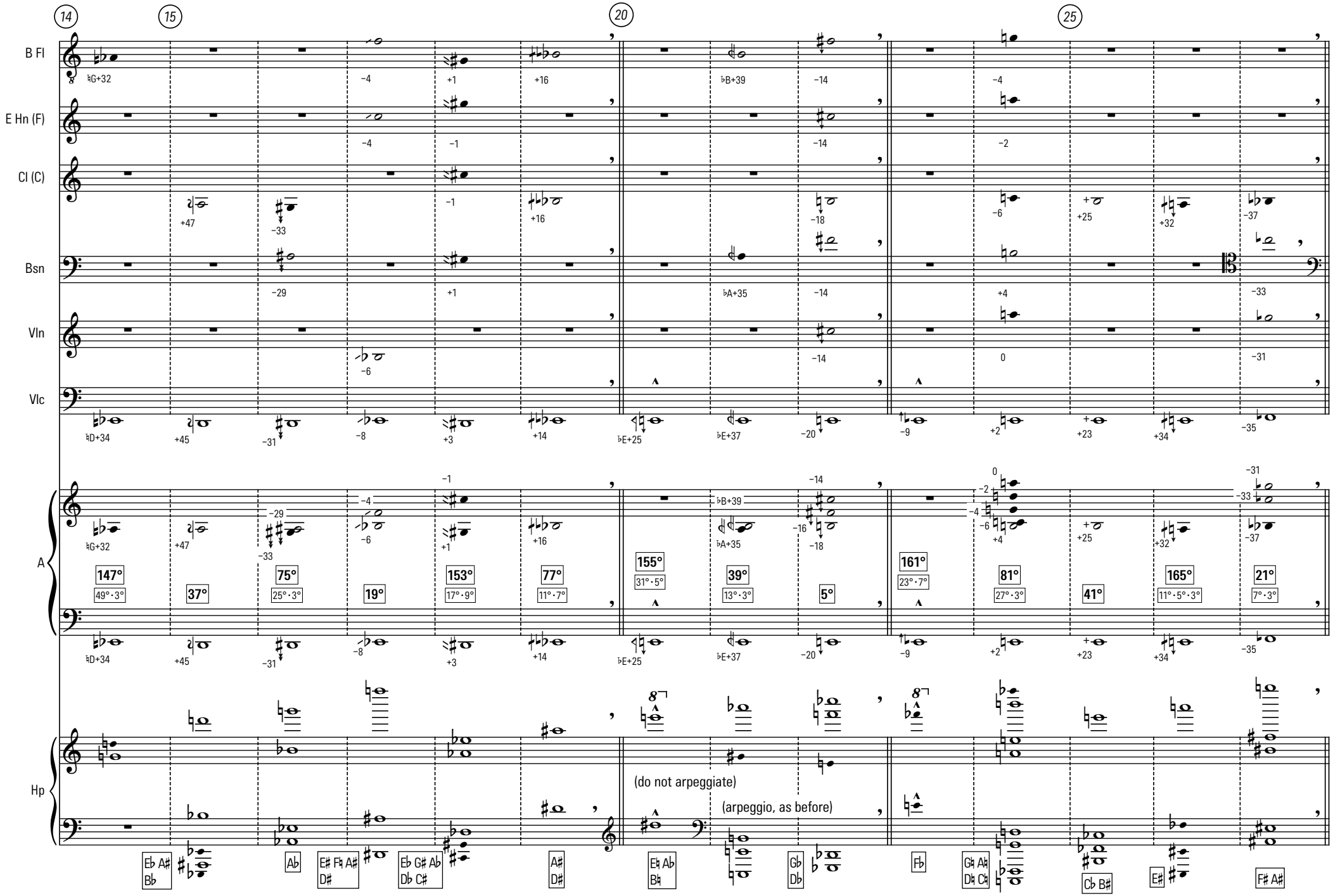
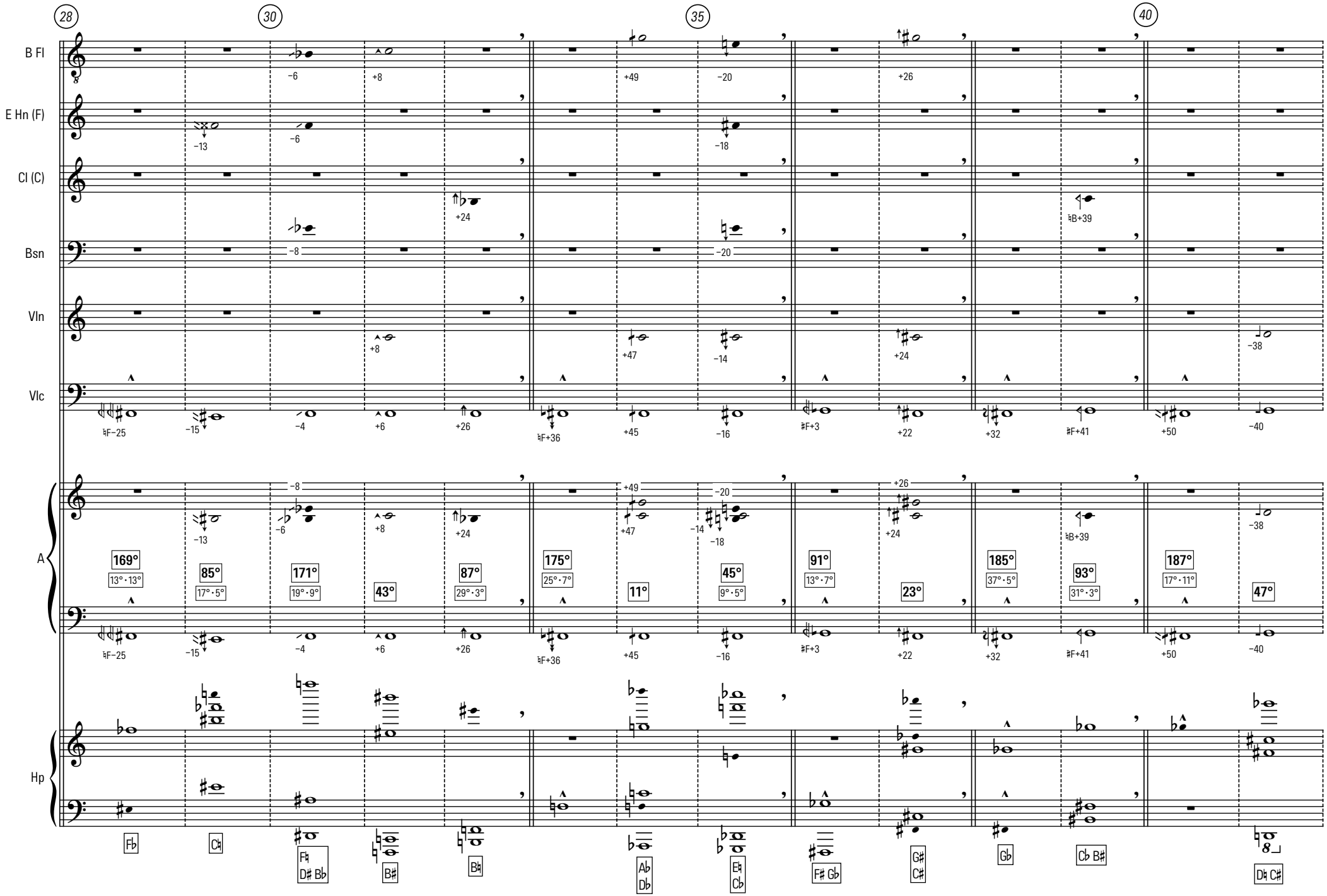
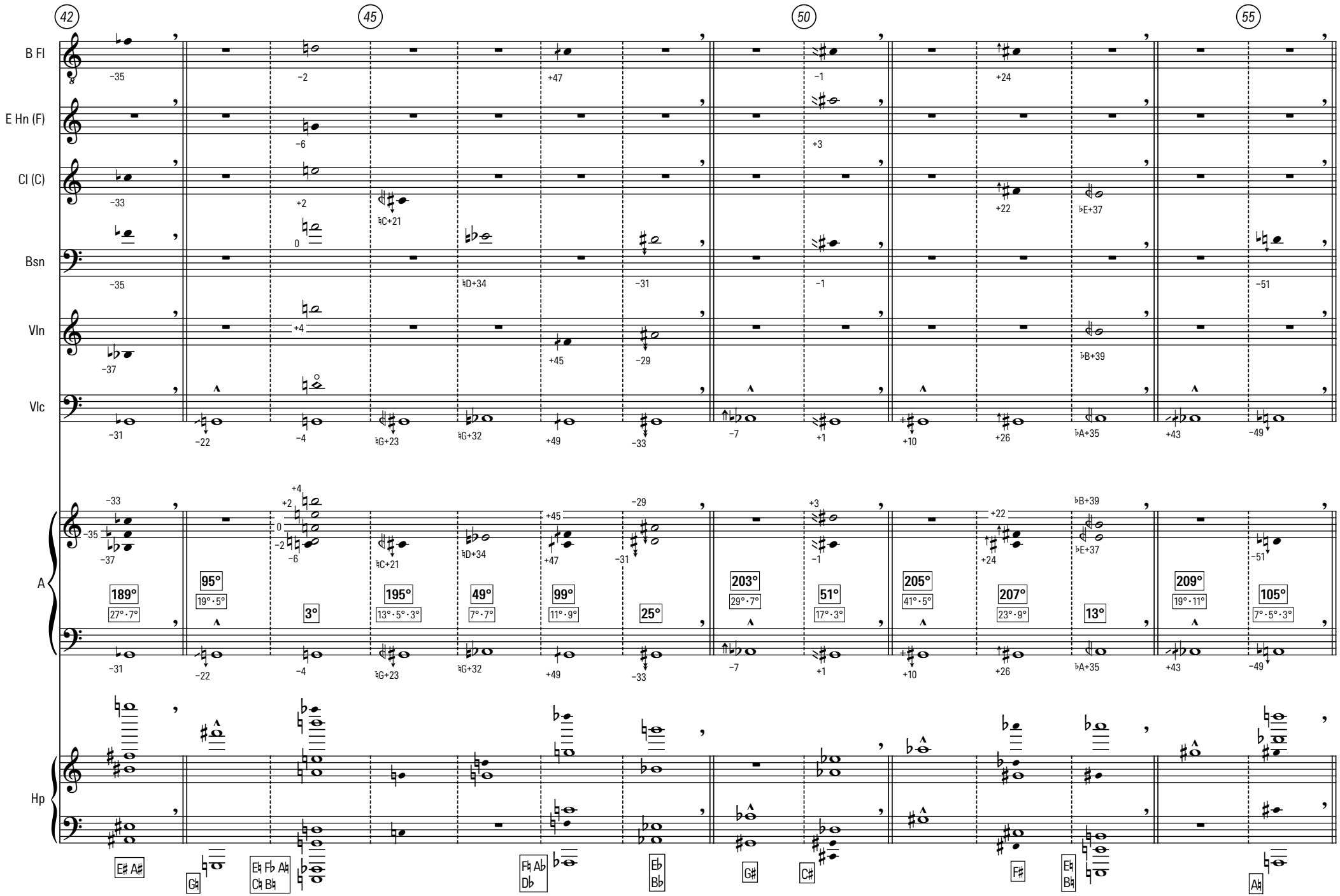
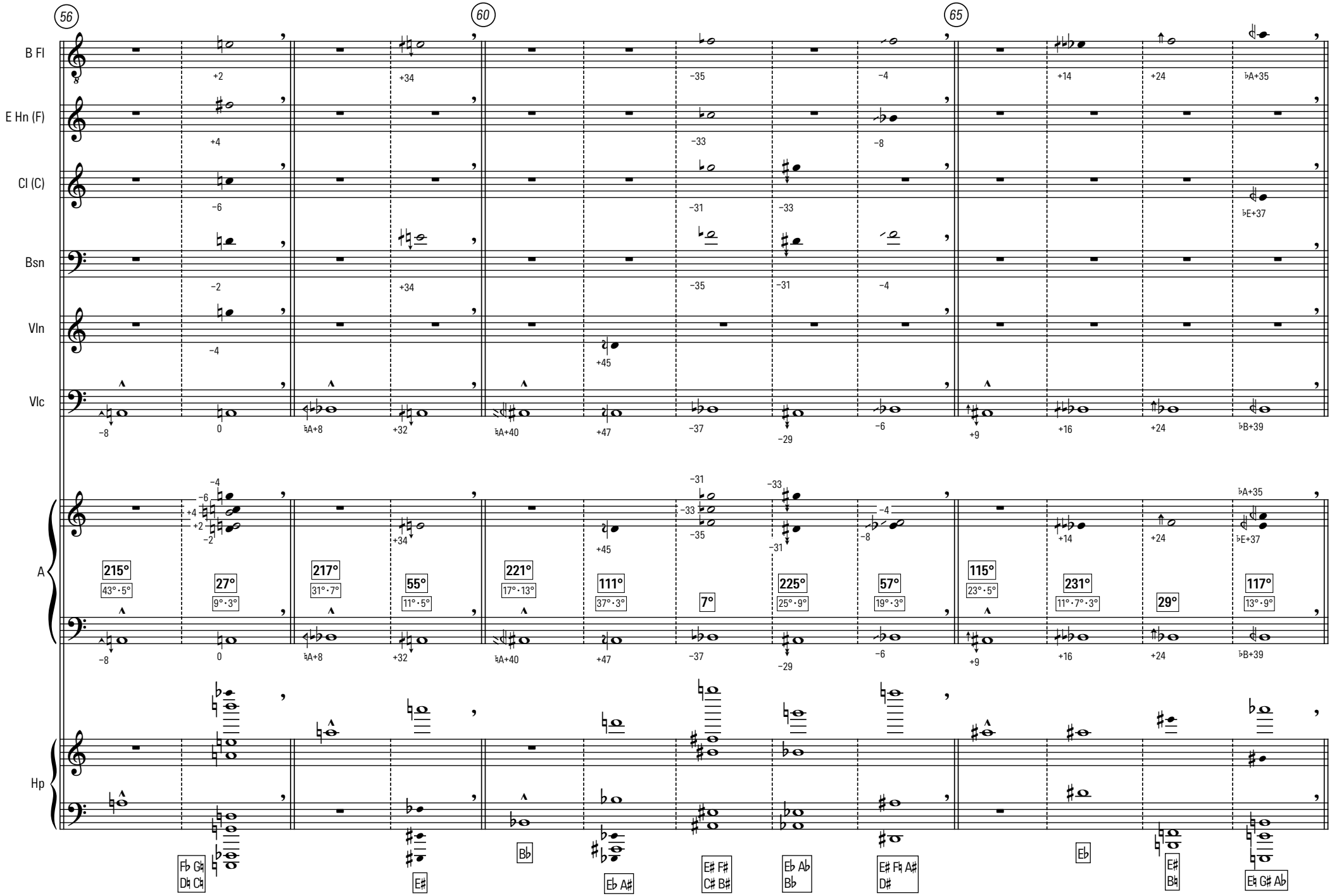
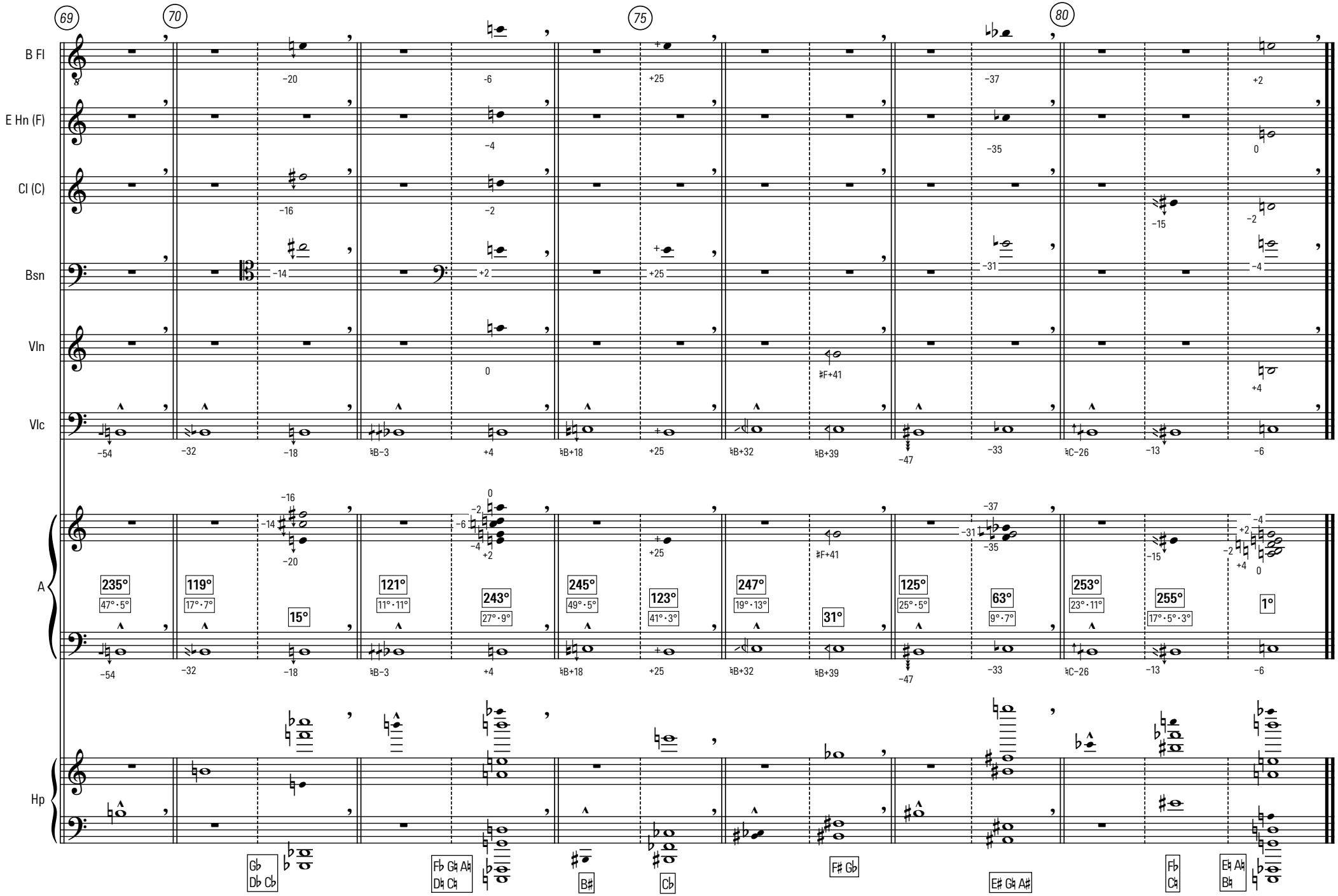

14
15
20
25
B Fl
E Hn (F)
Cl (C)
Bsn
Vln
Vlc
A
Hp
147°
49°·3°
37°
75°
25°·3°
19°
153°
17°·9°
77°
11°·7°
155°
31°·5°
39°
13°·3°
5°
161°
23°·7°
81°
27°·3°
41°
165°
11°·5°·3°
21°
7°·3°
(do not arpeggiate)
(arpeggio, as before)


28
30
35
40
B Fl
E Hn (F)
Cl (C)
Bsn
Vln
Vlc
A
Hp


42
45
50
55
B Fl
E Hn (F)
Cl (C)
Bsn
Vln
Vlc
A
Hp
189°
27°·7°
95°
19°·5°
3°
195°
13°·5°·3°
49°
7°·7°
99°
11°·9°
25°
203°
29°·7°
51°
17°·3°
205°
41°·5°
207°
23°·9°
13°
209°
19°·11°
105°
7°·5°·3°
E♯ A♯
G♮
E♮ F♭ A♮
C♮ B♮
F♮ A♭
D♭
E♭
B♭
G♯
C♯
F♯
E♮
B♮
A♮


56
60
65
B Fl
E Hn (F)
Cl (C)
Bsn
Vln
Vlc
A
Hp
215° 43°·5°
27° 9°·3°
217° 31°·7°
55° 11°·5°
221° 17°·13°
111° 37°·3°
7°
225° 25°·9°
57° 19°·3°
115° 23°·5°
231° 11°·7°·3°
29°
117° 13°·9°
Fb G♮ D♮ C♮
E♯
B♭
E♭ A♯
E♯ F♯ C♯ B♯
E♭ A♭ B♭
E♯ F♮ A♯ D♯
E♭
E♯ B♮
E♮ G♯ A♭

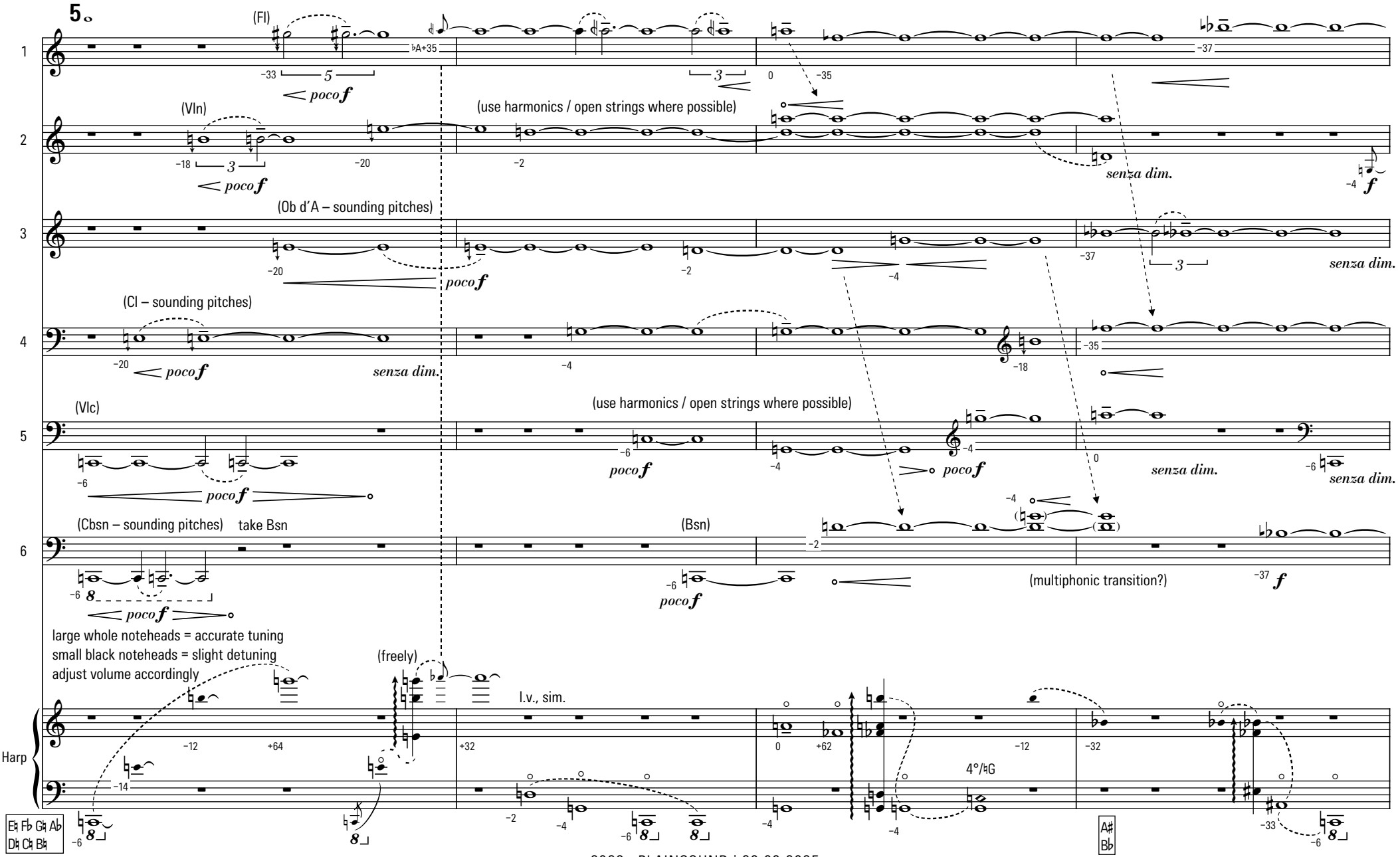

69
70
75
80
B Fl
E Hn (F)
Cl (C)
Bsn
Vln
Vlc
A
Hp
235° 47°·5°
119° 17°·7°
15°
121° 11°·11°
243° 27°·9°
245° 49°·5°
123° 41°·3°
247° 19°·13°
31°
125° 25°·5°
63° 9°·7°
253° 23°·11°
255° 17°·5°·3°
1°
Gb Db Cb
Fb Gb Ab Db Cb
B#
Cb
F# Gb
E# G# A#
Fb Cb
E Ab Bb

The Tree

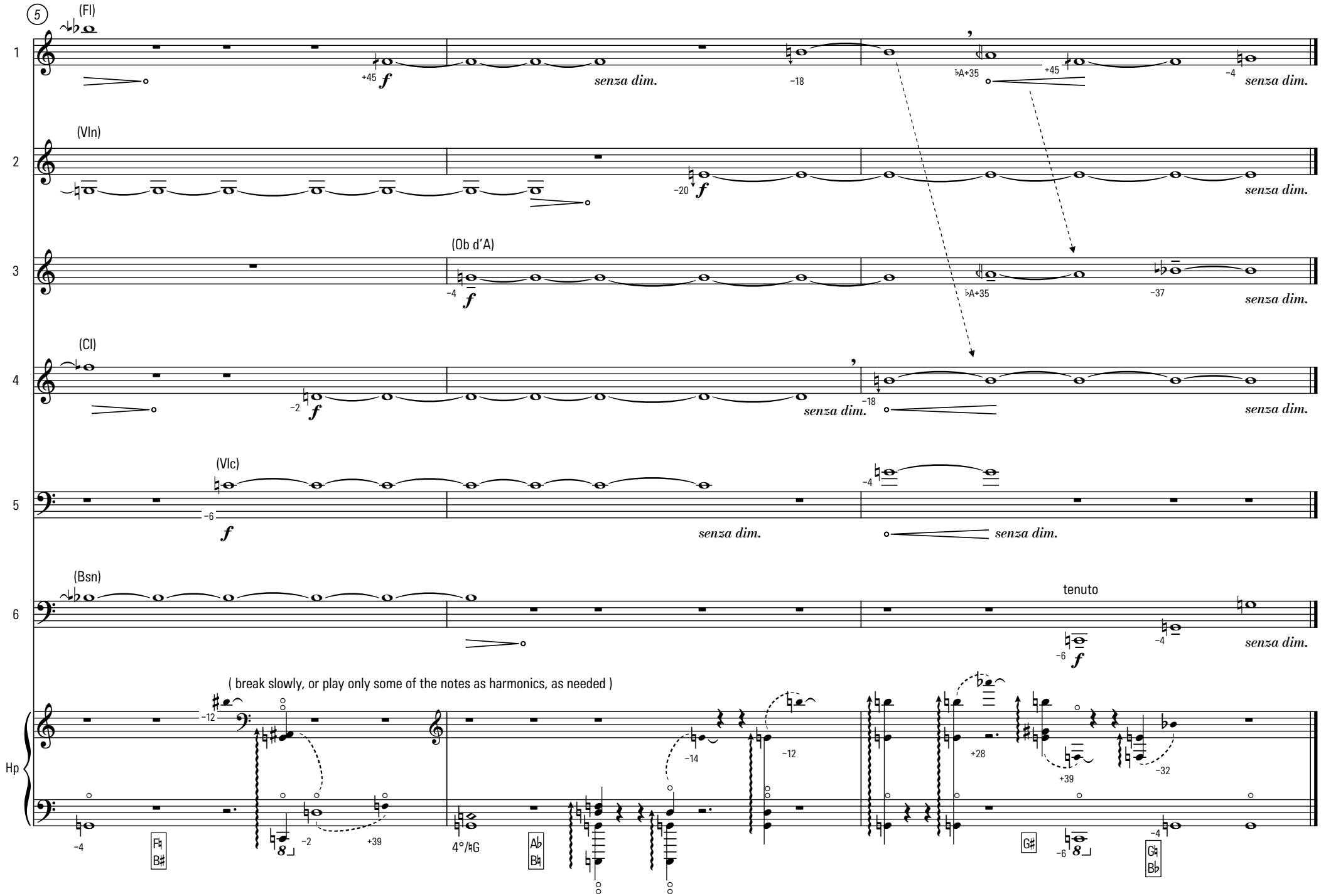
SKY

Marc Sabat

Andante sostenuto, pause on chords ad lib. ca. 39



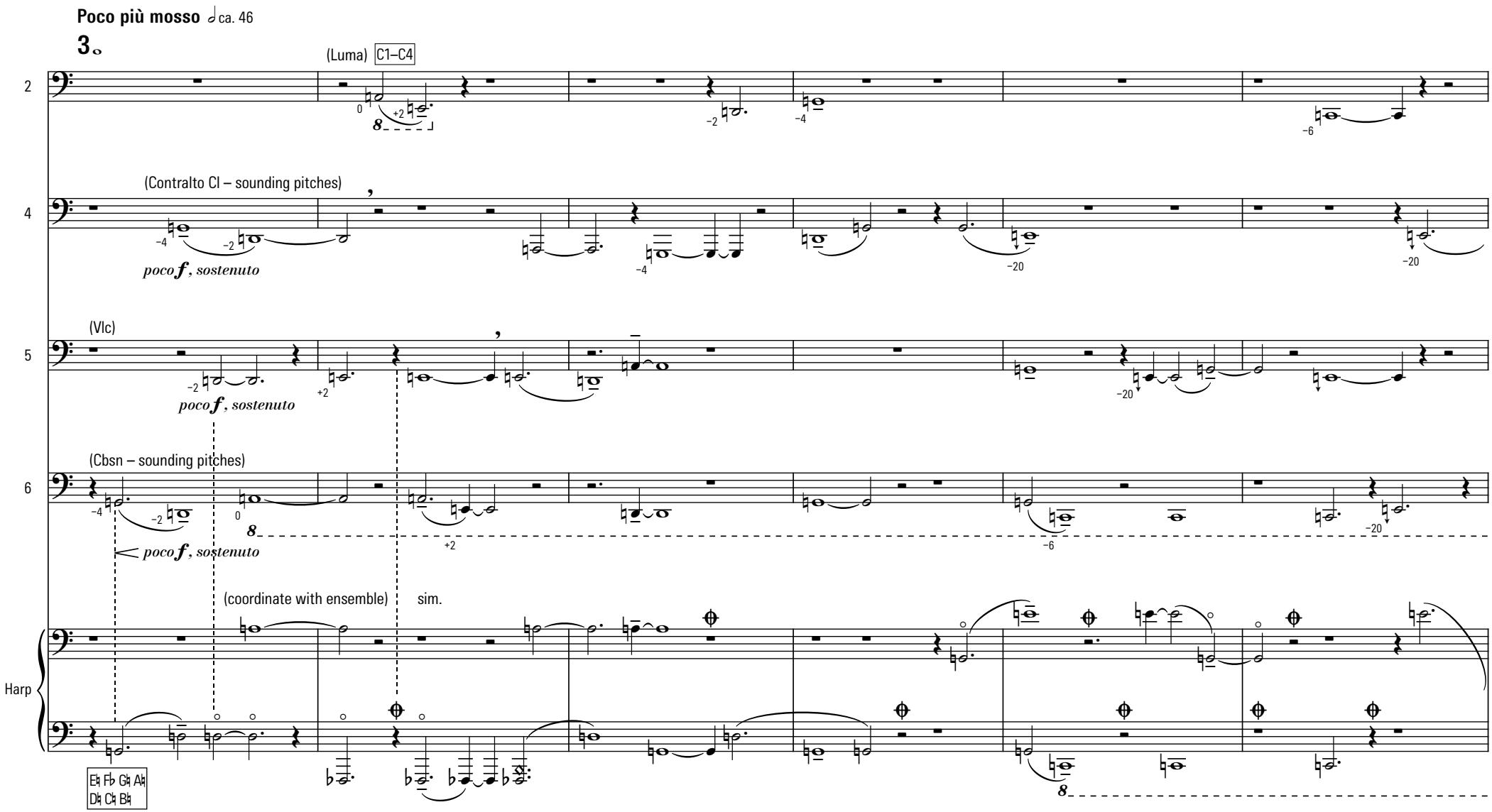
cc 2023– PLAINSOUND | 29.09.2025


5
(Fl)
1
senza dim.
(Vln)
2
(Ob d'A)
3
(Cl)
4
(Vlc)
5
(Bsn)
6
tenuto
(break slowly, or play only some of the notes as harmonics, as needed)
Hp
4°/♮G

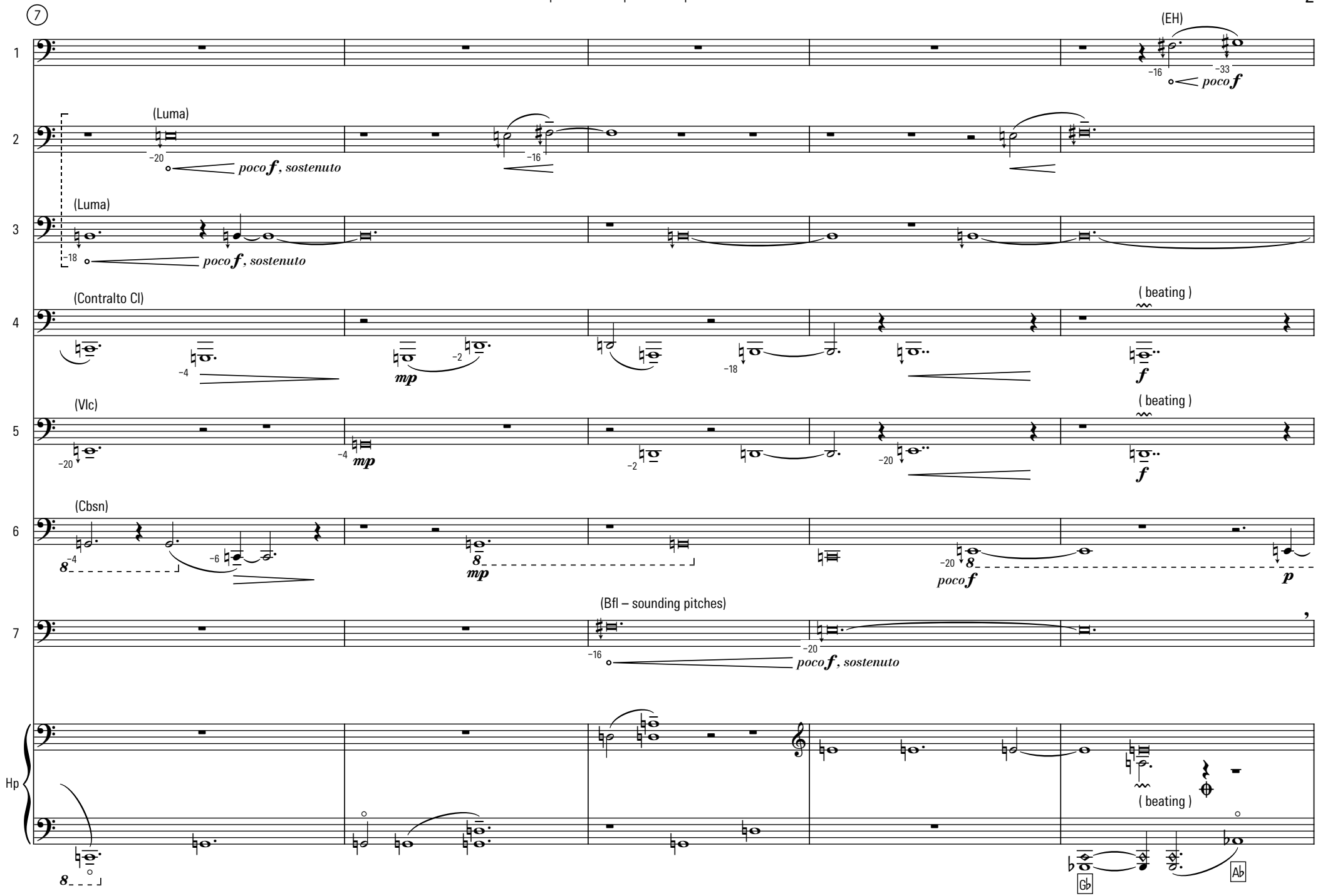
The Tree

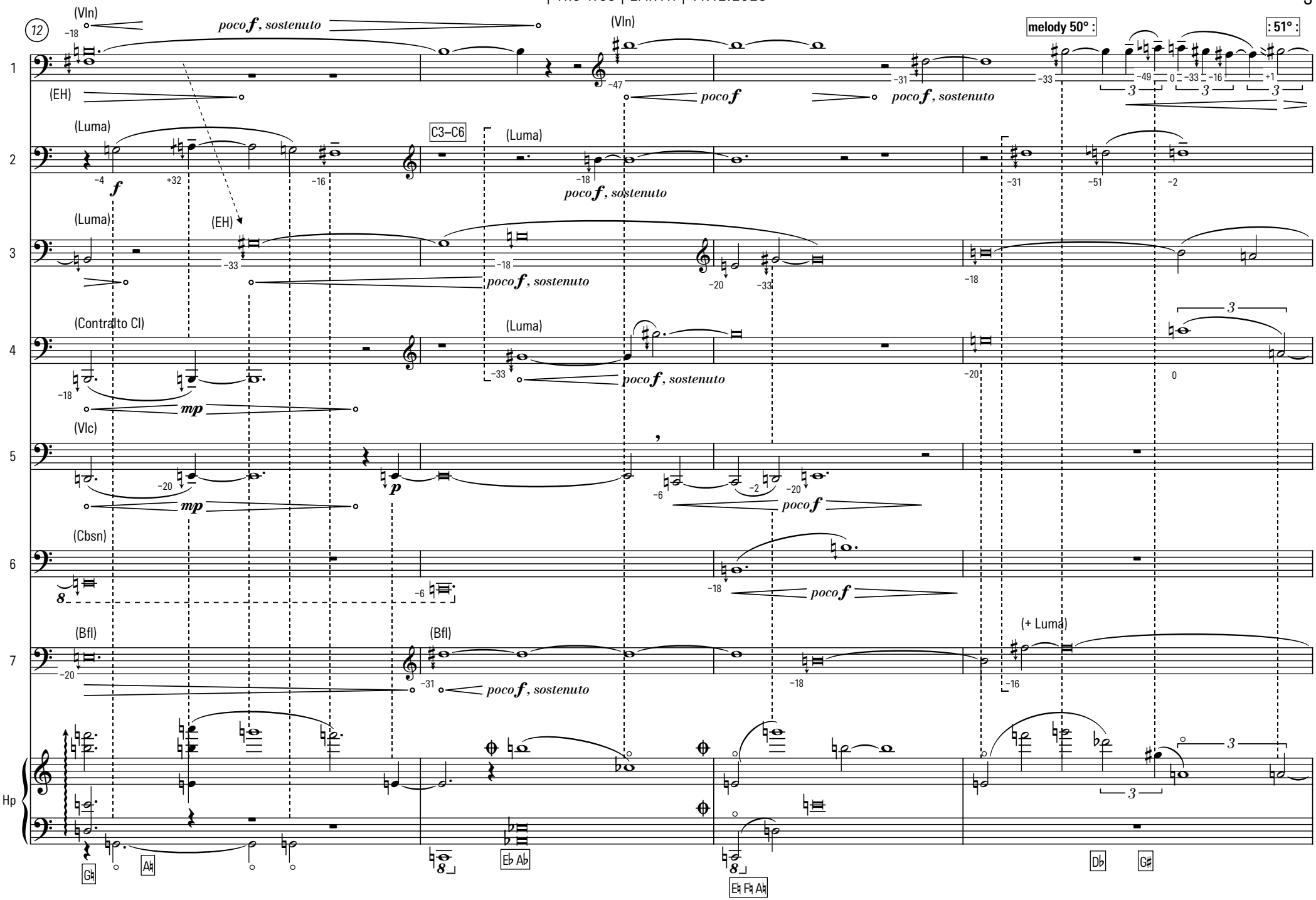
EARTH

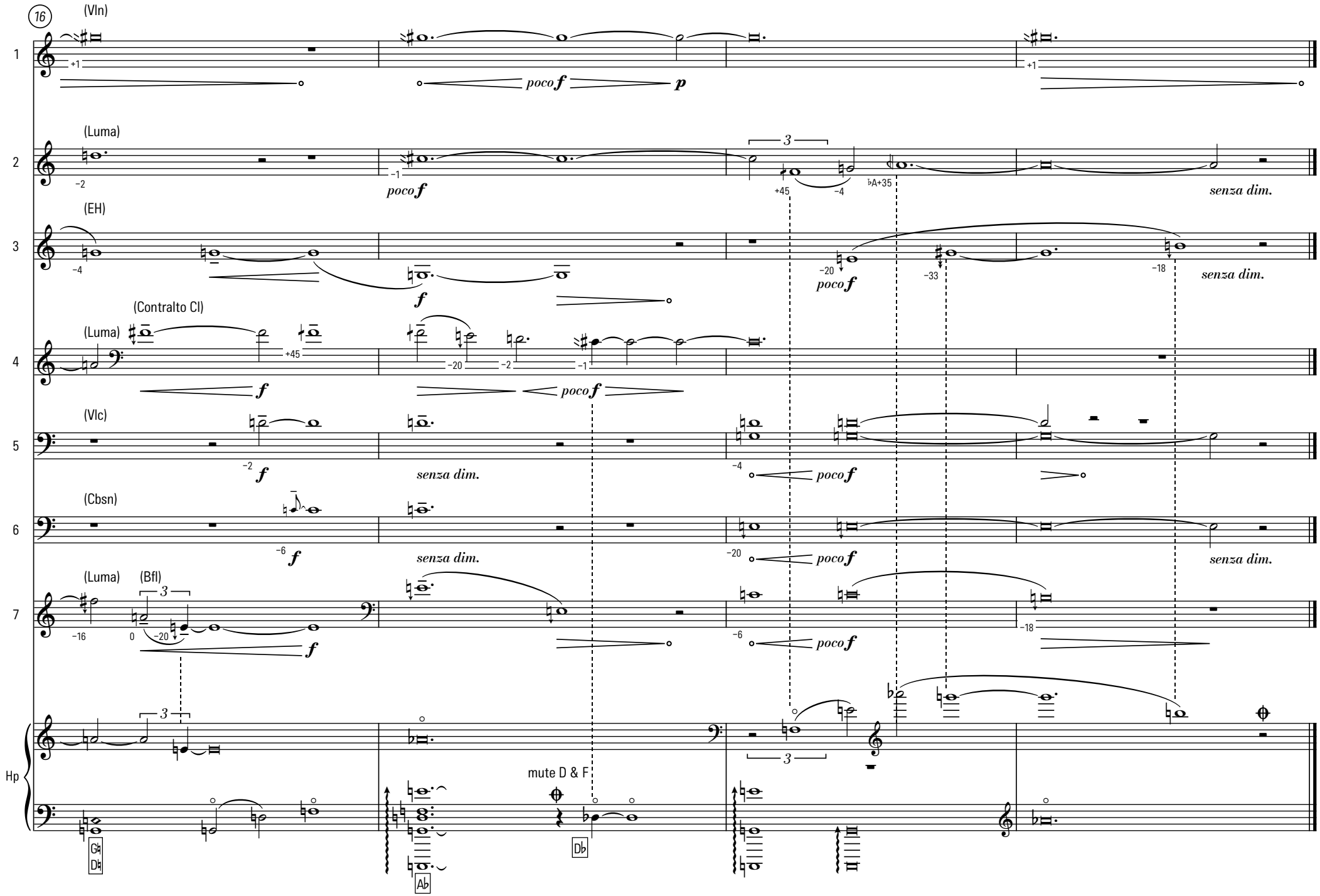
Marc Sabat



cc 2023– PLAINSOUND | 11.12.2025


7
1
(EH)
poco f
2
(Luma)
poco f, sostenuto
3
(Luma)
poco f, sostenuto
4
(Contralto Cl)
mp
(beating)
f
5
(Vlc)
mp
(beating)
f
6
(Cbsn)
mp
poco f
p
7
(Bfl – sounding pitches)
poco f, sostenuto
Hp
(beating)
Gb
Ab


12
(Vln)
poco f, sostenuto
(Vln)
melody 50° :
: 51° :
(EH)
poco f
poco f, sostenuto
(Luma)
C3–C6
(Luma)
f
poco f, sostenuto
(Luma)
(EH)
poco f, sostenuto
(Contralto Cl)
(Luma)
mp
poco f, sostenuto
(Vlc)
mp
p
poco f
(Cbsn)
poco f
(Bfl)
(Bfl)
(+ Luma)
poco f, sostenuto
Hp
Gb
Ab
Eb Ab
Eb Fb Ab
Db
G#


16
(Vln)
poco f
p
senza dim.
(Luma)
(EH)
(Contralto Cl)
(Vlc)
(Cbsn)
(Bfl)
mute D & F
Hp

The Tree

GROUND

Marc Sabat

Andante sostenuto, come prima ♩ ca. 39

5

(EH – sounding pitches)

(Vln)

(Luma)

C1–C4

(Contralto Cl – sounding pitches)

(Vlc)

(Cbsn – sounding pitches)

(Fl)

: 50° :

: 51° :

: 52° :

: 54° :

large whole noteheads = accurate tuning
small black noteheads = slight detuning
adjust volume accordingly

(freely)

l.v., sim.

Harp

E♮ F♭ G♮ A♭
D♮ C♮ B♮

4°/♮G

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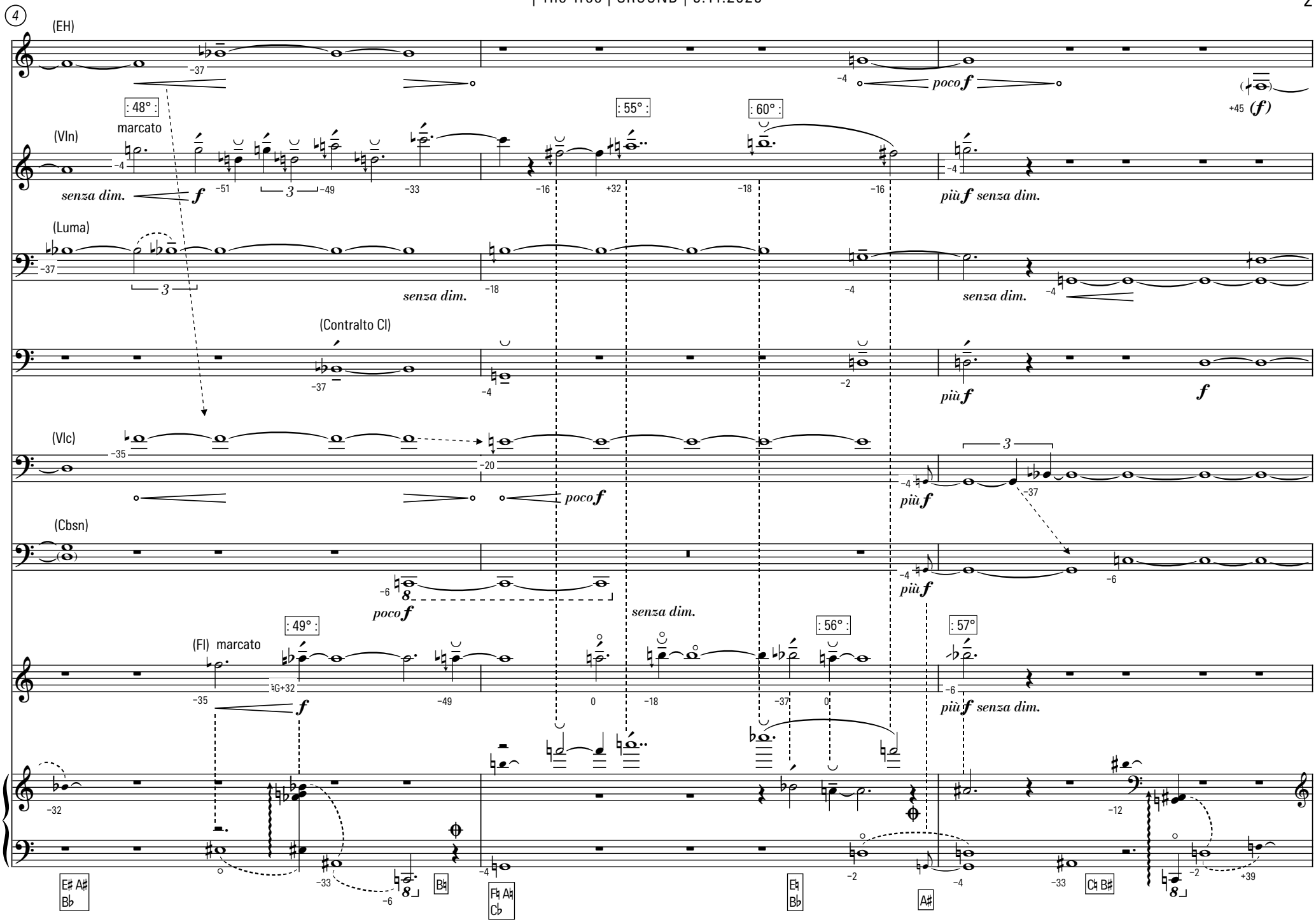
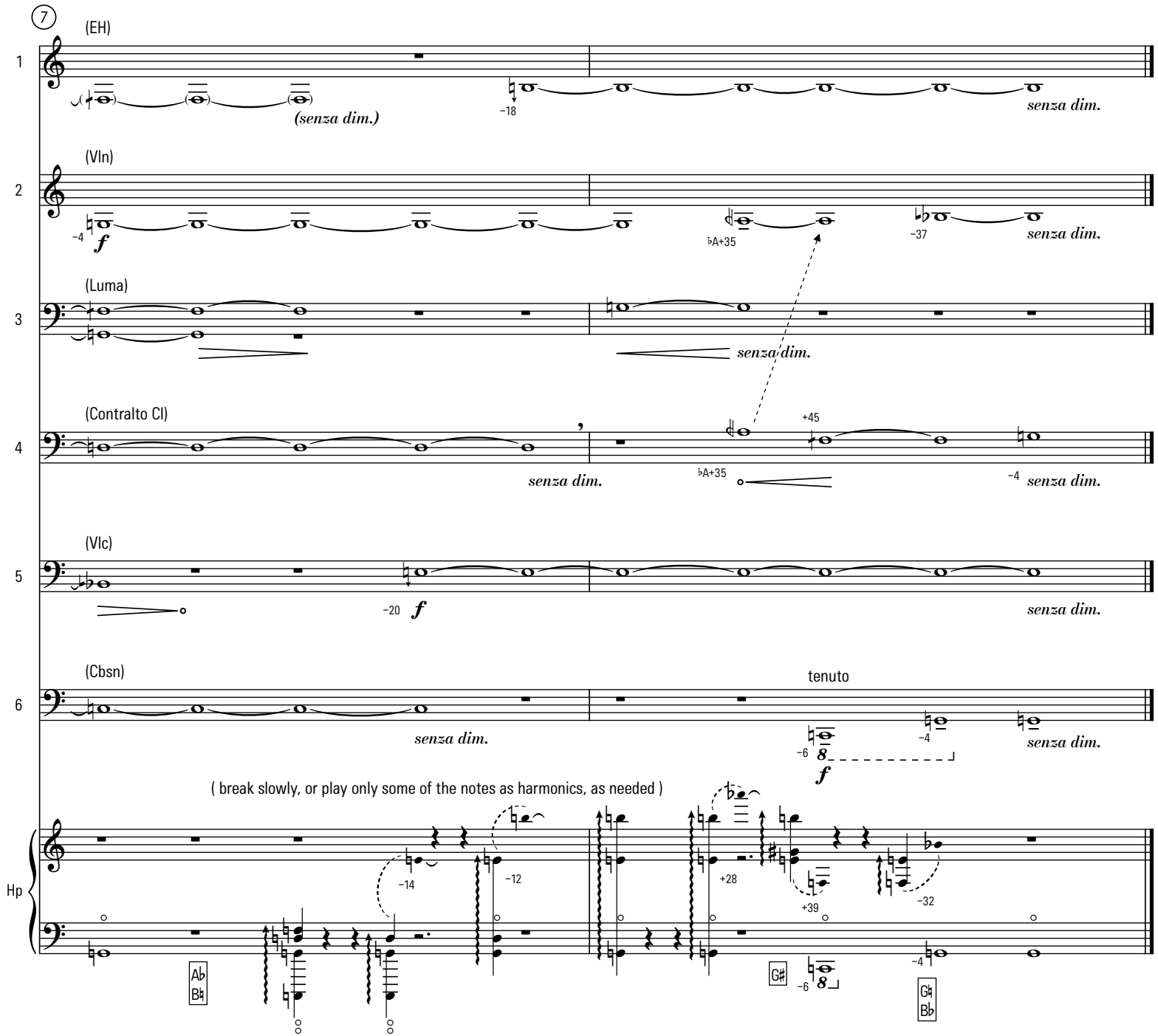
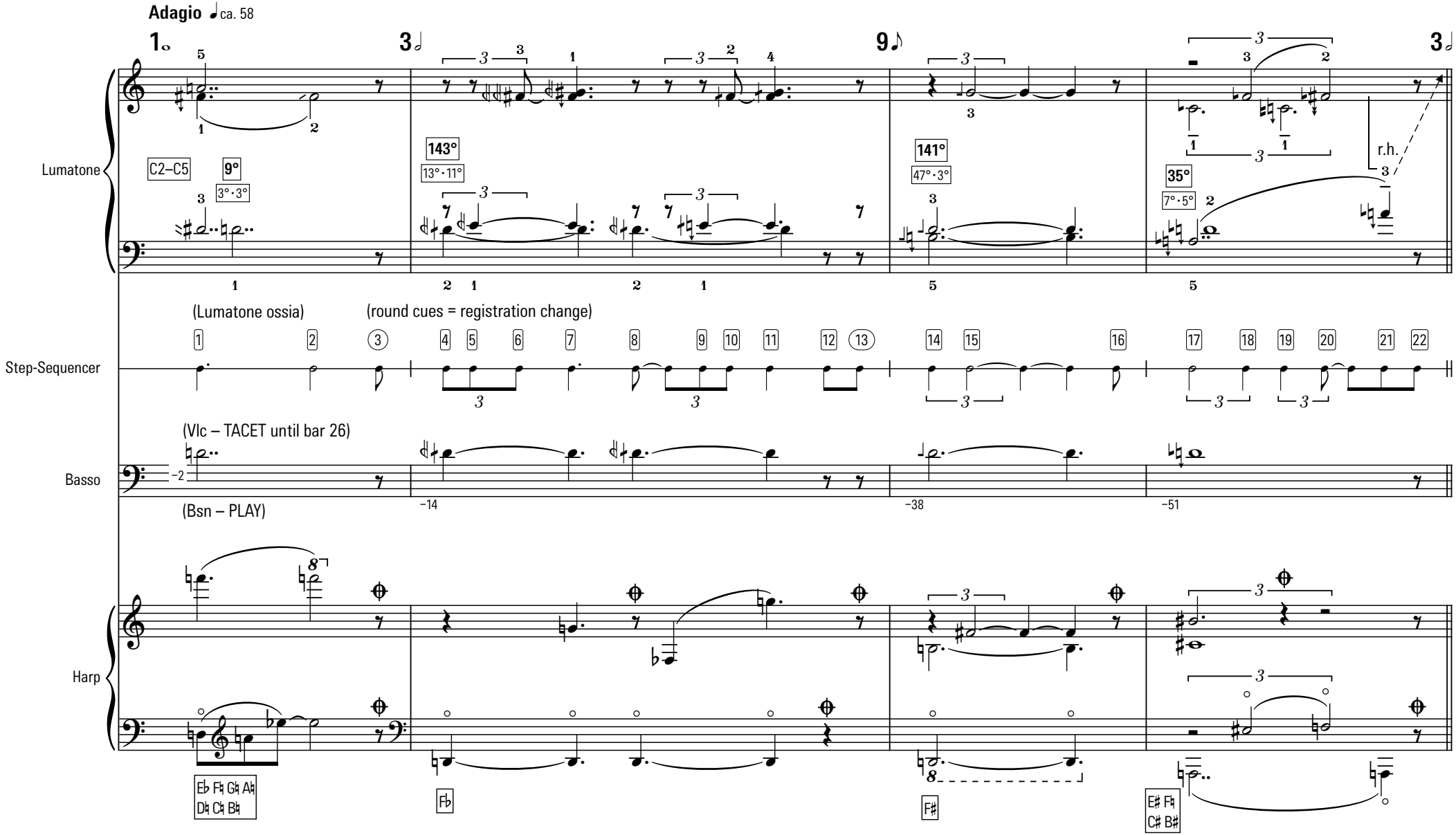

4
(EH)
1
: 48° :
marcato
: 55° :
: 60° :
(Vln)
2
senza dim.
più senza dim.
(Luma)
3
senza dim.
senza dim.
(Contralto Cl)
4
più
(Vlc)
5
poco
più
(Cbsn)
6
poco
senza dim.
più
: 49° :
(Fl) marcato
: 56° :
: 57°
7
più senza dim.
Hp
E♯ A♯ B♭
B♮
F♮ A♮ C♭
E♮ B♭
A♯
C♭ B♯


7
(EH)
1
(senza dim.)
−18
senza dim.
(Vln)
2
−4
f
♭A+35
−37
senza dim.
(Luma)
3
senza dim.
(Contralto Cl)
4
+45
senza dim.
♭A+35
−4
senza dim.
(Vlc)
5
−20
f
senza dim.
(Cbsn)
6
senza dim.
tenuto
−6
8
f
−4
senza dim.
(break slowly, or play only some of the notes as harmonics, as needed)
Hp
−14
−12
+28
+39
−32
A♭
B♮
G♯
−6
8
−4
G♮
B♭

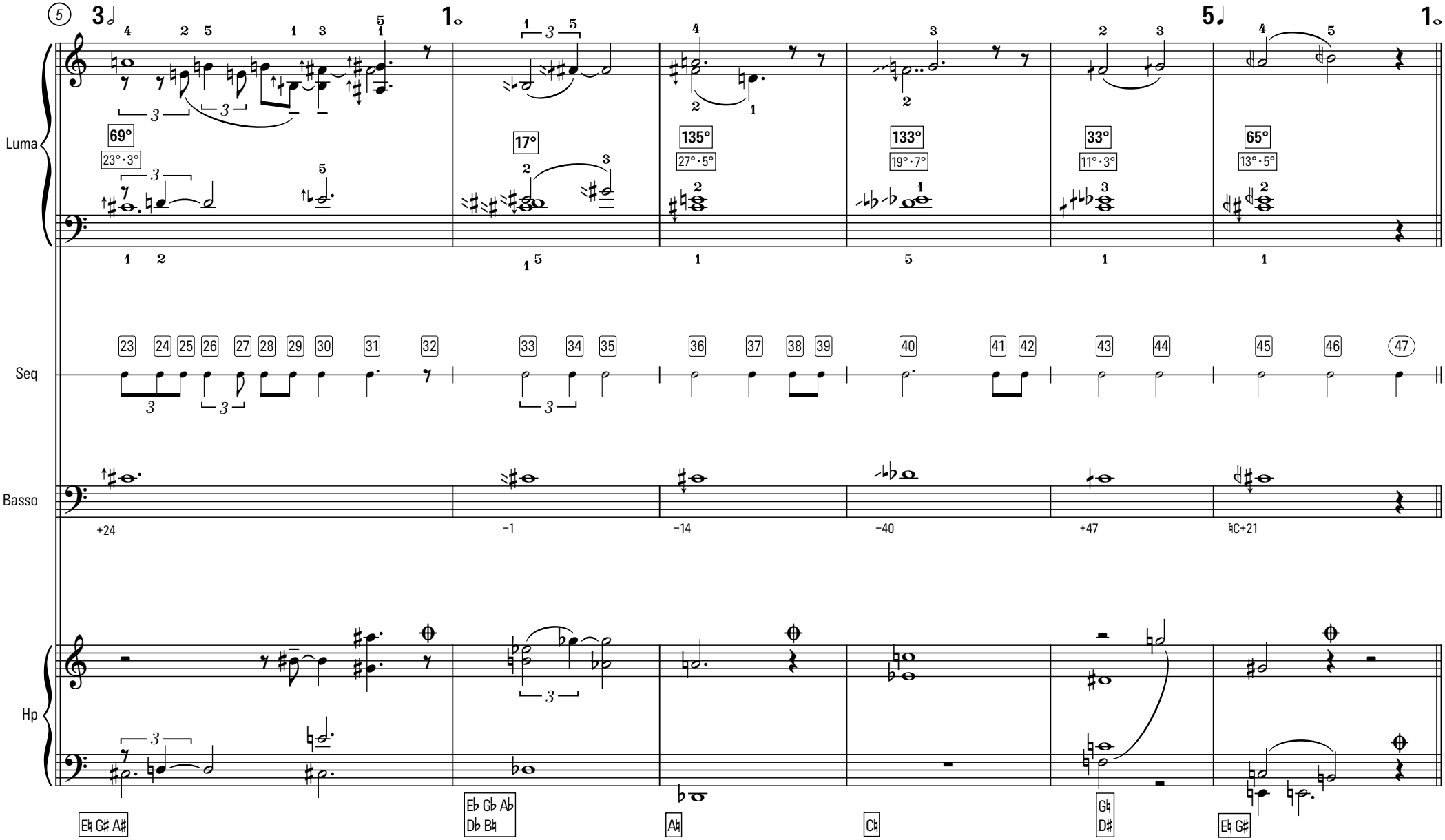
The Tree

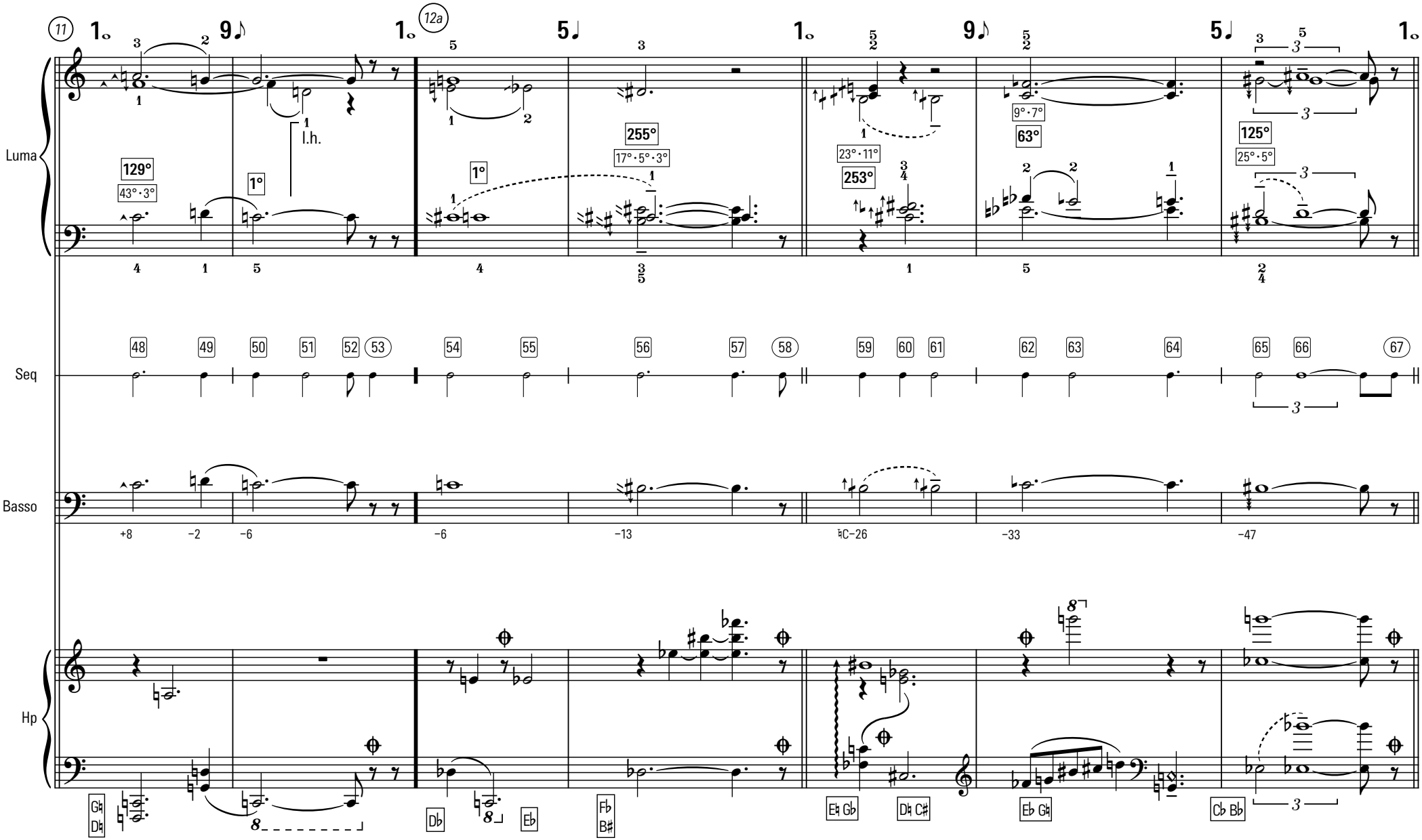
Marc Sabat

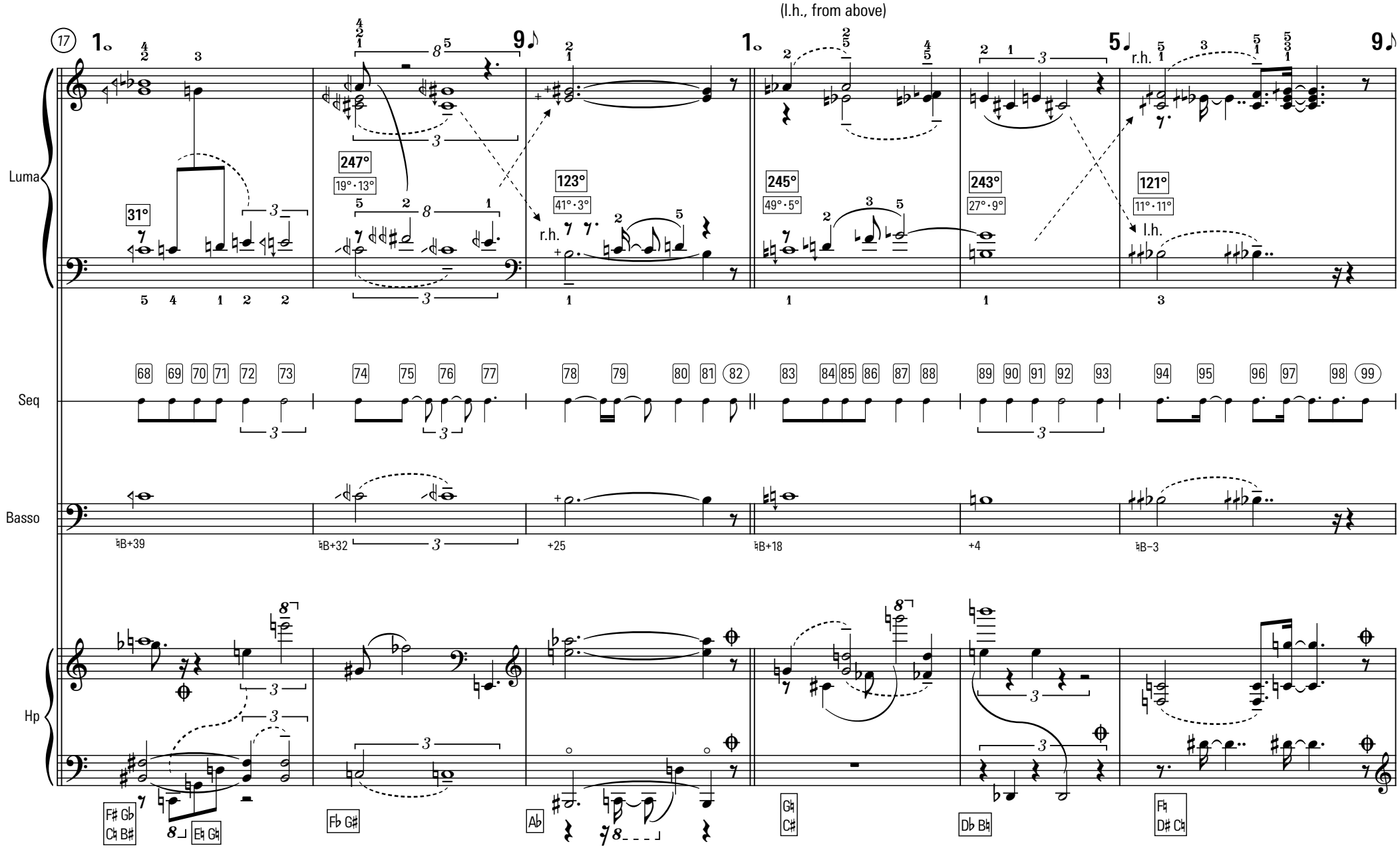
FALL (Proton 1. time)

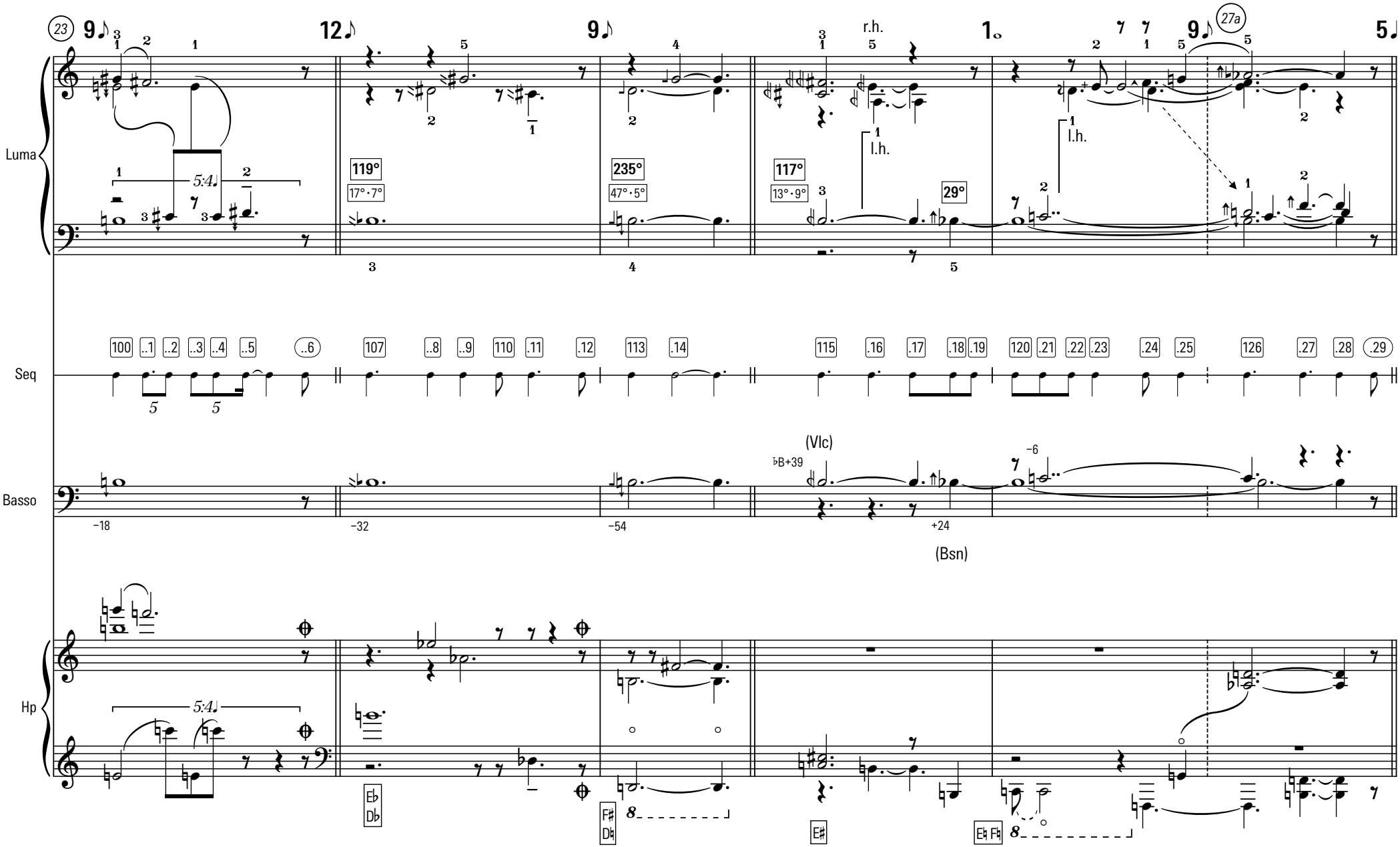


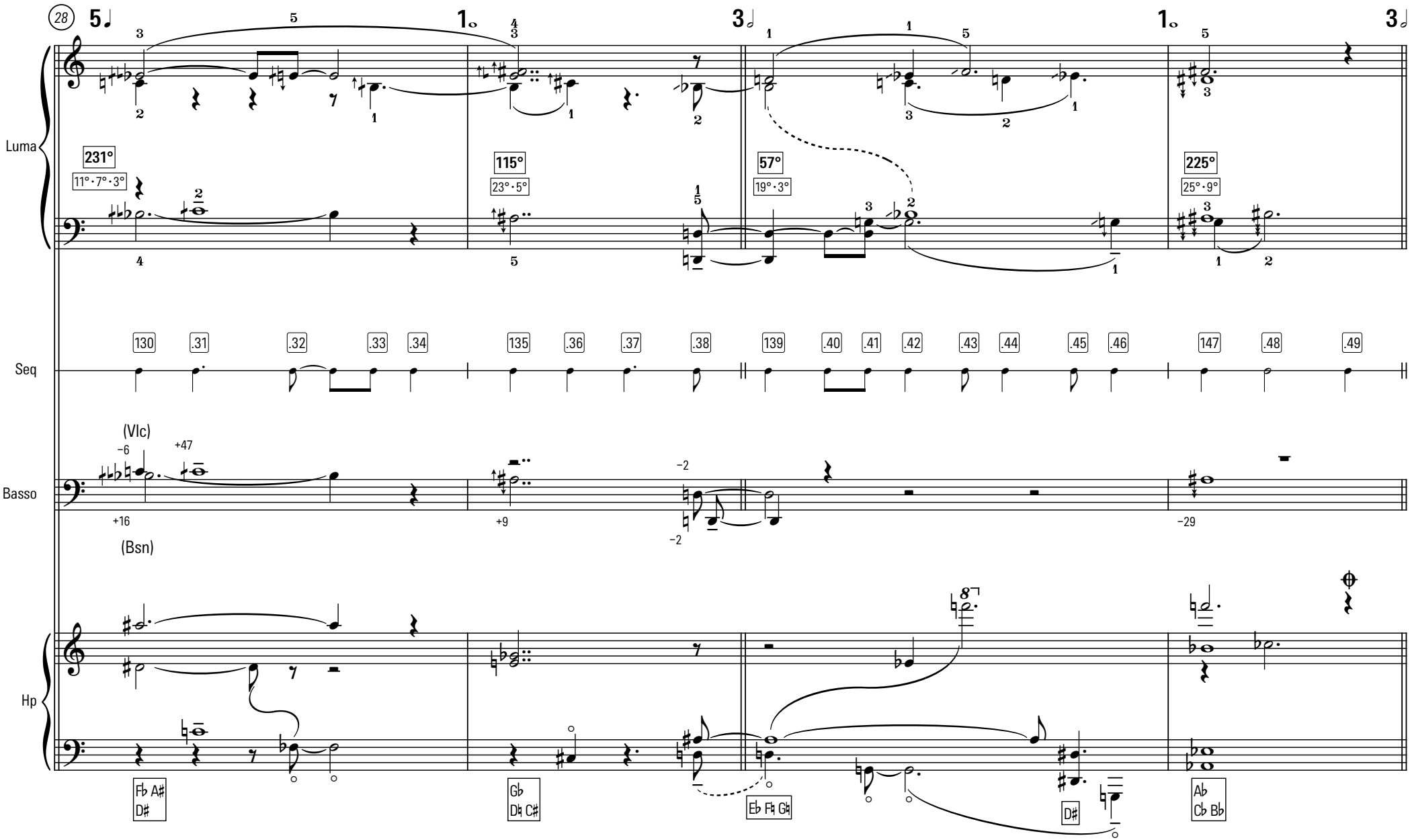
cc 2023– PLAINSOUND | 9.11.2025

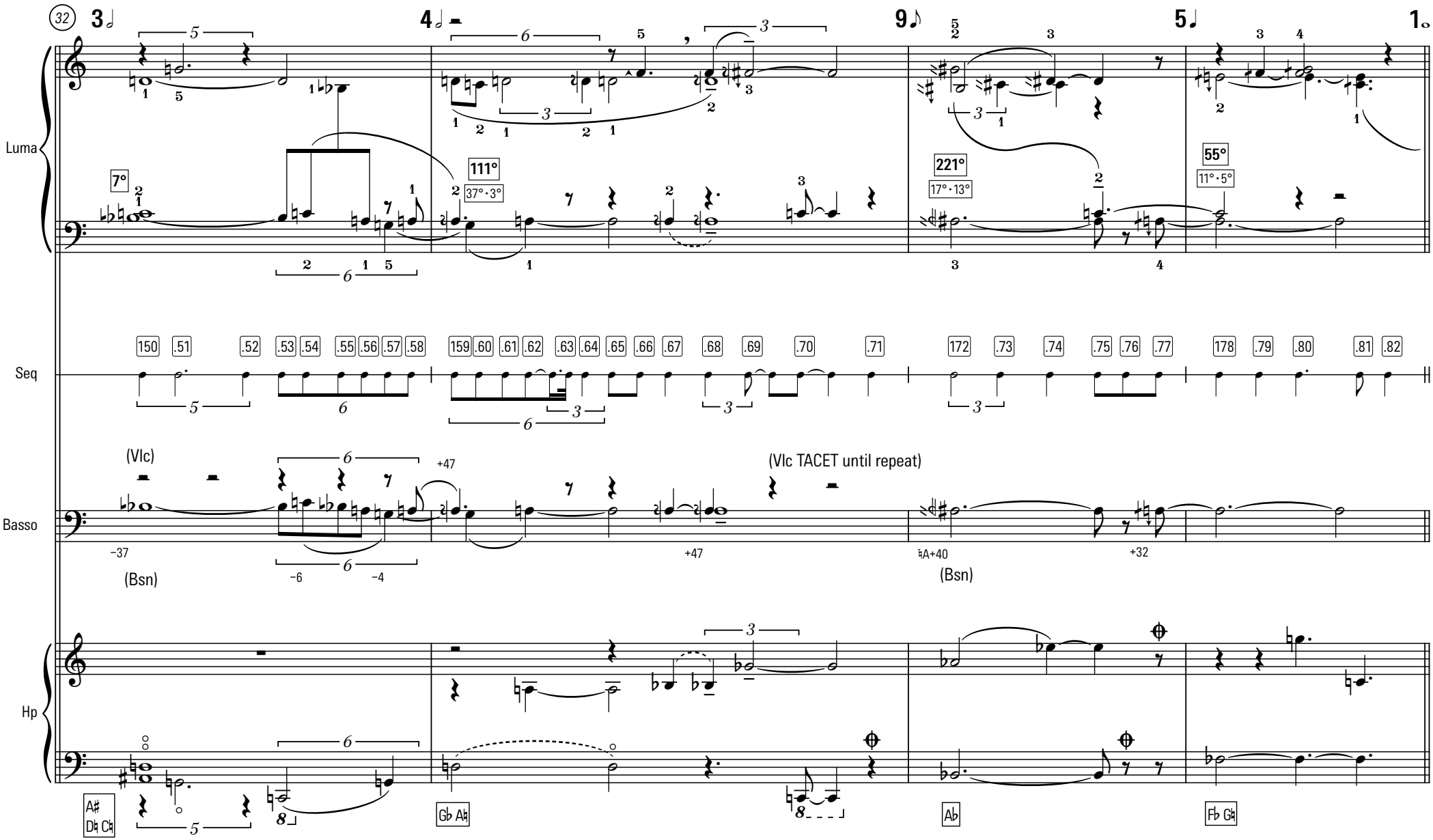

5
3
1.
1.
5
1.
Luma
69°
23°·3°
17°
135°
27°·5°
133°
19°·7°
33°
11°·3°
65°
13°·5°
Seq
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
Basso
+24
−1
−14
−40
+47
♮C+21
Hp
E♮ G♯ A♯
E♭ G♭ A♭
D♭ B♮
A♮
C♮
G♮
D♯
E♮ G♯

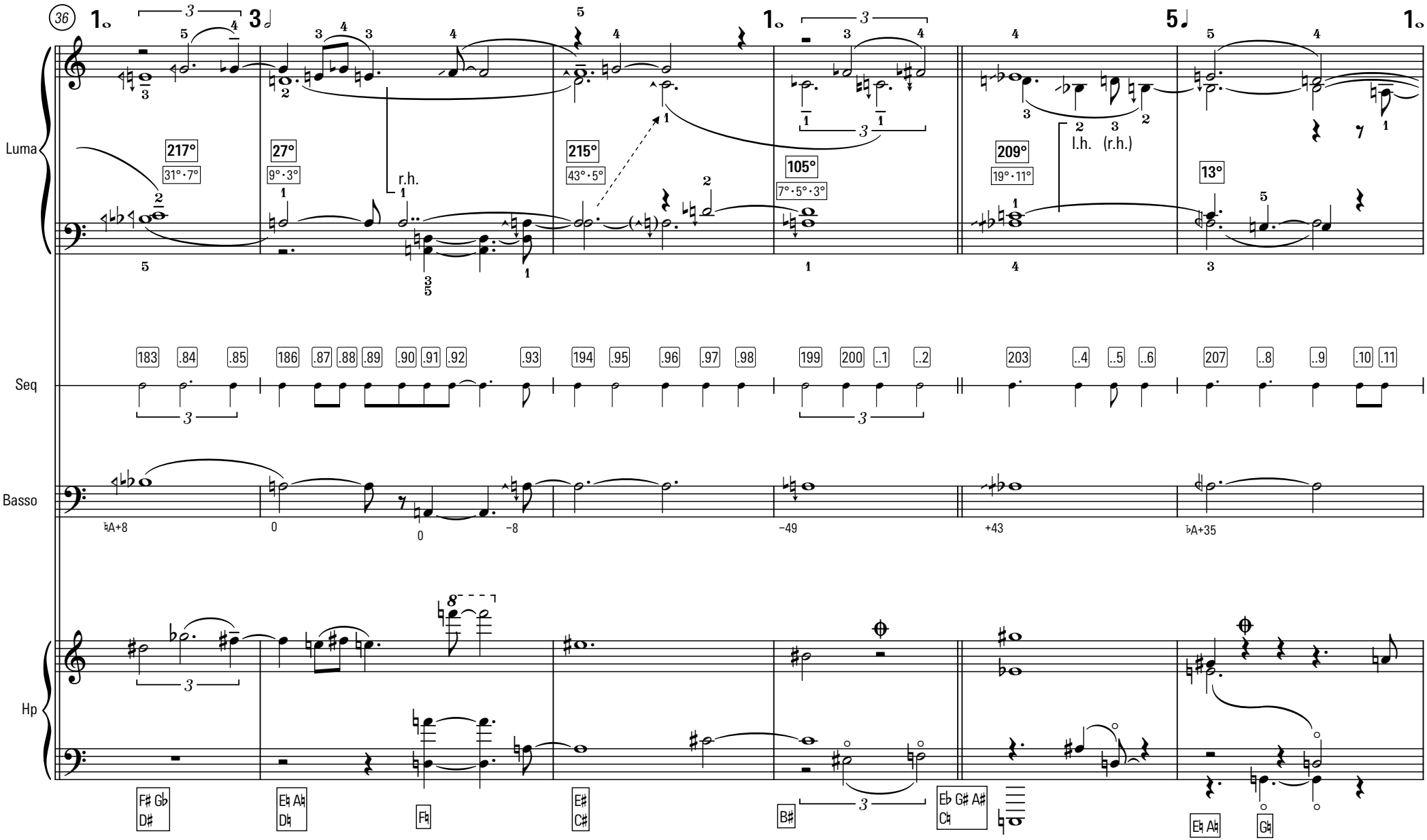

11
12a
Luma
Seq
Basso
Hp
129°
43°·3°
1°
l.h.
255°
17°·5°·3°
253°
23°·11°
63°
9°·7°
125°
25°·5°
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67
+8 −2 −6 −6 −13 ♮C−26 −33 −47
G♮ D♮
D♭
E♭
F♭ B♯
E♮ G♭
D♮ C♯
E♭ G♮
C♭ B♭

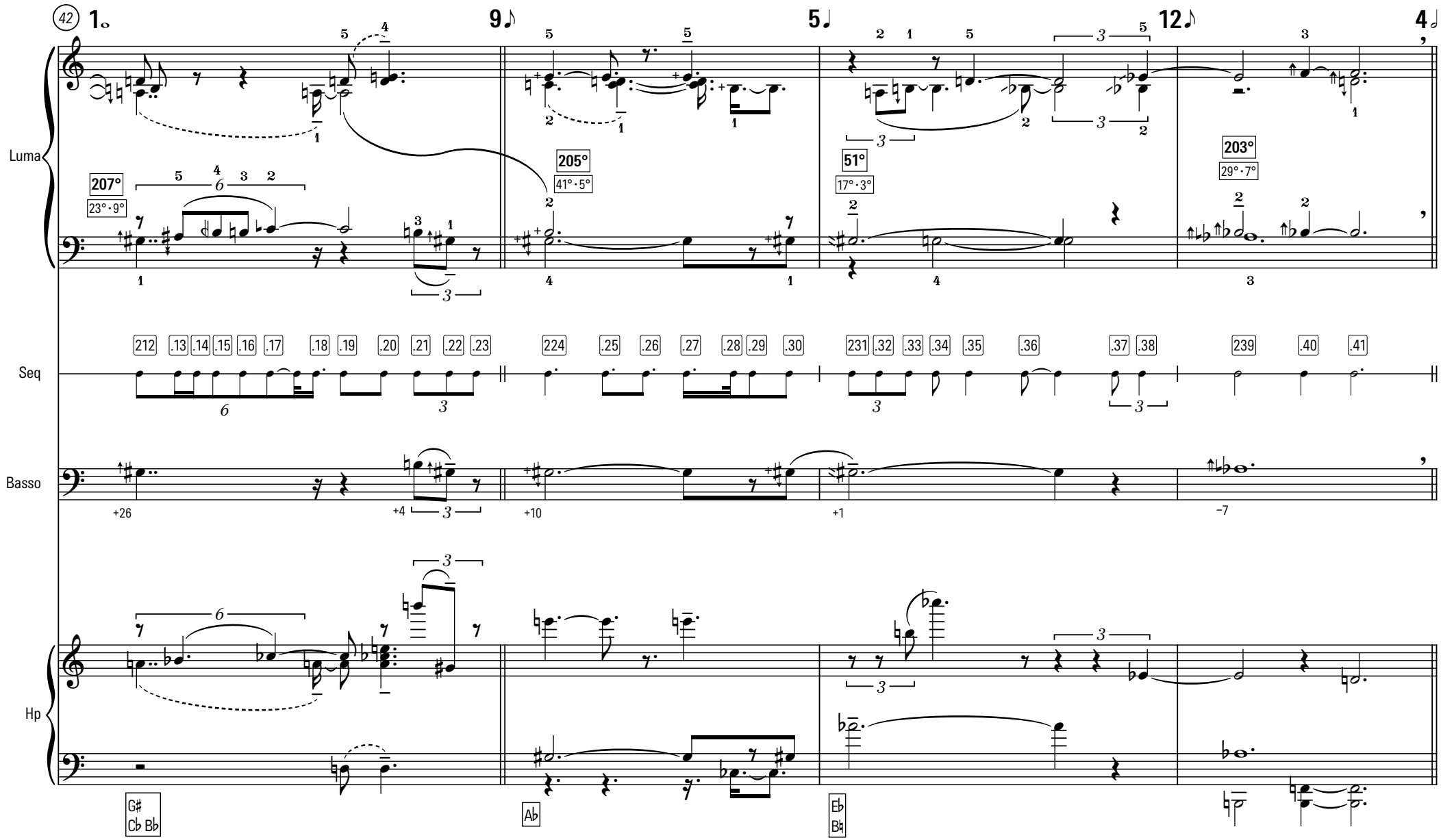

(l.h., from above)
17
Luma
Seq
Basso
Hp
31°
247°
19°·13°
123°
41°·3°
245°
49°·5°
243°
27°·9°
121°
11°·11°
r.h.
l.h.
F♯ G♭ C♮ B♯
E♭ G♮
F♭ G♯
A♭
G♮ C♯
D♭ B♮
F♮ D♯ C♮

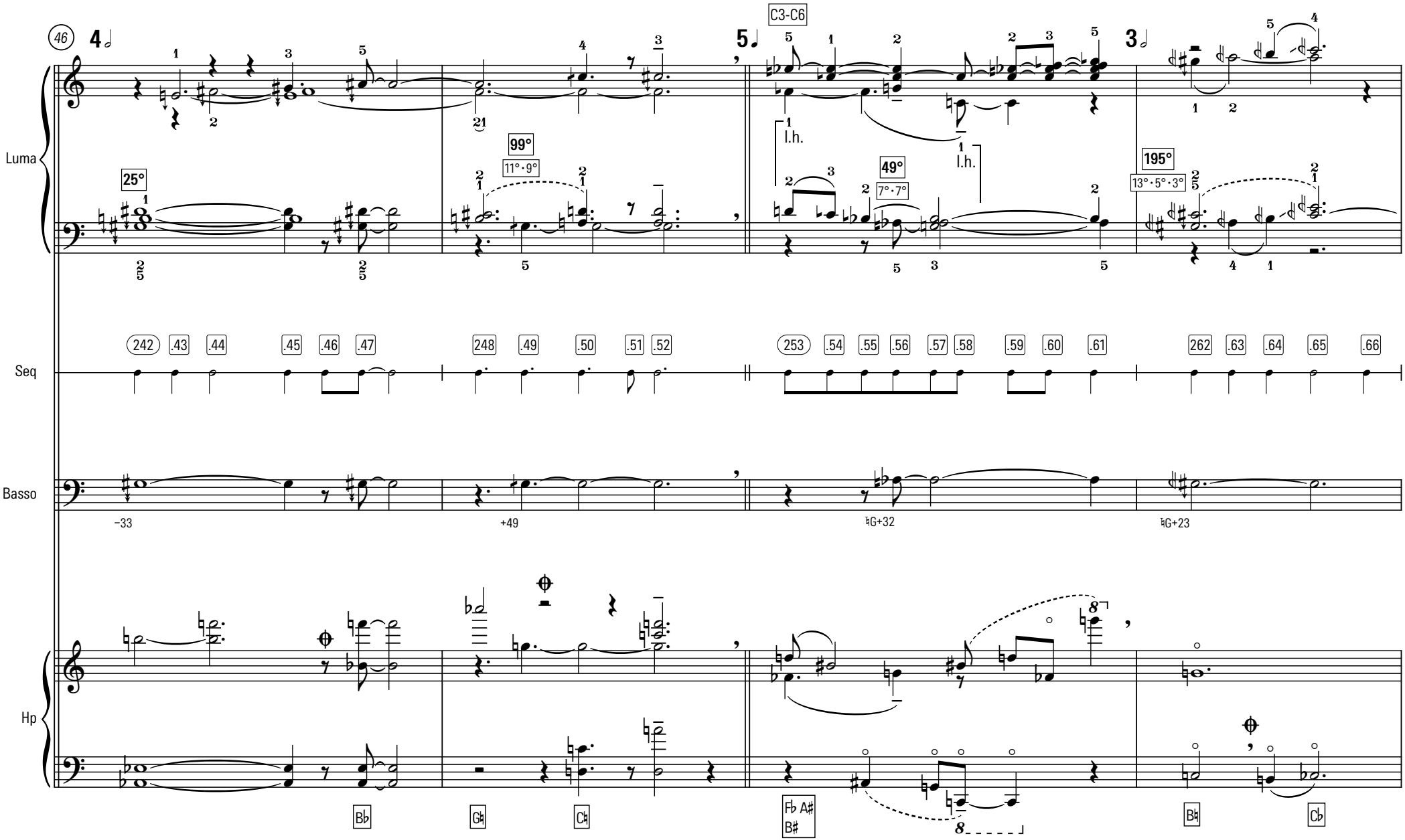

23
9
12
9
r.h.
1
9
27a
5
Luma
119°
17°·7°
235°
47°·5°
117°
13°·9°
29°
l.h.
l.h.
5:4
Seq
Basso
(Vlc)
(Bsn)
Hp
5:4
Eb
Db
F#
Db
E♯
E♮ F♮

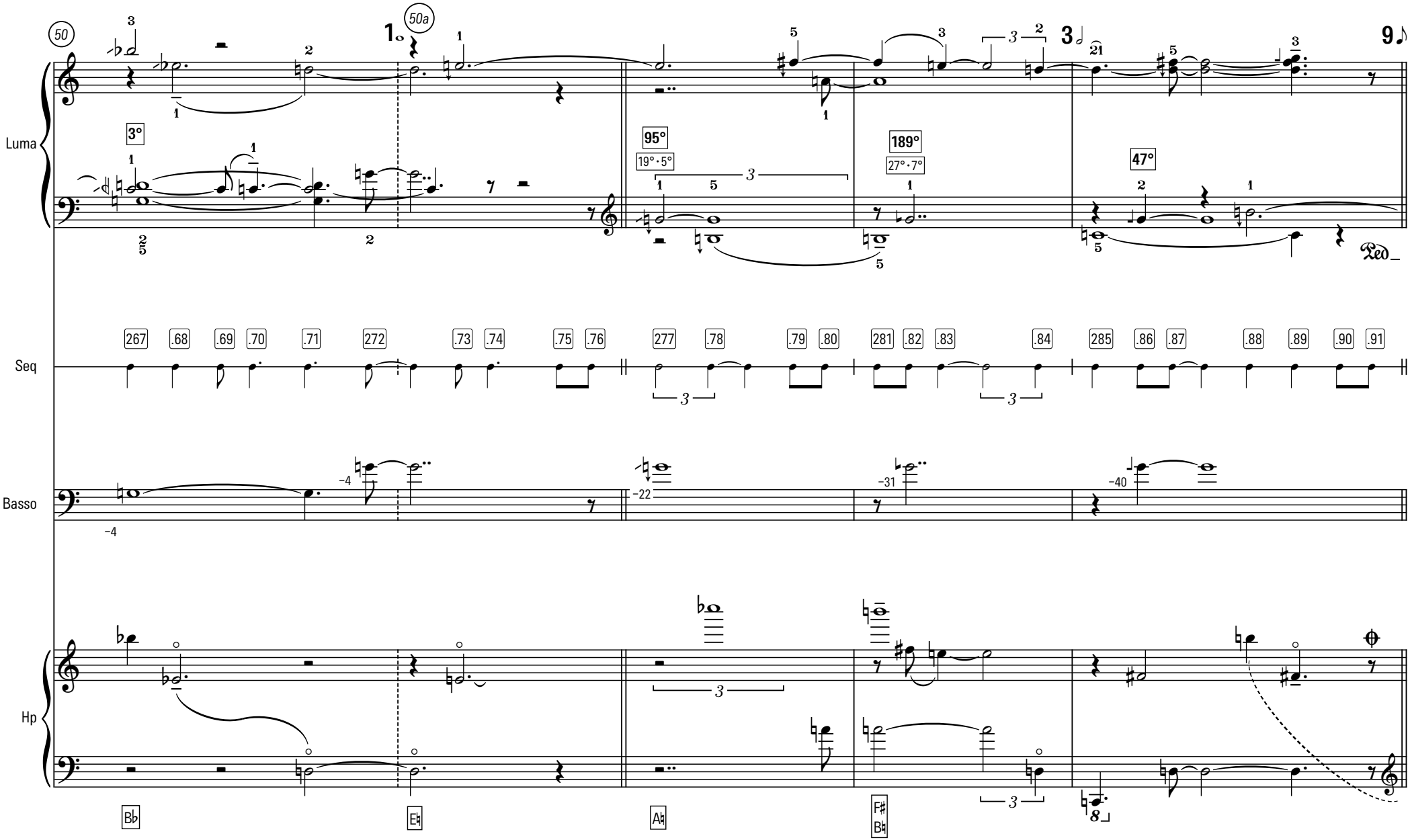

28
Luma
231°
11°·7°·3°
115°
23°·5°
57°
19°·3°
225°
25°·9°
Seq
130
.31
.32
.33
.34
135
.36
.37
.38
139
.40
.41
.42
.43
.44
.45
.46
147
.48
.49
Basso
(Vlc)
(Bsn)
Hp
F♭ A♯ D♯
G♭ D♮ C♯
E♭ F♮ G♮
D♯
A♭ C♭ B♭

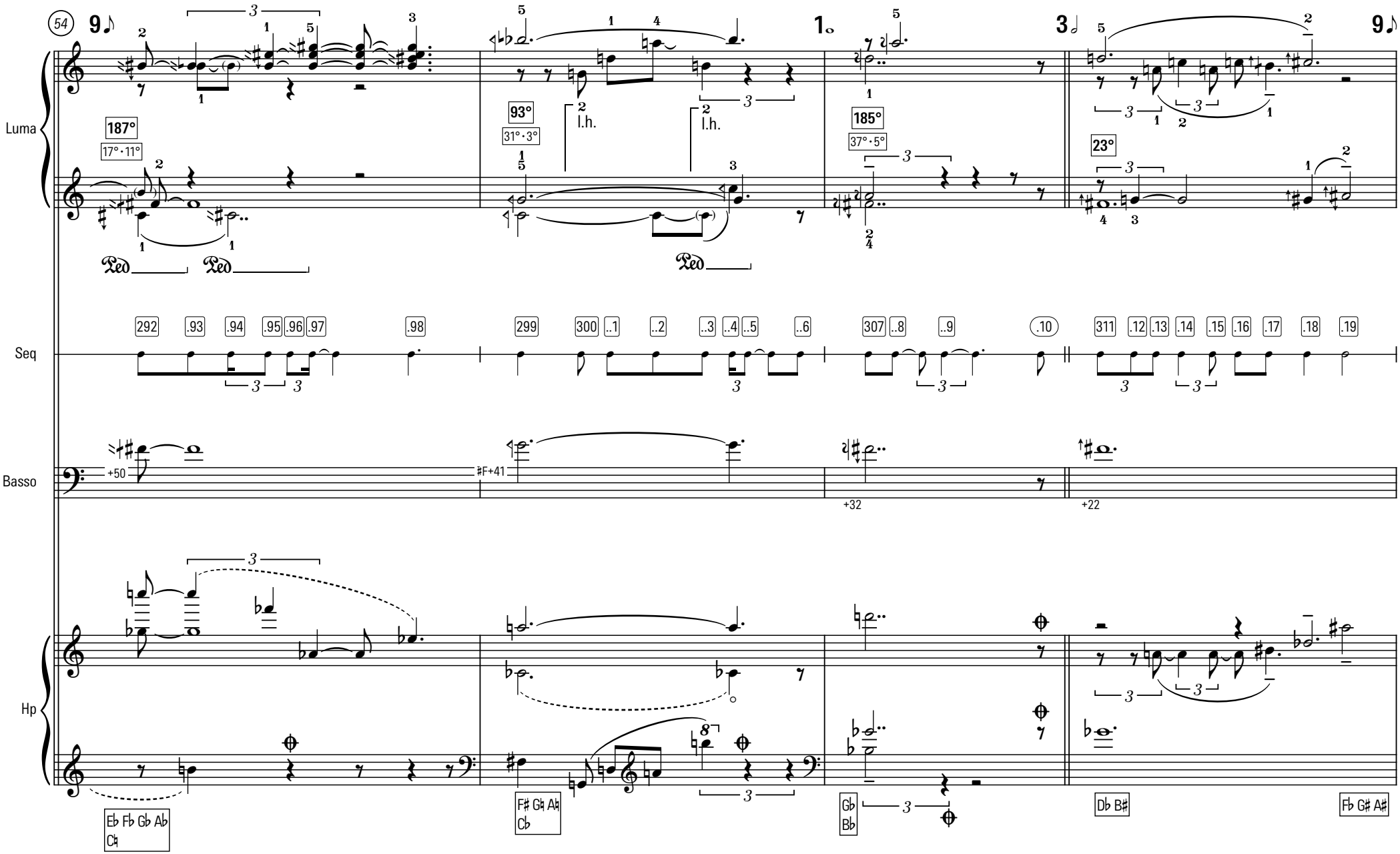

32
3
4
9
5
1
Luma
7°
111°
37°·3°
221°
17°·13°
55°
11°·5°
Seq
150 .51 .52 .53 .54 .55 .56 .57 .58 159 .60 .61 .62 .63 .64 .65 .66 .67 .68 .69 .70 .71 172 .73 .74 .75 .76 .77 178 .79 .80 .81 .82
Basso
(Vlc)
(Vlc TACET until repeat)
(Bsn)
(Bsn)
Hp
A♯ D♮ C♮
G♭ A♮
A♭
F♭ G♮

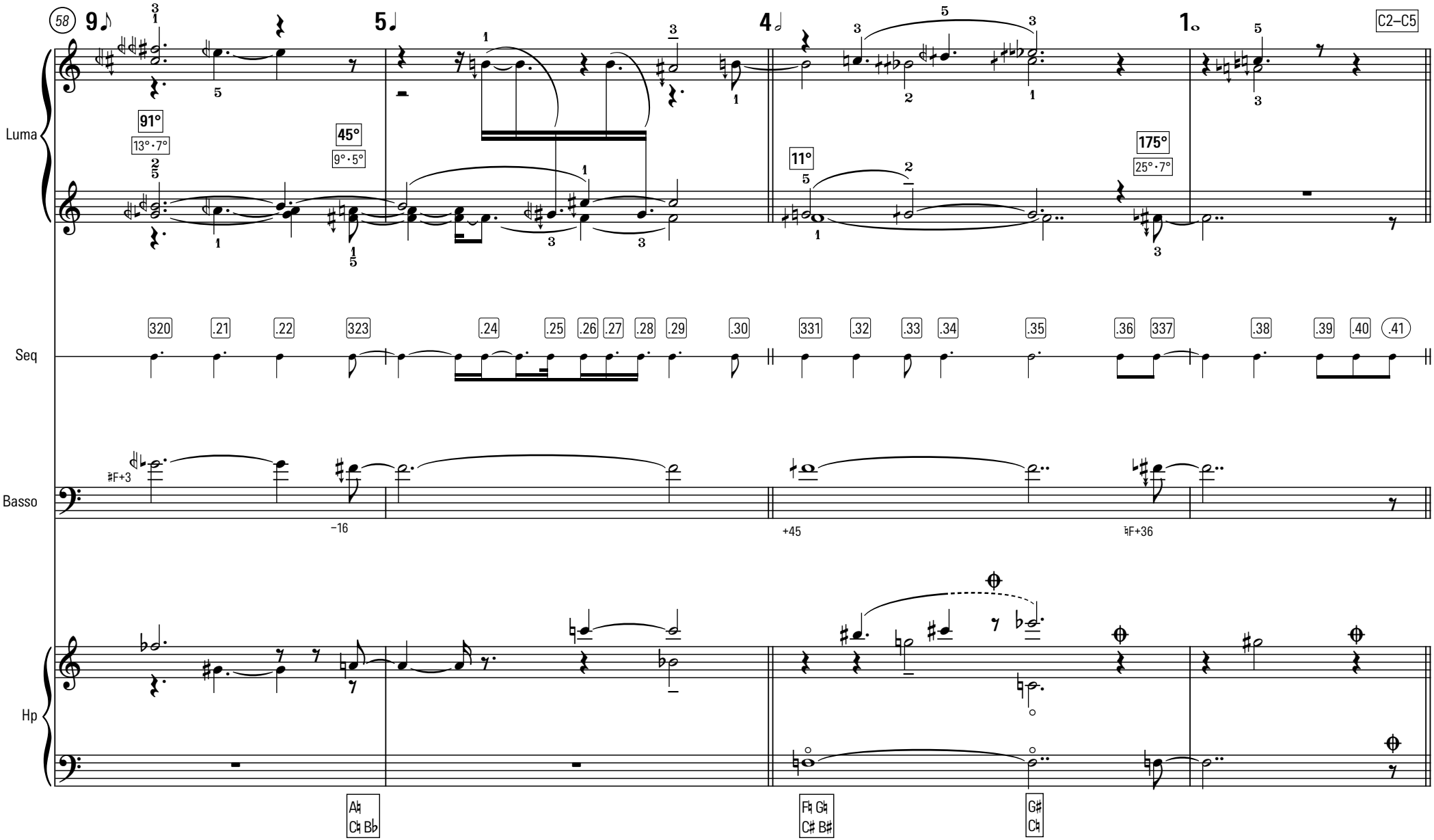

36
Luma
217°
31°·7°
27°
9°·3°
r.h.
215°
43°·5°
105°
7°·5°·3°
209°
19°·11°
l.h. (r.h.)
13°
Seq
183 .84 .85 186 .87 .88 .89 .90 .91 .92 .93 194 .95 .96 .97 .98 199 200 ..1 ..2 203 ..4 ..5 ..6 207 ..8 ..9 .10 .11
Basso
♮A+8
0
0
−8
−49
+43
♭A+35
Hp
F♯ G♭ D♯
E♮ A♮ D♮
F♮
E♯ C♯
B♯
E♭ G♯ A♯ C♮
E♮ A♮
G♮

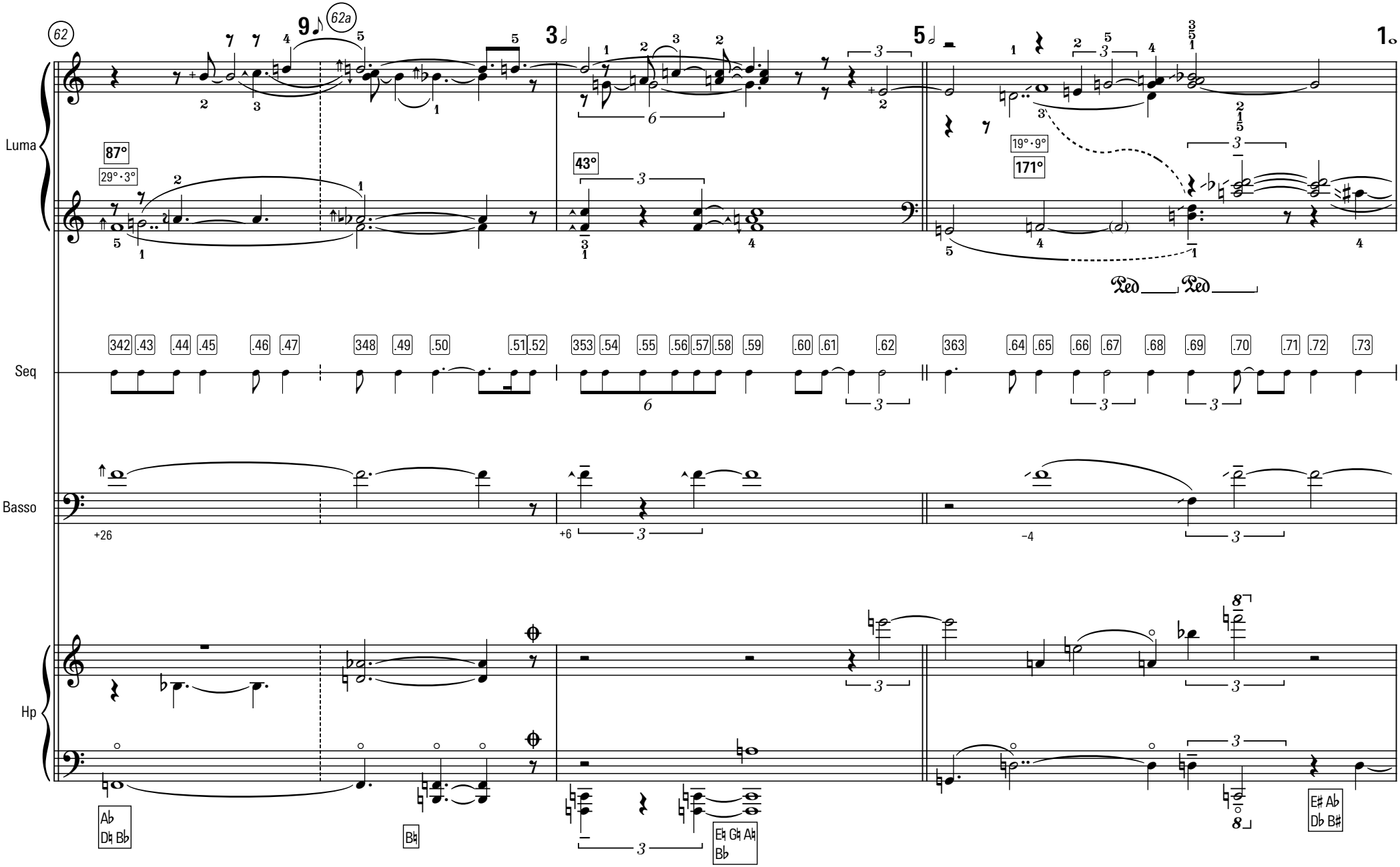

42
1.
9.
5.
12.
4
Luma
207°
23°·9°
205°
41°·5°
51°
17°·3°
203°
29°·7°
Seq
212 .13 .14 .15 .16 .17 .18 .19 .20 .21 .22 .23
224 .25 .26 .27 .28 .29 .30
231 .32 .33 .34 .35 .36 .37 .38
239 .40 .41
Basso
+26
+4
+10
+1
−7
Hp
G♯
C♭ B♭
A♭
E♭
B♮

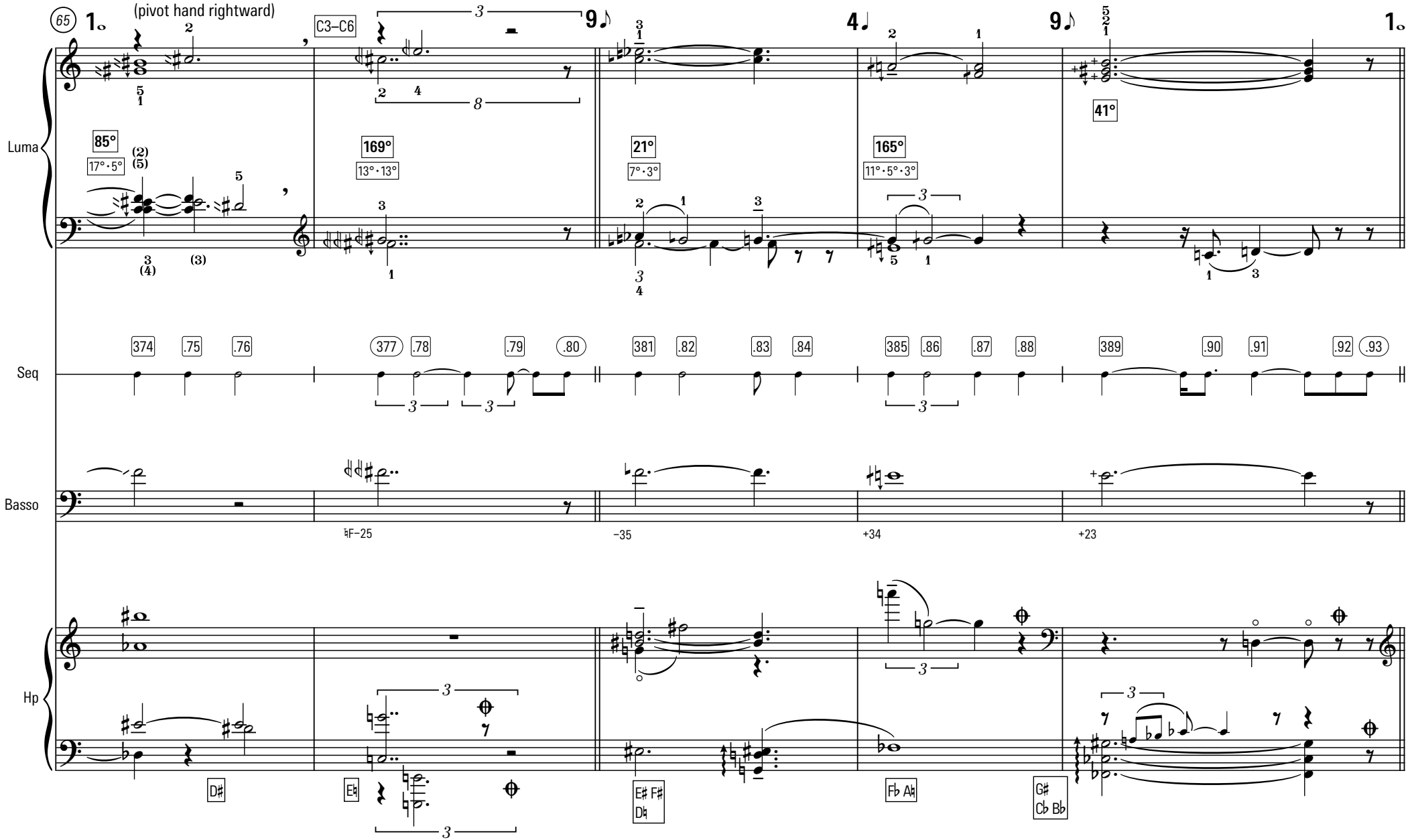

46
4
5
3
C3-C6
Luma
25°
99°
11°·9°
49°
7°·7°
195°
13°·5°·3°
l.h.
l.h.
Seq
242 .43 .44 .45 .46 .47
248 .49 .50 .51 .52
253 .54 .55 .56 .57 .58 .59 .60 .61
262 .63 .64 .65 .66
Basso
−33
+49
♮G+32
♮G+23
Hp
B♭
G♮
C♮
F♭ A♯ B♯
B♮
C♭

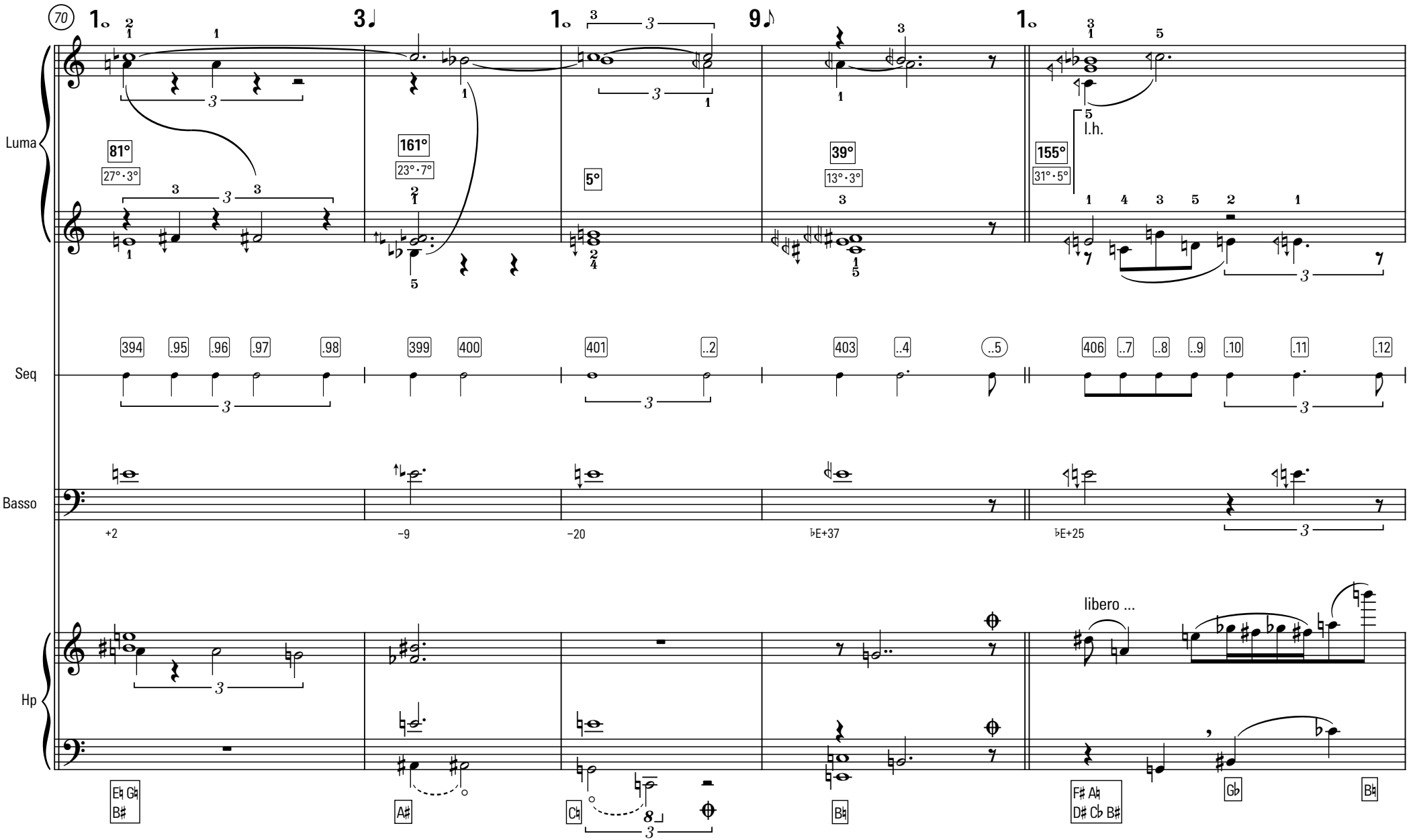

50
50a
1.
3
9
Luma
3°
95°
19° · 5°
189°
27° · 7°
47°
Ped
Seq
267
.68
.69
.70
.71
272
.73
.74
.75
.76
277
.78
.79
.80
281
.82
.83
.84
285
.86
.87
.88
.89
.90
.91
Basso
−4
−4
−22
−31
−40
Hp
B♭
E♭
A♭
F♯
B♮

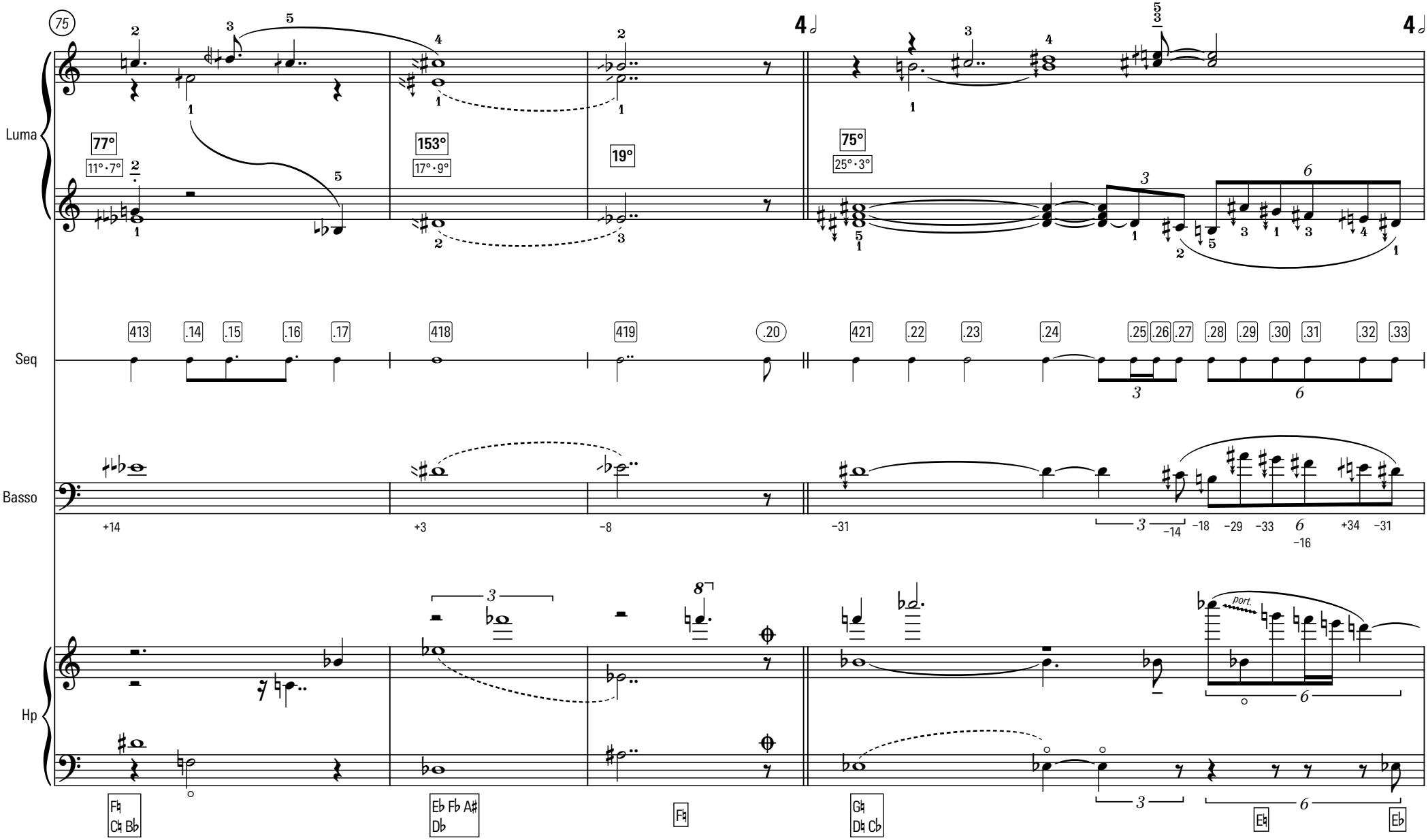

54
Luma
187°
17° · 11°
93°
31° · 3°
l.h.
l.h.
185°
37° · 5°
23°
Ped
Ped
Ped
Seq
292 .93 .94 .95 .96 .97 .98
299 300 ..1 ..2 ..3 ..4 ..5 ..6
307 ..8 ..9 .10
311 .12 .13 .14 .15 .16 .17 .18 .19
Basso
+50
♯F+41
+32
+22
Hp
Eb Fb Gb Ab C♮
F♯ G♮ A♯ C♭
Gb Bb
Db B♯
Fb G♯ A♯

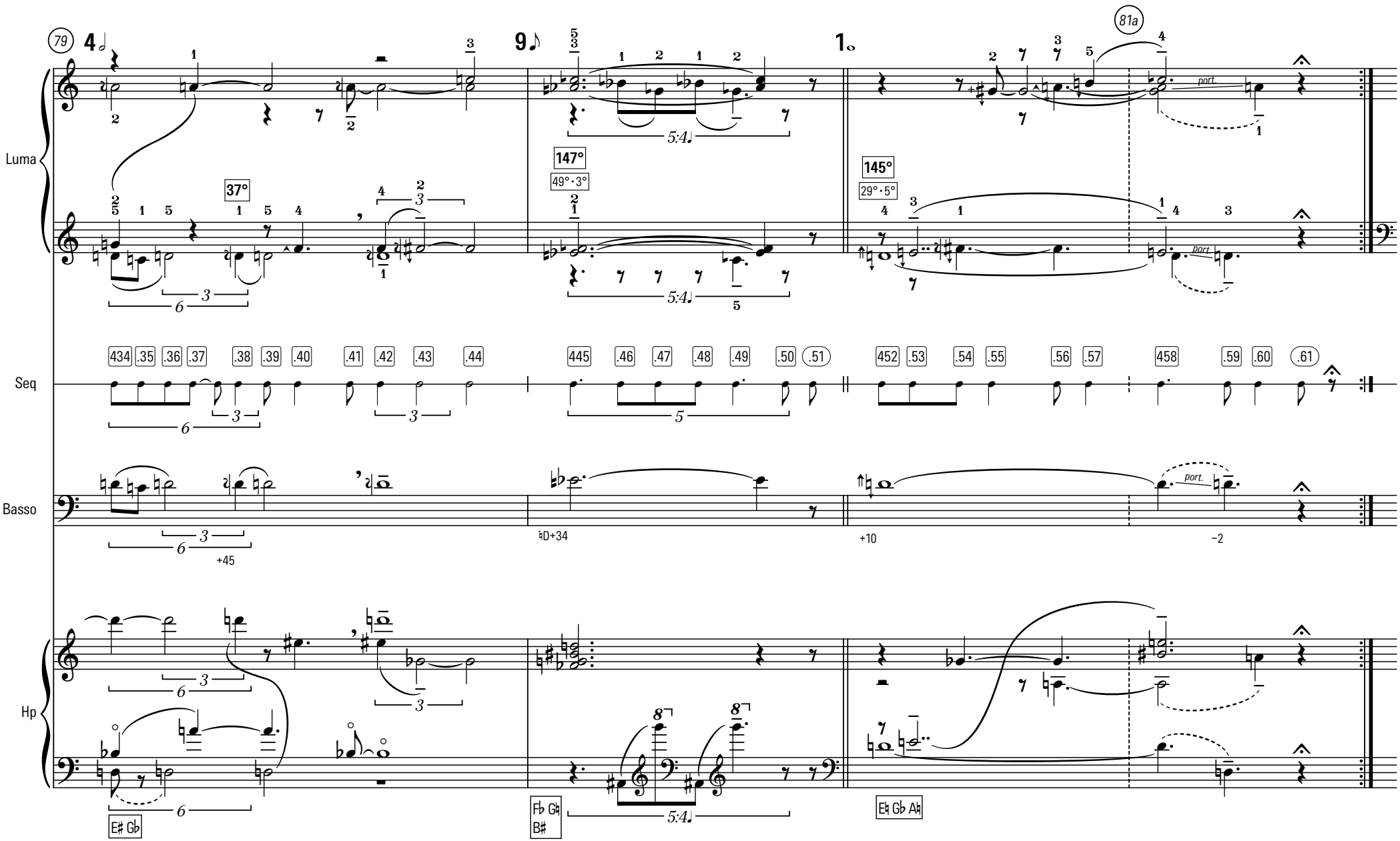

58
9
5
4
1
C2–C5
Luma
91°
13°·7°
45°
9°·5°
11°
175°
25°·7°
Seq
320
.21
.22
323
.24
.25
.26
.27
.28
.29
.30
331
.32
.33
.34
.35
.36
337
.38
.39
.40
.41
Basso
♯F+3
−16
+45
♮F+36
Hp
A♮ C♮ B♭
F♮ G♮ C♯ B♯
G♯ C♮

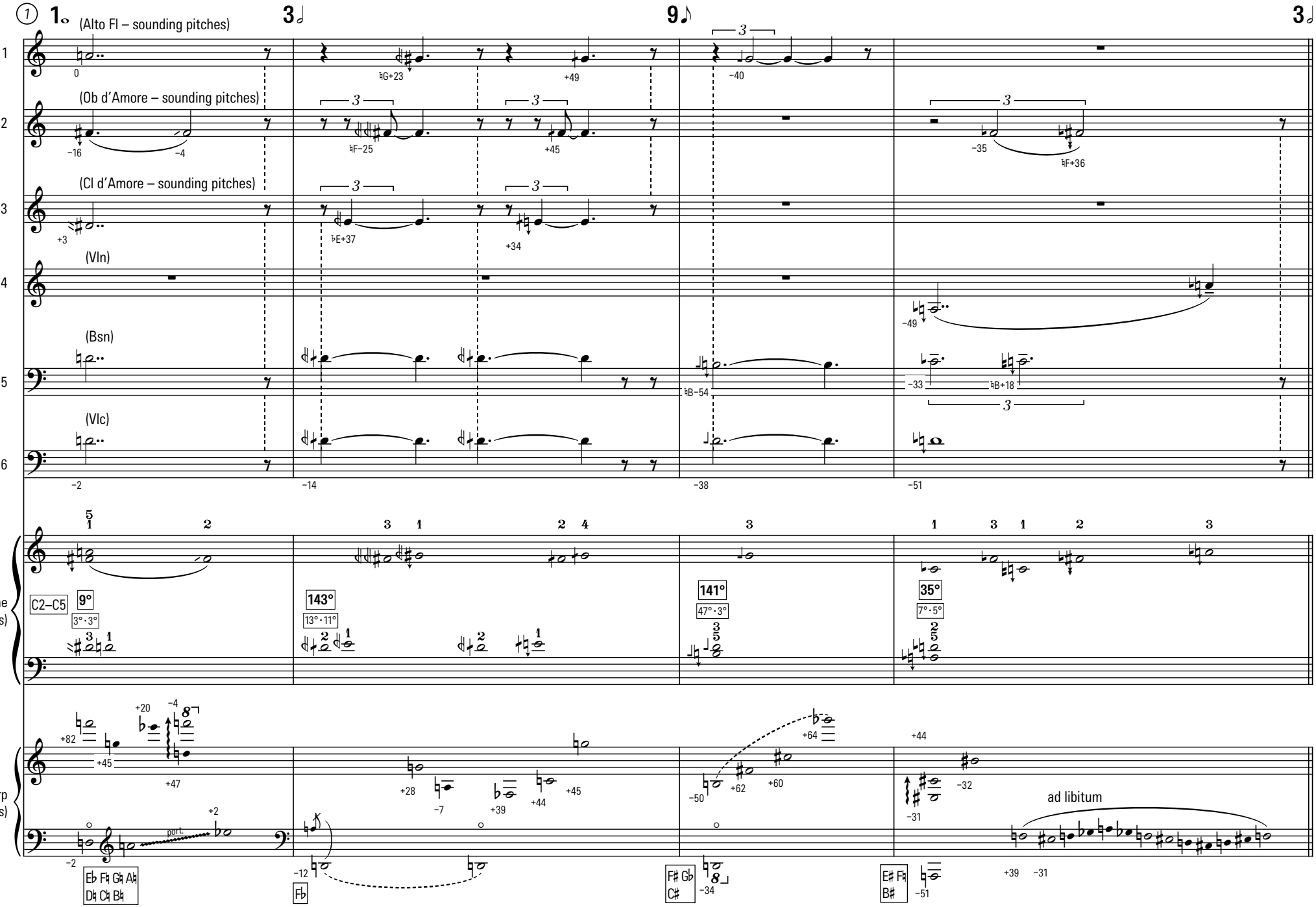

62
9
62a
3
5
1.
Luma
87°
29° · 3°
43°
19° · 9°
171°
Ped
Ped
Seq
342 .43 .44 .45 .46 .47 348 .49 .50 .51 .52 353 .54 .55 .56 .57 .58 .59 .60 .61 .62 363 .64 .65 .66 .67 .68 .69 .70 .71 .72 .73
Basso
+26
+6
−4
Hp
Ab Db Eb Bb
Bb
Eb Gb Ab Bb
Eb Ab Db Bb

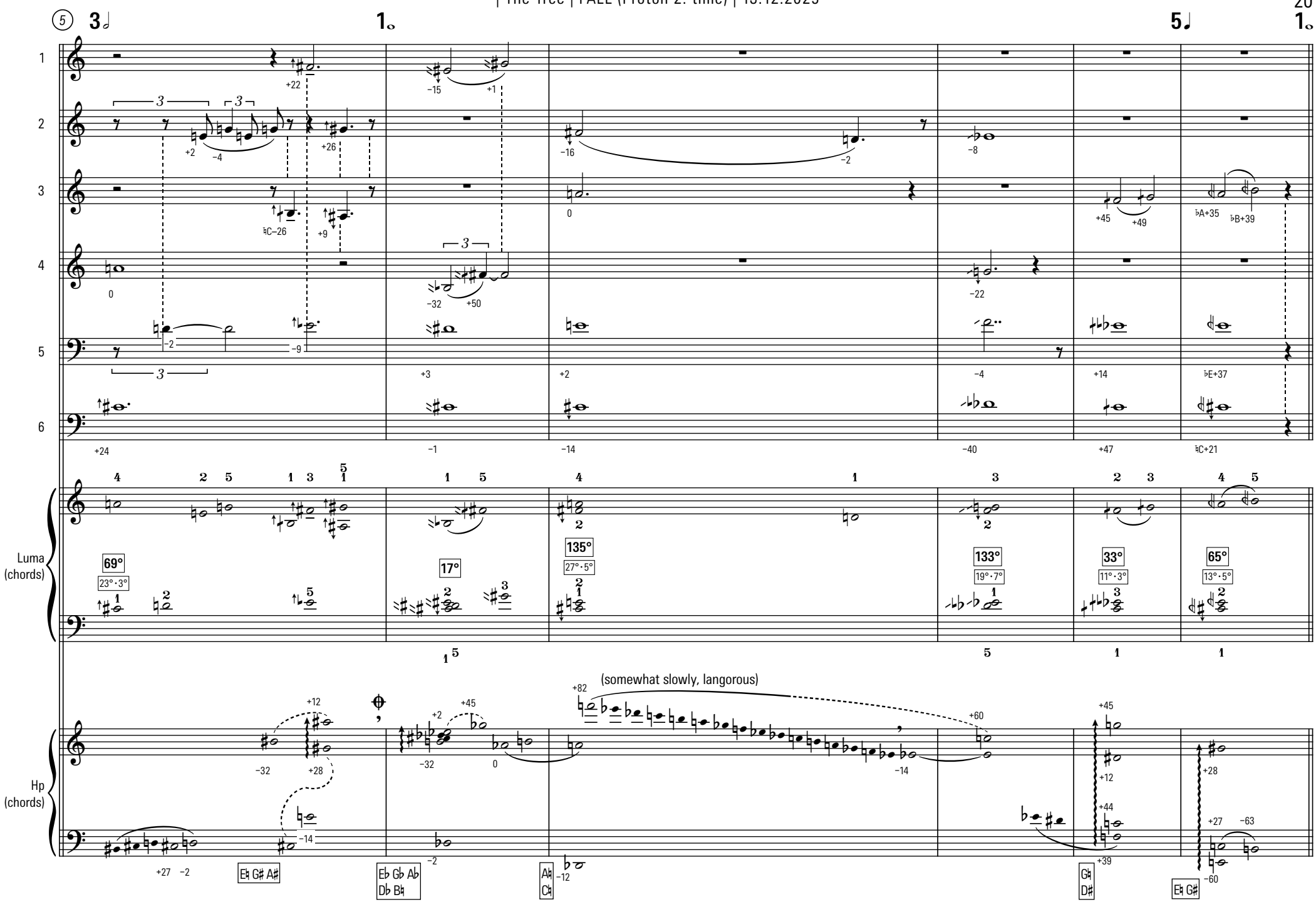

65
1.
(pivot hand rightward)
C3–C6
9♪
4♩
9♪
1.
Luma
85°
17°·5°
169°
13°·13°
21°
7°·3°
165°
11°·5°·3°
41°
Seq
374 .75 .76 377 .78 .79 .80 381 .82 .83 .84 385 .86 .87 .88 389 .90 .91 .92 .93
Basso
F−25
−35
+34
+23
Hp
D♯
E♭
E♯ F♯
D♮
F♭ A♮
G♯
C♭ B♭

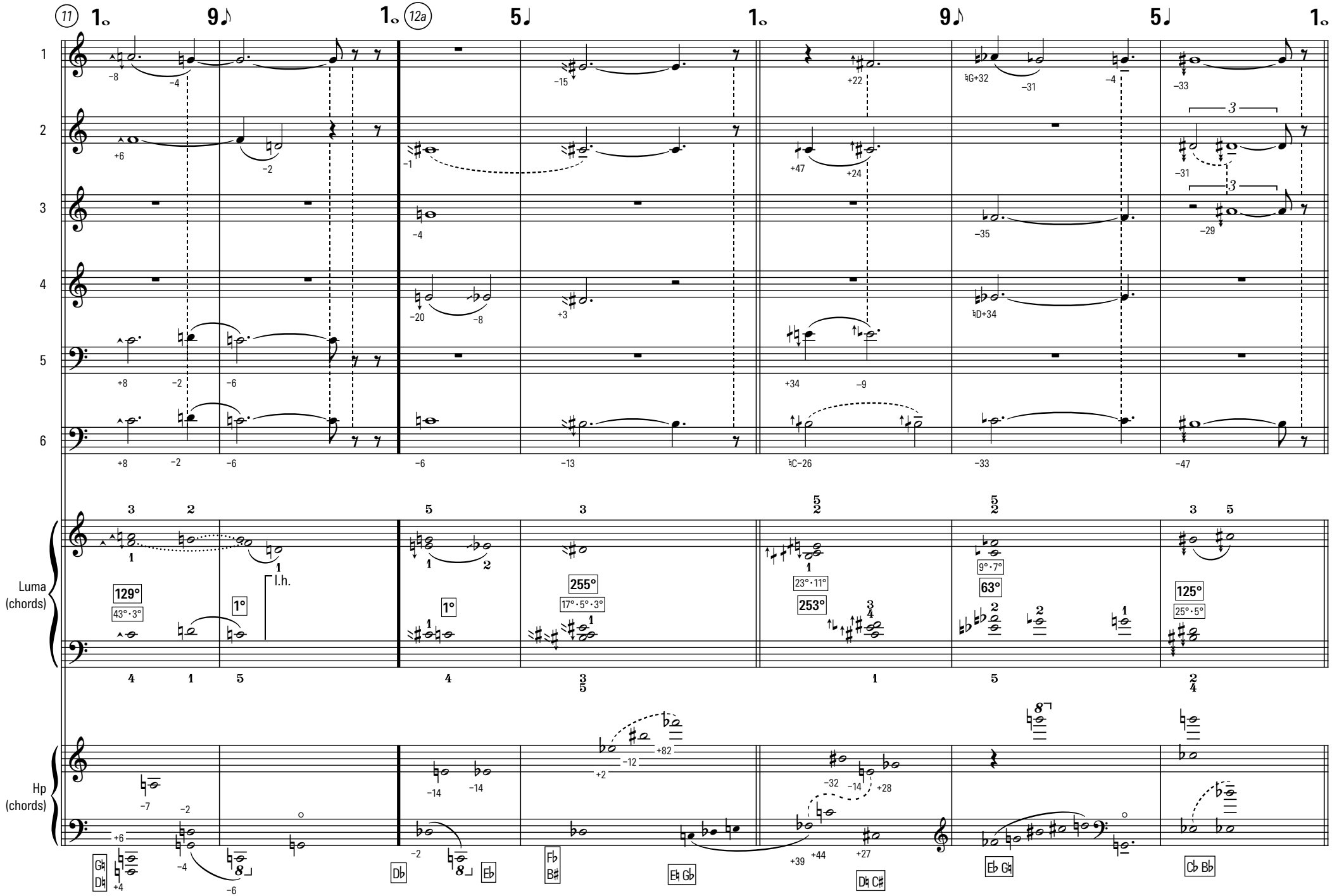

70
Luma
Seq
Basso
Hp
81°
27°·3°
161°
23°·7°
5°
39°
13°·3°
155°
31°·5°
l.h.
libero ...
394
.95
.96
.97
.98
399
400
401
..2
403
..4
..5
406
..7
..8
..9
.10
.11
.12
+2
−9
−20
♭E+37
♭E+25
E♮ G♮ B♯
A♯
C♮
B♮
F♯ A♮ D♯ C♭ B♯
G♭
B♮

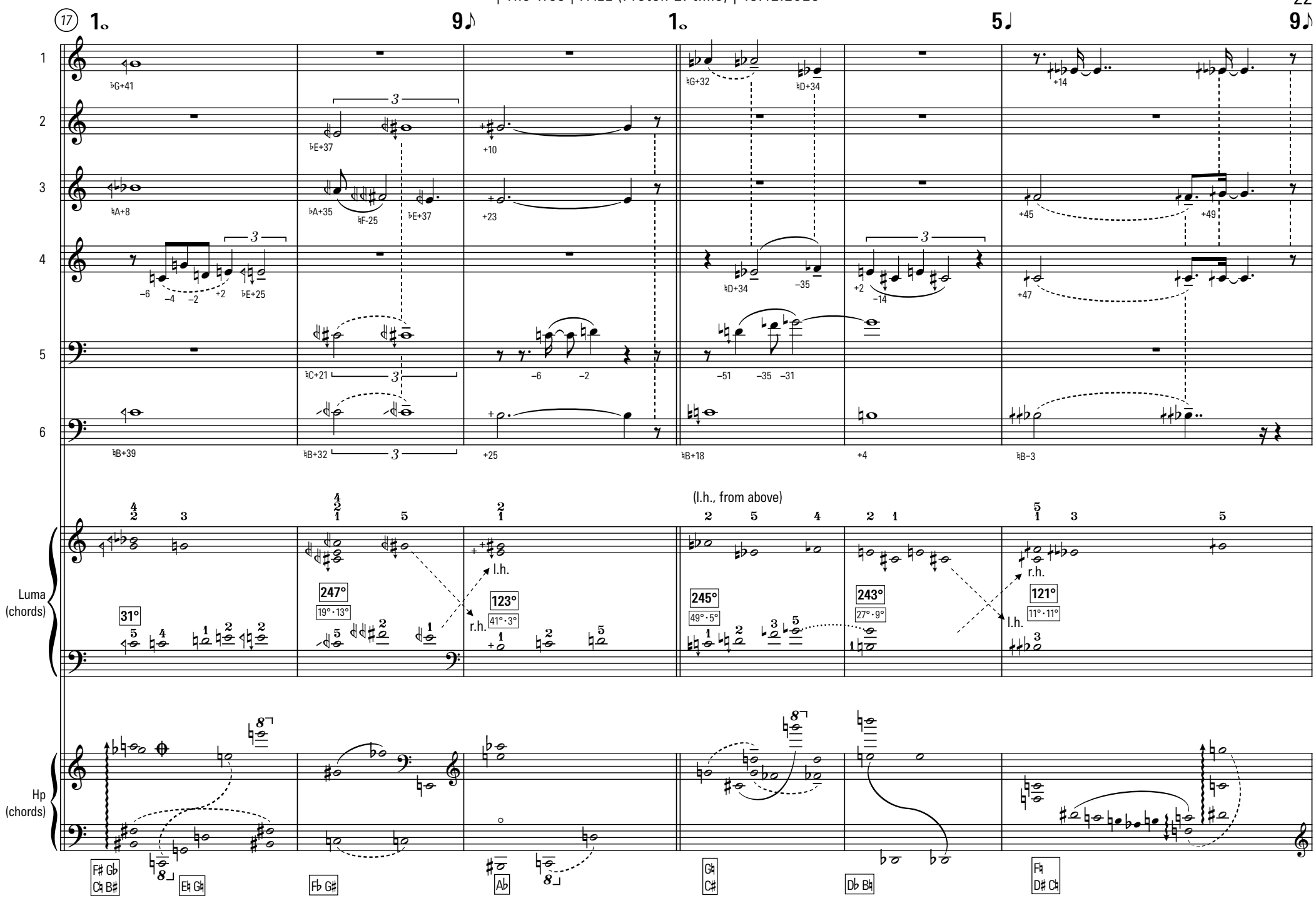

75
Luma
77°
11°·7°
153°
17°·9°
19°
75°
25°·3°
Seq
413
.14
.15
.16
.17
418
419
.20
421
.22
.23
.24
.25
.26
.27
.28
.29
.30
.31
.32
.33
Basso
+14
+3
−8
−31
−14
−18
−29
−33
−16
+34
−31
Hp
port.
F♮ C♮ B♭
E♭ F♭ A♯ D♭
F♮
G♮ D♮ C♭
E♮
E♭

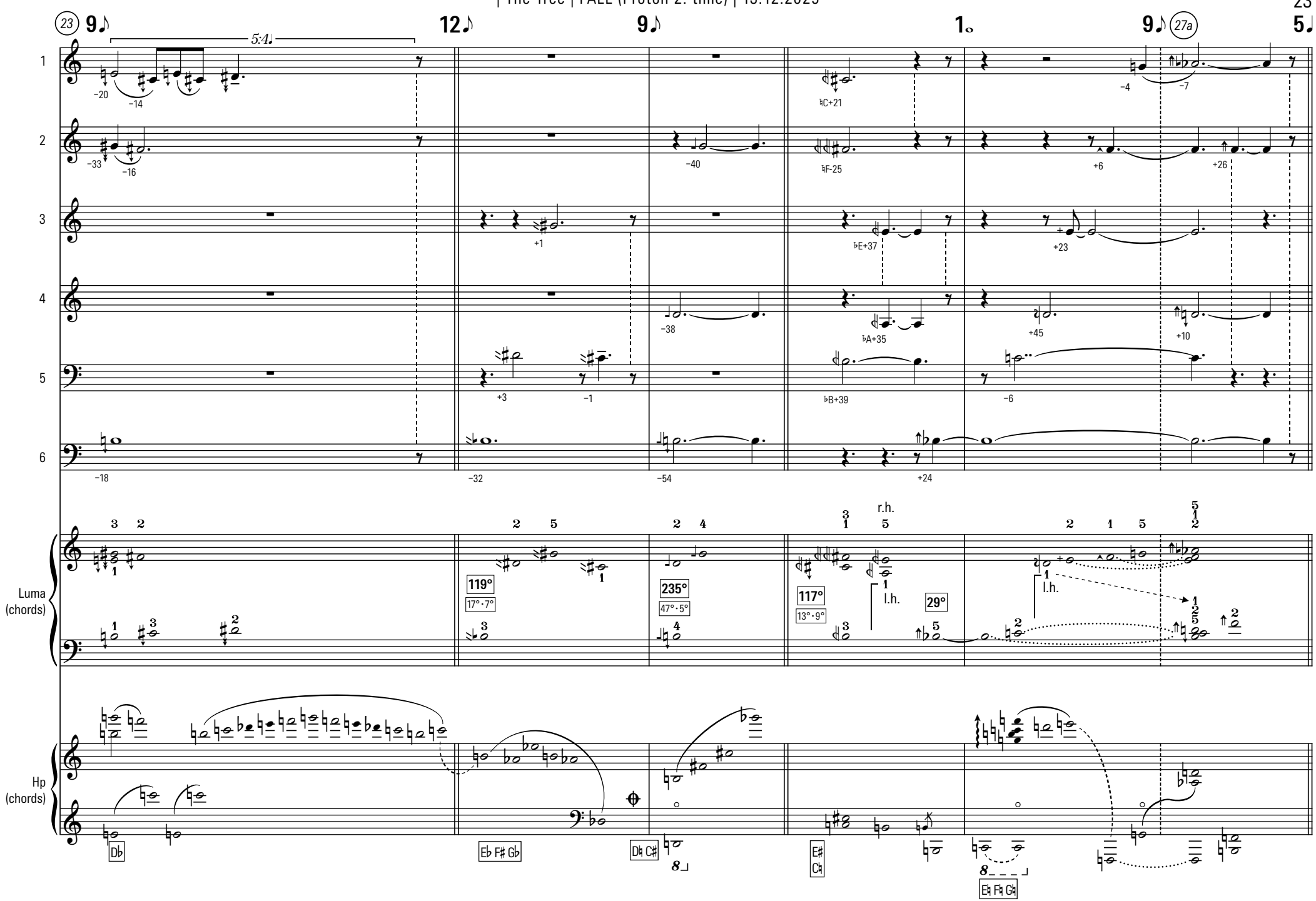

79
81a
Luma
Seq
Basso
Hp
37°
147°
49°·3°
145°
29°·5°
port.
5:4
+45
D+34
+10
−2
E♯ G♭
F♭ G♮ B♯
E♮ G♭ A♮

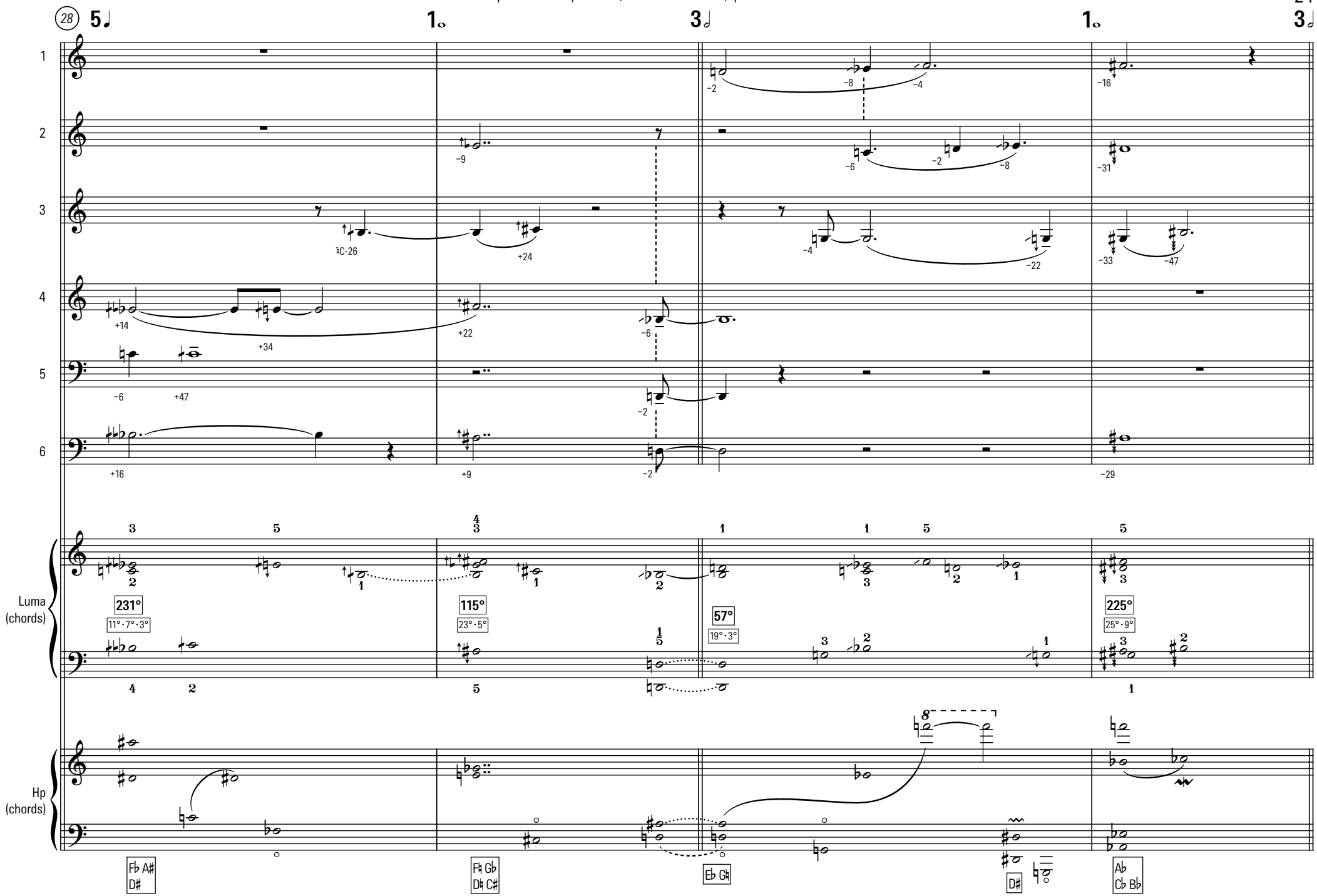

1
1.
(Alto Fl – sounding pitches)
3
9
3
(Ob d'Amore – sounding pitches)
(Cl d'Amore – sounding pitches)
(Vln)
(Bsn)
(Vlc)
Lumatone (chords)
C2–C5
9°
3°·3°
143°
13°·11°
141°
47°·3°
35°
7°·5°
Harp (chords)
port.
ad libitum
Eb F♮ G♮ A♮ D♮ C♮ B♮
F♭
F♯ G♭ C♯
E♯ F♮ B♯

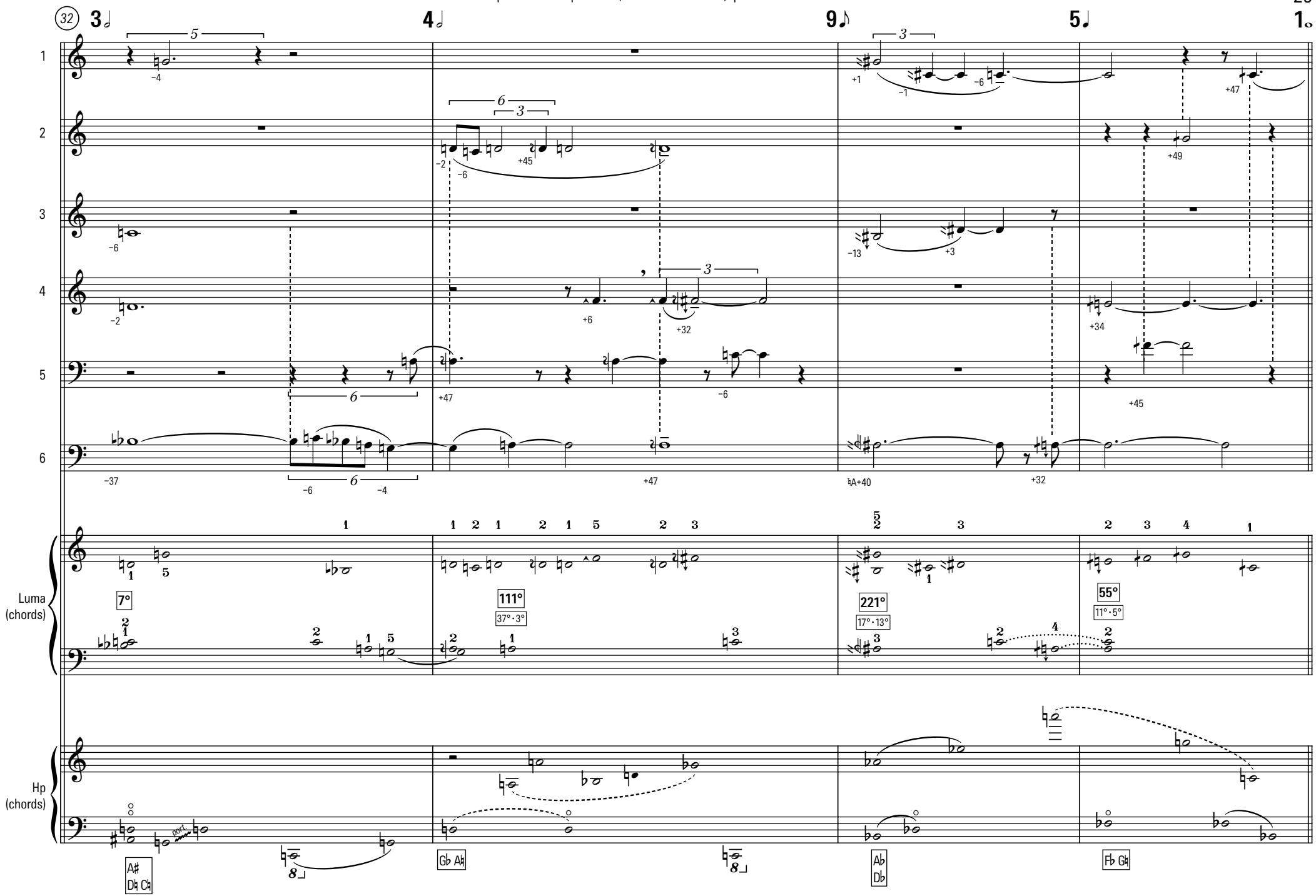

5
3
1
5
1
Luma (chords)
Hp (chords)
(somewhat slowly, langorous)

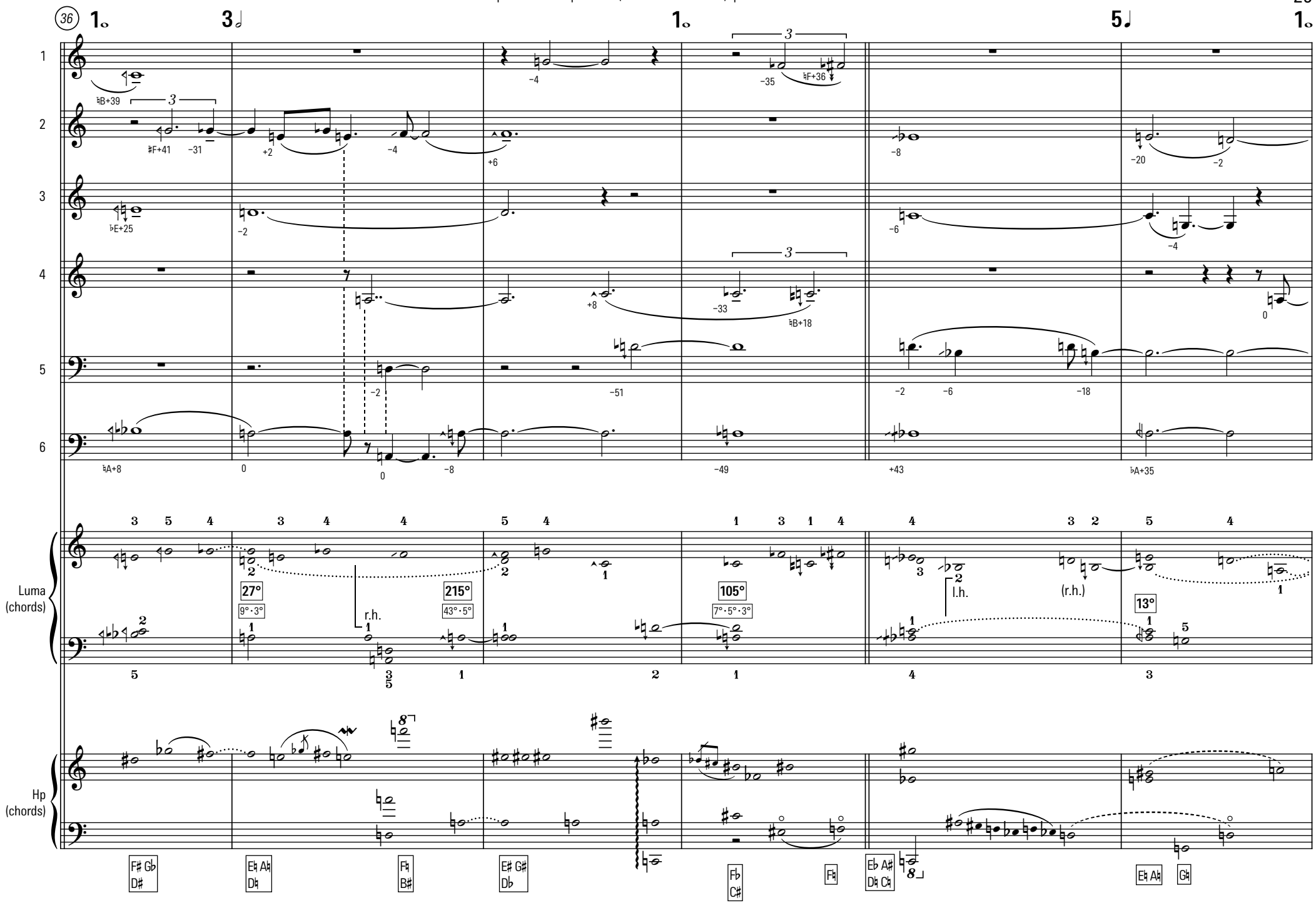

11
12a
Luma (chords)
Hp (chords)
129°
43°·3°
1°
l.h.
255°
17°·5°·3°
253°
23°·11°
63°
9°·7°
125°
25°·5°
Gb Db
Db
Eb
Fb Bb
Eb Gb
Db C
Eb Gb
Cb Bb

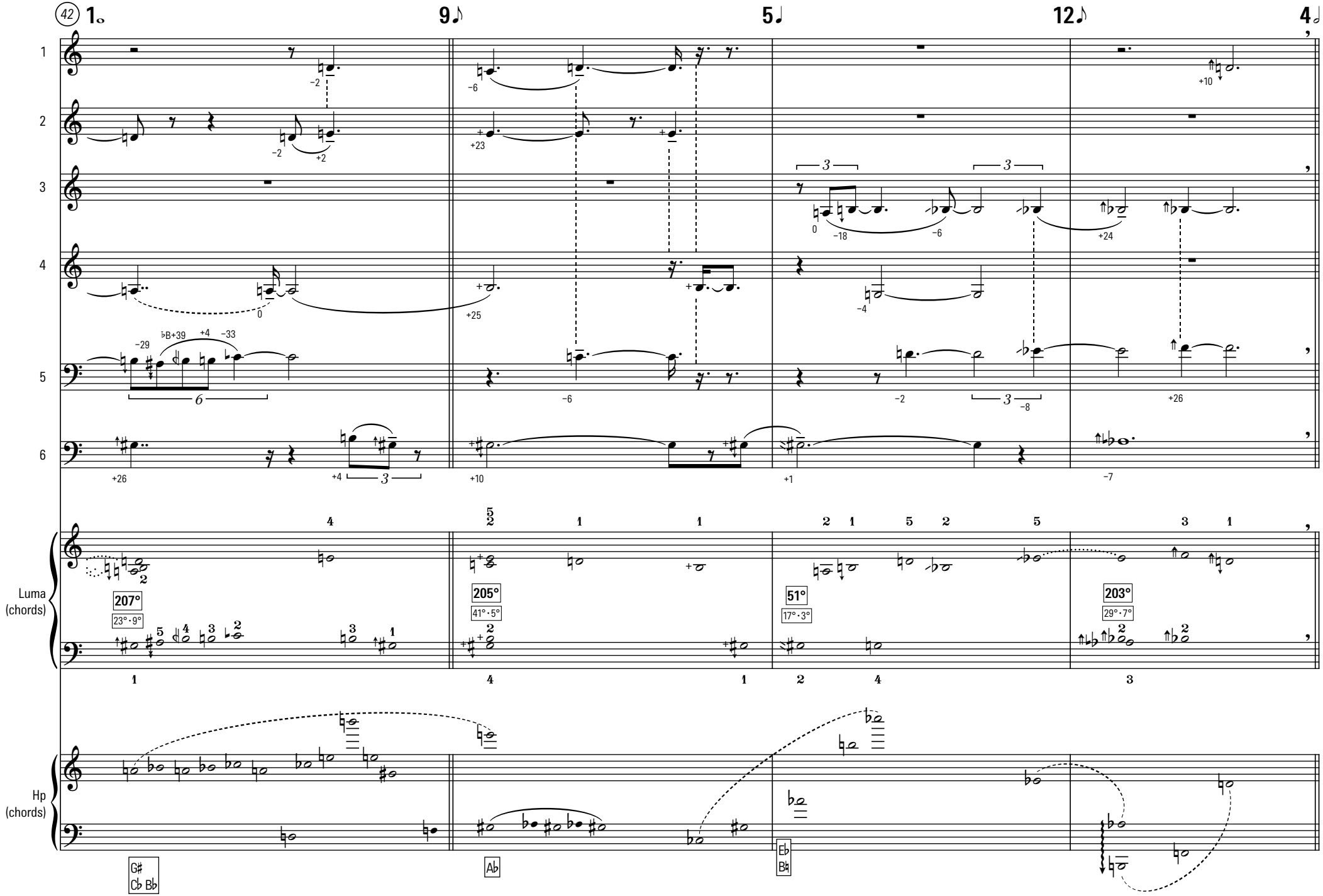

17
1.
9♪
1.
5♩
9♪
1
2
3
4
5
6
♭G+41
3
♭E+37
+10
♭G+32
♭D+34
+14
♮A+8
♭A+35
♮F-25
♭E+37
+23
+45
+49
−6
−4
−2
+2
♭E+25
♮D+34
−35
+2
−14
+47
♮C+21
−6
−2
−51
−35
−31
♮B+39
♮B+32
+25
♮B+18
+4
♮B−3
(l.h., from above)
Luma
(chords)
31°
247°
19° · 13°
l.h.
123°
41° · 3°
r.h.
245°
49° · 5°
243°
27° · 9°
r.h.
121°
11° · 11°
l.h.
Hp
(chords)
F♯ G♭
C♮ B♯
E♮ G♮
F♭ G♯
A♭
G♮
C♯
D♭ B♮
F♮
D♯ C♮

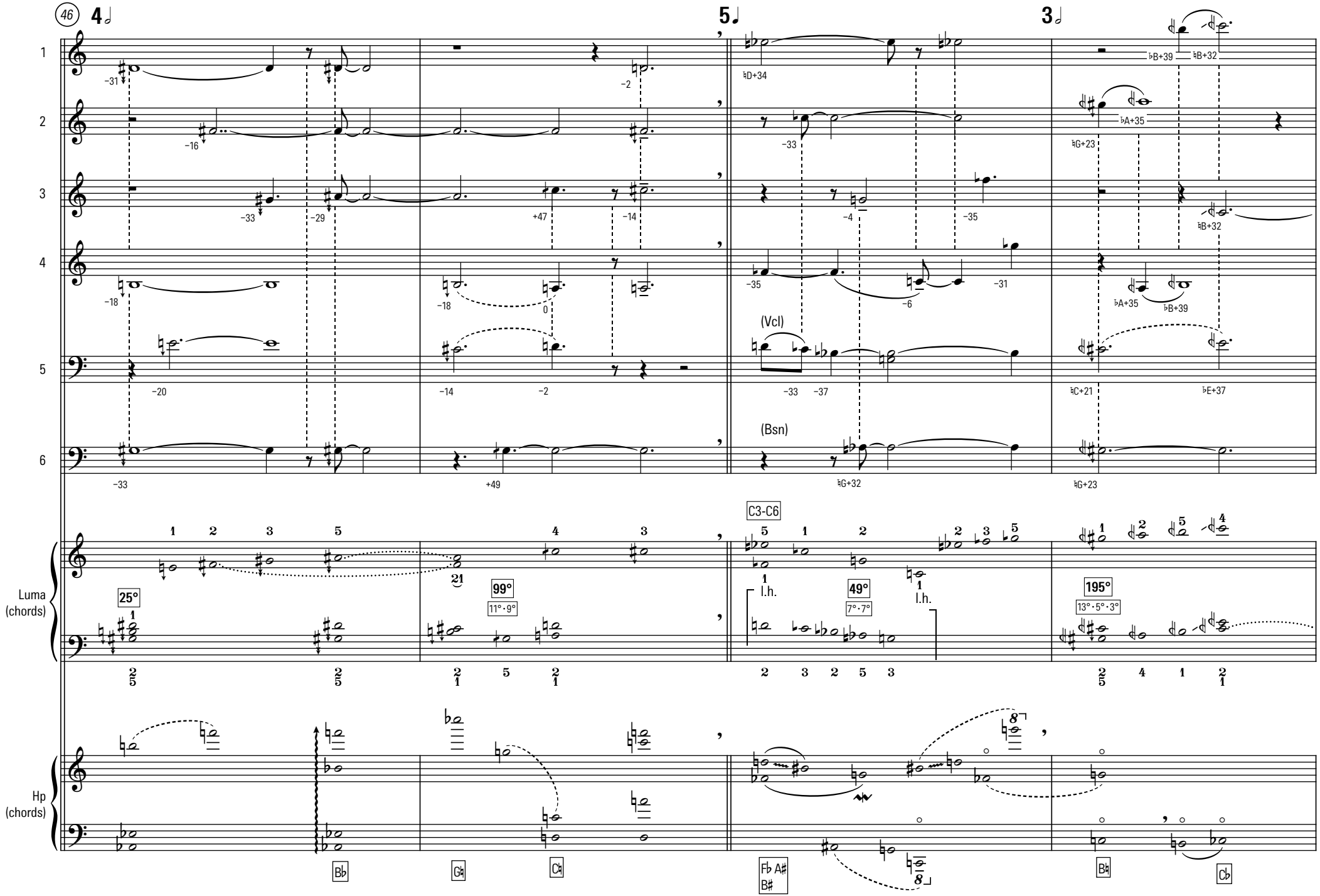

23
9♪
5:4♩
12♪
9♪
1𝅝
9♪
27a
5♩
1
2
3
4
5
6
Luma (chords)
Hp (chords)
119°
17°·7°
235°
47°·5°
117°
13°·9°
29°
r.h.
l.h.
l.h.
Db
Eb F# Gb
Db C#
E# C#
Eb F# G#

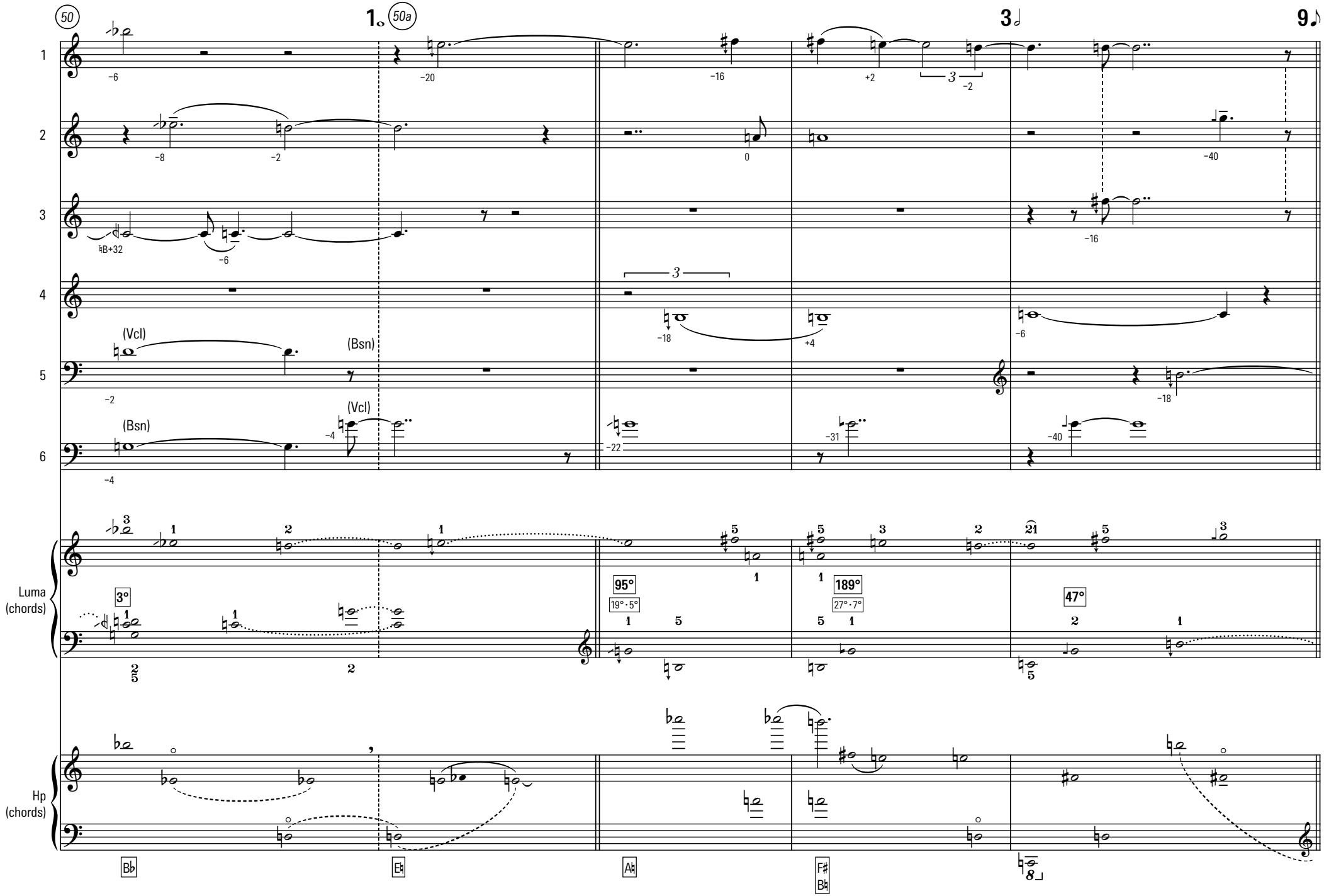

28
5♩
1𝅝
3𝅗𝅥
1𝅝
3𝅗𝅥
1
2
3
4
5
6
Luma (chords)
Hp (chords)
231°
11°·7°·3°
115°
23°·5°
57°
19°·3°
225°
25°·9°
Fb A# D#
F♮ Gb D♮ C#
Eb G♮
D#
Ab Cb Bb

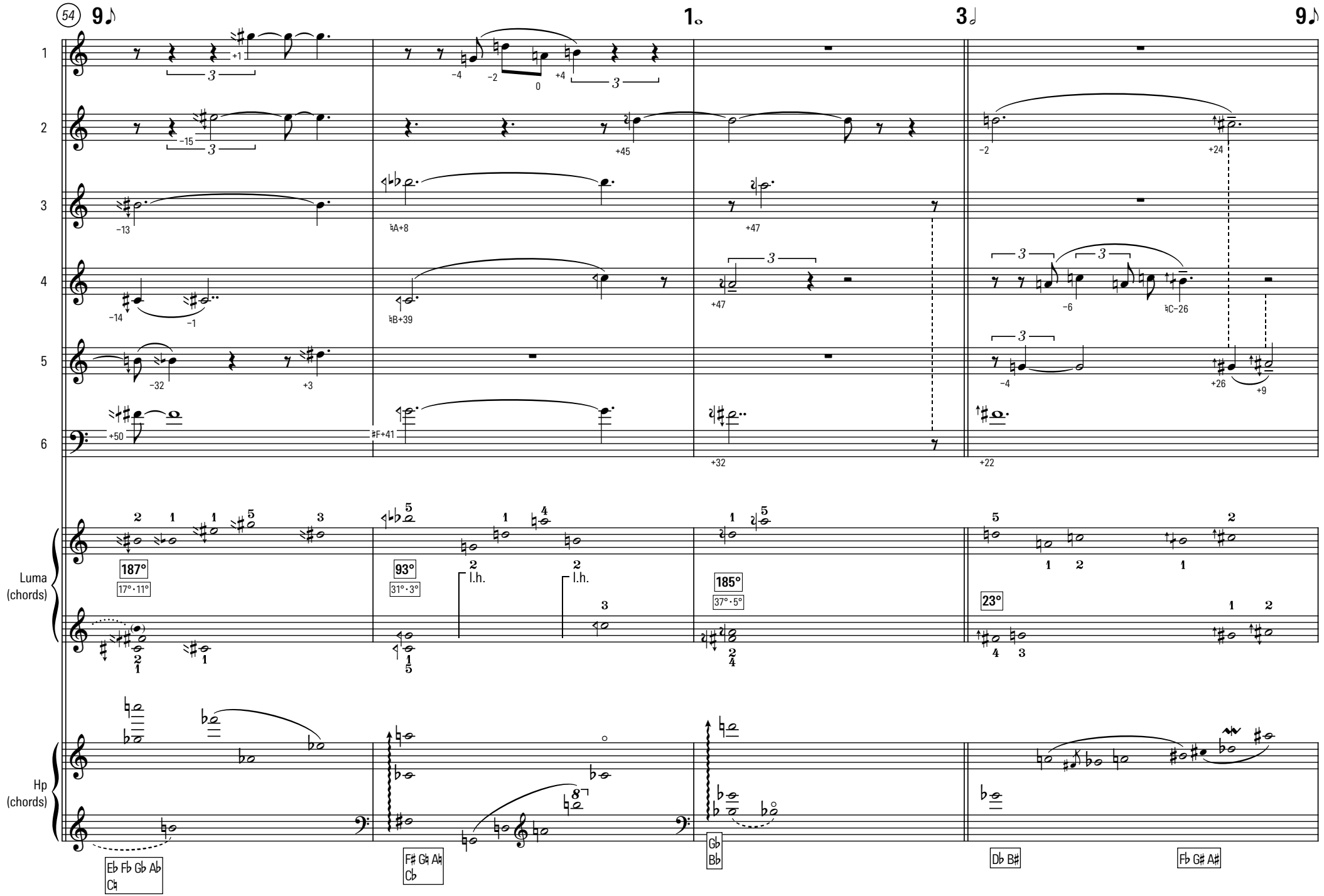

32
3
4
9
5
1
Luma (chords)
Hp (chords)
7°
111°
37°·3°
221°
17°·13°
55°
11°·5°
A♯ D♯ C♯
G♭ A♯
A♭ D♭
F♭ G♯

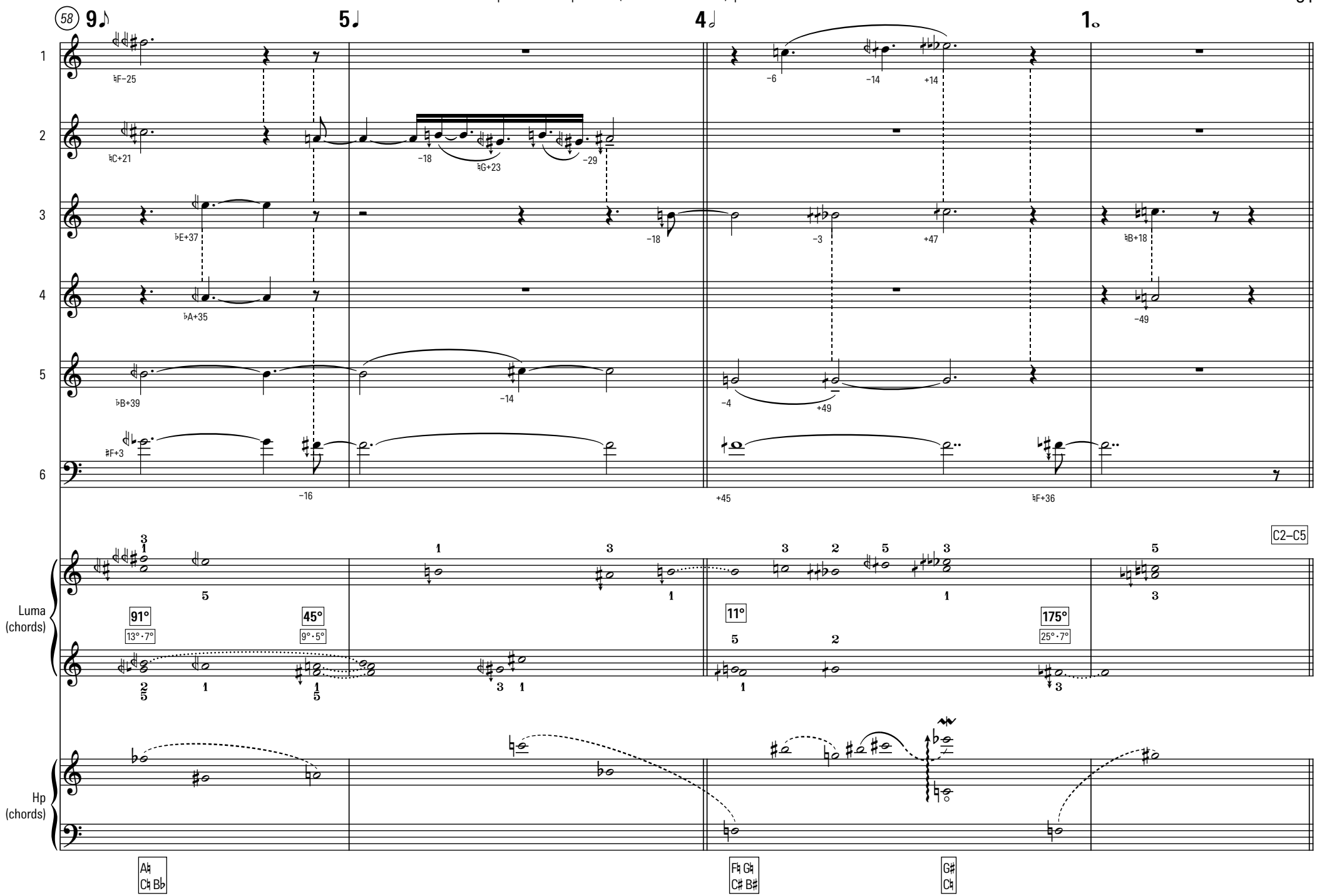

36
1.
3
1.
5
1.
Luma (chords)
Hp (chords)
27°
9°·3°
215°
43°·5°
105°
7°·5°·3°
13°
r.h.
l.h.
(r.h.)
F♯ G♭ D♯
E♮ A♯ D♮
F♮ B♯
E♯ G♯ D♭
F♭ C♯
F♮
E♭ A♯ D♮ C♮
E♮ A♯
G♯

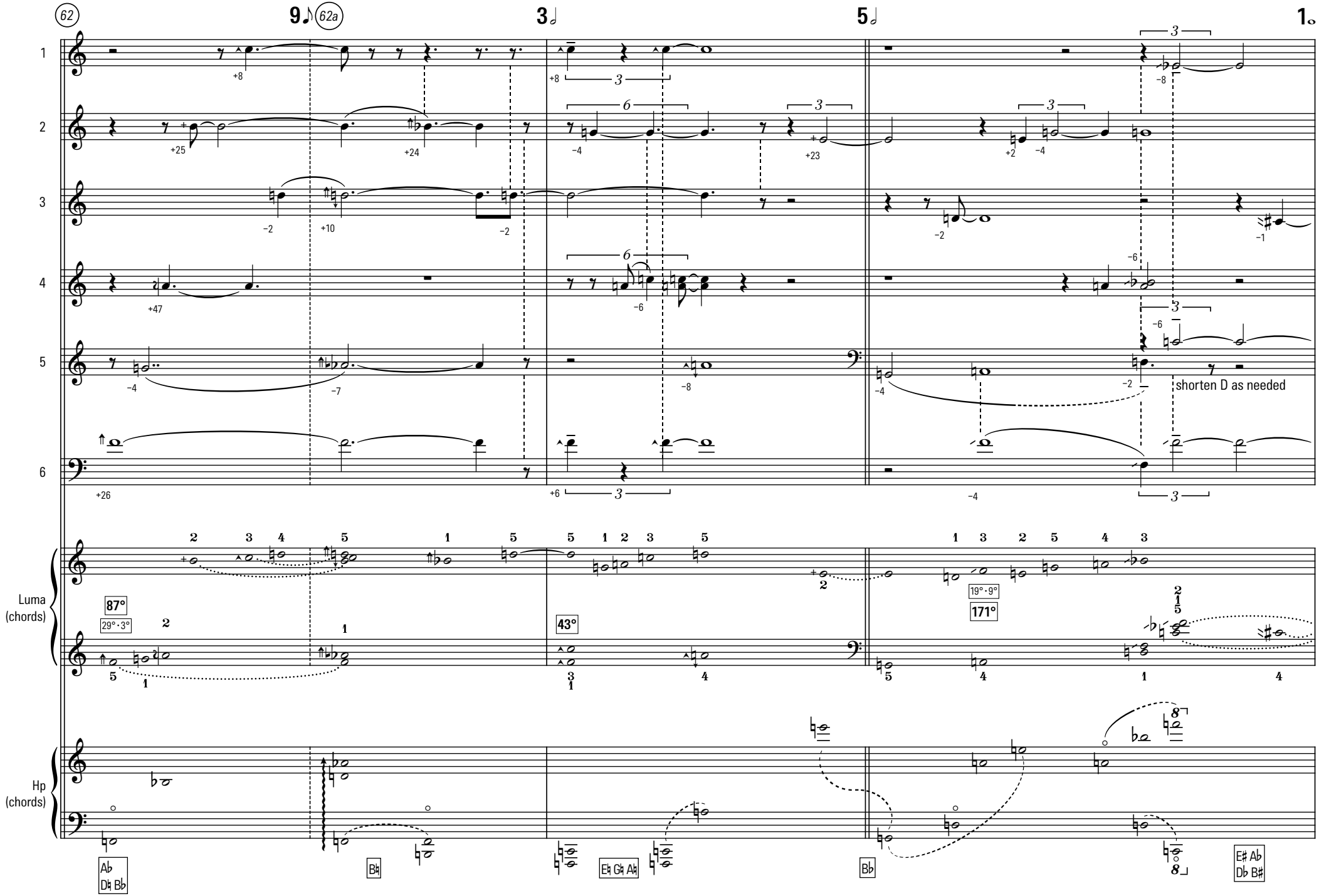

42
1.
9♪
5♩
12♪
4𝅗𝅥
1
2
3
4
5
6
Luma (chords)
Hp (chords)
207°
23°·9°
205°
41°·5°
51°
17°·3°
203°
29°·7°
G♯ C♭ B♭
A♭
E♭ B♮

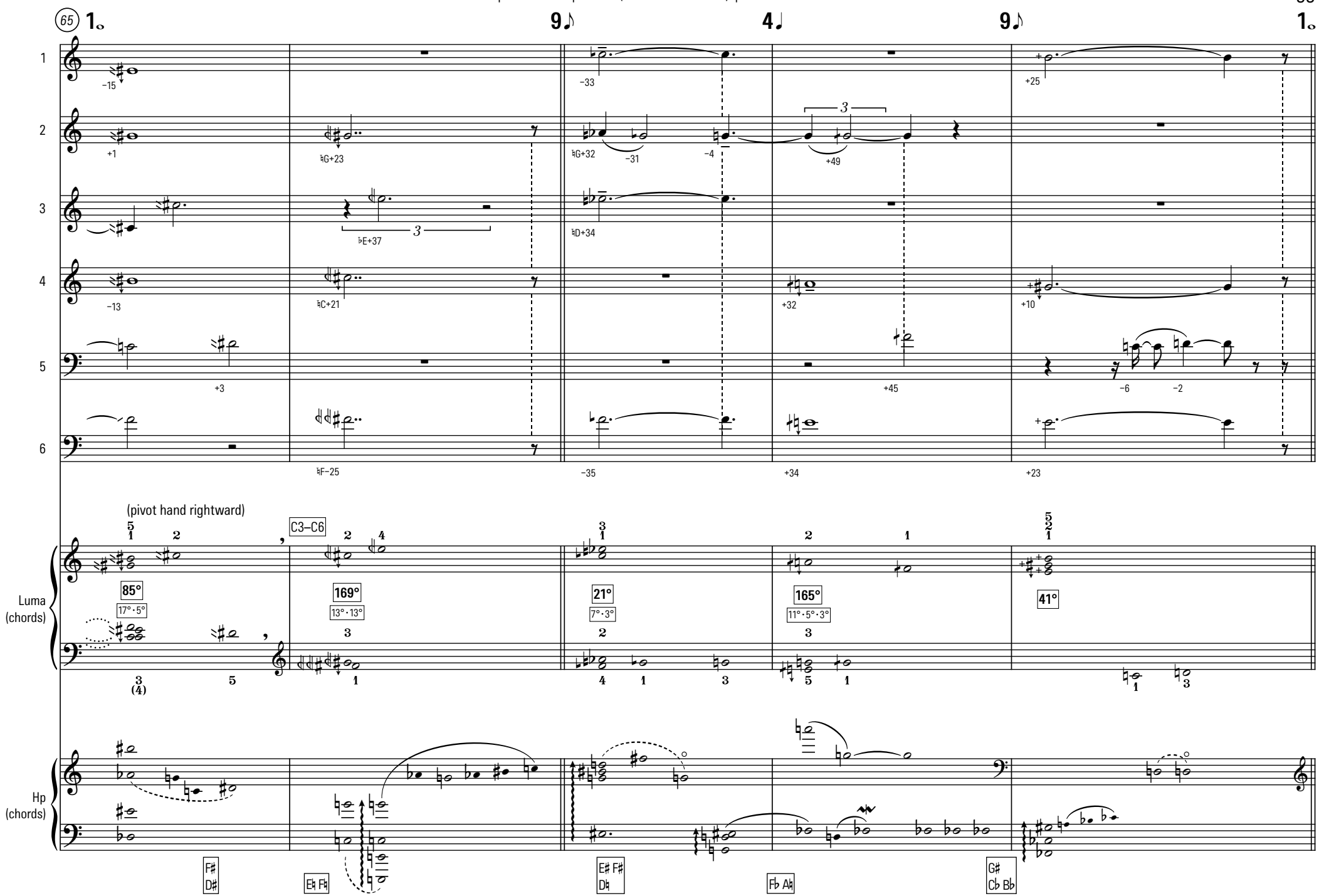

46
4
5
3
1
2
3
4
5
6
(Vcl)
(Bsn)
Luma
(chords)
Hp
(chords)
C3-C6
25°
99°
11°·9°
49°
7°·7°
195°
13°·5°·3°
l.h.
l.h.
Bb
Gb
Cb
Fb A#
B#
Bb
Cb

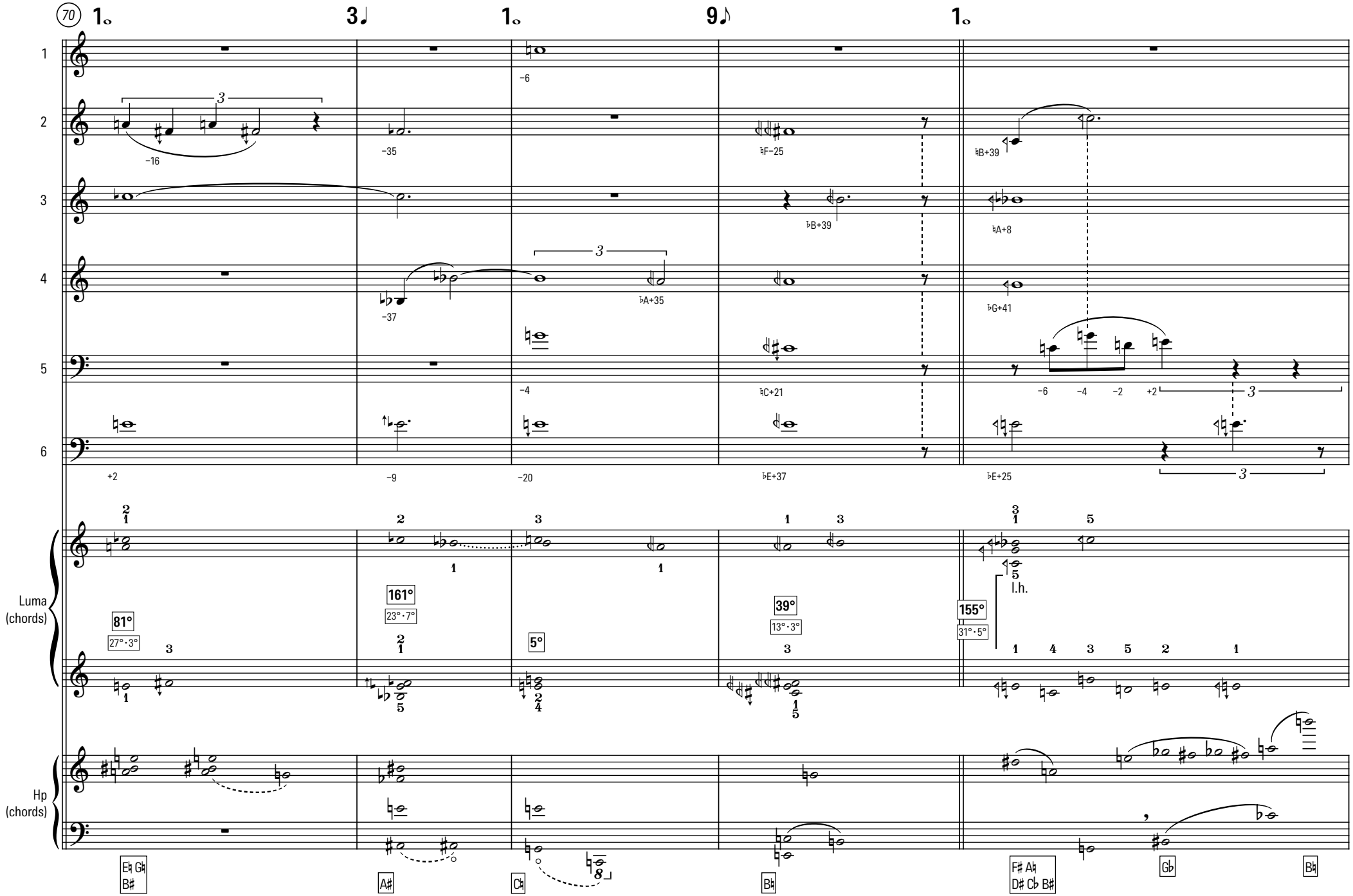

50
1.
50a
3
9
1
2
3
4
5
6
(Vcl)
(Bsn)
(Bsn)
(Vcl)
Luma
(chords)
3°
95°
19° · 5°
189°
27° · 7°
47°
Hp
(chords)
B♭
E♭
A♮
F♯
B♮

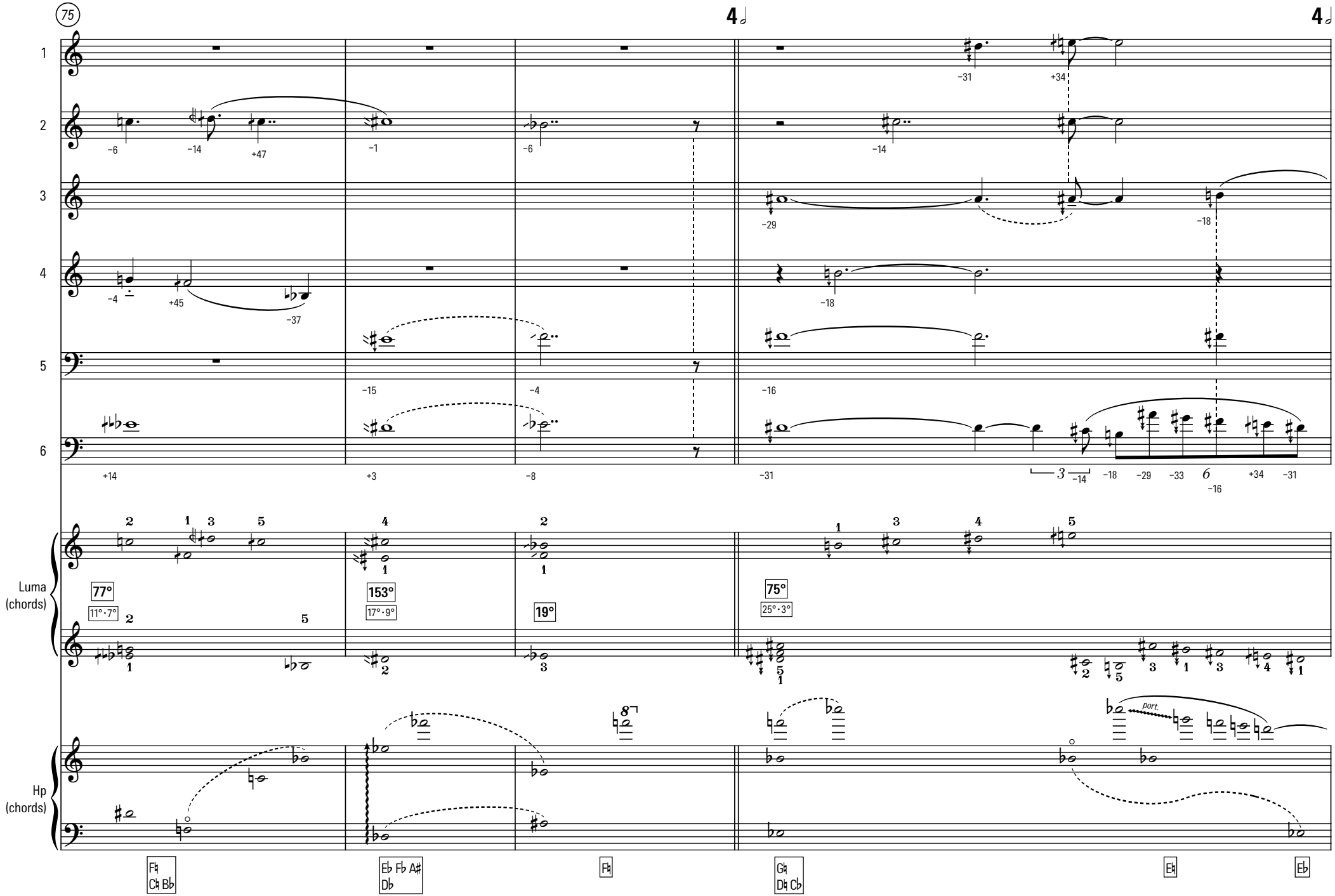

54
9♪
1𝅝
3𝅗𝅥
9♪
1
2
3
4
5
6
Luma (chords)
Hp (chords)
187°
17° · 11°
93°
31° · 3°
185°
37° · 5°
23°
l.h.
l.h.
Eb Fb Gb Ab C♮
F♯ G♮ A♯ C♭
G♭ B♭
D♭ B♯
F♭ G♯ A♯

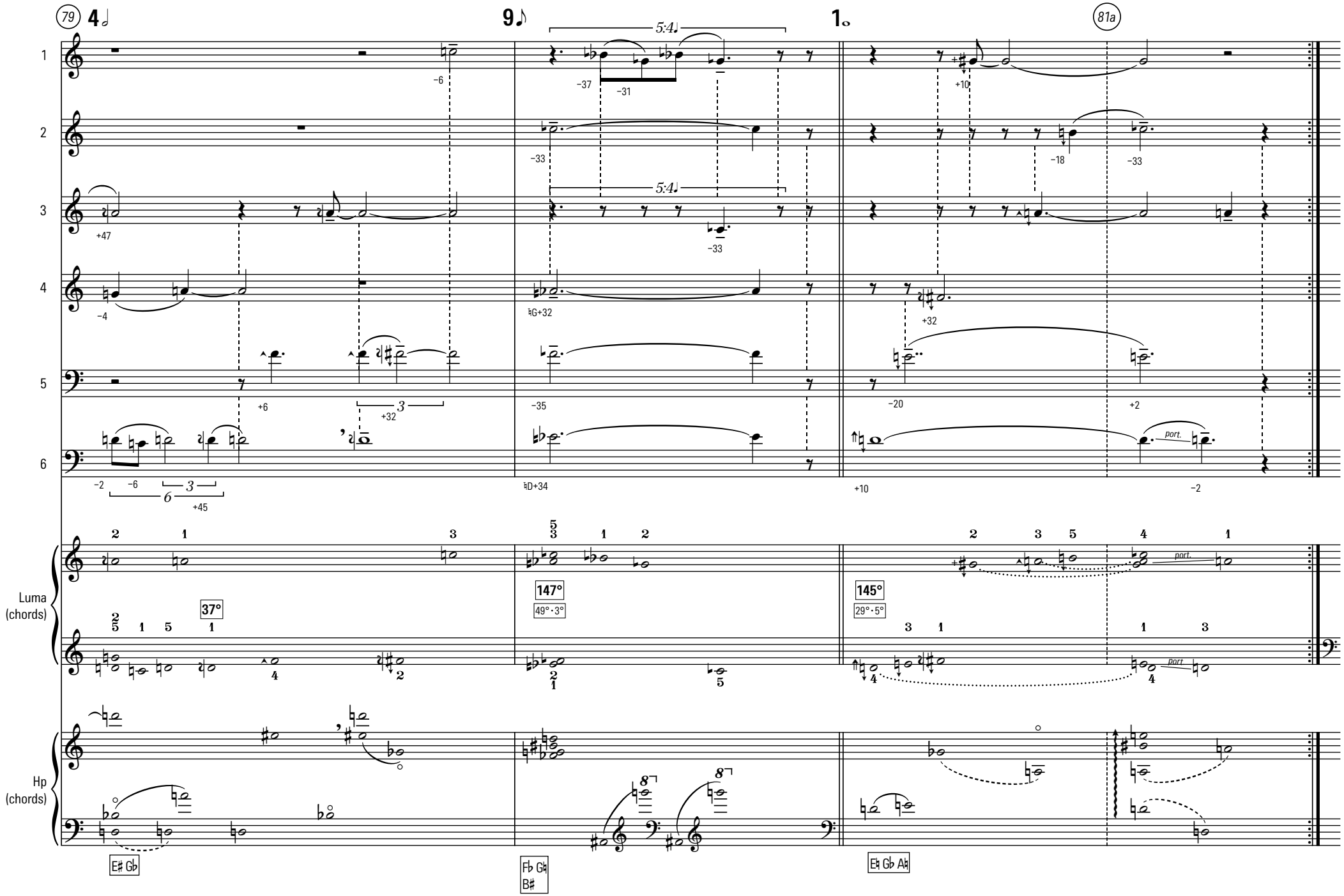

58
9♪
5♩
4𝅗𝅥
1𝅝
1
2
3
4
5
6
♮F−25
♮C+21
−18
♮G+23
−29
♭E+37
−18
♭A+35
♭B+39
−14
♯F+3
−16
−6
−14
+14
−3
+47
+45
♮B+18
−49
−4
+49
♮F+36
C2–C5
Luma (chords)
91°
13°·7°
45°
9°·5°
11°
175°
25°·7°
Hp (chords)
A♮ C♮ B♭
F♮ G♮ C♯ B♯
G♯ C♮

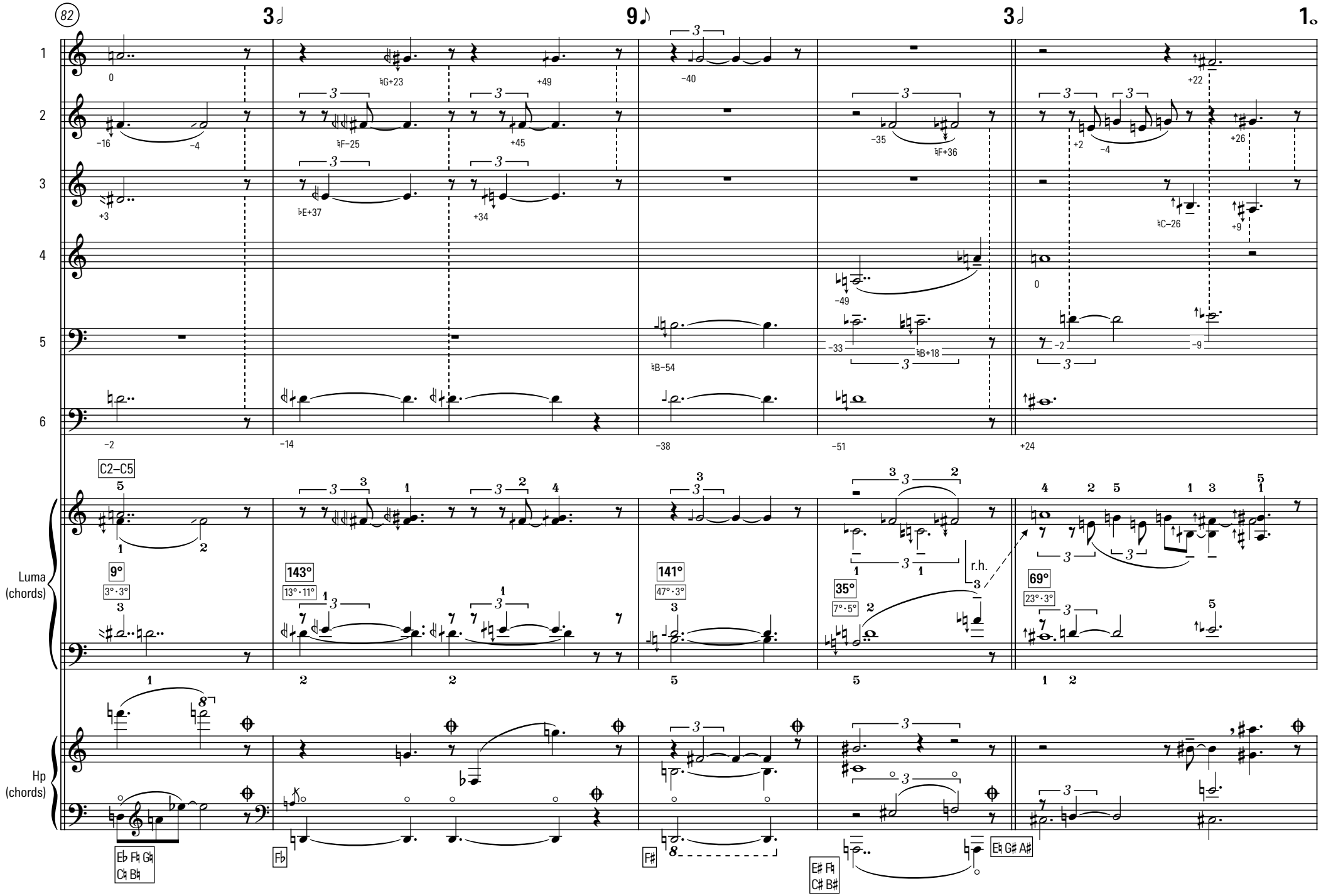

62
9♪
62a
3𝅗𝅥
5𝅗𝅥
1𝅝
shorten D as needed
Luma
(chords)
Hp
(chords)
87°
29° · 3°
43°
19° · 9°
171°
Ab
Db Bb
Bb
Eb Gb Ab
Bb
E# Ab
Db B#

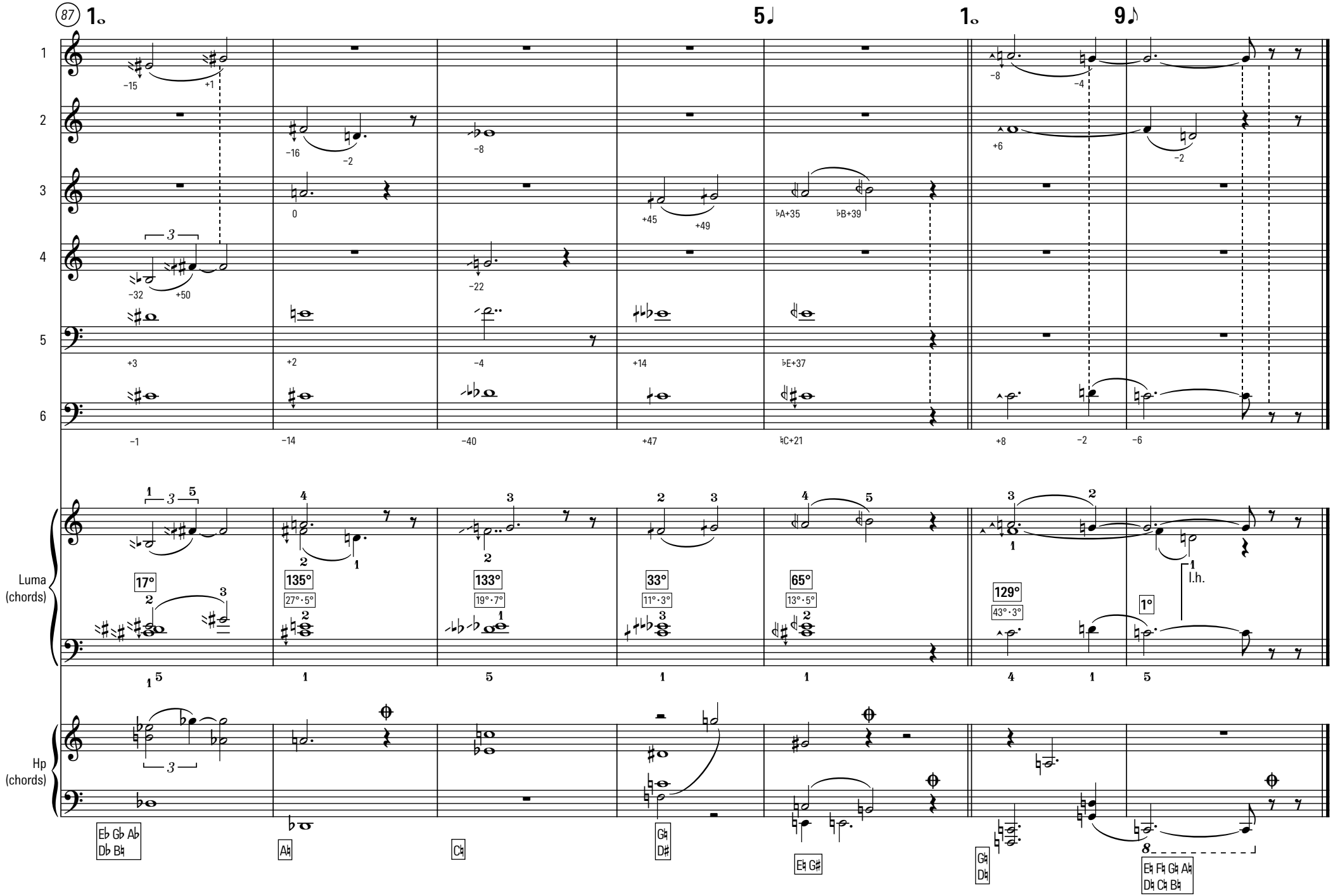

65
1.
9♪
4♩
9♪
1.
1
2
3
4
5
6
(pivot hand rightward)
C3–C6
Luma (chords)
Hp (chords)
85°
17°·5°
169°
13°·13°
21°
7°·3°
165°
11°·5°·3°
41°
F♯ D♯
E♮ F♮
E♯ F♯ D♮
F♭ A♮
G♯ C♭ B♭


70
1.
3♩
1.
9♪
1.
1
2
3
4
5
6
Luma (chords)
Hp (chords)
81°
27°·3°
161°
23°·7°
5°
39°
13°·3°
155°
31°·5°
l.h.
Eb G#
B#
A#
C#
B#
F# A#
D# C♭ B#
Gb
B#


75
4/2
4/2
1
2
3
4
5
6
Luma (chords)
Hp (chords)
77°
11°·7°
153°
17°·9°
19°
75°
25°·3°
port.
F♮ C♮ B♭
E♭ F♭ A♯ D♭
F♮
G♮ D♮ C♭
E♮
E♭


79
4
9
1
81a
5:4
Luma (chords)
Hp (chords)
37°
147°
49°·3°
145°
29°·5°
port.
E♯ G♭
F♭ G♮ B♯
E♮ G♭ A♮


82
3♩
9♪
3♩
1𝅝
1
2
3
4
5
6
Luma (chords)
Hp (chords)
C2–C5
9°
3°·3°
143°
13°·11°
141°
47°·3°
35°
7°·5°
r.h.
69°
23°·3°
Eb F♮ G♮ C♮ B♮
Fb
F♯
E♯ F♮ C♯ B♯
E♮ G♯ A♯

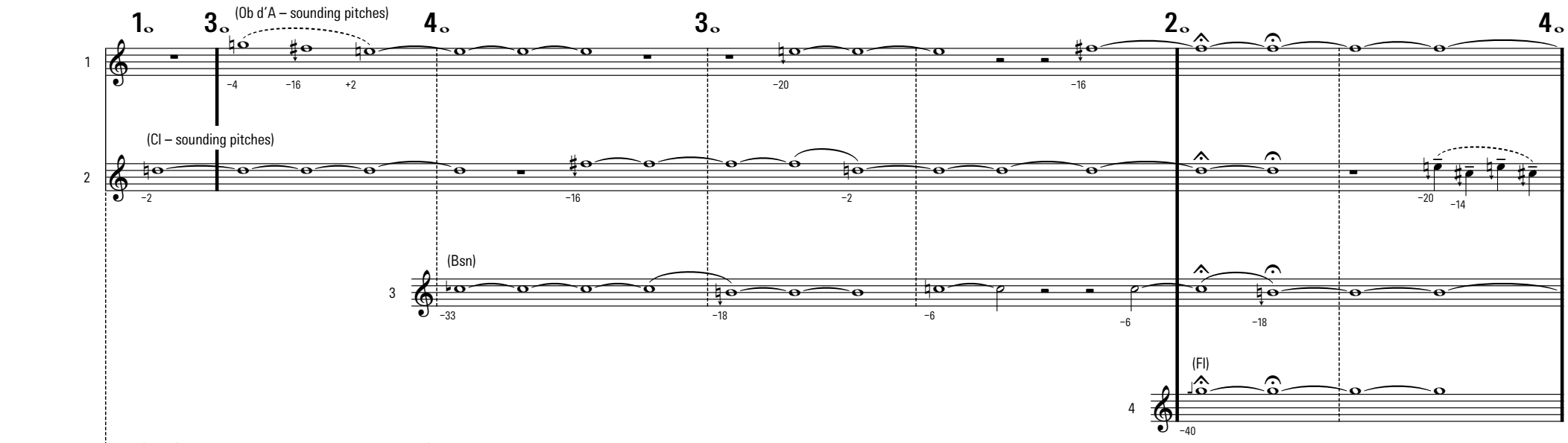

87
1.
5♩
1.
9♪
1
2
3
4
5
6
Luma (chords)
Hp (chords)
17°
135°
27°·5°
133°
19°·7°
33°
11°·3°
65°
13°·5°
129°
43°·3°
1°
l.h.
Eb Gb Ab Db Bb
Ab
C♮
G♮ D♯
E♮ G♯
G♮ D♯
E♮ F♮ G♮ A♮ D♮ C♮ B♮

The Tree

47 CLOUDS

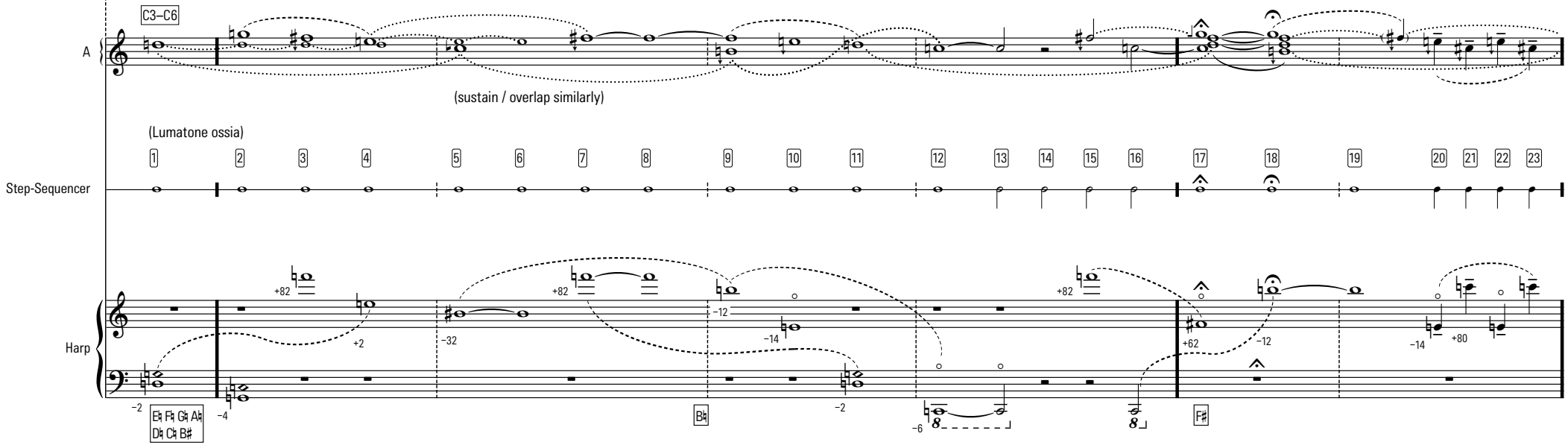
Marc Sabat

Free and flowing 𝅝 ca. 42–56



(Luma) – initiating notes from each of the lines 1–9)

dotted slurs and ties indicate primary notes to be sustained (if possible, ad lib.) to fill out the counterpoint (other notes may also be overlapped if desired, occasionally making chords)
dashed slurs are phrasing marks; **normal** slurs are to be played legato



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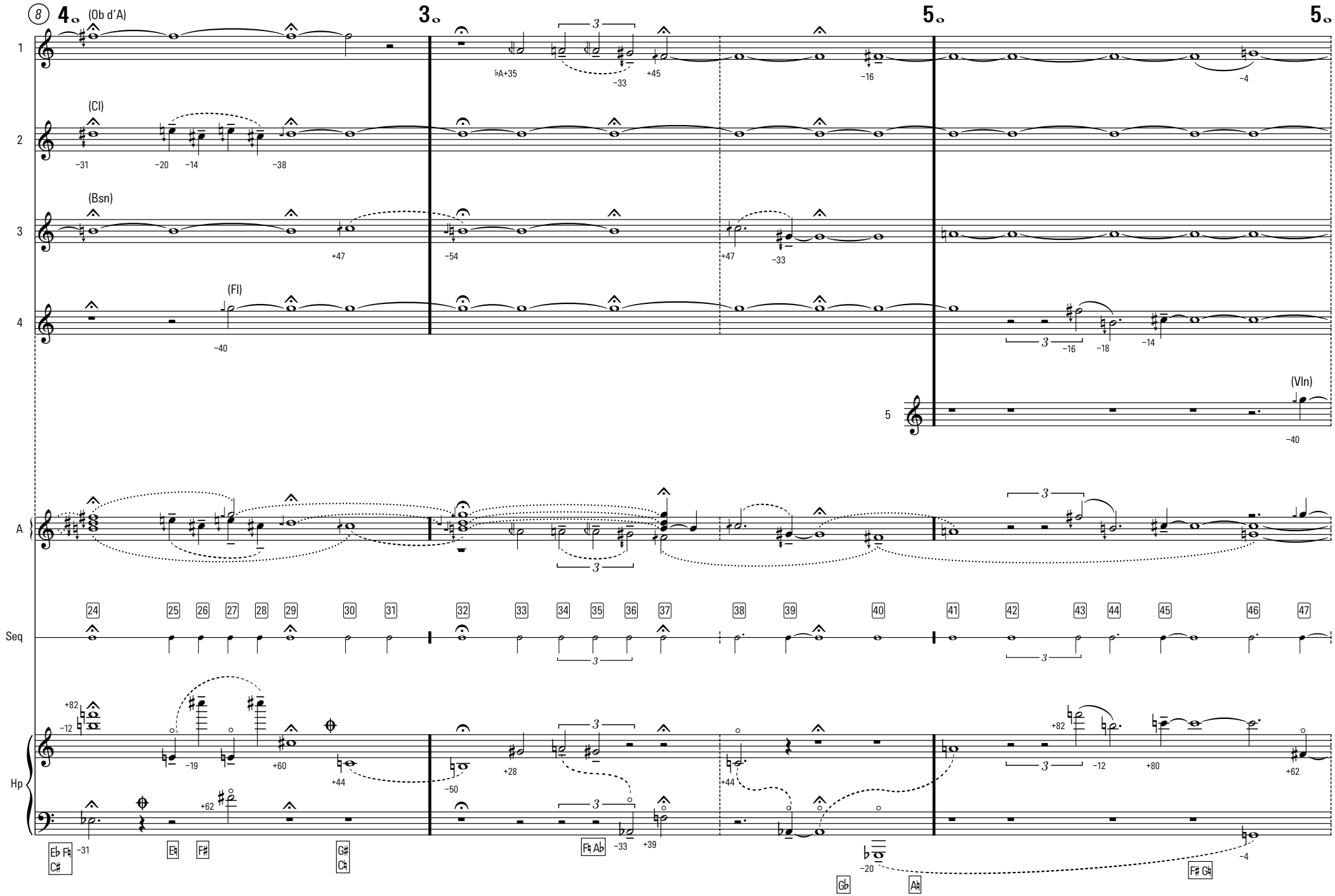
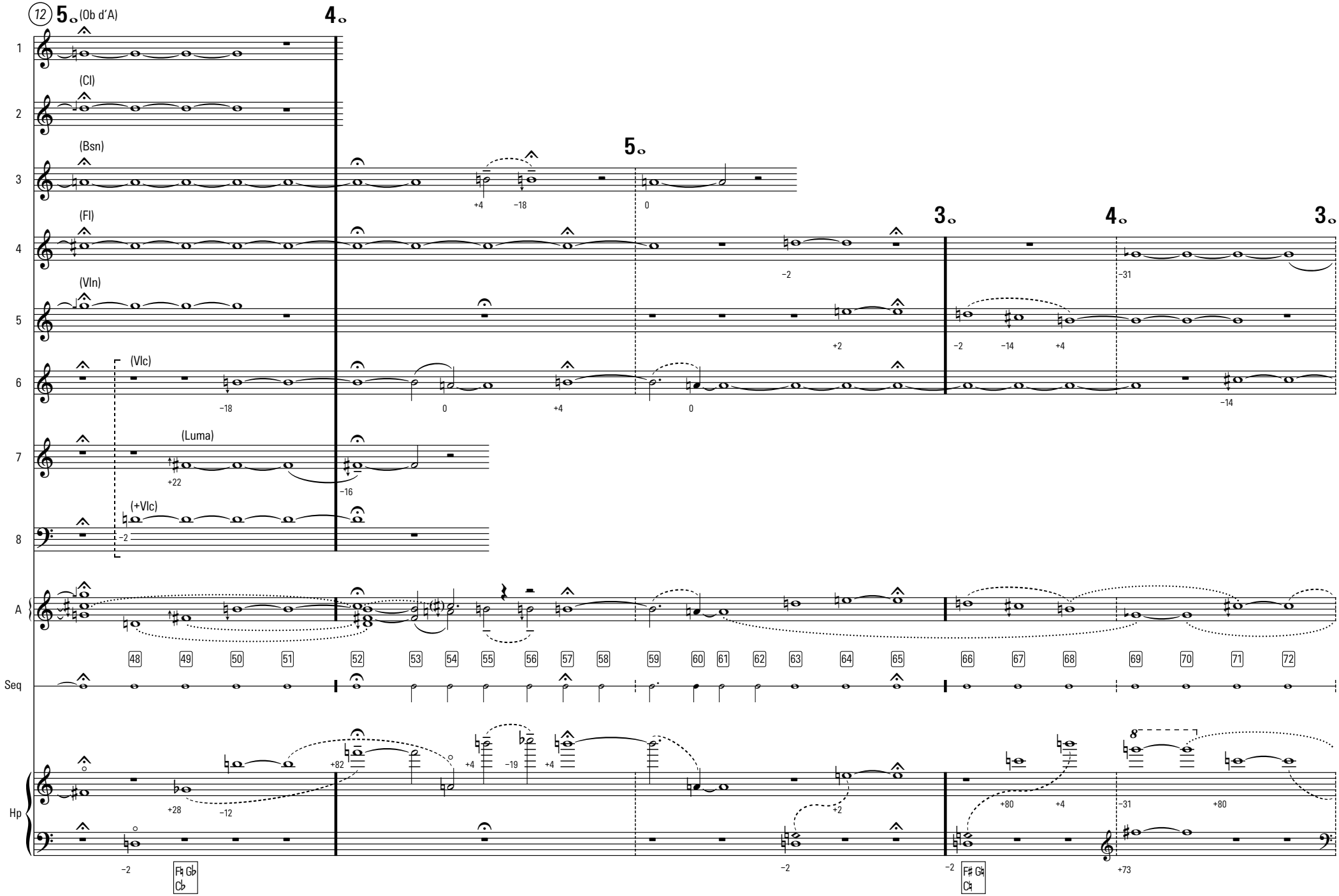
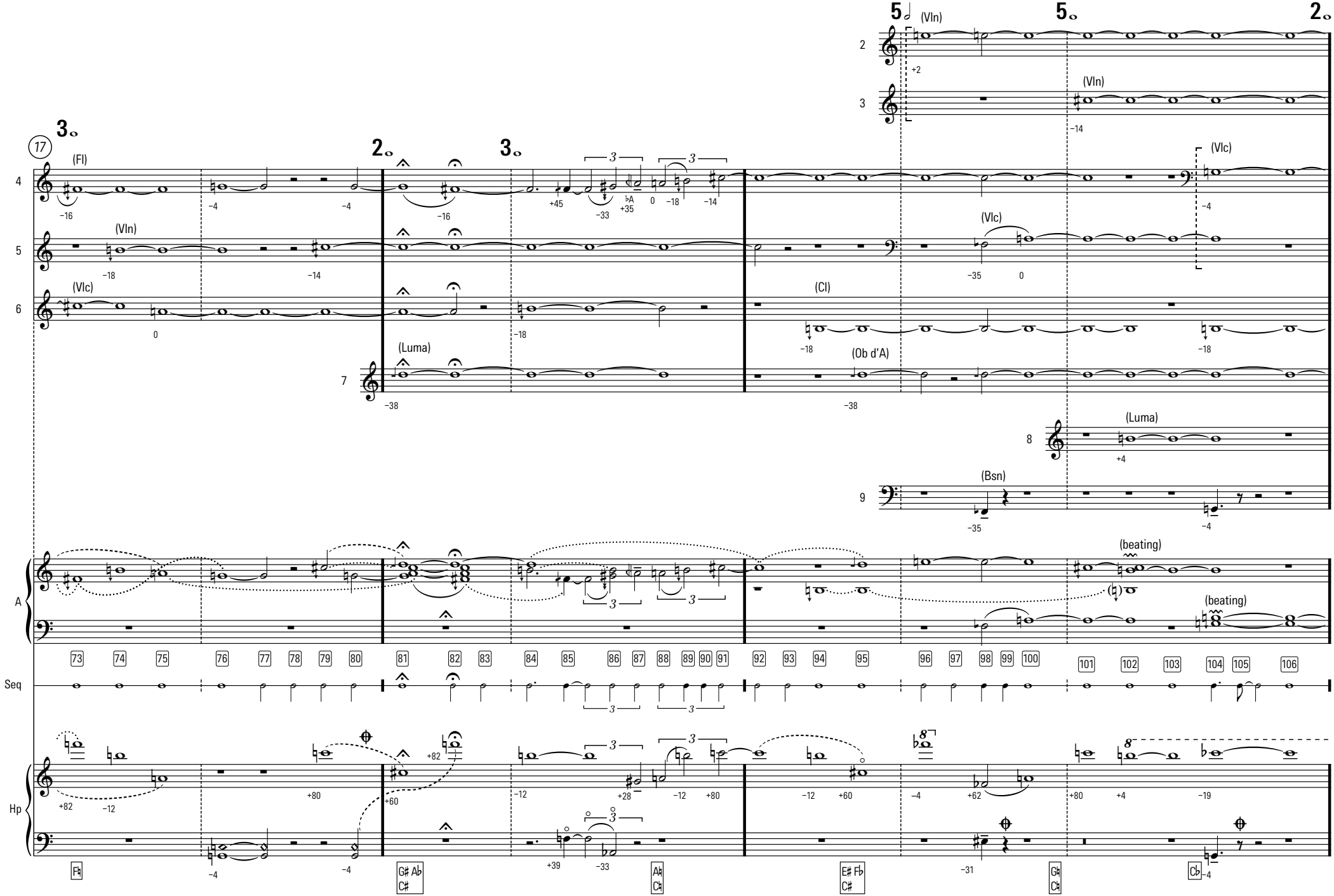
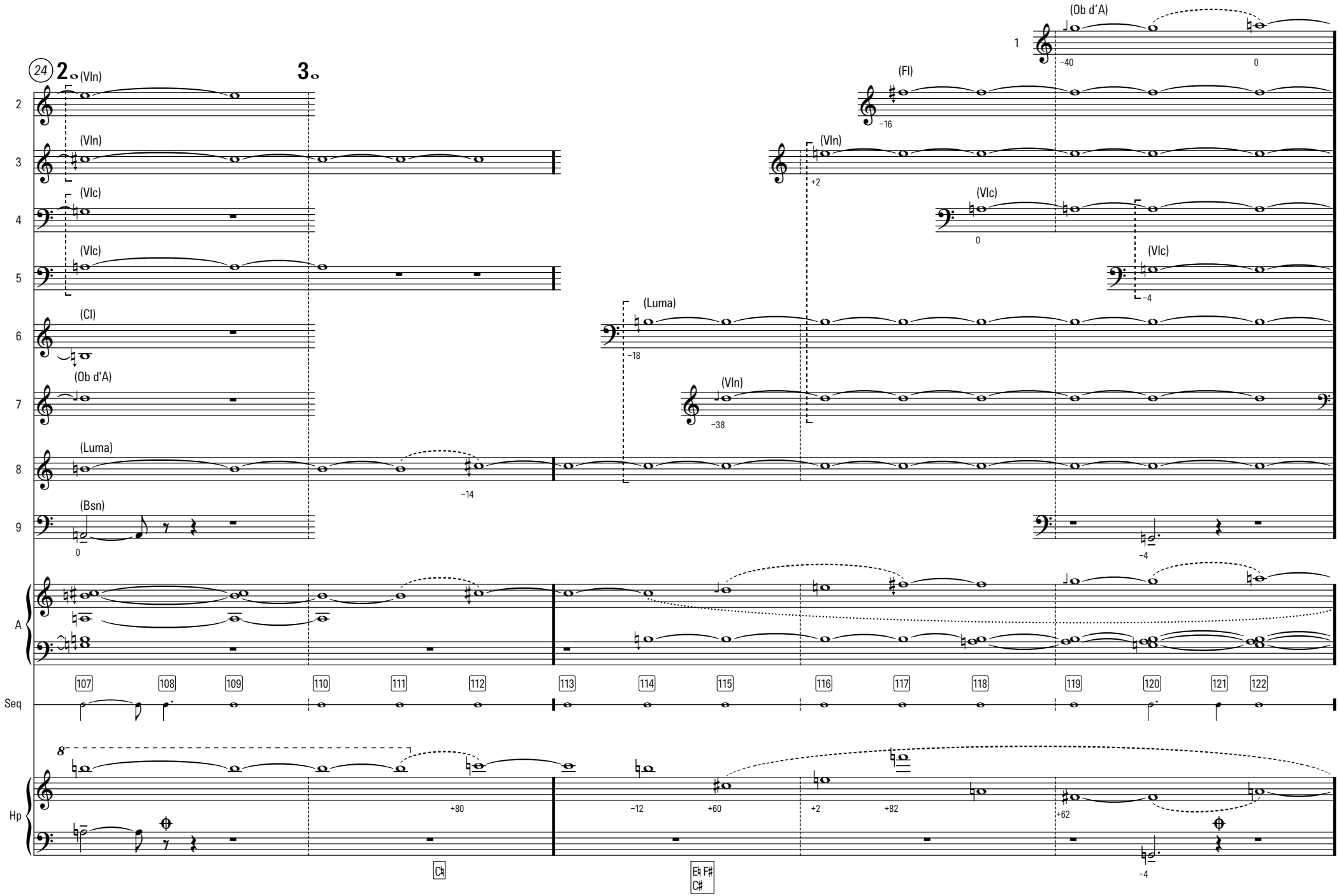
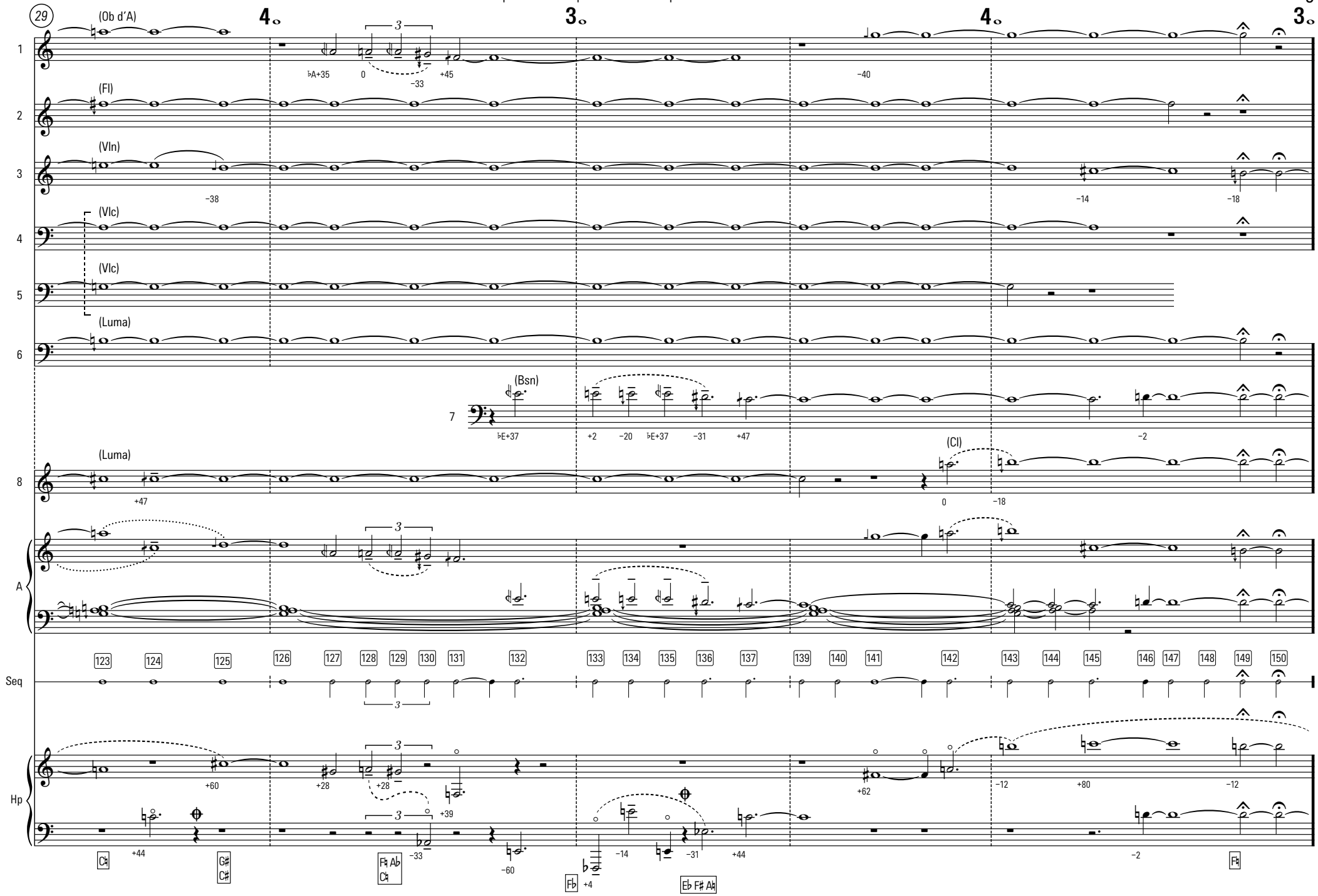
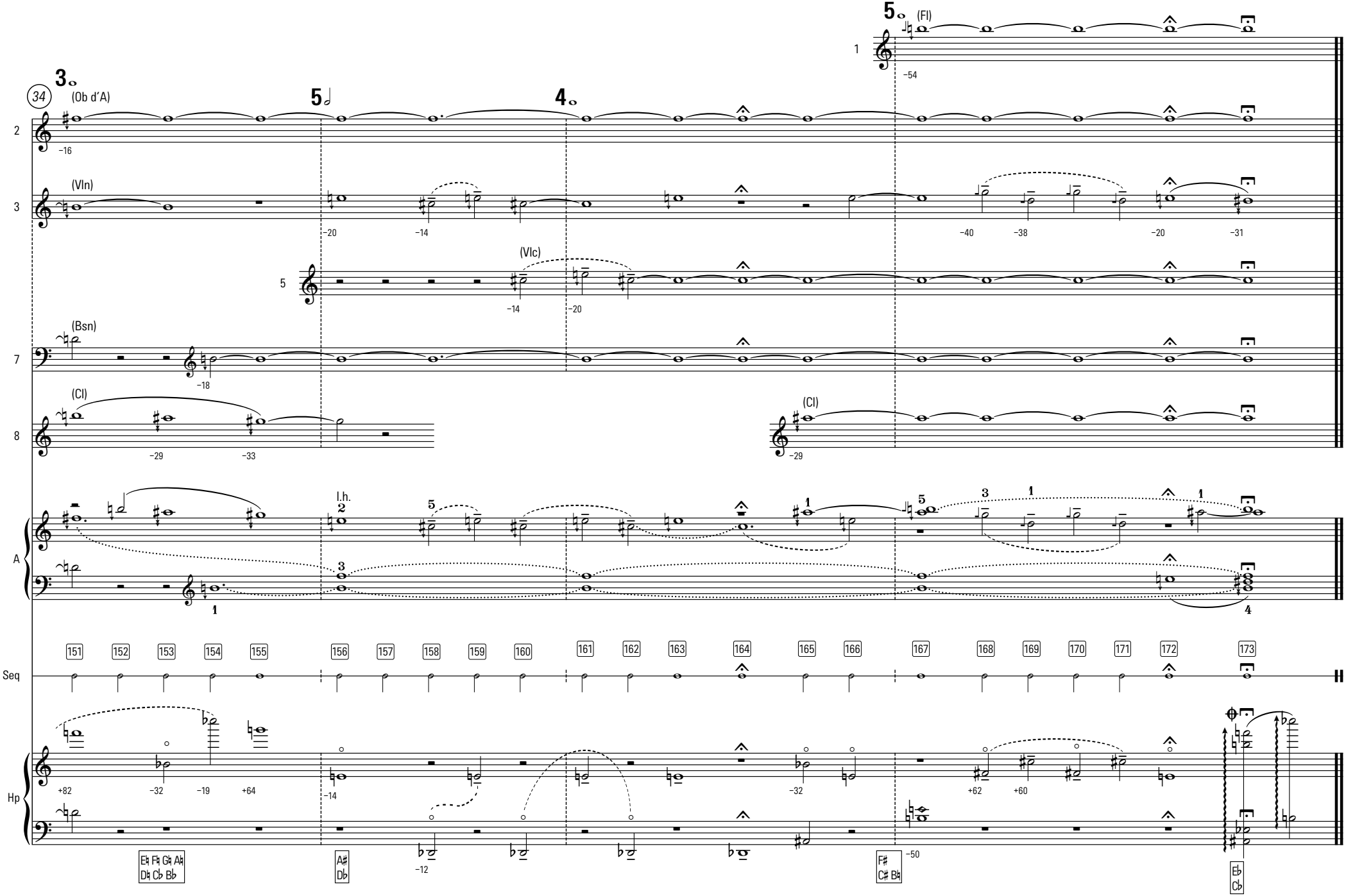

8
4.
(Ob d'A)
3.
5.
5.
1
2
(Cl)
3
(Bsn)
4
(Fl)
5
(Vln)
A
Seq
Hp
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
Eb F
C#
E
F#
G#
C
F Ab
Gb
Ab
F# G#


12
5.
(Ob d'A)
4.
5.
3.
4.
3.
1
(Cl)
2
(Bsn)
3
(Fl)
4
(Vln)
5
(Vlc)
6
(Luma)
7
(+Vlc)
8
A
Seq
Hp
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
F♯ G♭
C♭
F♯ G♯
C♯


17
(Fl)
(Vln)
(Vlc)
(Cl)
(Luma)
(Ob d'A)
(Bsn)
(beating)
A
Seq
Hp


24
2
3
(Vln)
(Vln)
(Vlc)
(Vlc)
(Cl)
(Ob d'A)
(Luma)
(Bsn)
(Ob d'A)
(Fl)
(Vln)
(Vlc)
(Vlc)
(Luma)
(Vln)
A
Seq
Hp
107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122
C♯
E♭ F♯ C♯


29
(Ob d'A)
4 3 4 3
(Fl)
(Vln)
(Vlc)
(Vlc)
(Luma)
(Bsn)
(Luma)
(Cl)
A
Seq
Hp
123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 139 140 141 142 143 144 145 146 147 148 149 150
C♮
G♯ C♯
F♮ A♭ C♮
F♭
E♭ F♯ A♮
F♮


34
3.
(Ob d'A)
5.
4.
5.
(Fl)
(Vln)
(Vlc)
(Bsn)
(Cl)
(Cl)
l.h.
Seq
Hp
151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173