Composition Portfolio
(Duplicate)

Name:	Chan Lok Hin Gordon
NRIC:	T0277655Z
Centre/Index no.:	3042/0240
School Name:	Dunman High School
Subject Name:	Higher 2 Music: Component 32: Music Writing (Minor)
Subject Code:	9753/32

Contents

1 Wonky Steps (rhythmic counterpoint)

1.1 Working Timeline

Draft	Date	Area explored / Changes made
1	October 2020	descending fifth motive, metric displacement, canon
2	January 2021	extent of rhythmic counterpoint, sense of shifting of space and time, musical direction, notions, imitations between clarinet and piano
3	March 2021	harmonic progressions, sense of speeding up
Final	May 2021	sense of suspense before resolution, harmonic direction and harmonic support, counterpoint, sense of arrival, notations

1.2 Write-up on Wonky Steps

1.2.1 Compositional Approach

The piece, **Wonky Steps**, explores the use of rhythmic counterpoint to create a sense of instability in the music, in addition to metric displacements and poly-rhythms.

1.2.2 Structure and Motive Development

Overall, the work is structured in 4 parts as such:

subsection	Bars	Main Musical Features
A	1-11	falling fifth motive and cyclic bass line
B	12-16	counterpoint between bass and piano; running notes in clarinet
C	17-26	piano rhythm with increasing intensity; reprise of opening motive
A′	27-35	canon in all parts; derived from the retrograded opening motive

The piece opens with a series of falling fifths in both the piano and the double bass. After that, the double bass plays a bass line based on the melody in the clarinet part. This rhythm of the clarinet melody is constantly imitated by the piano throughout bars 5 to 10. A bar of transition is used to change the rhythmic character at bar 12, to link to a new subsection. The upper melody in bar 12 played by the clarinet is first played by the piano at bar 11 to foreshadow the new rhythmic motif.

The main theme in the second subsection is taken by the double bass, in a poly-rhythmic fashion, against the piano part. The double bass plays the same phrase of repeating rhythm as the phrase played in unison at the first bar of the subsection. On the other hand, the piano is repeating another seven-beat rhythm that emphasises all the even quavers of a bar while right hand plays three quavers in unison with the double bass at the end of each bar. The three quavers at the end emphasises the interaction between the piano and double bass parts. The clarinet then plays an rising Hijaz scale from G4 all the way up to E6. It then plays a falling scale of the pattern: whole tone, whole tone, whole tone and semitone, from E6 all the way down to F♯3, landing on the third subsection.

The third subsection spans from bar 17 to bar 26. In this subsection, the double bass repeats yet another rhythm while outlining the chordal qualities of the bars. The main effect created in this subsection however comes from the piano part. The piano plays an ever increasingly intense rhythm as the music progresses. In particular, in the first bar of the subsection, the rhythm consists of two crochets and two dotted quavers. In the second bar, it changes to three triplets and two dotted quavers. This pattern continues until on the fourth bar, there are five quintuplets and two dotted quavers. The frequency of note heard increases, building up to the climax. As a result, a sense of increasing excitement is created as the space between each note decreases as the music progresses. In the subsequent part, the three instruments are playing in unison to an irregular rhythmic pattern to resolve to an F♯ major chord. Every note other than the last three notes in this subsection are accented so that the rhythmic qualities

of this motive can be projected clearly. The rhythm used here consists of two groups of four quadruplets and two groups of four regular quavers. It is also worthy to note that these groups are arranged with non-retro-gradable rhythm.

The forth and final subsection starts from bar 25 until the end of the work. Canon is used in this subsection. It consists of a series of rising fifth motif with the rhythm derived from retrograding the opening motif. The canon resolves to a quasi-major chord.

1.2.3 Rhythmic Technique Explored

Rhythmic counterpoint is explored throughout the work. For example, from bar 3 to bar 11 as the double bass plays a two-bar rhythmic cycle, it creates a rhythmic counterpoint between the bass line and the upper voices. A similar approach is used from bar 13 to 20, where the bass plays repeated poly-rhythmic motives while piano and clarinet playing other higher voices.

Other techniques are also implemented, such as a metric displacement in the piano's line from bar 5 to bar 8 where semiquavers rests are constantly being added each time as the line repeated, and a non-retro-gradable rhythm from bar 21 to 22.

1.3 Draft 1

1.4 Draft 2

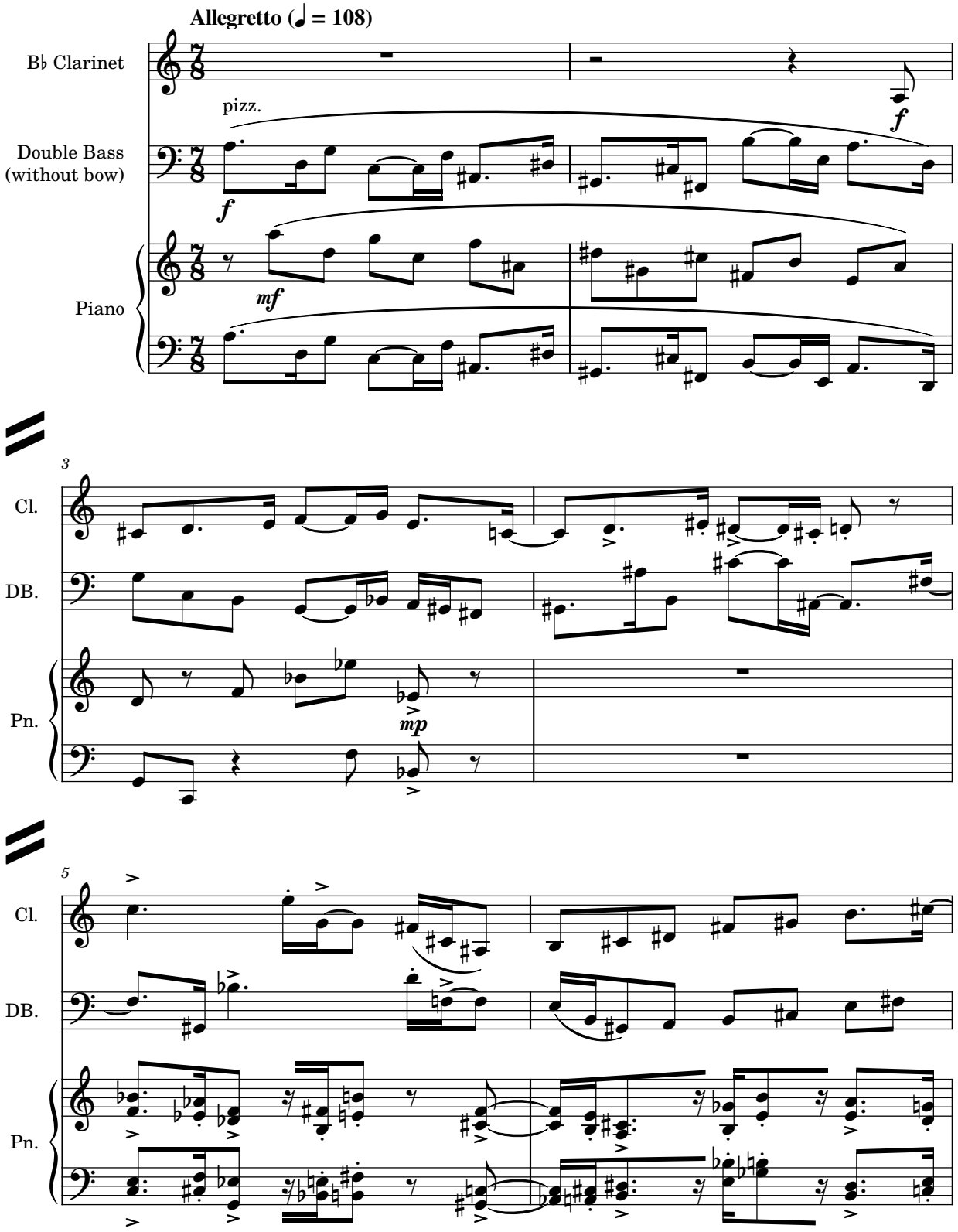
1.5 Draft 3

1.6 Final Version

Wonky Steps

Rhythmic Counterpoint

Gordon Chan



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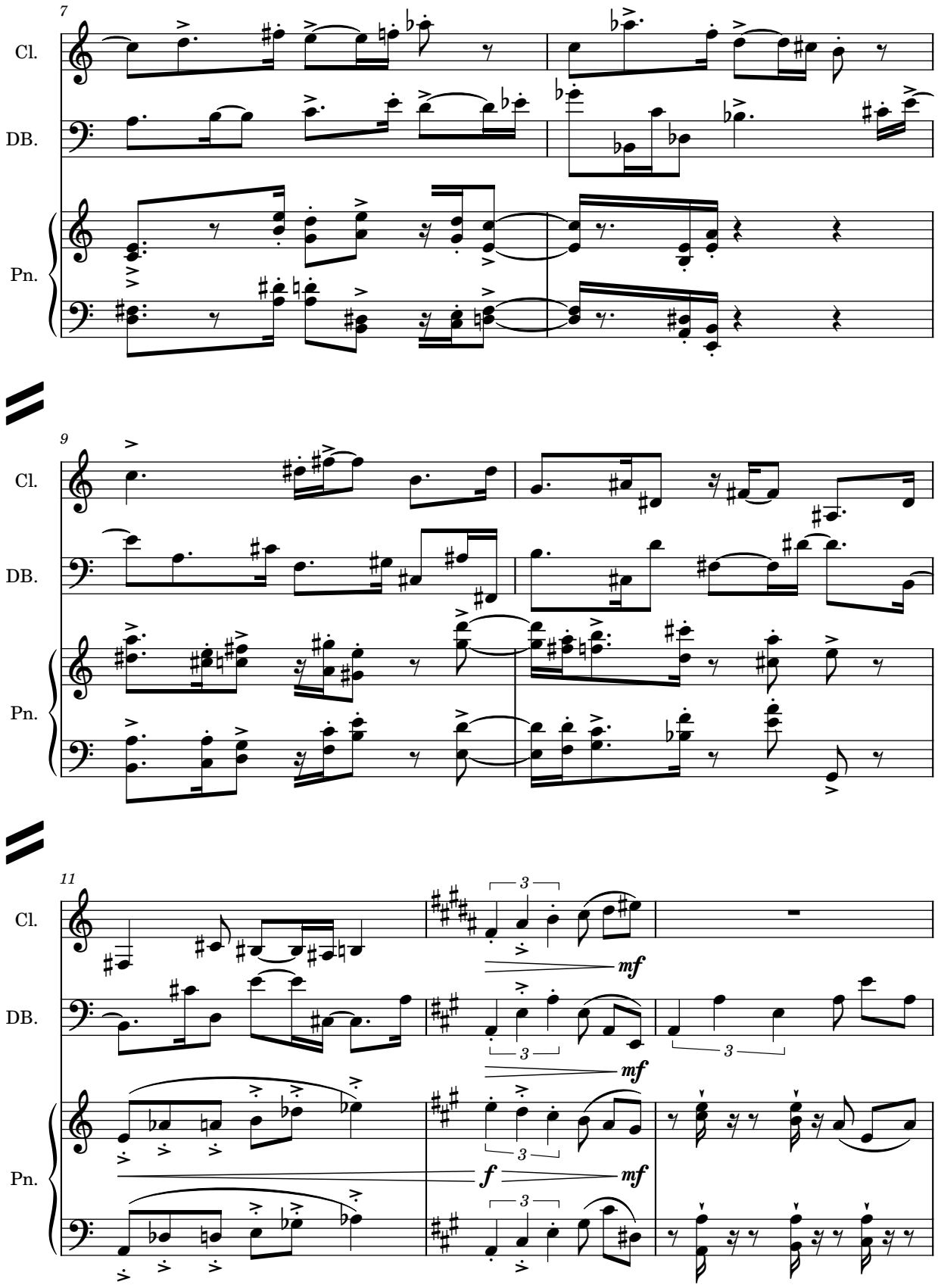

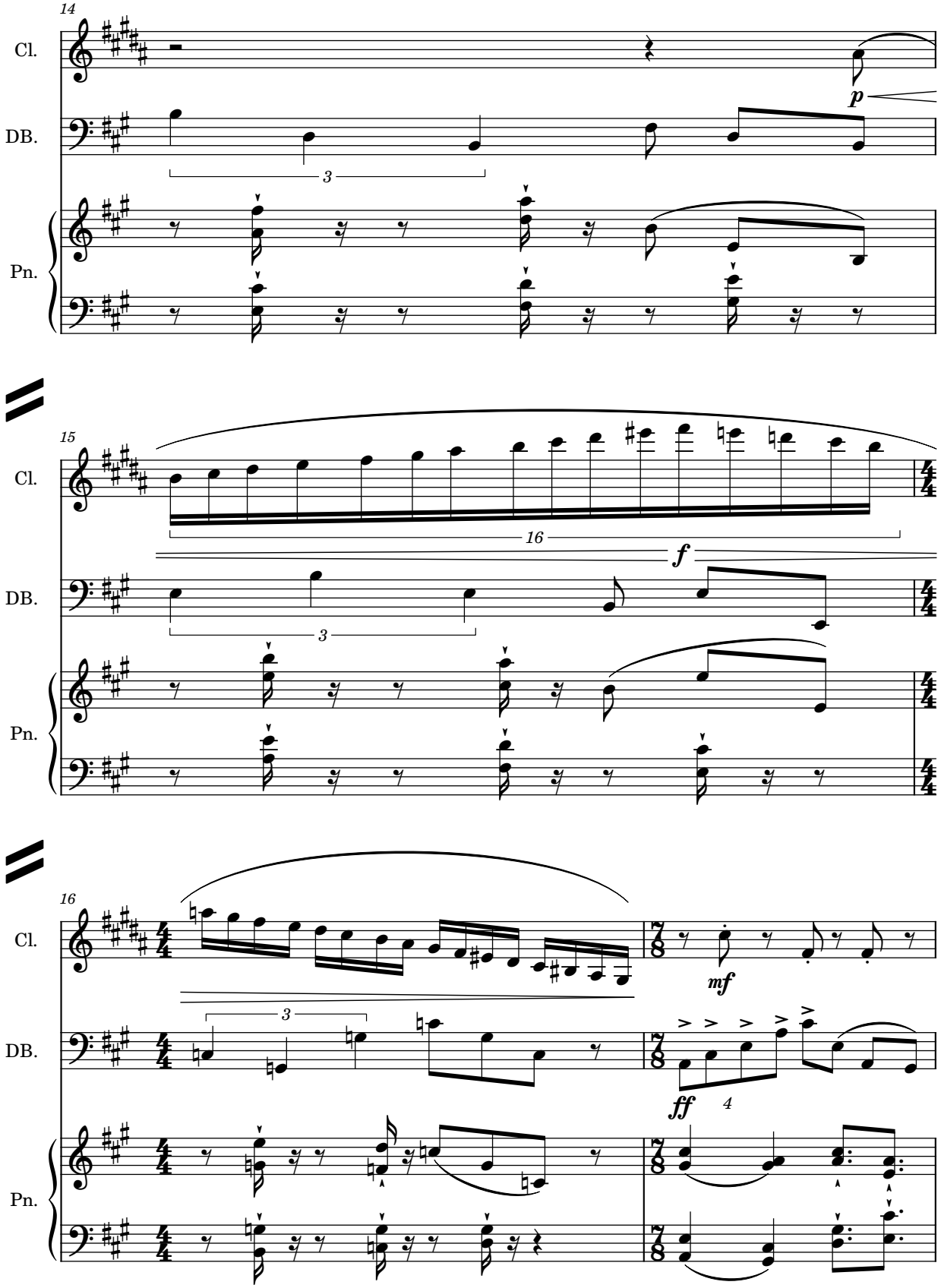
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Pn.
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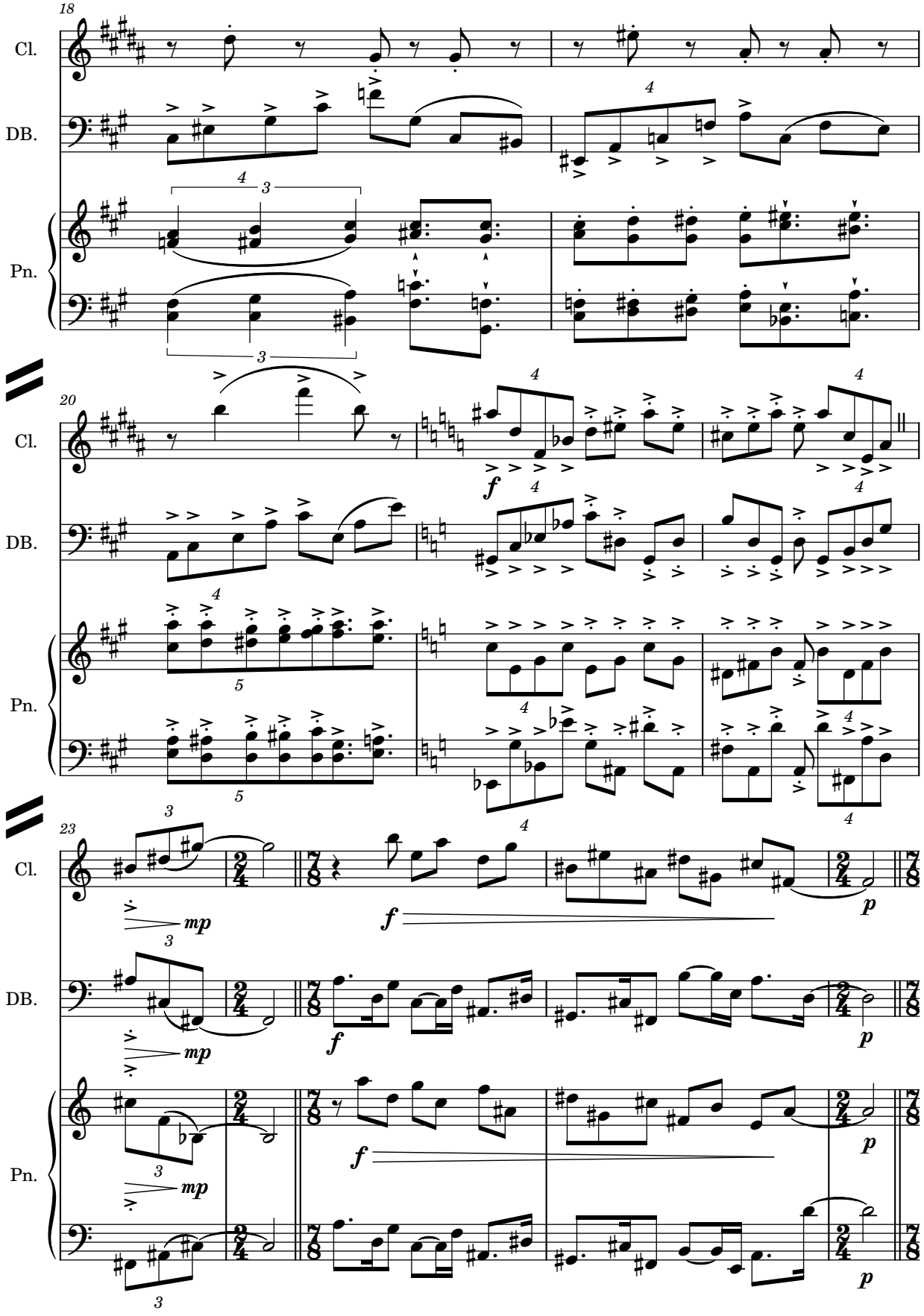
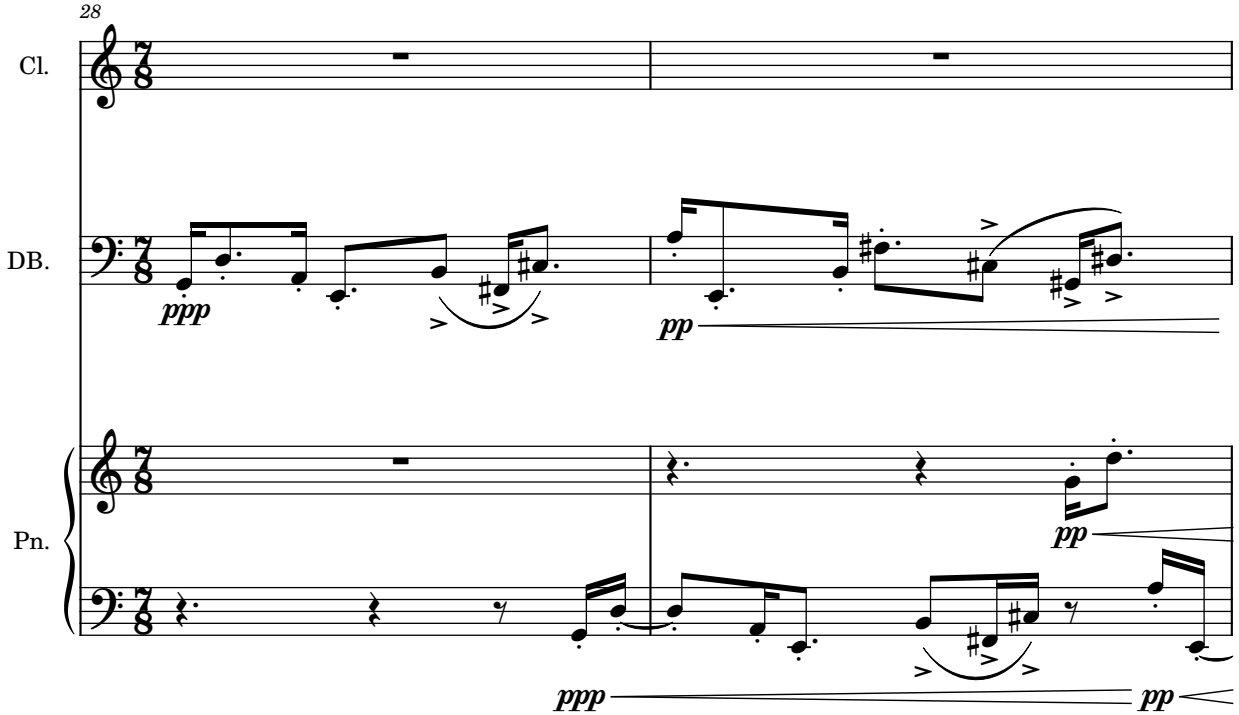
3
15
16
f
mf
ff
4

4

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Pn.
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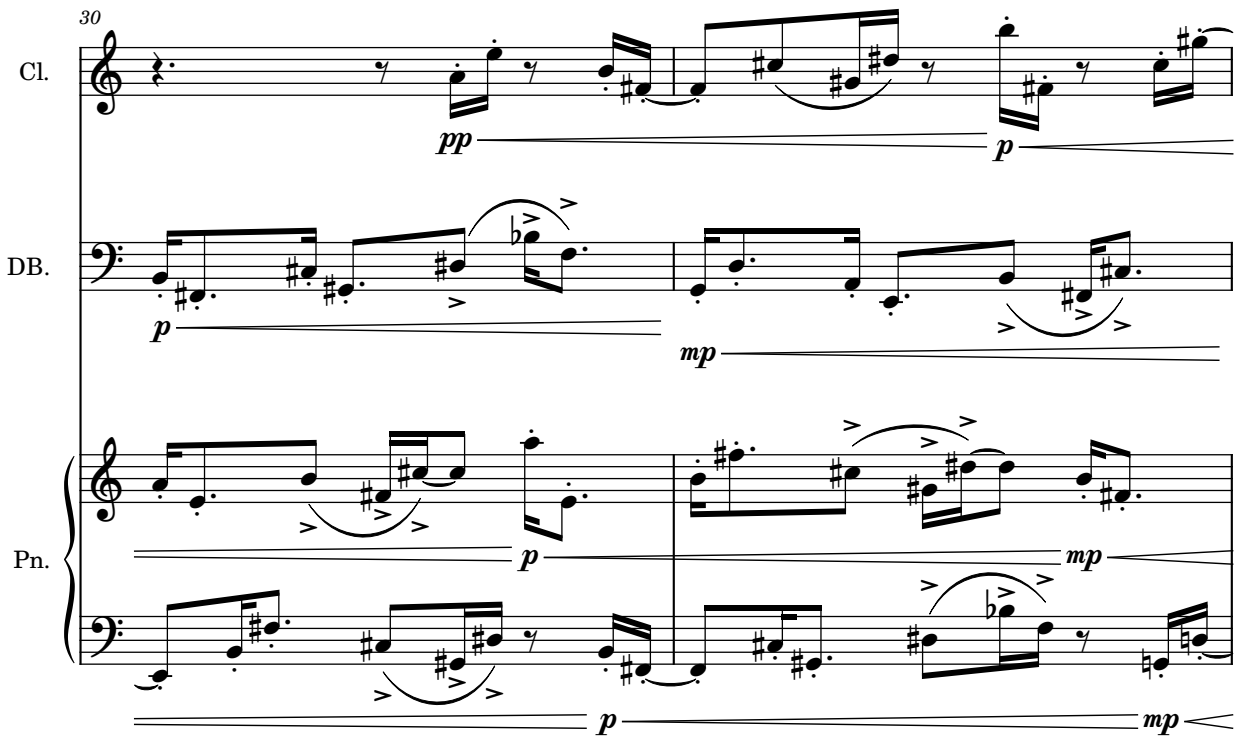
pp
pp
ppp
pp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pp
p
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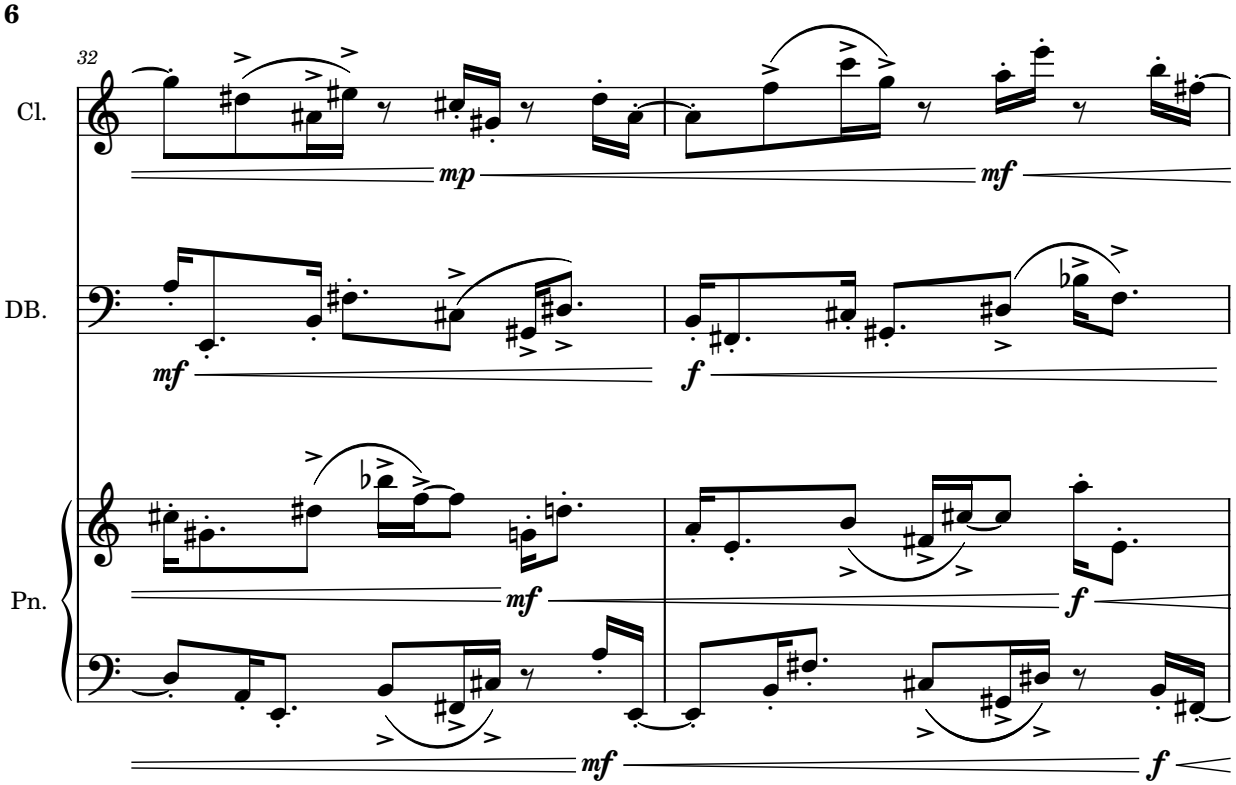
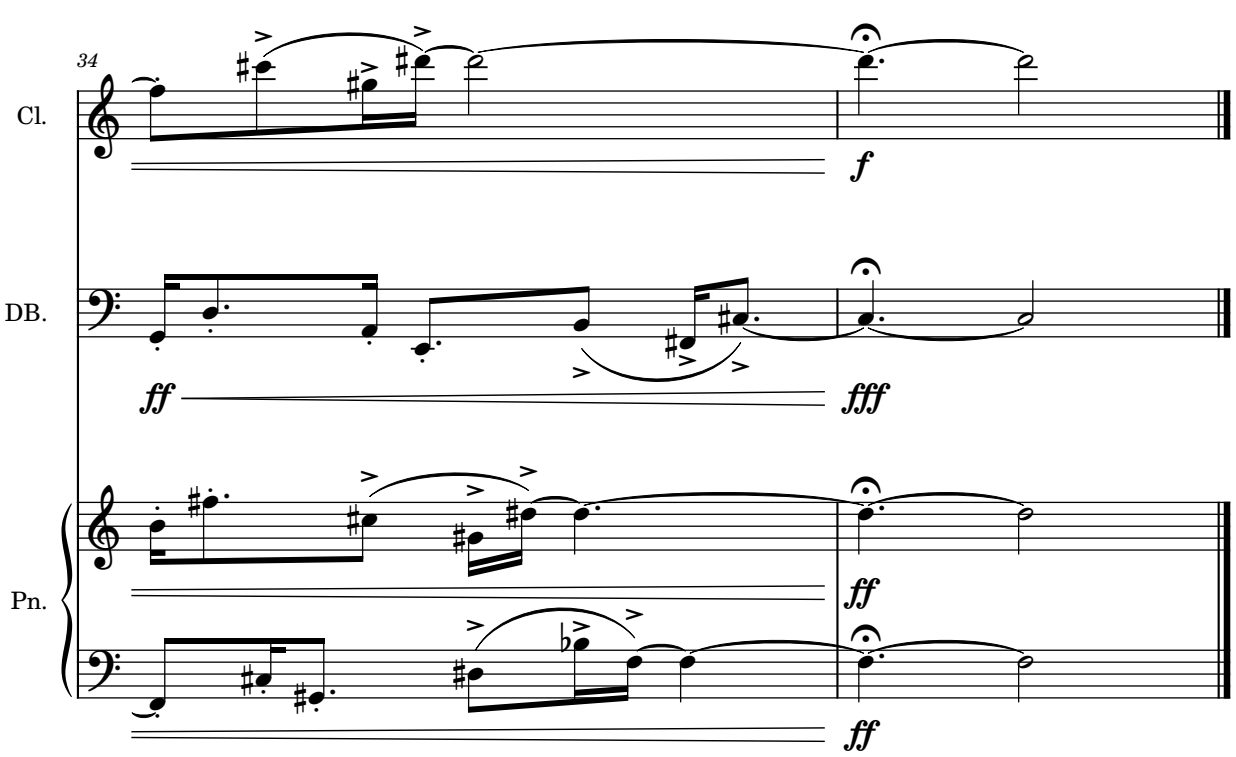
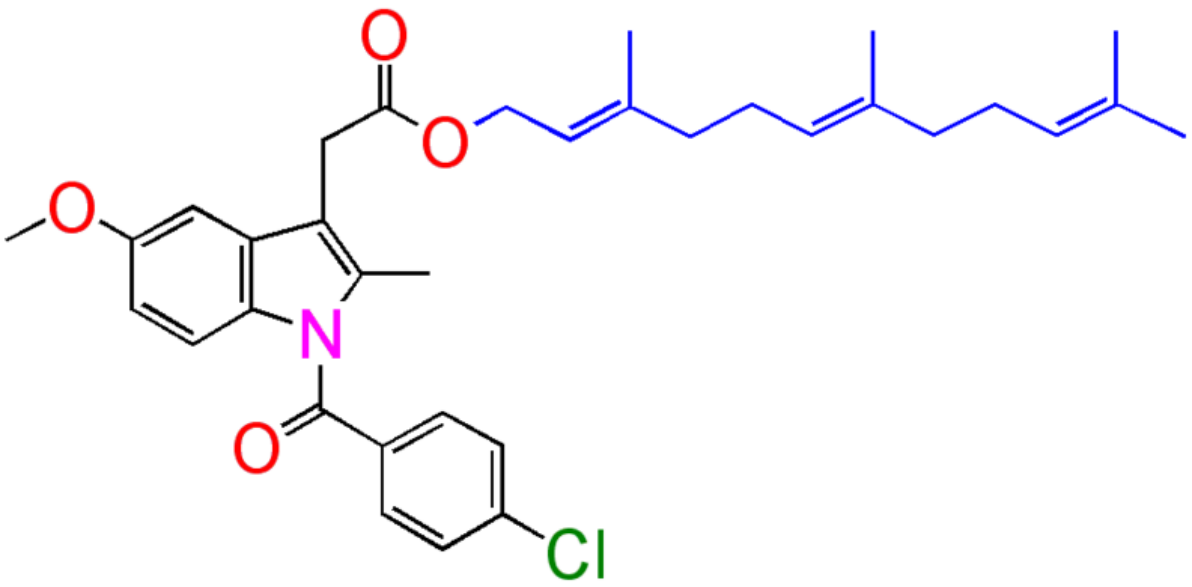
mp
p
mp
p
mp

6





2 Infree (tone clusters)



2.1 Working Timeline

Draft	Date	Area explored / Changes made
1	October 2020	characteristic rhythmic motifs and ideas of progression
2	January 2021	rewrites of parts considering practicality, harmonic counterpoints and textural considerations, notations for ease for reading
3	March 2021	
Final	May 2021	

2.2 Write-up on Infree

2.2.1 Introduction

The title of **Infree** describes the state of not being able to be free. In this case, it describes the notes and voices in the piece being somewhat strangled to one another, failed to separate and hence not free. It also refers to the effect of tone clusters being rigid and not scattered. Certain dynamic changes and rhythms are used to emphasise the quality of the clusters.

2.2.2 Harmony

In the introductory motif, a E minor tonality is suggested by the flute and violin. That somewhat stable tonality is immediately destroyed at bar 2 when the tone clusters are introduced. The following bar are tone clusters made up of major seconds, followed by a handover of melody to the piano at bar 3, where the piano play increasingly dissonant chords that are eventually made up of minor seconds.

The piano plays this dissonant passage in triplets from bar 3 to bar 5 until it descends to the massive clusters at the beginning of bar 6. At bar 6, the motif is accompanied by the piano playing powerful bass clusters, which have more of an percussive effect than harmonic ones.

From bar 13 to 16, the piano plays chords that are made of five notes from a whole tone scale. This chord raise four semitones from the first one to the second one. The third chord is an octave lower than the first one, and the forth chord is derived from raising the third chord five semitones.

2.2.3 Motifs

At bar 6, the woodwinds and strings play a modified version of the opening motif, changed in a way that the motif is made of clusters built in major seconds. At bars 10 to 12, the piano plays a descending motif, where all the chords are made of two notes that are a major seventh apart. While the rest plays a three bar motif that is constructed by a minim, followed by a quaver that is displaced a quavers backwards each bar. The dynamics in these three bars resembles waves–whenever the piano plays forte, the rest plays softly and vice versa.

In the following four bars, the piano supports the triplet motif that the rest is playing. That motif is made up of chord of minor seconds which oscillates up and down for three sets of triplets and then goes downwards for the first two bars, just descending triplets at the third bar, and descending triplets that are grouped in twos at the forth.

2.3 Draft 1

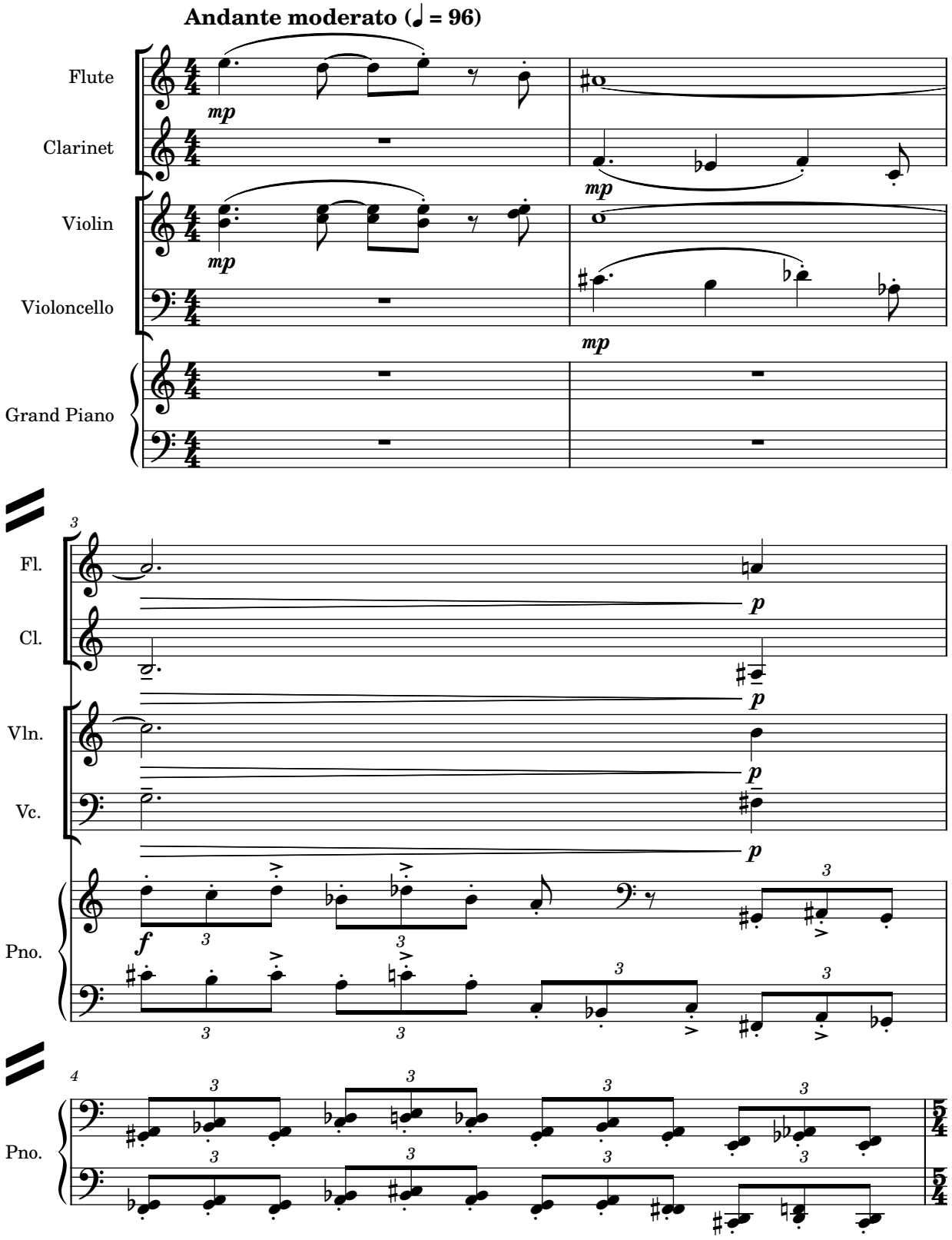
2.4 Draft 2

2.5 Draft 3

2.6 Final Version

Infree

Gordon Chan



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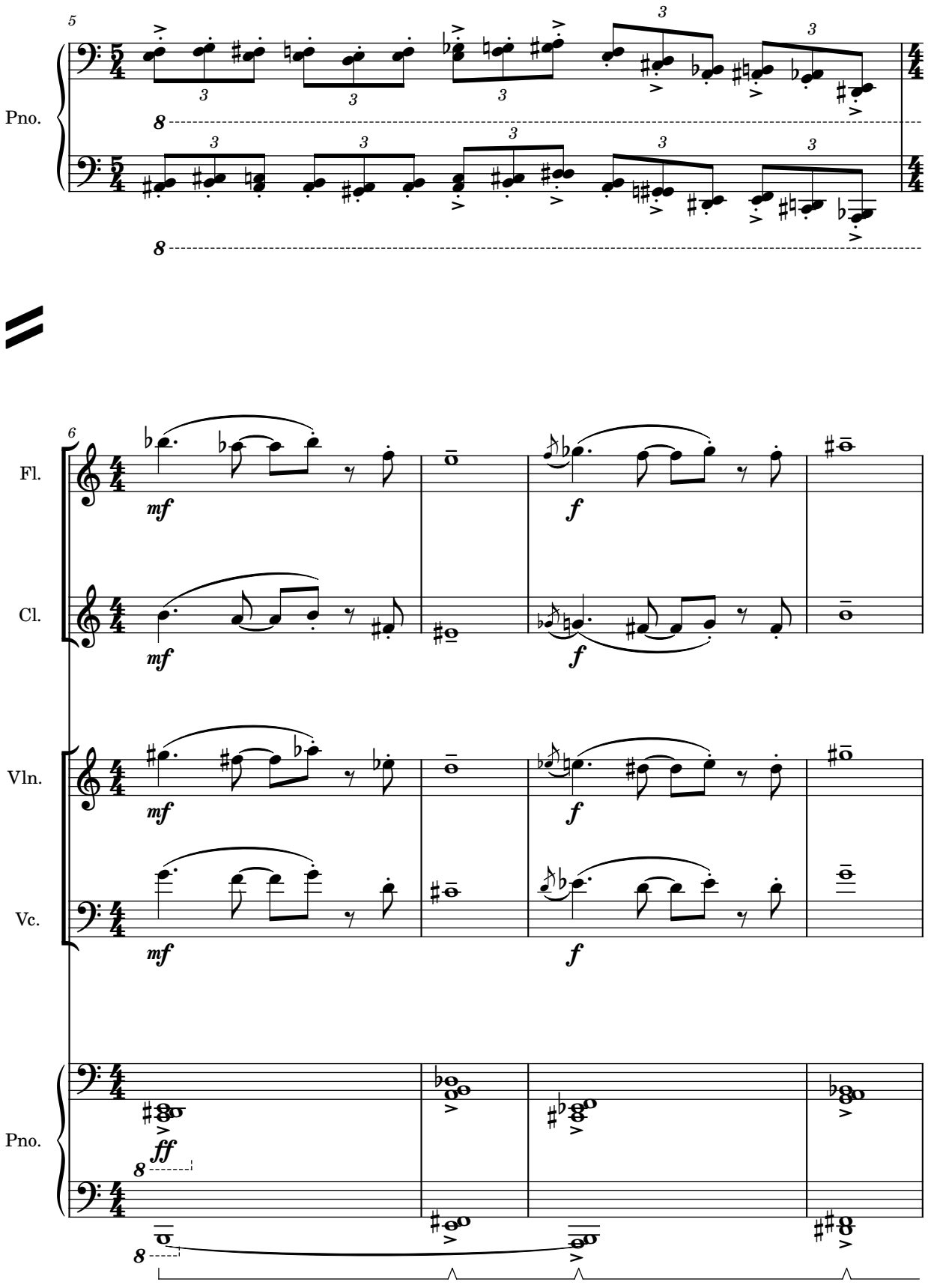

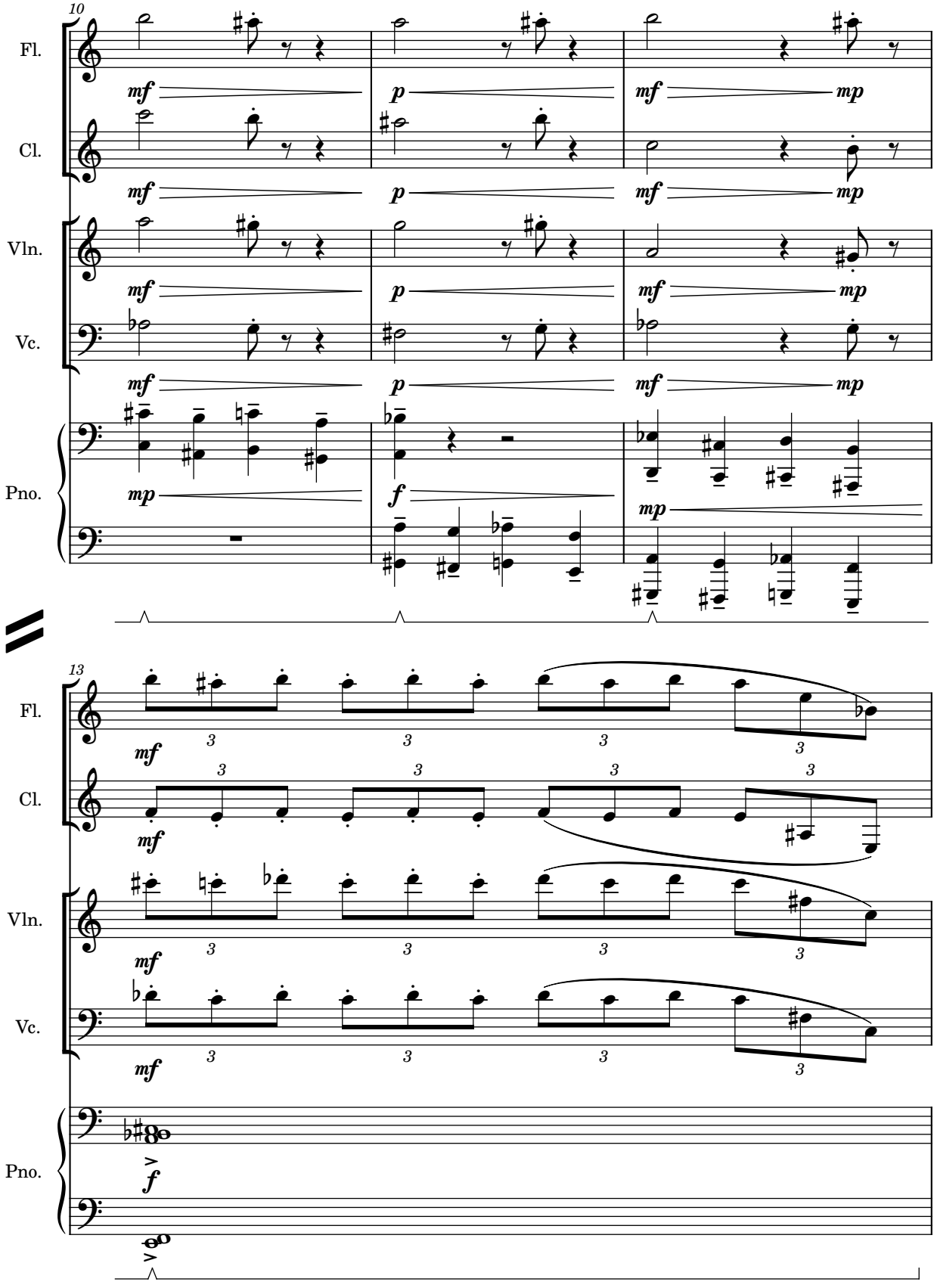
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Cl.
Vln.
Vc.
Pno.
mf
p
mf
mp
mf
p
mf
mp
mf
p
mf
mp
mp
f
mp
13
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Cl.
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Vc.
Pno.
mf
3
mf
3
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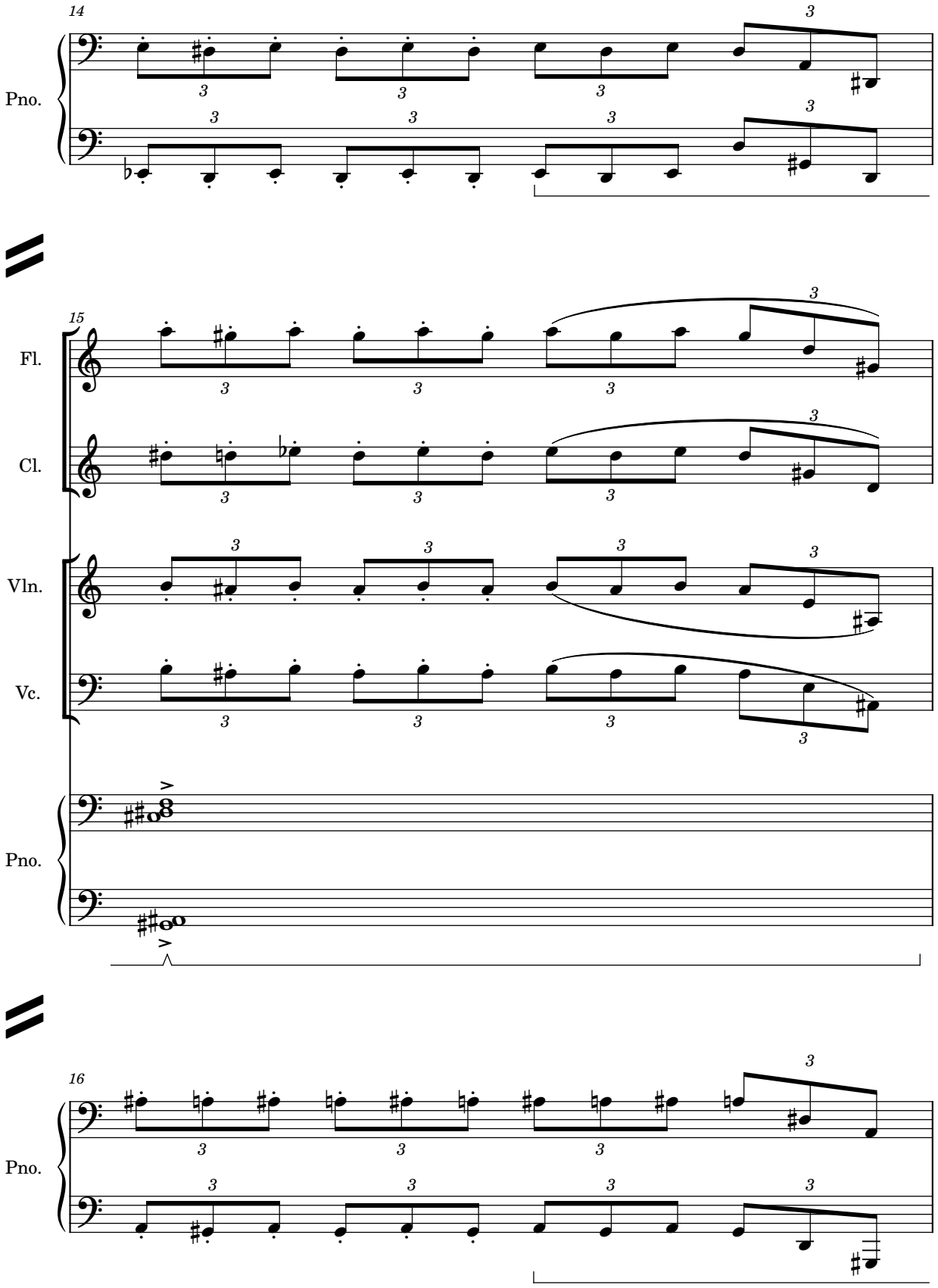
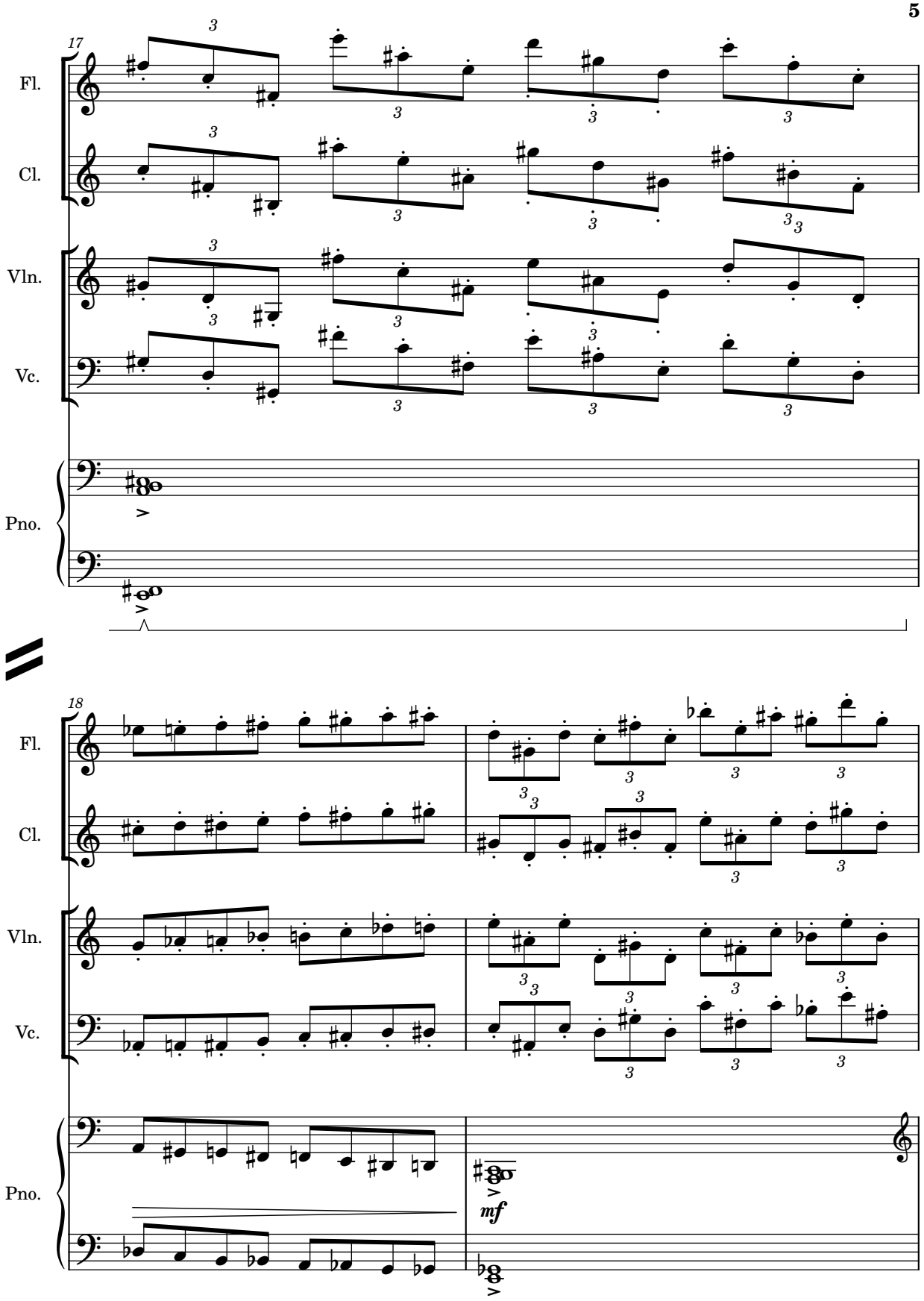
3
mf
3
f

4

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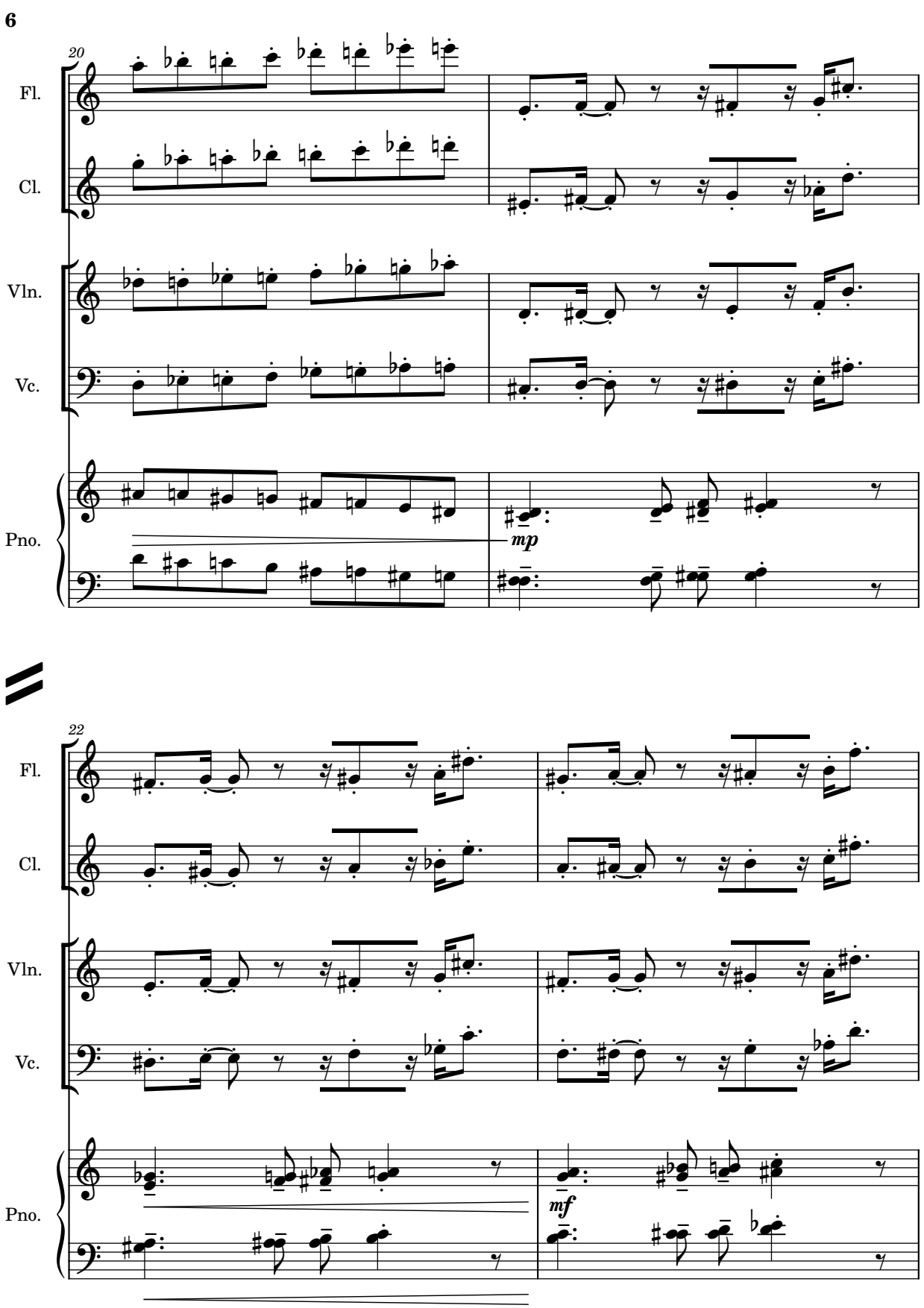
Cl.
Vln.
Vc.
Pno.
mf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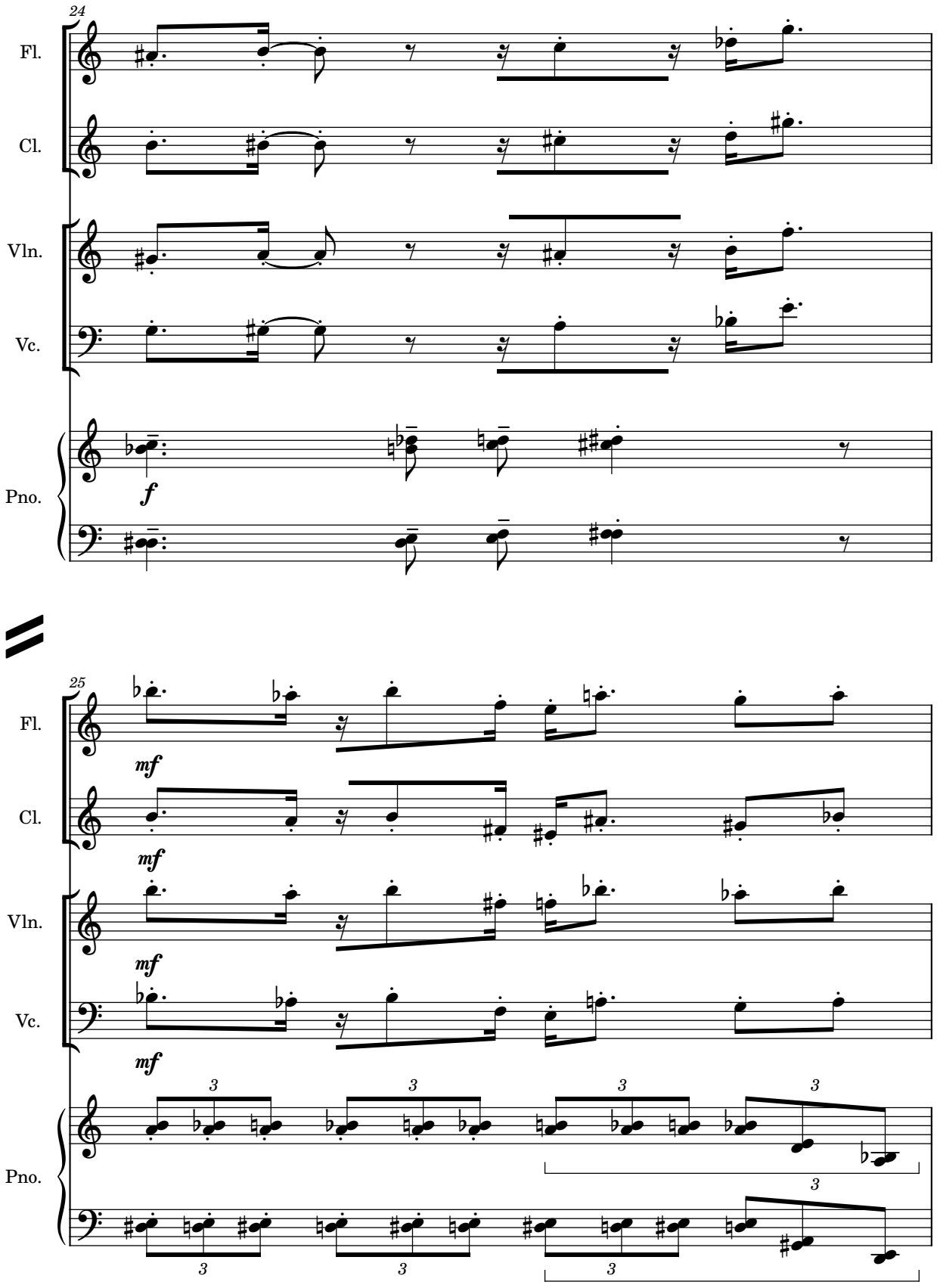
Vln.
Vc.
Pno.
mf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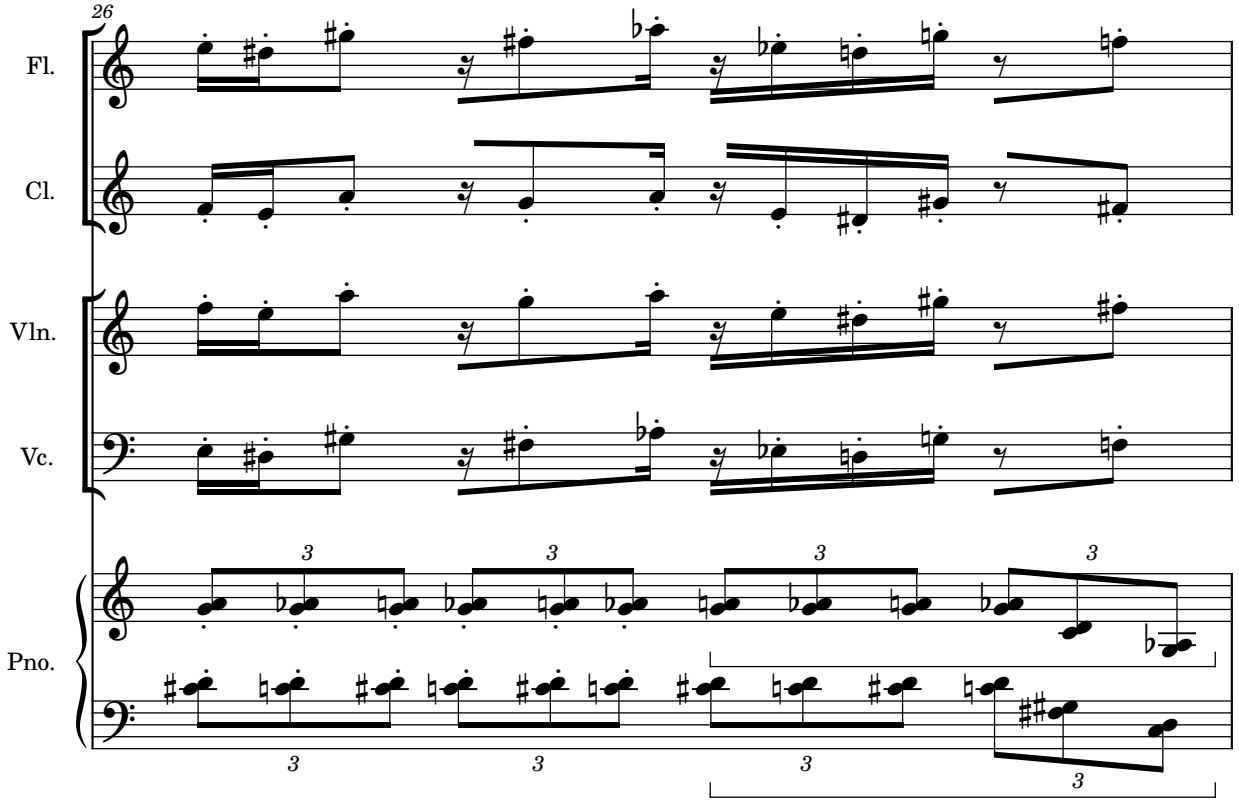
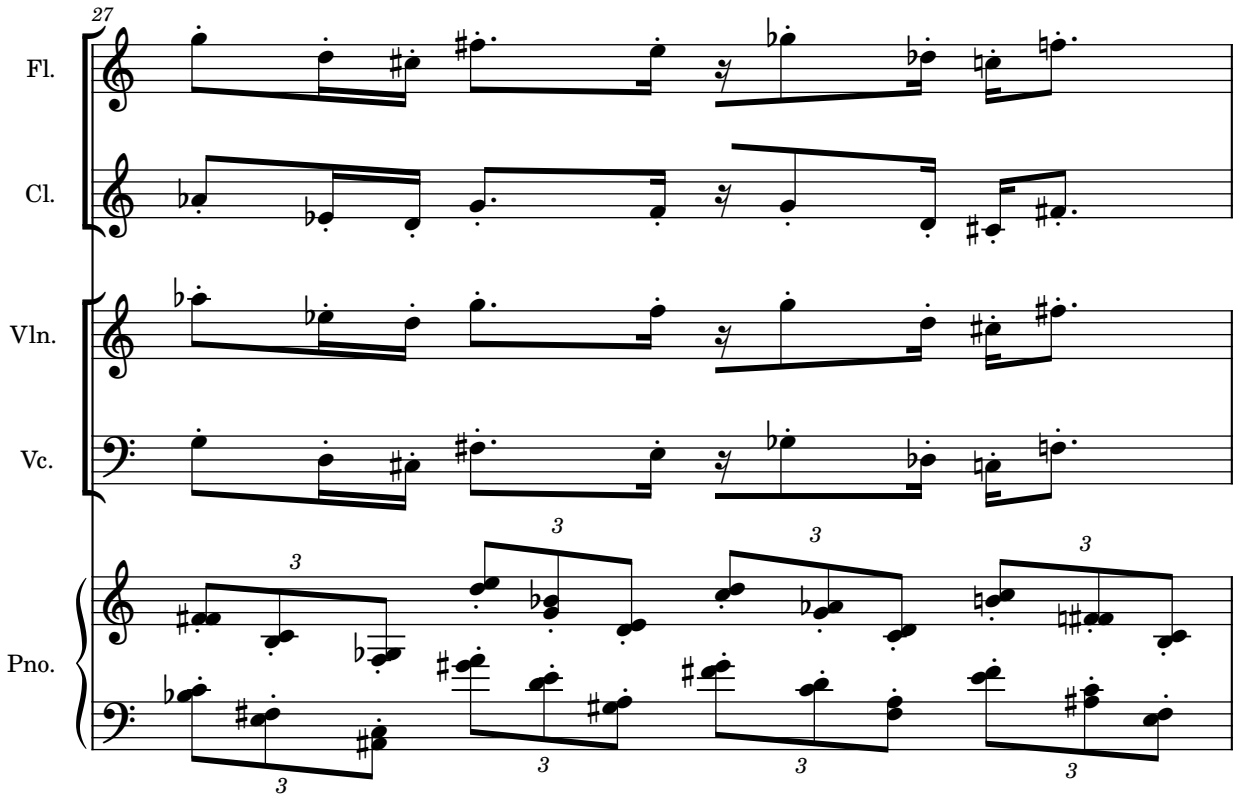
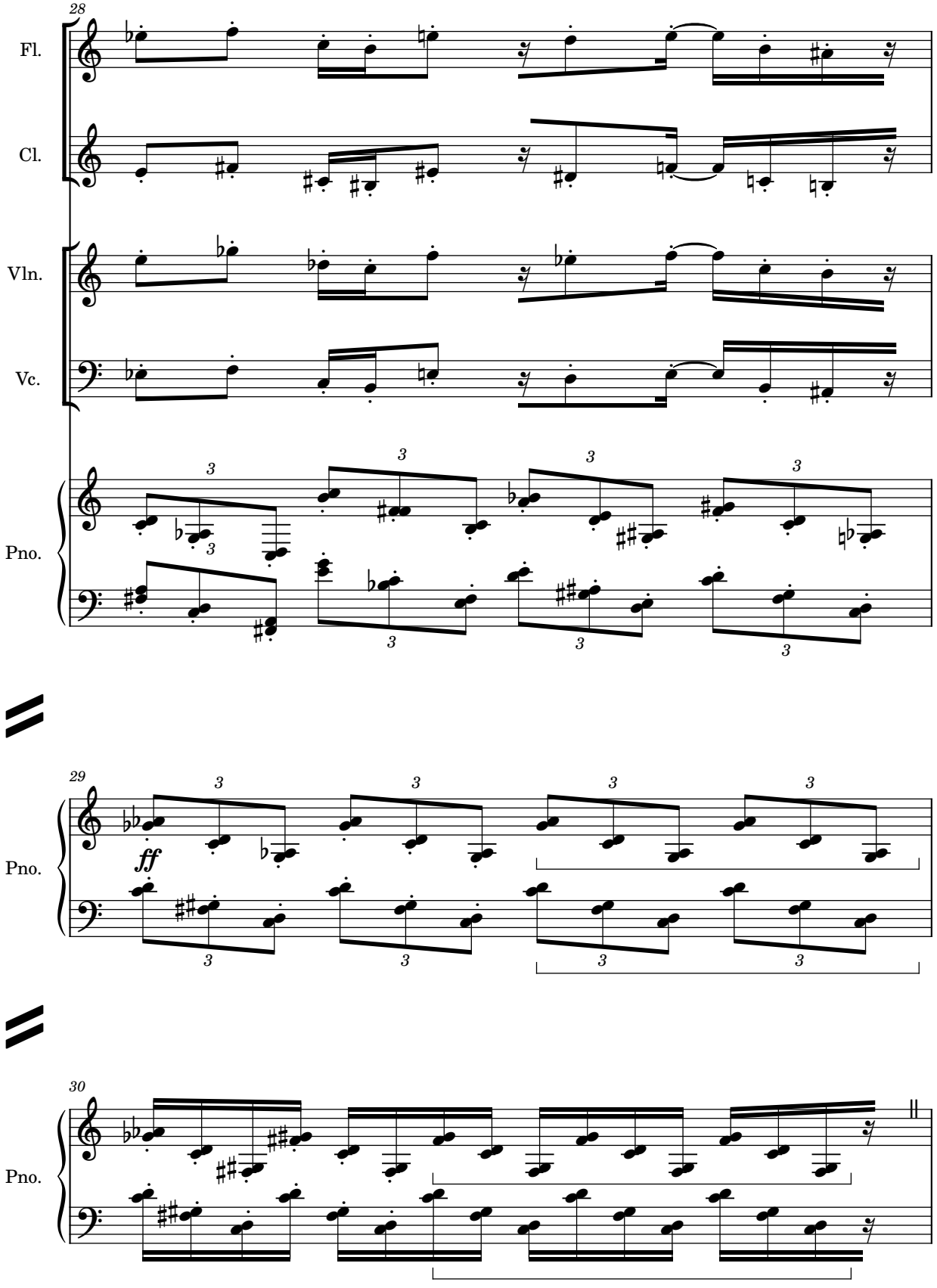
Fl.
Cl.
Vln.
Vc.
Pno.
f
25
mf
3

8



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Vc.
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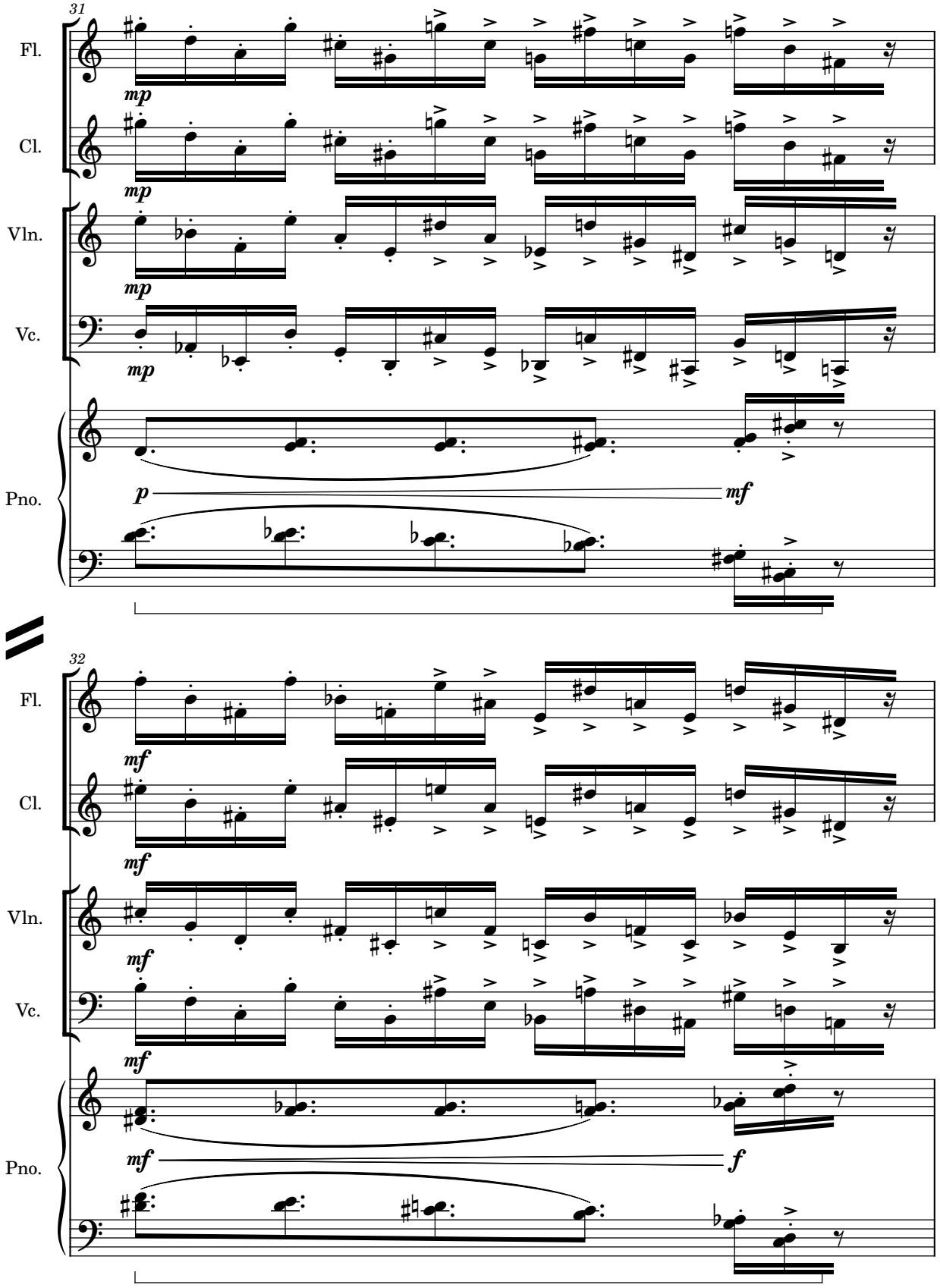
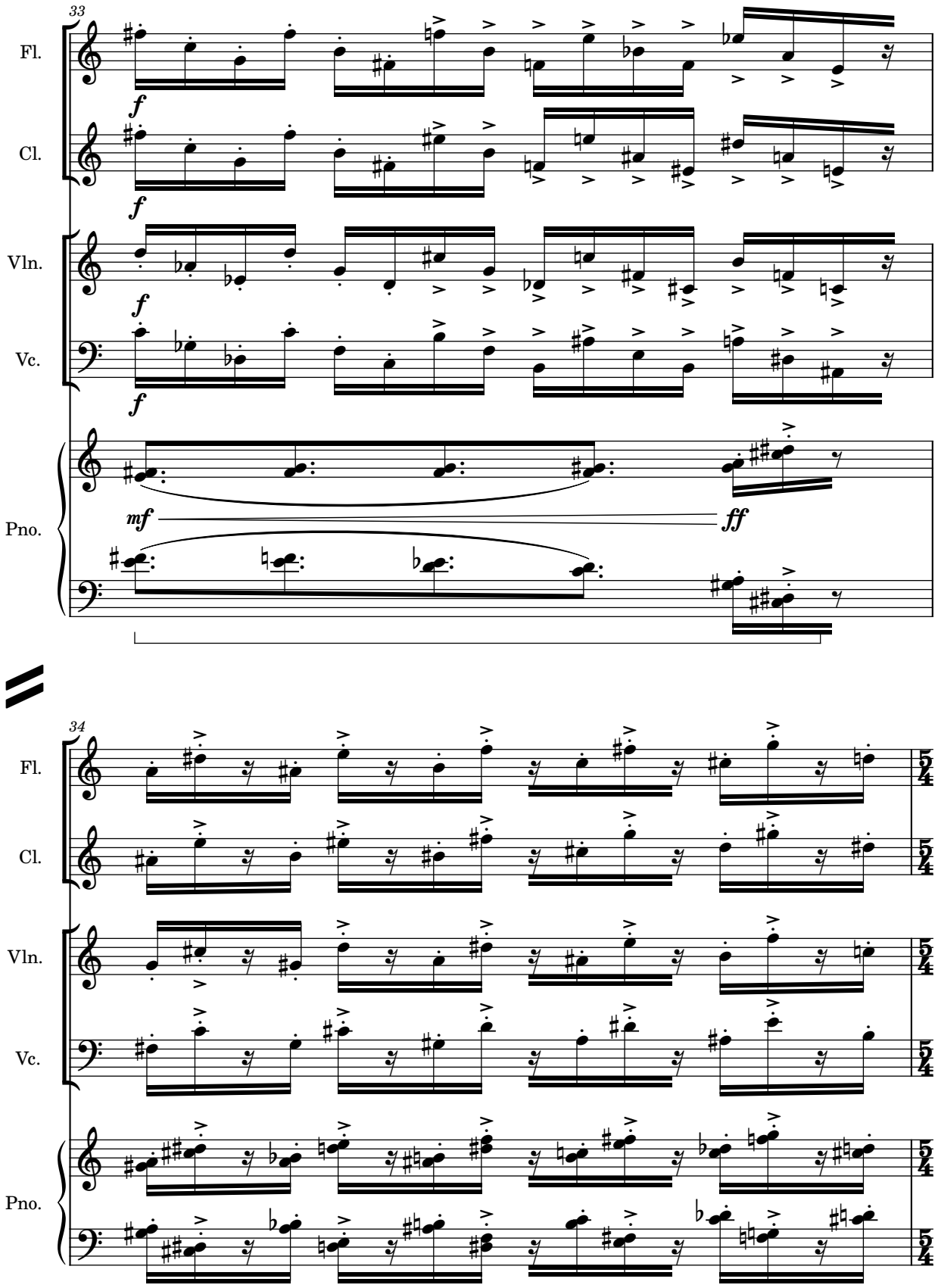
ff
Pno.
30
Pno.

10

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Cl.
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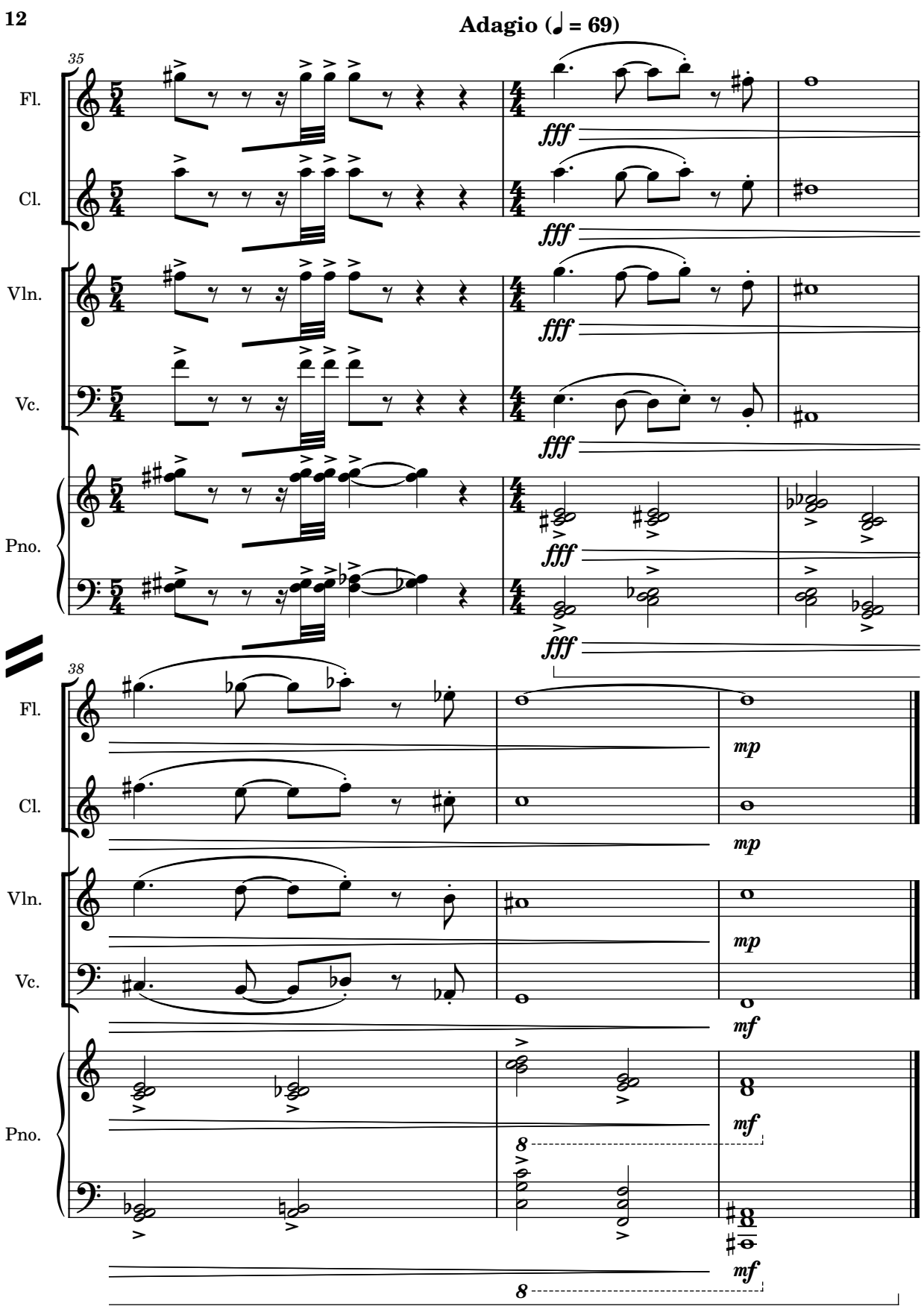
Vc.
Pno.
f
mf
ff
34
5/4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Adagio (♩ = 69)
35
Fl.
Cl.
Vln.
Vc.
Pno.
fff
38
mp
mf

3 Space Dust (twelve-tone serialism)

3.1 Working Timeline

Draft	Date	Area explored / Changes made
1	October 2020	came up with the twelve-tone matrix, motifs
2	January 2021	notations, linkage of ideas, momentum, new themes, distinctive musical character
3	March 2021	
Final	May 2021	

3.2 Write-up on Space Dust

3.2.1 Compositional Approach

The piece **Space Dust** utilises the twelve-tone technique approach. It depicts the chaotic nature of space dust but also the birth of new stars though the chaotic processes. This approach was revised and improved by Arnold Schőnberg in the early twentieth century. The emphasis on all twelve tones in a Twelve-tone Equal Temperament system being equal, with no superior pitch or a sense of home key makesthe music very atonal.

3.2.2 Harmonic Structure and Motivic Development

The piece has two major parts, characterised by their individual tone row matrix. The first part is in $\frac{4}{4}$, bass clarinet and oboe play in parallel fifths, followed by a piano solo. In the second part, the oboe and piano play dotted quaver motif, with syncopation in between them. At the same time, the bass clarinet plays crochets on the beats, emphasising the meter of $\frac{6}{8}$. The subsection in the first four bars ends with a resolution to an A♭ major chord. A transitional motif in bar 5 uses uniformed semiquavers. The motive in bar 5 is constructed with lines that are three semitones apart, resulting in twelve diminished-seven chords. The following bars are very dissonant to emphasise on the chaos.

3.2.3 Musical Effects

The effect of chaos is achieved through the use of poly-rhythms. One prime example can be found from bar 21 to 23, where the oboe plays twelve evenly spaced notes per bar, the piano four and the bass clarinet five. This creates a twelve against five against four poly-rhythm which sounds chaotic. This highlights the chaotic reactions of space dust, full of dis-coordinated release of heat and light.

The effect of consonance is achieved at the later half of the composition, where all three instruments play the same tone row but at different amounts of delays. Since the tone row is mostly made of fifths, the delay actually makes many intervals of fifths between the different instruments, resulting in consonant sounding chords. This signifies resolution and the end of chaotic space dust reaction, meaning the birth of a new star.

3.2.4 Technique Explored

A tone row of D, G, E, A, B♭, E♭, C, F, A♭, D♭, F♯ and B is used. This tone row is put into a twelve-tone matrix to generate a total of forty-eight other tone rows, which include the transposed, retrograde, inverted and retrograde-inverted versions of the original tone row. The tone row used is shown below:

	$\mathbf{I}_0$	$\mathbf{I}_5$	$\mathbf{I}_2$	$\mathbf{I}_7$	$\mathbf{I}_8$	$\mathbf{I}_1$	$\mathbf{I}_{10}$	$\mathbf{I}_3$	$\mathbf{I}_6$	$\mathbf{I}_{11}$	$\mathbf{I}_4$	$\mathbf{I}_9$	
$\mathbf{P}_0$	D	G	E	A	B♭	E♭	C	F	A♭	D♭	F♯	B	$\mathbf{R}_0$
$\mathbf{P}_7$	A	D	B	E	F	B♭	G	C	E♭	A♭	D♭	F♯	$\mathbf{R}_7$
$\mathbf{P}_{10}$	C	F	D	G	A♭	D♭	B♭	E♭	F♯	B	E	A	$\mathbf{R}_{10}$
$\mathbf{P}_5$	G	C	A	D	E♭	A♭	F	B♭	D♭	F♯	B	E	$\mathbf{R}_5$
$\mathbf{P}_4$	F♯	B	A♭	D♭	D	G	E	A	C	F	B♭	E♭	$\mathbf{R}_4$
$\mathbf{P}_{11}$	D♭	F♯	E♭	A♭	A	D	B	E	G	C	F	B♭	$\mathbf{R}_{11}$
$\mathbf{P}_2$	E	A	F♯	B	C	F	D	G	B♭	E♭	A♭	D♭	$\mathbf{R}_2$
$\mathbf{P}_9$	B	E	D♭	F♯	G	C	A	D	F	B♭	E♭	A♭	$\mathbf{R}_9$
$\mathbf{P}_6$	A♭	D♭	B♭	E♭	E	A	F♯	B	D	G	C	F	$\mathbf{R}_6$
$\mathbf{P}_1$	E♭	A♭	F	B♭	B	E	D♭	F♯	A	D	G	C	$\mathbf{R}_1$
$\mathbf{P}_8$	B♭	E♭	C	F	F♯	B	A♭	D♭	E	A	D	G	$\mathbf{R}_8$
$\mathbf{P}_3$	F	B♭	G	C	D♭	F♯	E♭	A♭	B	E	A	D	$\mathbf{R}_3$
	$\mathbf{RI}_0$	$\mathbf{RI}_5$	$\mathbf{RI}_2$	$\mathbf{RI}_7$	$\mathbf{RI}_8$	$\mathbf{RI}_1$	$\mathbf{RI}_{10}$	$\mathbf{RI}_3$	$\mathbf{RI}_6$	$\mathbf{RI}_{11}$	$\mathbf{RI}_4$	$\mathbf{RI}_9$	

The three instruments, oboe, piano and bass clarinet are involved in this arrangement, with each of them playing different tone rows. Sometimes, the left hand and right hand of the piano play different tone rows. The notes they play can sometimes match and produce consonant sounding chords.

3.3 Draft 1

3.4 Draft 2

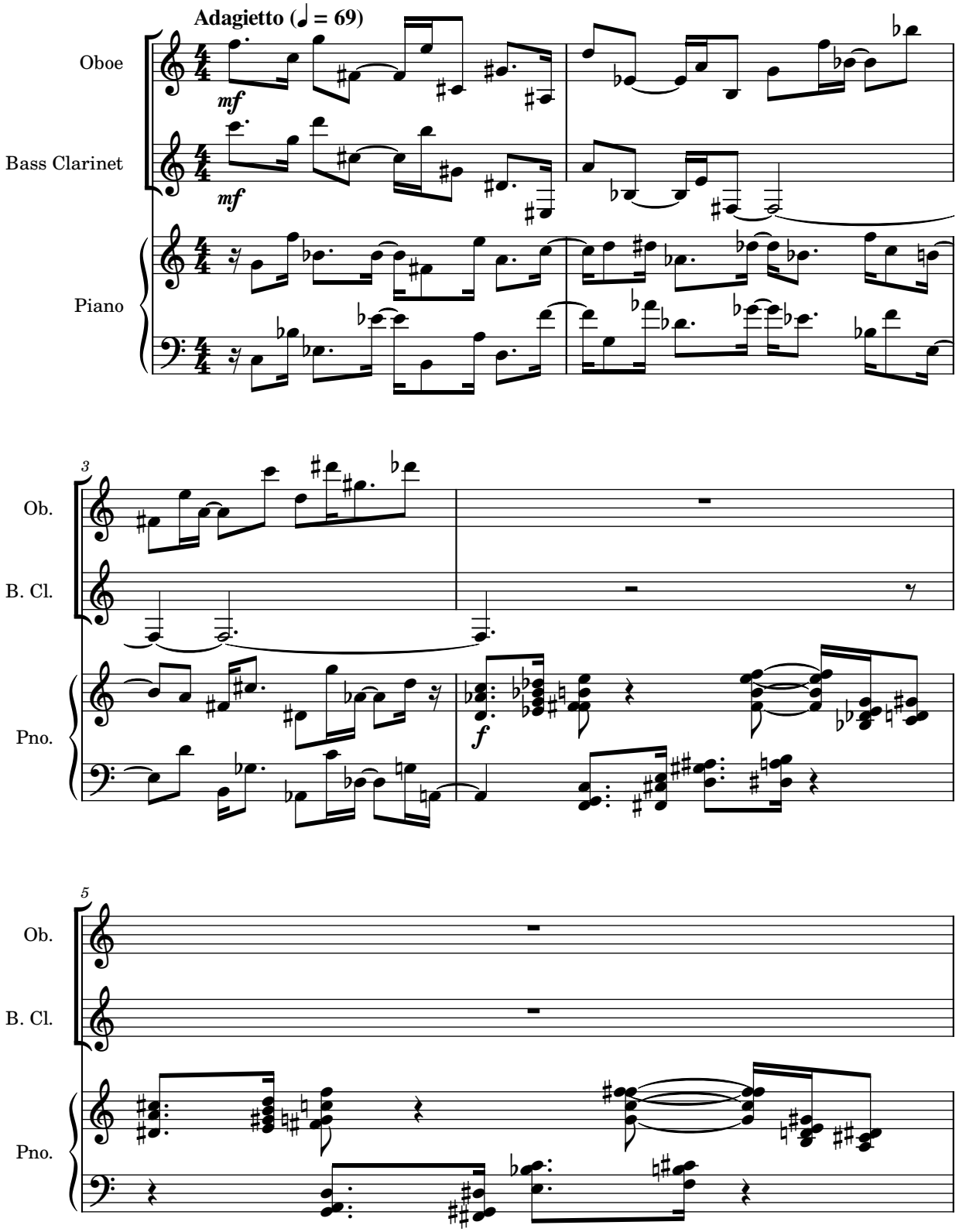
3.5 Draft 3

3.6 Final Version

Space Dust

twelve-tone technique

Gordon Chan



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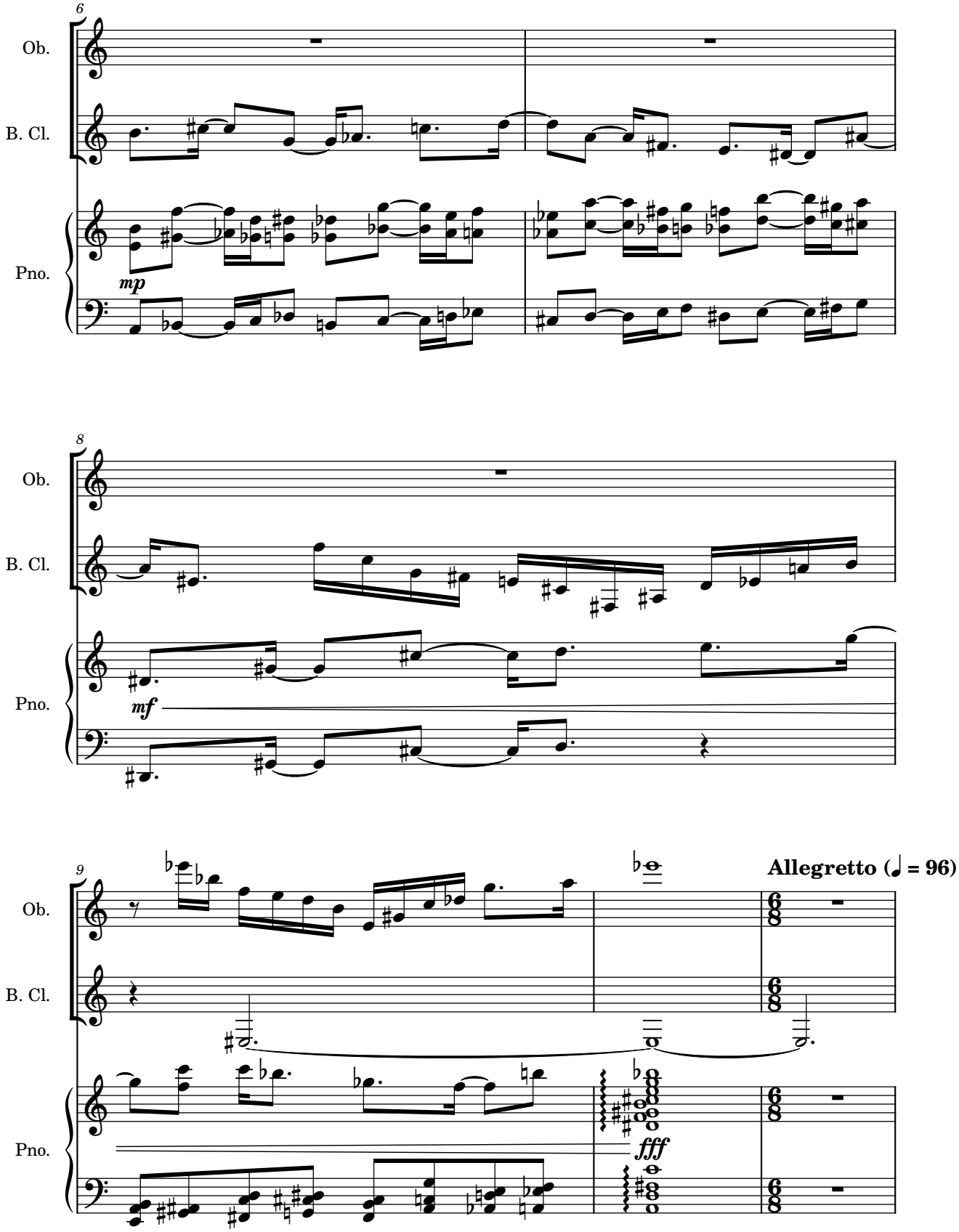

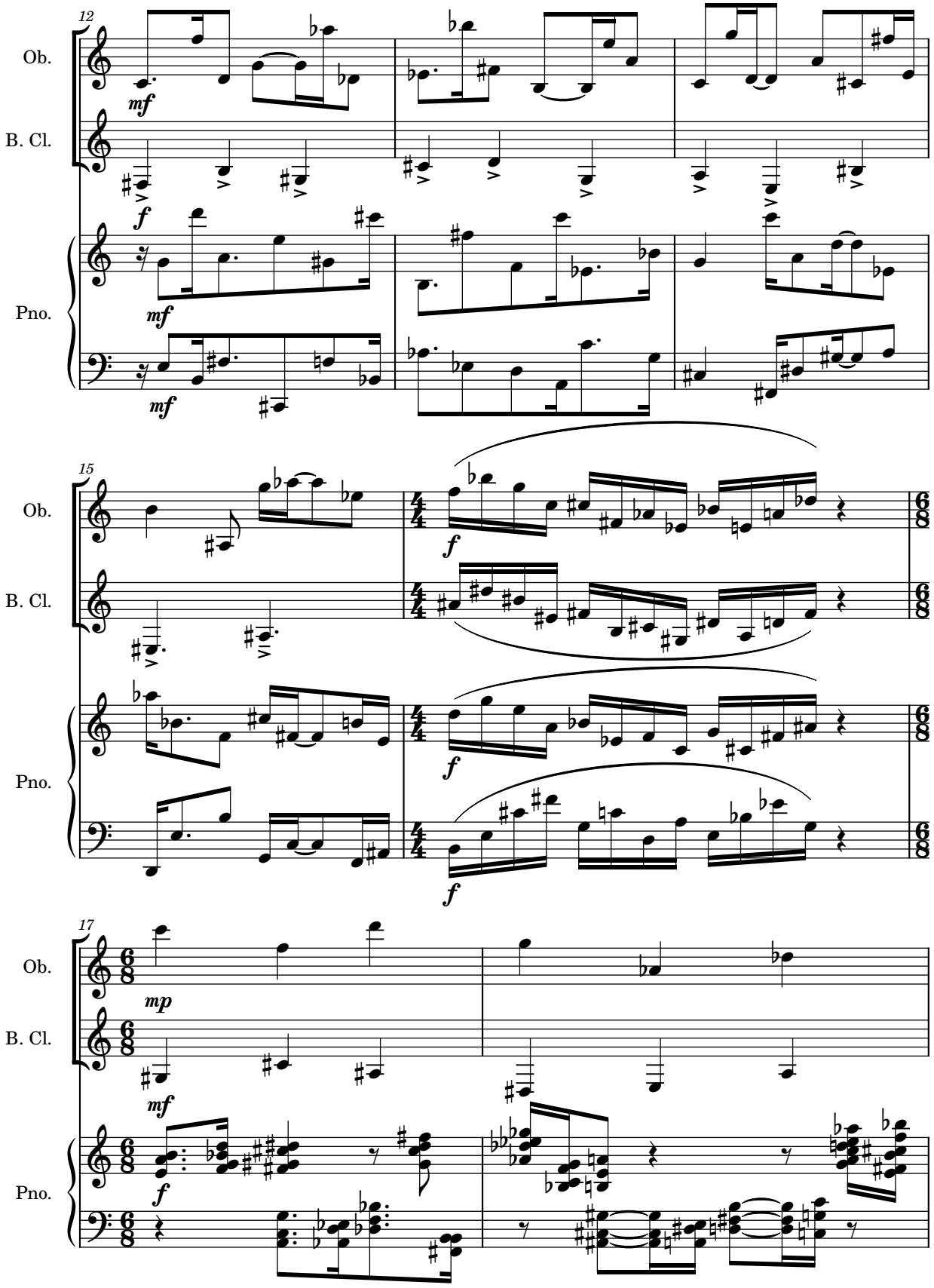
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Ob.
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Pno.
mf
f
mf
mf
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f
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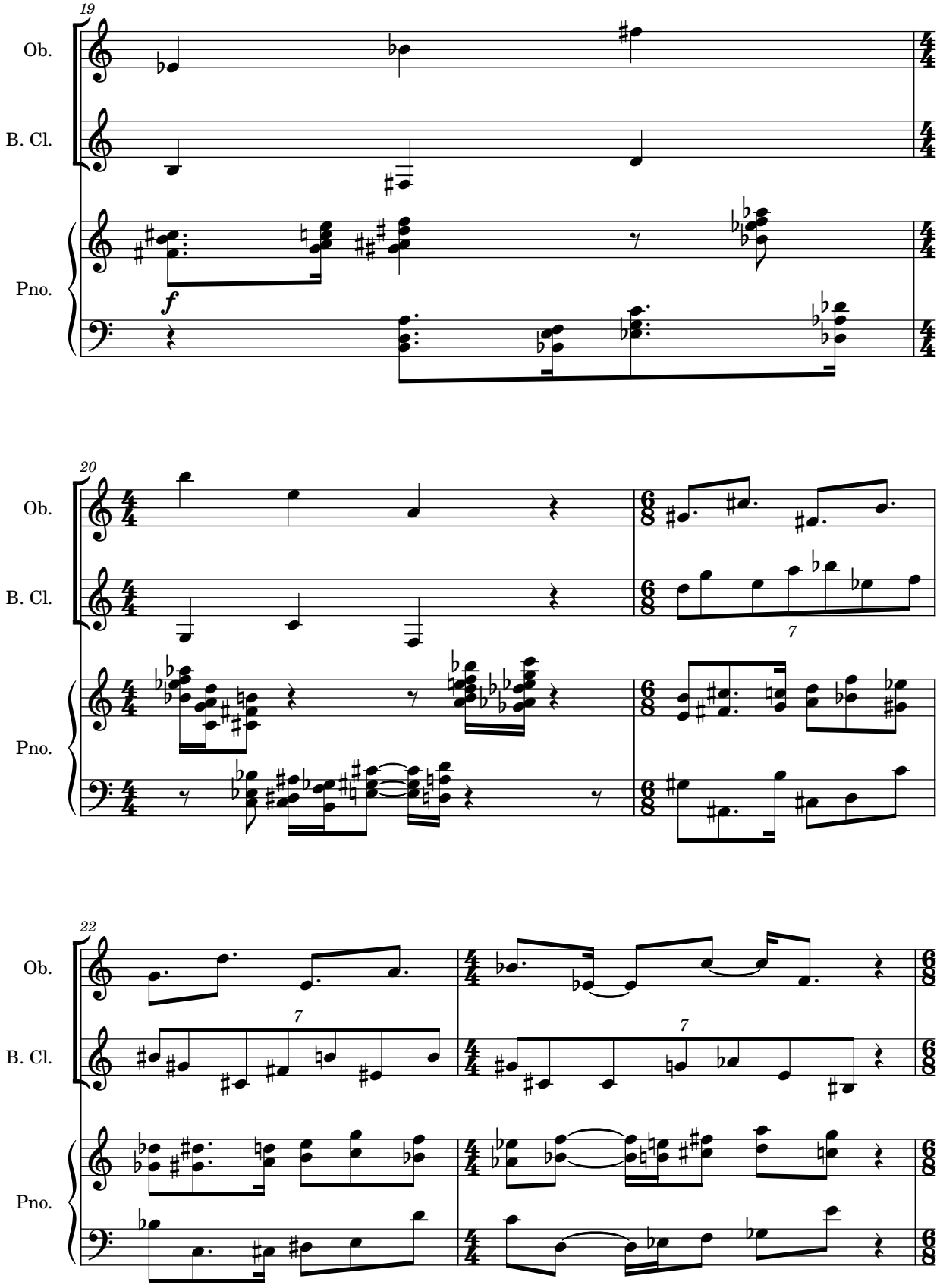
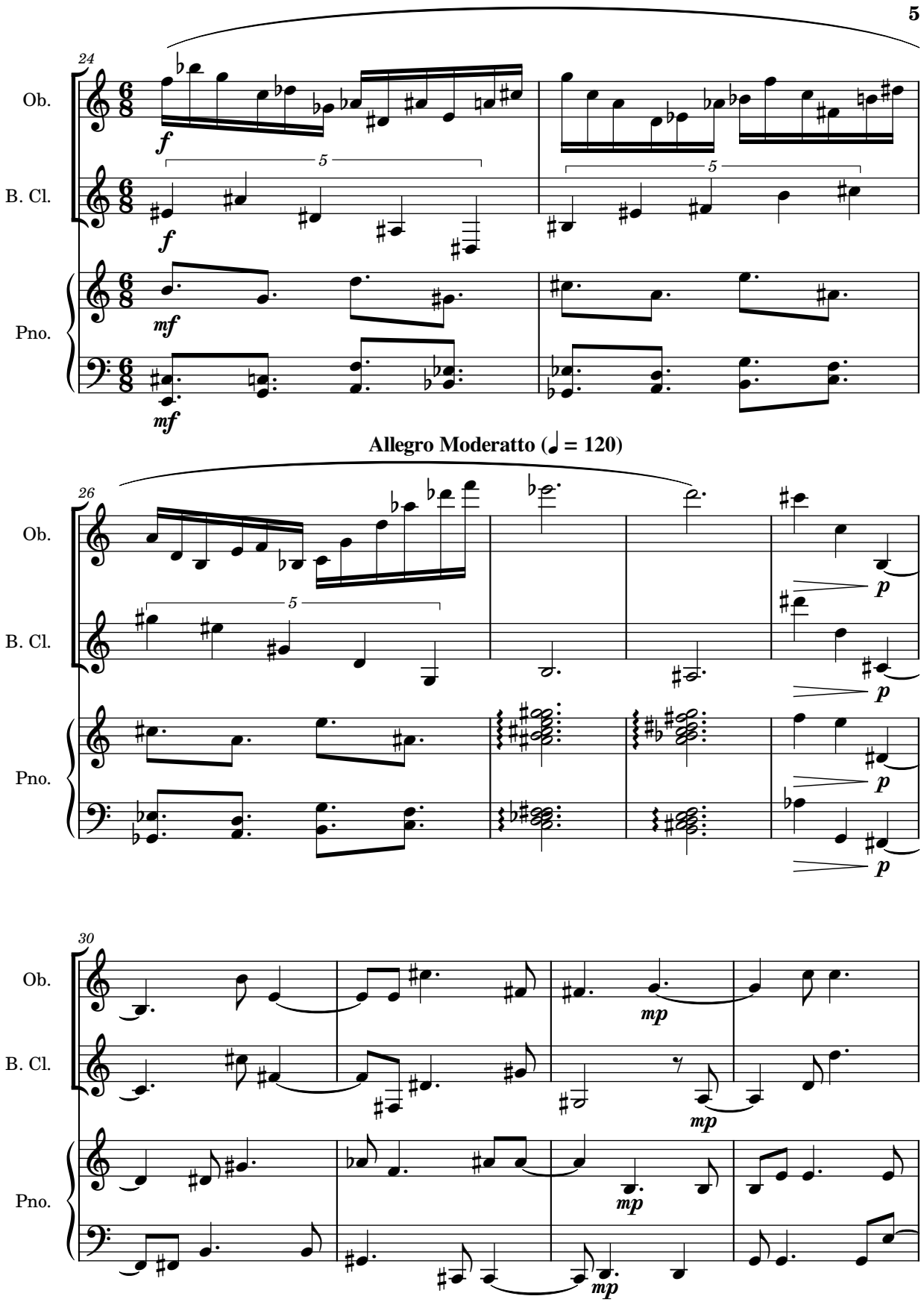
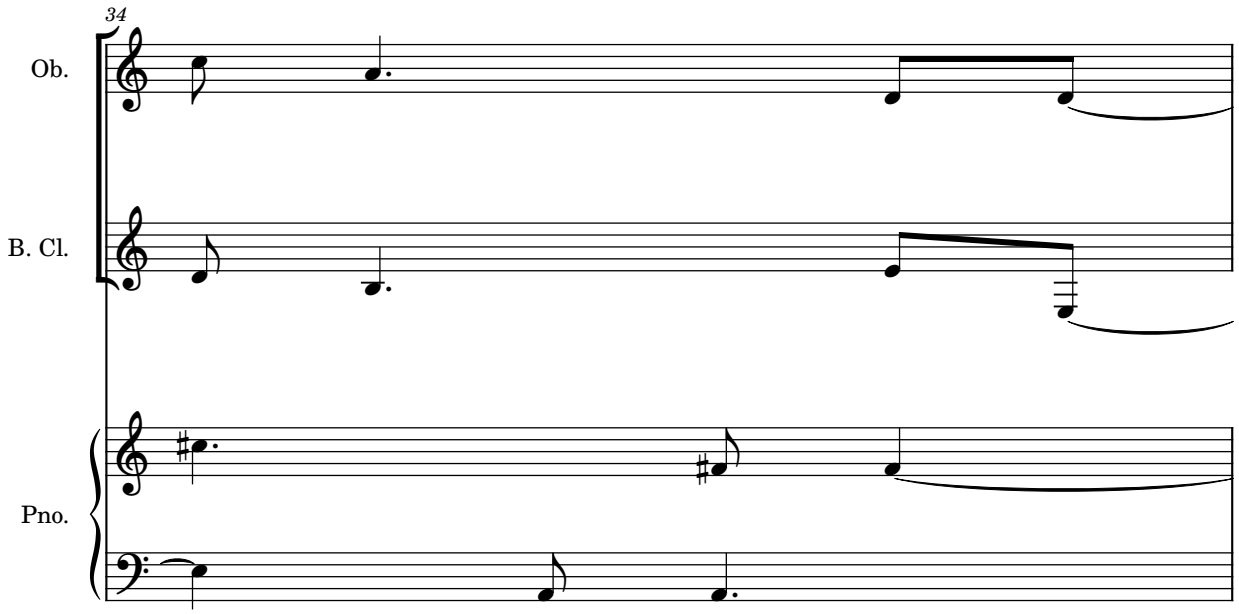
Ob.
B. Cl.
Pno.
mp
mf
f

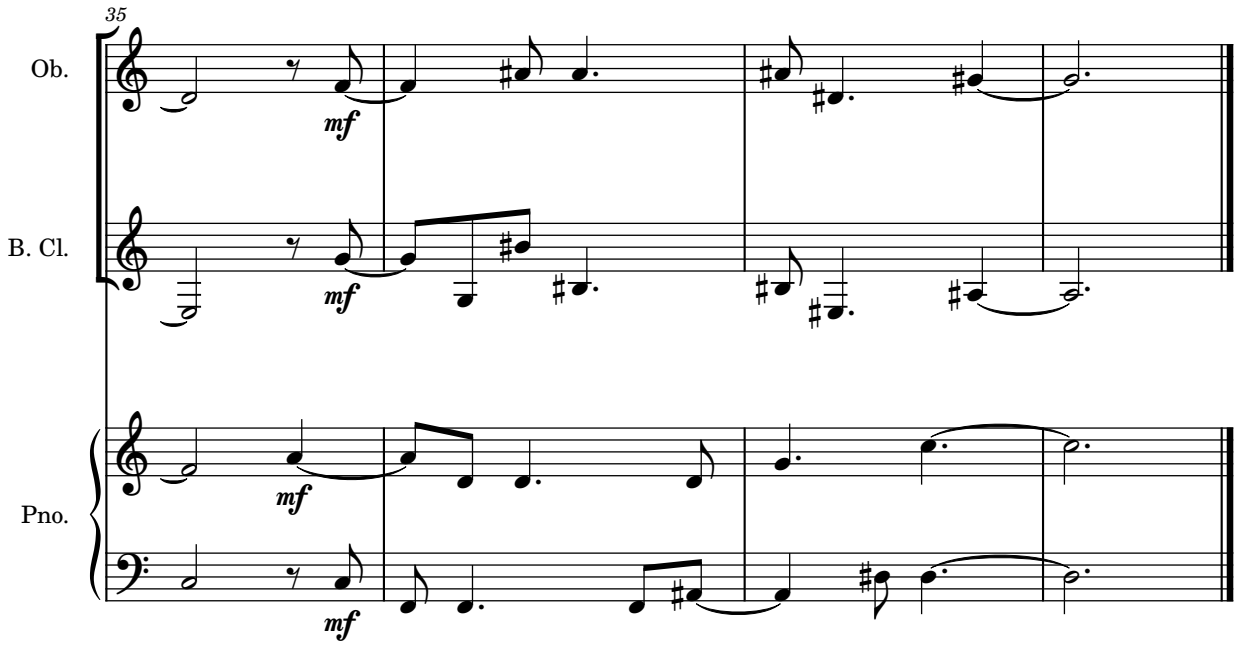
4



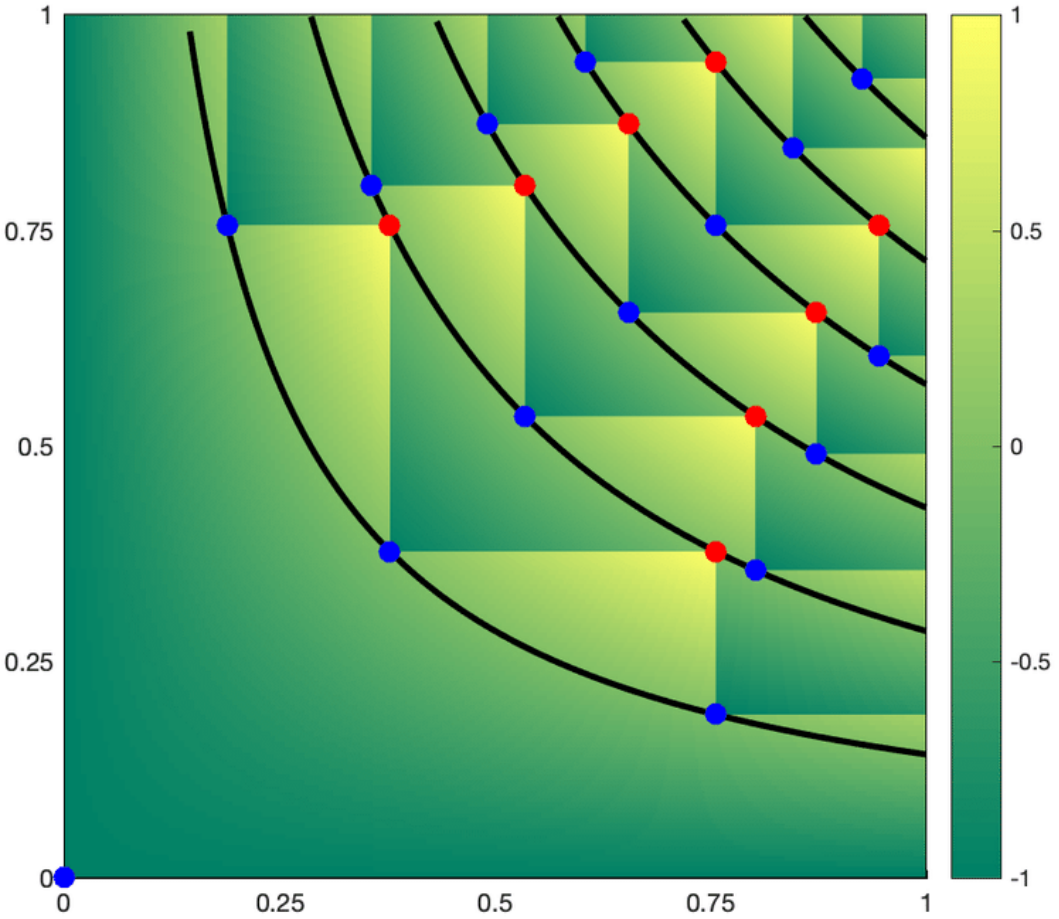

24
Ob.
B. Cl.
Pno.
f
mf
5
Allegro Moderatto (♩ = 120)
26
p
30
mp

6





4 Axiomatic Approximation (for Clarinet Quintet)



4.1 Working Timeline

Draft	Date	Area explored / Changes made
1	October 2020	
2	January 2021	
3	March 2021	
Final	May 2021	

4.2 Write-up on Axiomatic Approximation

The title of **Axiomatic Approximation** comes from the fundamental axioms in mathematics and the usual idea of approximation in science. There are three main sections in the work. The first section is a strange waltz in $\frac{5}{8}$. The second section is a waltz in $\frac{6}{8}$. The third section is a swing beat in $\frac{4}{4}$. The orchestration of the work is that of a clarinet quintet, however, unlike the classical instrumentation where there are two violins and no double bass, I have reduced one violin in exchange of a double bass, as I feel this there should be a higher presence of lower register sounds in my work. It is worthy to note that, the tempos of each section are adjusted in such a way that the pulse is constant throughout the whole piece. In particular, the pulse is maintained at 69 B.P.M..

The first section of the work portray a light-hearted feel. Starting with cascading pizzicato, the five-beat feel is established at the start of the section. The pizzicato of the strings may often also be associated with a sense of cuteness, which sets the mood for the whole section. This section is referred to as 'strange waltz' because five beat is one beat less than the multiple of three, six. In terms of harmony and key centres, they are rather unstable to suit the atmosphere. For instance, the piece starts in the key of F major. However, in bar 11, it is quickly changed to the key of F♯ major. The modulation here utilises the melody as a pivot, as the melody moves down chromatically from C to B♭. After that, the same theme is played in B♭ with clarinet rhythmic embellishments. The original theme is played once again by the clarinet and higher strings in a tutti fashion. The same modulation is repeated from the key of F♯ major to the key of G major. An interruption, however, changes in key abruptly to F major at bar 30 for two bars, and at 32 abruptly to F♯ major. This G→F→F♯ movement is inspired by chromatic enclosure where the target key is F♯ but before reaching the target, the keys a semitone around the target key is first played. At rehearsal mark C, a chord progression of ♭VII→♭iii→VI→ii→V→I then take the key from F♯ to G. Between the transition of section one and section two, there is chromatic movements in the strings to modulate from F♯ major to D minor.

This second section is a waltz in compound time. It begins with a opening melody that outlines the overall tonal centre of the whole section. This opening portion span ten bars, establishing the key of D minor. Then, the cello and double bass plays in parallel fifths an ostinato pattern that highlights heavily on the compound meter feel. It also reinforce the harmony. After the background of the theme has been well introduced into the music, the clarinet starts play the main melody of this section, accompanied by violin and viola. The pizzicato played by the upper strings outline the meter and suggest a harmonic progression which agrees with the melody played by the clarinet. After the whole melody is played once, the melody is then taken over by the upper strings, with lower strings playing long bass notes instead of downbeat quavers. With the melody reiterated once more, the clarinet plays flourishes on top of the original melody in the form of virtuosic fast scales. These scales are D Hijaz Kar ascending and D Locrian descending. An interruption soon follows as the melody is cut off by an abrupt entry of the cello ostinato pattern. This interruption is responded by the other instruments gradually until rehearsal mark F where the clarinet, upper strings and lower strings are each playing phrases that have separate lengths that converge bar 78. The following two bars, outlining F♯, D, B and G in the bass, act as a cushion to get everyone ready for rehearsal mark G, which leads to the end of the waltz.

The last section is a transition leading into a fast swung passage. The transition is opened by the double bass playing the note G and the clarinet imitating the melody from the previous section, followed by a characteristic arpeggio that land on the note G, the same note that the double bass is playing, just four octaves higher. After that, the violin, viola and cello play fragments of four

4.3 Draft 1

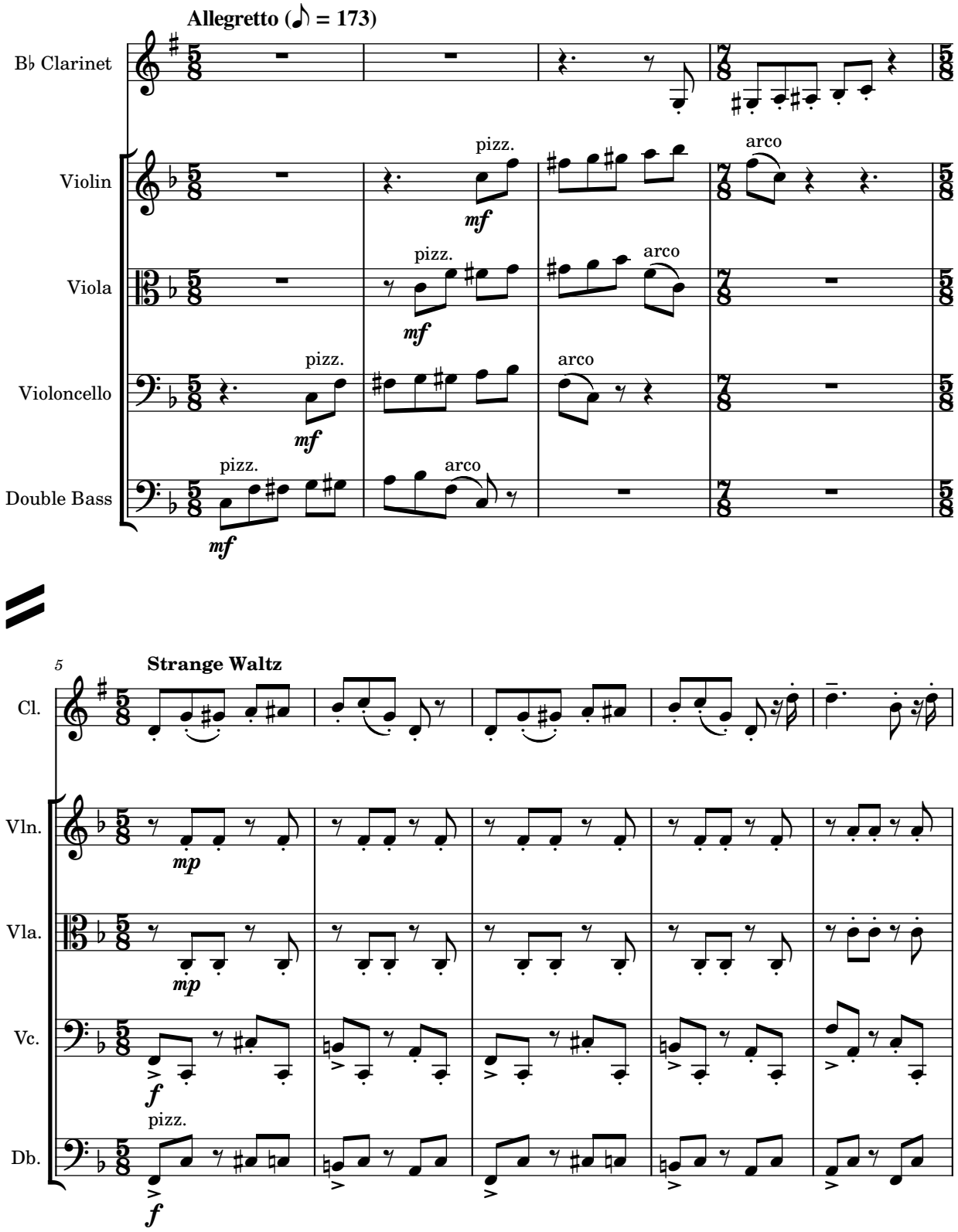
4.4 Draft 2

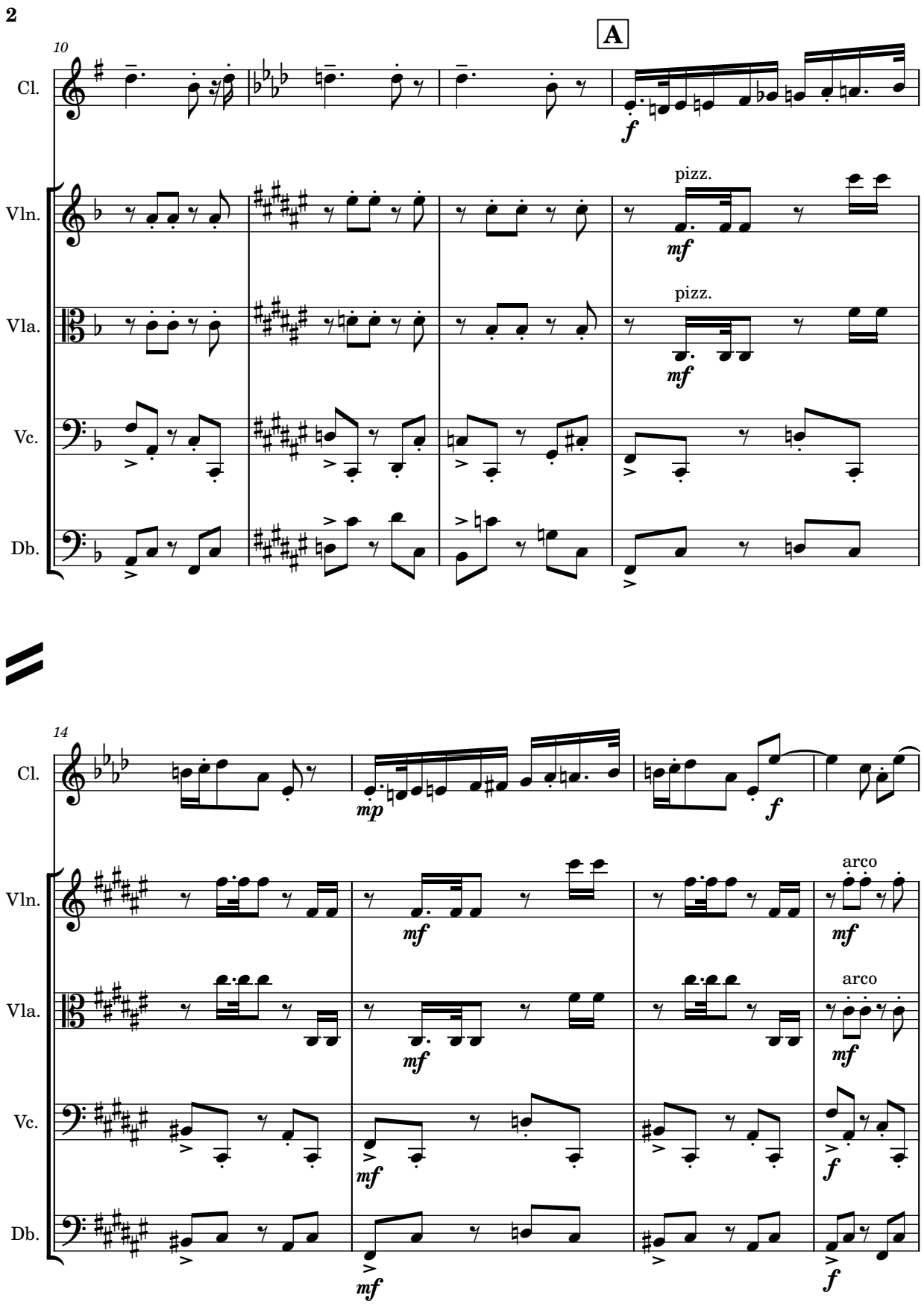
4.5 Draft 3

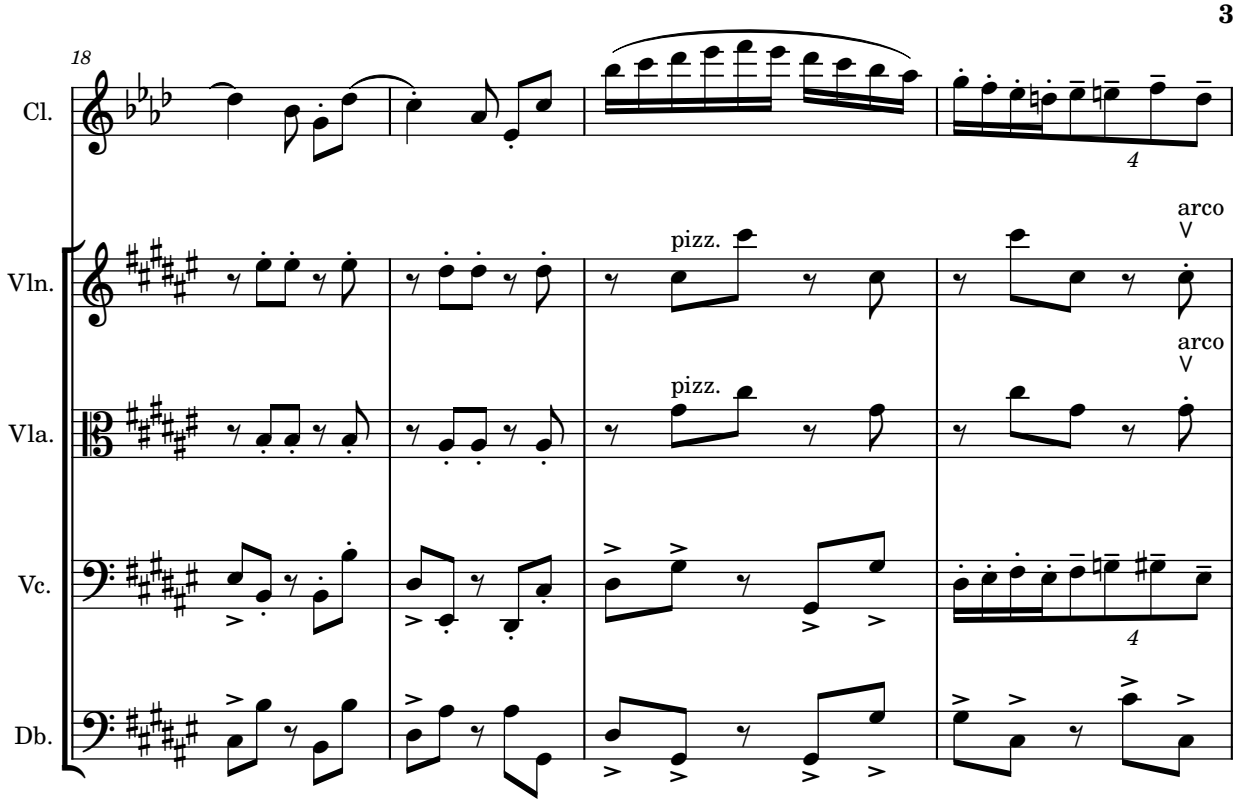
4.6 Final Version

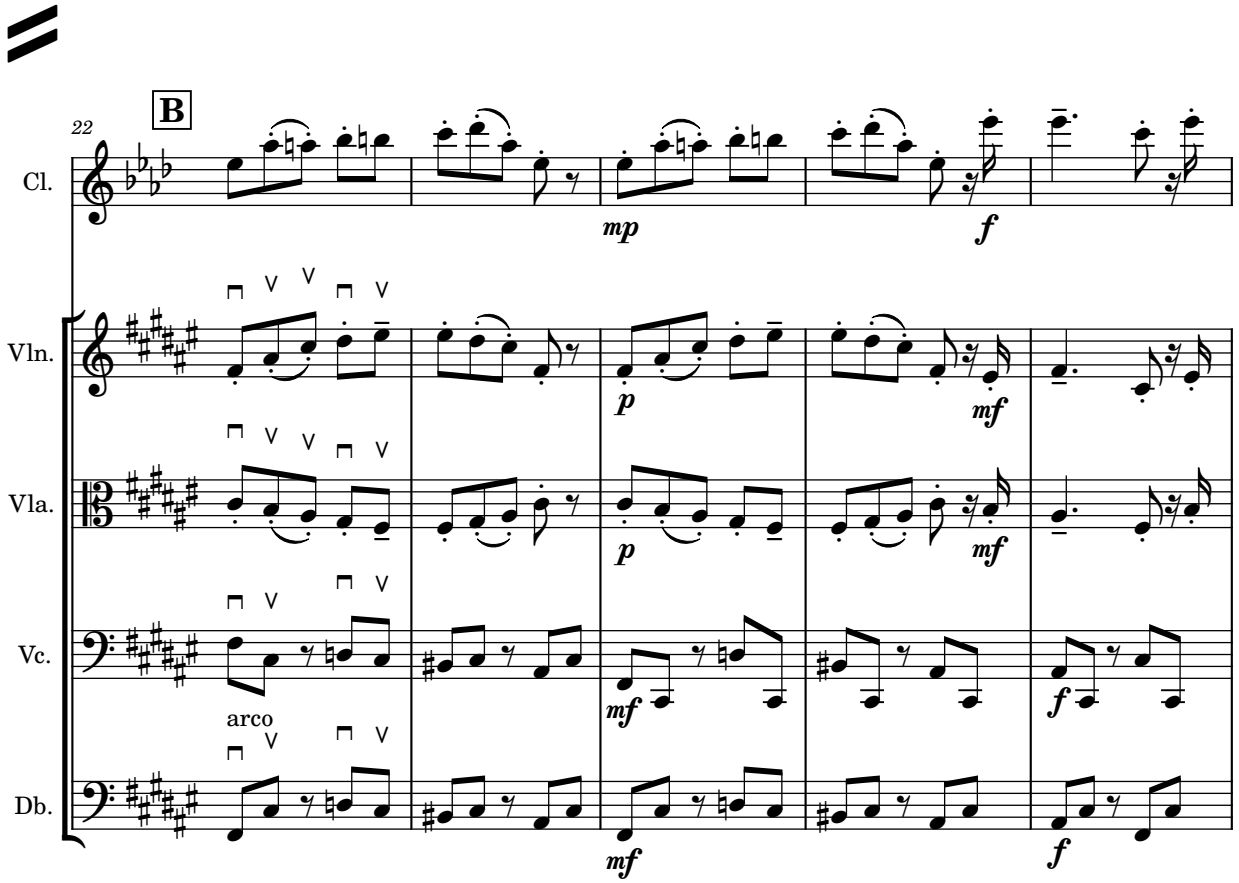
Axiomatic Approximation

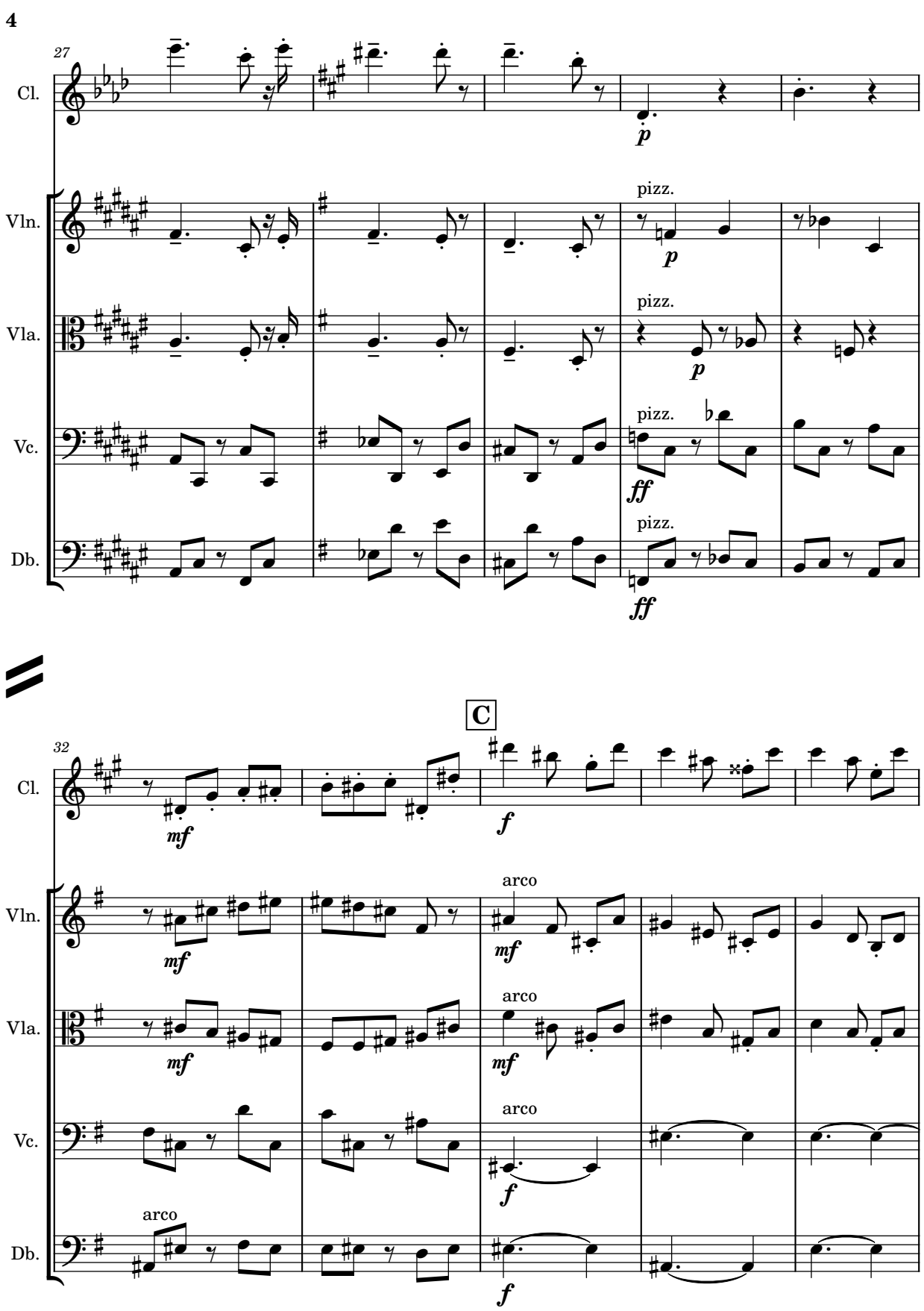
Gordon Chan

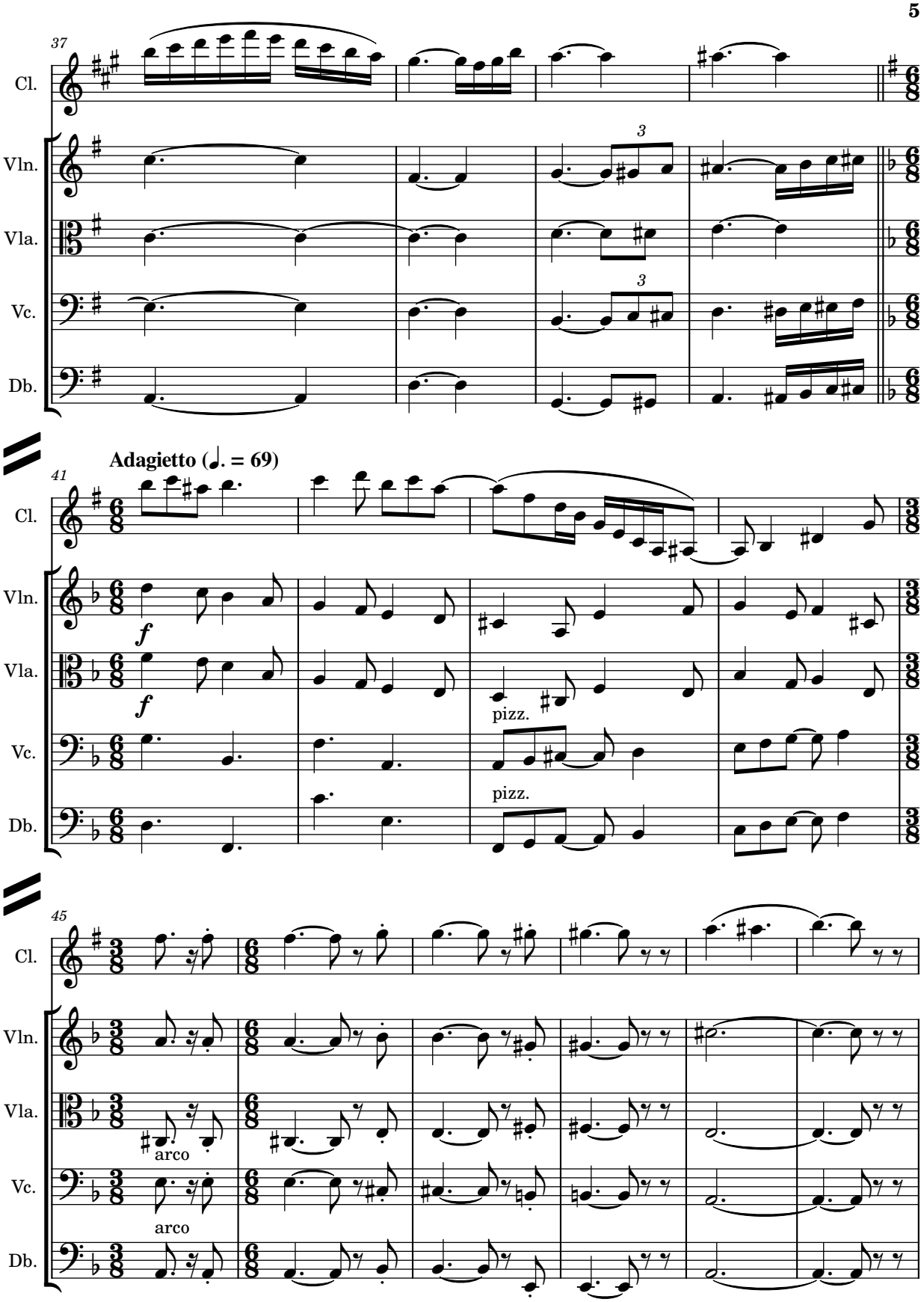


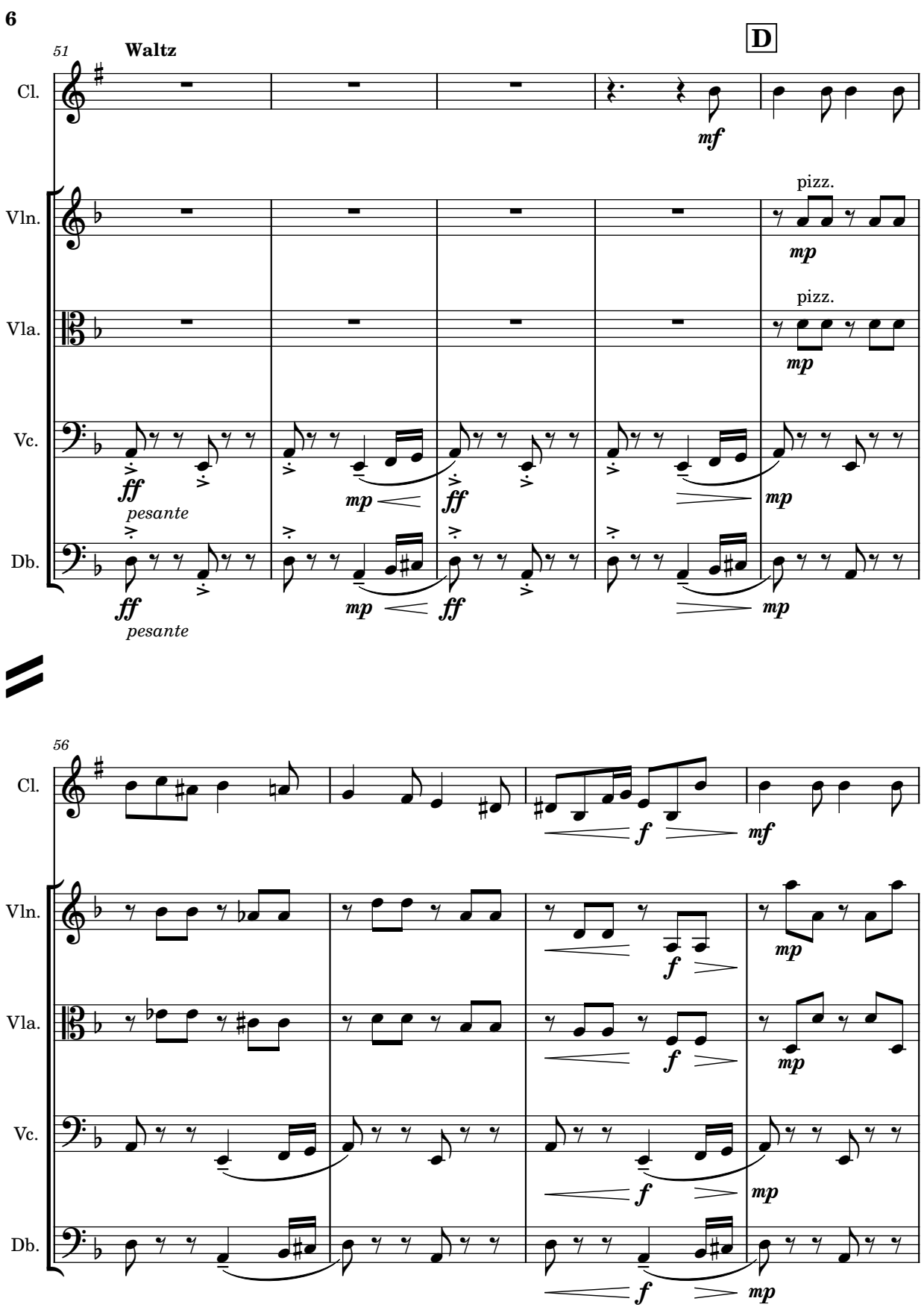

2
10
A
Cl.
Vln.
Vla.
Vc.
Db.
pizz.
pizz.
14
arco
arco

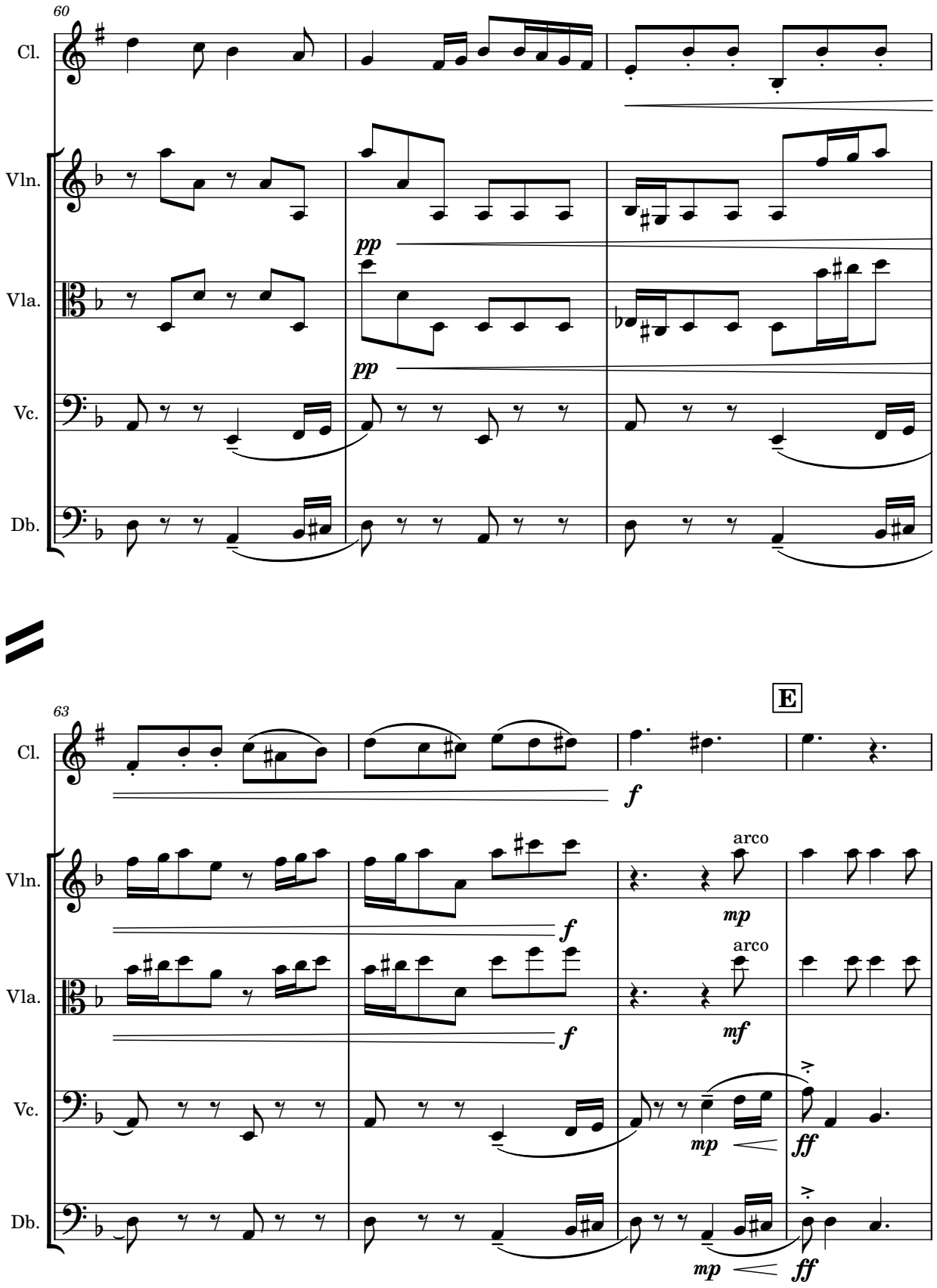

18
Cl.
Vln.
Vla.
Vc.
Db.
pizz.
arco
pizz.
arco
4
4


22
B
Cl.
Vln.
Vla.
Vc.
Db.
arco
mp
f
p
mf
p
mf
mf
f
mf
f

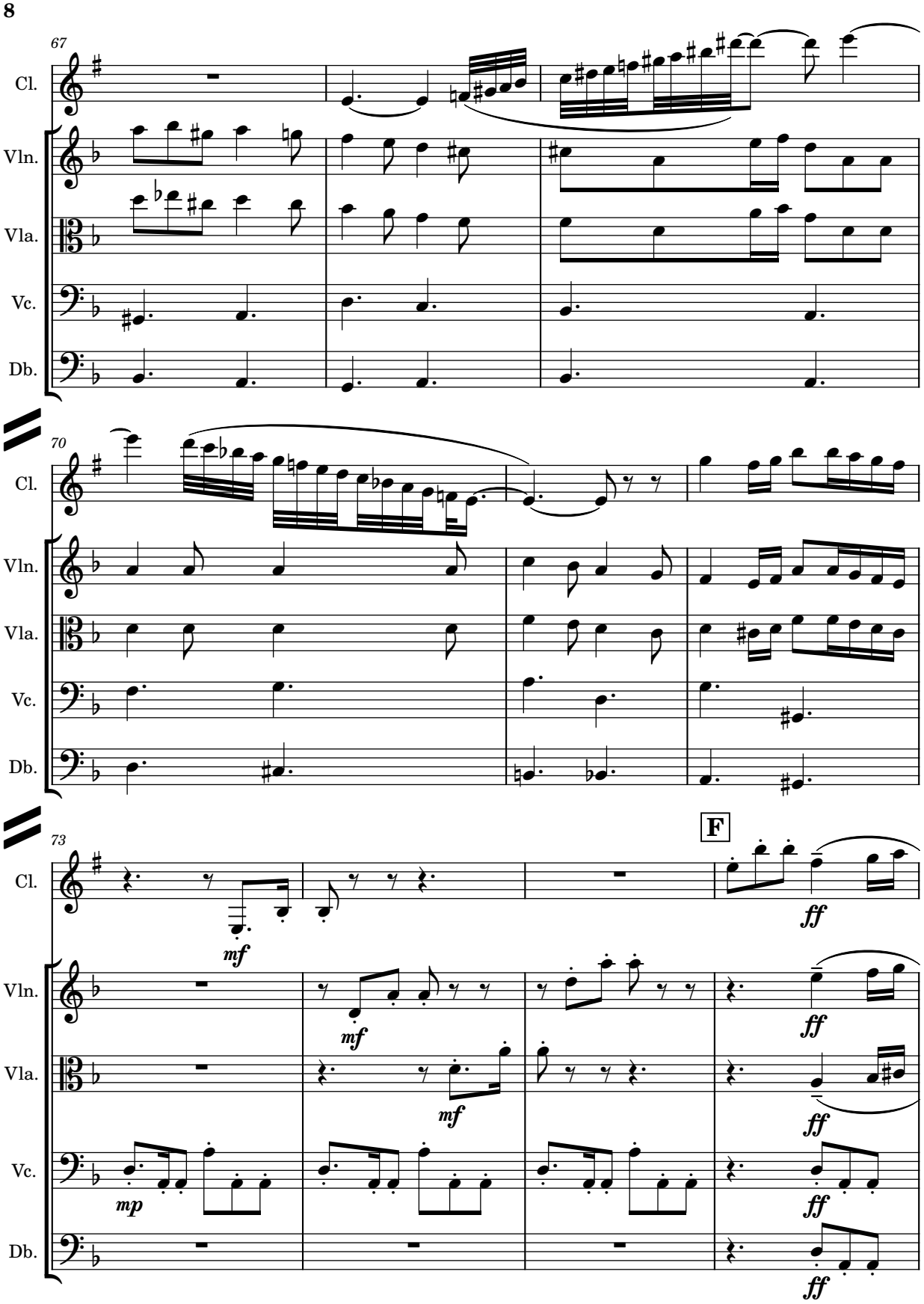

4
27
Cl.
Vln.
Vla.
Vc.
Db.
pizz.
arco
C
32
mf
f
ff
p

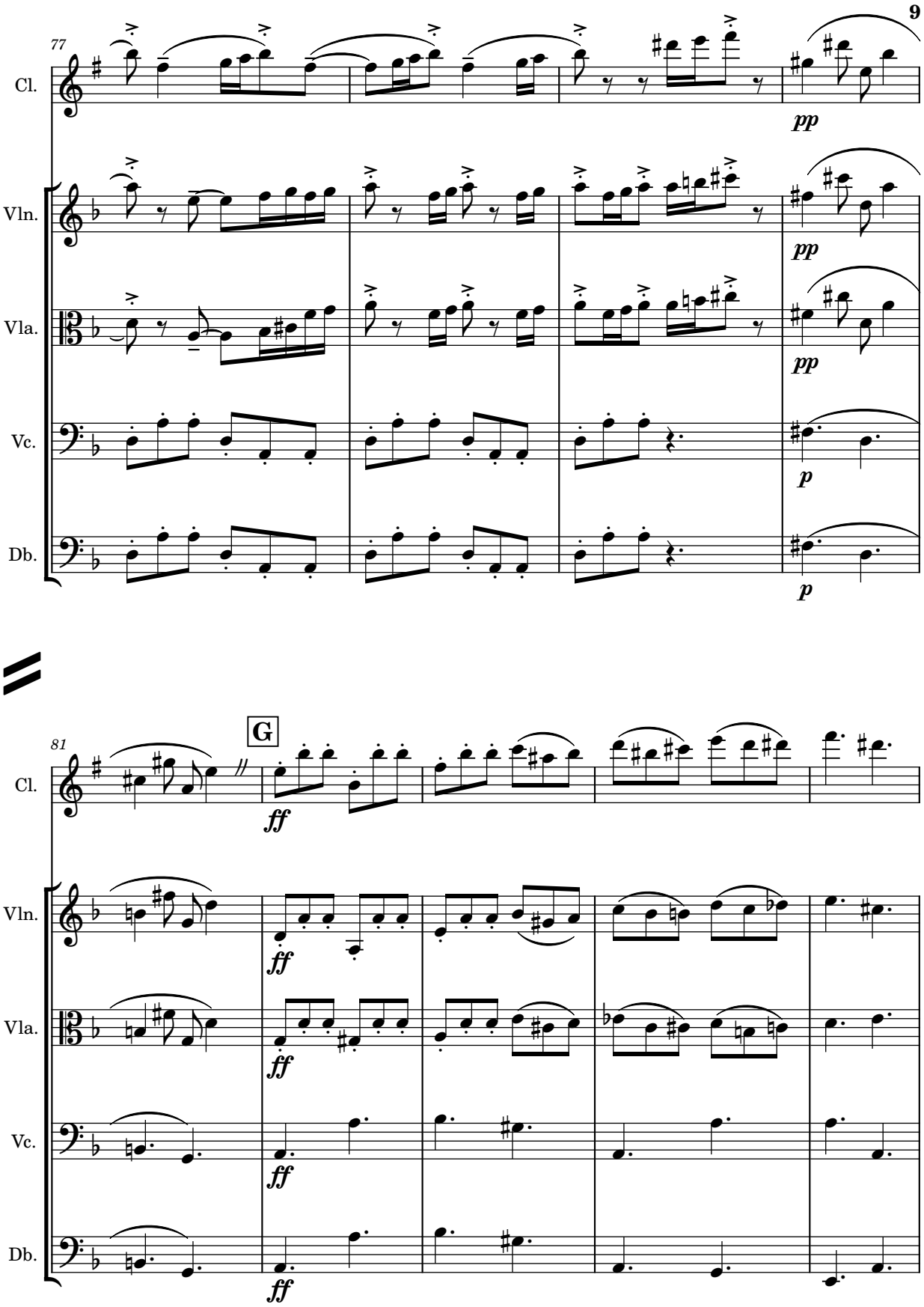

37
Cl.
Vln.
Vla.
Vc.
Db.
3
3
Adagietto (♩. = 69)
41
f
f
pizz.
pizz.
45
arco
arco

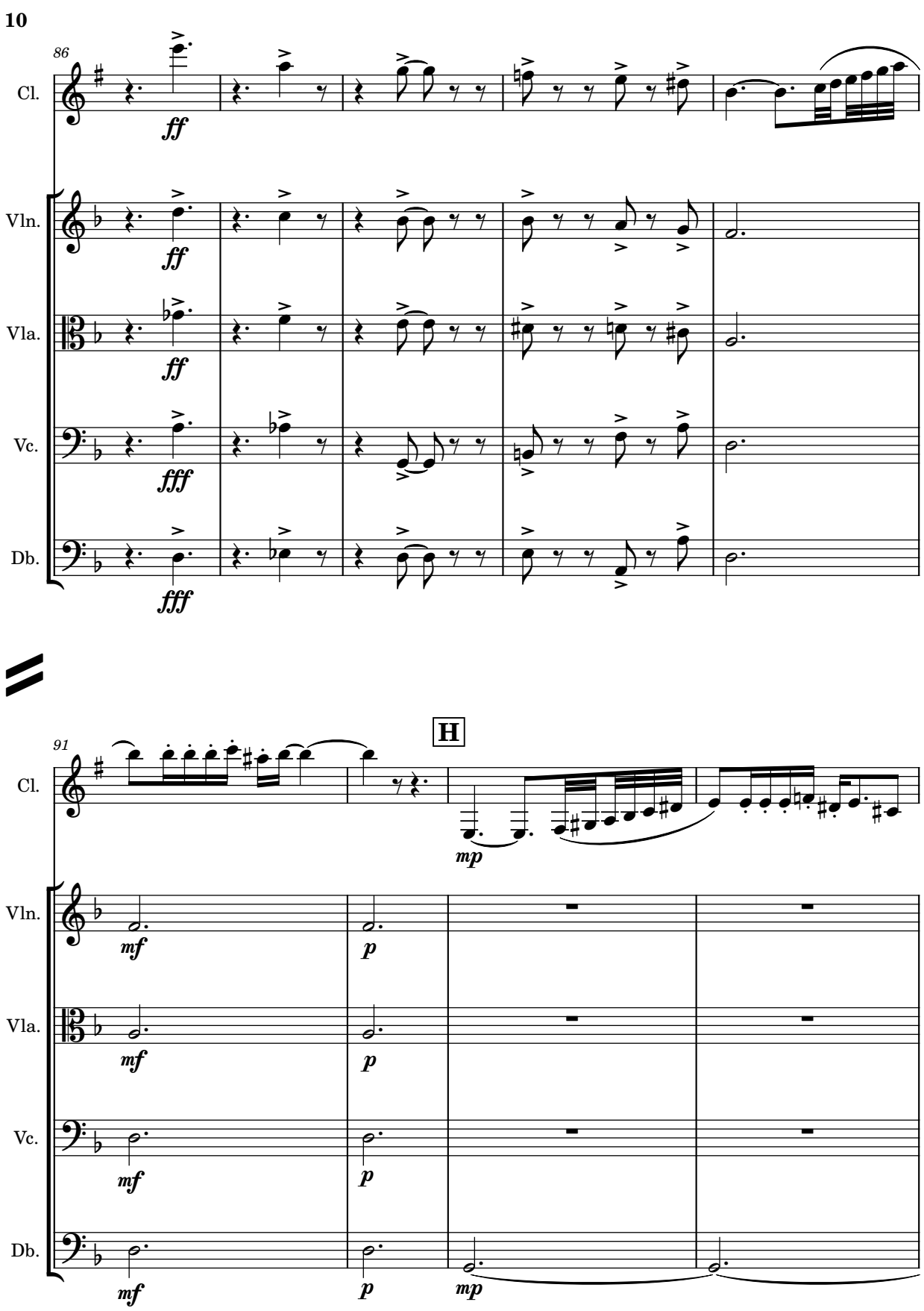

6
51
Waltz
D
Cl.
Vln.
Vla.
Vc.
Db.
pizz.
pizz.
pesante
pesante
56

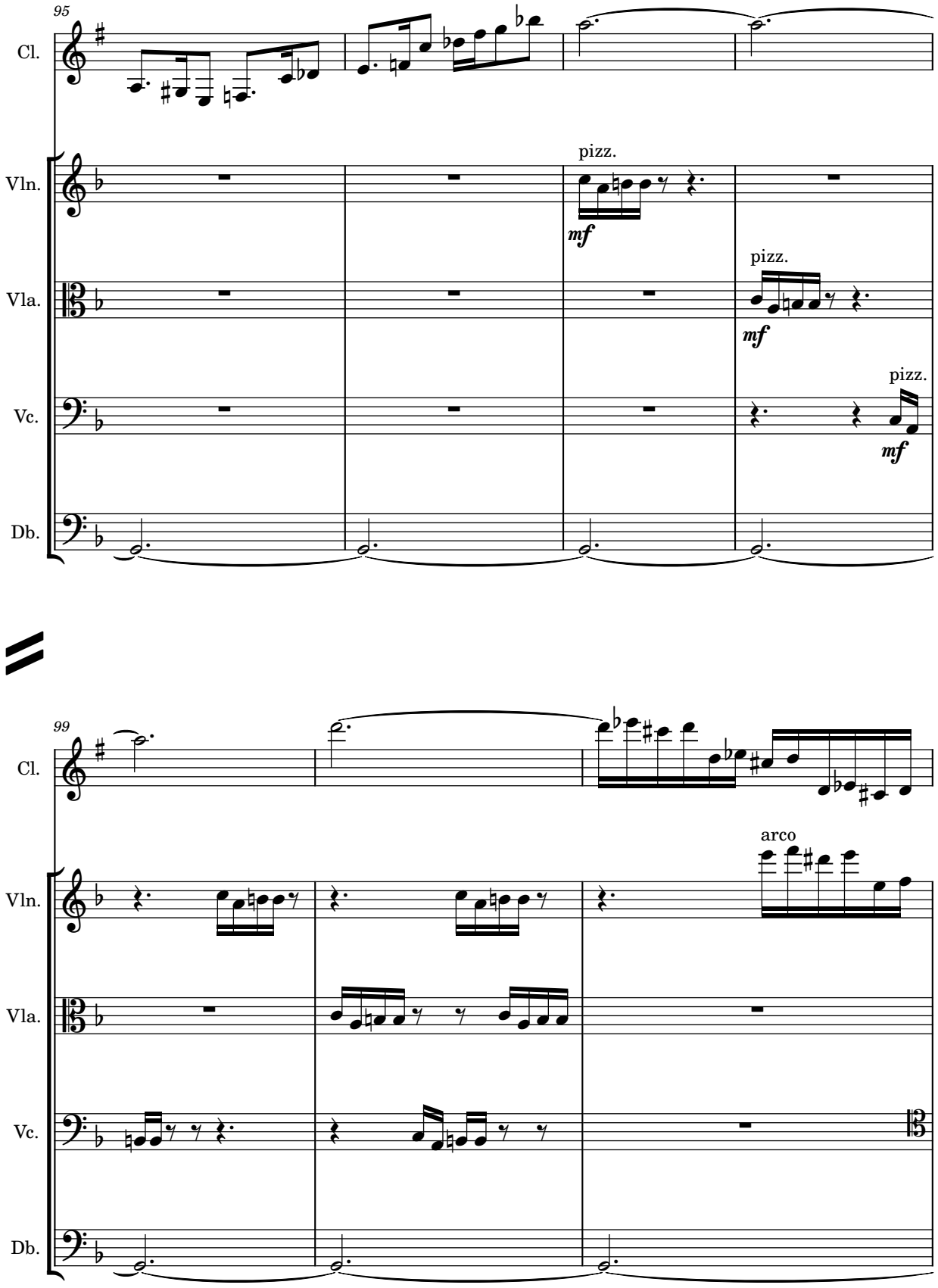

60
Cl.
Vln.
Vla.
Vc.
Db.
pp
pp
63
E
f
f
f
arco
arco
mp
mf
mp
mp
ff
ff

8

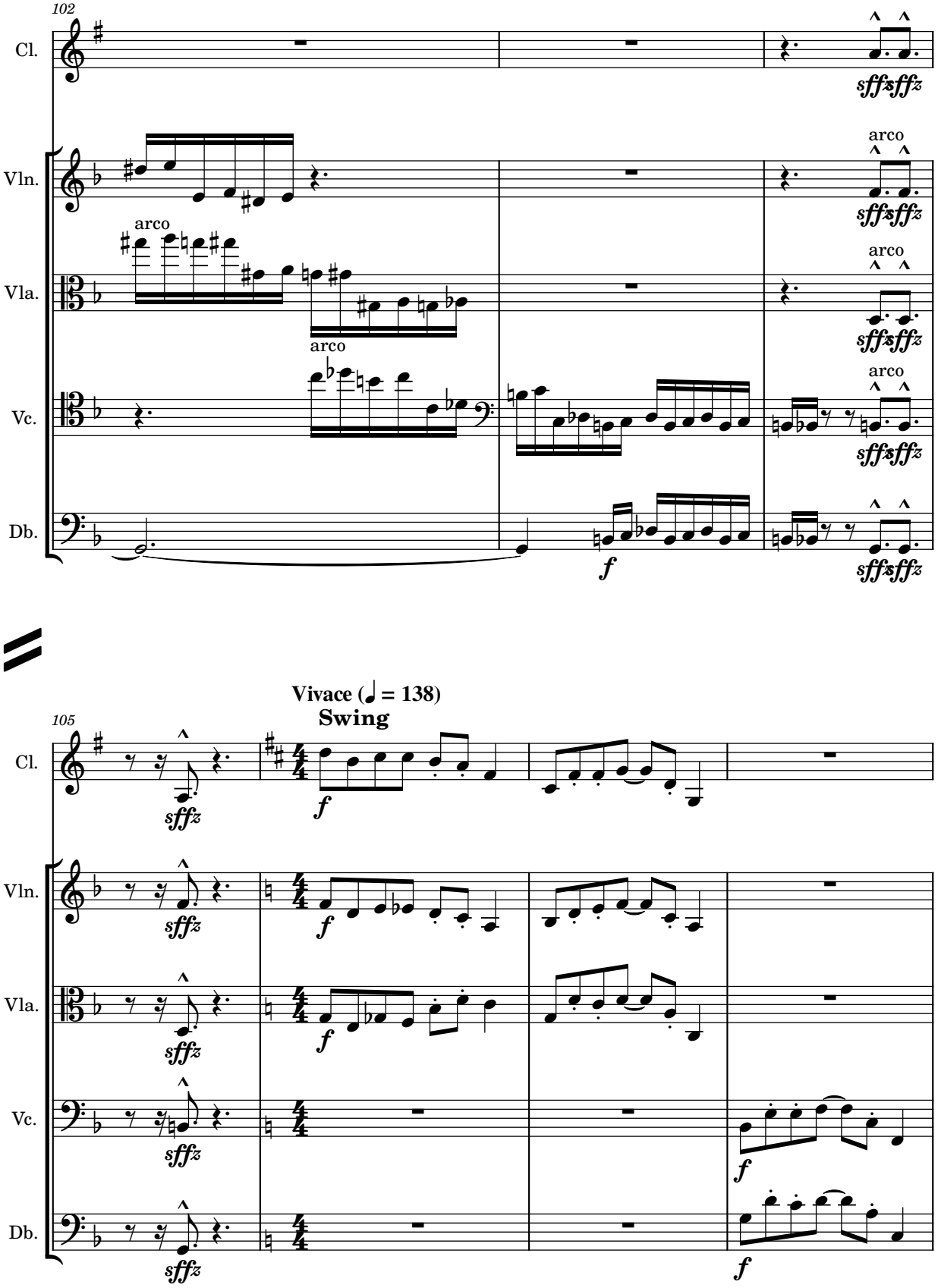

67
Cl.
Vln.
Vla.
Vc.
Db.
70
Cl.
Vln.
Vla.
Vc.
Db.
73
F
Cl.
mf
ff
Vln.
mf
ff
Vla.
mf
ff
Vc.
mp
ff
Db.
ff

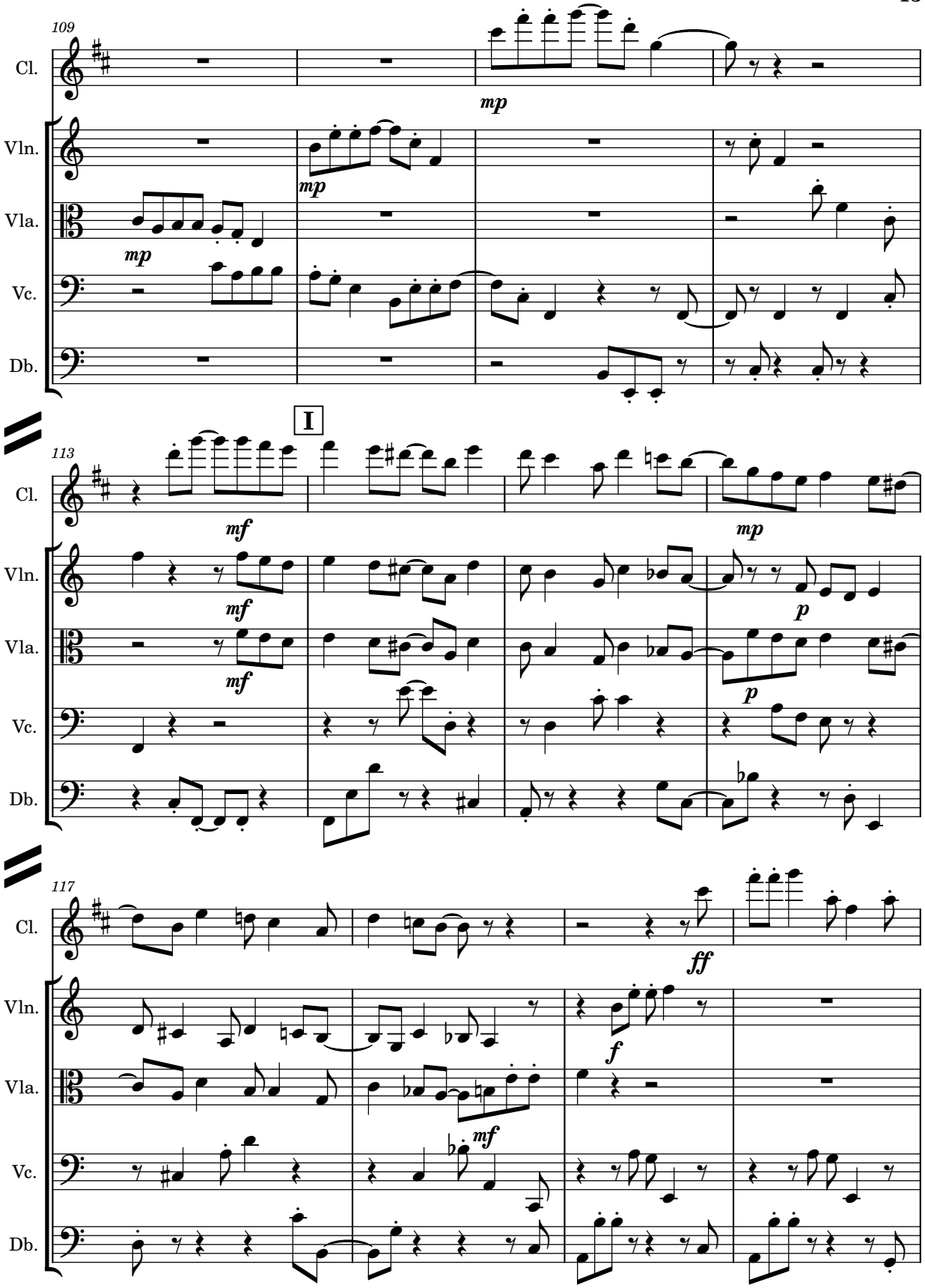

9
77
Cl.
Vln.
Vla.
Vc.
Db.
pp
pp
pp
p
p
G
81
Cl.
Vln.
Vla.
Vc.
Db.
ff
ff
ff
ff
ff

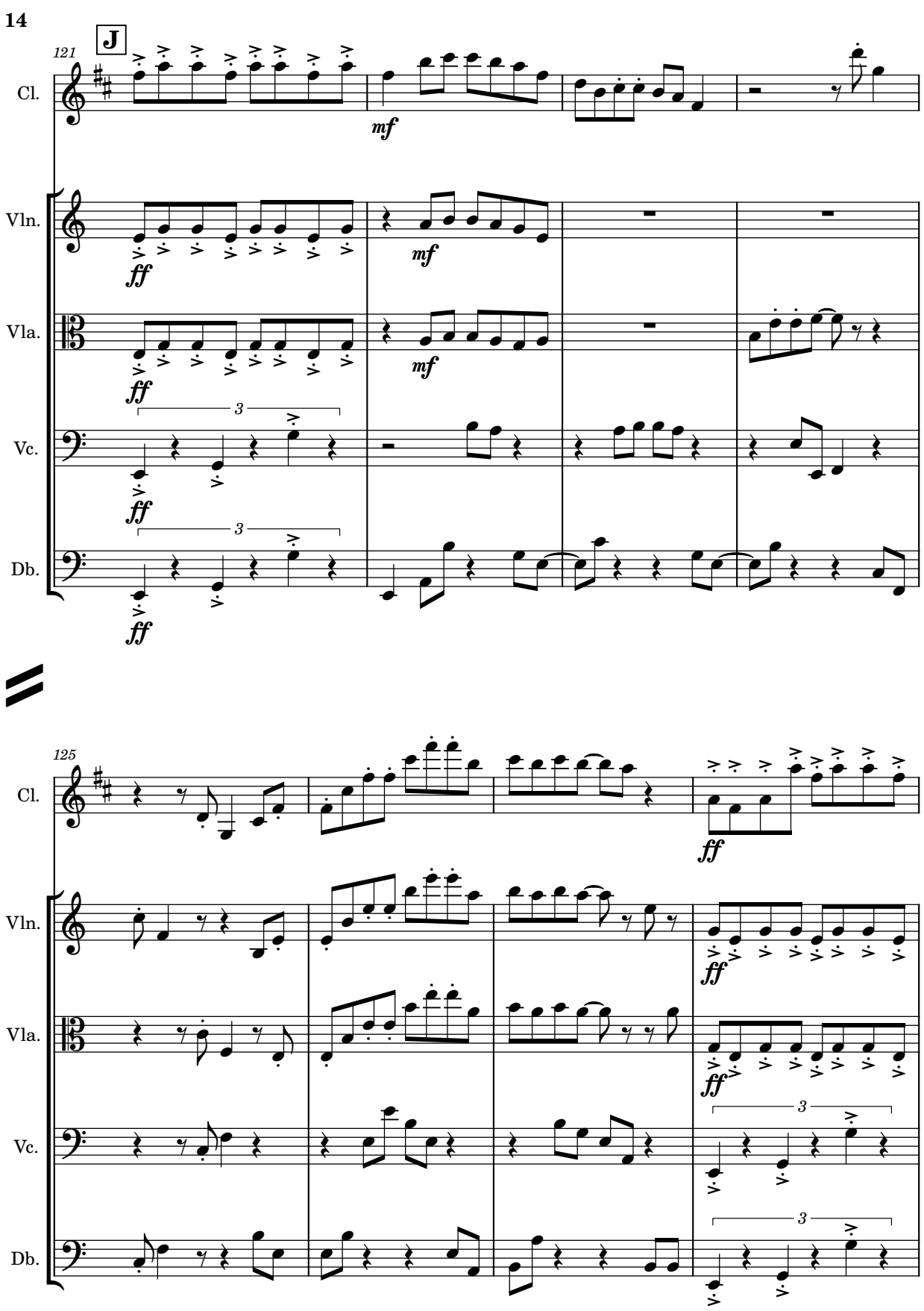

10
86
Cl.
Vln.
Vla.
Vc.
Db.
ff
fff
91
H
mp
mf
p

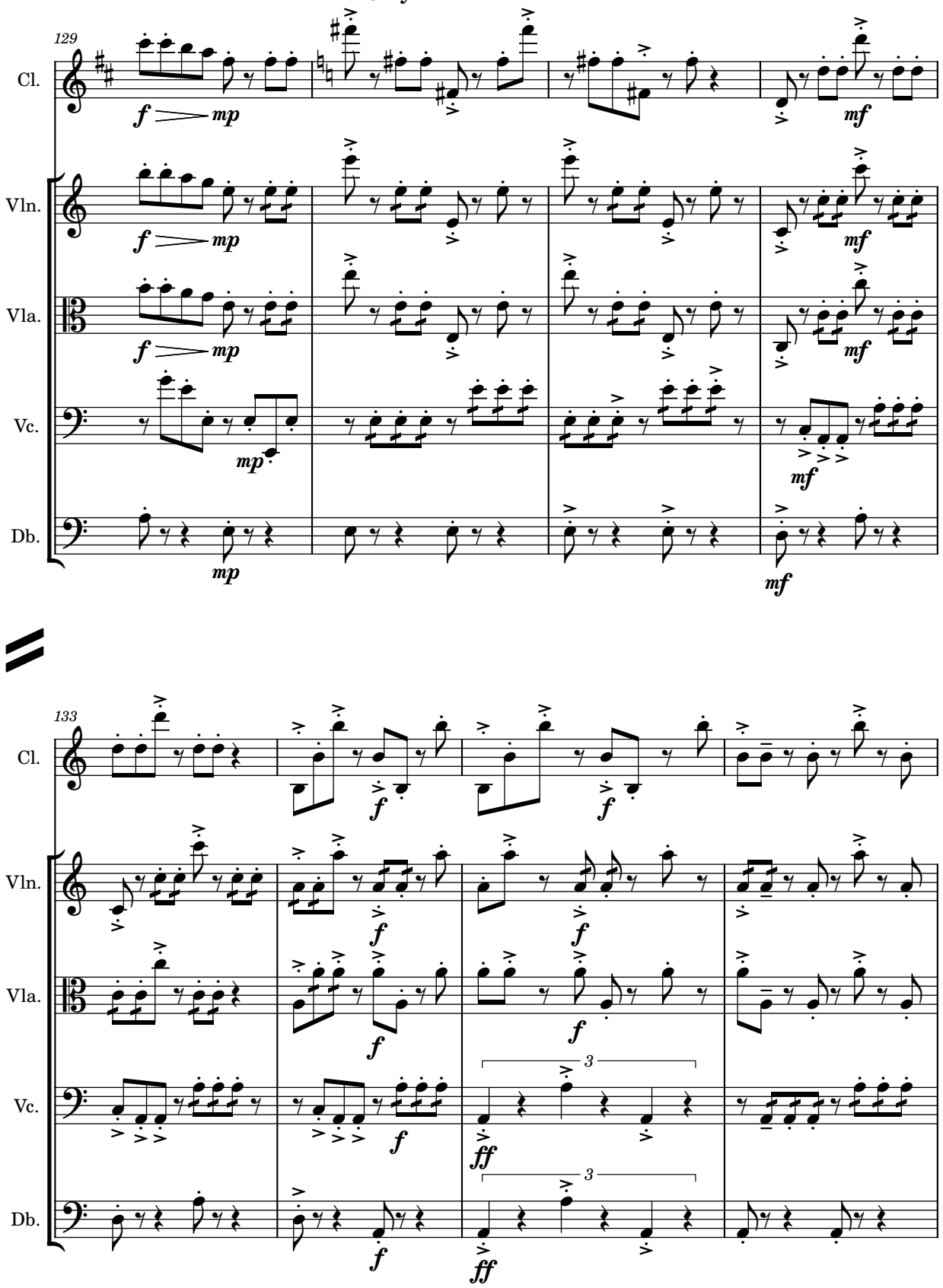

95
Cl.
Vln.
pizz.
mf
Vla.
pizz.
mf
Vc.
pizz.
mf
Db.
99
Cl.
Vln.
arco
Vla.
Vc.
Db.

12




109
Cl.
Vln.
Vla.
Vc.
Db.
mp
mp
mp
I
113
mf
mf
mf
mp
p
p
117
ff
f
mf


14
J
121
Cl.
Vln.
Vla.
Vc.
Db.
mf
ff
3
125


129
Cl.
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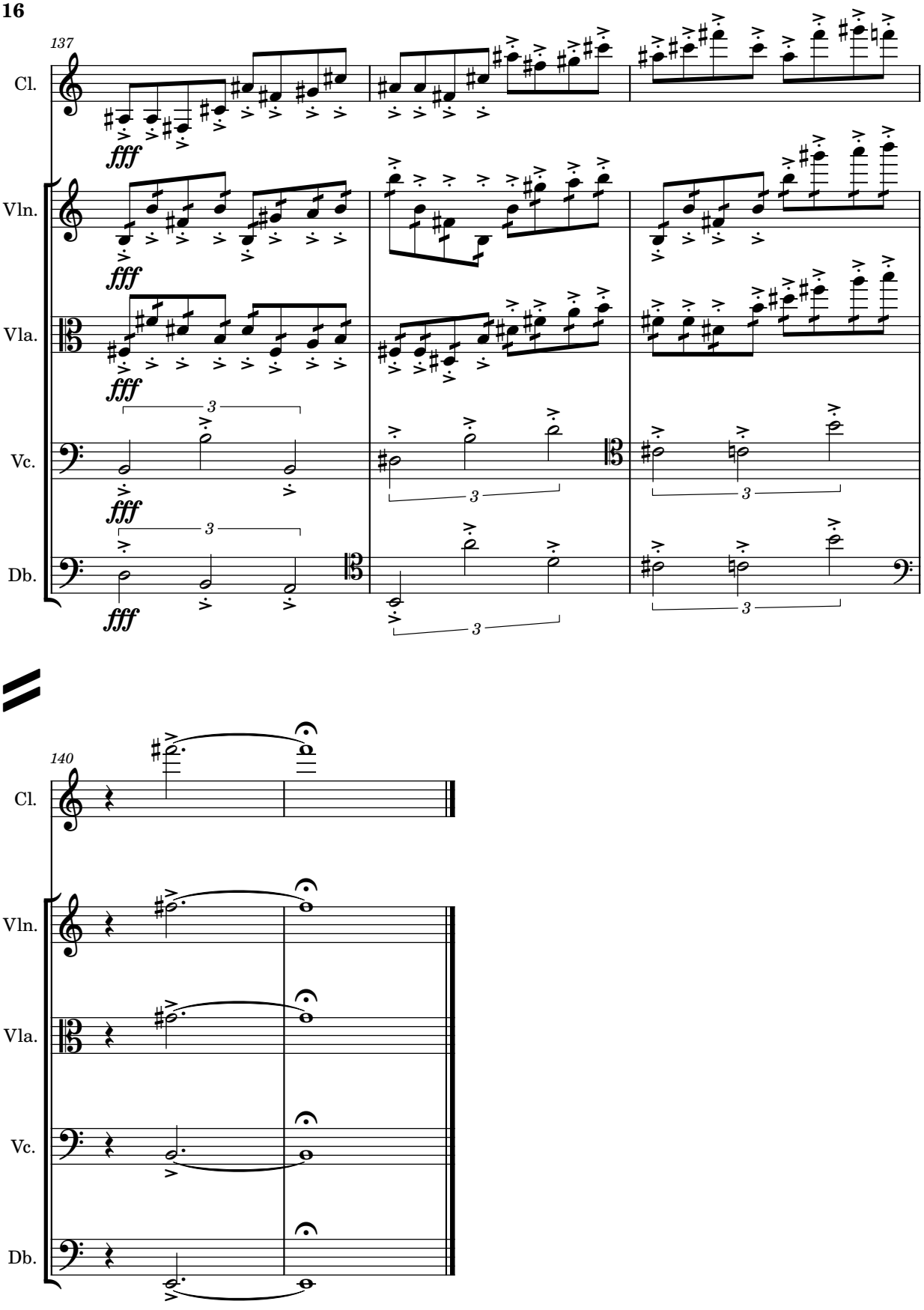
Db.
f
mp
mf
133
3
ff

16



5 Acknowledgement

6 Epilogue