Gilberto Agostinho

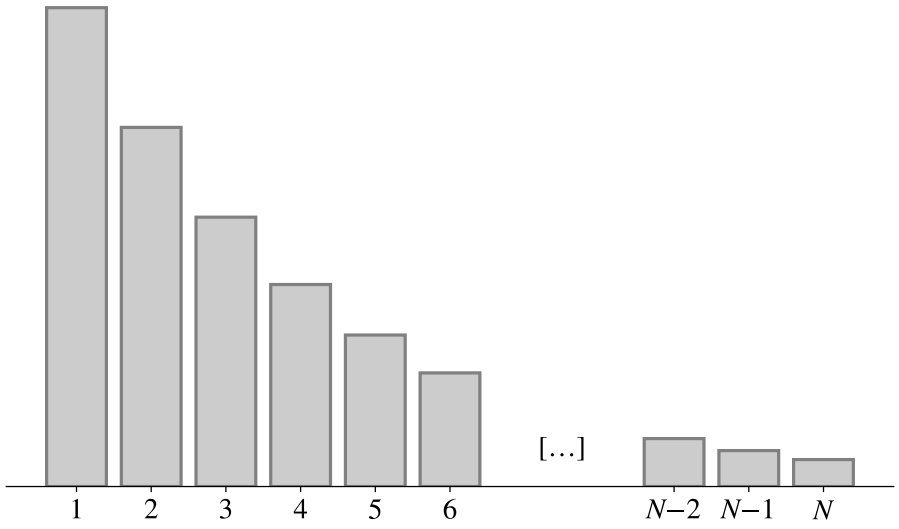
Cartography #12

for flute, clarinet, violin, viola, and violoncello

2019

Full Score

All pieces in this series were composed using the following distribution:



$$P(n) = (3/4)^k \times P(n-k)$$

Cartography #12, for flute, clarinet, violin, viola, and violoncello

Mapping and rules

pitches

set size	$N = 6$
transformation period	$1 \times$ bar (pre-loop)
transformation mechanism	$[a, b, c, d, e, f] \rightarrow [b, c, d, e, f, g]$, with $g \bmod 12 = (f \bmod 12) - 1$, and g at a uniformly randomly selected octave transposition.
initial set	[F4, E♭4, D4, C♯4, C4]

durations

set size	$N = 5$
transformation period	$4 \times$ bars (pre-loop)
transformation mechanism	$[a, b, c, d, e] \rightarrow [b, c, d, e, f]$, with $f = e - 1$.
initial set	$[12, 11, 10, 9, 8]$

appoggiaturas

set size	$N = 6$
transformation period	$4 \times$ bars (pre-loop)
transformation mechanism	$[a, b, c, d, e, f] \rightarrow [b, c, d, e, f, g]$, with $g =$ 'no'.
initial set	[yes, no, yes, no, yes, yes]
notation	appoggiaturas are always a semitone higher than the note they apply to and last for a semiquaver. They are always slurred.

looping mechanism

window size	$16 \times$ 𝅘𝅥𝅯 (post-loop)
shift container	[print position, ignore position]
mechanism	the algorithm first creates a non-looped version of the music using the maps and transformation mechanisms previously described. Next, it applies a 16 semiquavers-long window which is shifted to the right by a semiquaver. The algorithm then decides whether to print or ignore the current window using the container above, and then continues shifting by a semiquaver. Effectively, this creates window shifts of arbitrary sizes. The process ends at the first bar in which all instruments have a rest at the 16th position of a window.

constraints

- number of bars (pre-loop): 20.
- ranges: flute C4–F♯6, clarinet D3–F♯6, violin G3–F♯6, viola C3–C6, violoncello C4–F5.
- dynamics: constantly ***pp***.
- harmonic range: violin B♭5 and above, viola F5 and above, violoncello full range.
- the flute, clarinet, and cello alternate between rests and pitched notes for every selected duration.

General performance notes

- the dynamic level should remain at ***pp*** throughout the entire piece.
- all performers should play without vibrato.

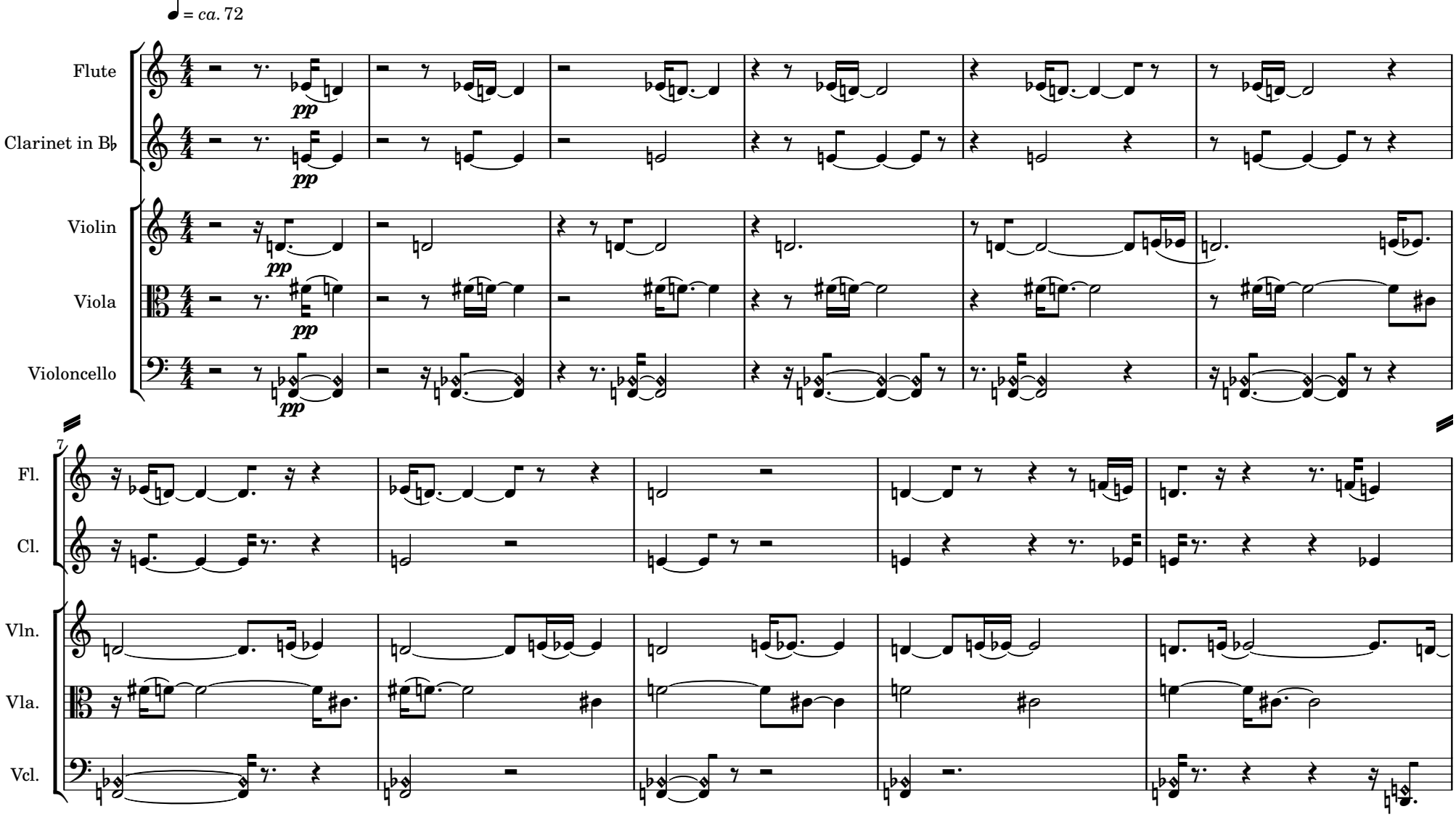
This score was automatically generated by a computer program.

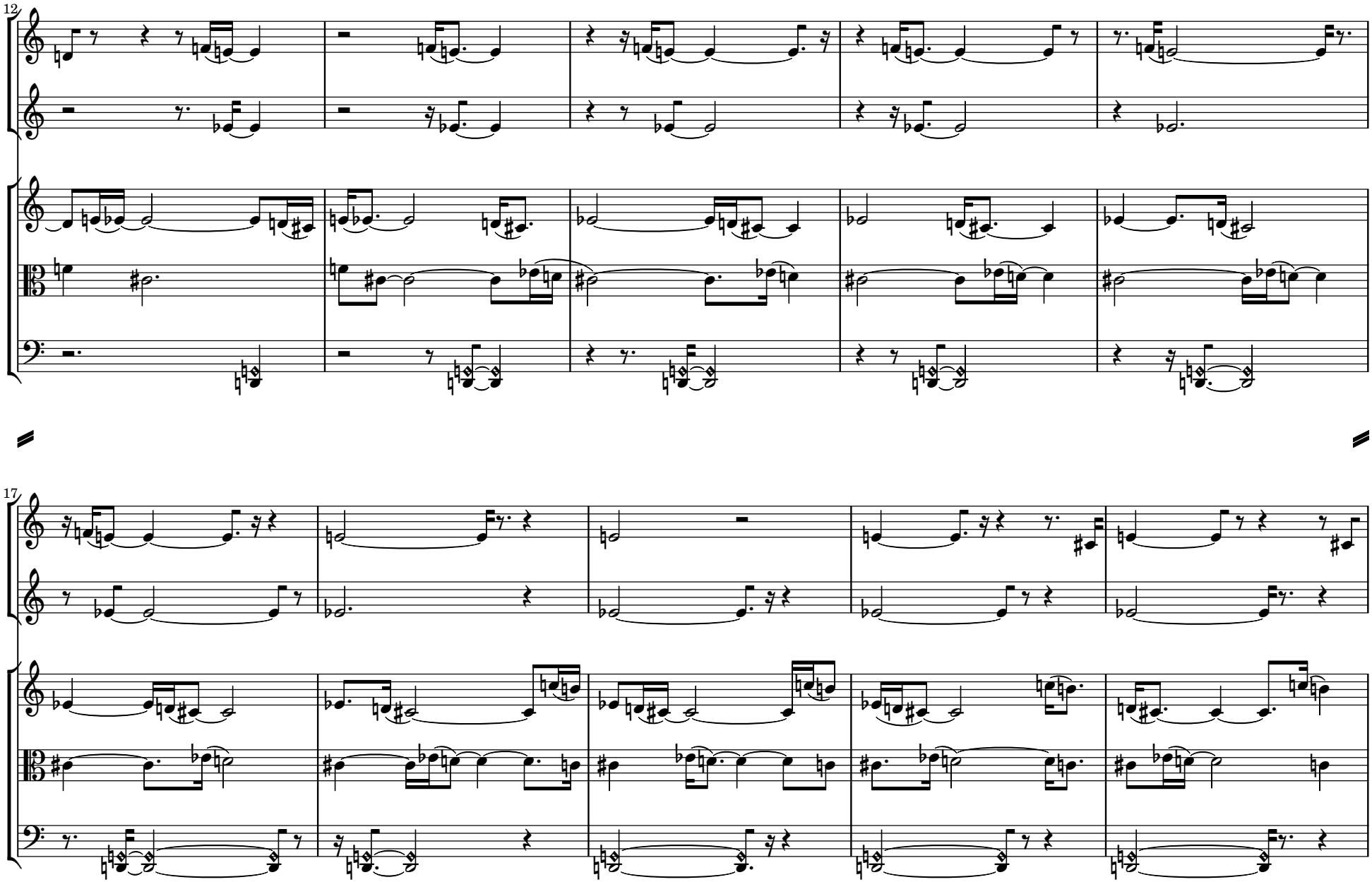
to Ensemble Terrible

Cartography #12

Score in C

Gilberto Agostinho

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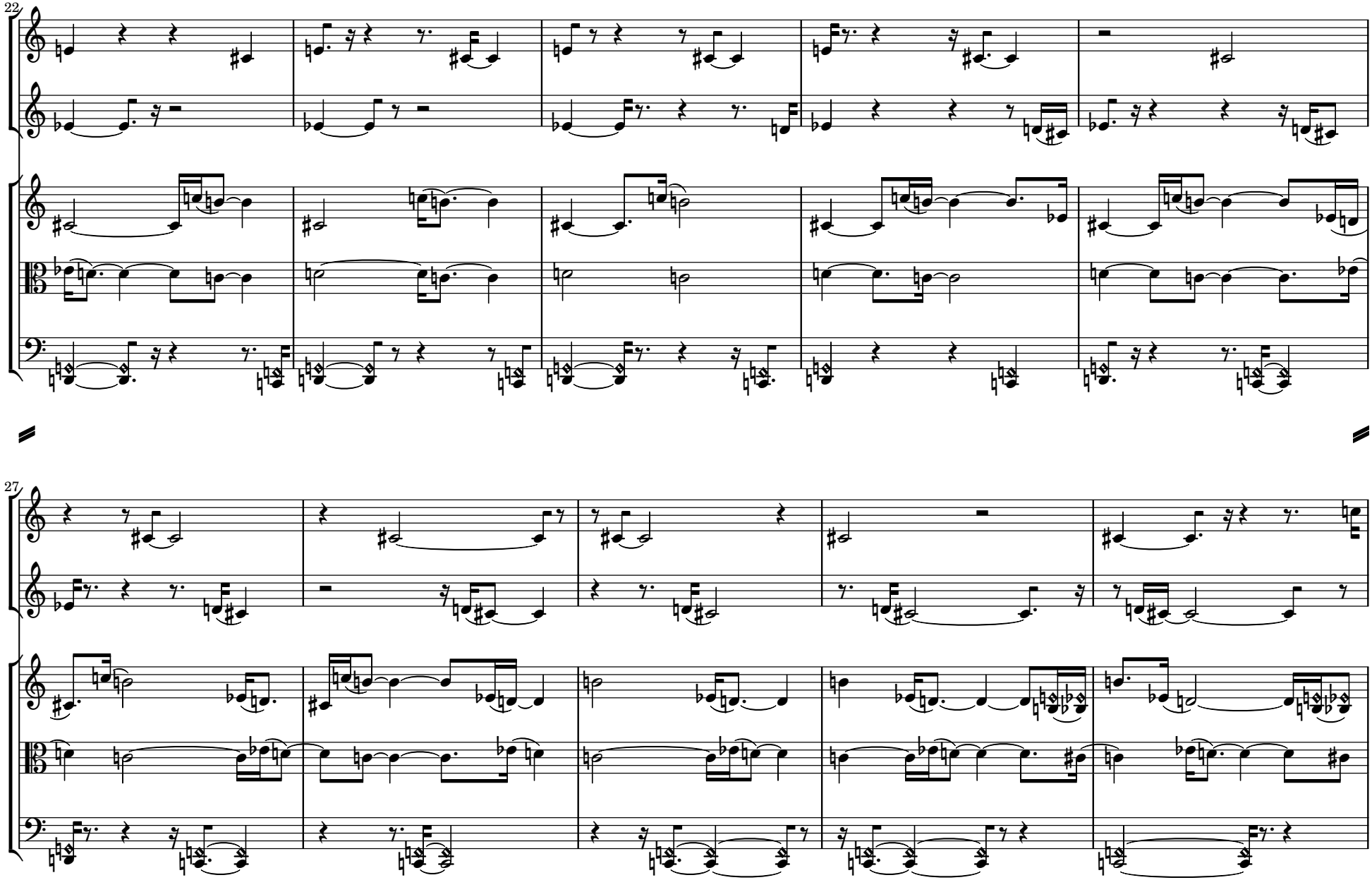
Fl.
Cl.
Vln.
Vla.
Vcl.
17
Fl.
Cl.
Vln.
Vla.
Vcl.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Fl.
Cl.
Vln.
Vla.
Vcl.
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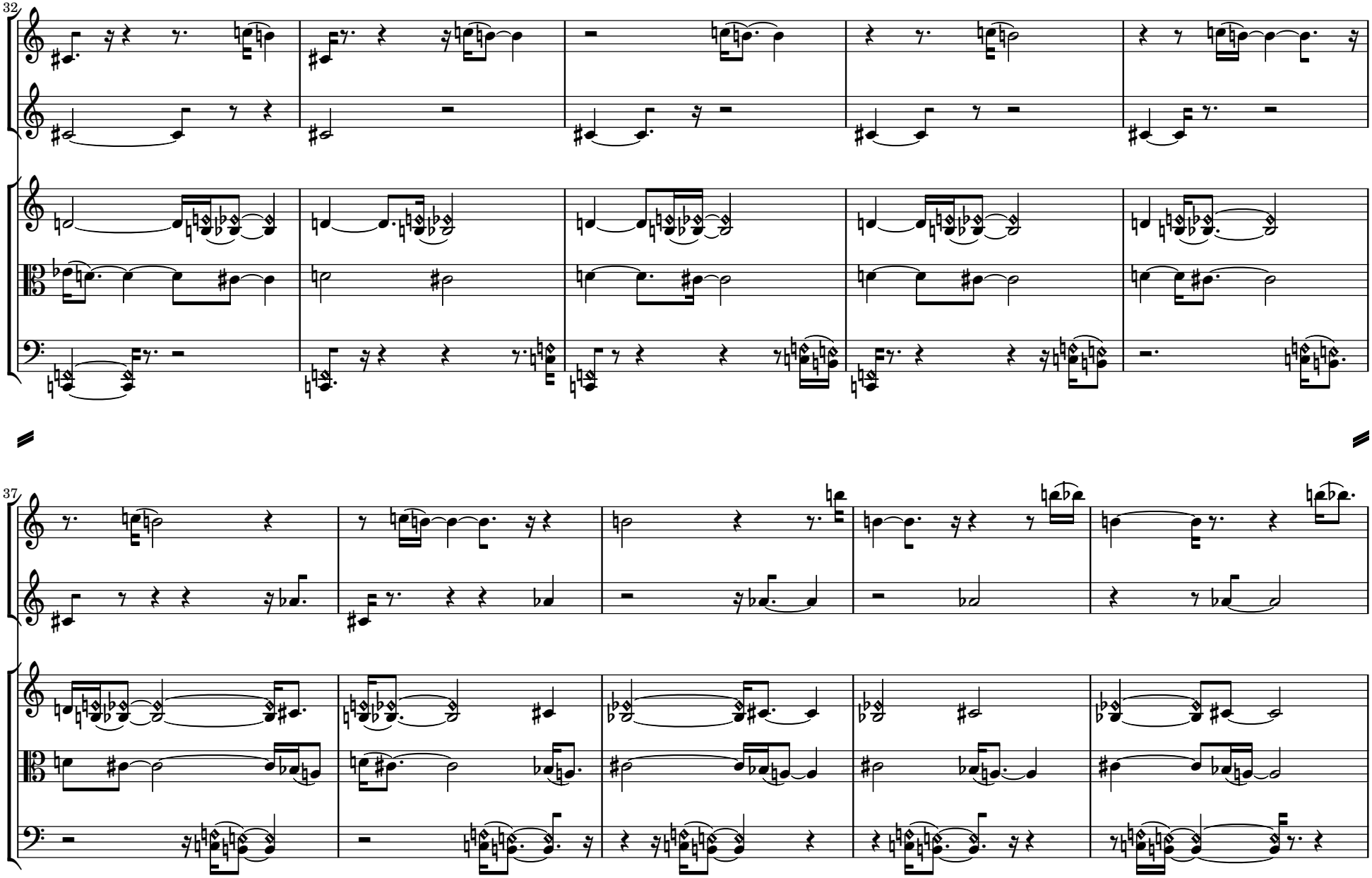
Fl.
Cl.
Vln.
Vla.
Vcl.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Fl.
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Vla.
Vcl.
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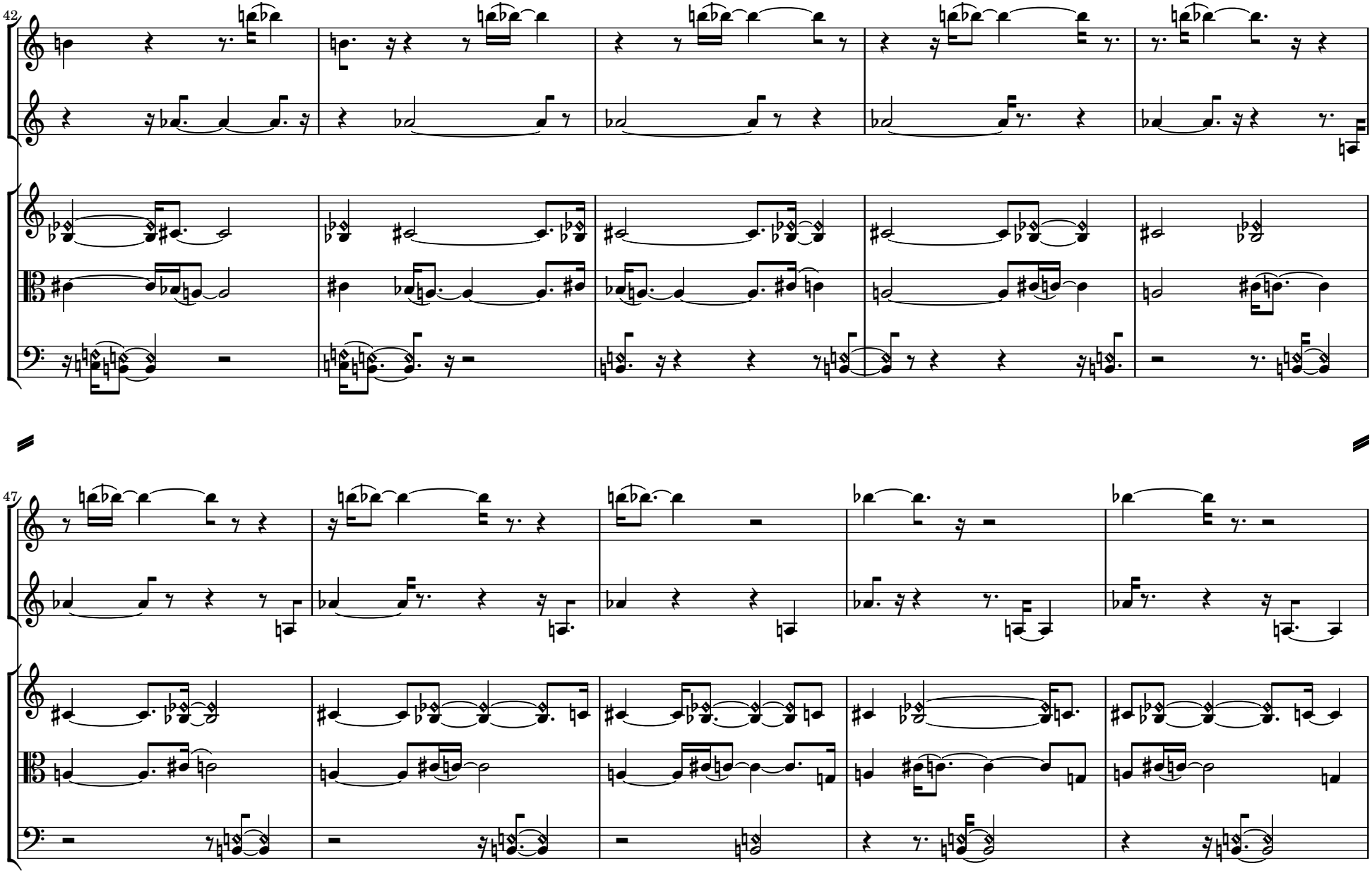
Fl.
Cl.
Vln.
Vla.
Vcl.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Vla.
Vcl.
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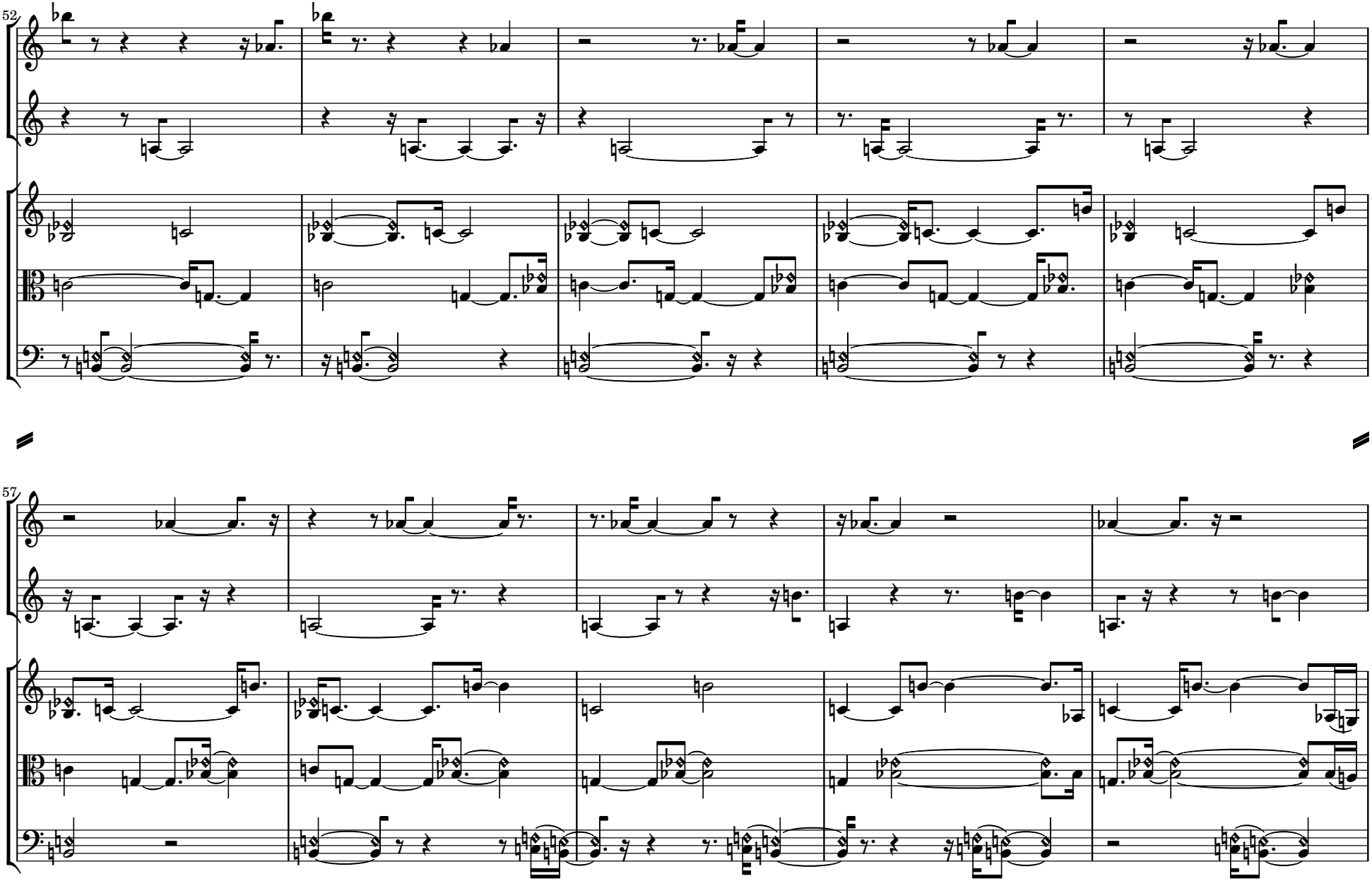
Fl.
Cl.
Vln.
Vla.
Vcl.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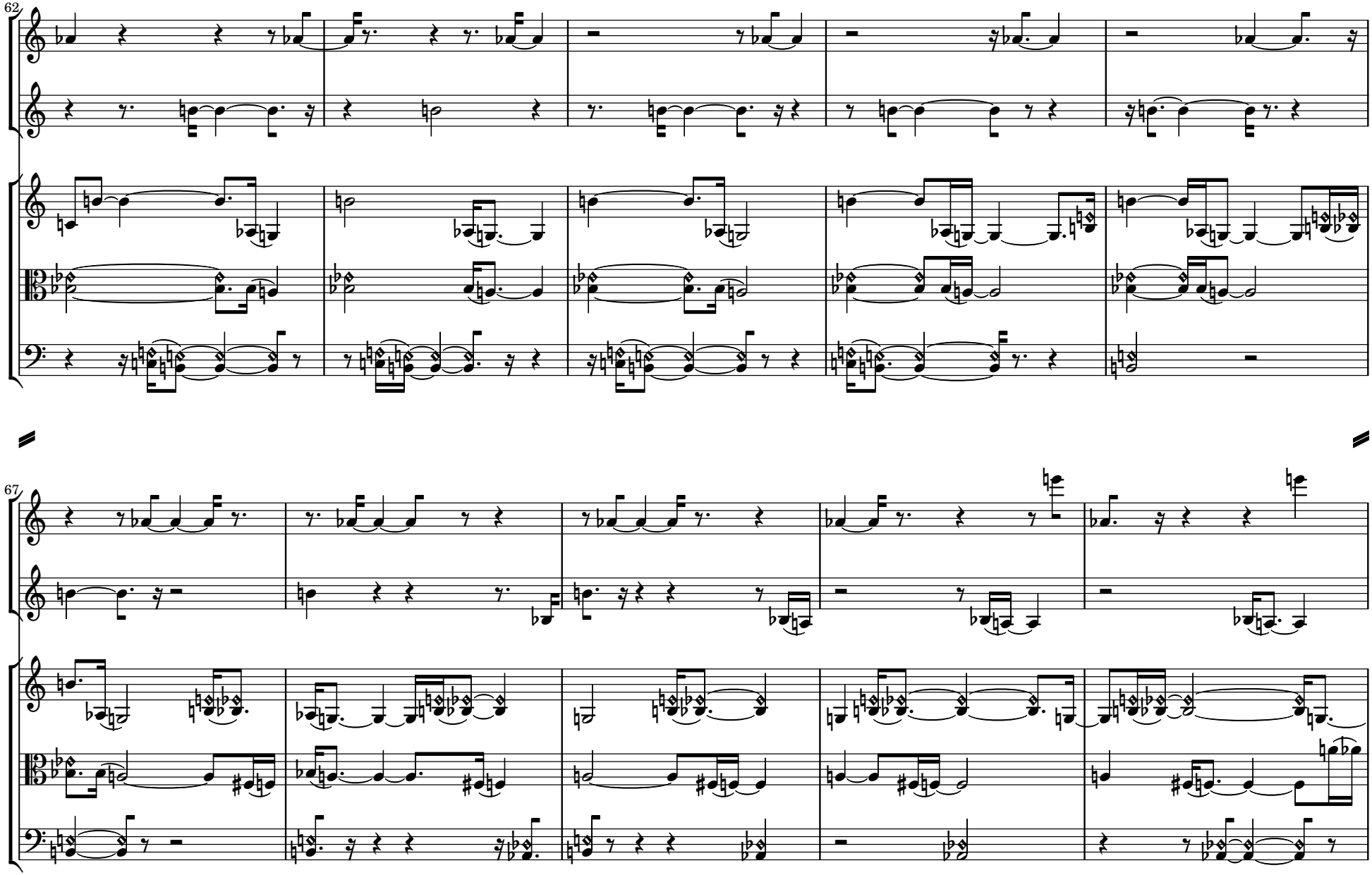
Vla.
Vcl.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Vcl.
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Fl.
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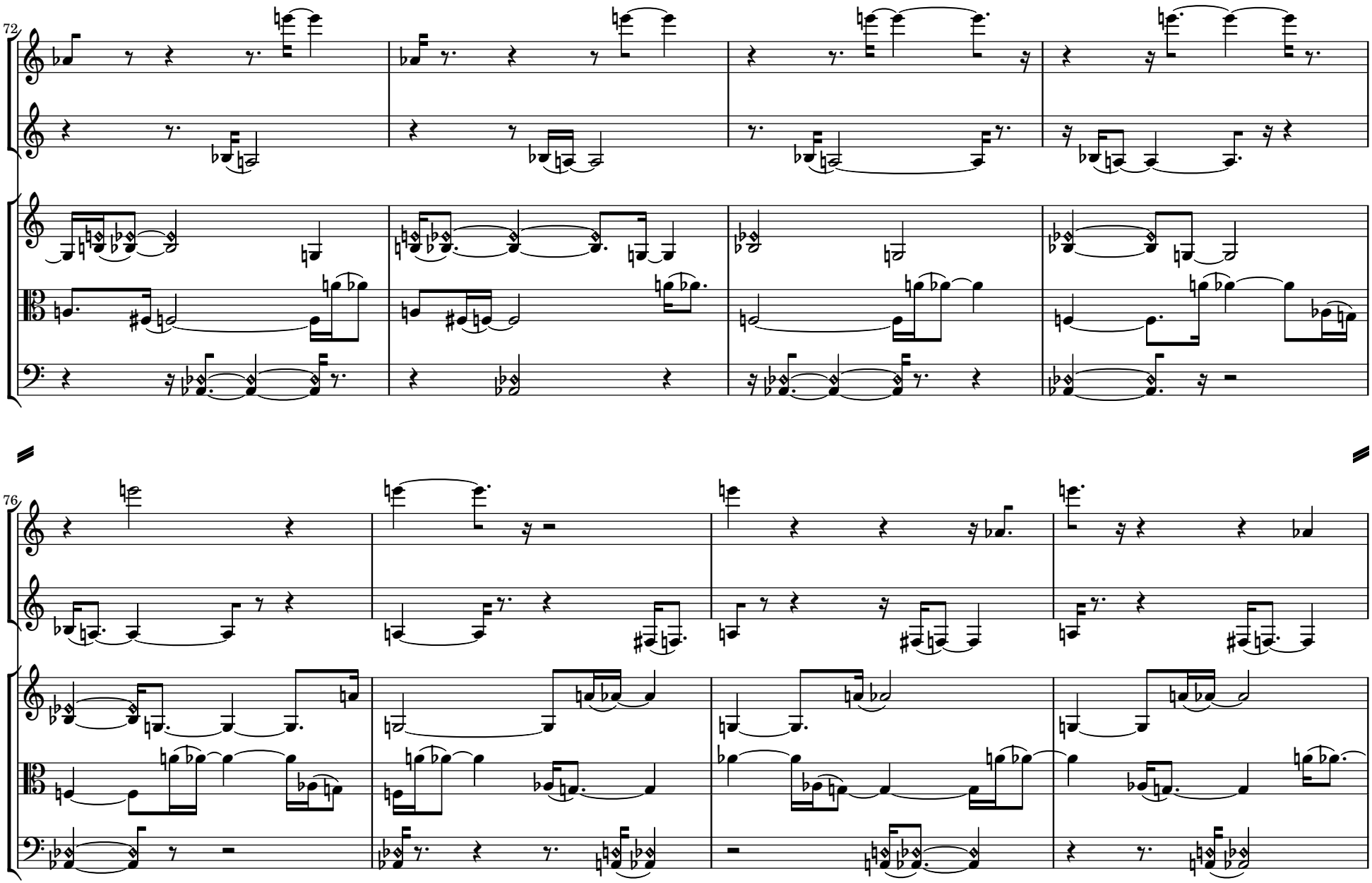
Vln.
Vla.
Vcl.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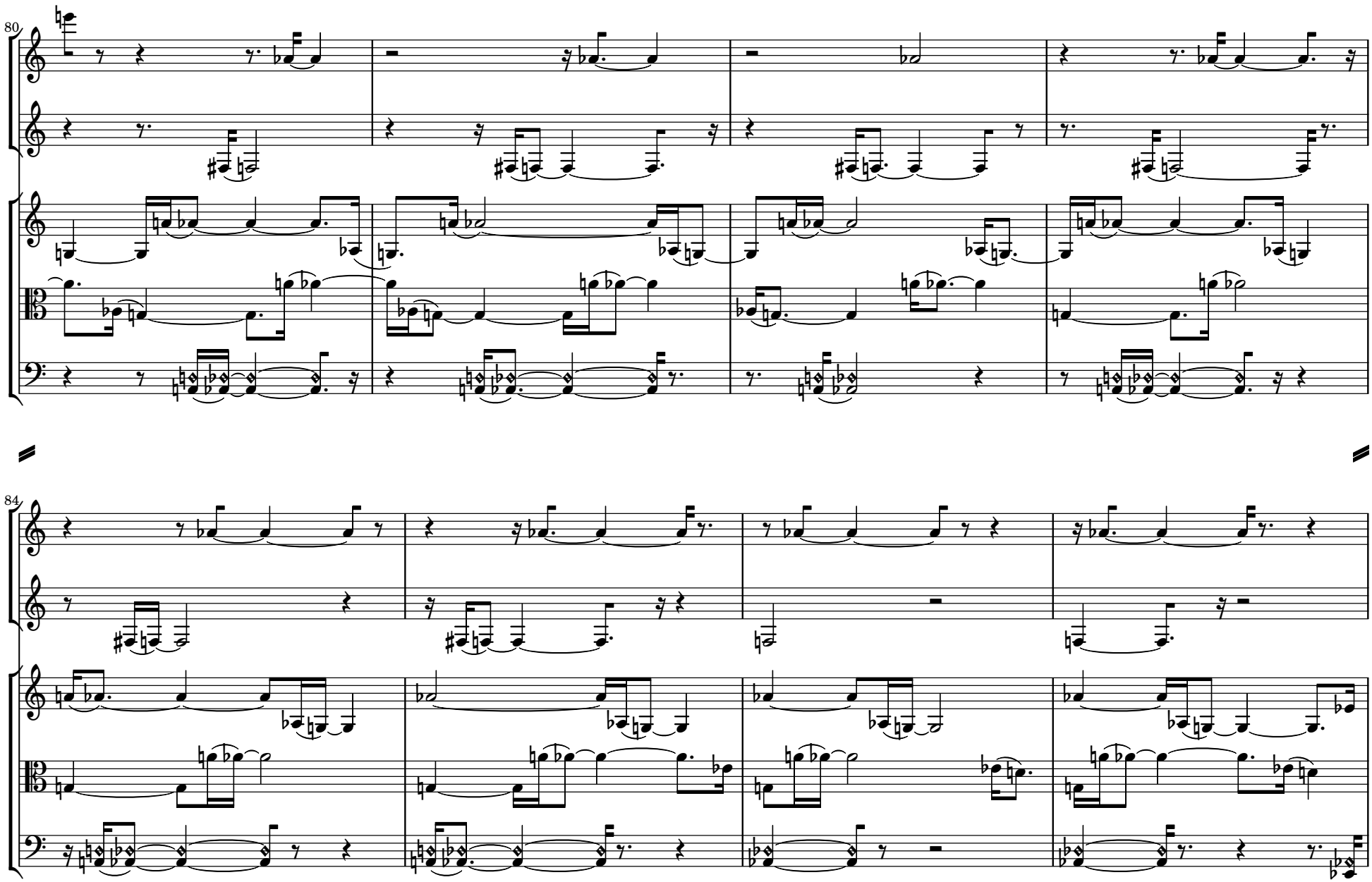
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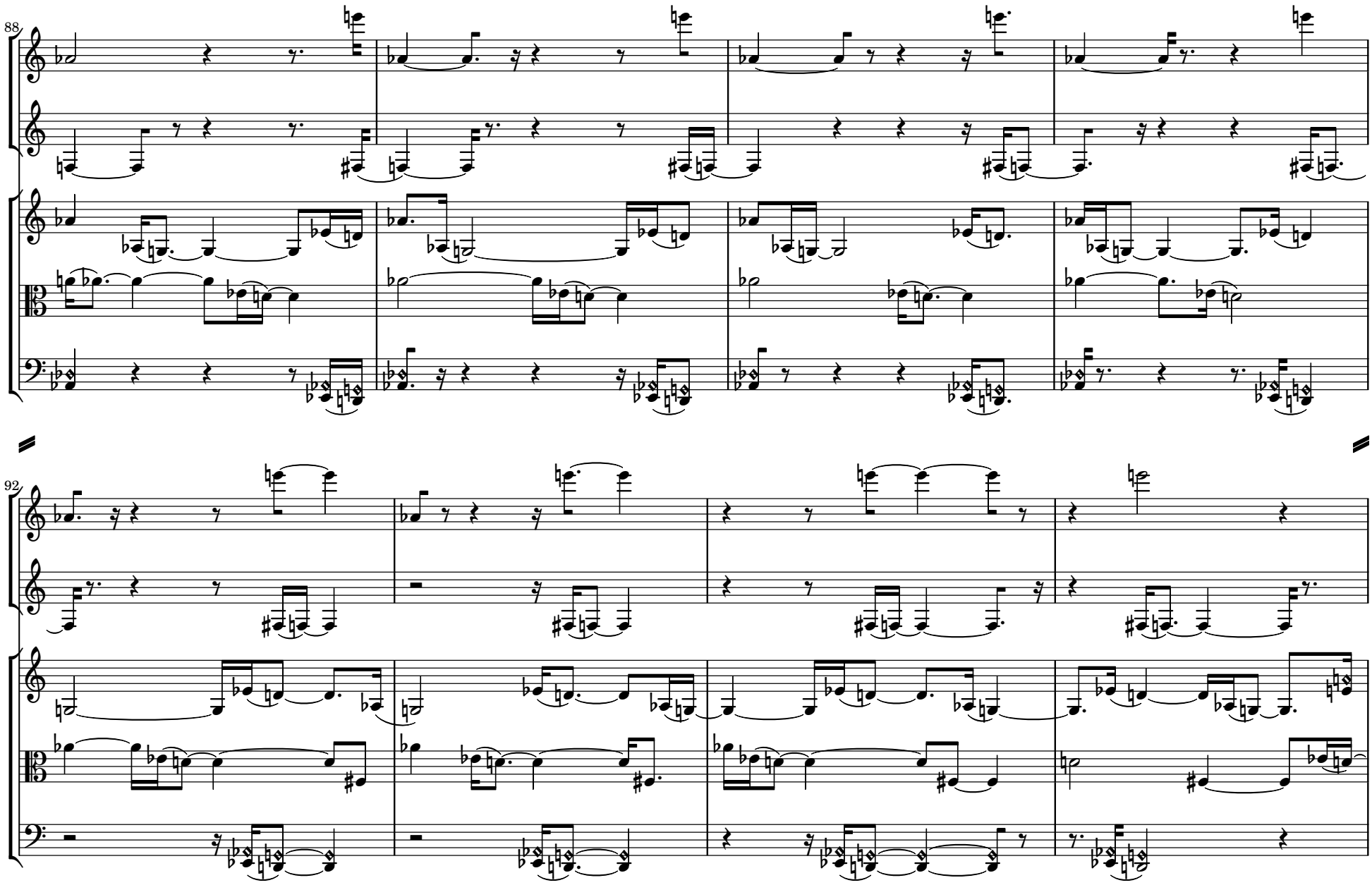
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Vcl.
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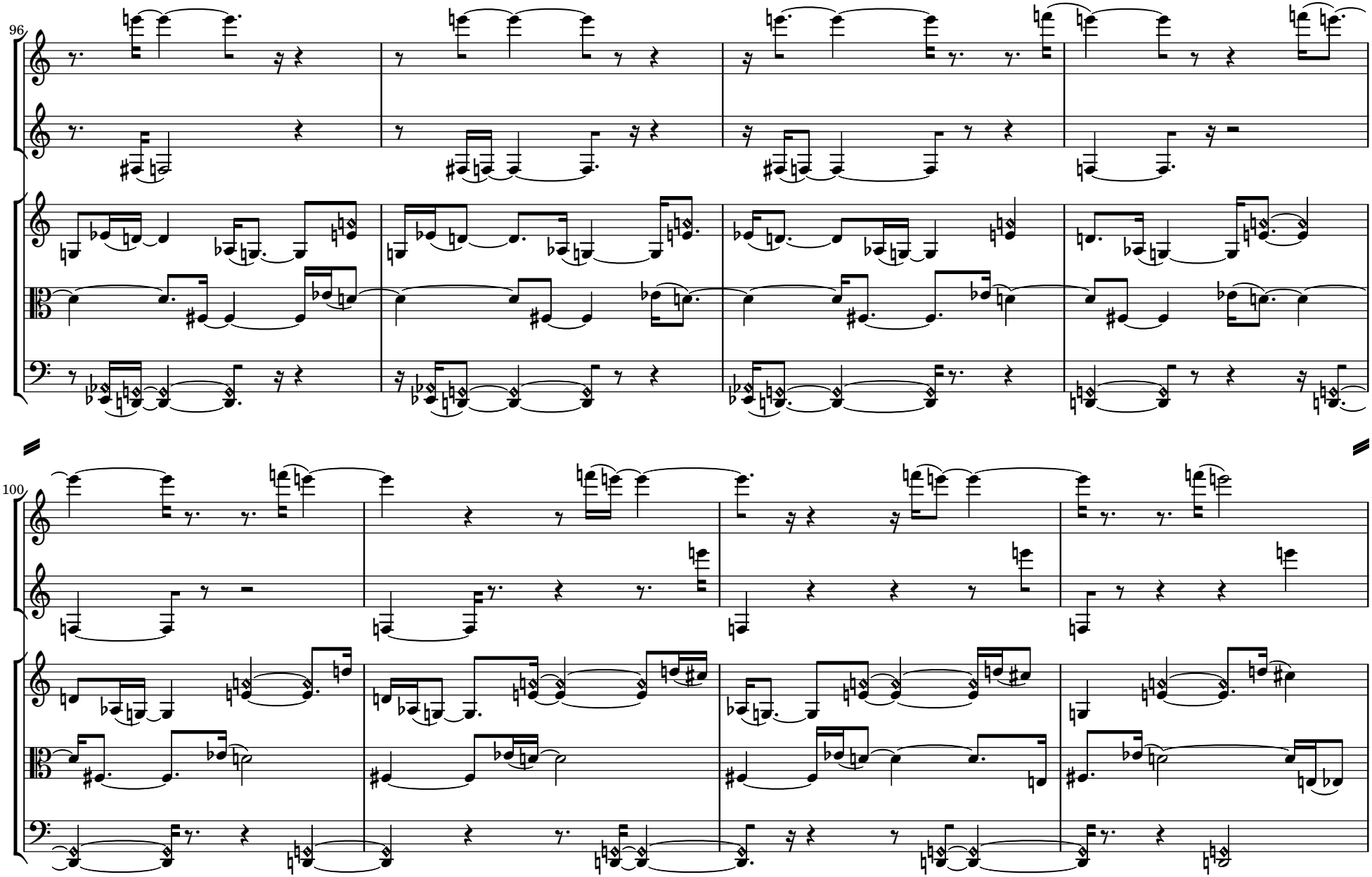
Fl.
Cl.
Vln.
Vla.
Vcl.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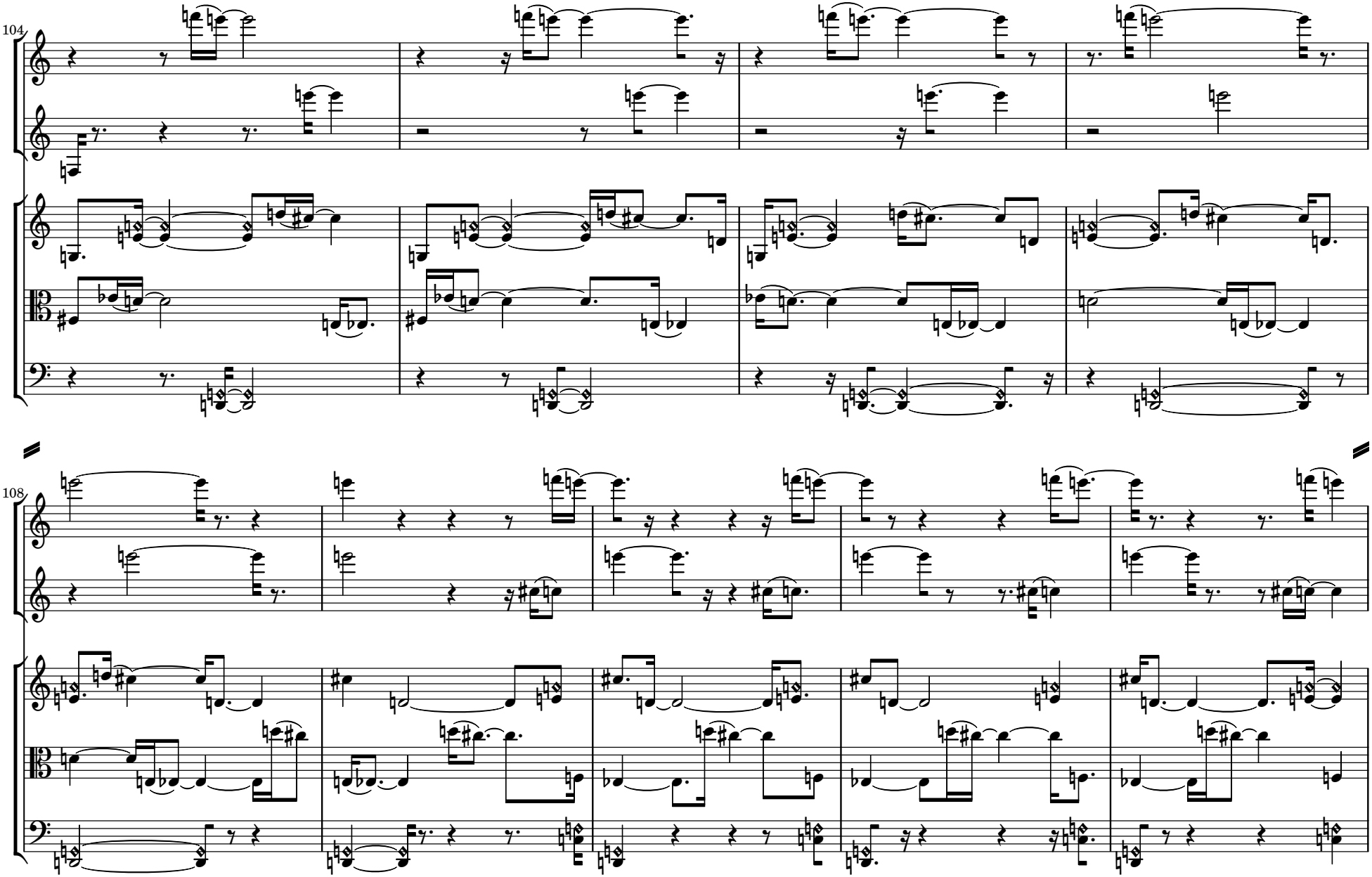
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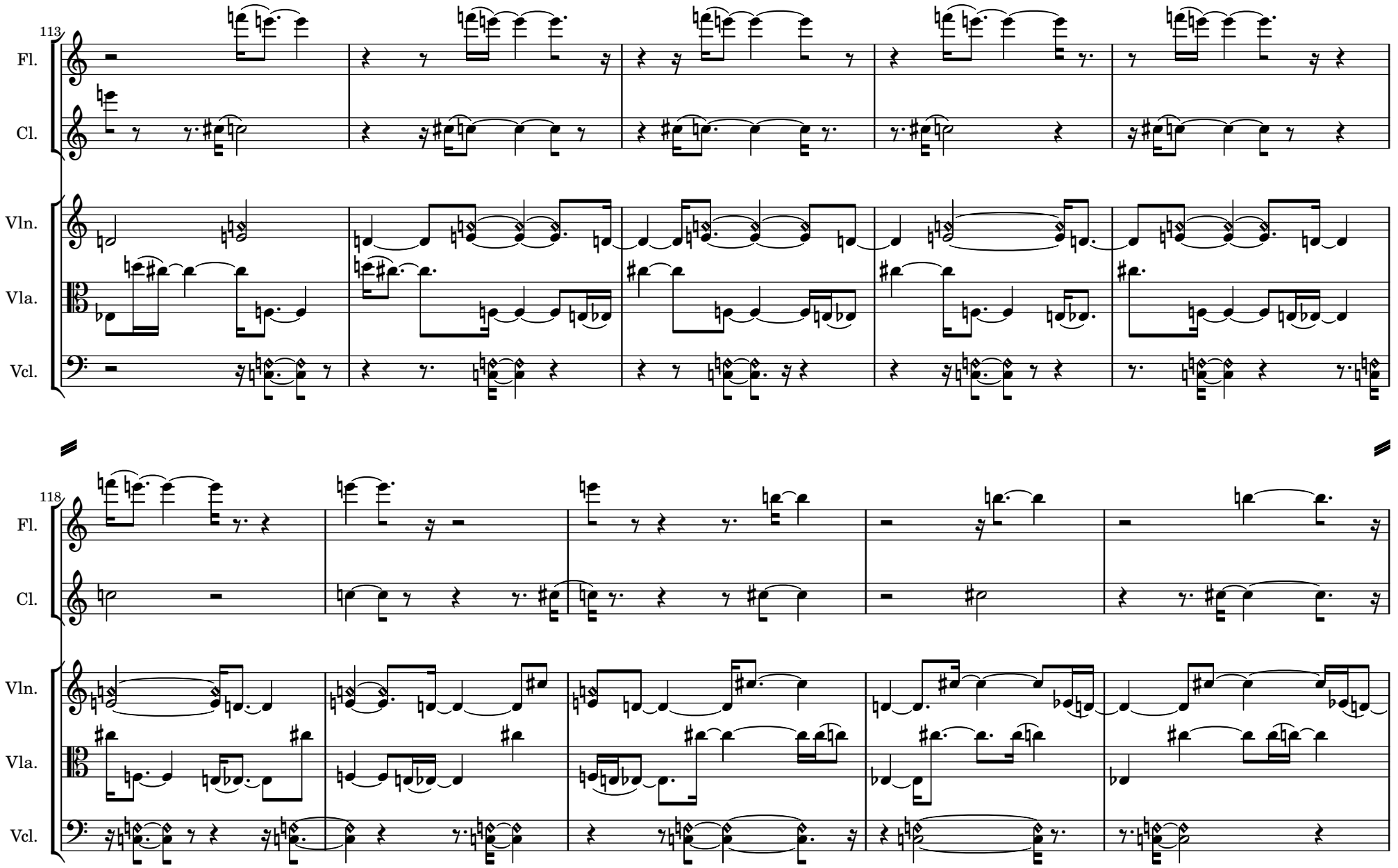
Vcl.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Fl.
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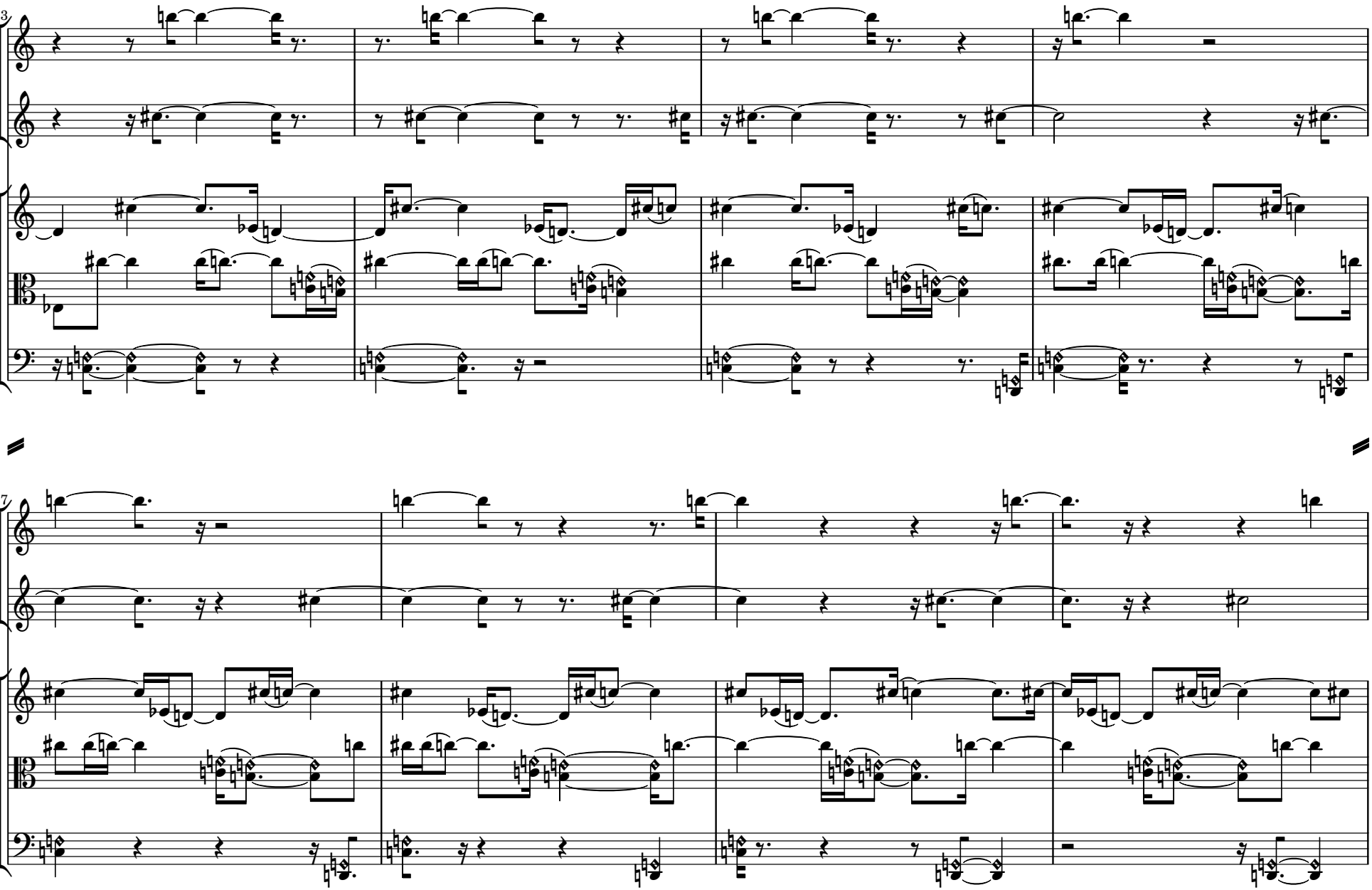
Vcl.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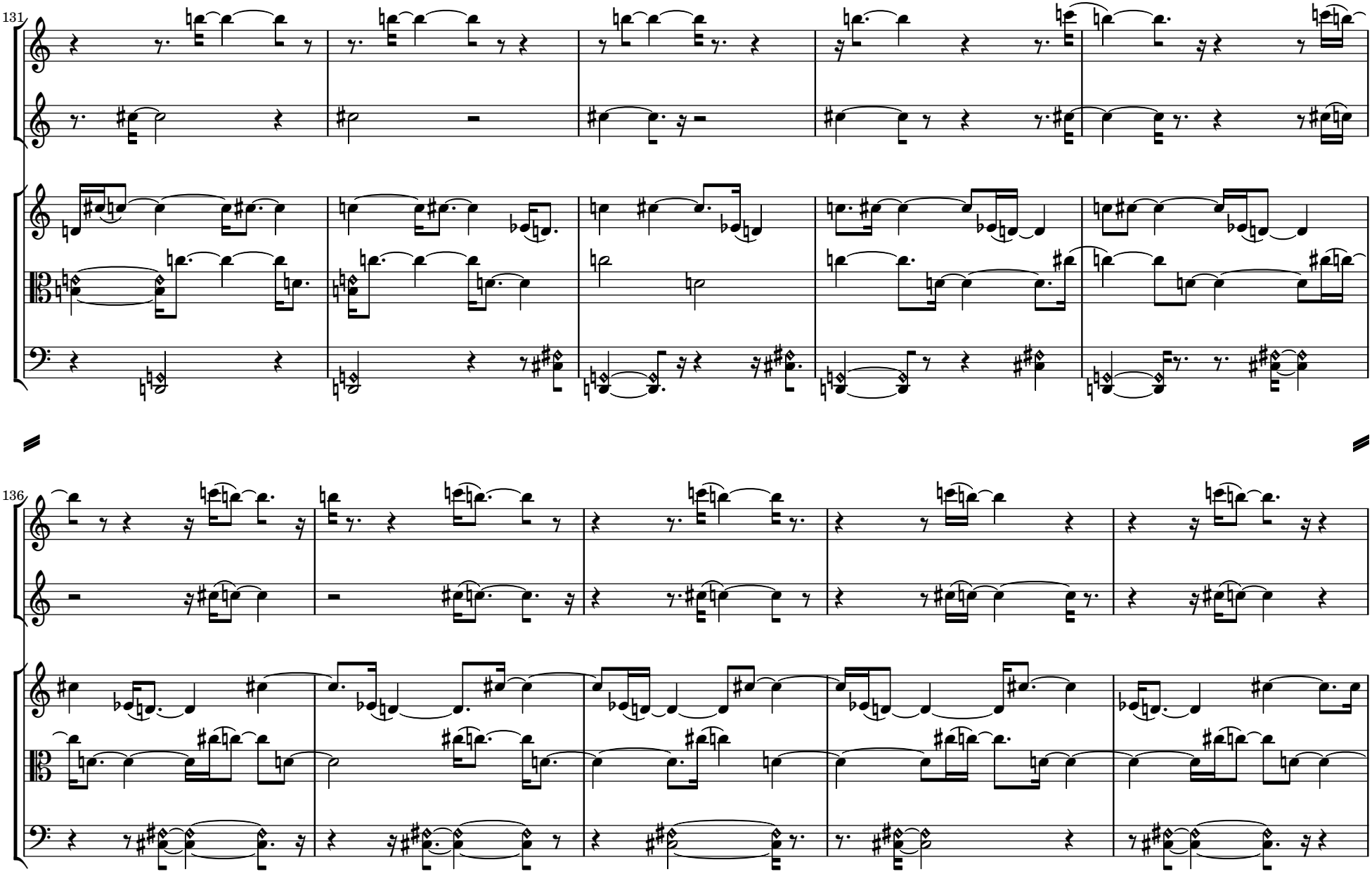
Vcl.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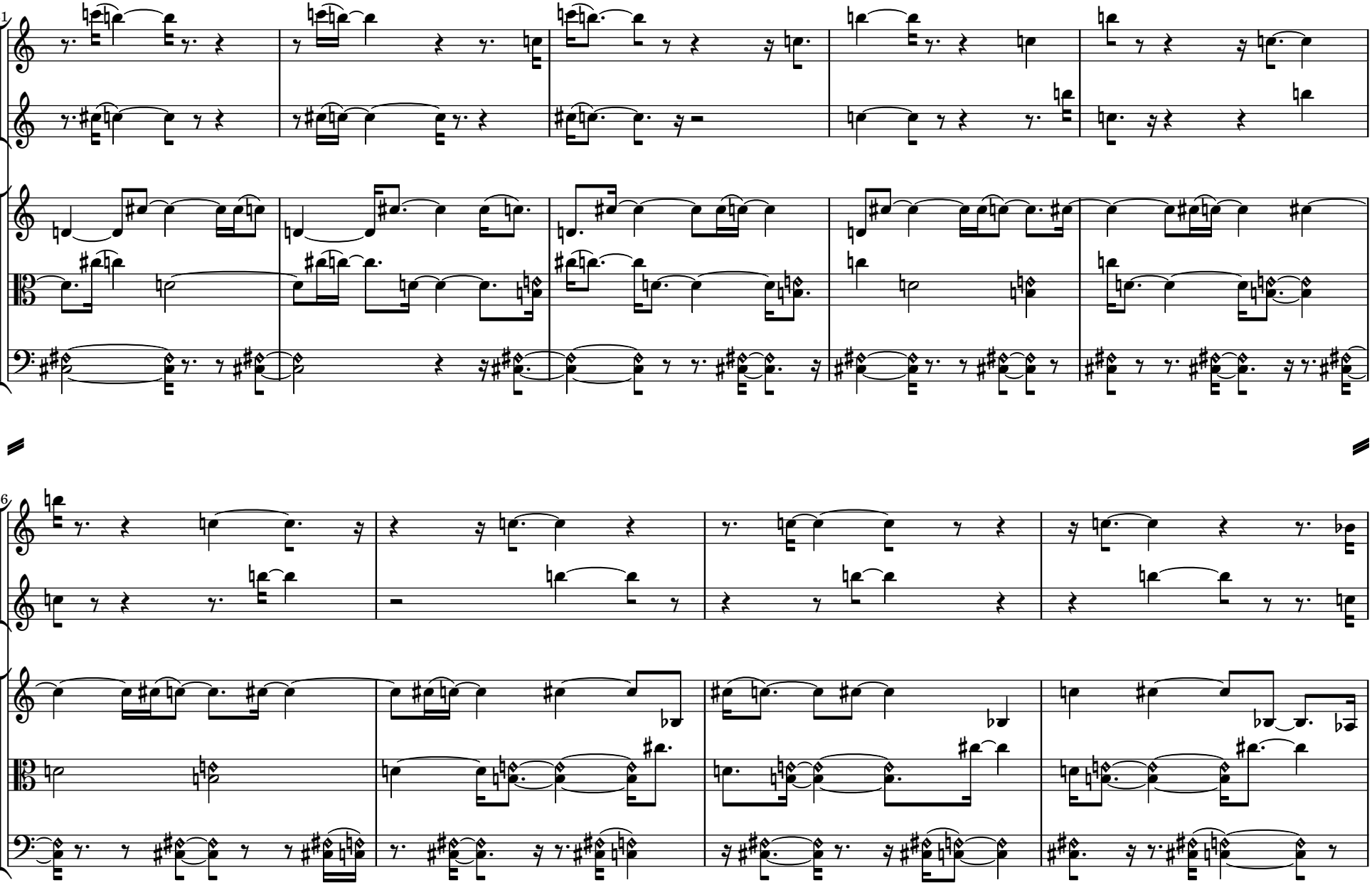
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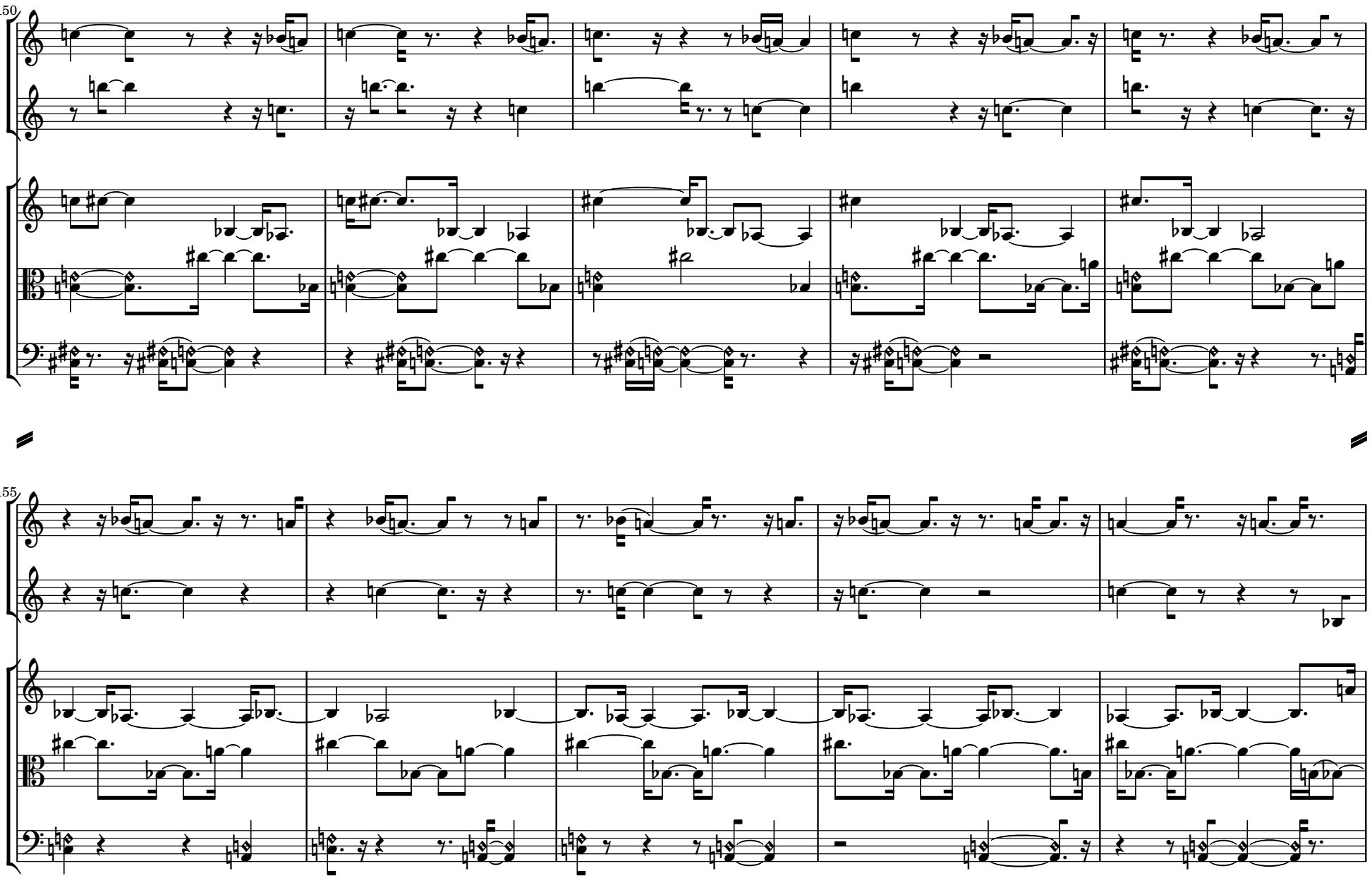
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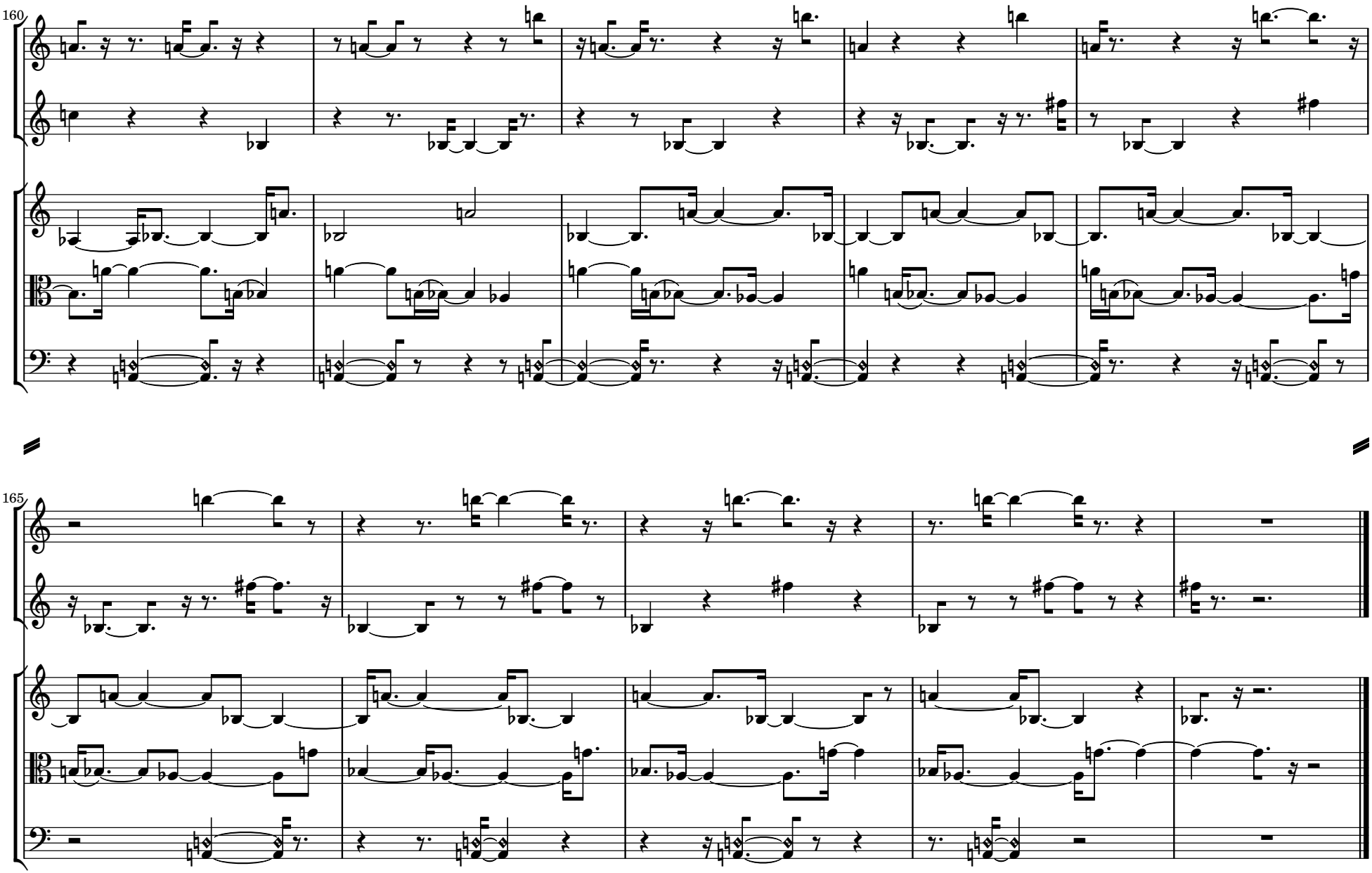
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Vcl.