Gilberto Agostinho

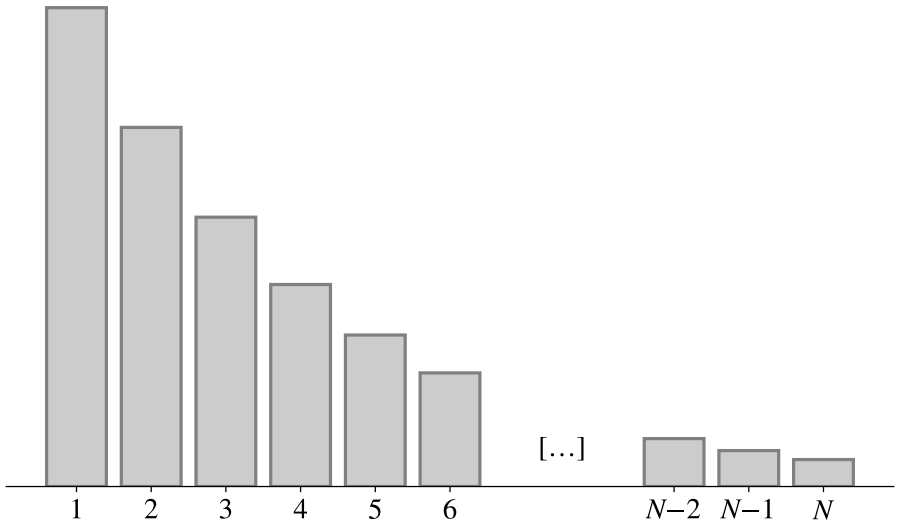
Cartography #9

for clarinet, viola, vibraphone, and piano

2018

Full Score

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



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

Cartography #9, for clarinet, viola, vibraphone, and piano

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. At every sixth bar (pre-loop), the whole set of six pitches is replaced by a new one in which each new pitch is uniformly randomly selected within the instrumental range and making sure that each pitch class is unique. The process of selecting a new pitch after that will continue to follow $g \bmod 12 = (f \bmod 12) + 1$, and g.
initial set	[C4, C♯4, D4, E♭4, E4, F4]

dynamics

set size	$N = 5$
transformation period	fixed
set	[***ppp***, ***pp***, ***p***, ***mp***, ***mf***]
selection mechanism	the dynamics map is tied to the duration map, so that a same random index is used to select elements from both. For instance, if the duration at the first index has been selected, the dynamic ***ppp*** is then also selected.

durations

set size	$N = 5$
transformation period	$2 \times$ bars (pre-loop)
transformation mechanism	$[a, b, c, d, e] \rightarrow [b, c, d, e, f]$, with $f = e - 1$.
initial set	$[10, 9, 8, 7, 6]$

looping mechanism

window size	$16 \times$ 𝅘𝅥𝅯 (post-loop)
shift size	semiquaver
mechanism	the algorithm first creates a non-looped version of the music using the maps and transformation mechanisms to select pitches, durations and dynamics as described above. After this music is generated, the next stage is to use a 16 semiquavers-long window which is shifted to the right by a single semiquaver after every cycle. The processes ends when the last note of the pre-looped music leaves the looping window.

constraints

- number of bars (pre-loop): 12.
- range: F3–B♭5.

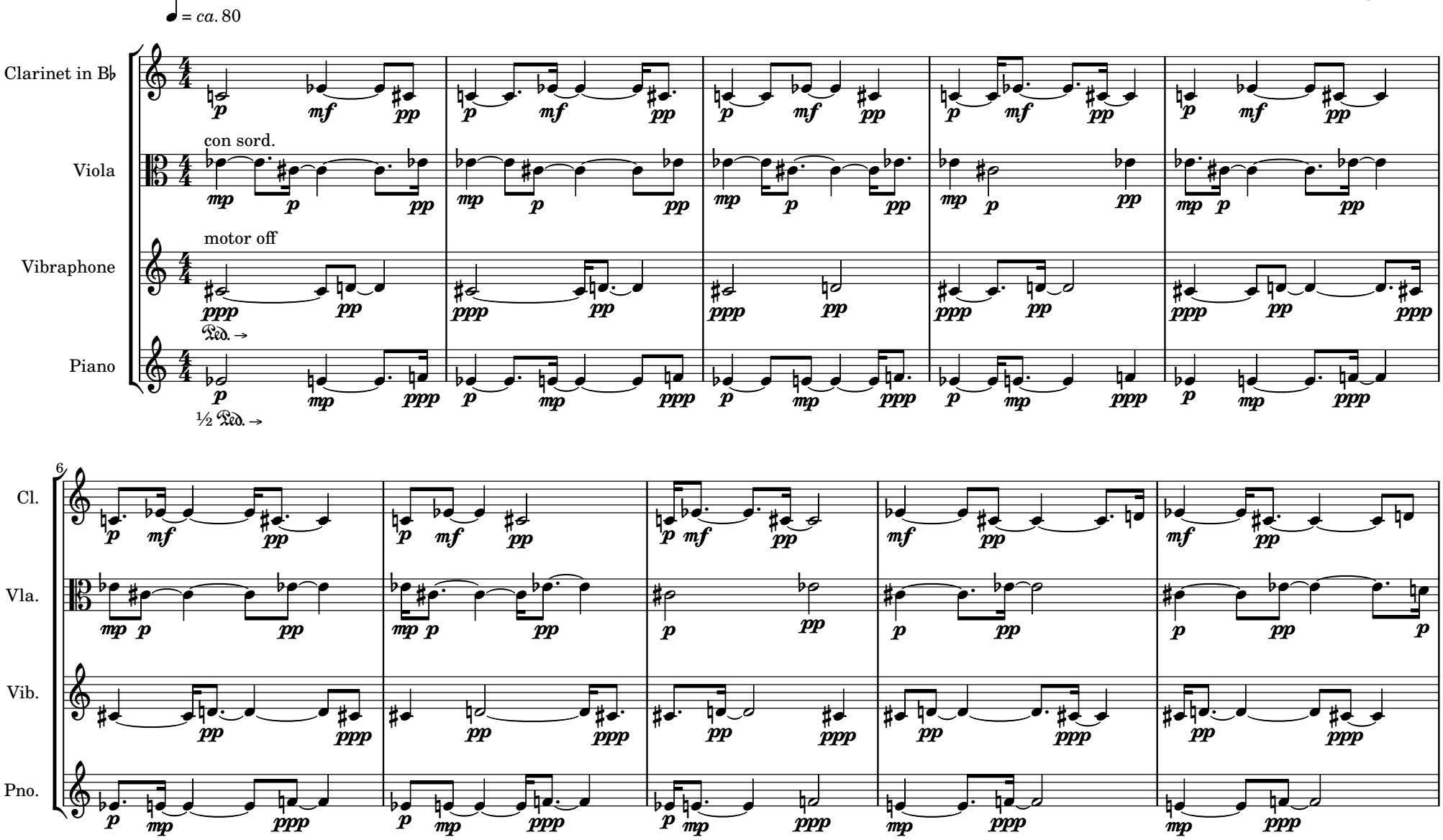
General performance notes

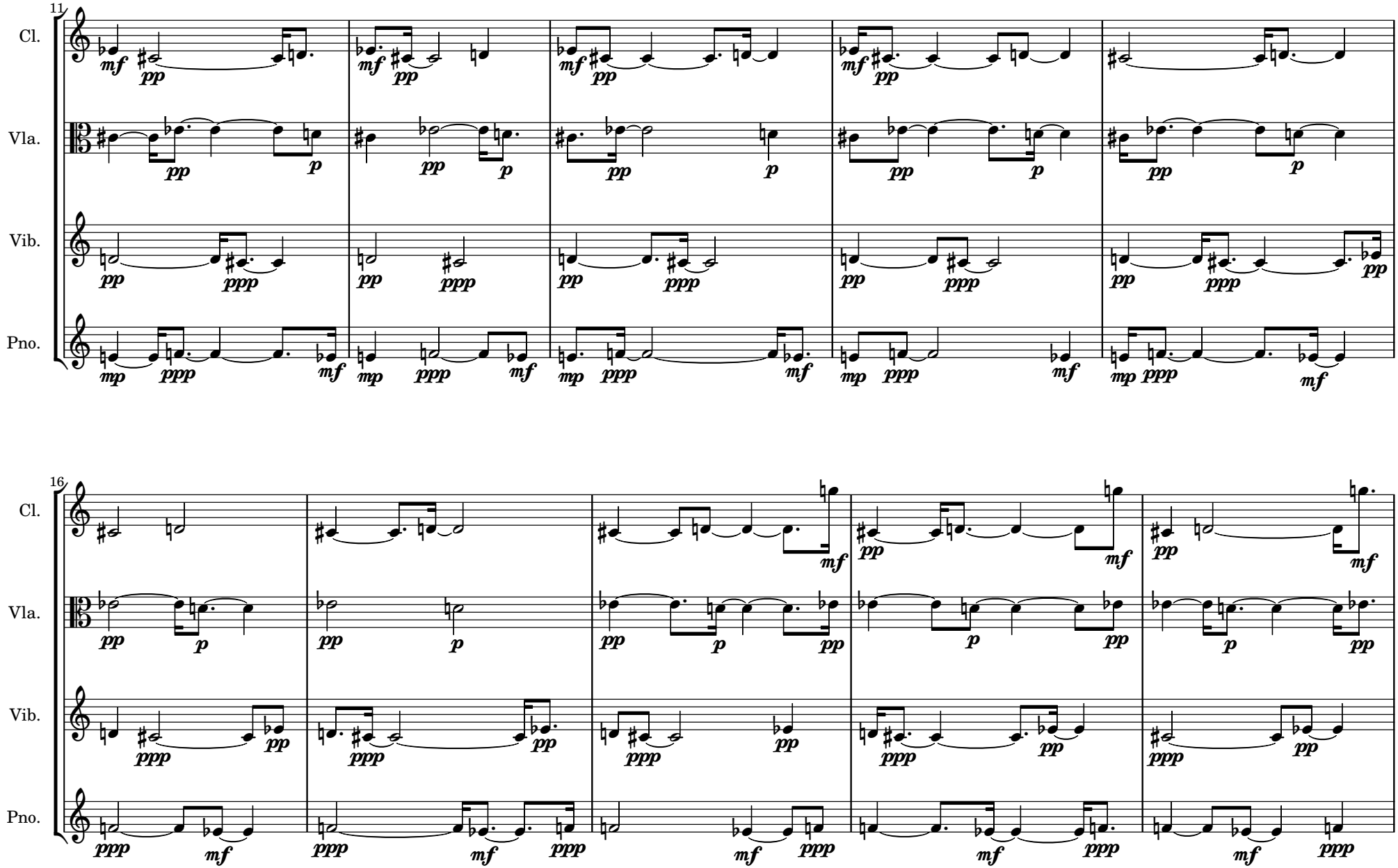
- the piano's sustain pedal should be held half down throughout the piece. Some instruments and acoustic spaces might call for full pedalling, at the discretion of the performer.
- the vibraphone's pedal should be held down throughout the piece.
- after the last note of the piece, both the vibraphone and the piano should let the resonance disappear before raising the sustain pedal.
- the vibraphone's motor should remain off throughout the piece.
- medium mallets are recommended for the vibraphone.
- both the clarinet and viola should play without vibrato.
- the clarinettist should add breathing points after longer notes but preferably not at bar lines.
- if necessary, the clarinettist may take up to two bars of rest at any point in the performance at their own discretion.
- the viola should use a mute throughout this piece.
- the viola player may decide to play any notes in the piece using harmonics, in particular when that helps with larger leaps.

Cartography #9

Score in C

Gilberto Agostinho

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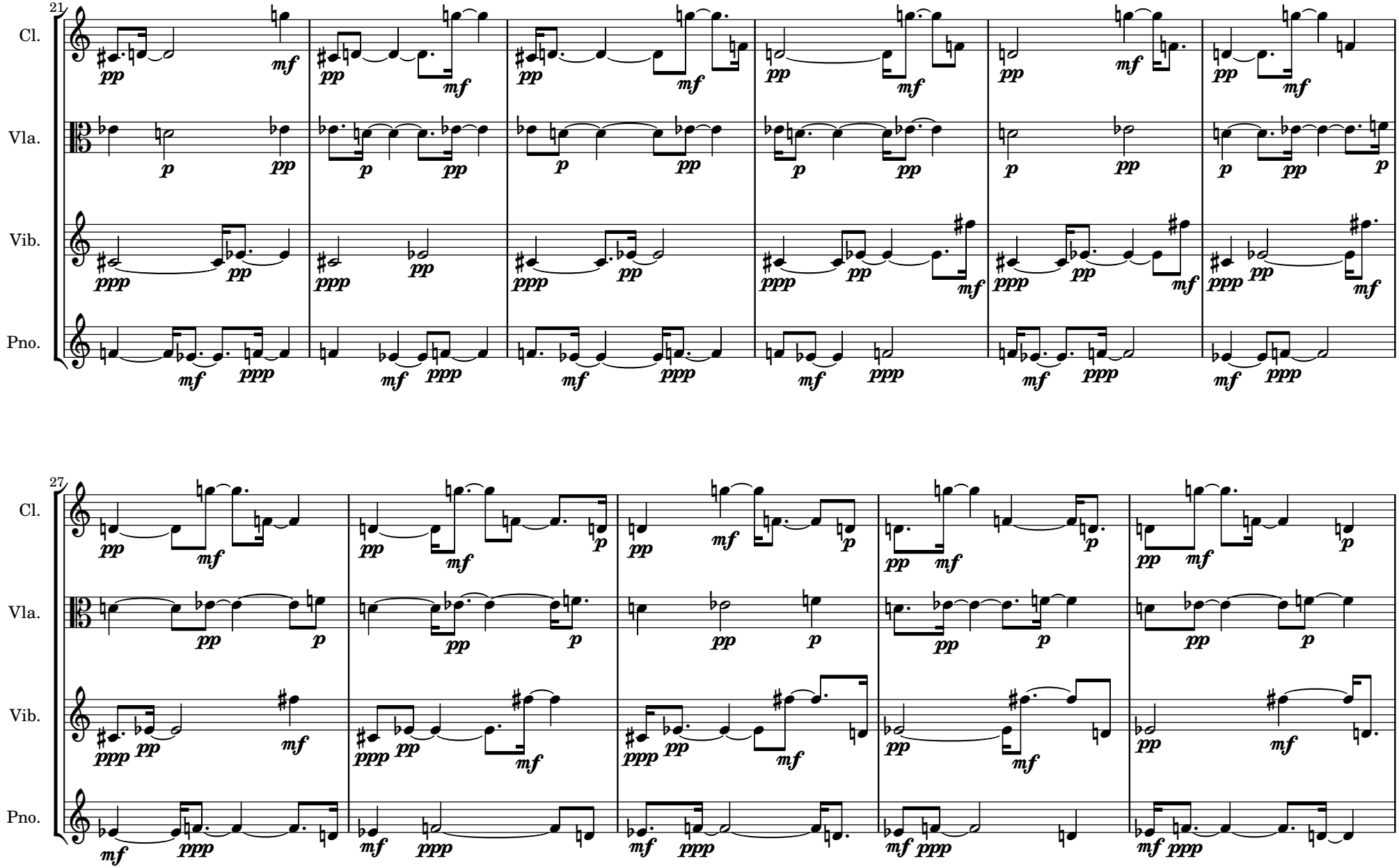
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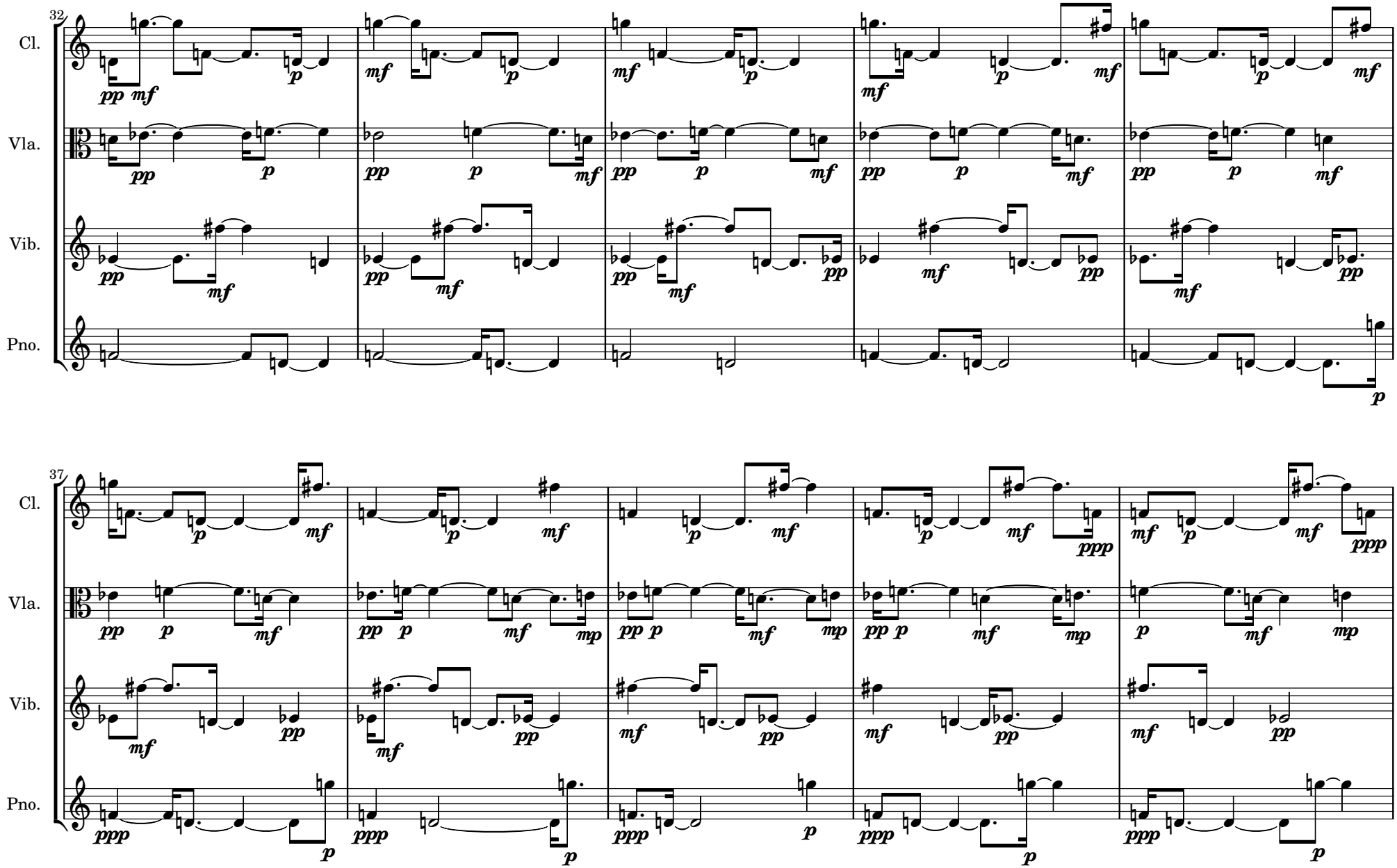
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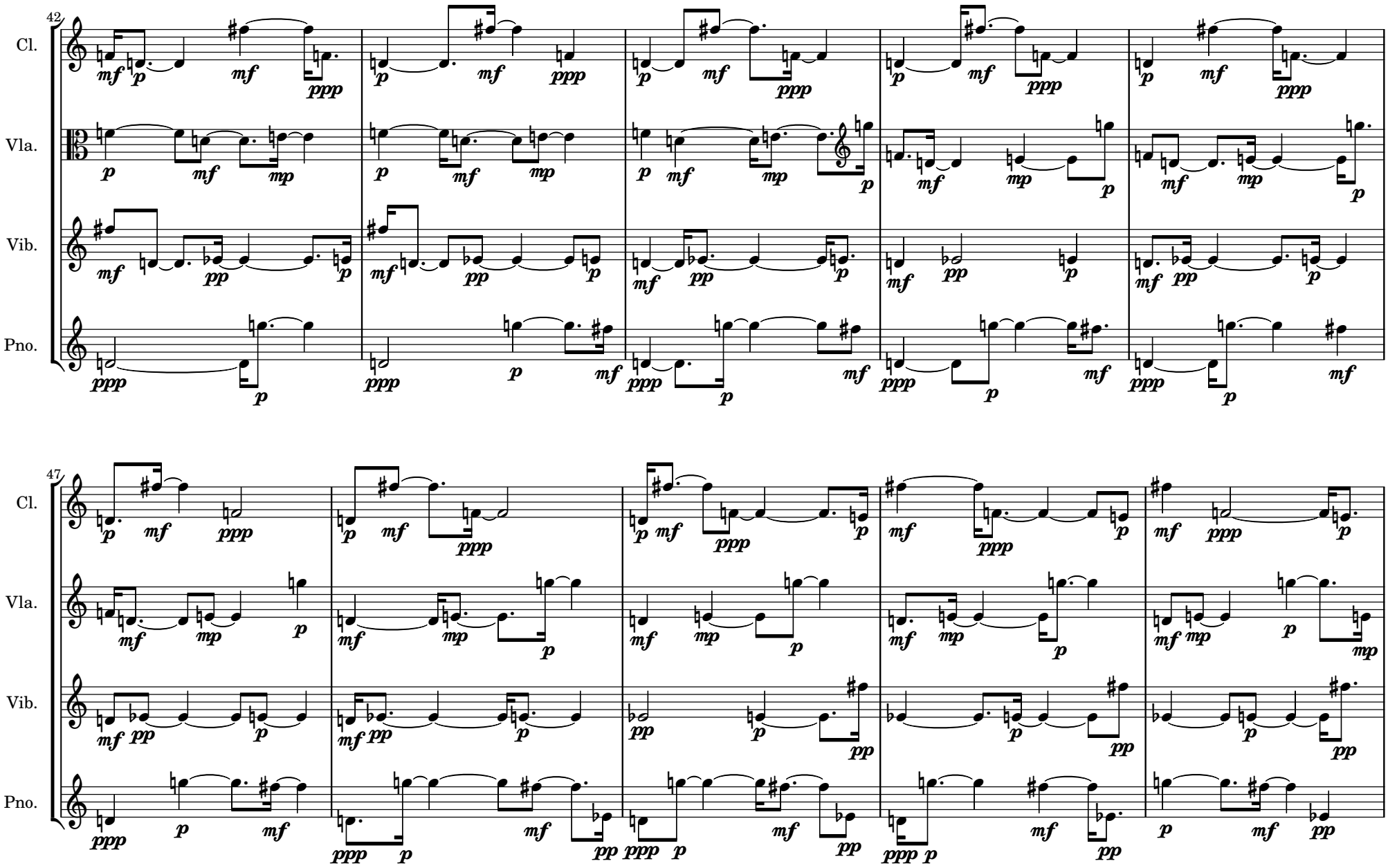
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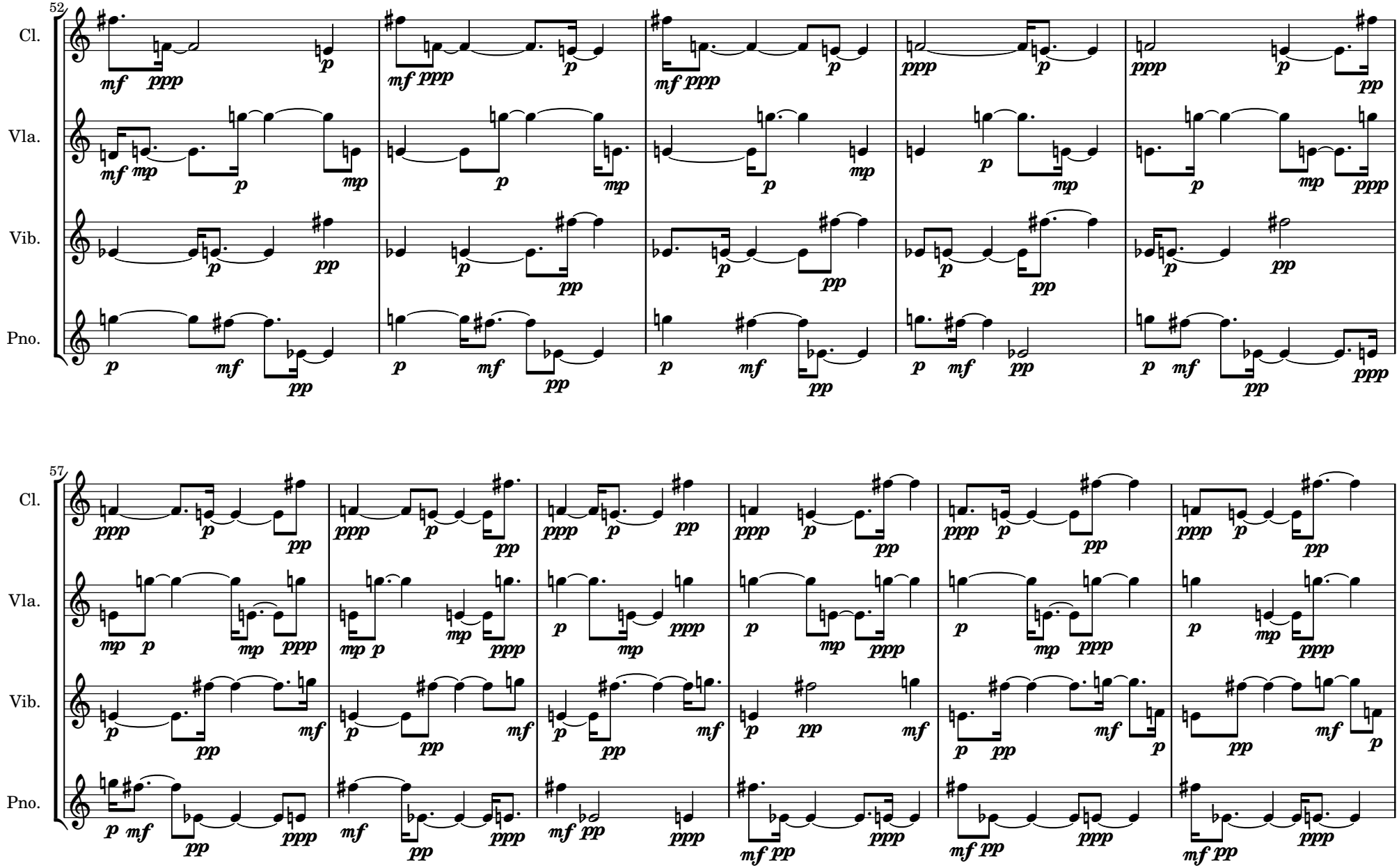
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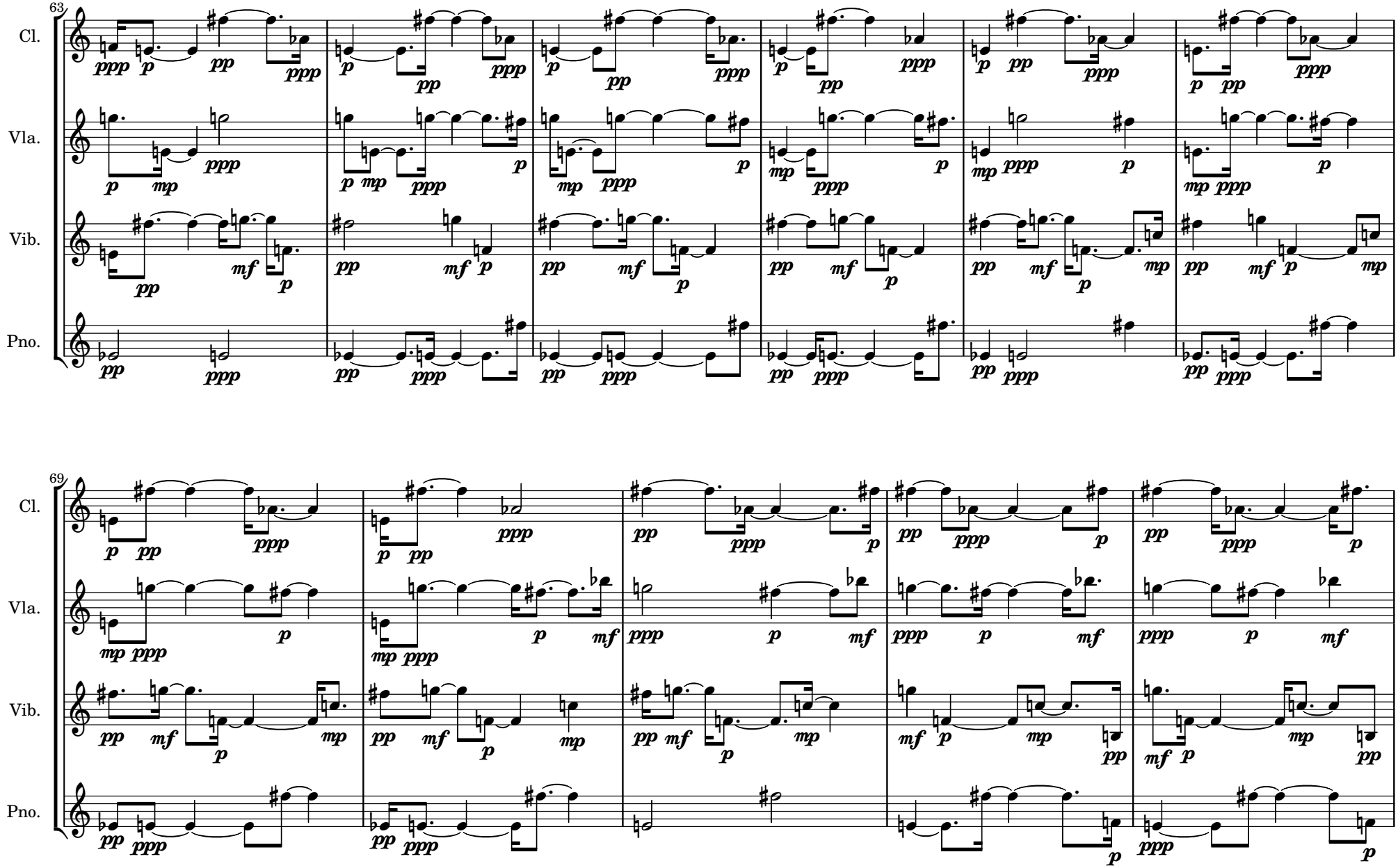
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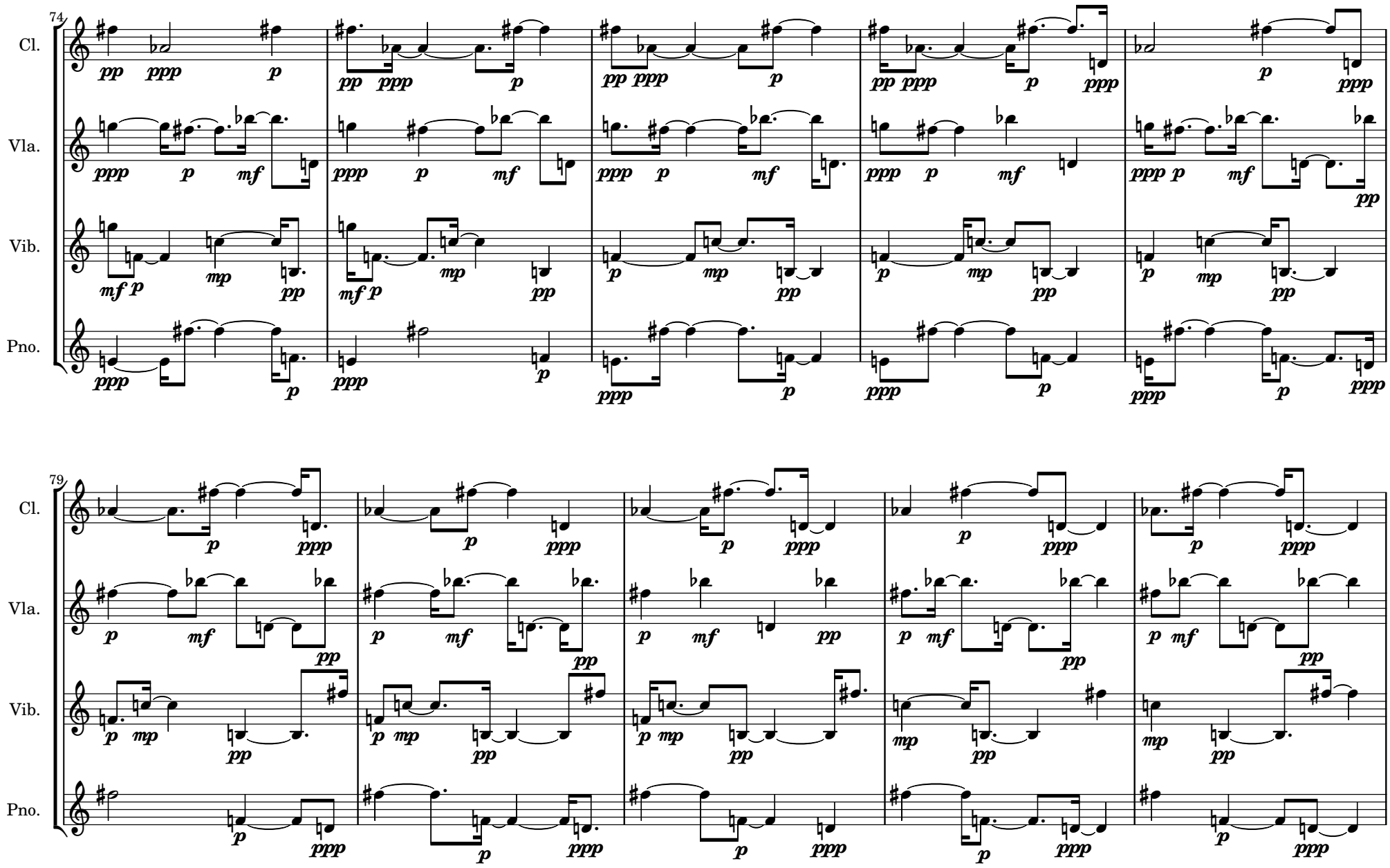
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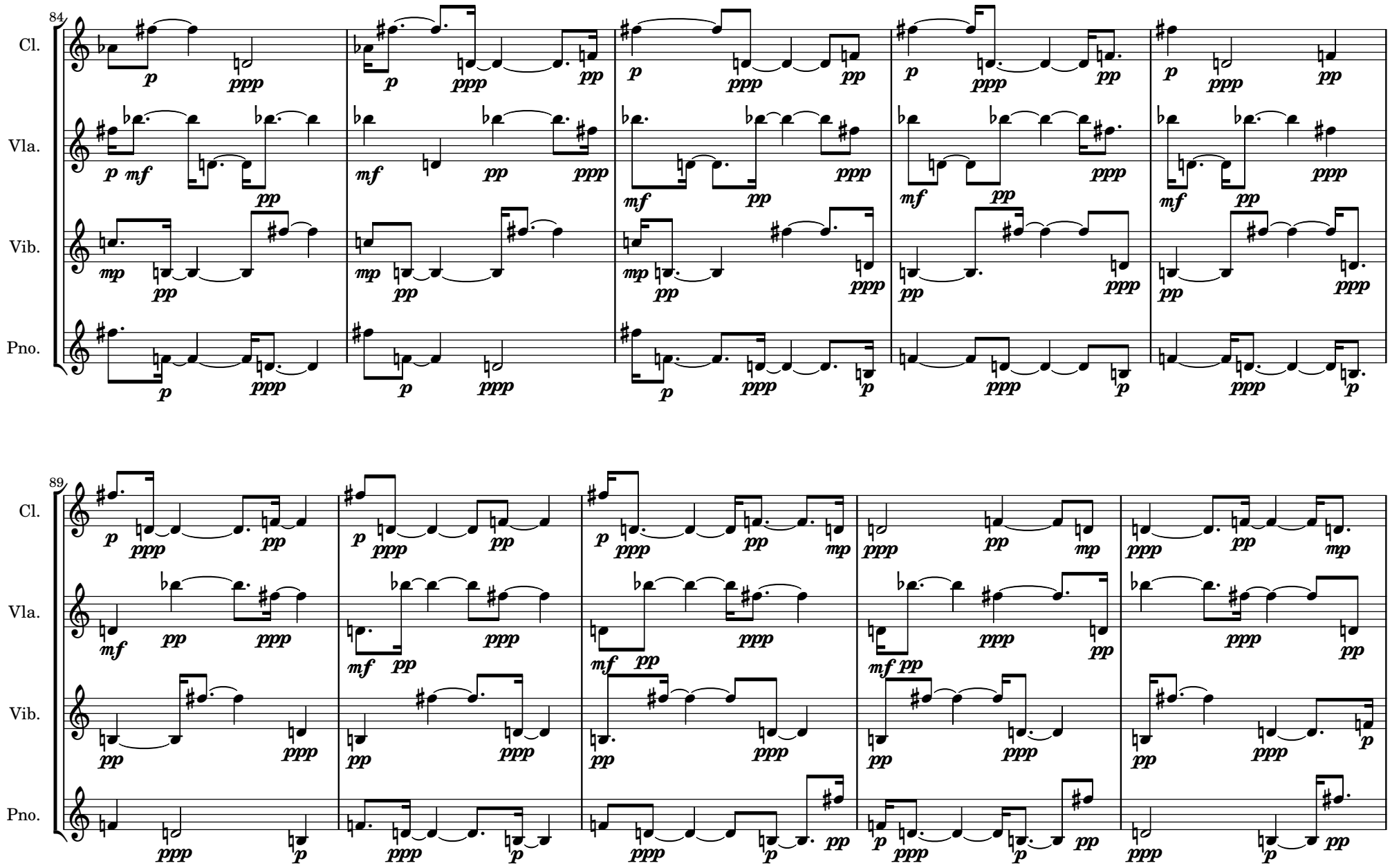
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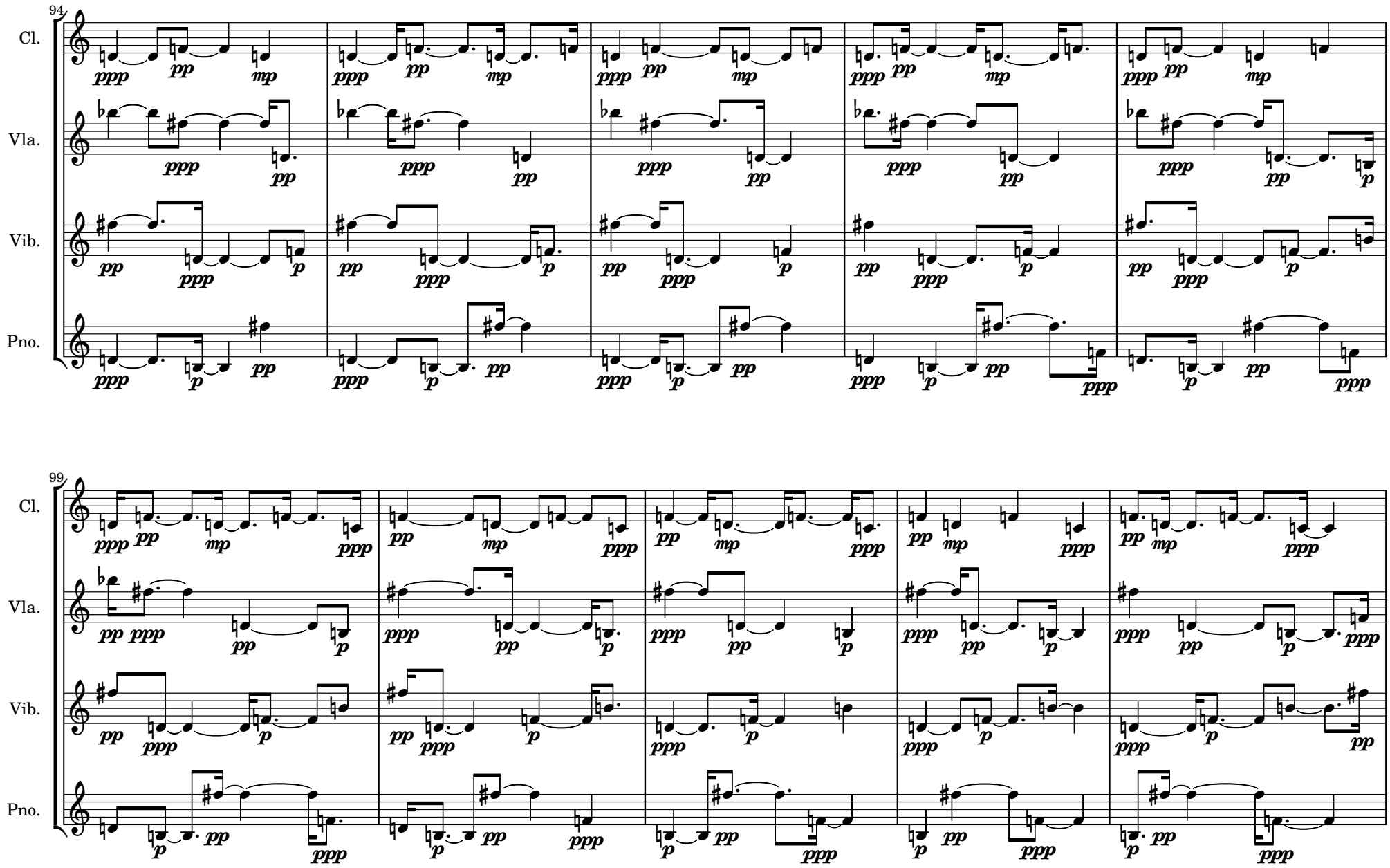
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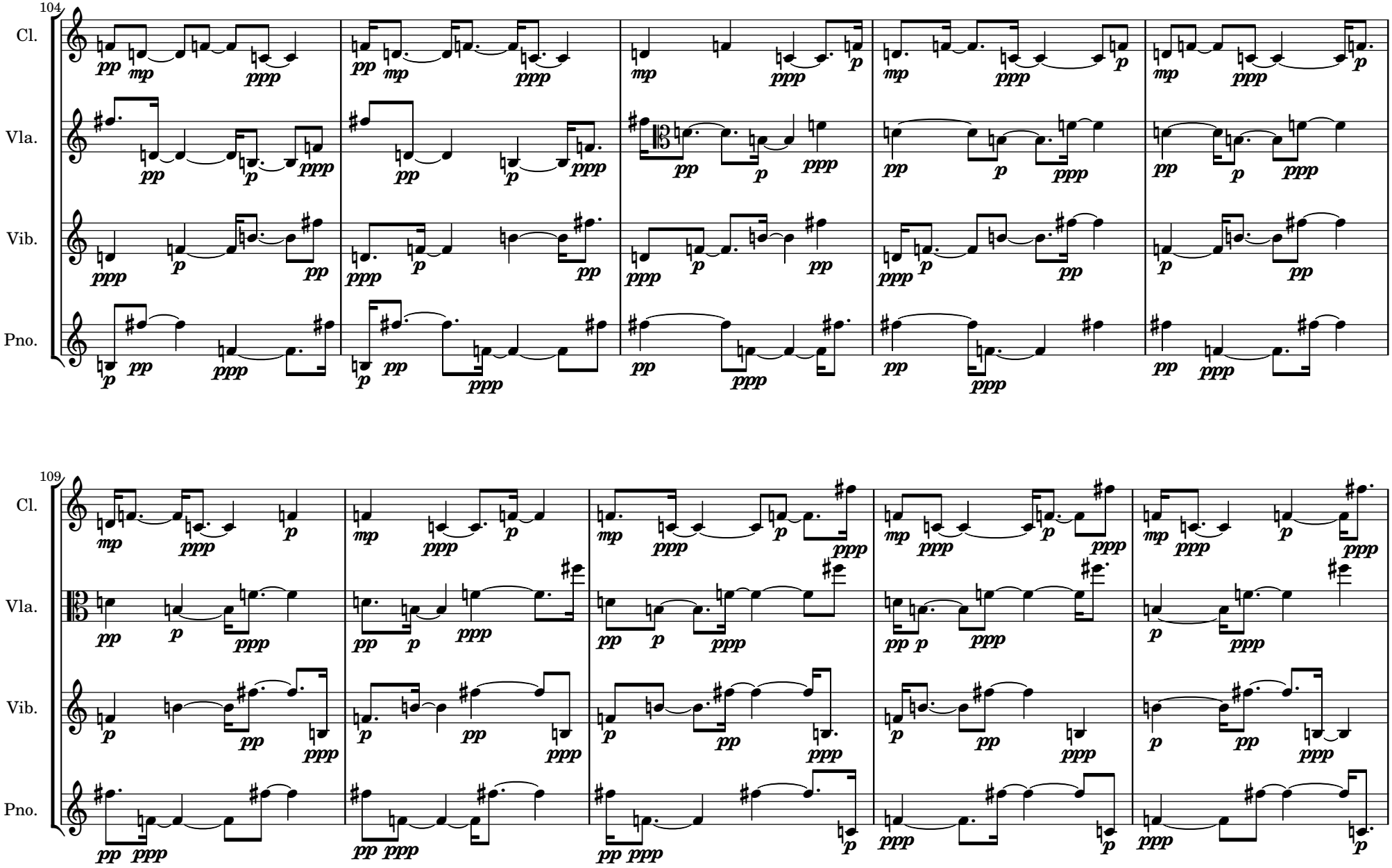
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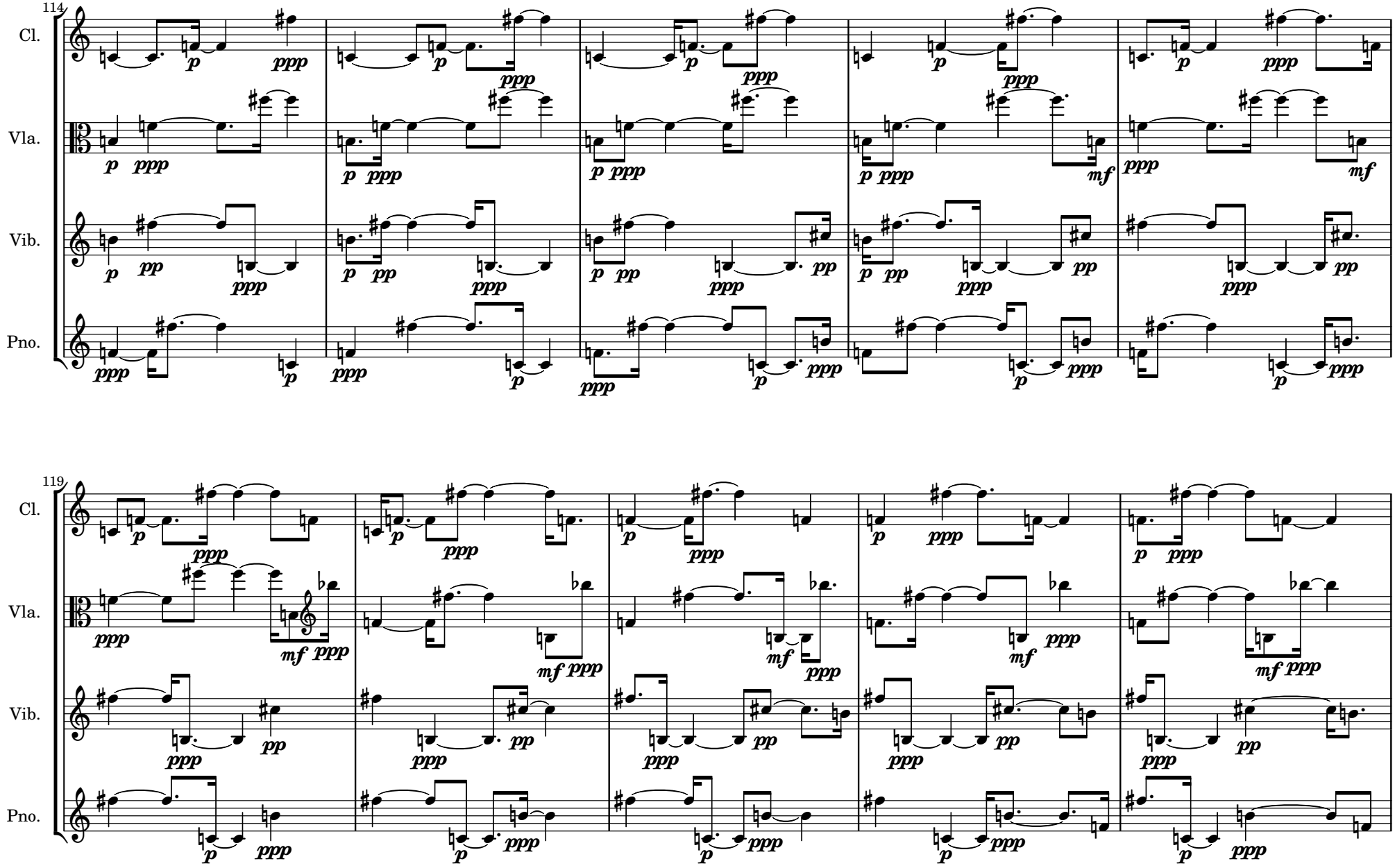
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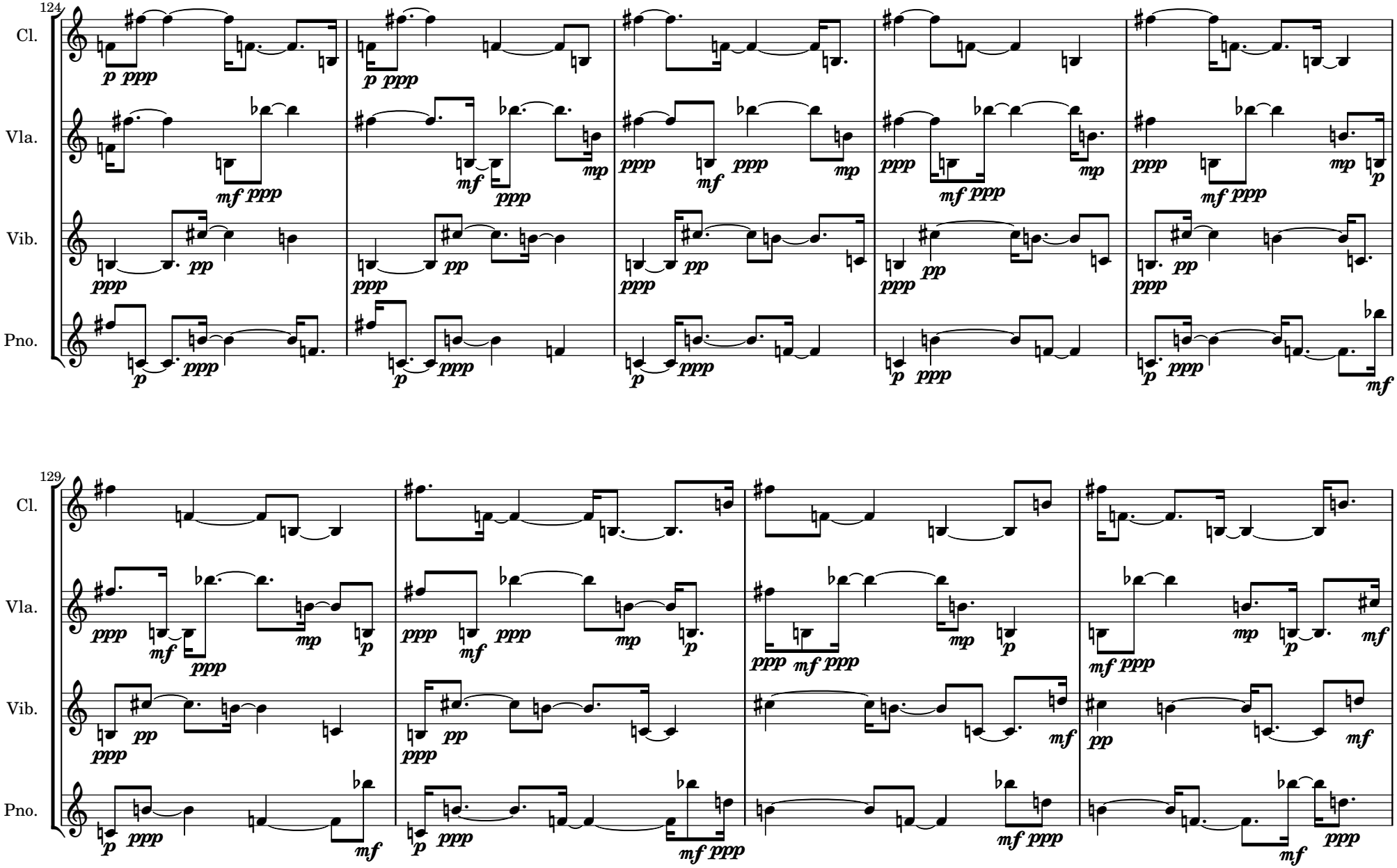
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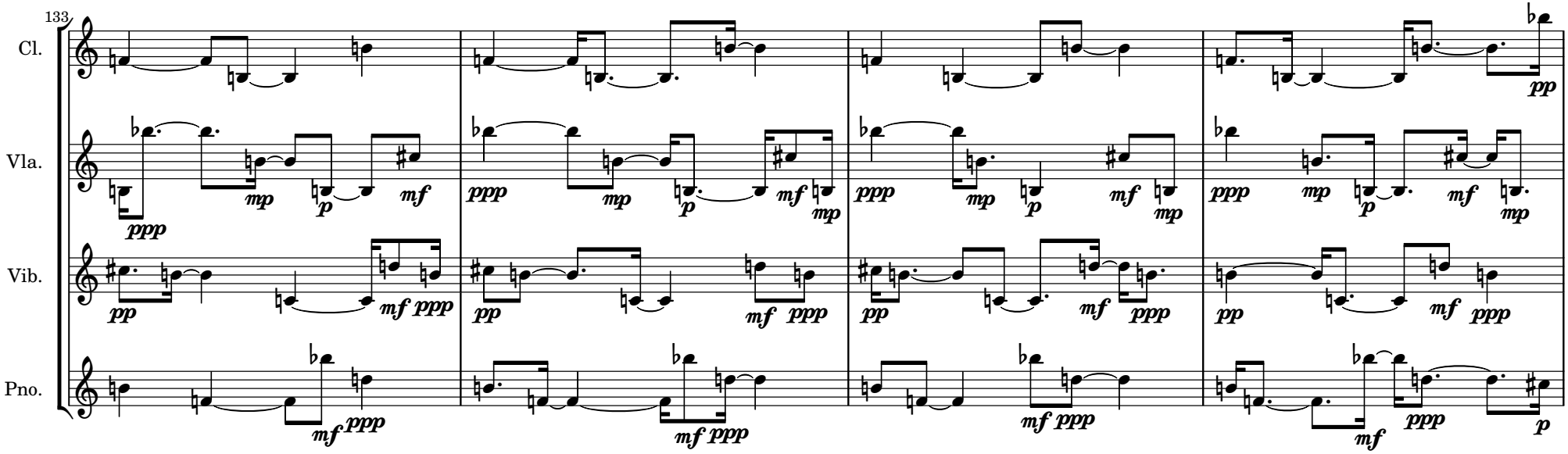
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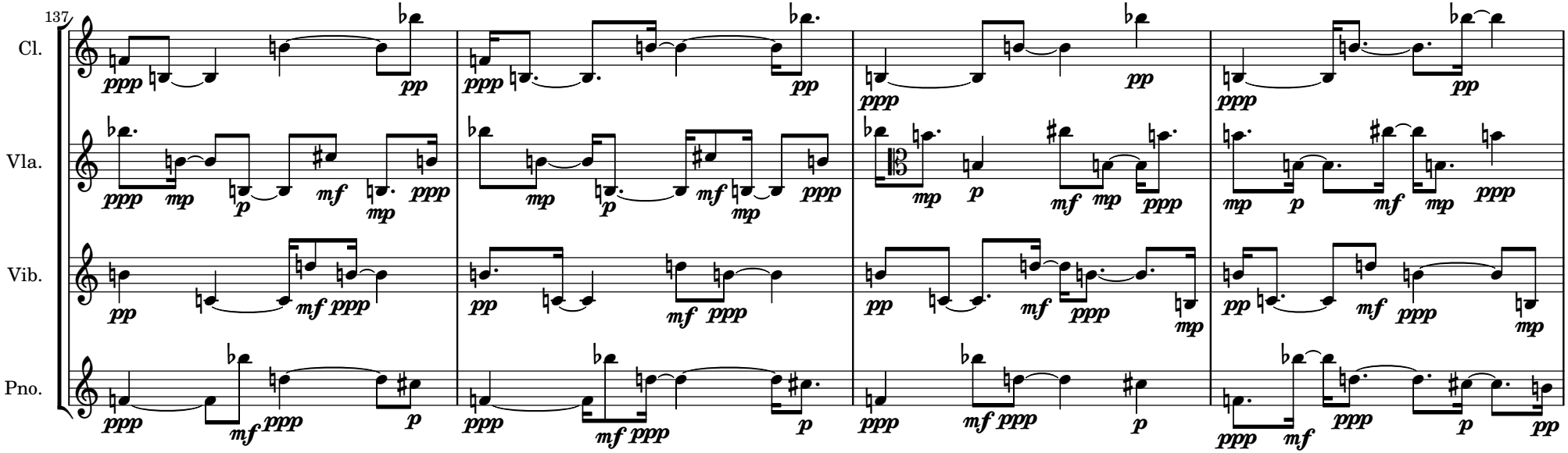
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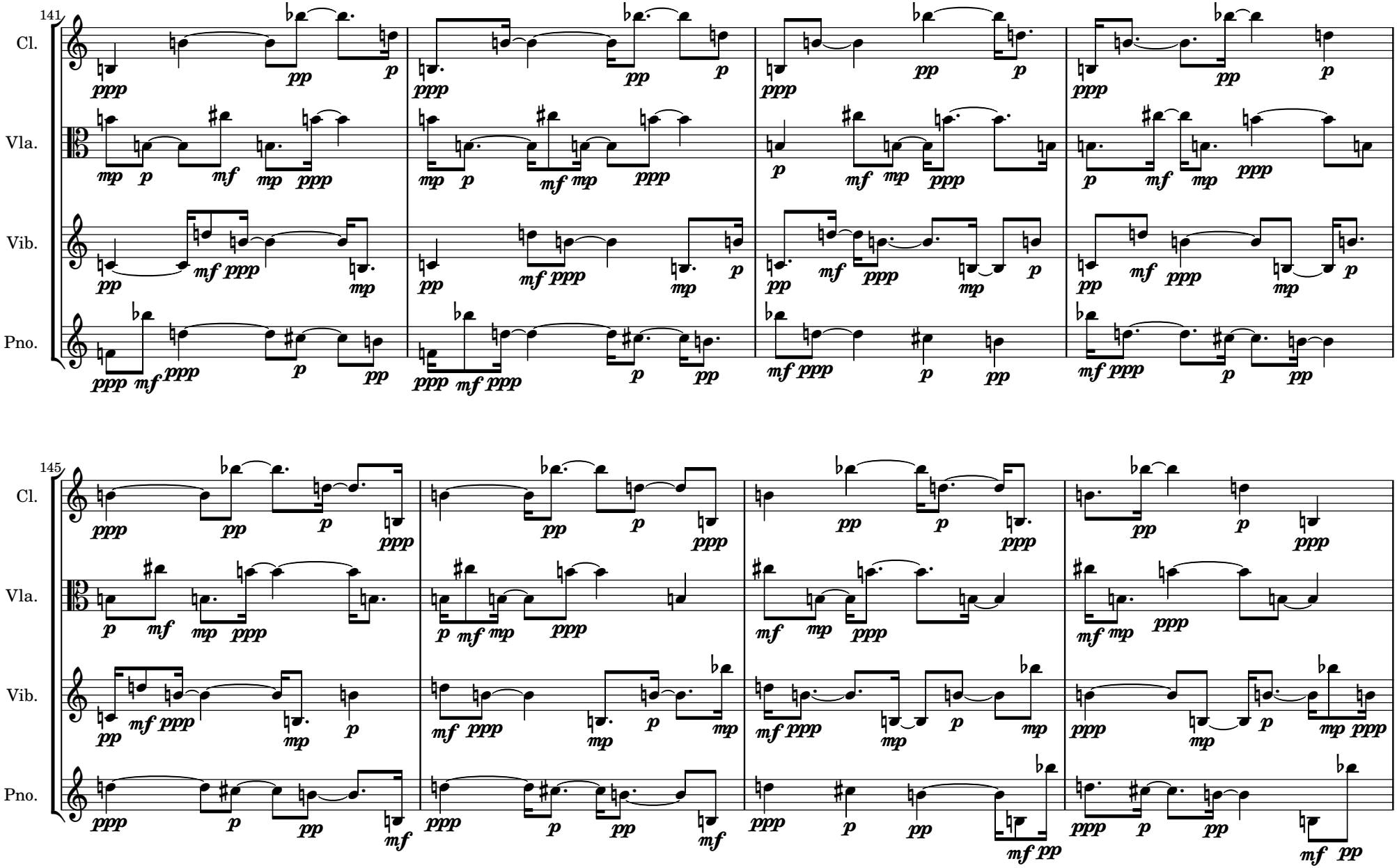
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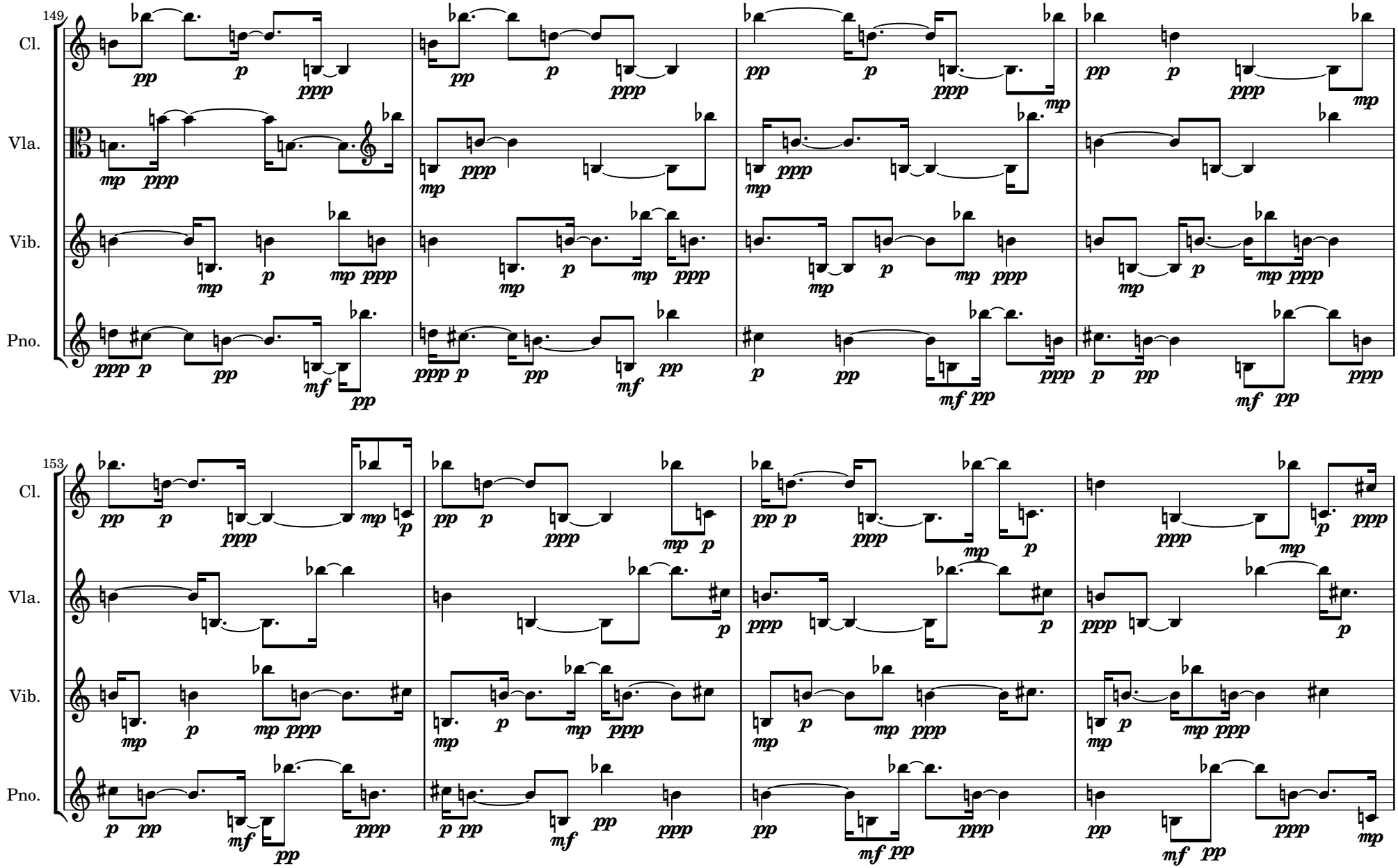
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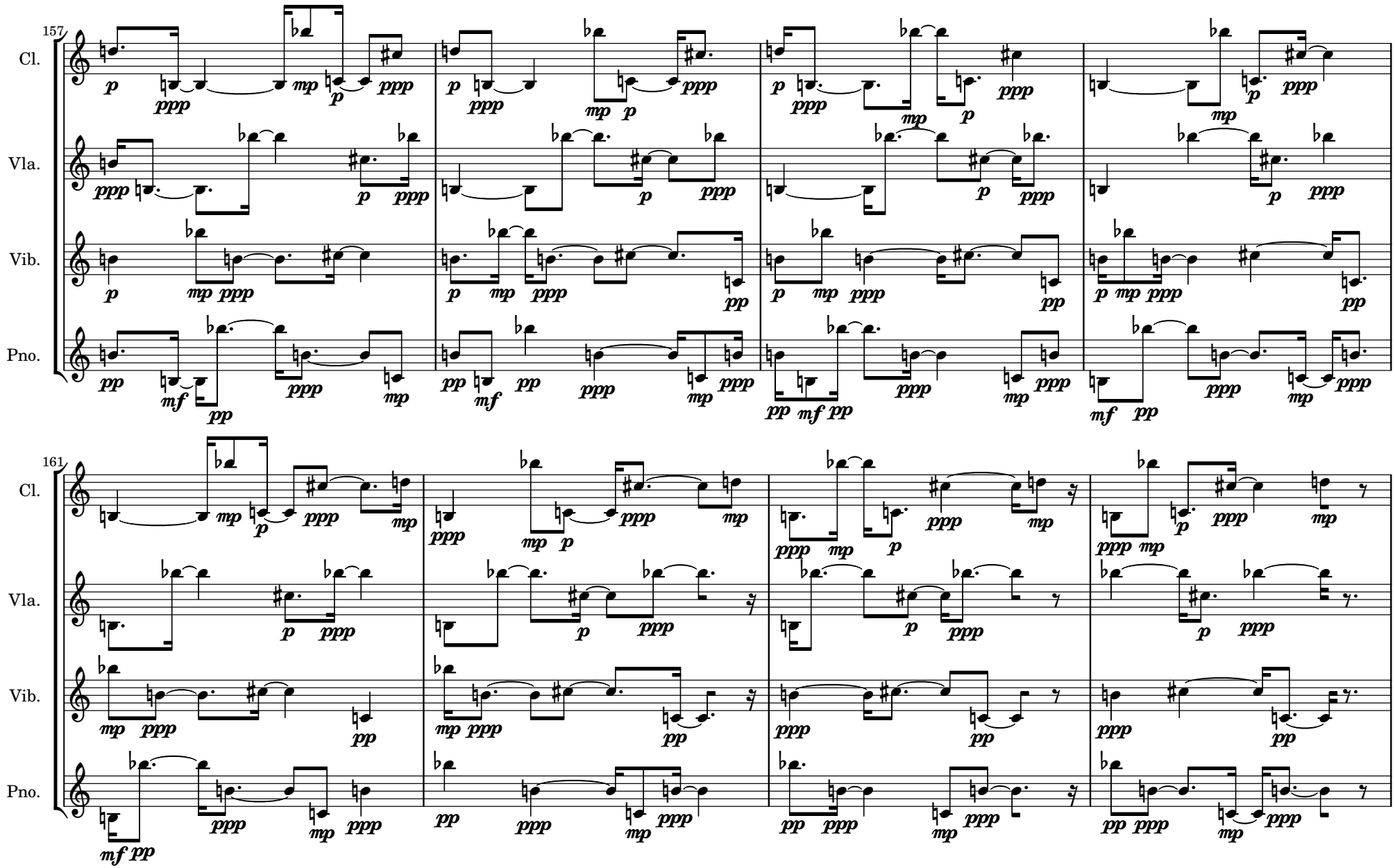
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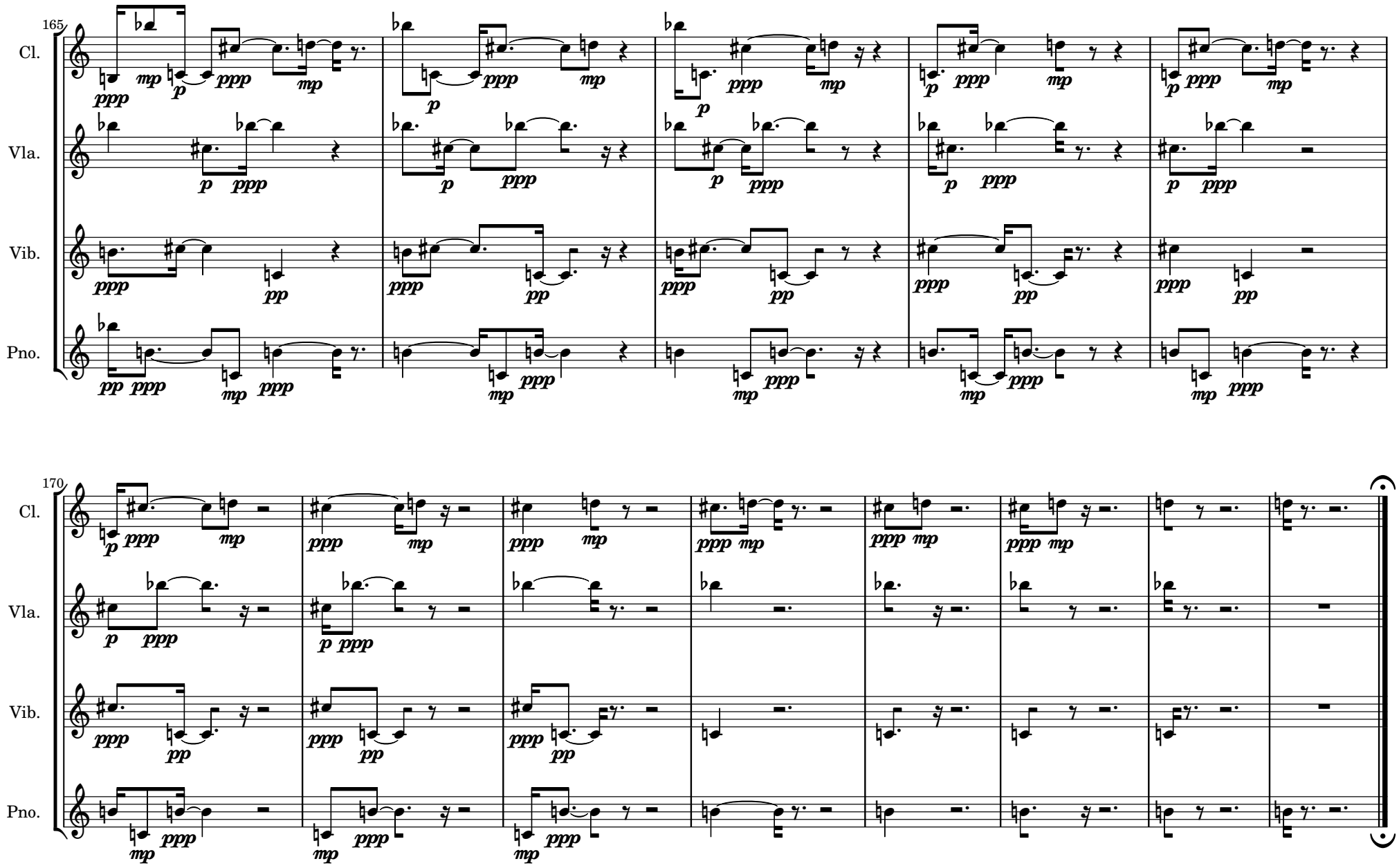
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