Gilberto Agostinho

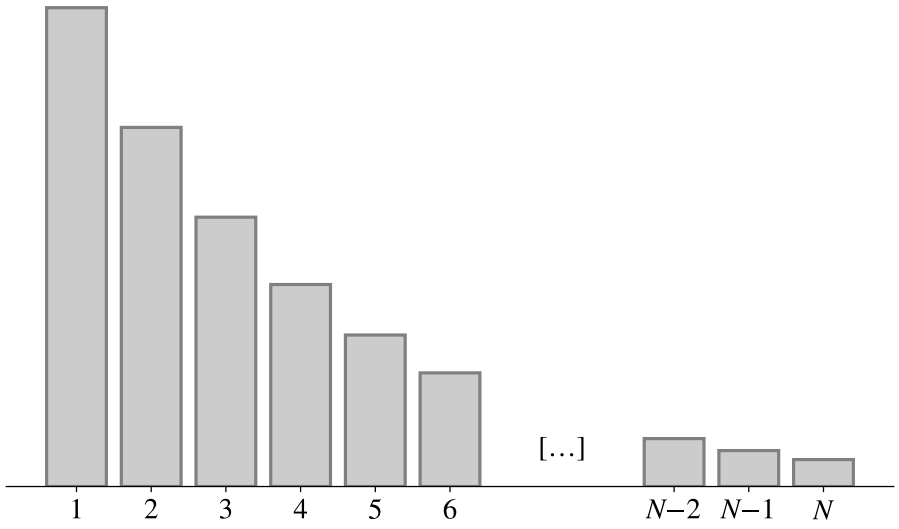
Cartography #7

for four electric guitars

2018

Full Score

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



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

Cartography #7, for four electric guitars

Mapping and rules

cells

set size	$N = 5$
transformation period	$48 \times$ ♩
possible values	1 : note with cresc. from al niente, 2 : tap harmonic, 3 : group of n consecutive sixteenth-notes (n selected from $[2, 3, 4, 5, 6]$), 4 : note with vibrato, 5 : single regular note, 6 : mixed group of m consecutive sixteenth-notes, the last one with a vibrato (m selected from $[4, 5, 6, 7, 8]$.)
transformation mechanism	There are four stages for the transformation mechanism of the cells. The first four transformations are given by $[a, b, c, d, e] \rightarrow [b, c, d, e, e + 1]$. The next four are given by $[a, b, c, d, e] \rightarrow [b, c, d, e, a]$. The next five are given by $[a, b, c, d, e] \rightarrow [b, c, d, e, 6]$. The final five transformations are given by $[a, b, c, d, e] \rightarrow [b, c, d, e, f]$, where $f = (e \bmod 6) + 1$.
initial set	$[1, 1, 1, 1, 1]$

pitches

set size	$N = 7$
transformation period	$8 \times$ ♪
transformation mechanism	$[a, b, c, d, e, f, g] \rightarrow [b, c, d, e, f, g, h]$, with $h \bmod 12 = (g \bmod 12) - 1$, and h at a uniformly randomly selected octave transposition.
initial set	[C6, B5, B♭5, A5, A♭5, G5, F♯5]

durations

set size	$N = 5$
transformation period	$48 \times$ ♩
transformation mechanism	there are three mechanisms in use. For the first thirteen transformations: $[a, b, c, d, e] \rightarrow [a-1, b-1, c-1, d-1, e-1]$. From the fourteenth transformation until the coda: $[a, b, c, d, e] \rightarrow [a+1, b+1, c+1, d+1, e+1]$. The coda starts one bar after the last active note ends and uses a fixed set $[24, 24, 24, 24, 24]$ for all four electric guitars.
initial set	$[28, 27, 26, 25, 24]$

constraints

- number of pitch transformations: $216 + 1$ for the coda.
- number of duration transformations: $18 + 1$ for the coda.
- range: E3–E6.
- if a pitch below D4 is selected, harmonics mode cannot be selected.
- there is always a sixteenth-note rest between a vibrato mode note and the next note.

General performance notes

- each guitar player should have their own amplifier by the their sit. They should sit at maximal distance from each in order to emphasize the spatial aspect of the composition.
- use a clean guitar sound and soft dynamics throughout the piece.
- notes with *laissez vibrer* ties should last as long as possible but end before the next note.
- all volume changes should be executed with a volume pedal.
- all harmonics should be executed as artificial harmonics and are notated at sounding pitch. They should all be played as tap harmonics in order to achieve a slightly more pronounced attack than a regular pinch harmonic (but still in soft dynamic).
- the vibrato should be executed as fast as possible but within a small frequency range.
- do not add vibrato to any note without a *vib.* indication.
- the performers may want to add a little bit of reverb pedal since that may help with the let it ring effect.
- the performers may also consider using a compressor to help with the tap harmonic sounds, though do that with caution and respecting the overall soft dynamic of this composition.

This score was automatically generated by a computer program. The only manual alterations made to it are:

- improved the positions of some hairpins.
- improved the positions of some *laissez vibrer* ties.
- improved the positions of some vibrato zigzag lines.
- added fermatas above and below the final bars.

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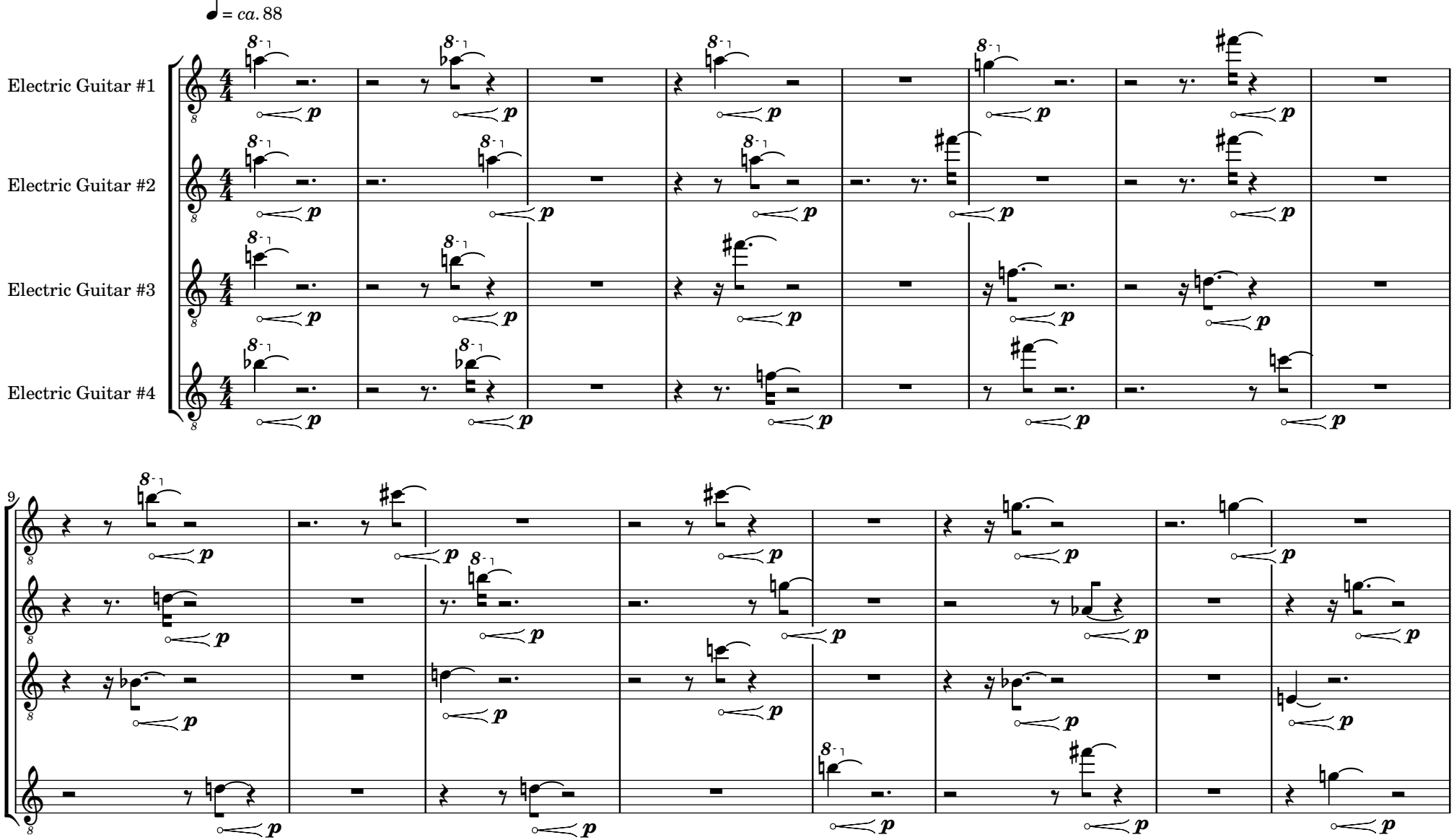
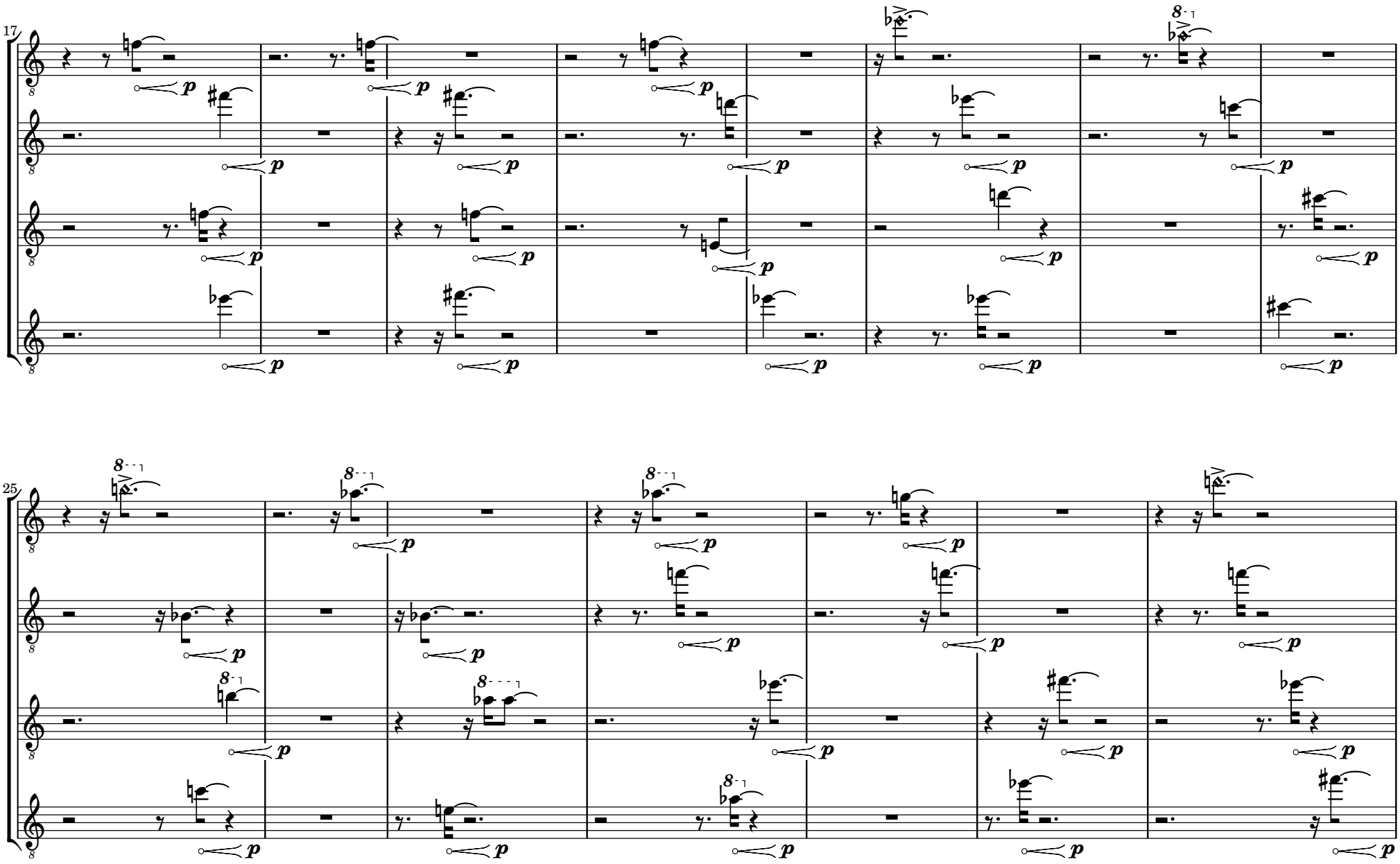
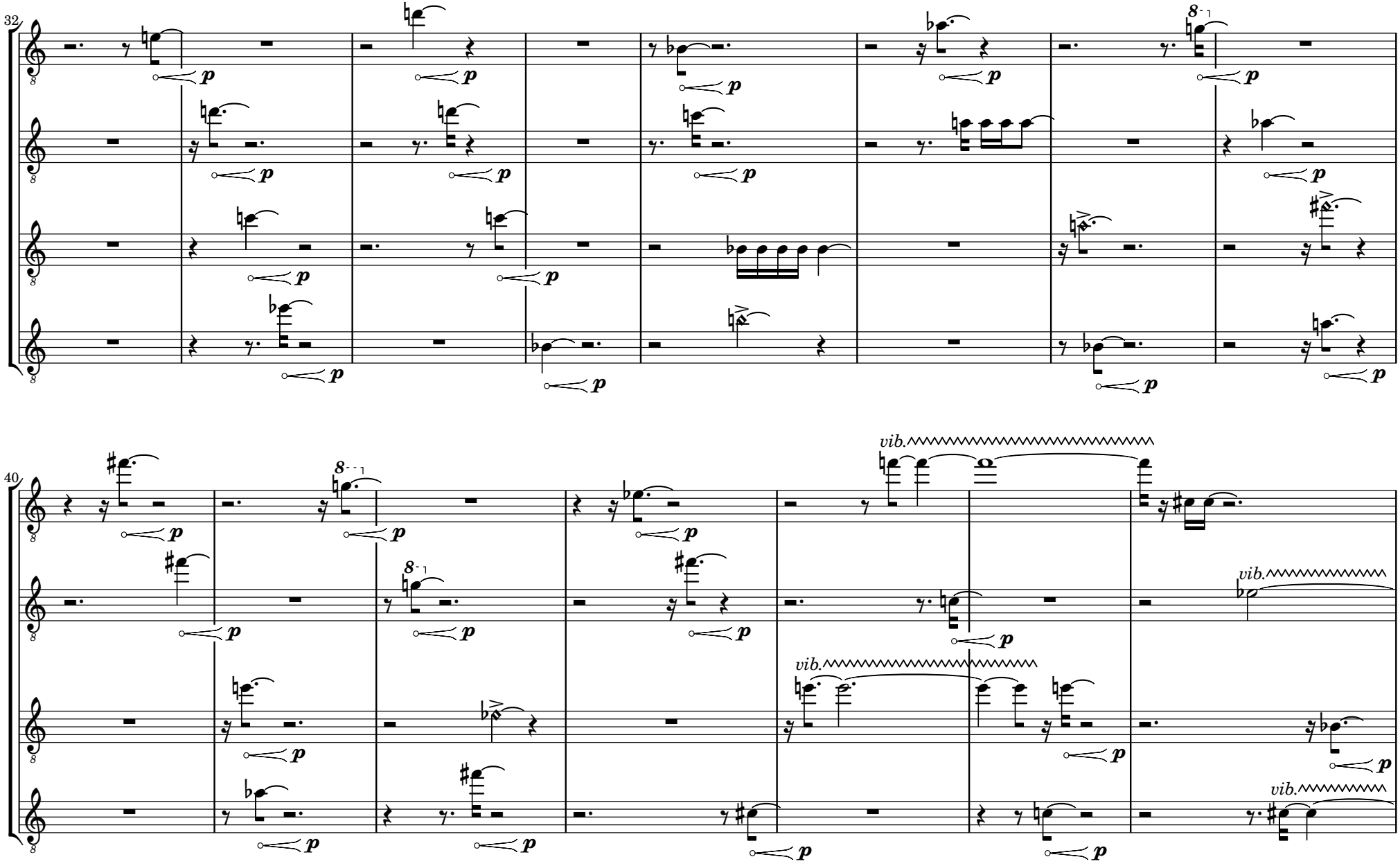
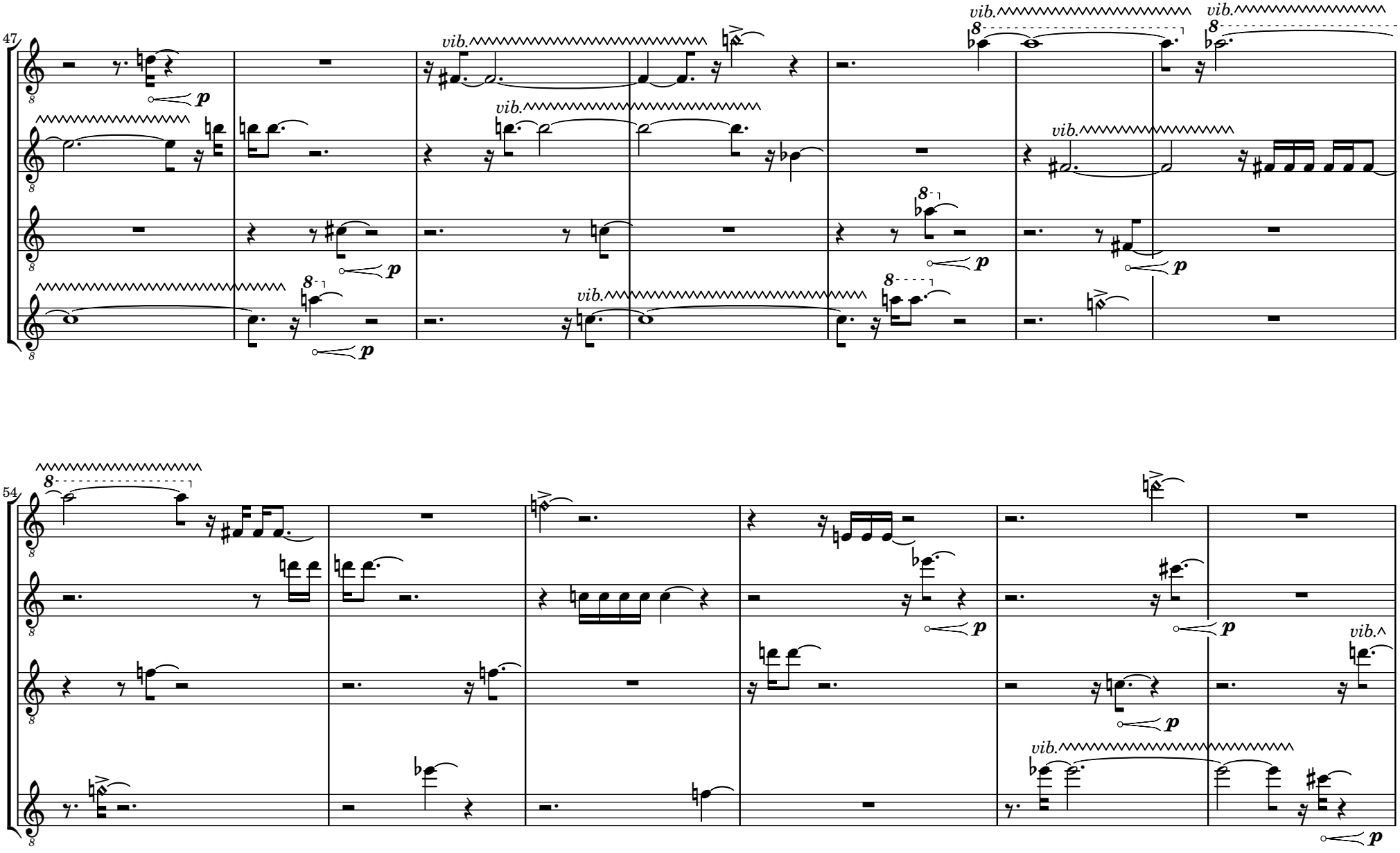
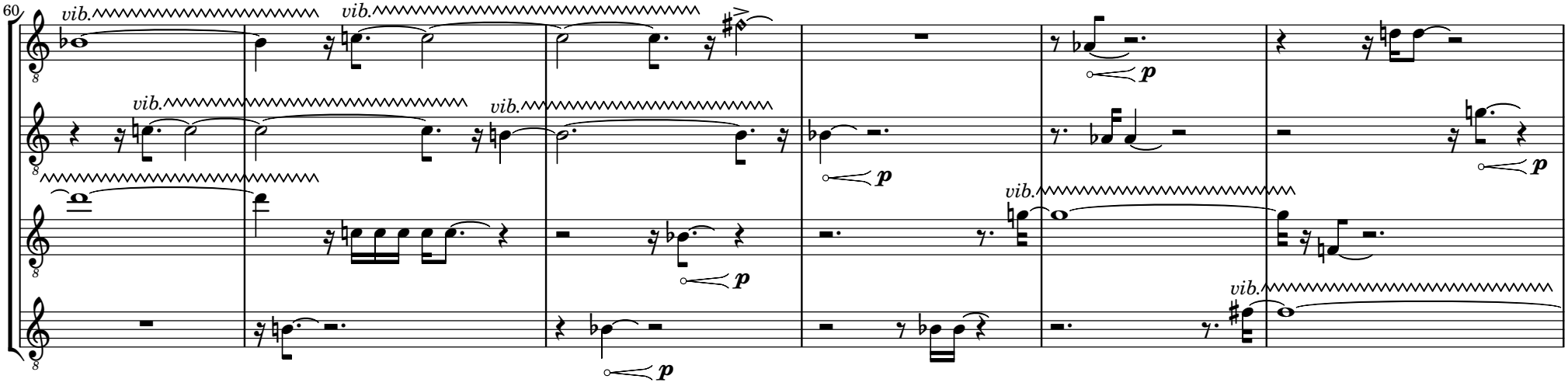
Gilberto Agostinho

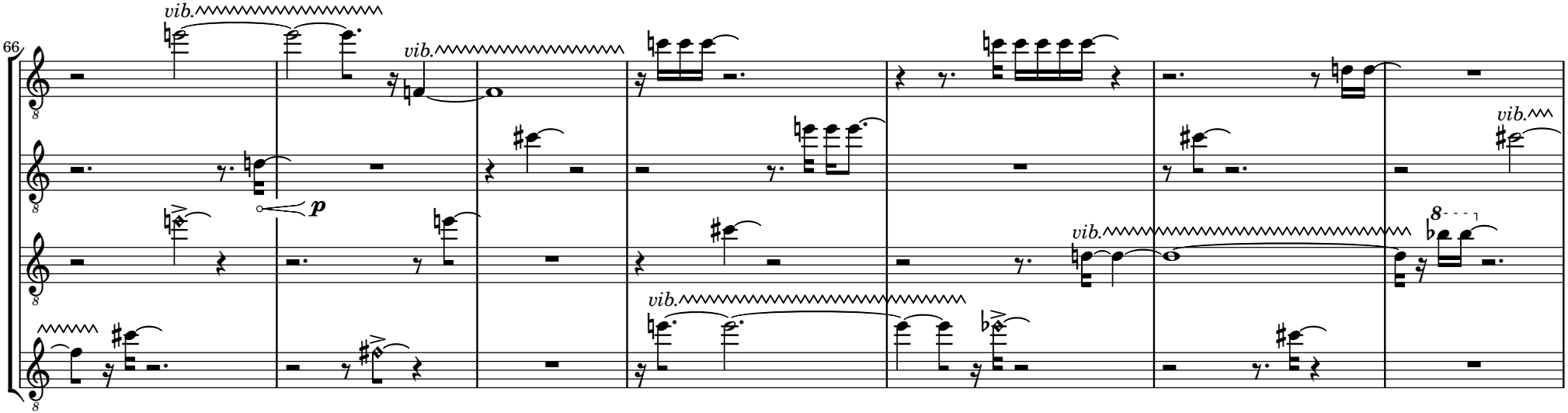


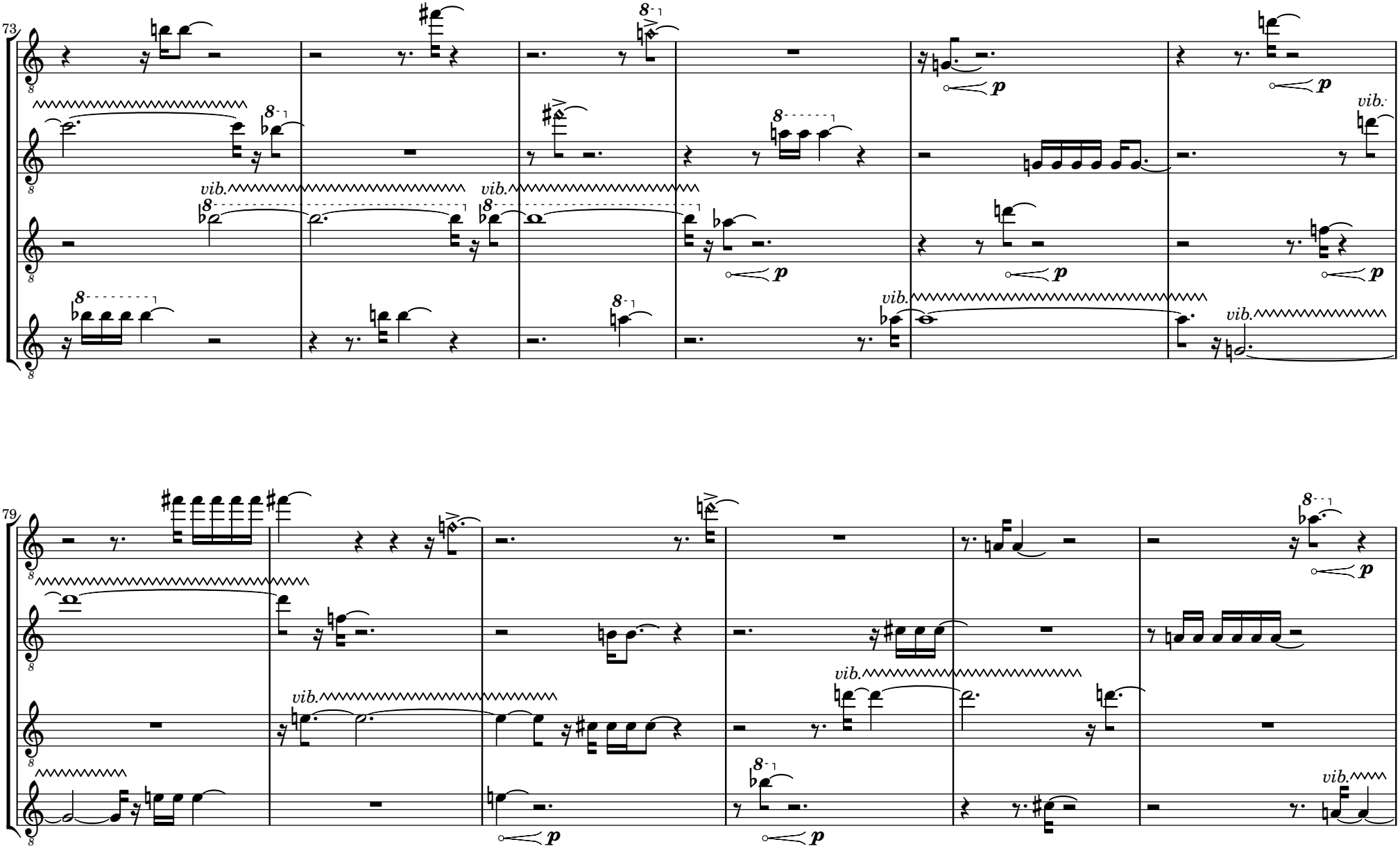

17
25

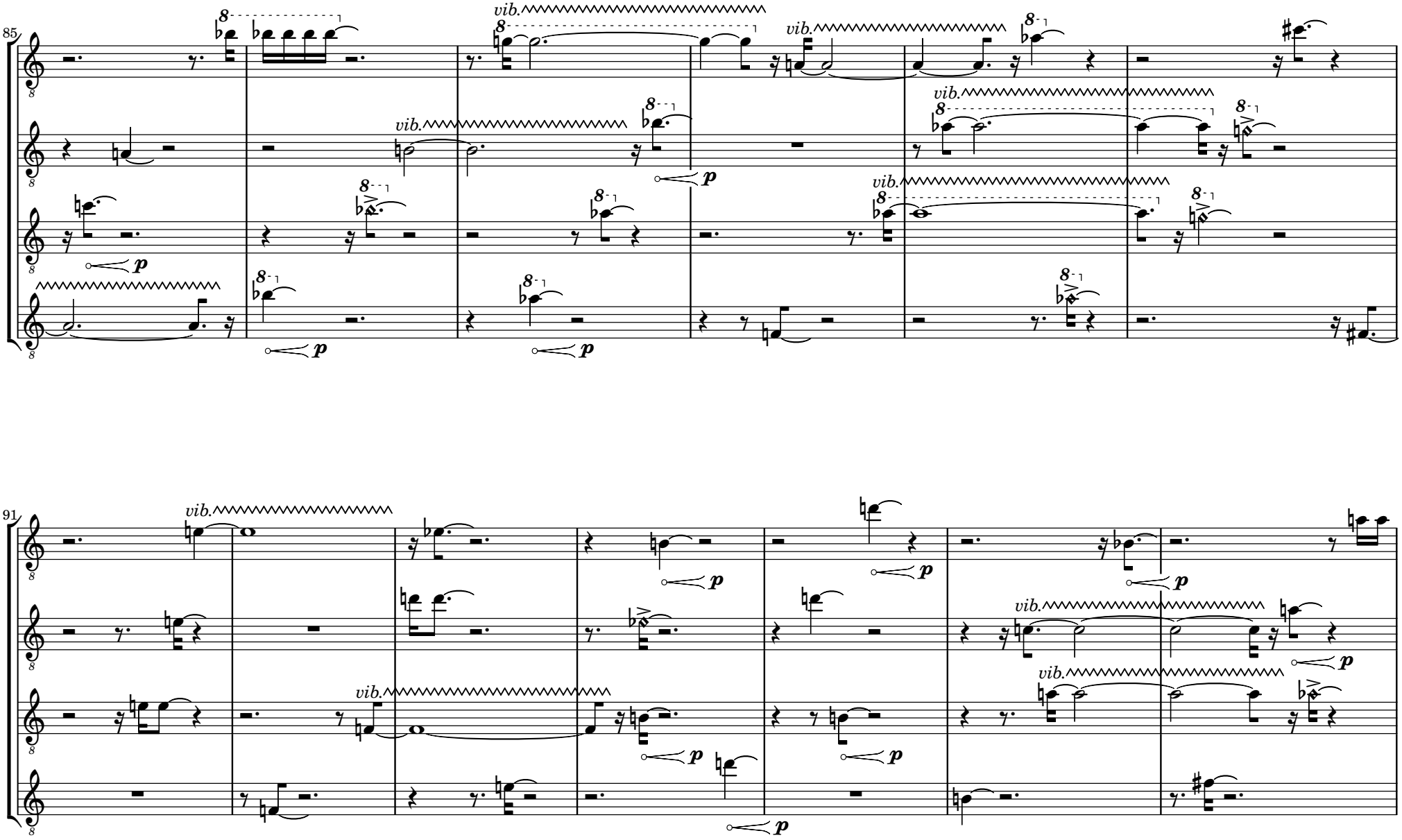

32
8
p
40
vib.

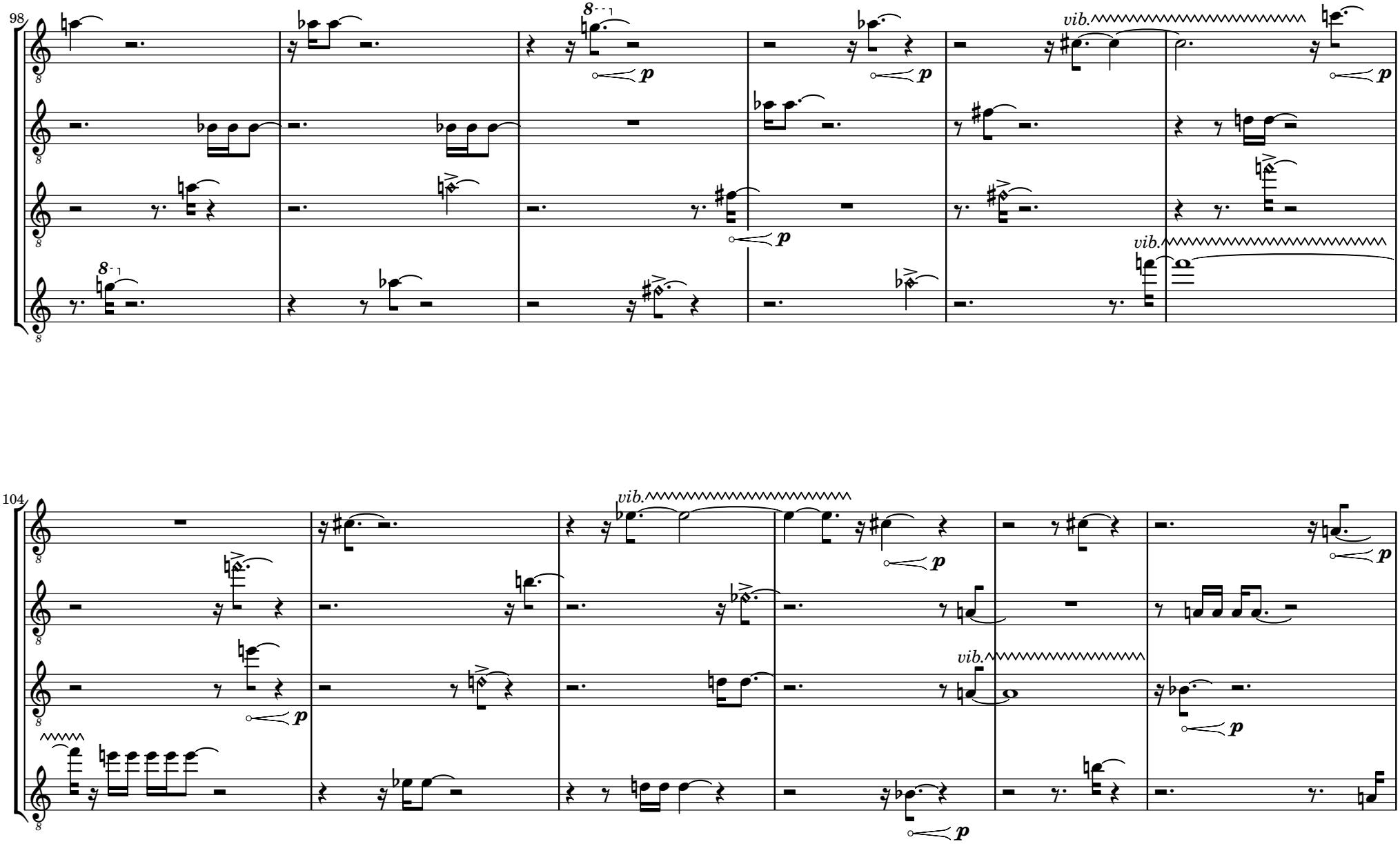

47
vib.
p
54
vib.

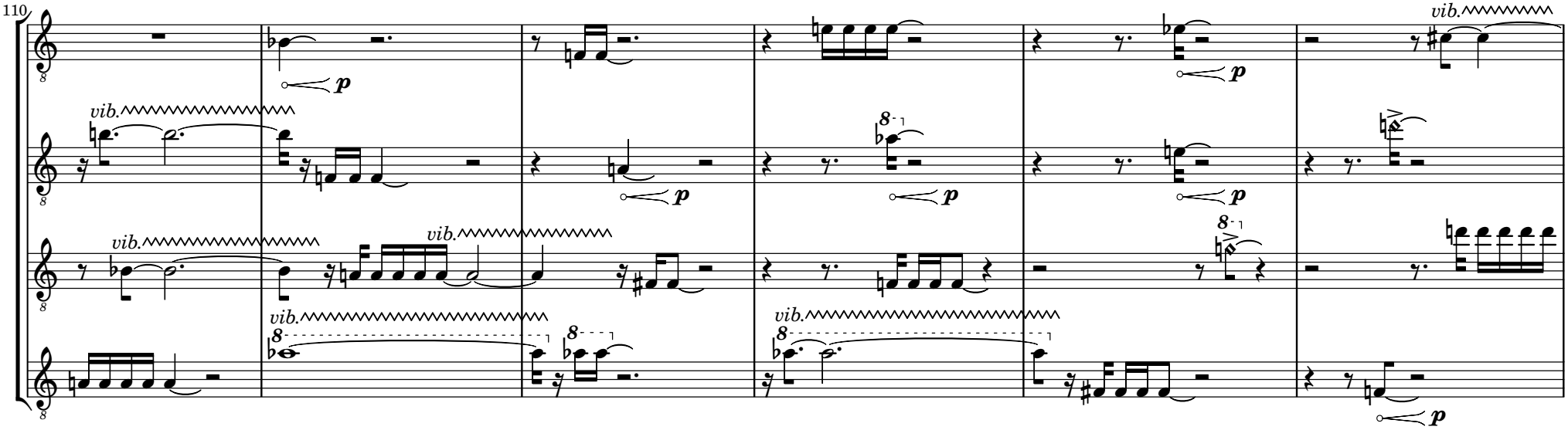

60
vib.
vib.
vib.
vib.
vib.
vib.
p
p
p
p

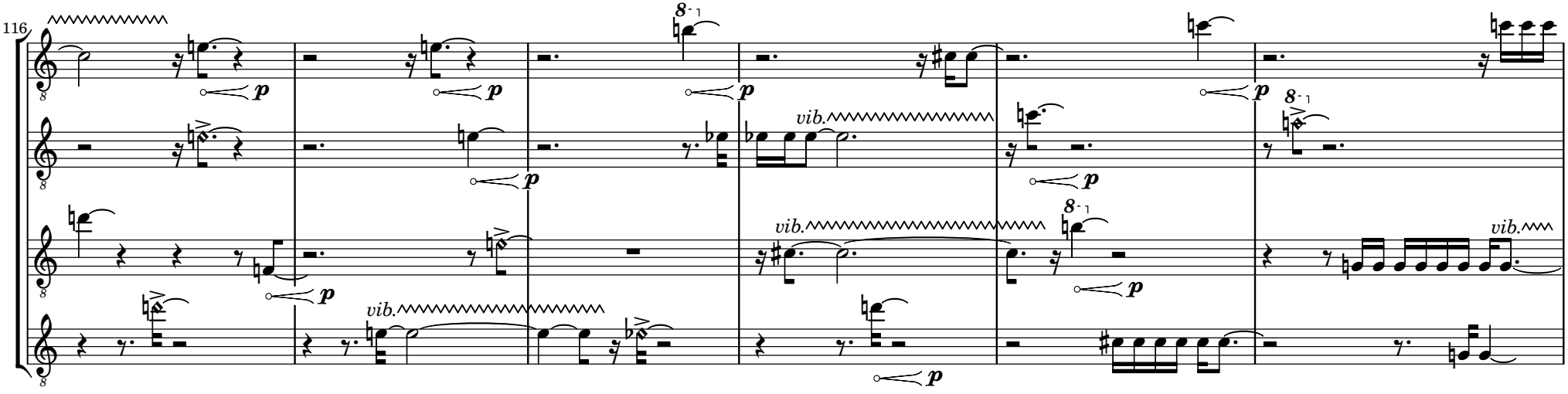

66
vib.
vib.
vib.
vib.
vib.
8
p

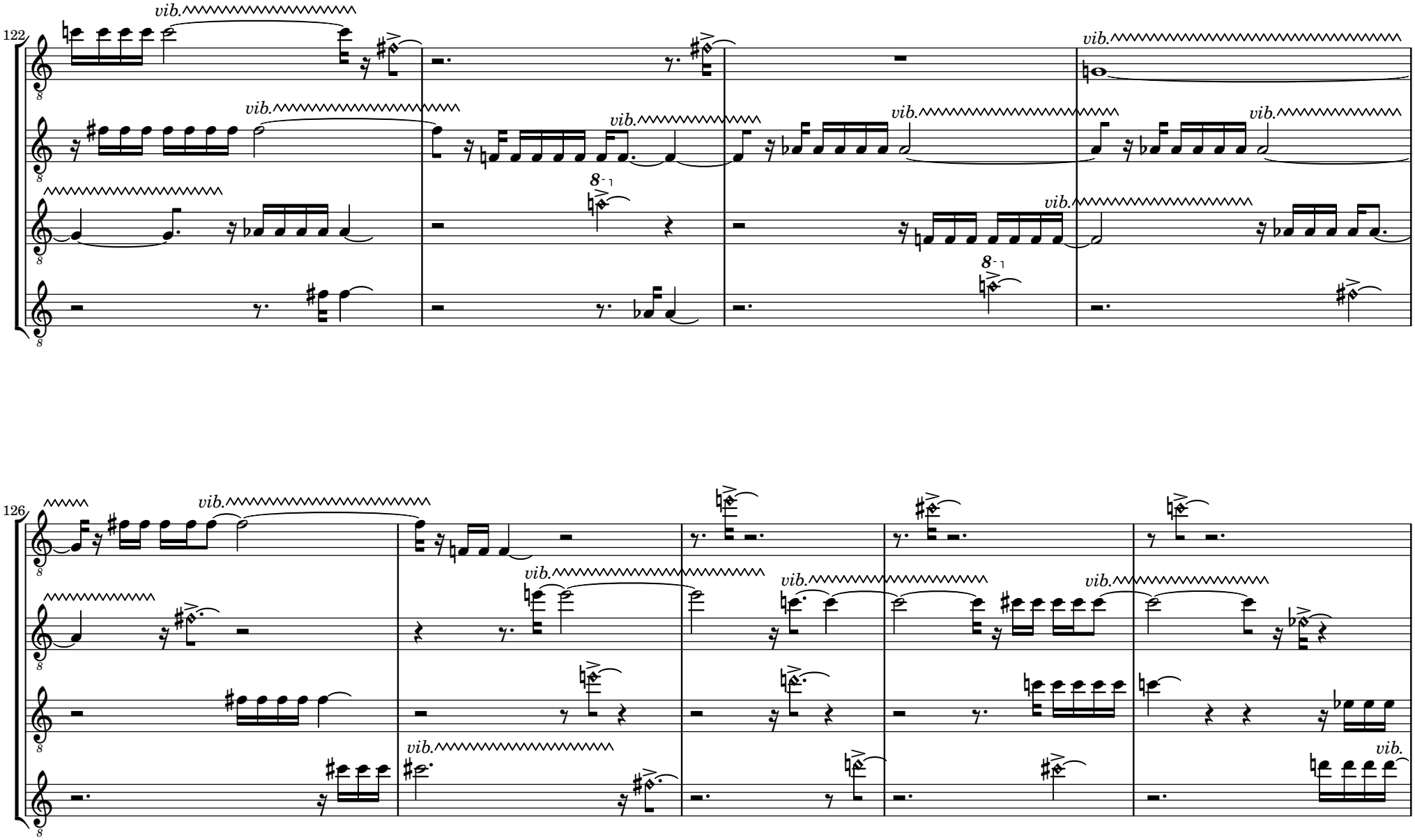

73
vib.
vib.
vib.
vib.
vib.
79
vib.
vib.

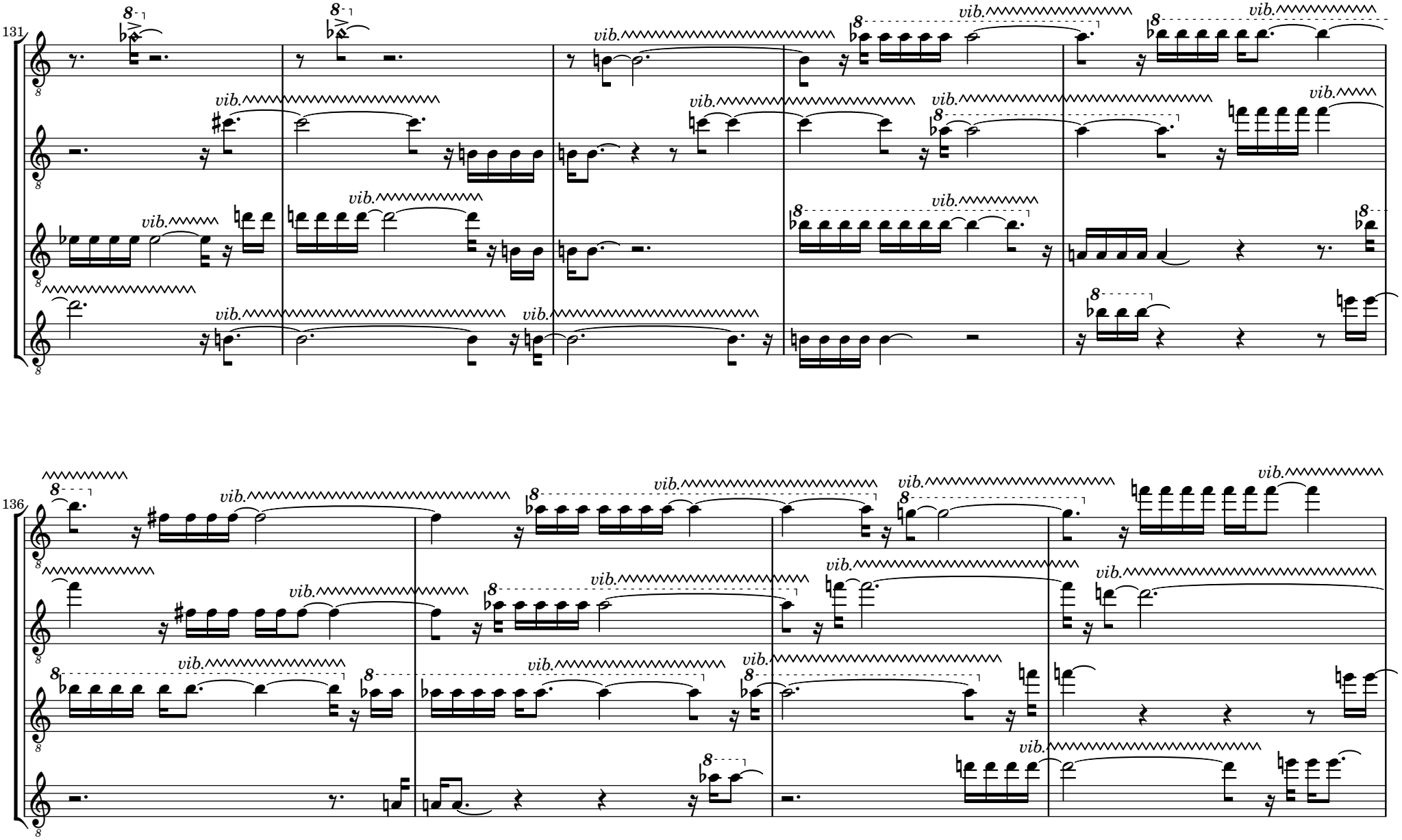

85
vib.
p
91


98
8va
p
vib.
104


110
vib.
p
8


116
vib.
p
8


122
vib.
vib.
vib.
vib.
vib.
vib.
8
8
126
vib.
vib.
vib.
vib.
vib.
vib.


131
136
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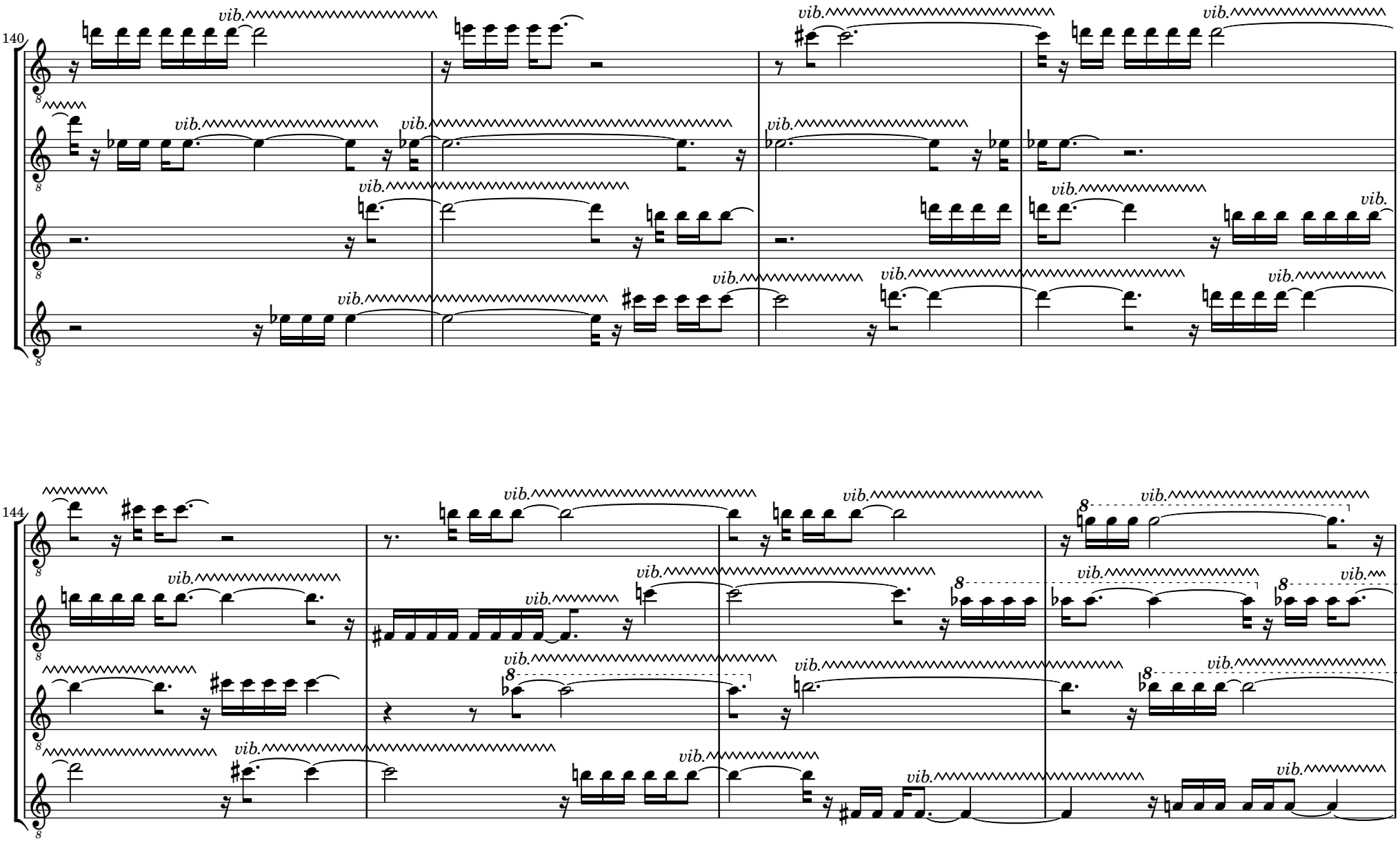
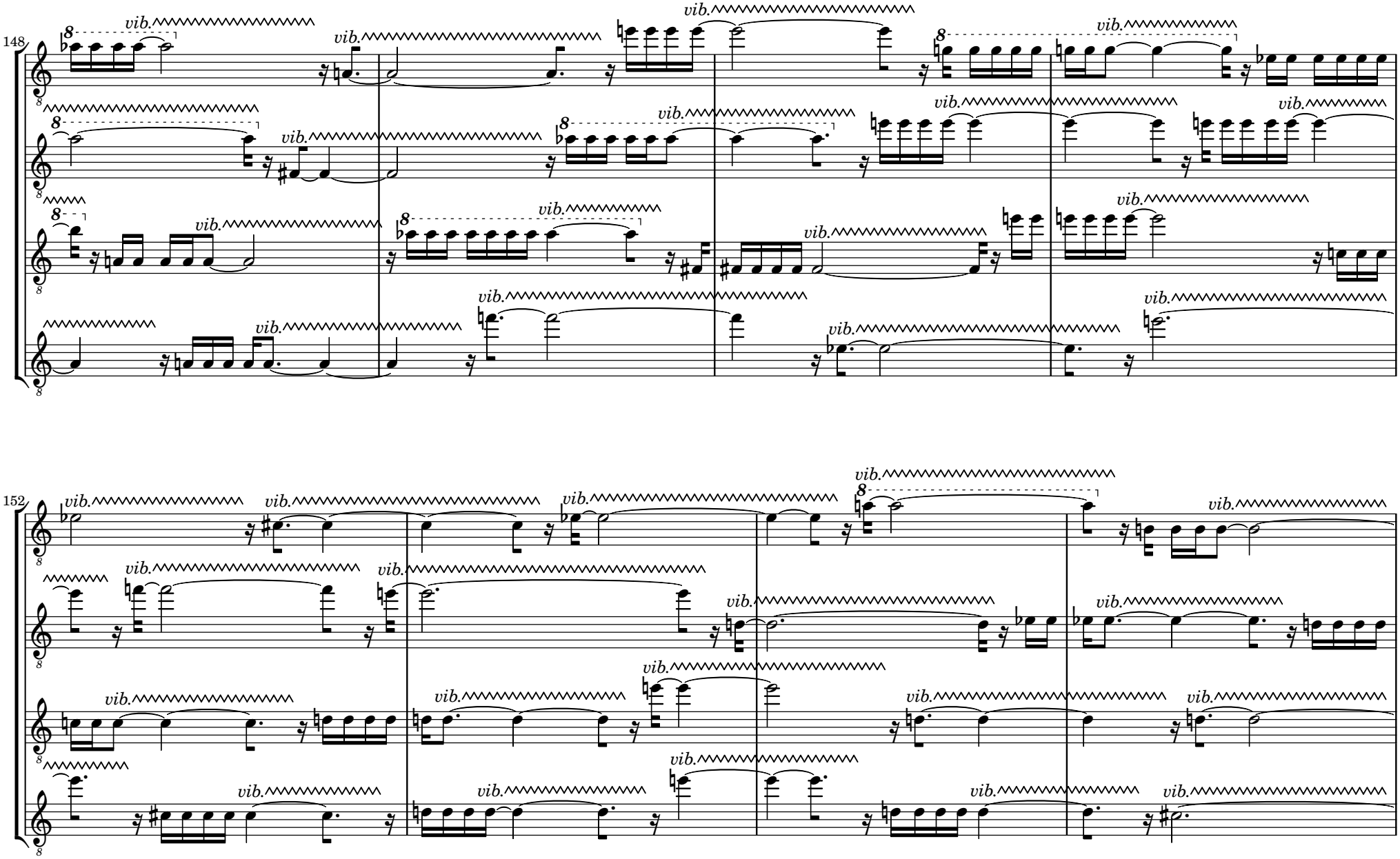

140
vib.
144
8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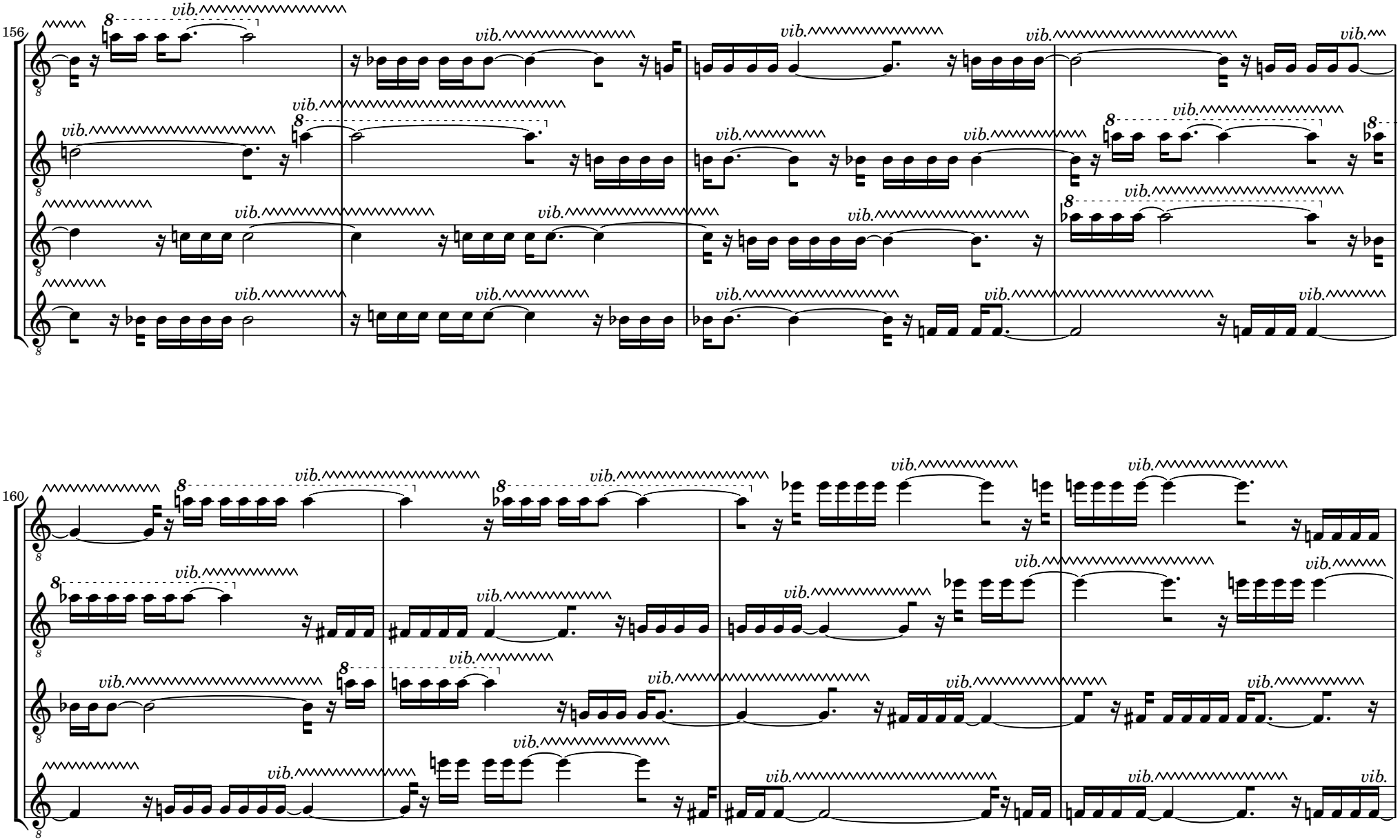
8
152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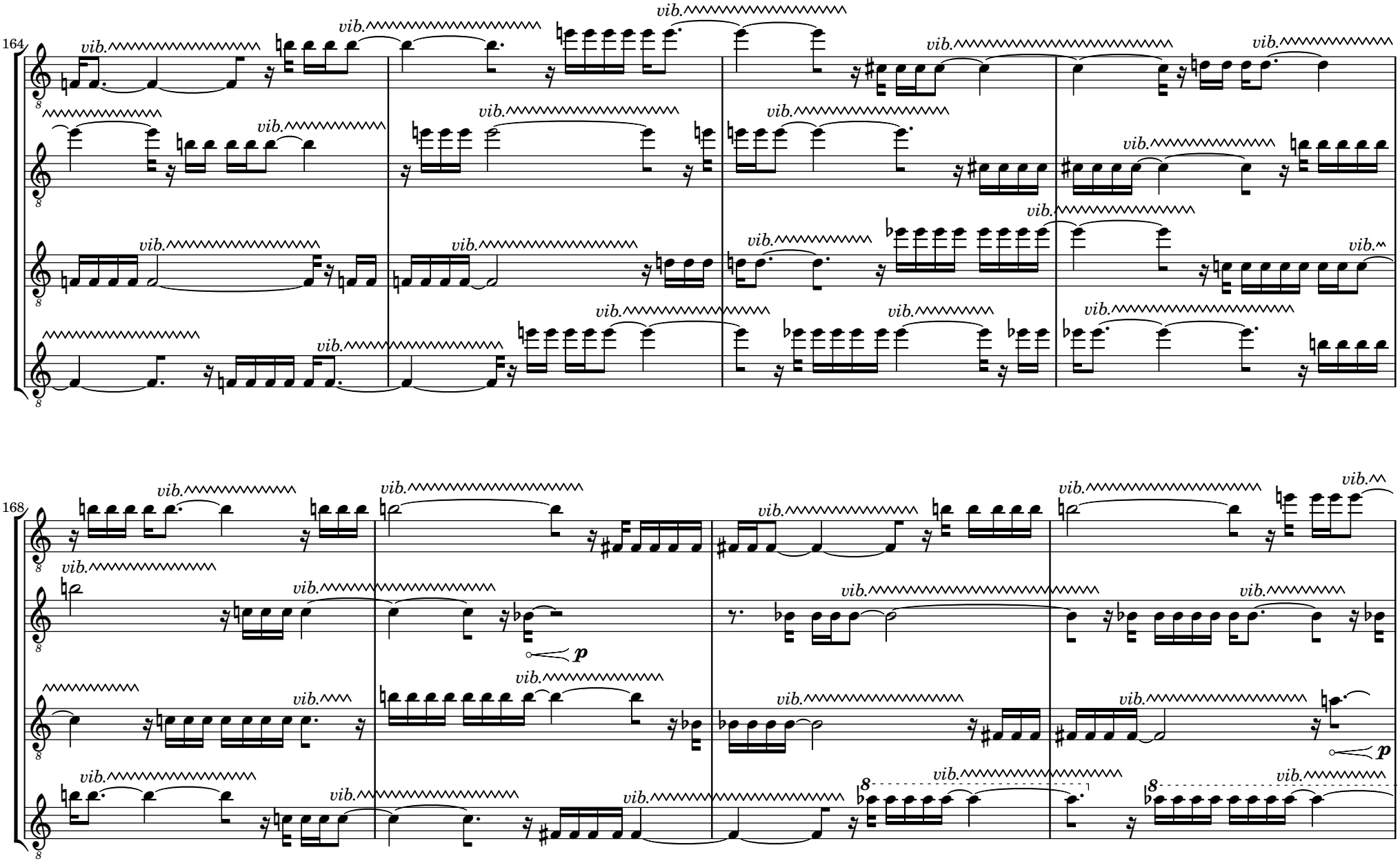
vib.
160
vib.


164
168
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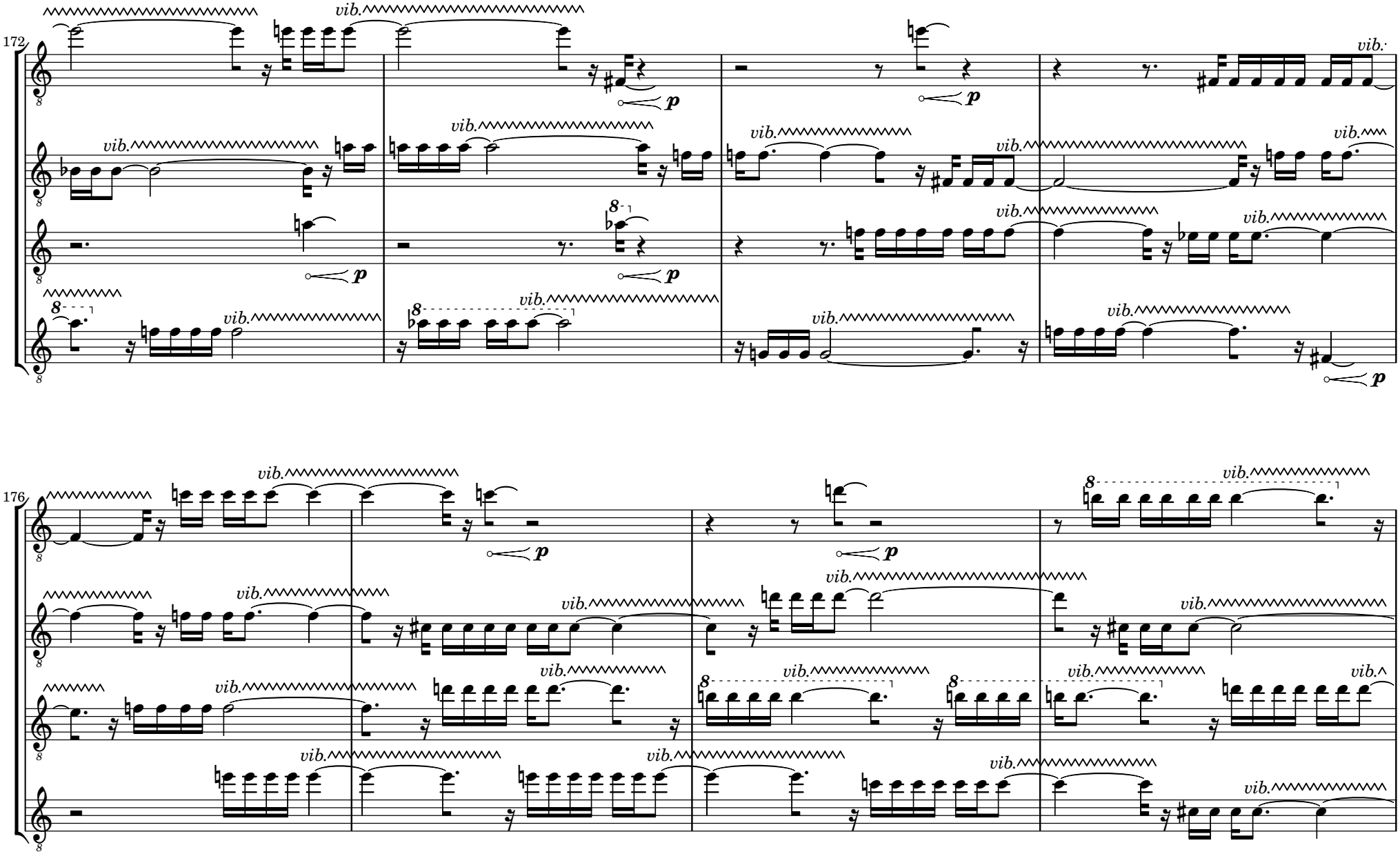
p
8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vib.
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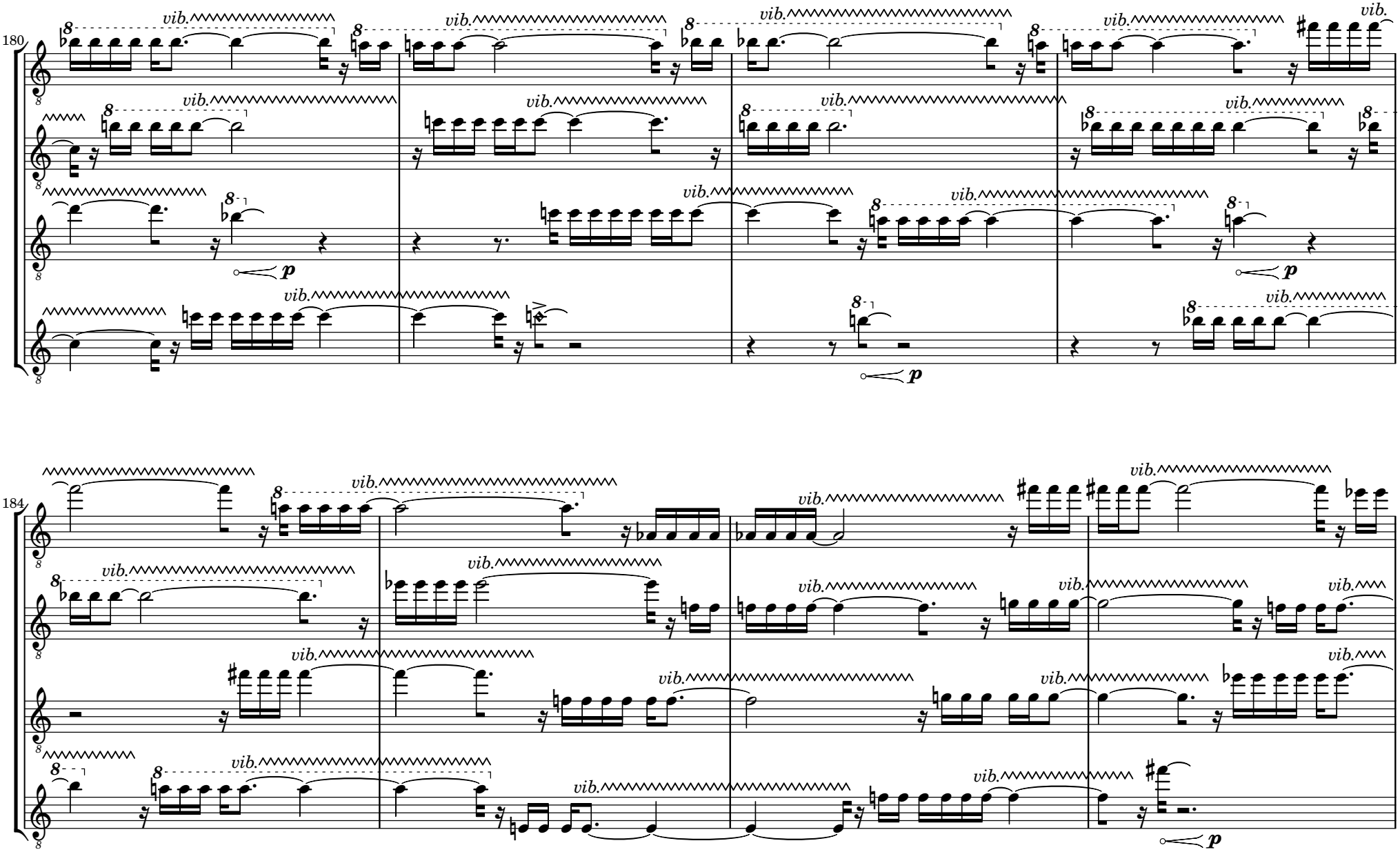
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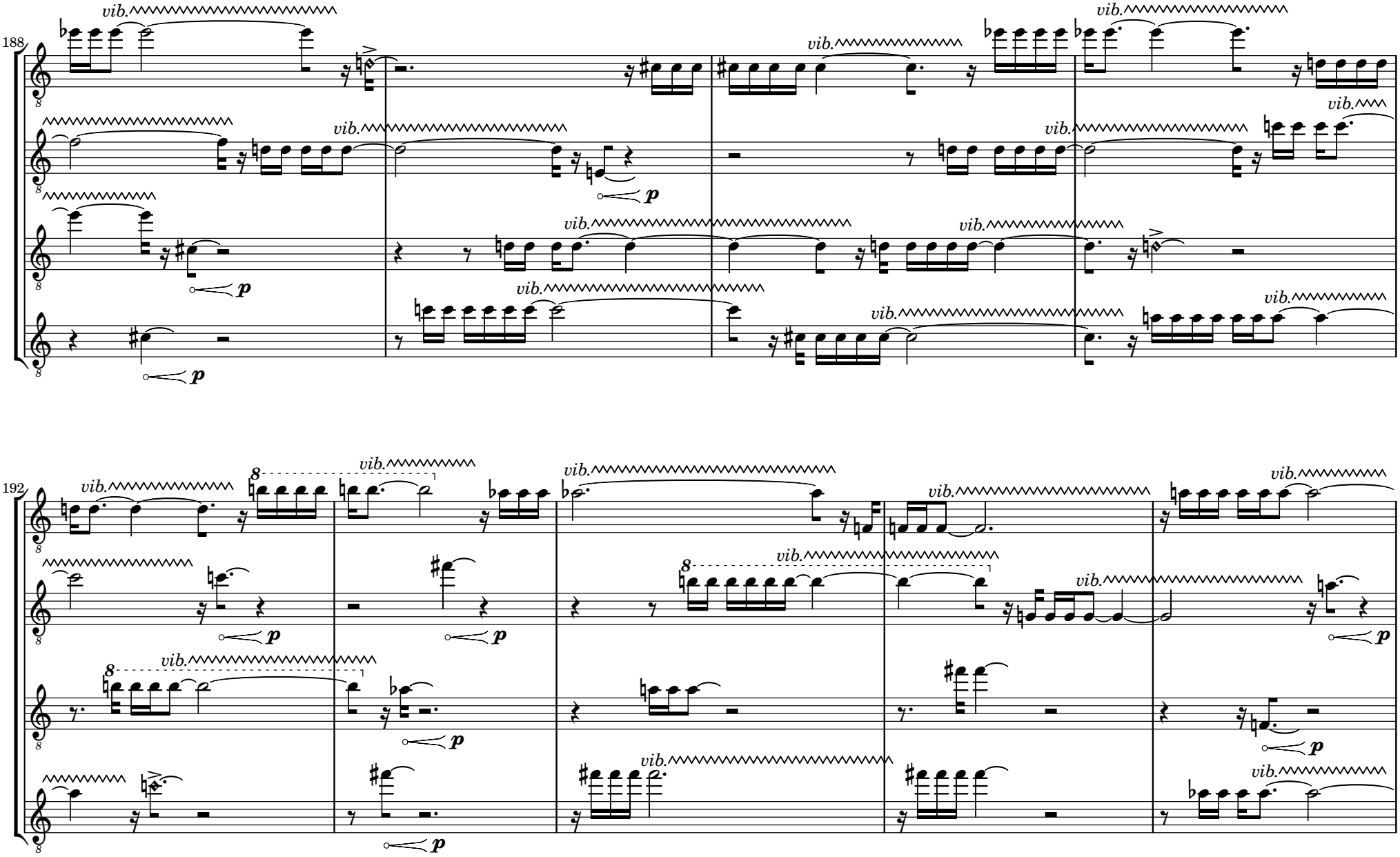
p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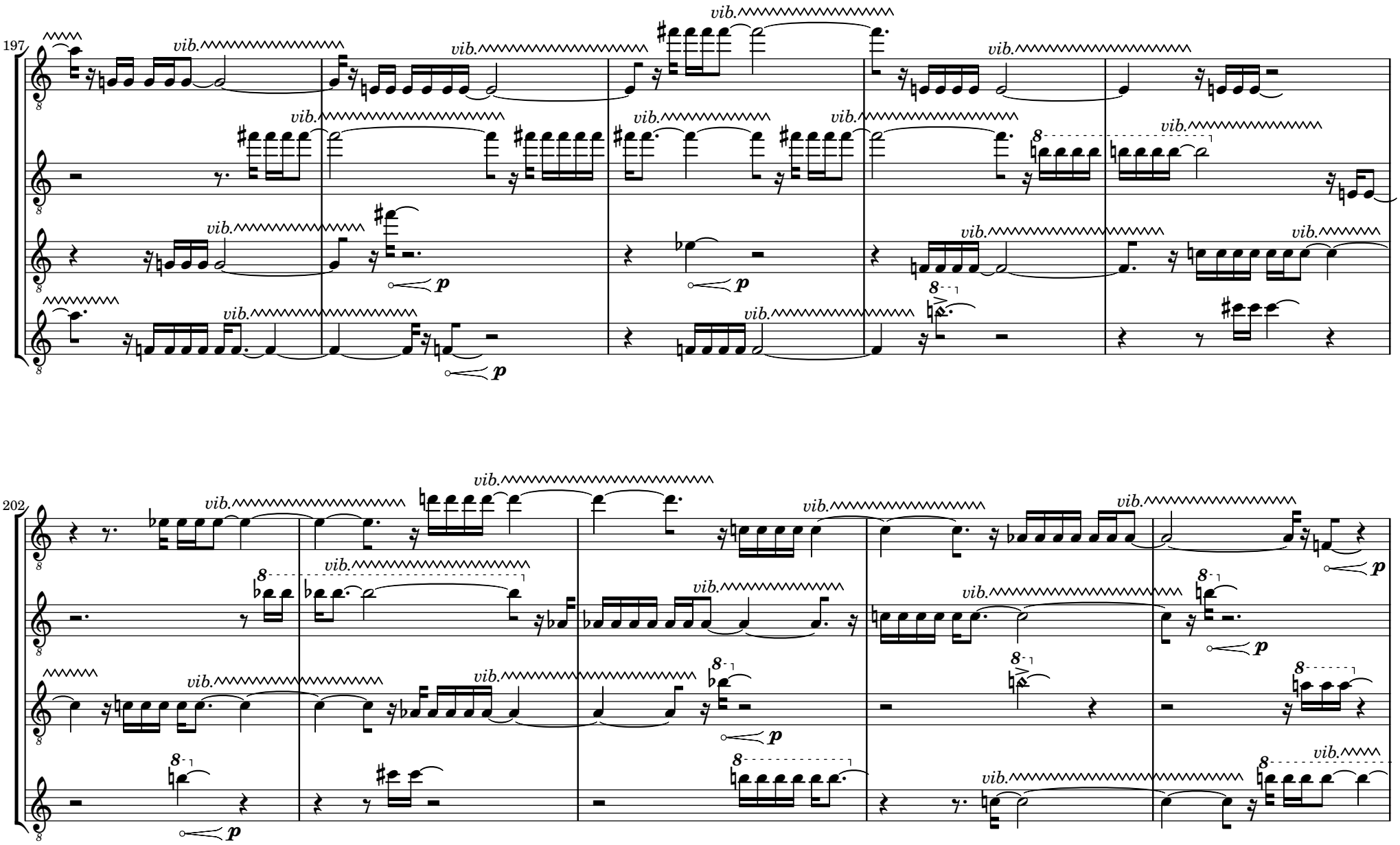
vib.
p
192
8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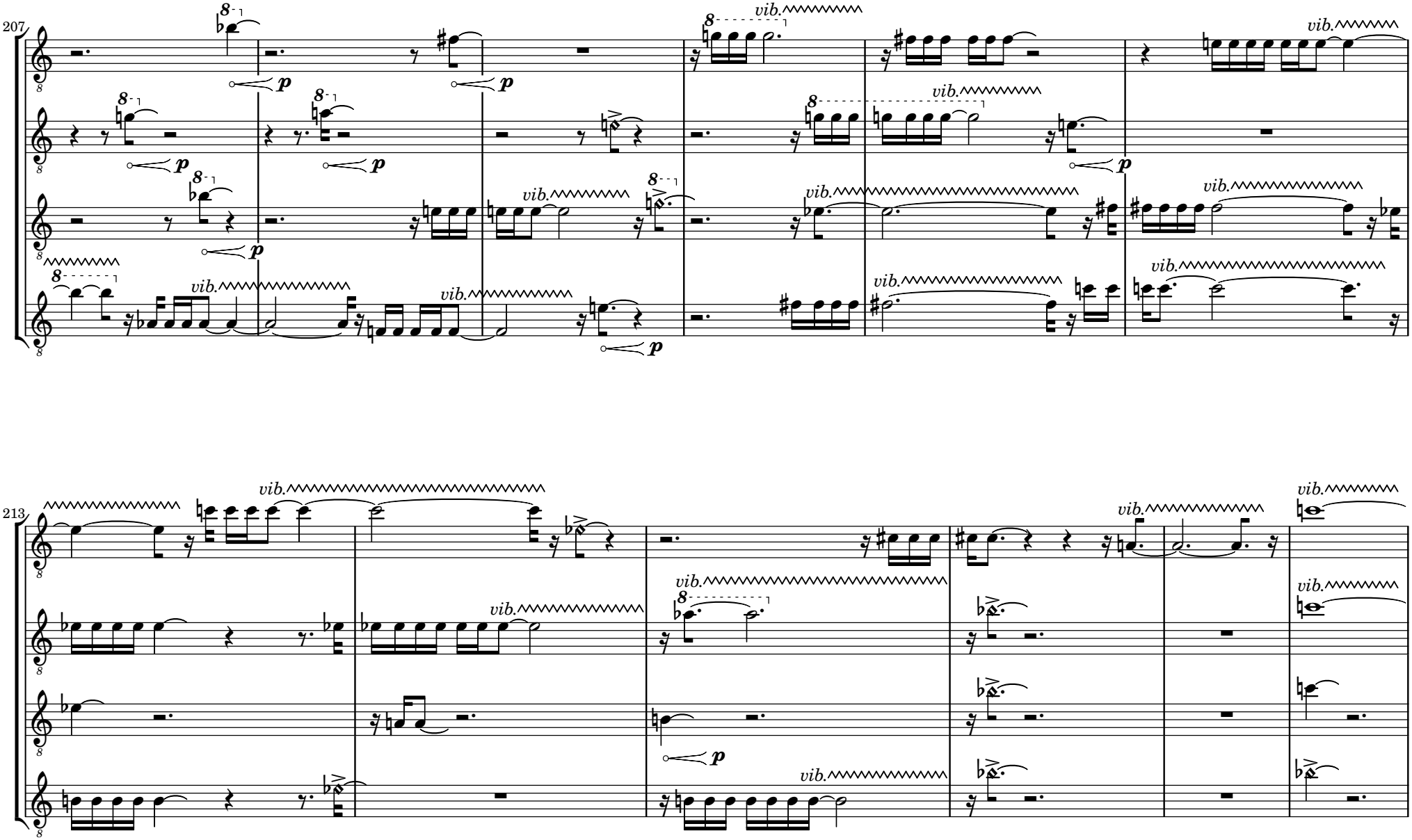
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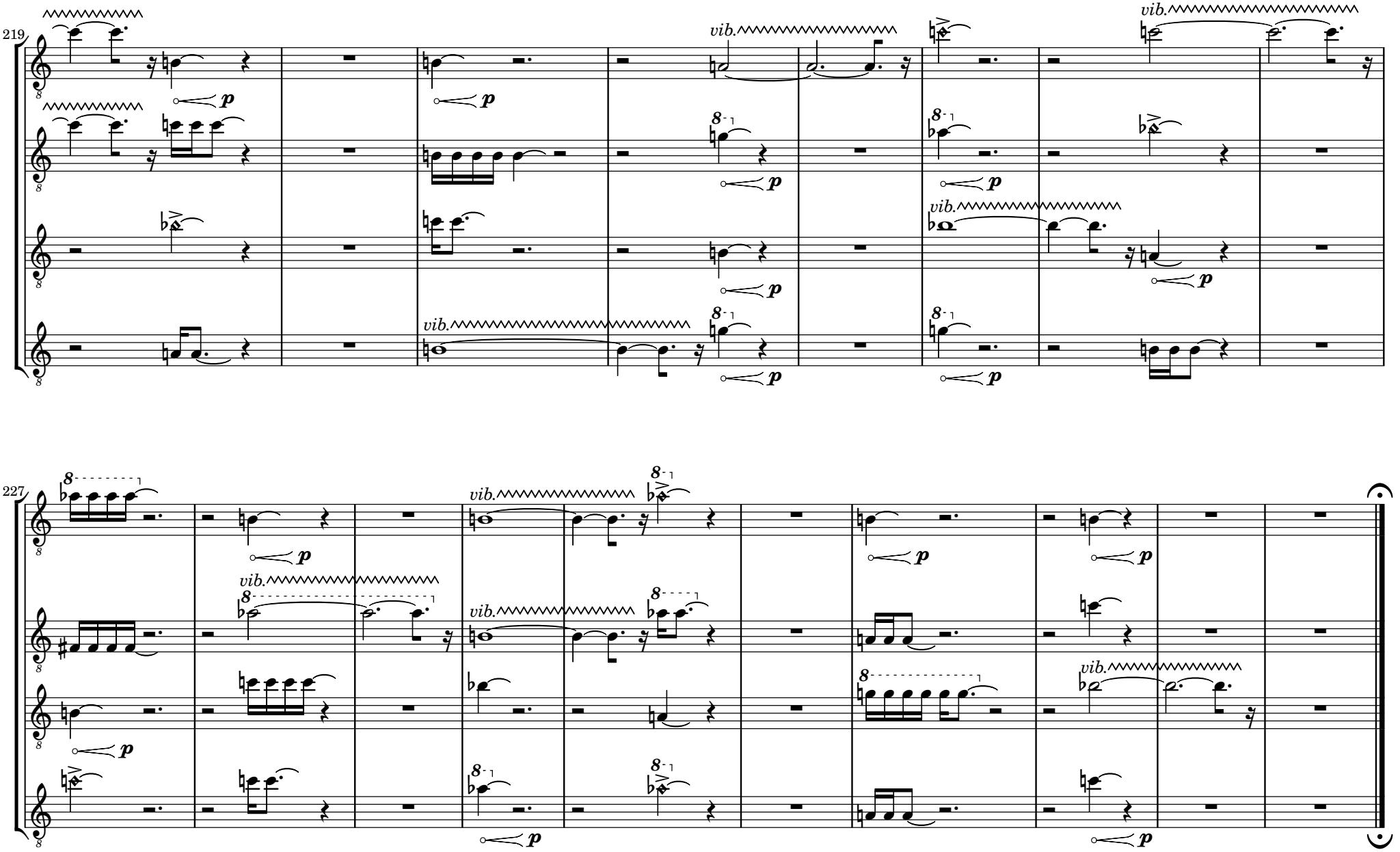
219
vib.
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227
8
vib.