Gilberto Agostinho

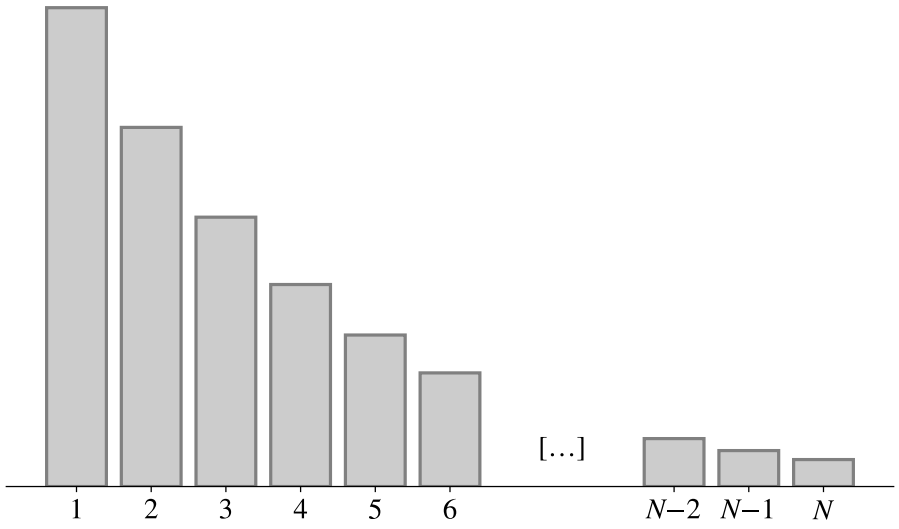
Cartography #6

for piano four hands

2017, revised 2020

Full Score

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



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

Cartography #6, for piano four hands

Mapping and rules

pitches (top hands)

set size	$N = 6$
transformation period	$12 \times$ ♪
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 within a given range. For the first half of the composition, this range is F4–B5, and for the second half it is C6–C8.
initial set	[F4, F♯4, G4, A♭4, A4, B♭4]
chance of chords	20%

pitches (bottom hands)

set size	$N = 6$
transformation period	$12 \times$ ♪
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 within a given range. For the first and third quarters of the composition, this range is C3–E4, and for the second and last quarters it is A0–B2.
initial set	[E4, E♭4, D4, C♯4, C4, B3]
chance of chords	20%

articulations

set size	$N = 6$
transformation period	no transformation.
set	[∅, ∅, ∅, >, >, ^], where ∅ represents no articulation.

durations

set size	$N = 4$
transformation period	$30 \times$ ♩
transformation mechanism	there are two mechanisms in use for the durations. The augmentation mechanism works as follows: $[a, b, c, d] \rightarrow [a + 1, b + 1, c + 1, d + 1]$, where an element equals to 1 if $x + 1 < 1$, $\forall x \in [a, b, c, \ldots j]$. The diminishing mechanism works as follows: $[a, b, c, d] \rightarrow [a - 1, b - 1, c - 1, d - 1]$, where an element equals to 1 if $x - 1 < 1$, $\forall x \in [a, b, c, \ldots j]$.
initial set (top hands)	$[7, 8, 9, 10]$
initial set (bottom hands)	$[1, 1, 1, 1]$
mechanism types	the top hands use the dim mechanism throughout the composition. The bottom hands use the aug mechanism in the first half of the composition is and the dim mechanism in the last half.

constraints

- number of pitch transformations: 60.
- number of duration transformations: 12.
- ranges: bottom hands A0–E4, top hands F4–C8.

General performance notes

- this piece has no dynamic marks. Loudness is solely notated using marcato and martellato signs ($>$ and $\hat{}$, respectively). Notes without articulations marks should be played soft (equivalent to ***pp***), notes with a marcato sign should have a medium level of loudness (equivalent to ***mf***) and notes with a martellato sign should have a high level of loudness (equivalent to ***ff***).
- the piano's sustain pedal should be held halfway down throughout the piece. A good reference point for this is when individual note lengths cannot be precisely perceived (that is, the sound is not cut when releasing a key). Some instruments and acoustic spaces might call for slightly different pedalling (at the discretion of the performer).
- after the last note of the piece, hold the sustain pedal down for at least a couple of seconds before raising it.

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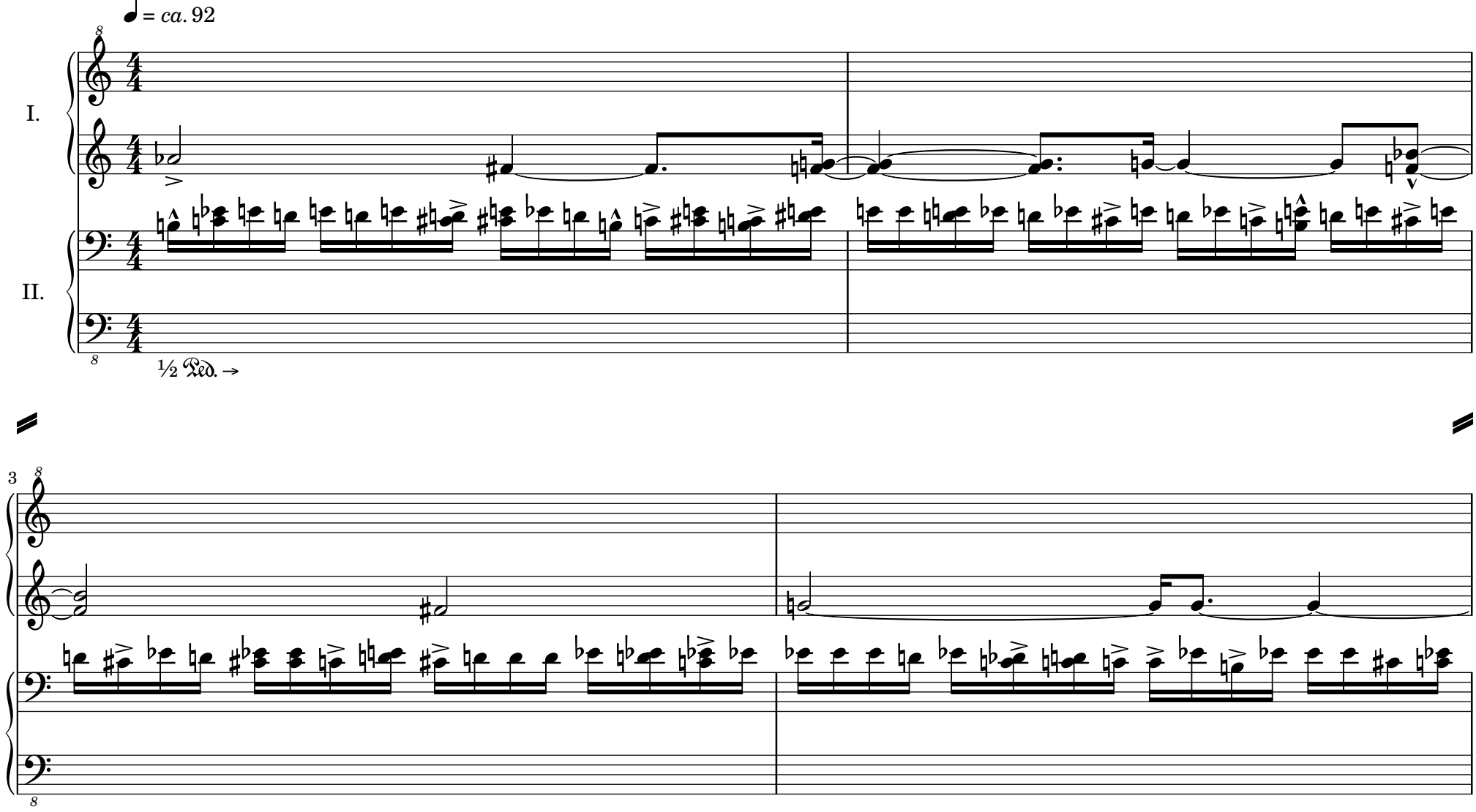
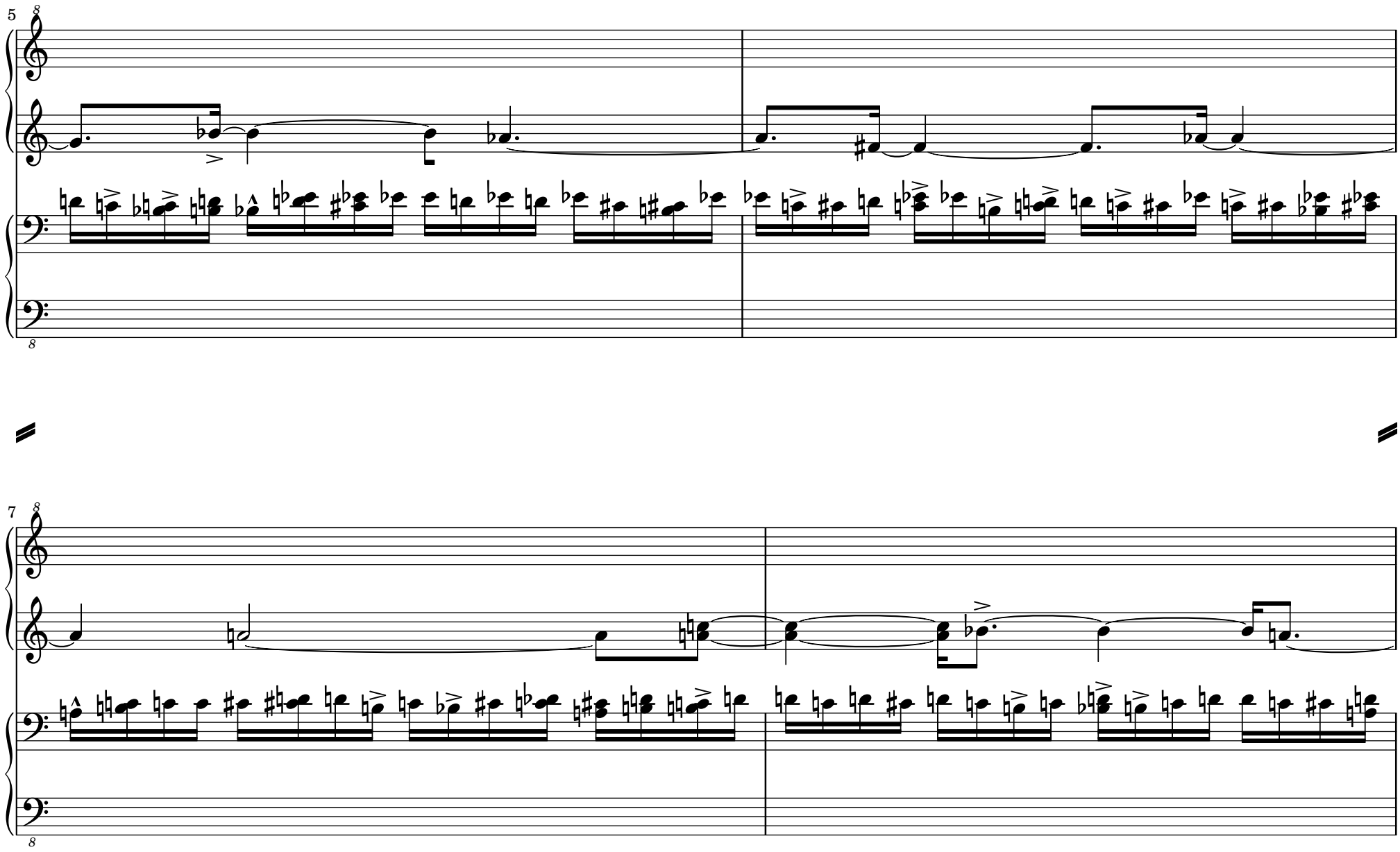
Gilberto Agostinho

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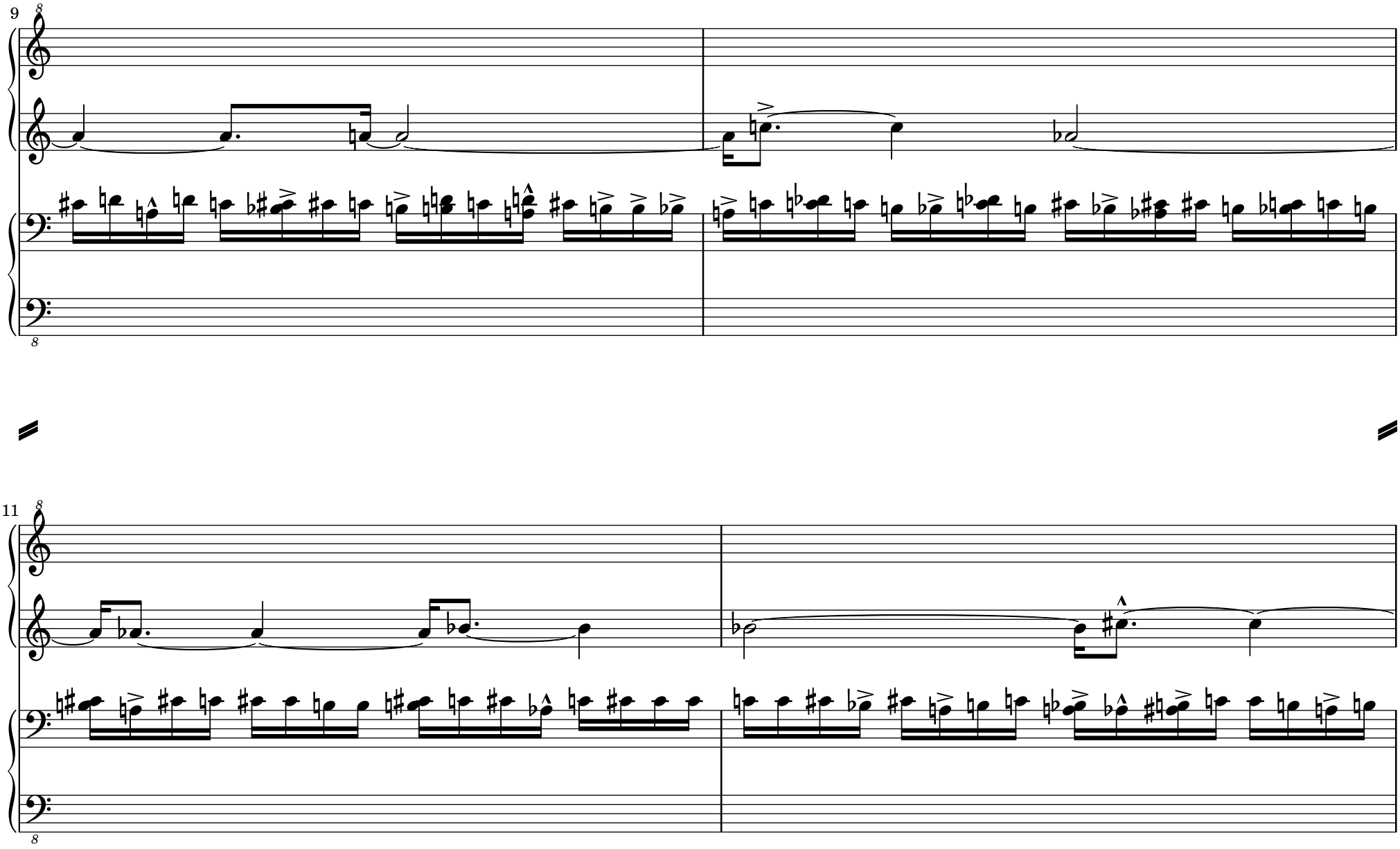
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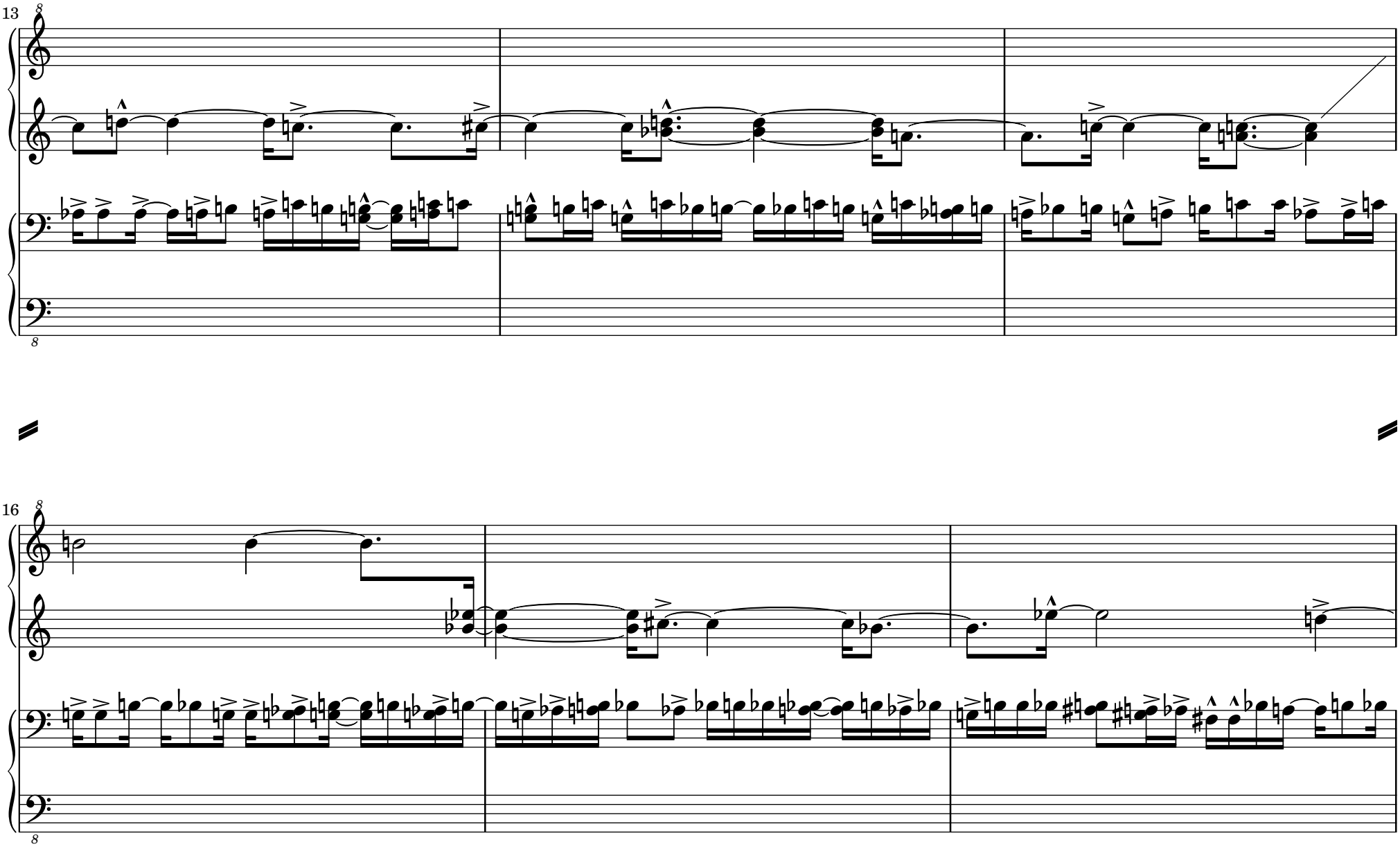
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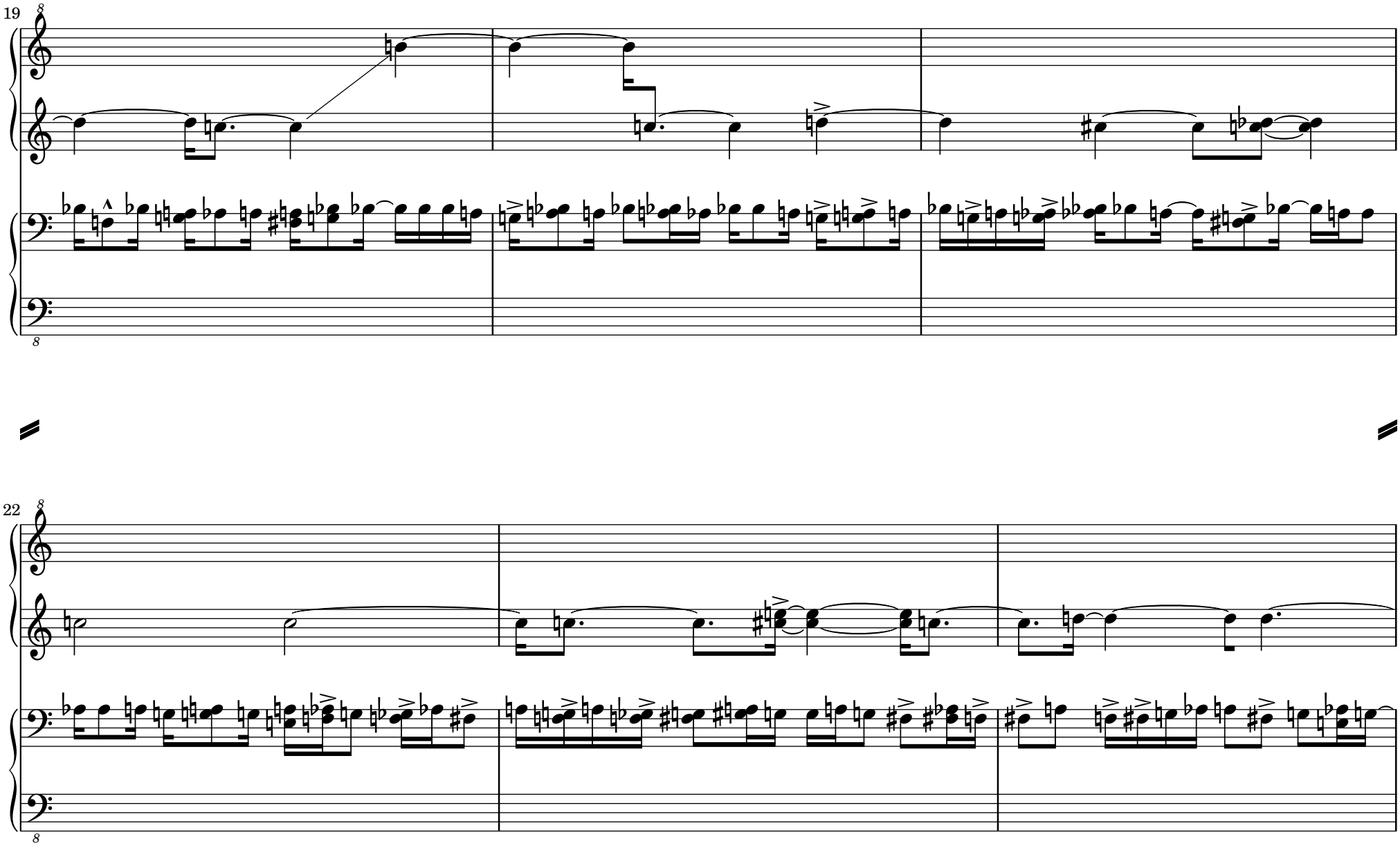
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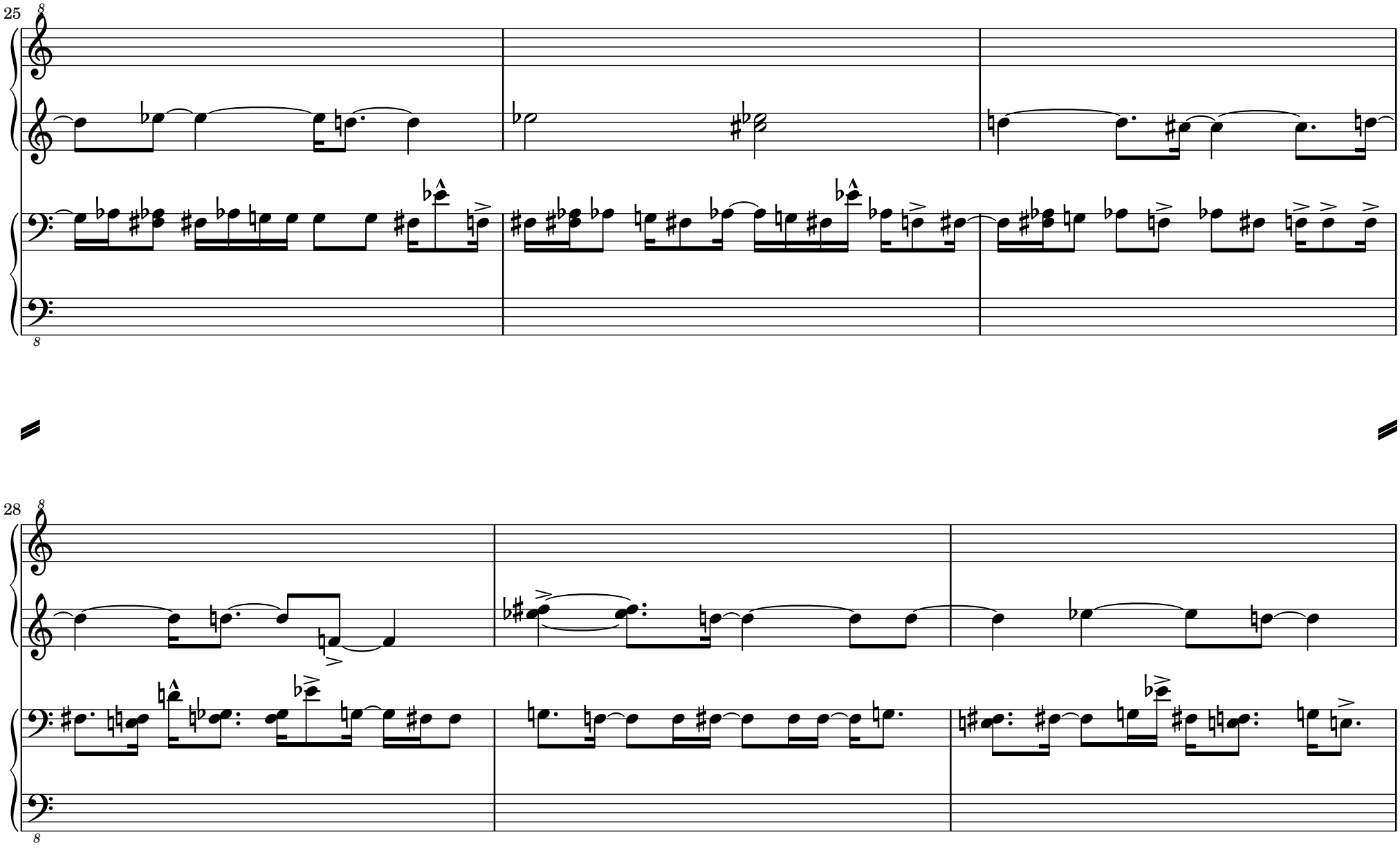
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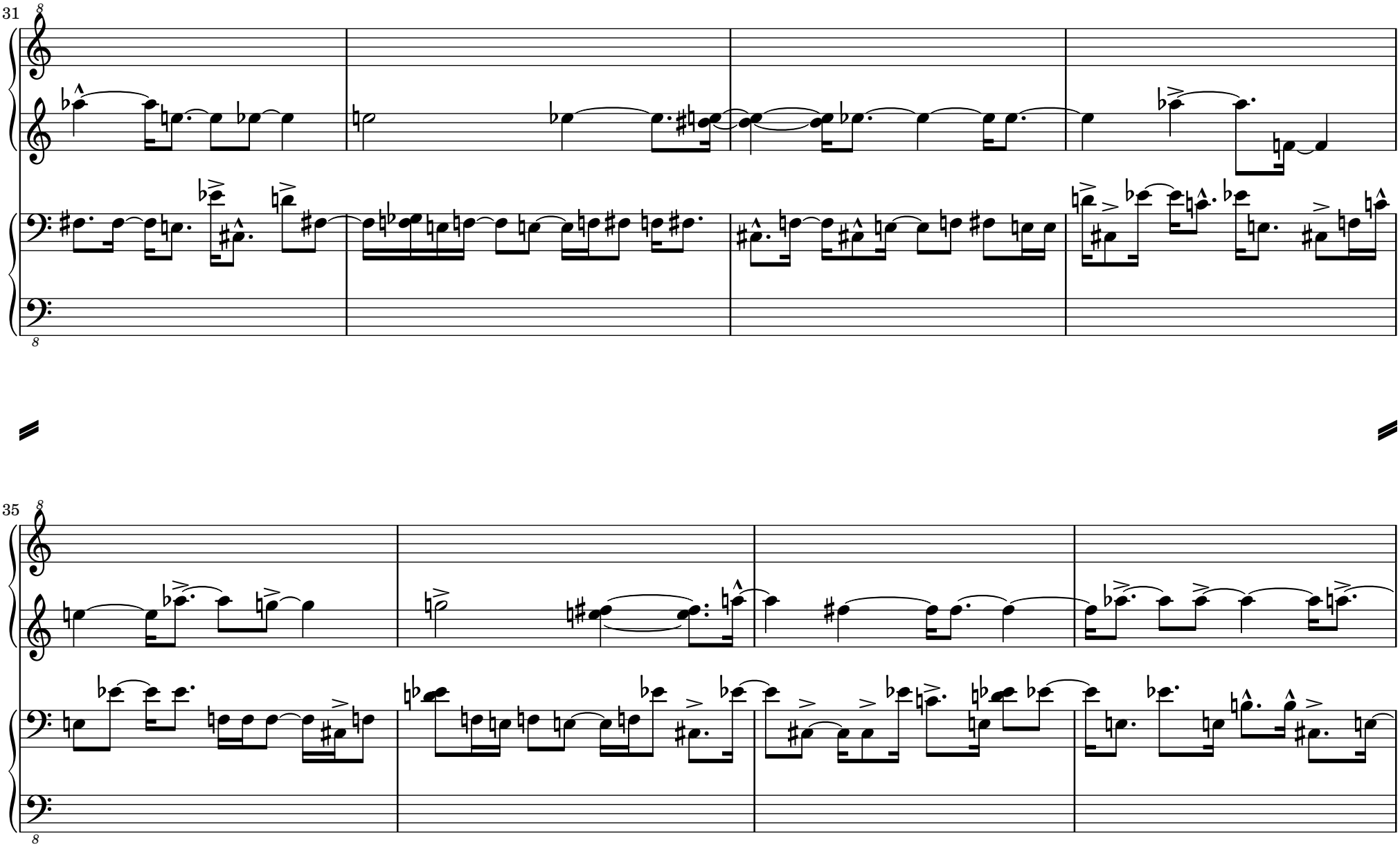
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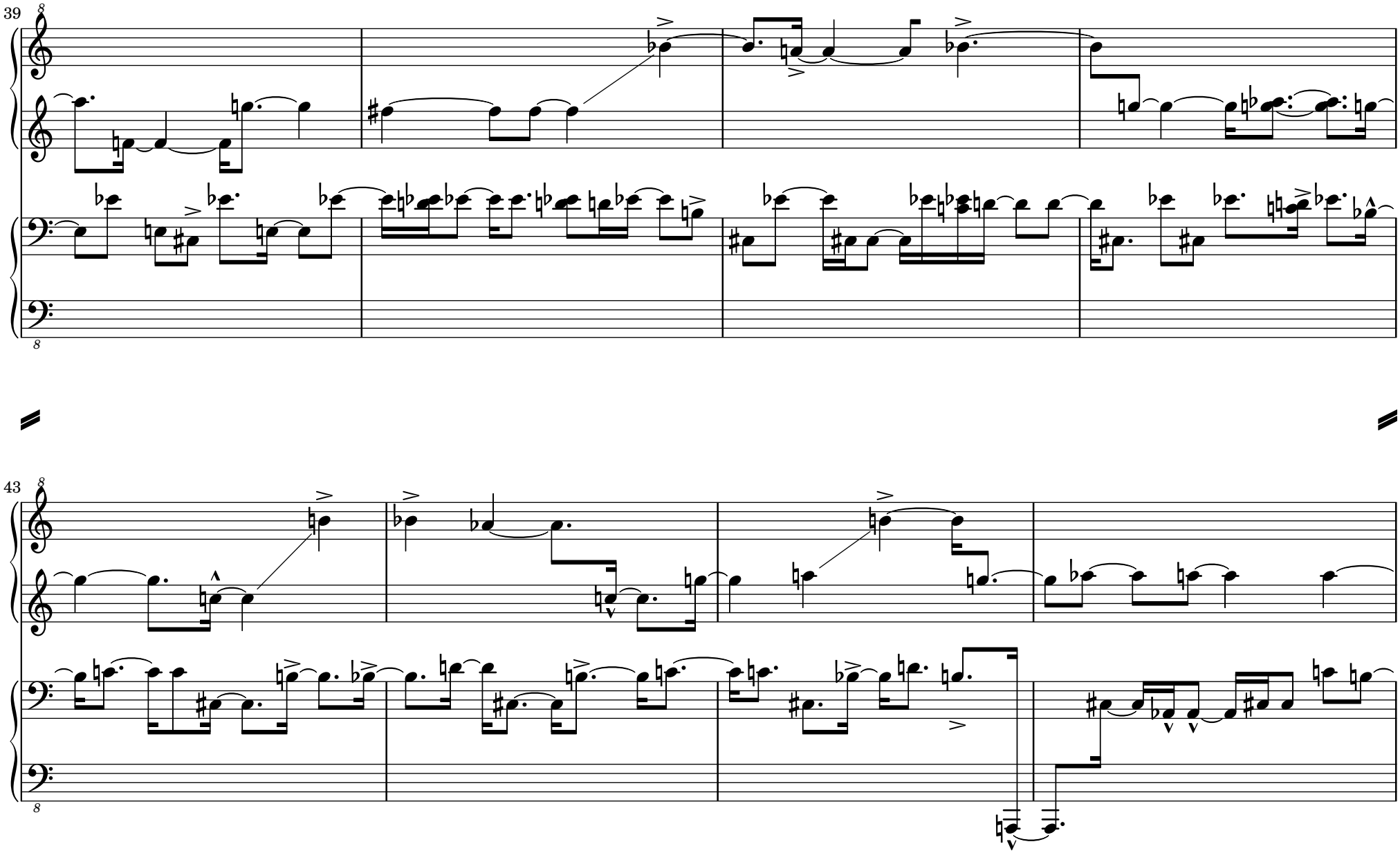
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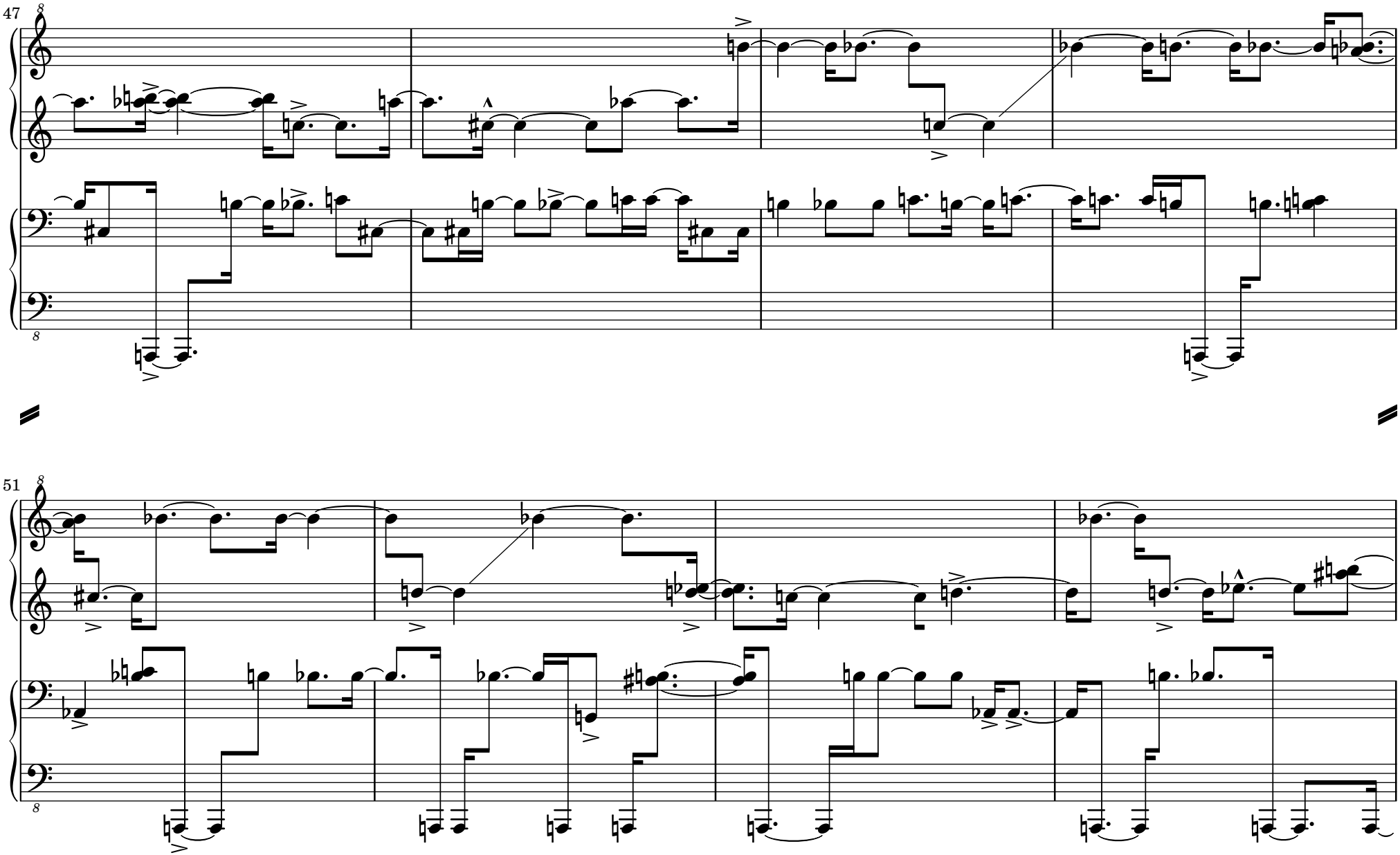
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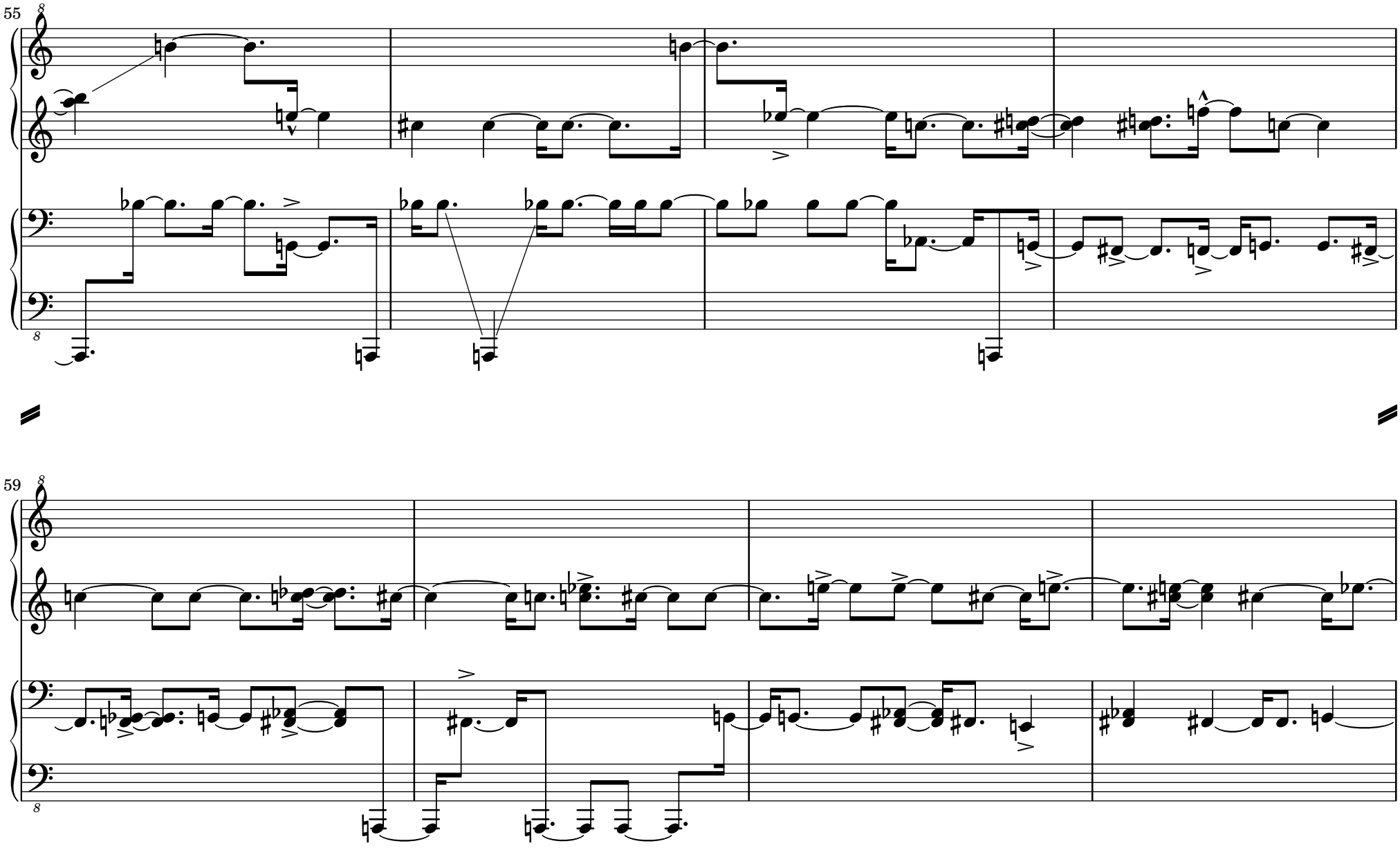
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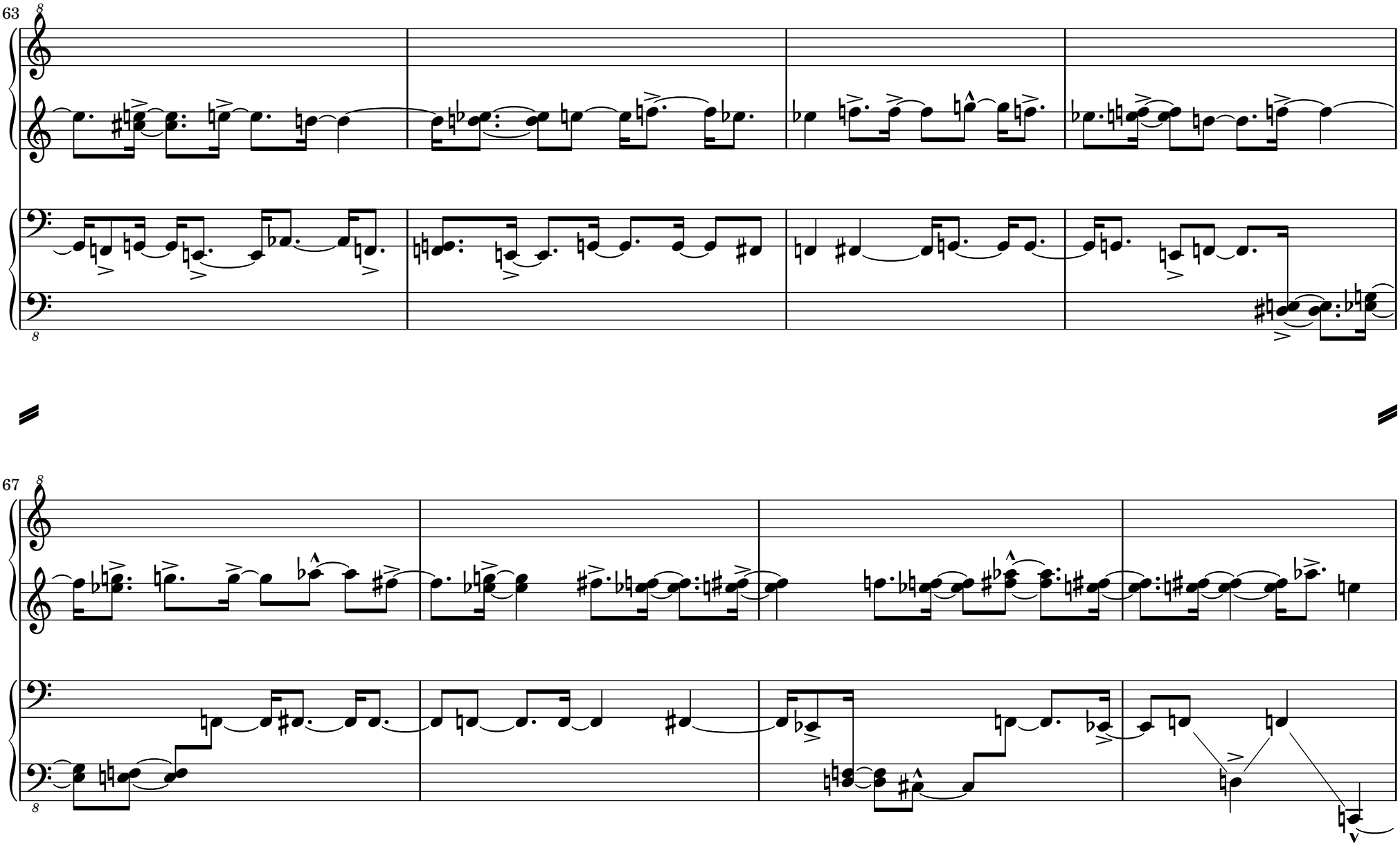
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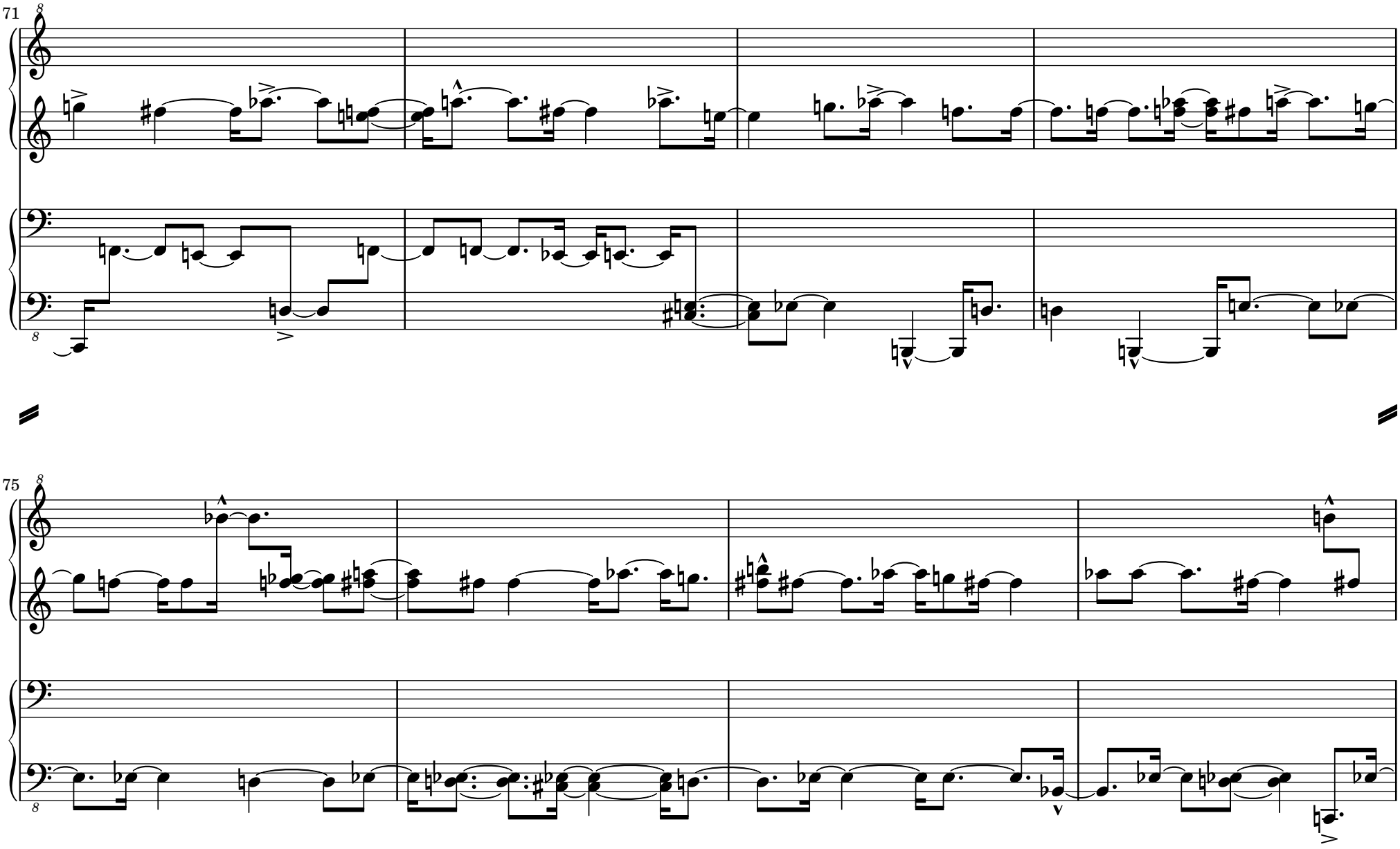
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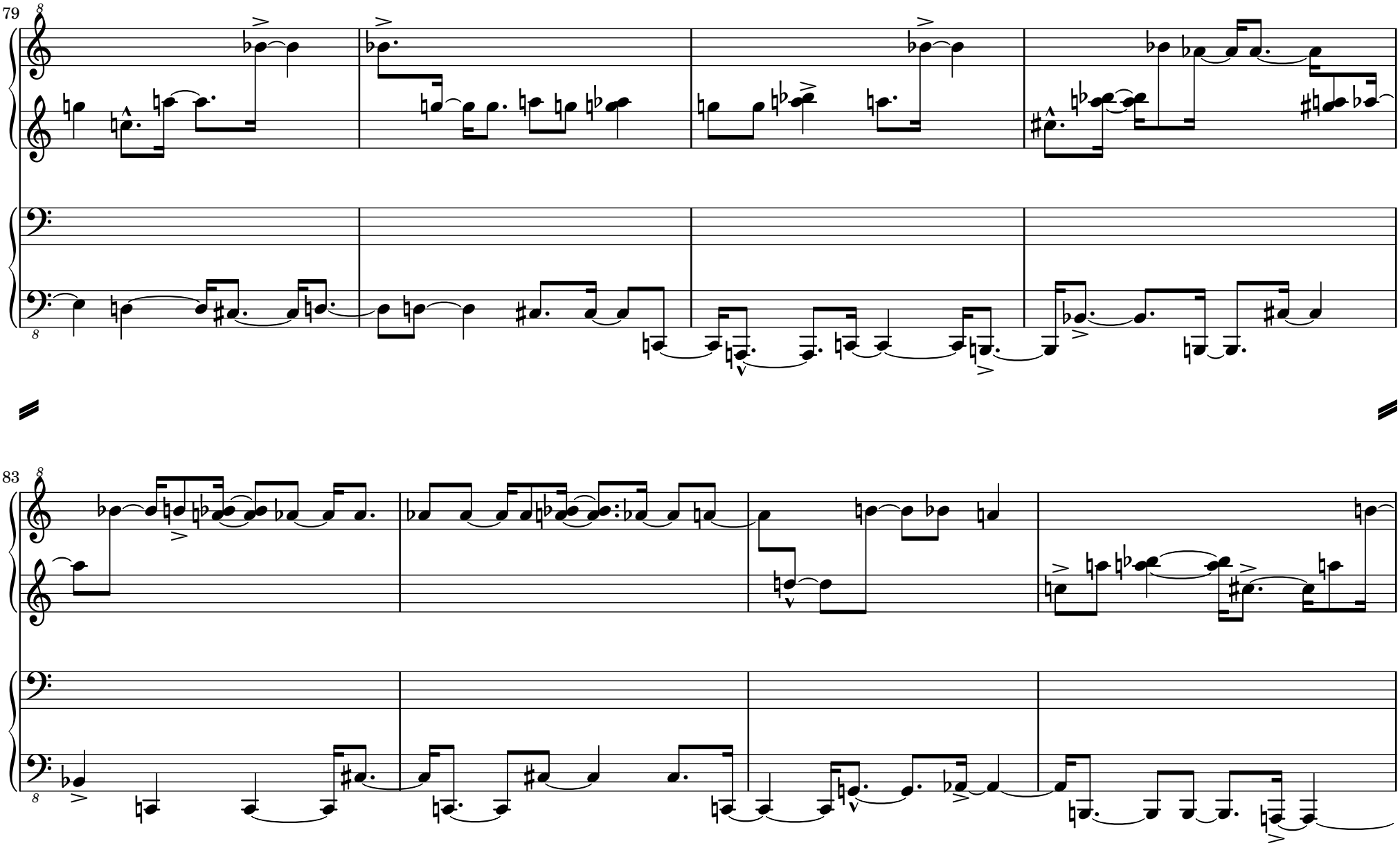
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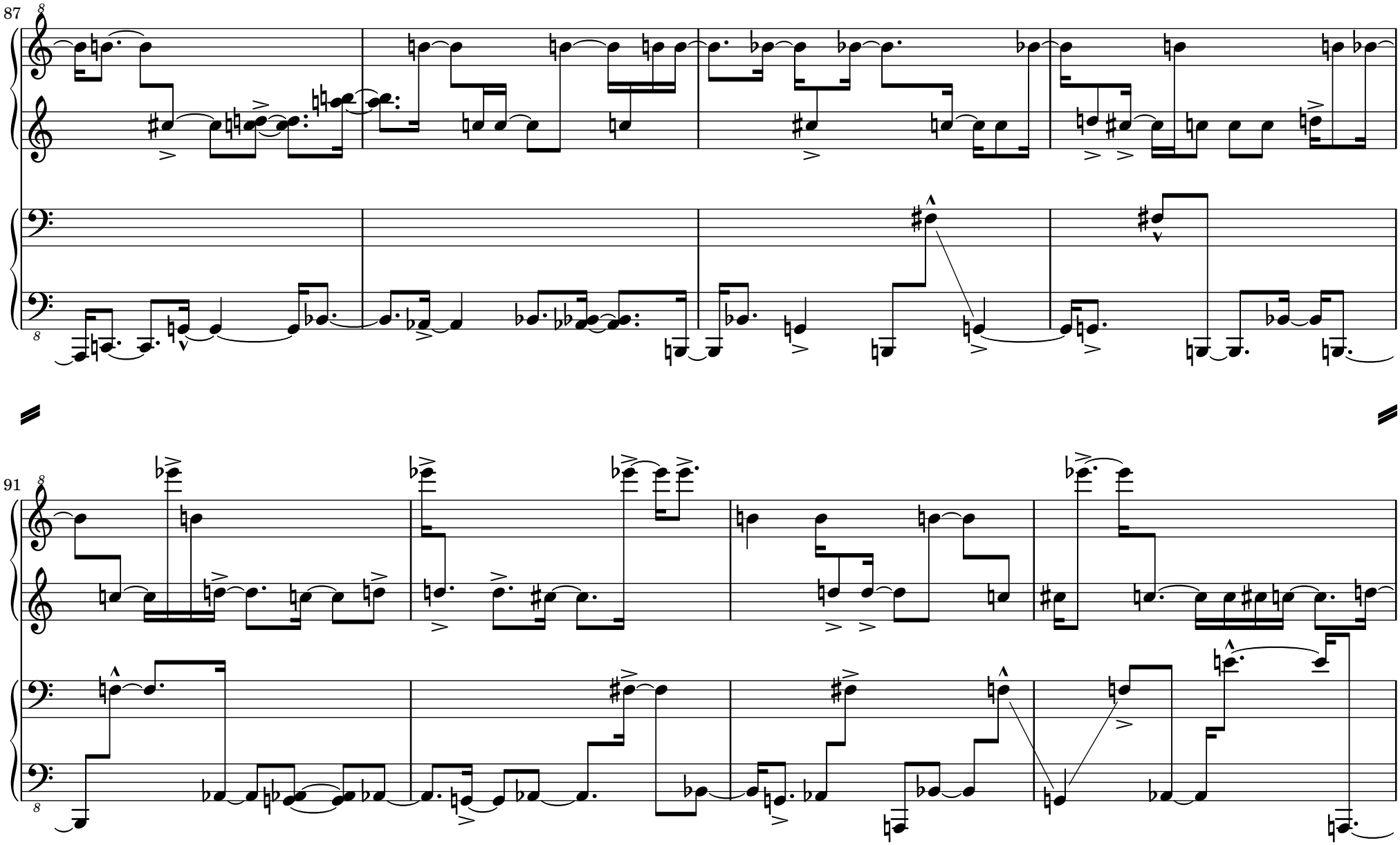
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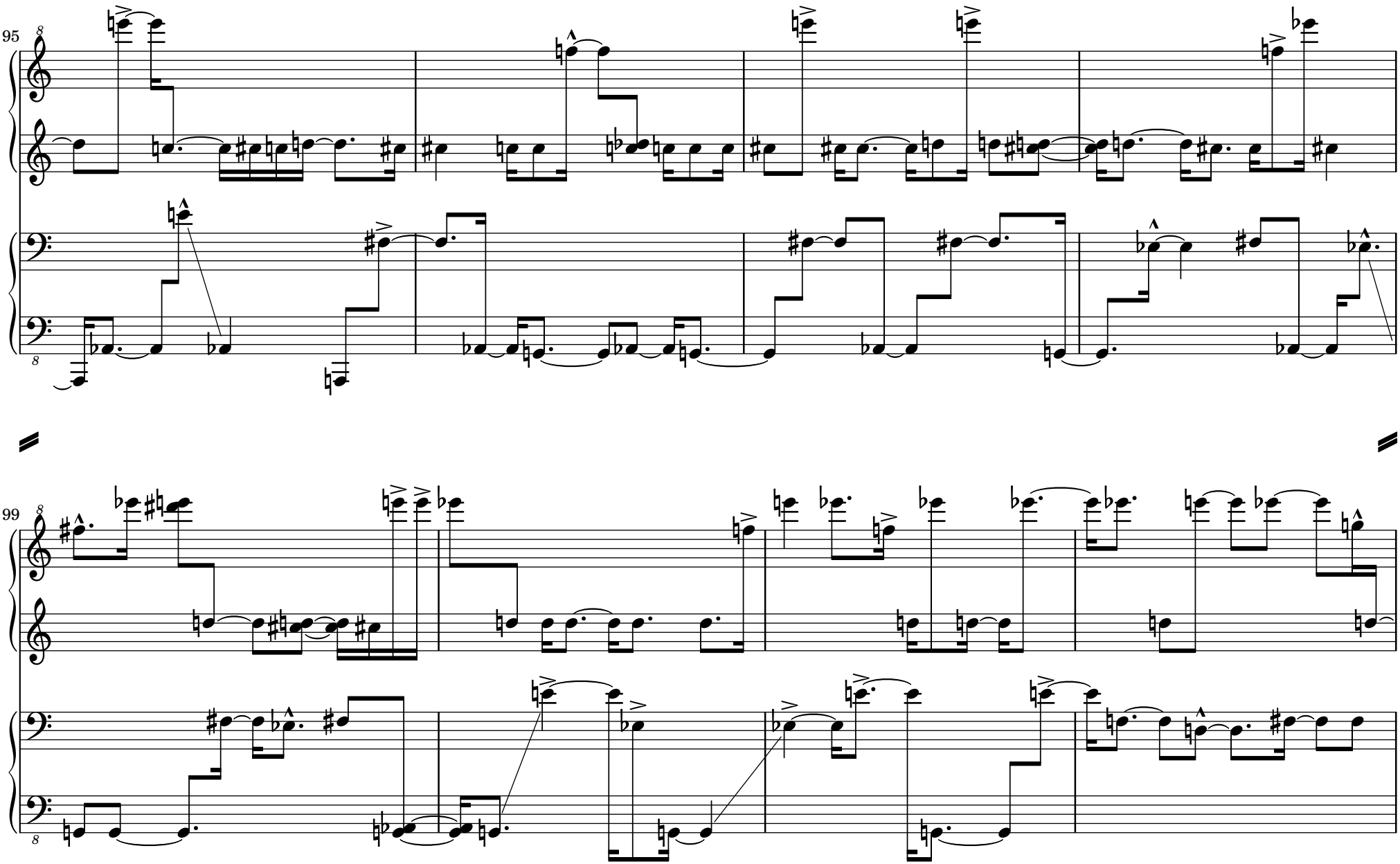
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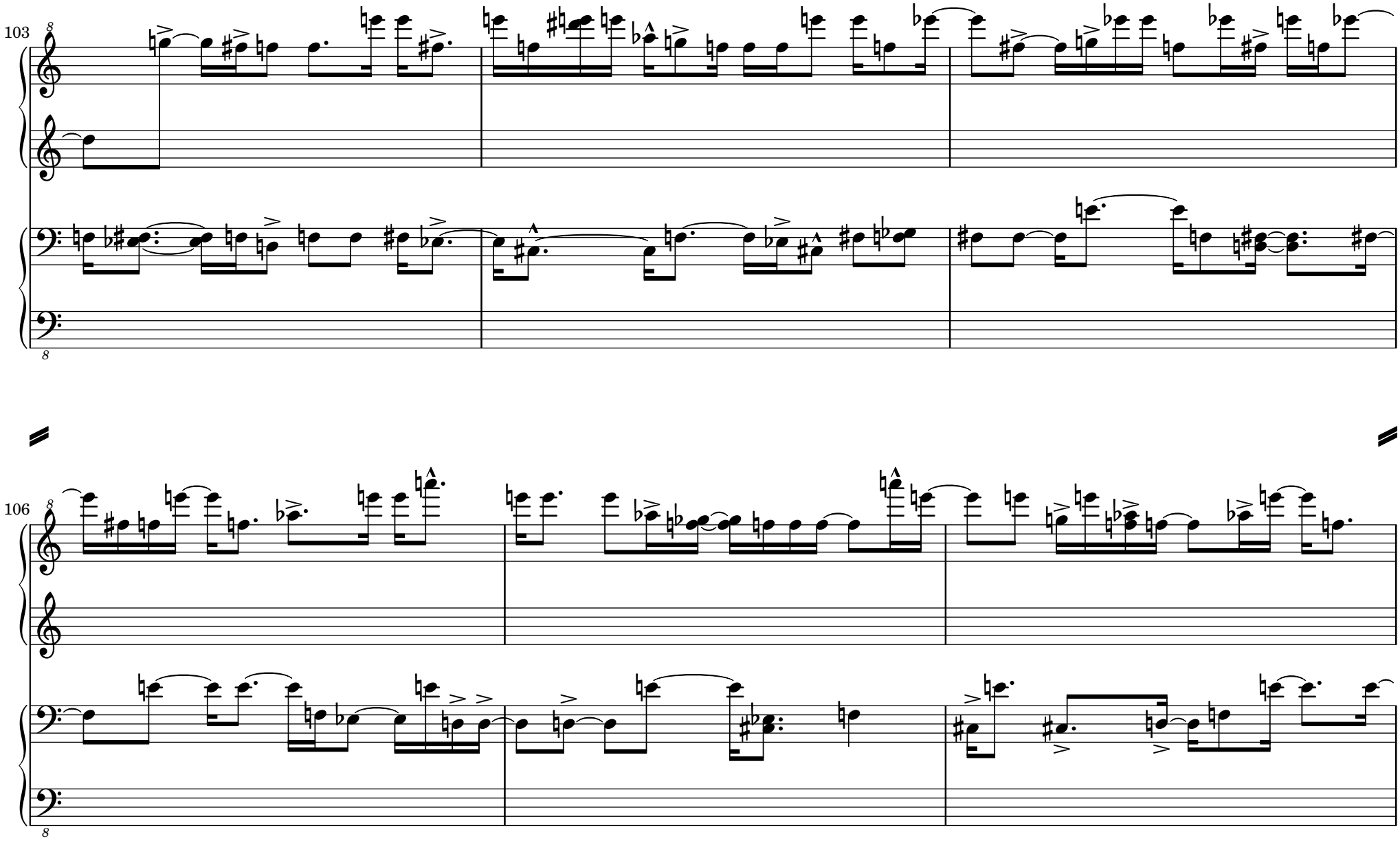
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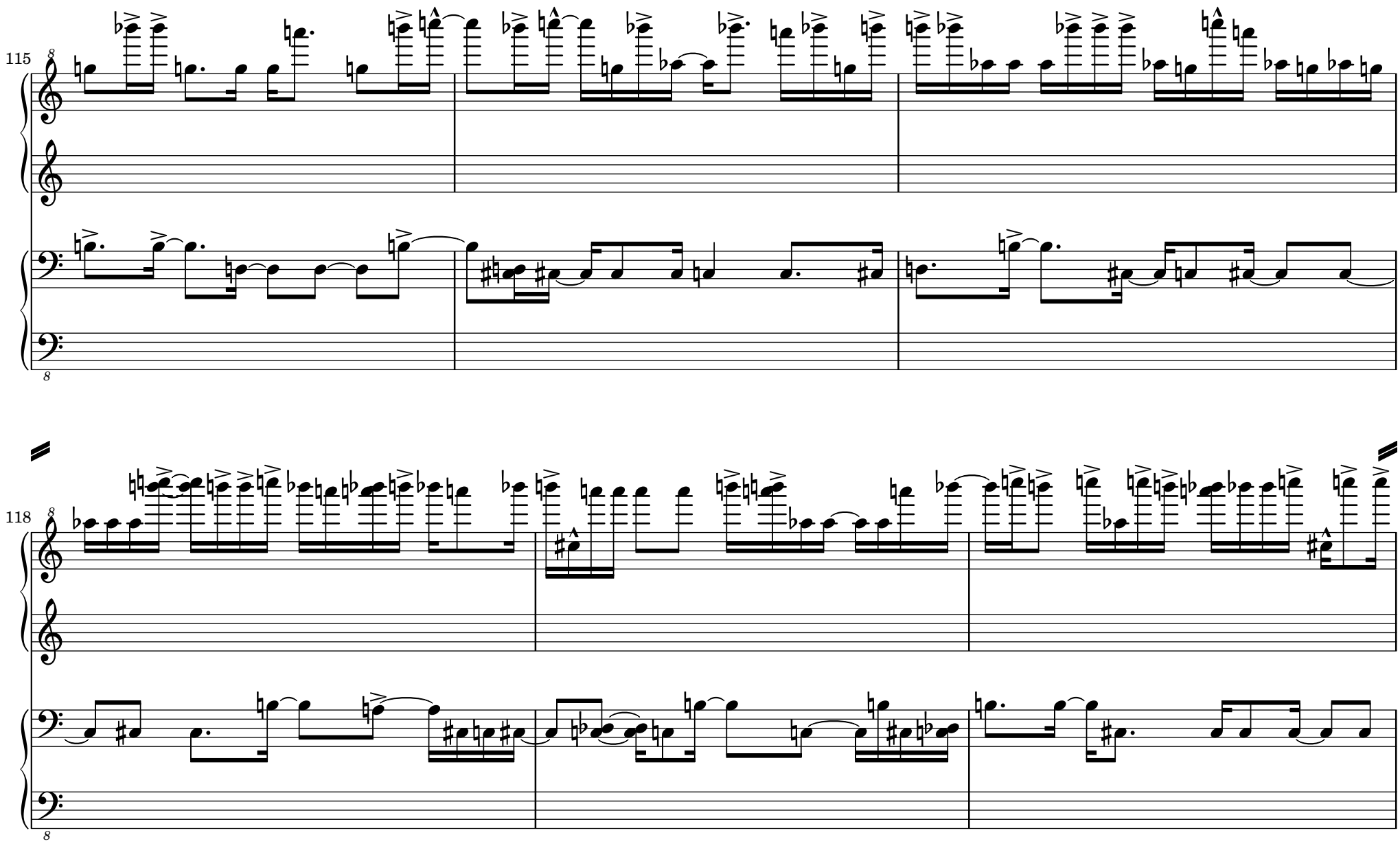
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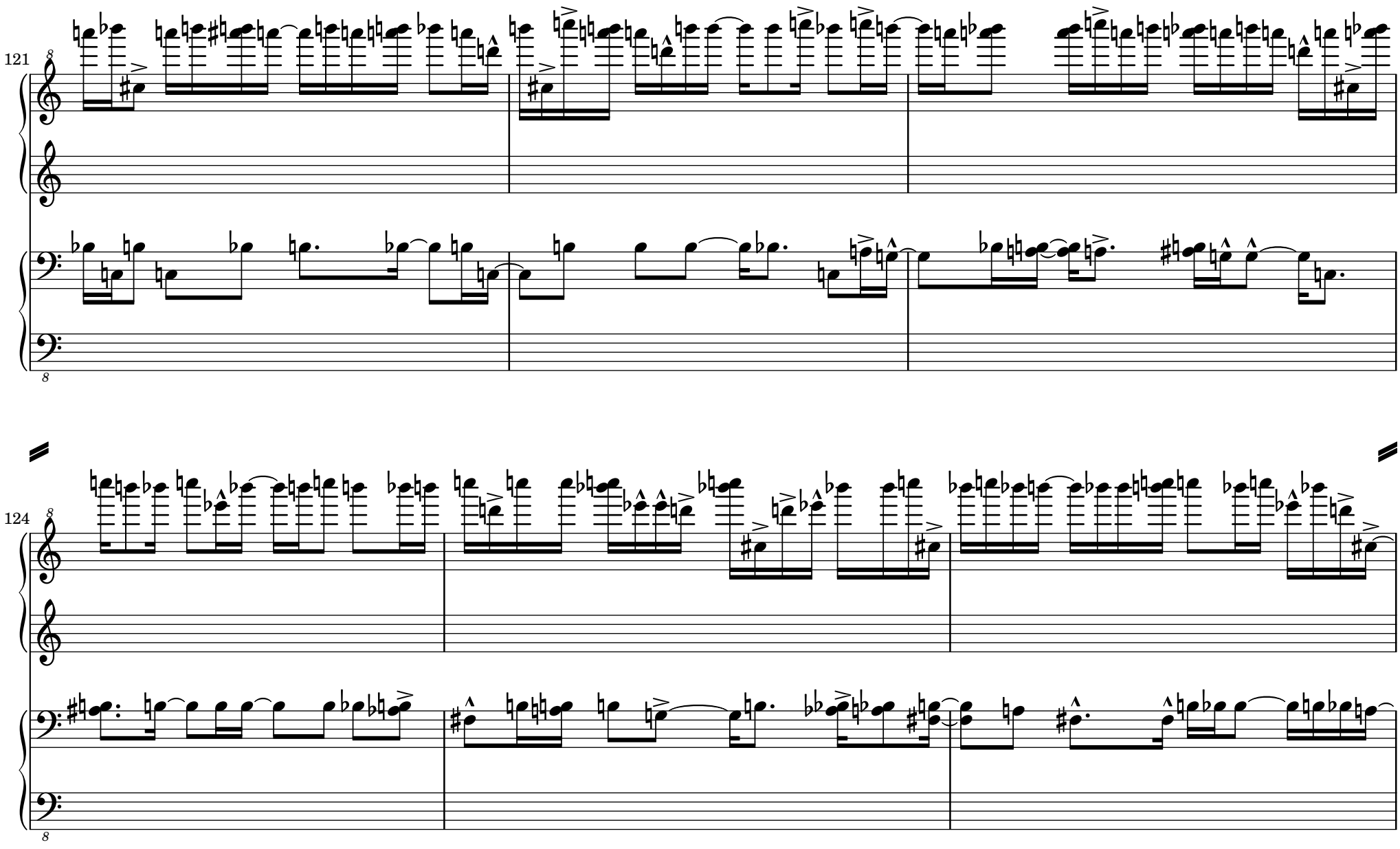
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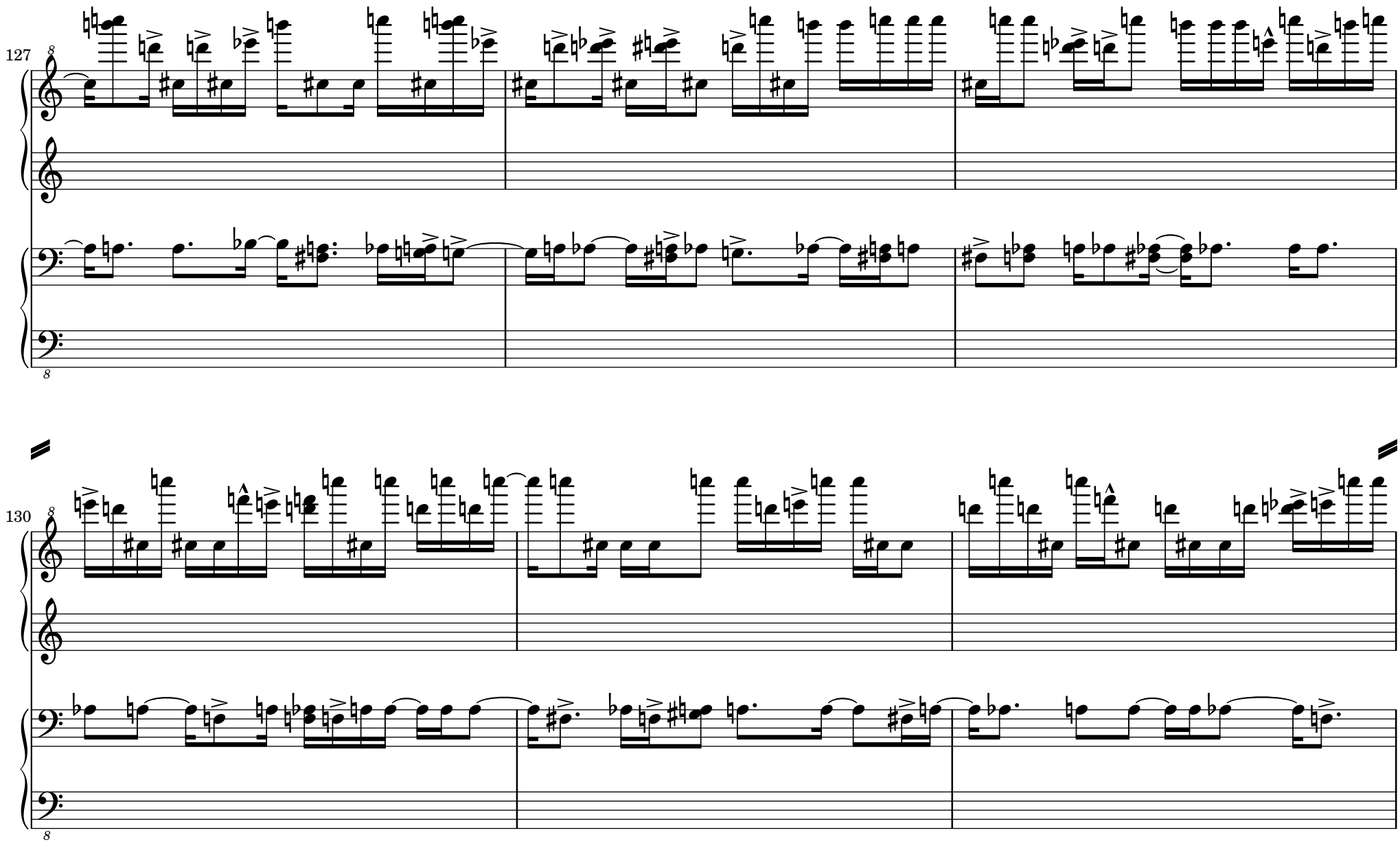
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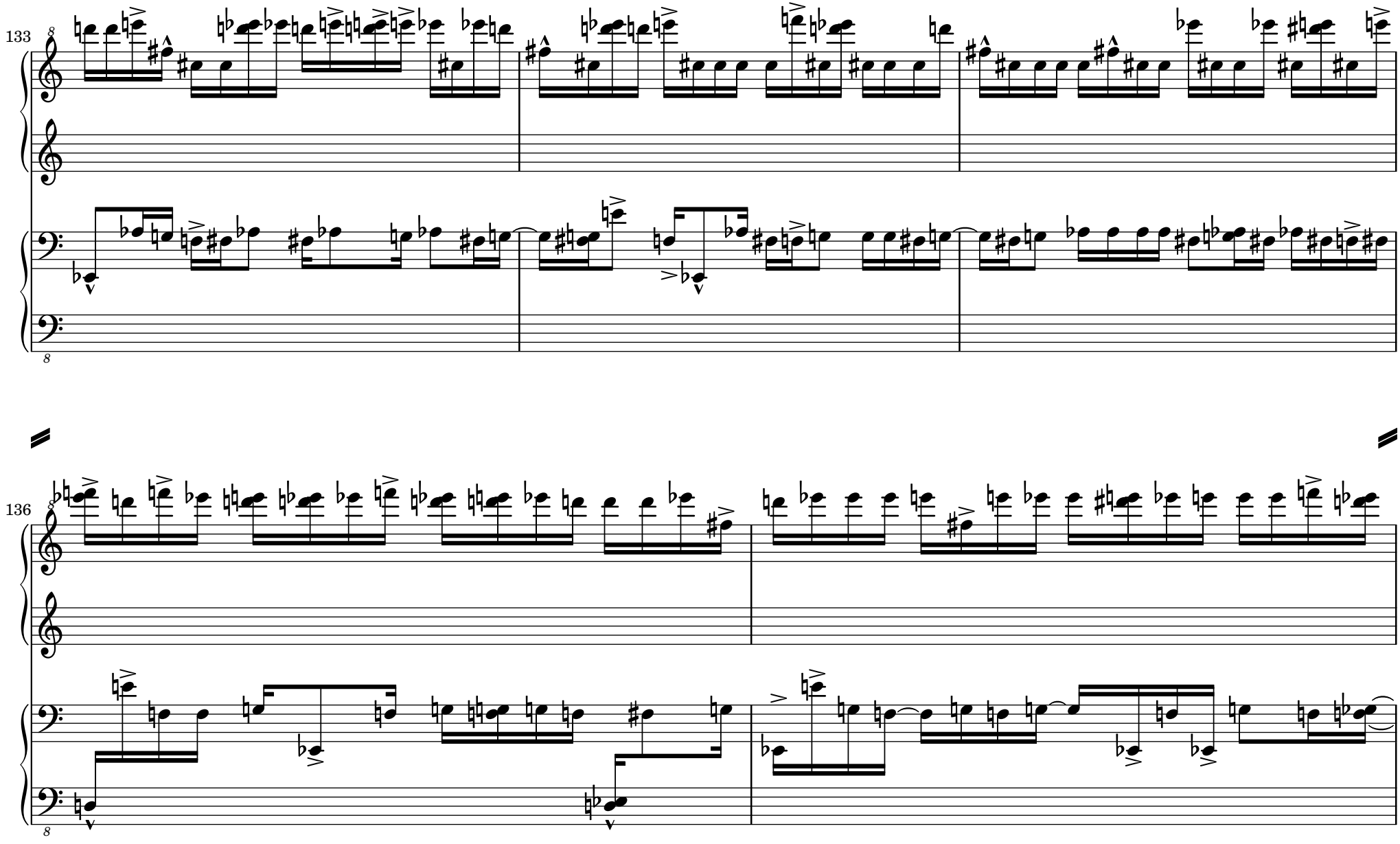
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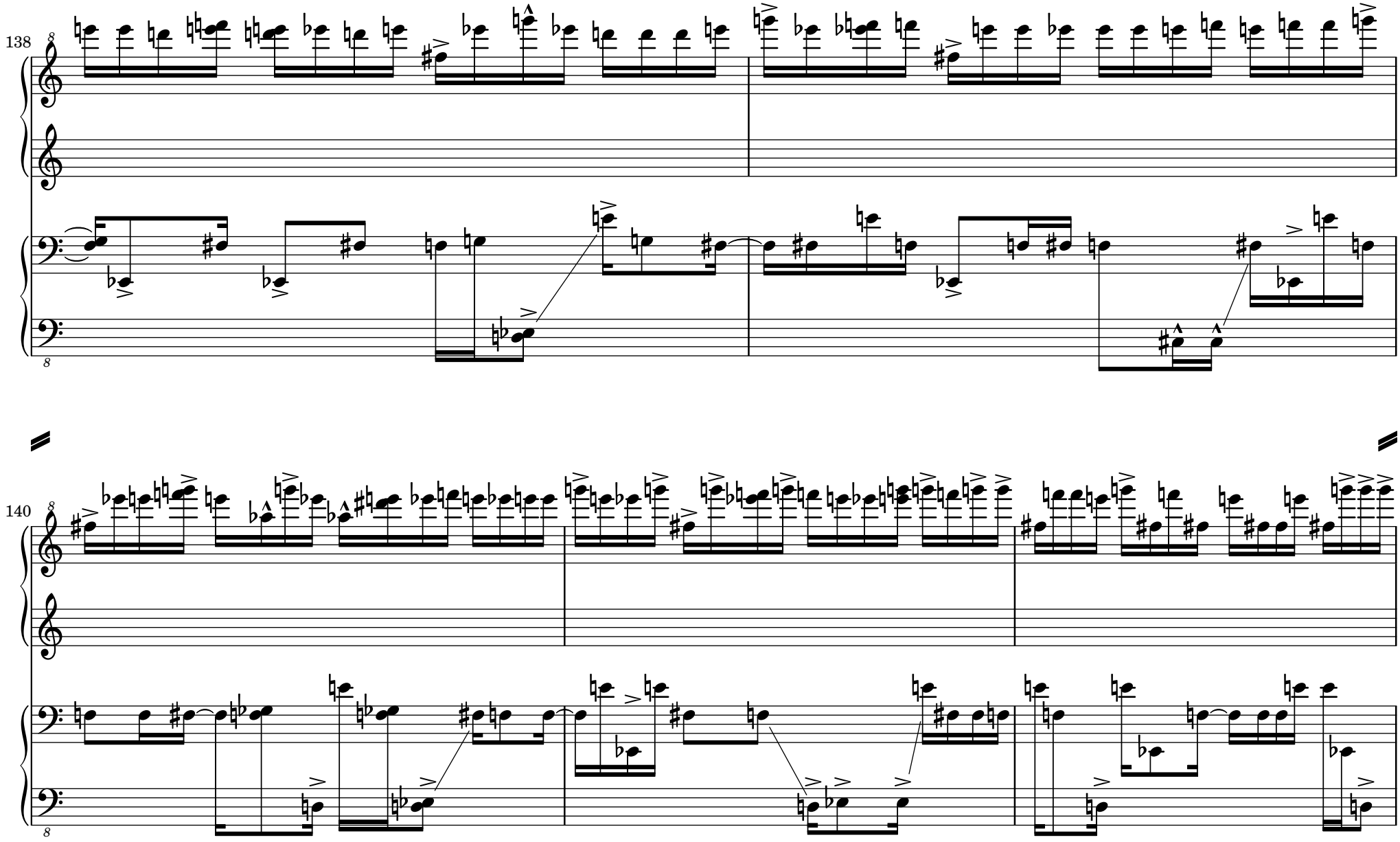
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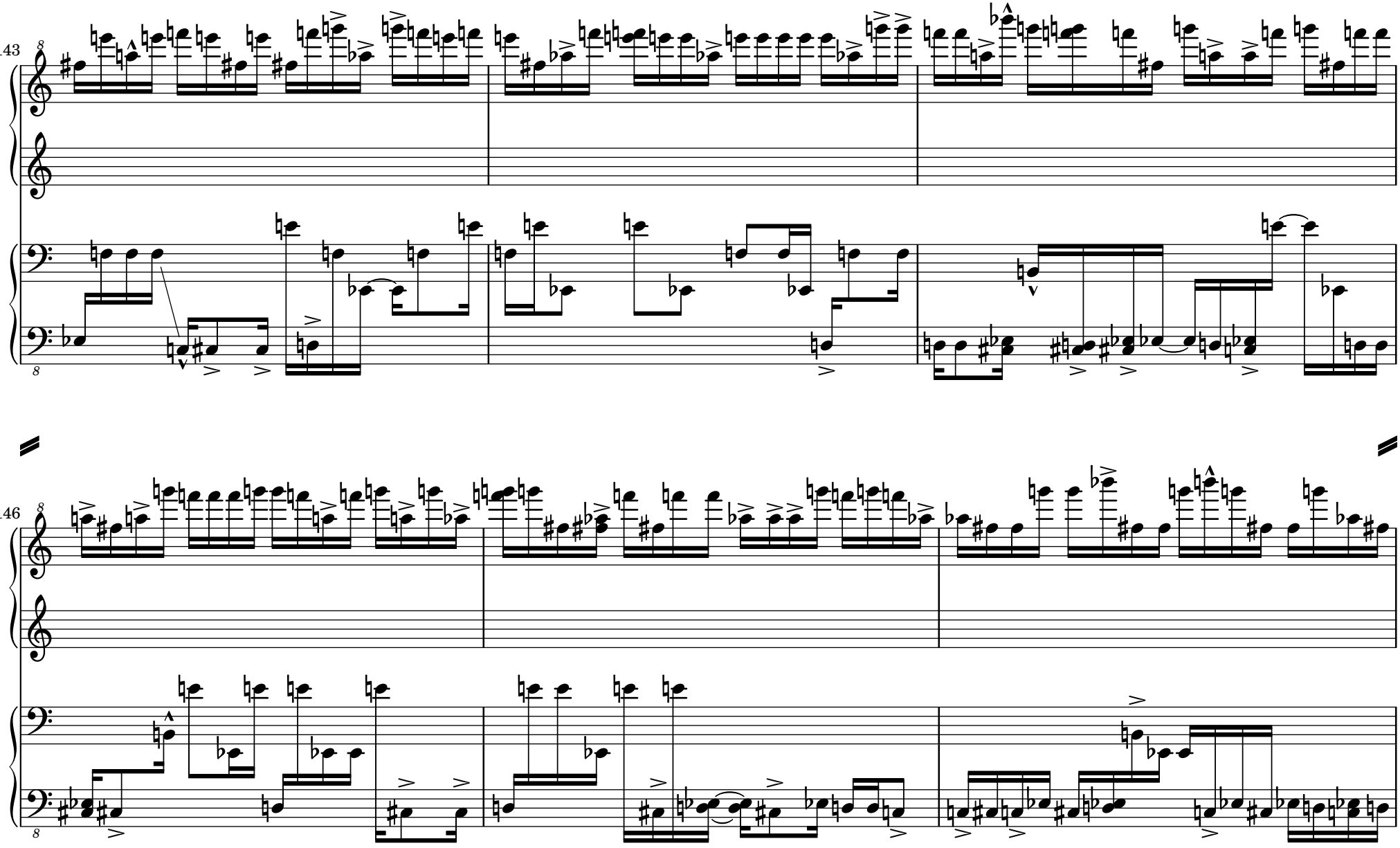
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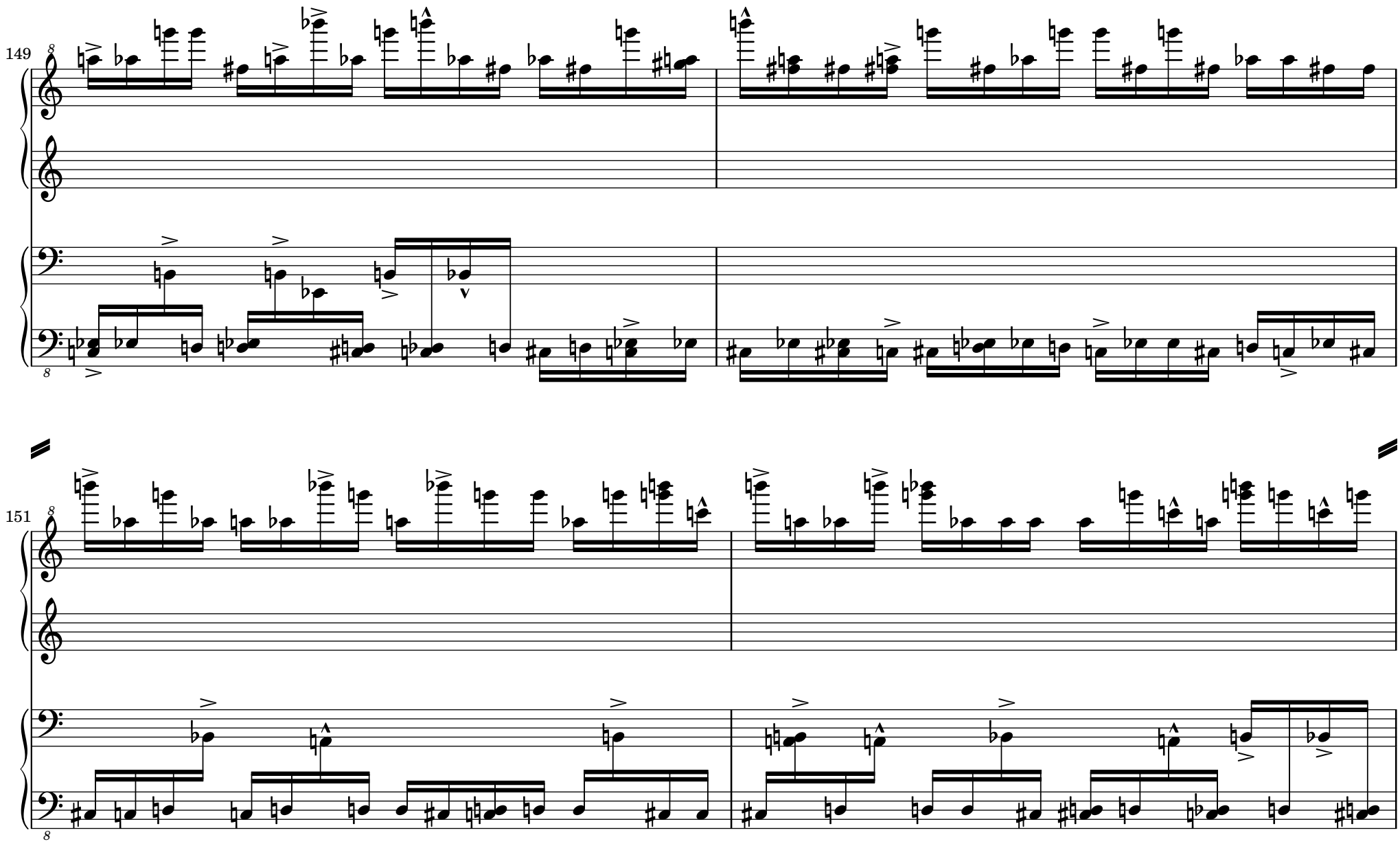
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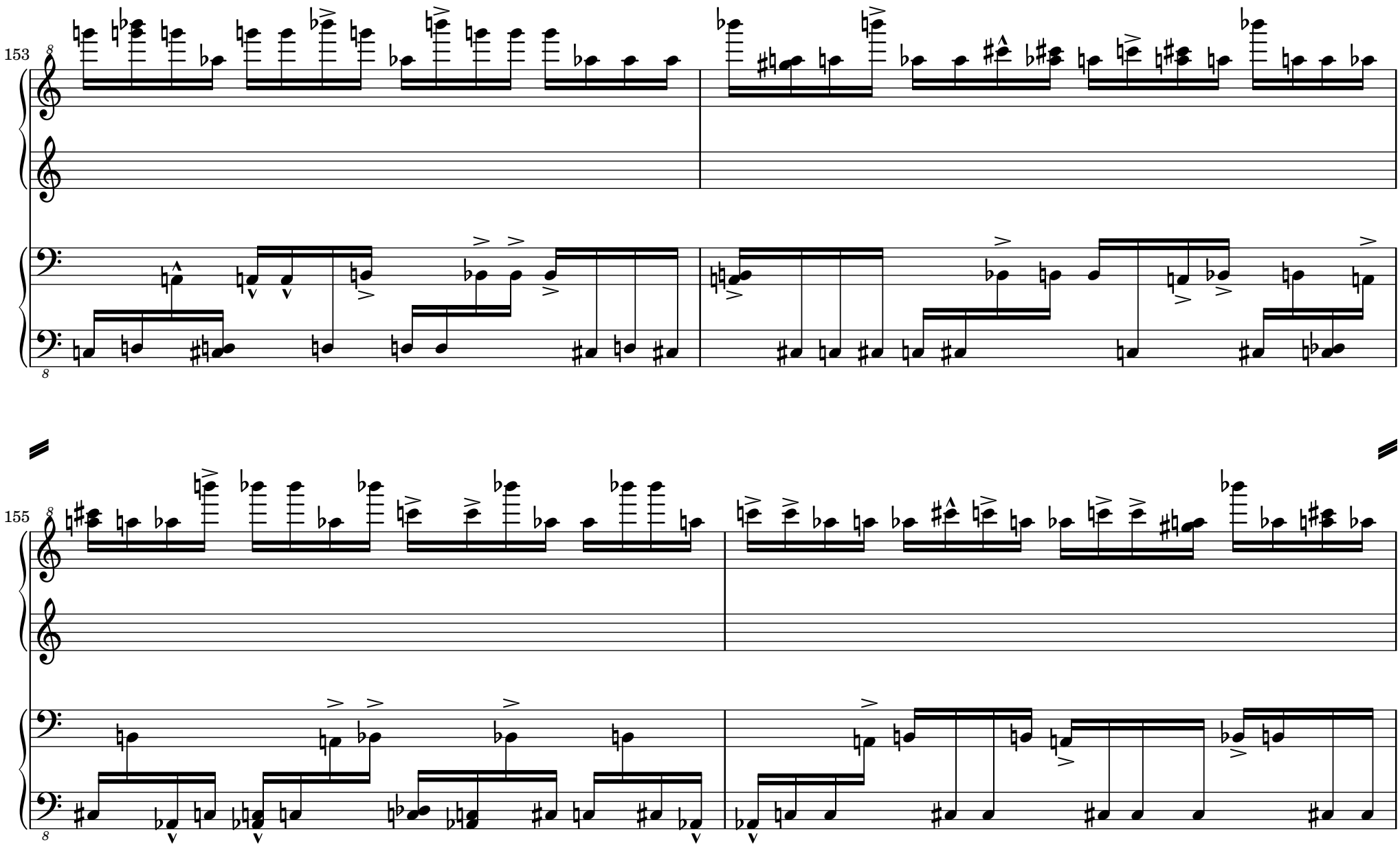
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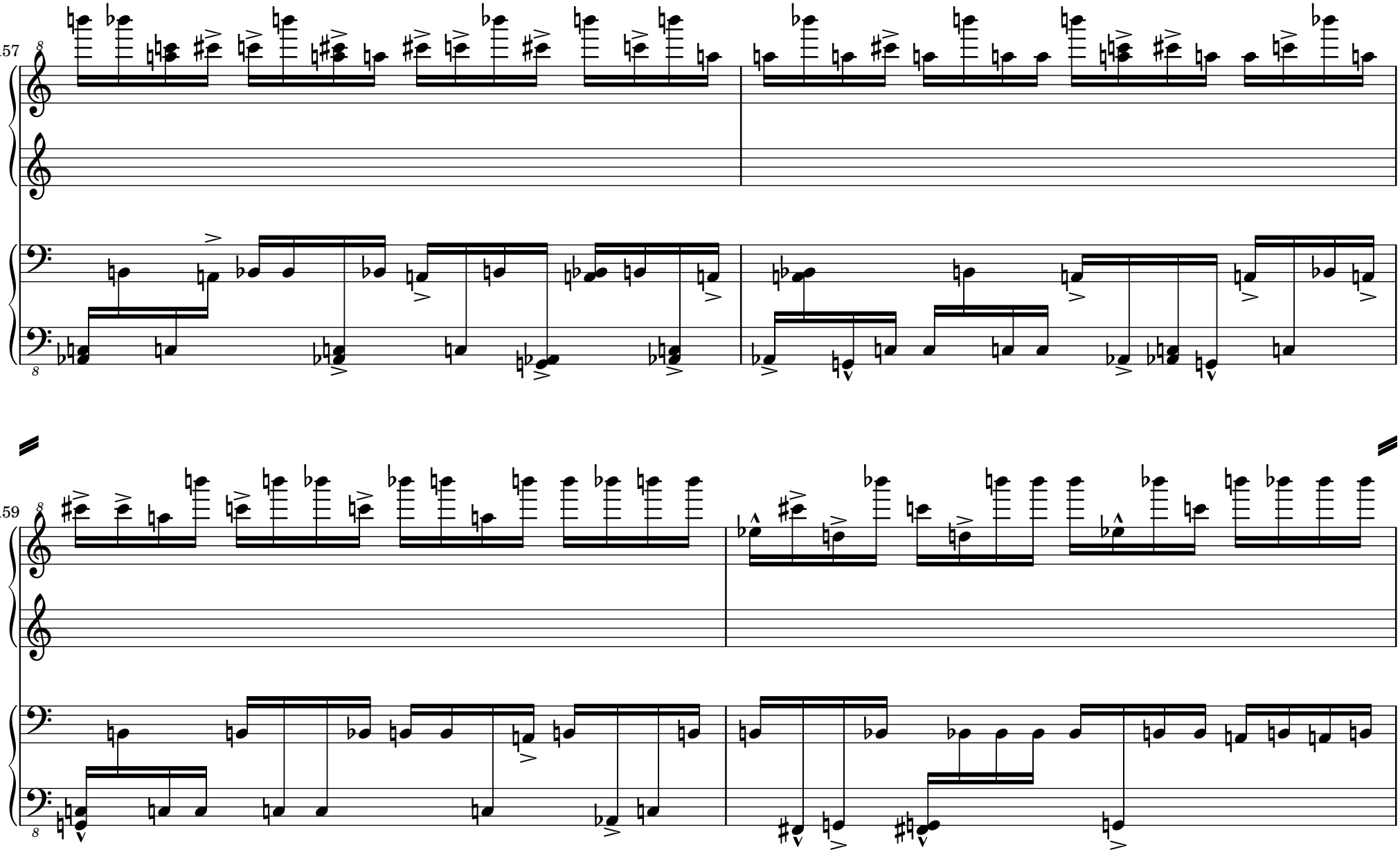
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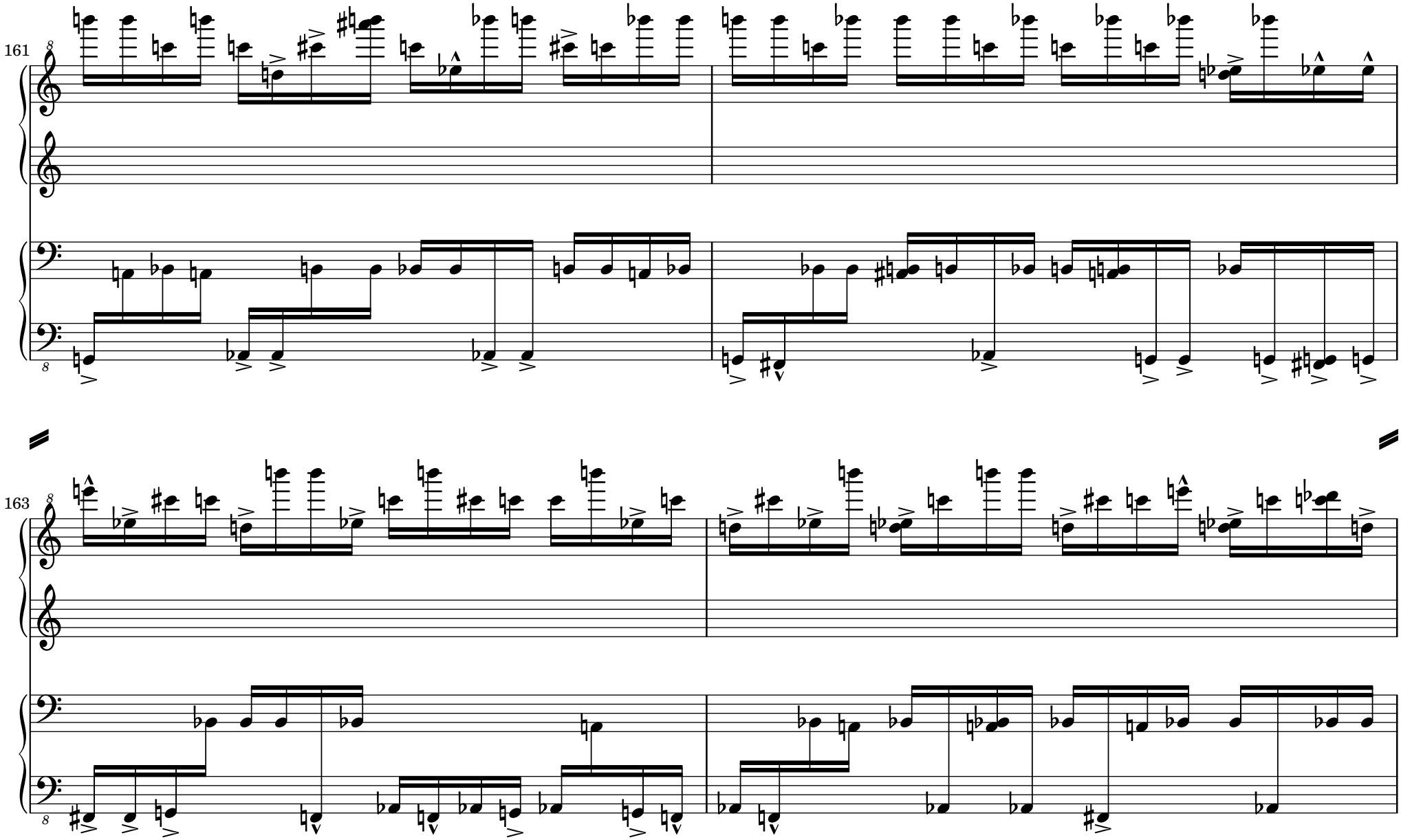
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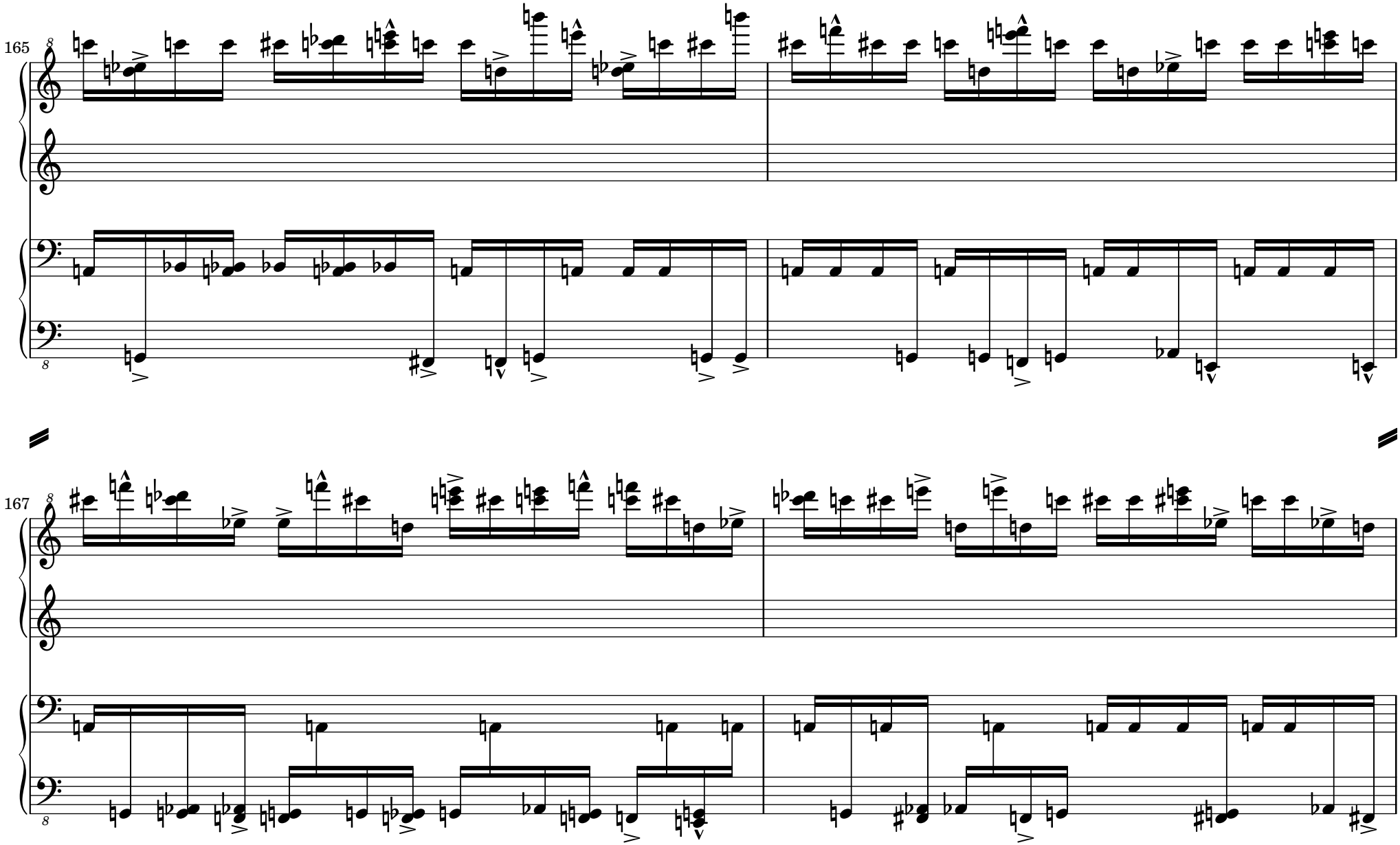
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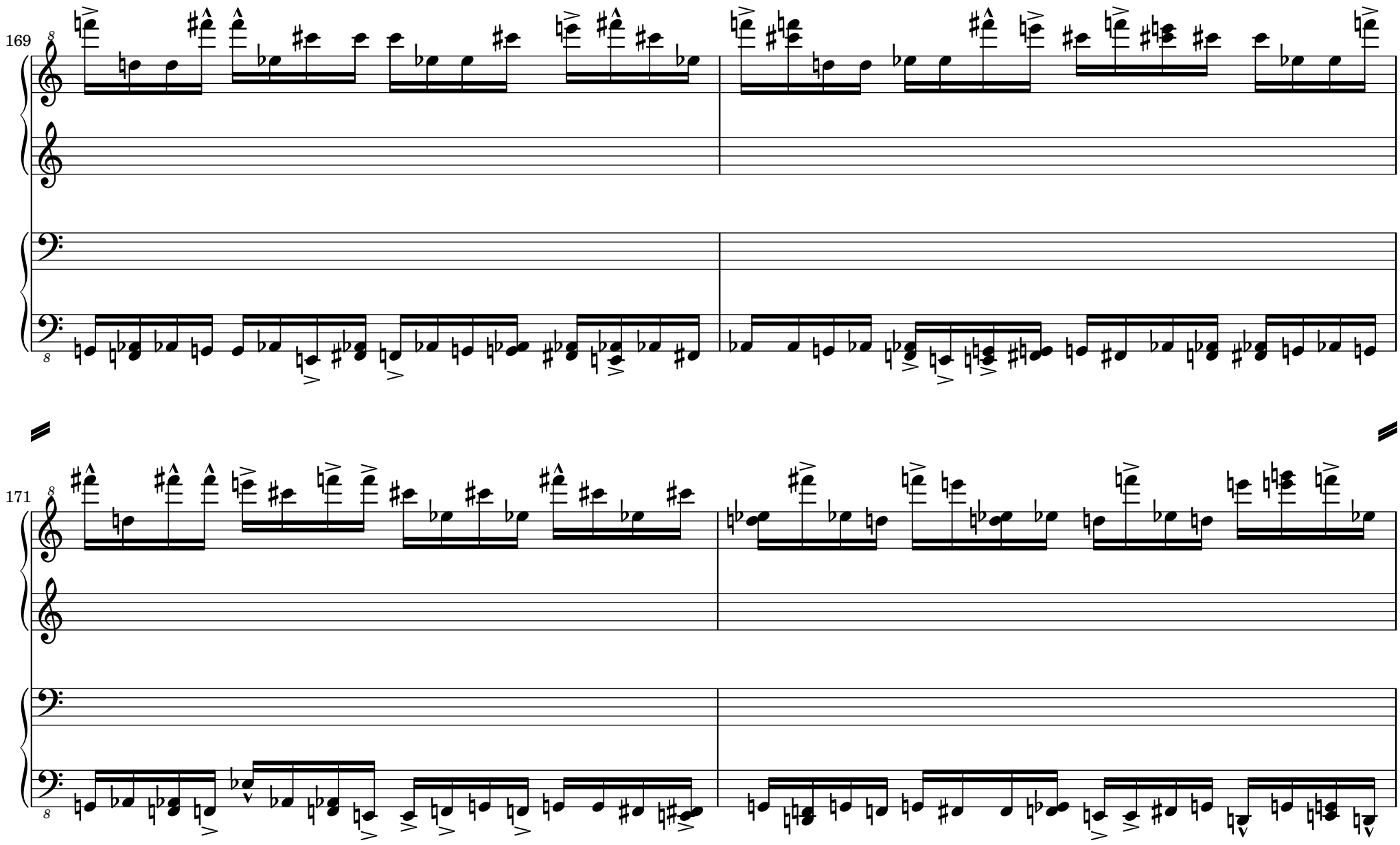
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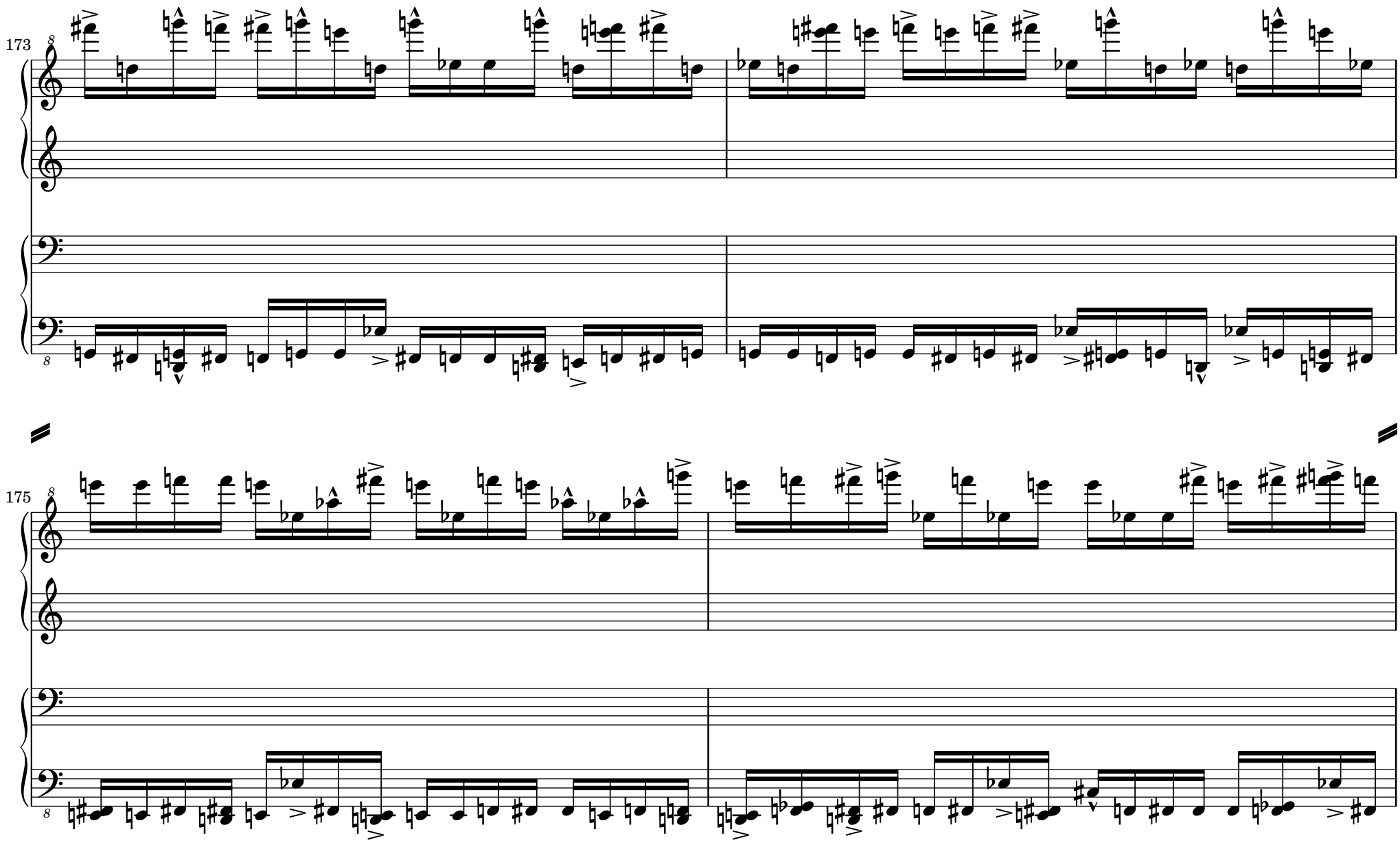
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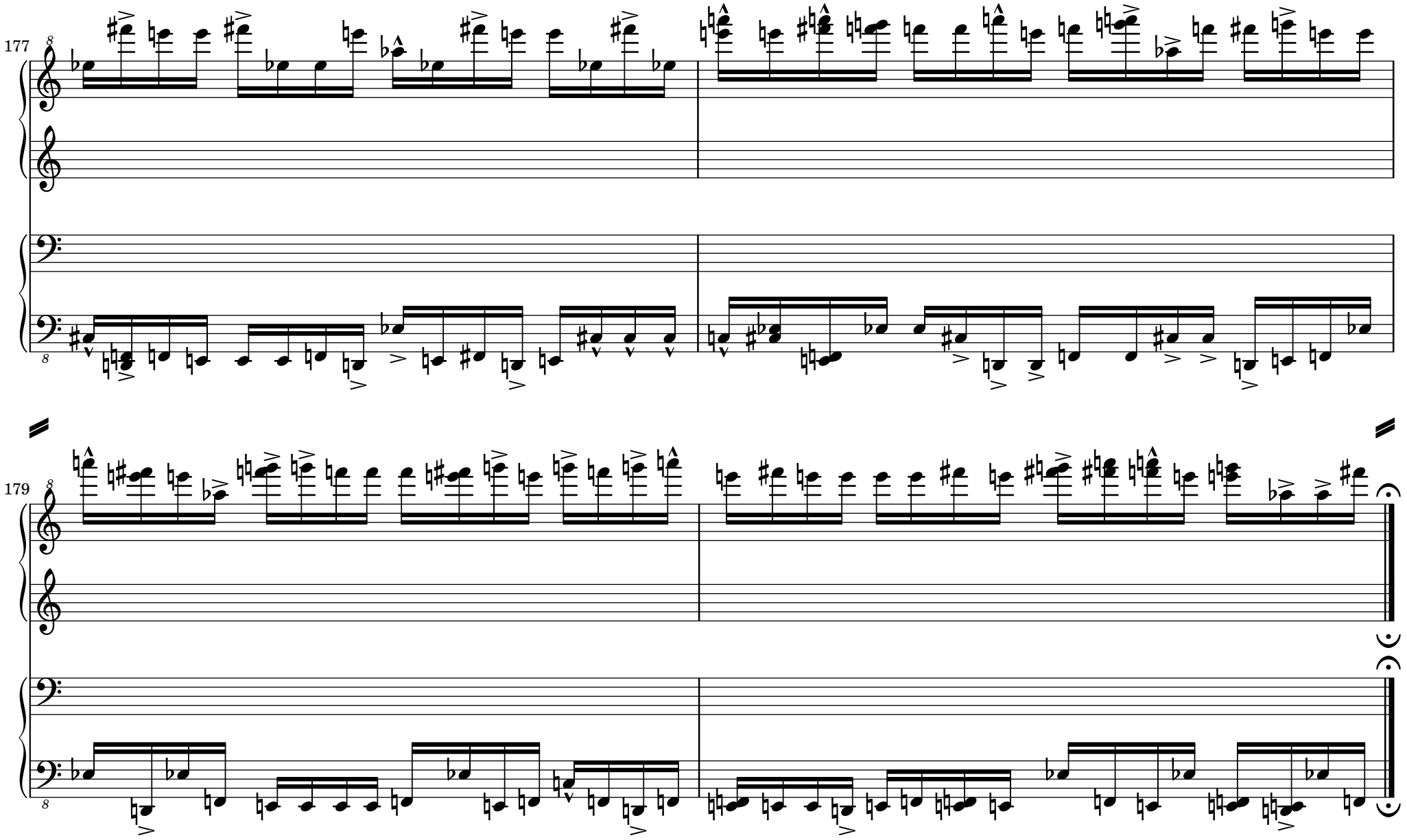
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