Peter McKenzie Armstrong

Patterns from the Game of Life

Part IV: Ostinato Polemico

for piano 4 hands

2019

Edition Ottaviano Petrucci

NOTES

COMPOSITION

This is an addendum to my "3–volume" set of music evolved from John Horton Conway's *Game of Life* starting configurations. It is the only one based on a single source graph and realized as a single movement. The graph is "P59 Herschel Loop 2", a 1074x74 unit oscillator found in 2004, discoverer unknown. Its image and animation may be accessed online at <https://www.conway.life.com/wiki/P59_Herschel–loop–2>.

Its long dimension comprises twenty 50–unit sections, framed altogether by two of 36 units. Each section contains constant material (horizontal/vertical unit squares consistently filled) and variable material (squares unpredictably filled or not) in roughly half/half proportion.

Translating the graphic X/Y to musical Time/Pitch, I have positioned the image in two mutually perpendicular rotations, with 74 then demarking either the vertical or the horizontal. In the former case, with a keyboard–wise 74–pitch spectrum fitting standard piano range, initial mapping to musical parameters could proceed directly. In the latter case, with its implied pitch spectrum spanning fully a dozen piano widths, I opted to separate the member sections, transposing each (its span now within five octaves) independently to usable range.

In the result, rotations applied: at 0 degrees, to sections A,C,E,G,I and their variants; at 90 deg, to sections B,D,F,H,J and theirs. These groups relate as a swapping of Pitch and Time.

As it happens, the source graph's entire second half (reading in either orientation) is the horizontal and vertical mirror image of the first. I have named its sections ([A–J]') in reverse order to associate the reflections.

Throughout, I have flagged constant material by casting its noteheads in a red diamond glyph. (These are not harmonics.)

The audio file accompanying this score, initially secondary output from LilyPond processing, has been rewritten separately in Rosegarden, then realized/recorded via PianoTeq's "D4 Vintage Bosendorfer" instrument. Duration is 4'26".

PERFORMANCE

Accidentals
With the exception of natural–signs (all cautionary), accidentals throughout apply each exactly once. LilyPond terms this style "Forget".

Articulation
Notes within a slur are to be connected. Notes outside a slur either before or after are to be audibly detached from it and from each other. Where, as often occurs, a slur contains immediate note–repetition, *legato* must be effected via the damper pedal (without "smoothover" between slurs). There are no ties.

Dynamics
In the 5/8 sections (2+3 vs 3+2), metric accent must pit the stability of beat 1 (agreeing always) against the conflict of beat 2 (agreeing never). In the intervening sections they must join instead to navigate perpetually changing meter.

Pedalling
Where damper pedal engagement immediately follows pedal release, these events must be separated sufficiently to allow articulate silence, as between slurs.

– PMA

in memoriam Peter Standaart

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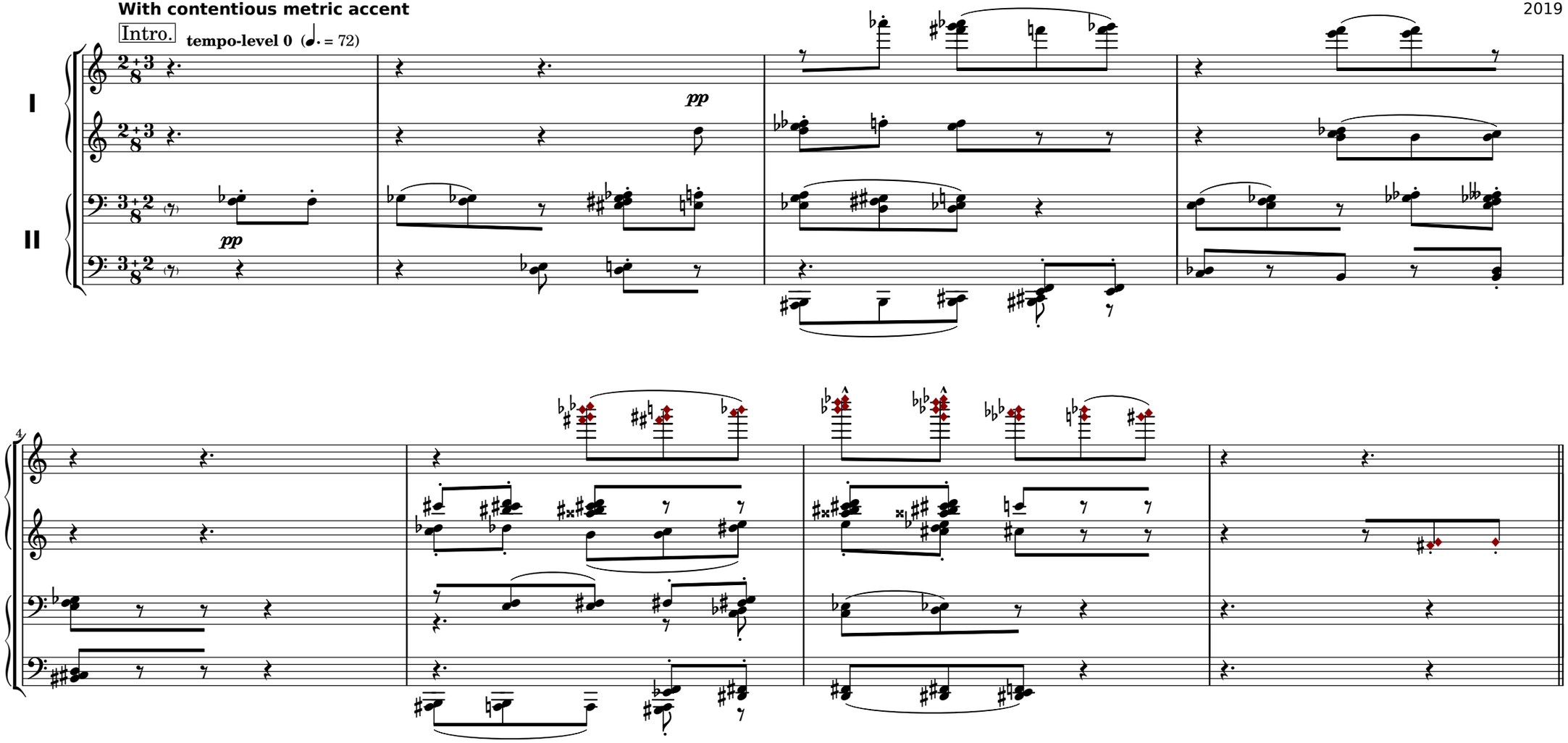
With contentious metric accent



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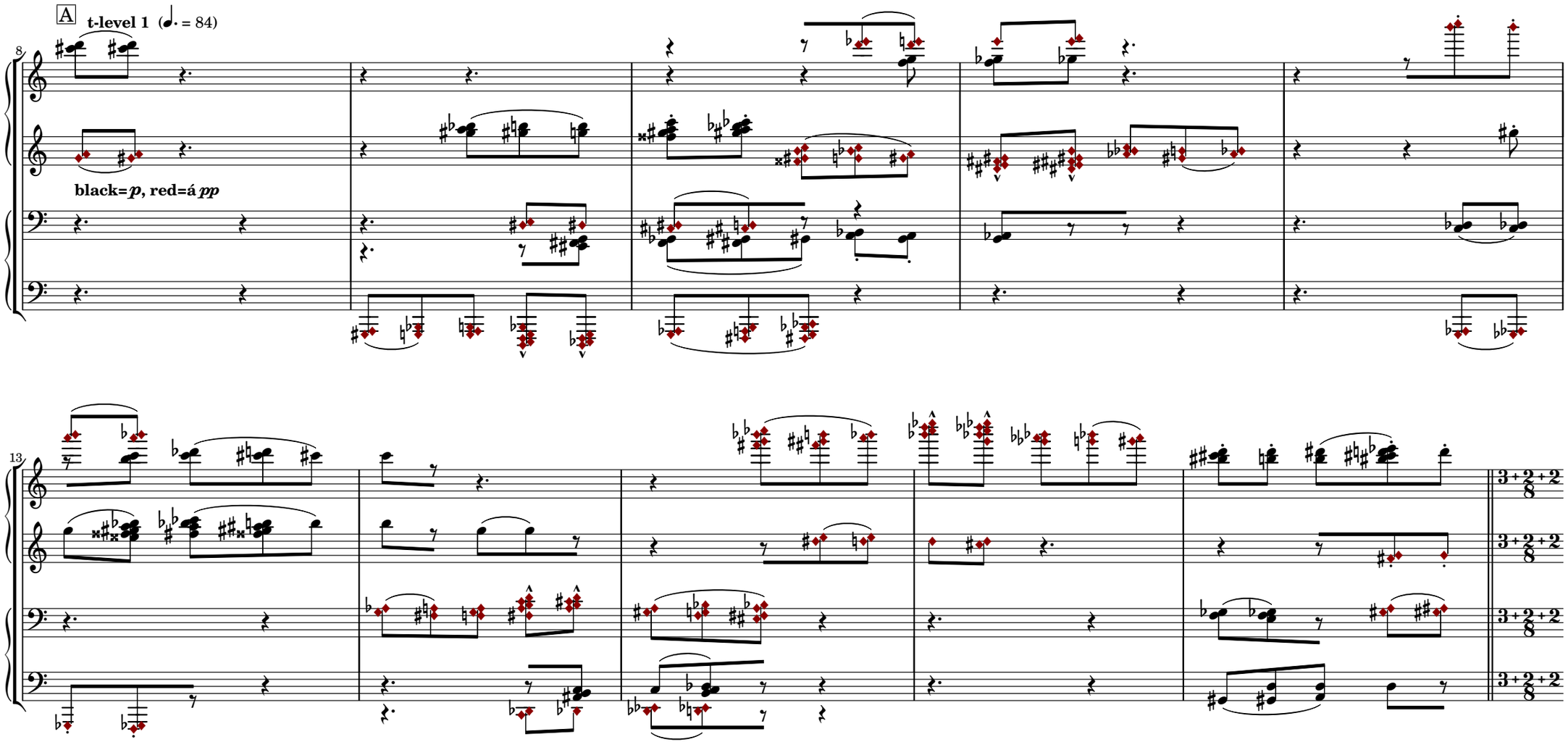
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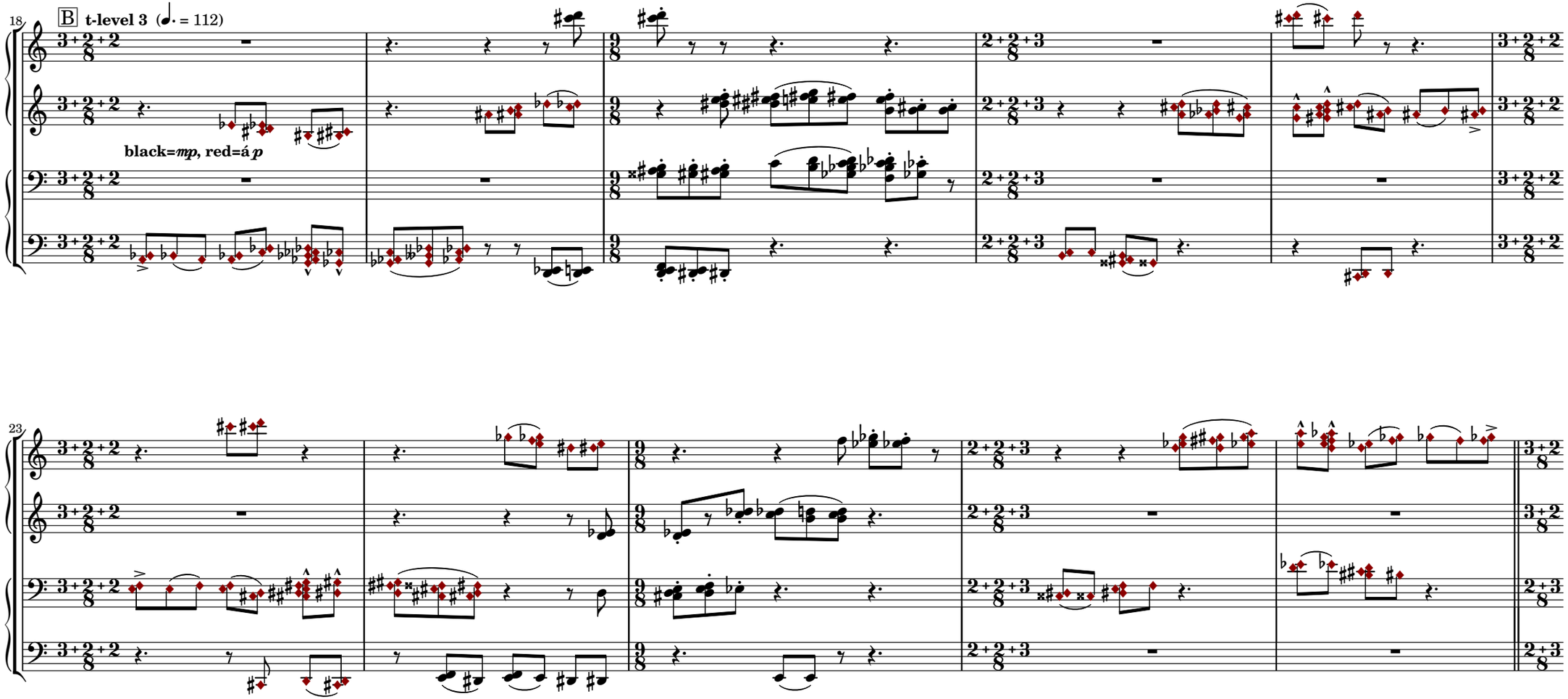
t-level 1 (♩. = 84)
8
black=p, red=á pp
13
3+2+2
8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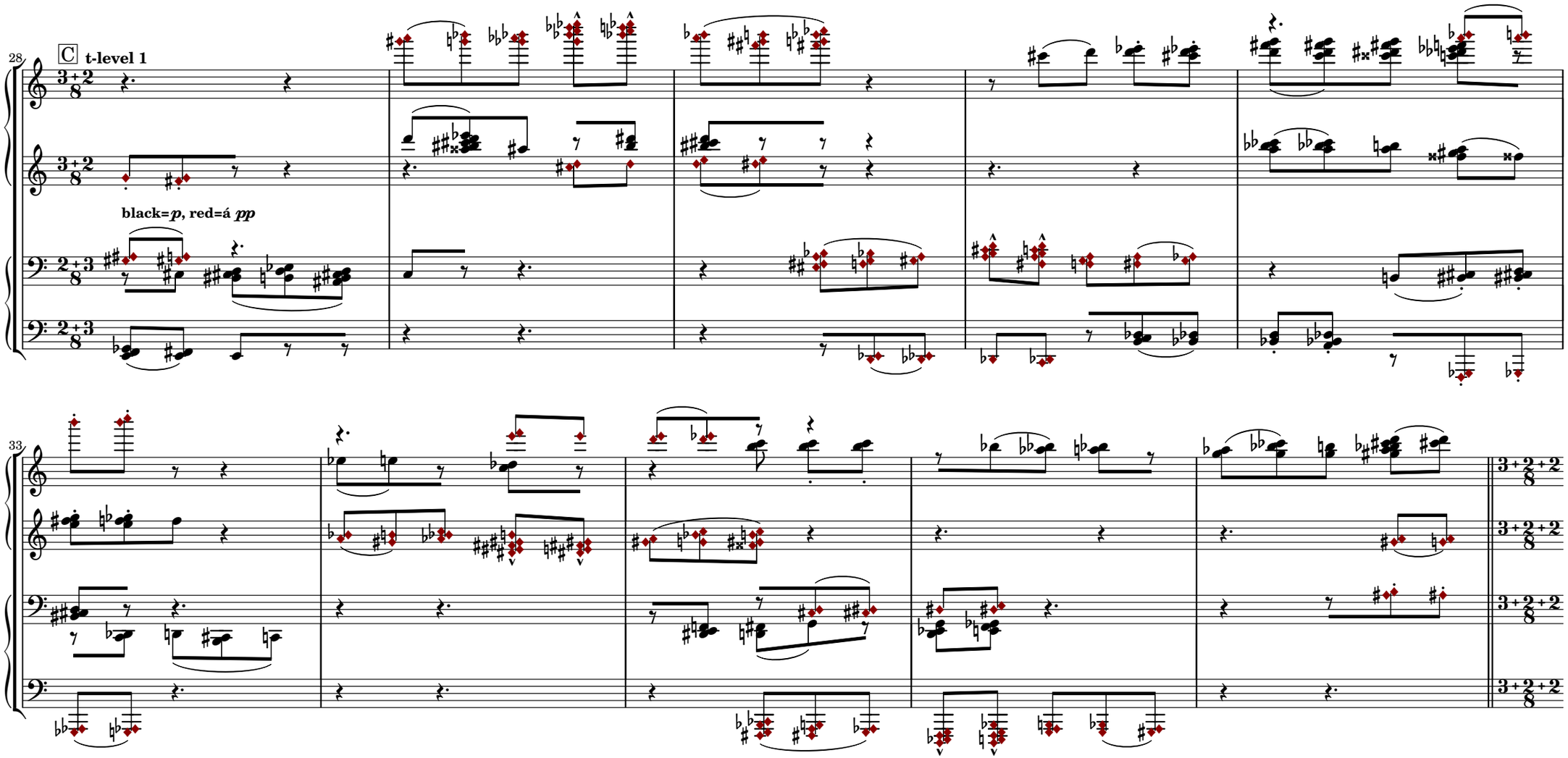
B t-level 3 (♩. = 112)
black=mp, red=á p
23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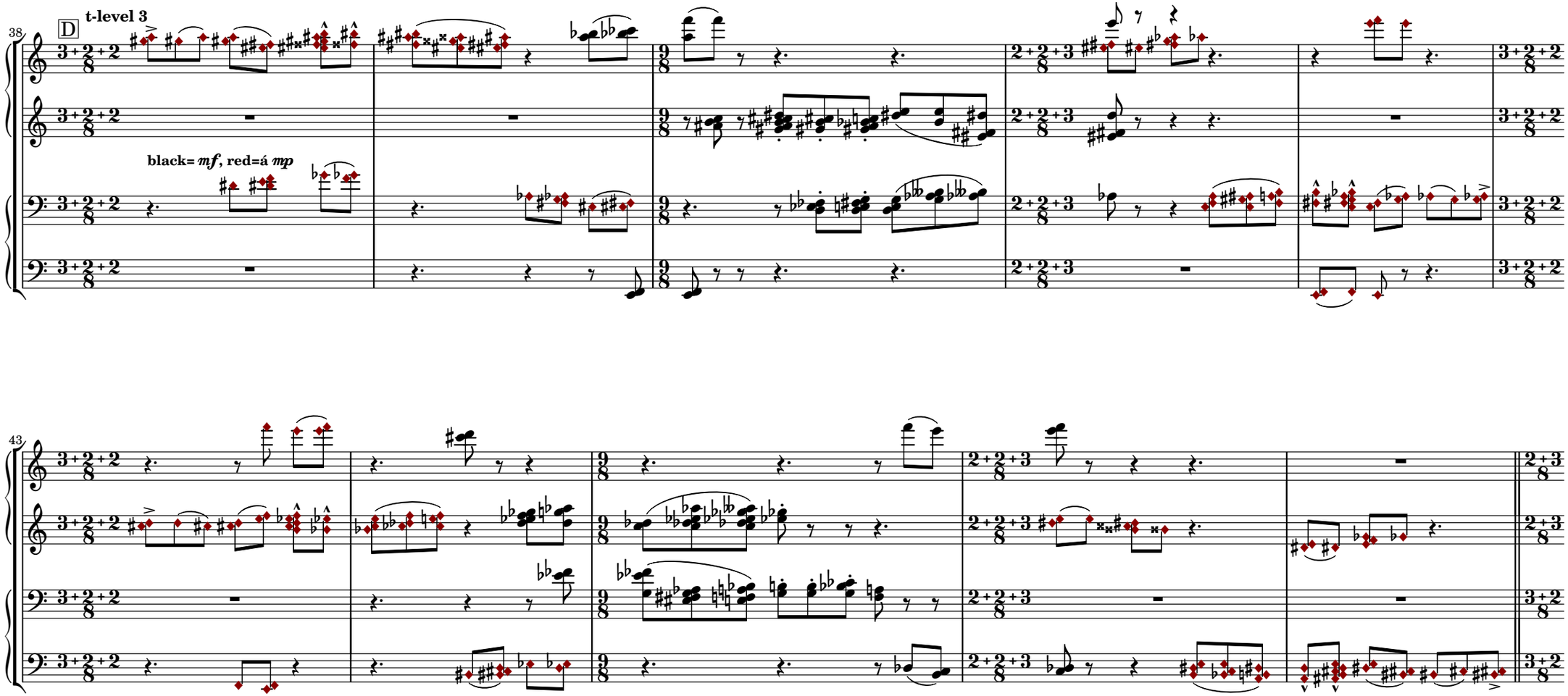
C t-level 1
black=p, red=á pp
33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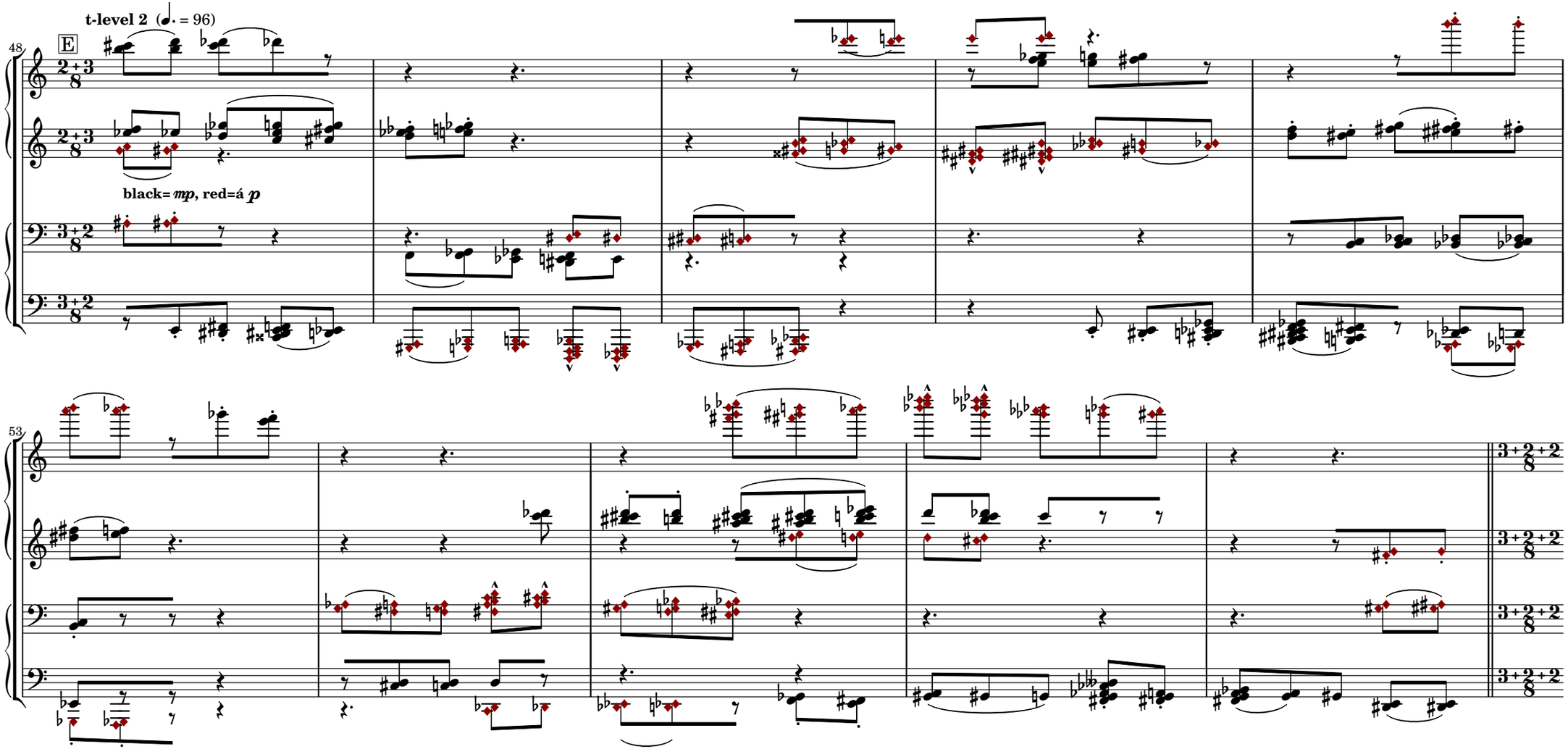
D
t-level 3
black= mf, red=á mp
43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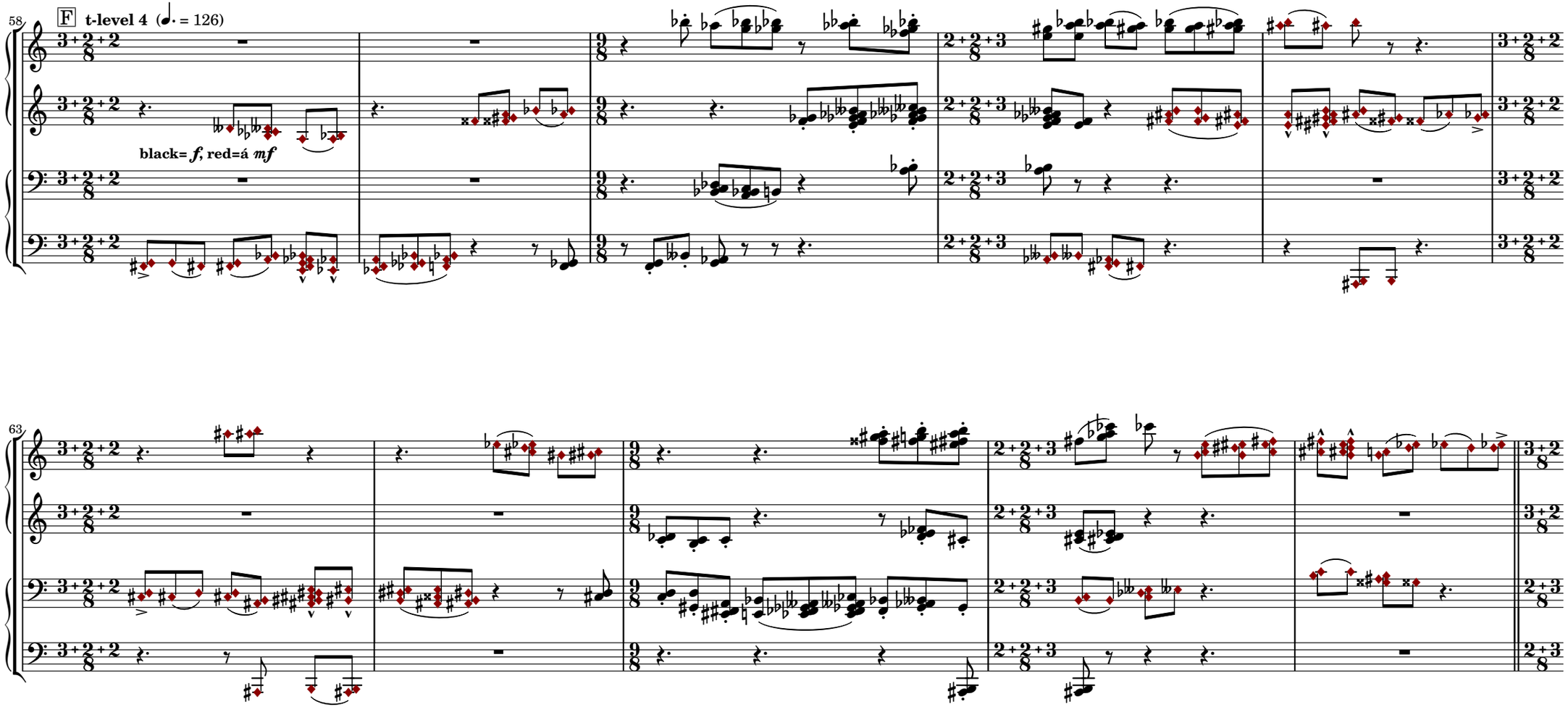
48
E
black= mp, red=á p
53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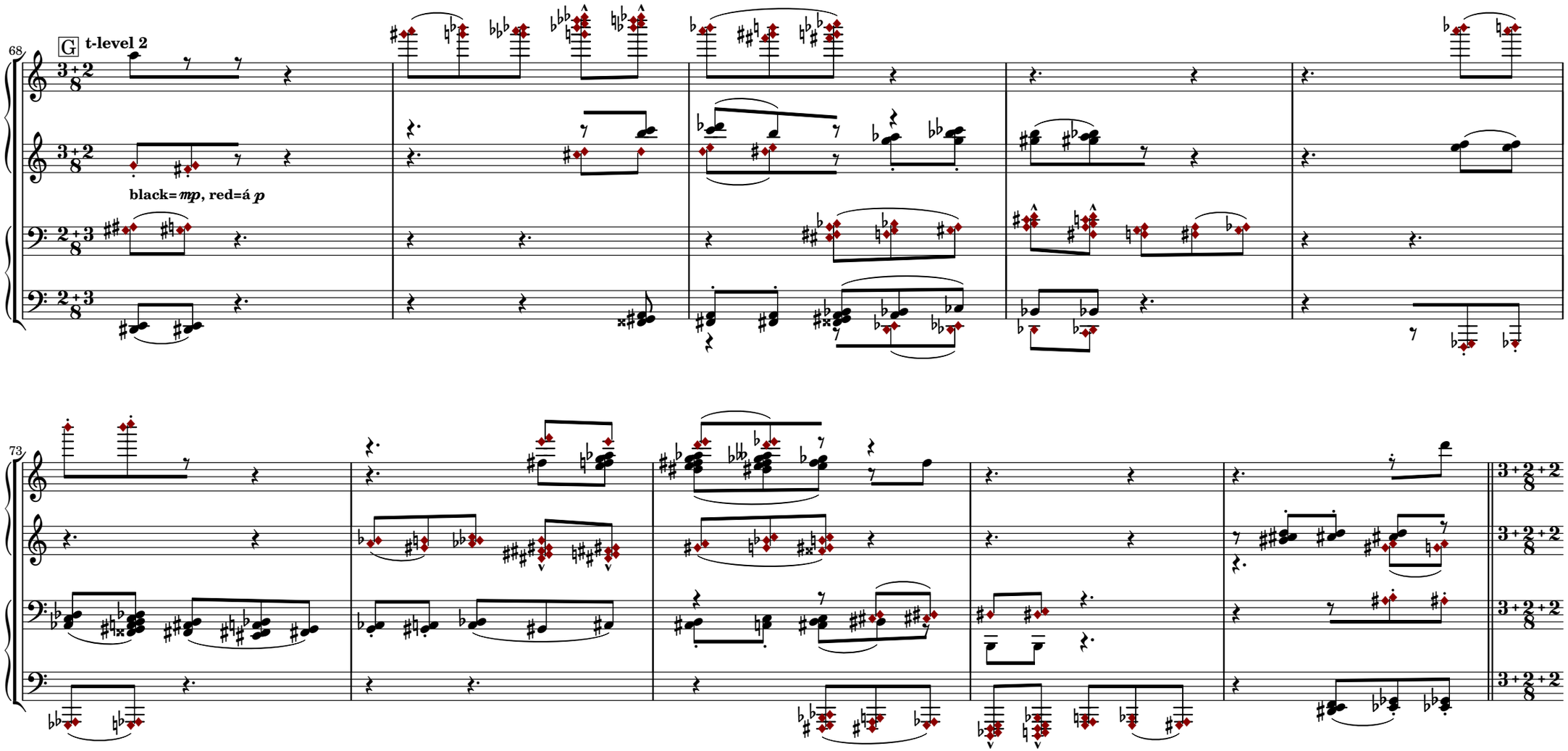
F t-level 4 (♩. = 126)
black= f, red=á mf
63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G t-level 2
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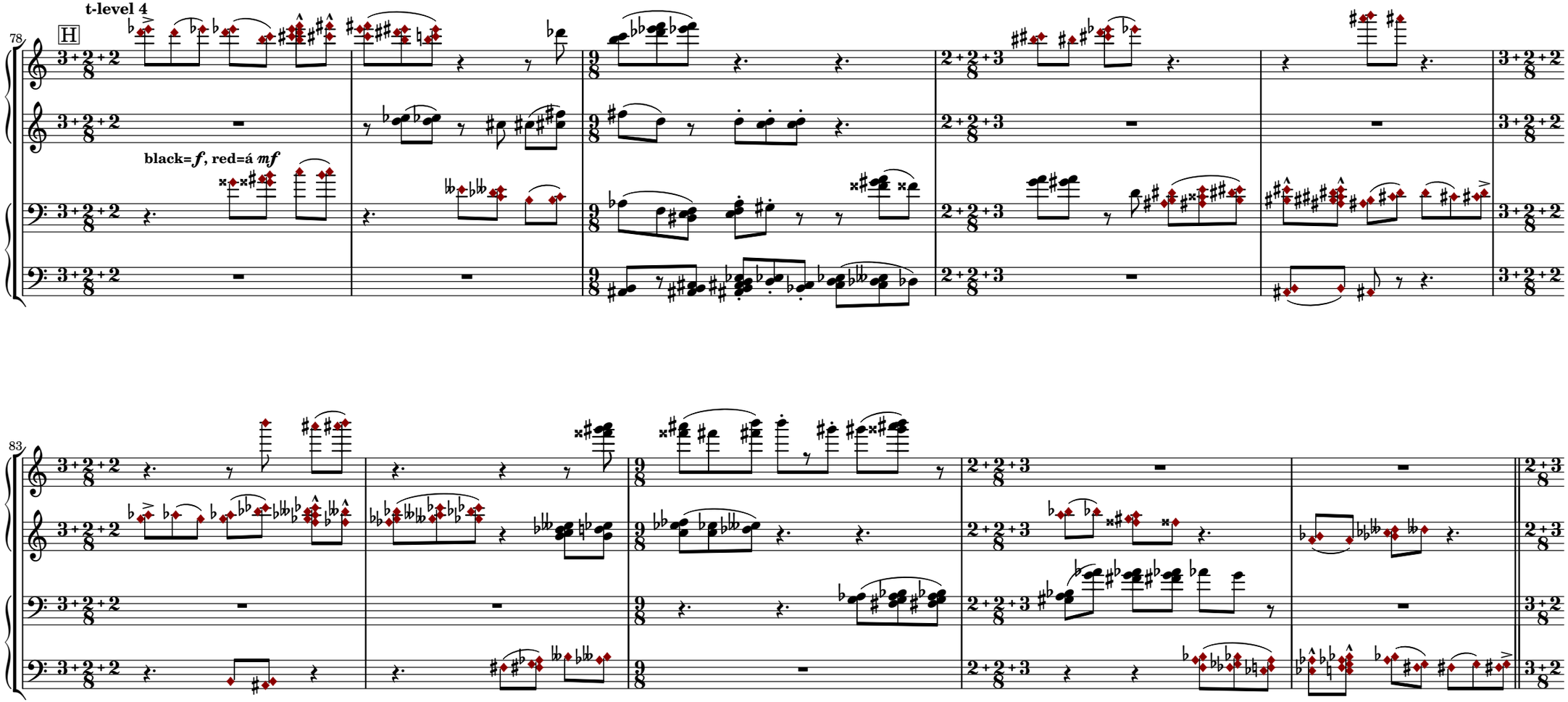
73


t-level 4
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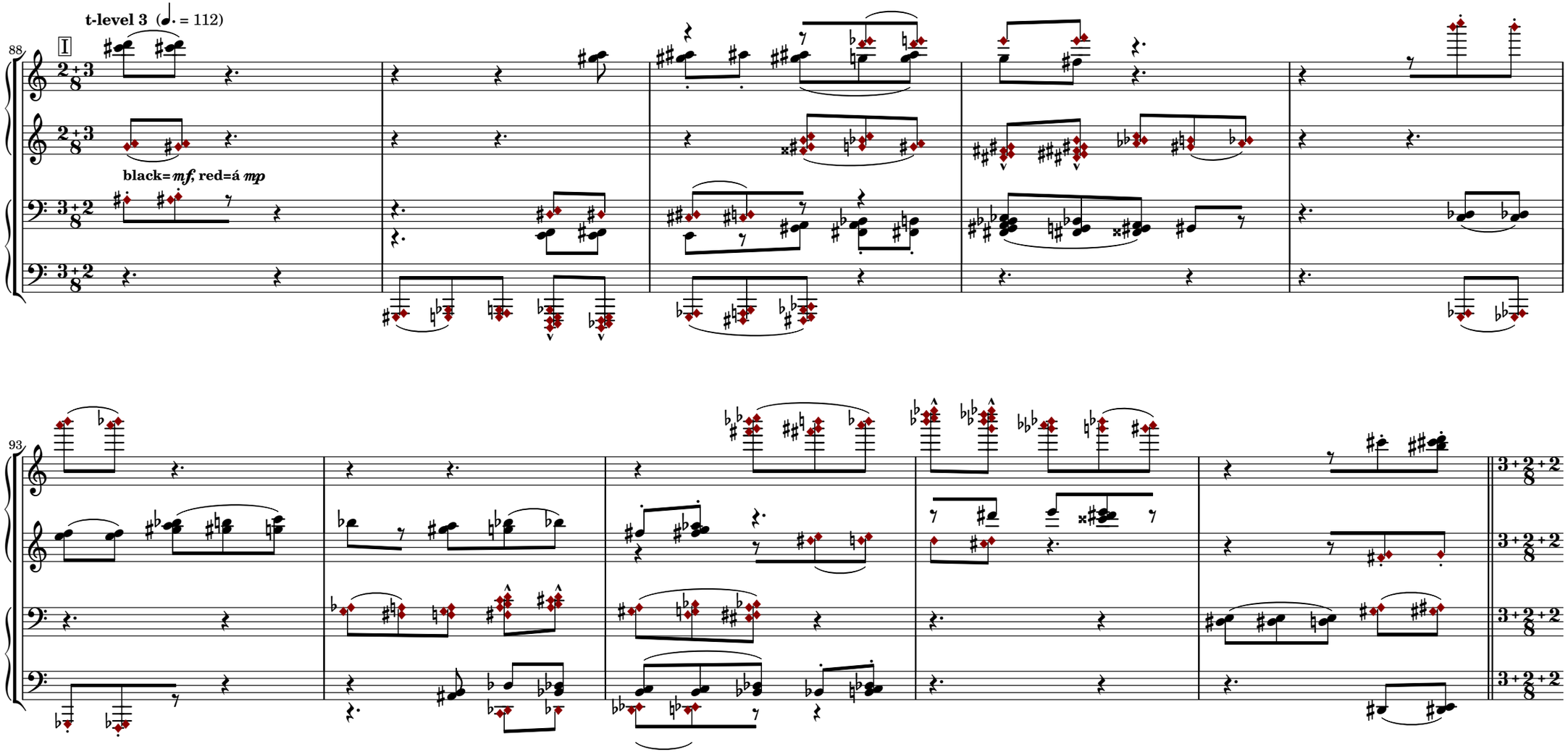
H
black=f, red=á mf
83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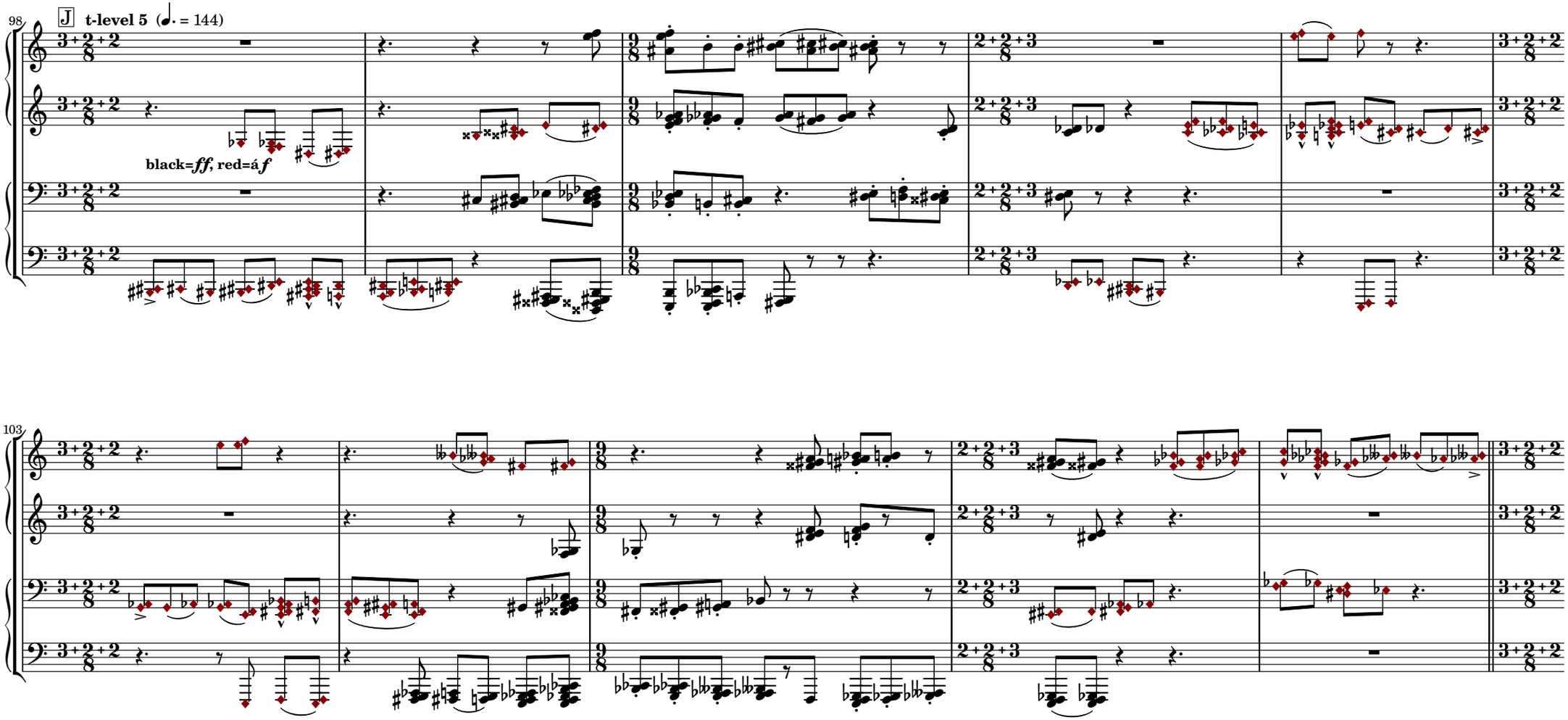
I
black=mf, red=á mp
93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t-level 5 (♩. = 144)
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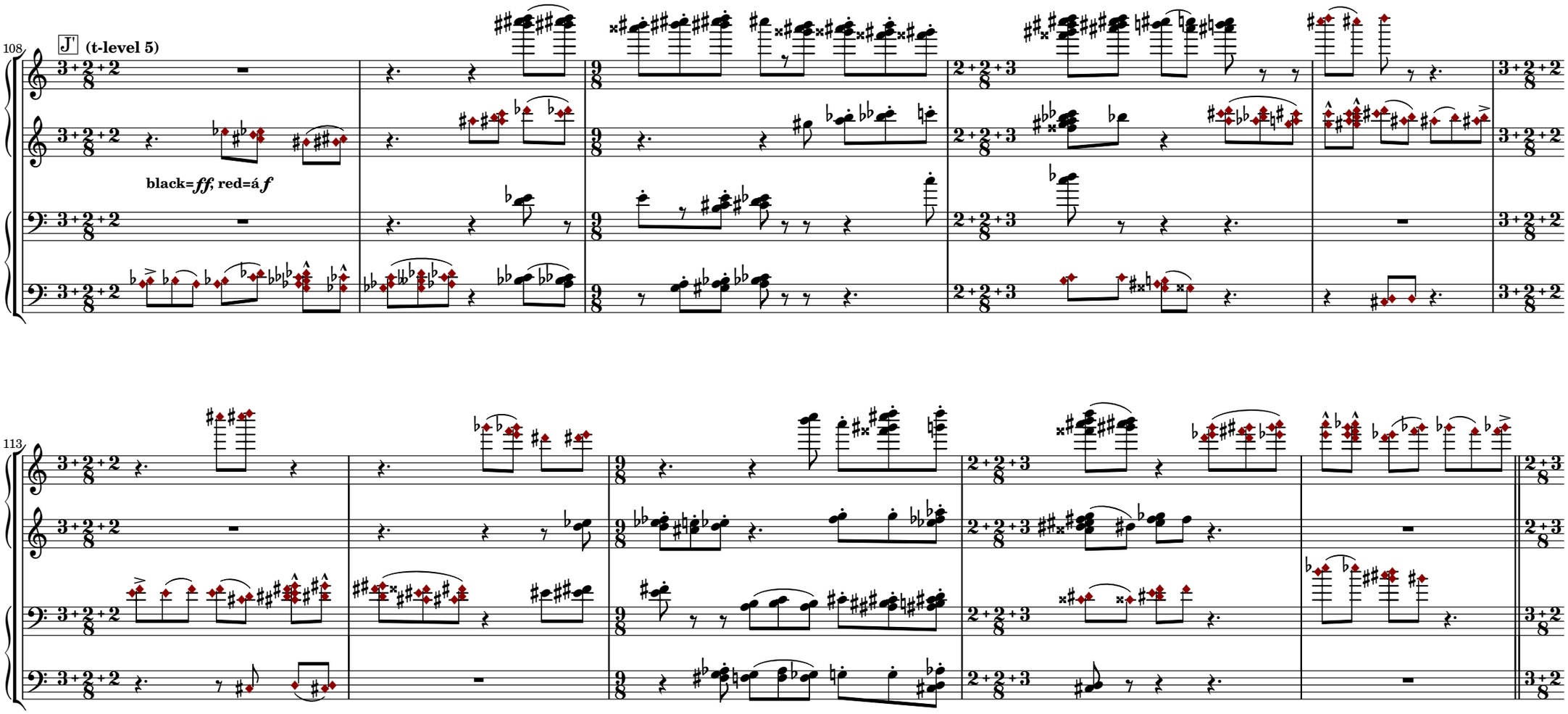
103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J'
(t-level 5)
black=fff, red=á f
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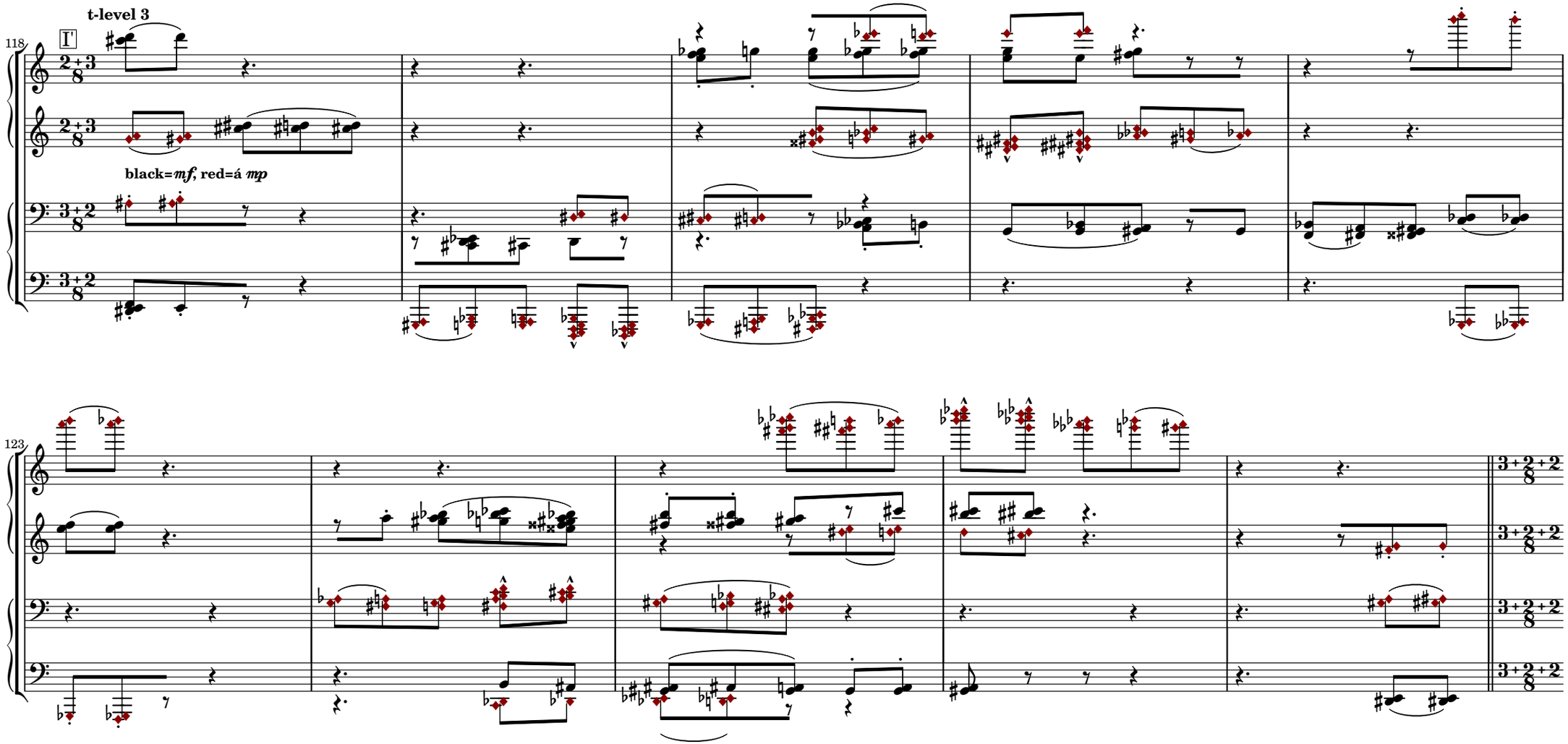
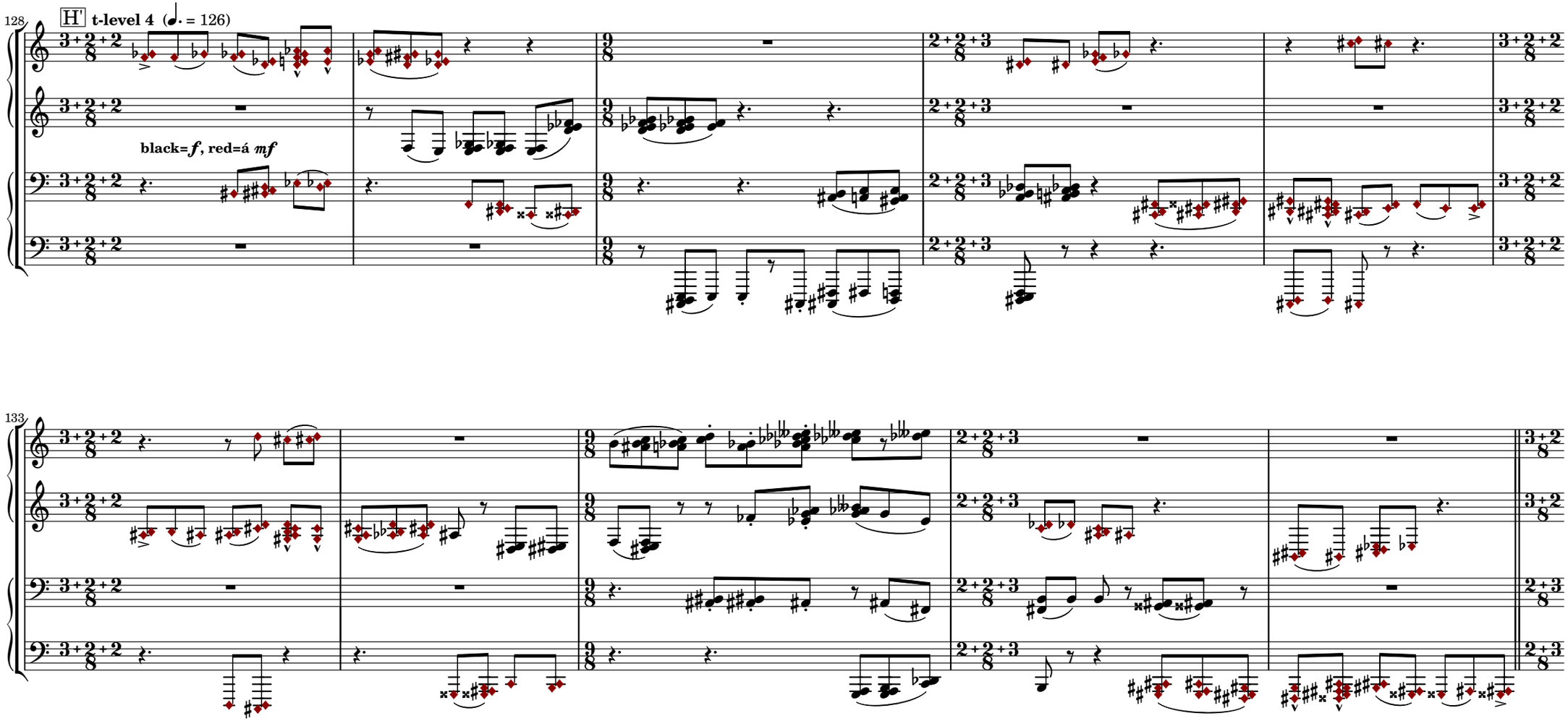
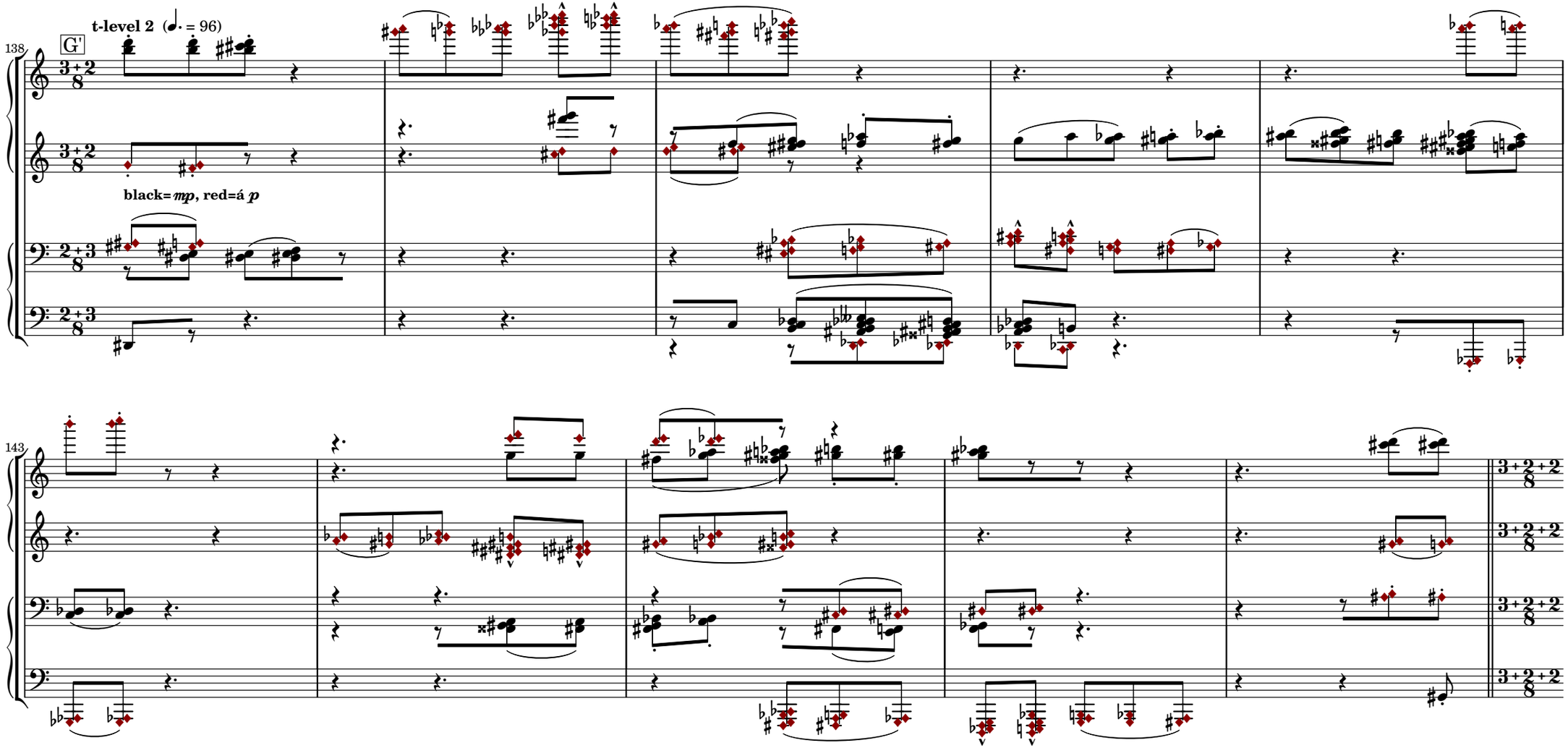

t-level 3
I'
118
black=mf, red=á mp
123


128
H' t-level 4 (♩. = 126)
black=f, red=á mf
133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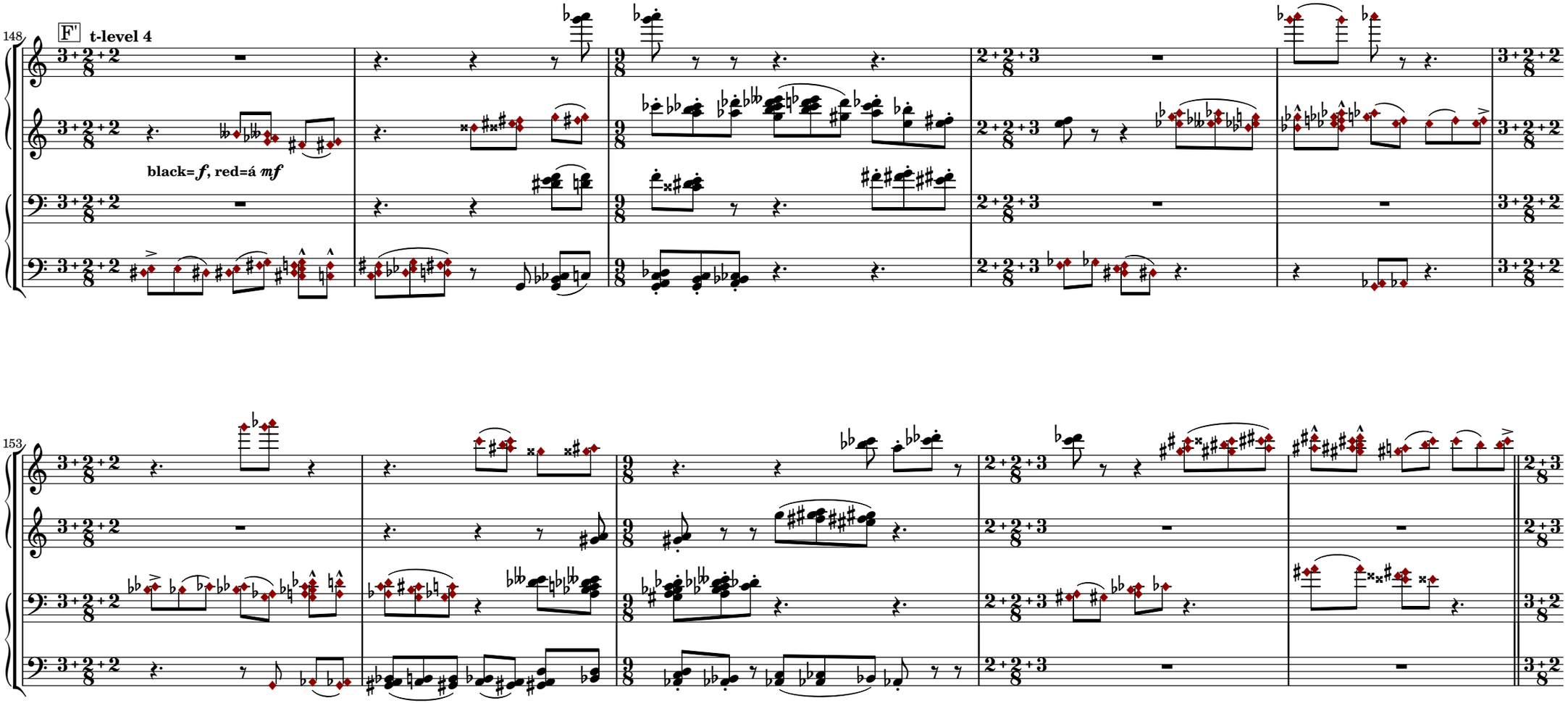
G'
138
black=mp, red=á p
143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F'
t-level 4
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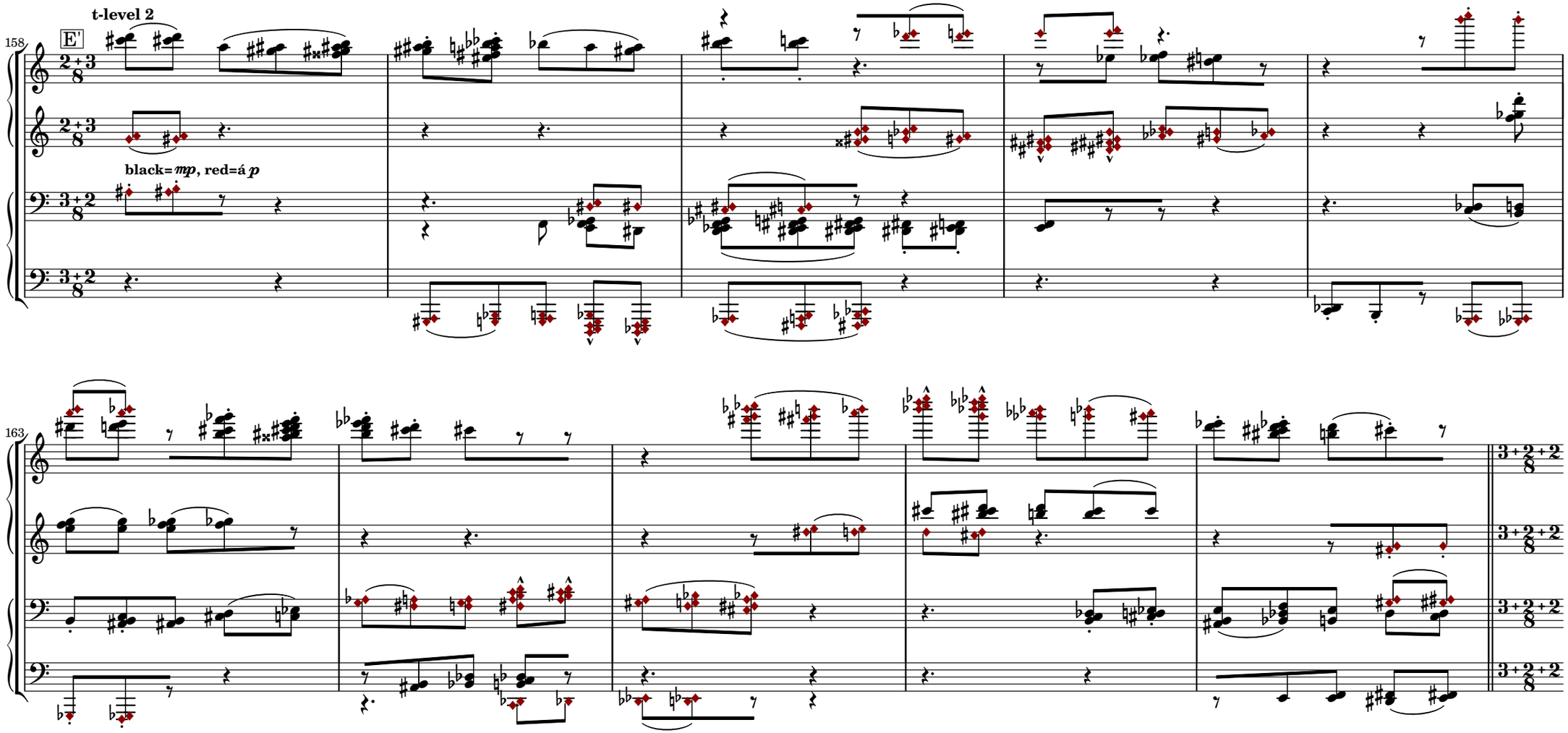
153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E'
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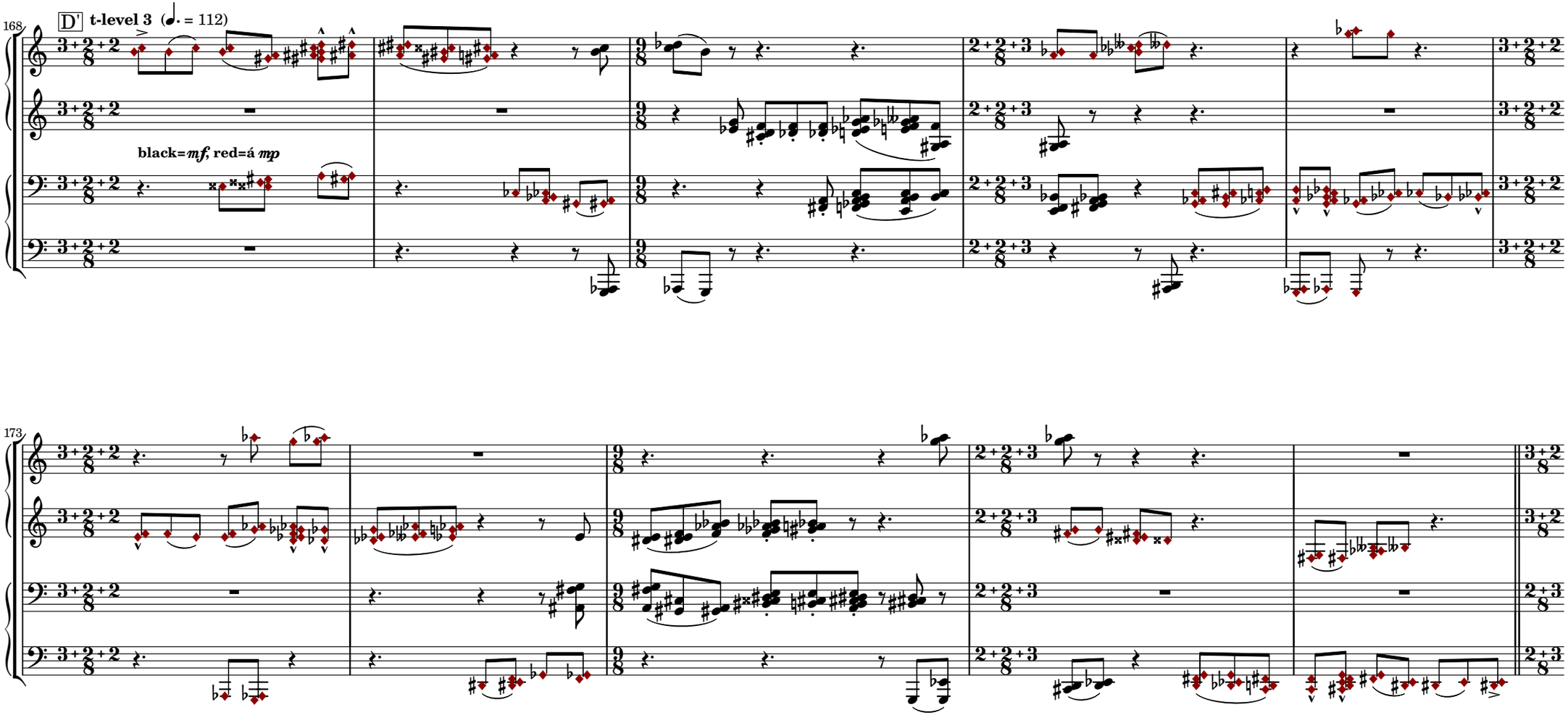
black=mp, red=á p
163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D'
t-level 3
(. = 112)
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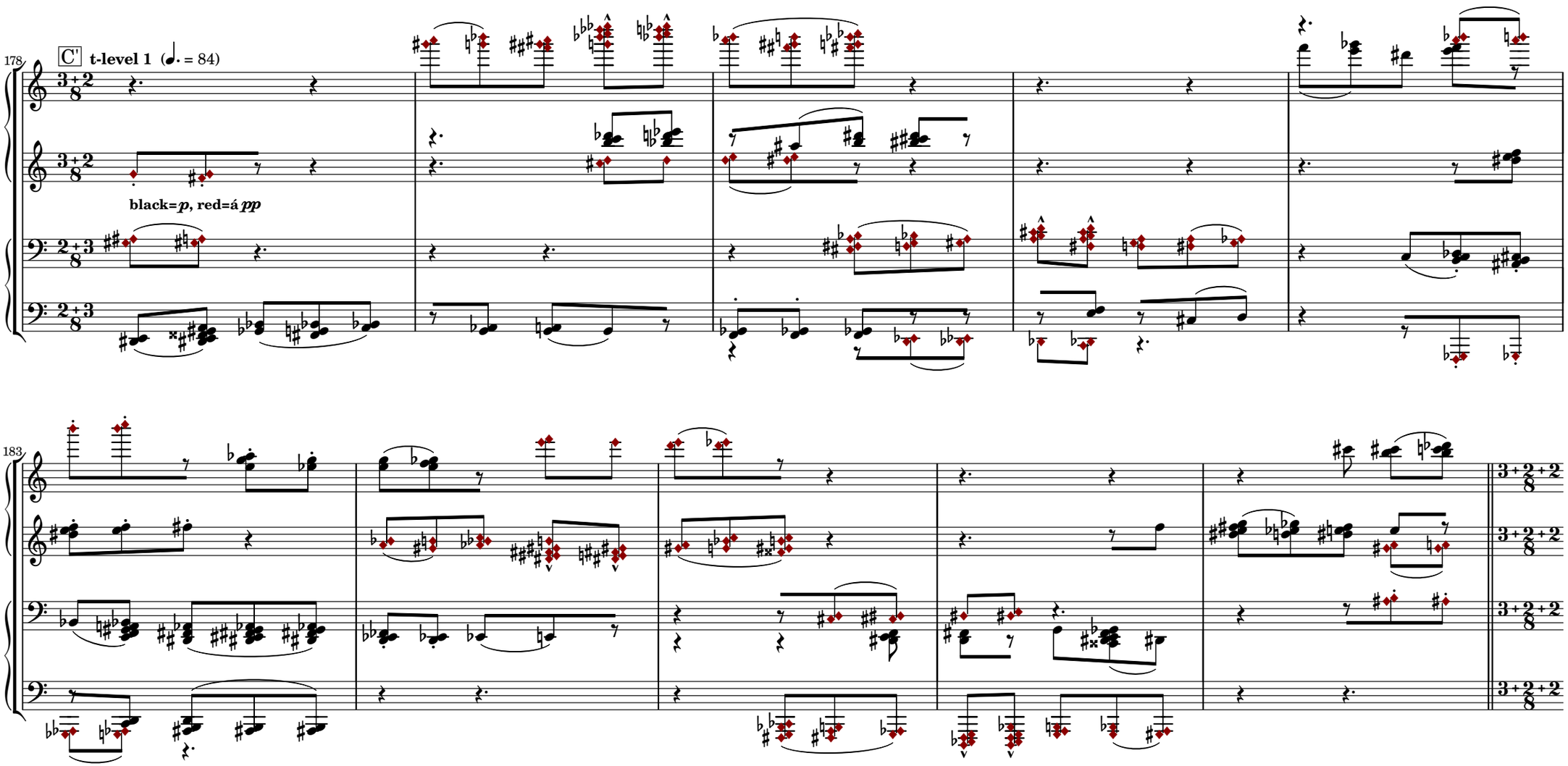
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C'
t-level 1
(. = 84)
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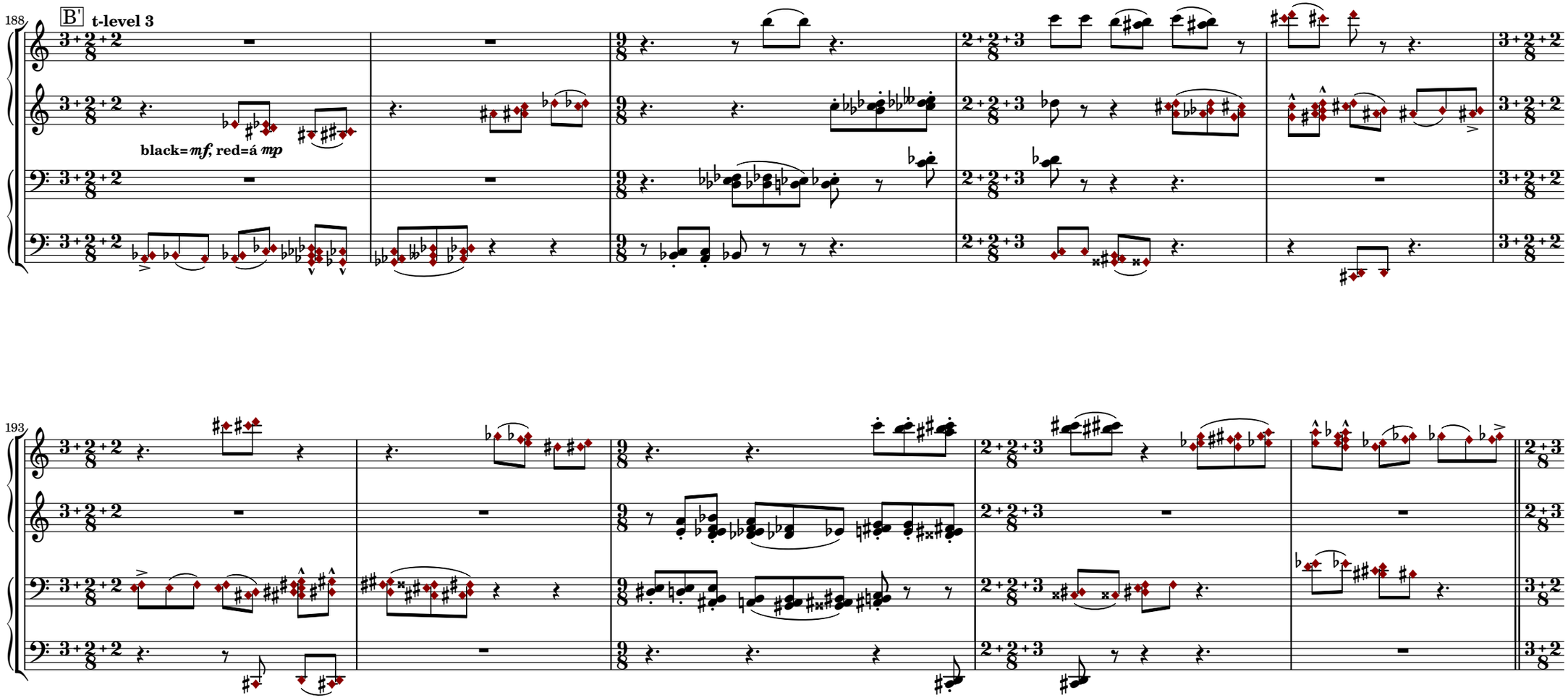
183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B'
t-level 3
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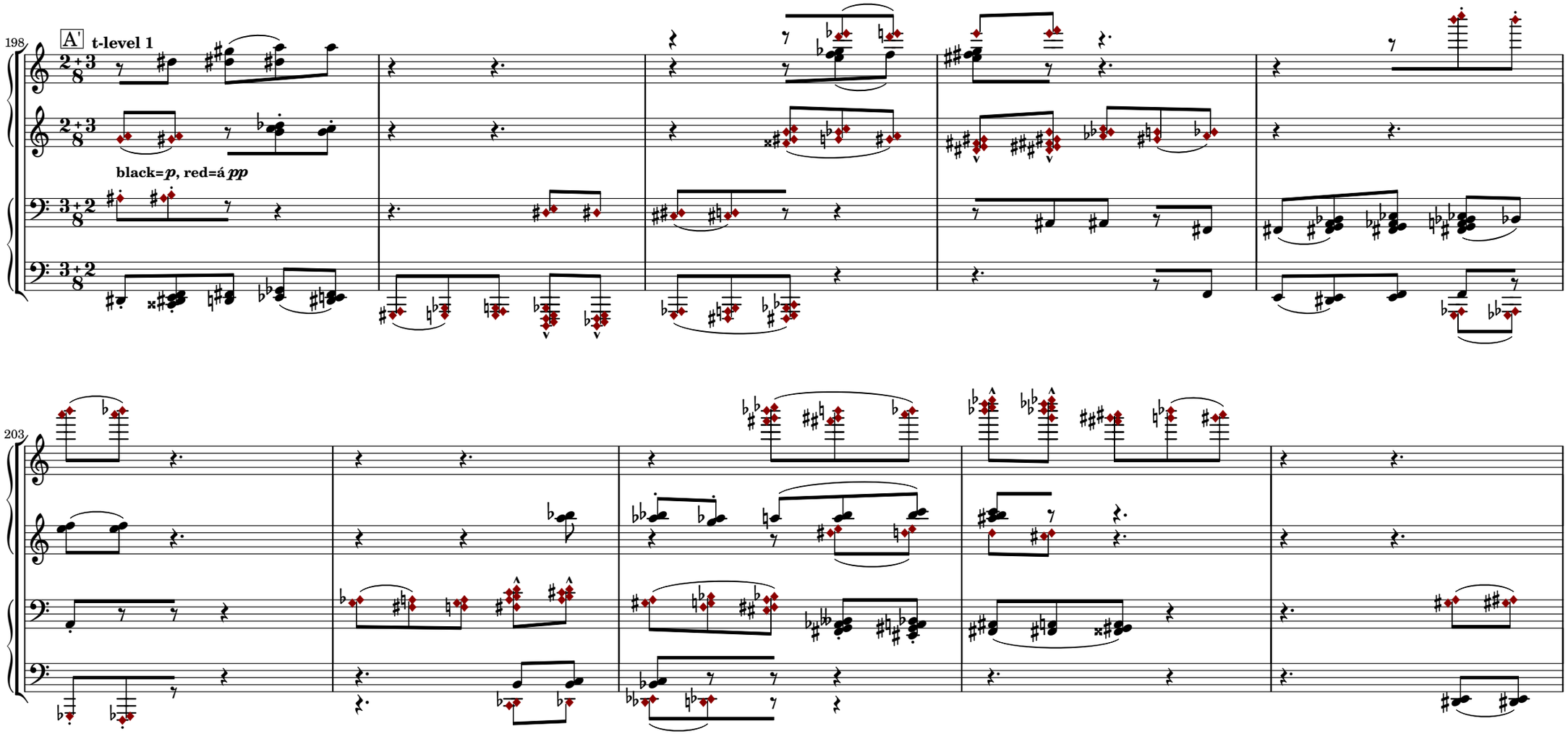
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A'
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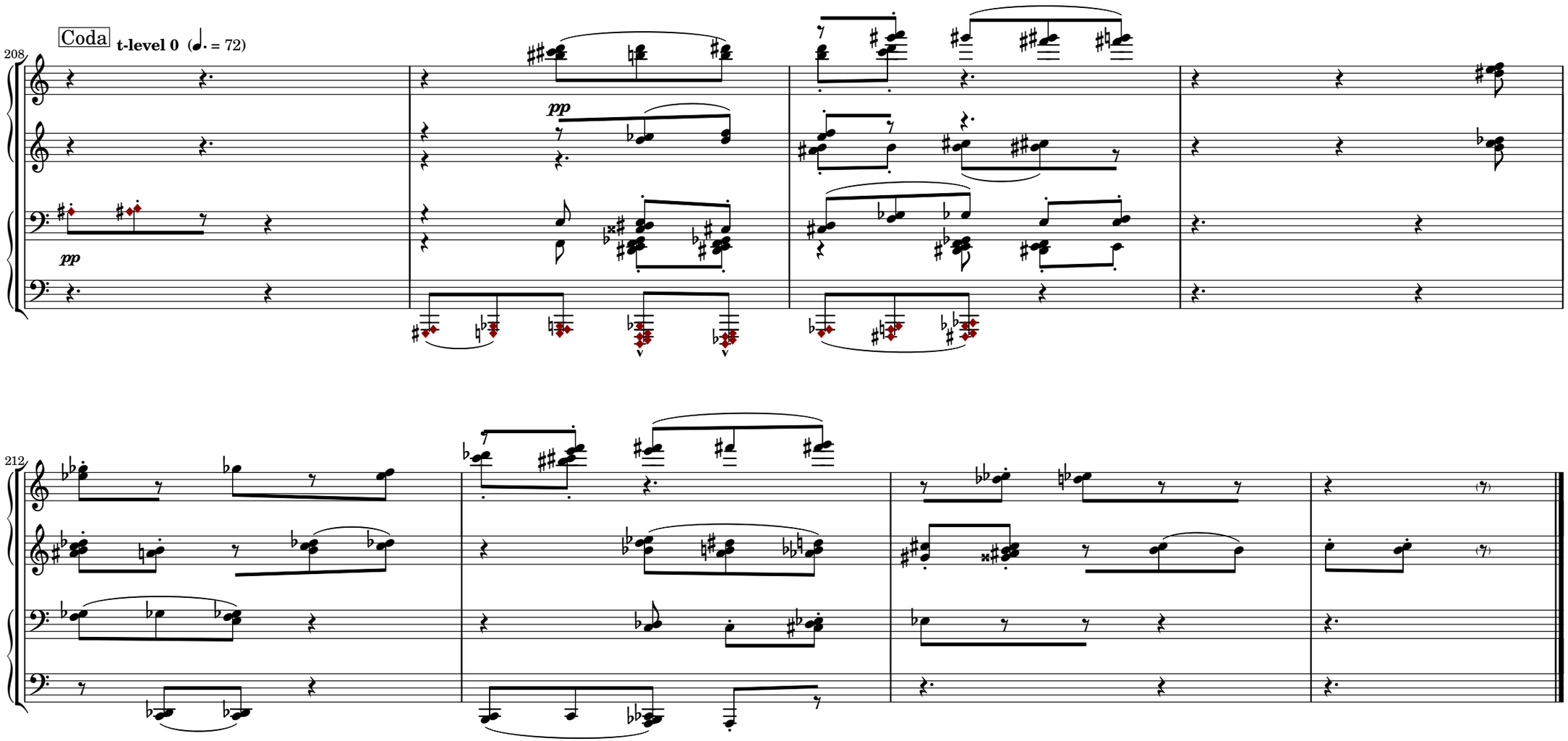
Coda
t-level 0
(𝅗𝅥. = 72)
208
pp
pp
212