Tessellations

for piano solo

Mark Gotham
2014

Tessellations

Toccata [012]
Fugue [01357]
Lament #1 [0148]
Toccata-Fugue [0268]
Lament #2 [0167]

A Note on the Piece

Tessellations is a collection of short piano studies each of which explores specific technical ideas including using a distinct pitch class set as the basis for each (given by the movements' subtitles). They are arranged in a suitable combination / order for performance as a set, though they may equally be played individually or in other configurations with each other and/or other short works.

Toccata [012] is furiously fast, and full of notes acrobatically scattered across the instrument, yet at its core it is based on the simple, chromatic scale. The melody is entirely composed of chromatic meanderings, grouped in three-note cells [012] and every harmony is also formed of this cell (indeed the division between melody and harmony is blurred). The piece is also grouped in 3s at every structural level. This is not remarkable at the formal level, but at the metrical level it is in stark contrast to the default practice of Western music in which grouping by 2s is the norm (it is rare to see even three levels of 3-grouping). The subtitle, ***Sierpiński's Triangle***, refers to a fractal tessellation pattern of triangles (similarly based on threes at every level). It is named after the Polish Mathematician Wacław Sierpiński who described it in 1915, though in fact it was well known to ancient civilisations too.

Fugue [01357] uses its pitch-class set as a mode – one which self-replicates at the perfect fifth rather than the octave. This means that a change in tessitura gives an impression of modulation in the same direction. The arch-like shape of the movement plays on this impression, and the harmony derives much of its interest from the abundant possibilities for false relations.

Lament [0148] cycles through nine simple presentations of the same chord: the pitch-set, usually in open position with two complementary trajectories for the outer voices which cross at the end. This is the most plaintive miniature in the set. An optional linking passage joins this movement to [0268].

Toccata-Fugue [0268] and **Lament [0167]** lend themselves to performance as a unit, particularly as a conclusion. [0268] sets two distinct forms of that set in opposition: the first section uses one form, the fugato middle section alternates the two, and the reprise of the first section sees this alternation continue and its rate accelerate into [0167].

The two forms of [0268] used involve just 8 of the 12 chromatic notes, leaving exactly one form of [0167] to saturate the full chromatic. The final movement employs only that chord, in one position and register. This is an exercise in articulation and dynamics only. The tension unwinds as hard accents become softened and a loud dynamics die away to silence.

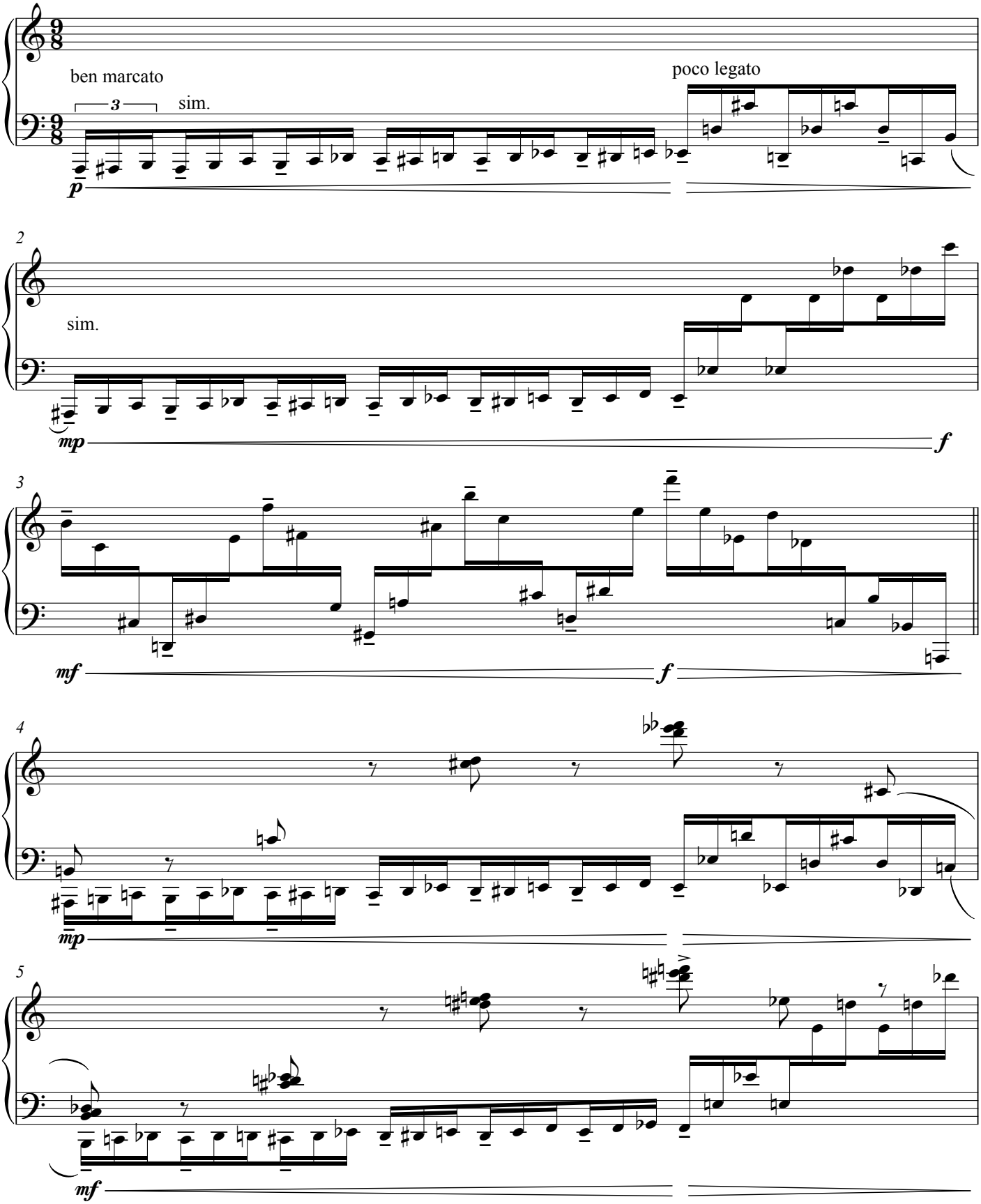
TESSELLATIONS

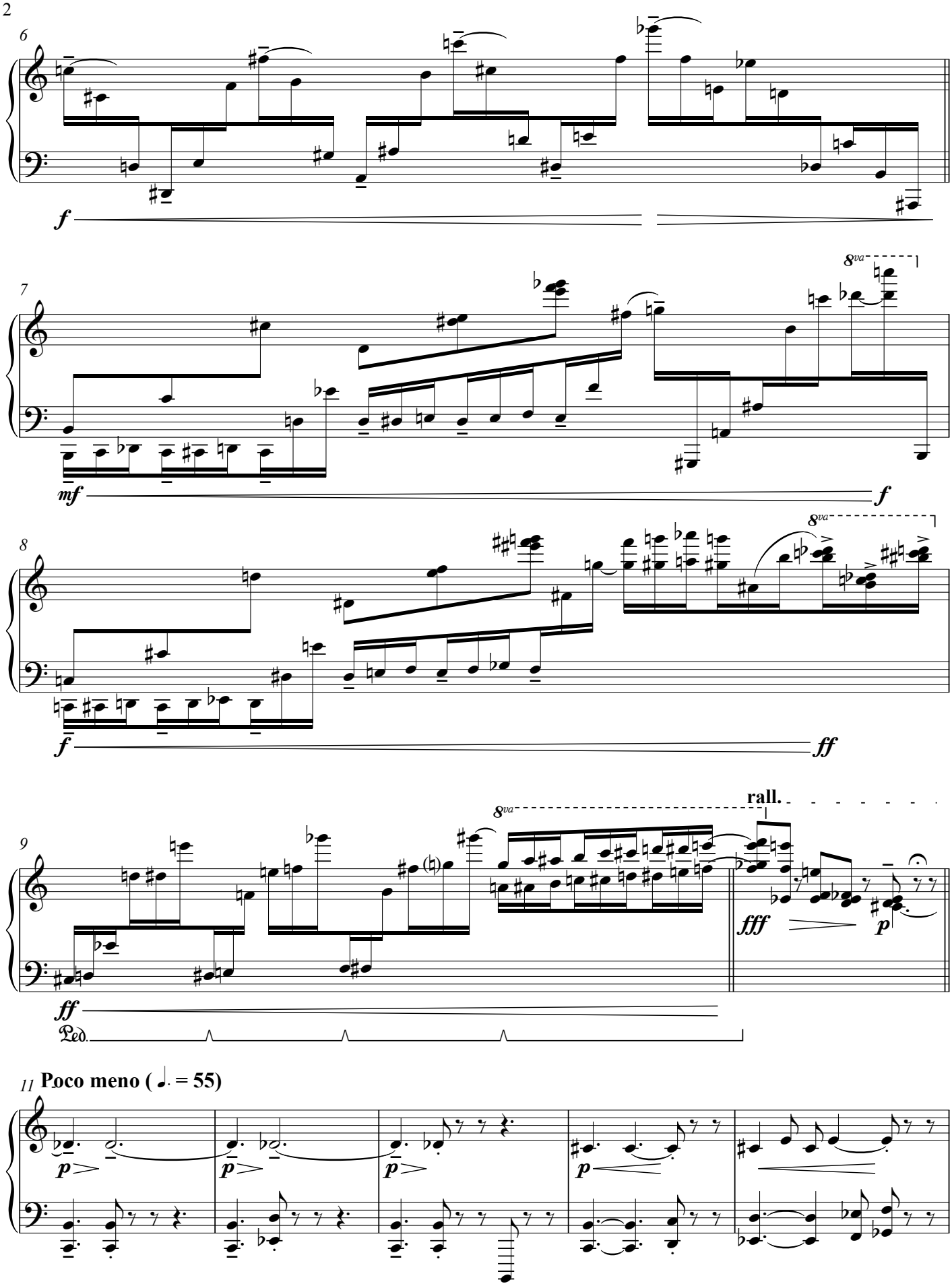
[012]

Sierpinski's Triangle

Mark Gotham

Prestissimo, ♩. = 66




6
f
7
8va
mf
f
8
8va
f
ff
9
8va
rall.
ff
fff
p
Ped.
11 Poco meno (♩. = 55)
p
p
p
p

Poco più mosso

16

(short)

ff subito

21

27

Meno mosso

Ancora meno mosso

Tempo primo, ♩. = 66

31

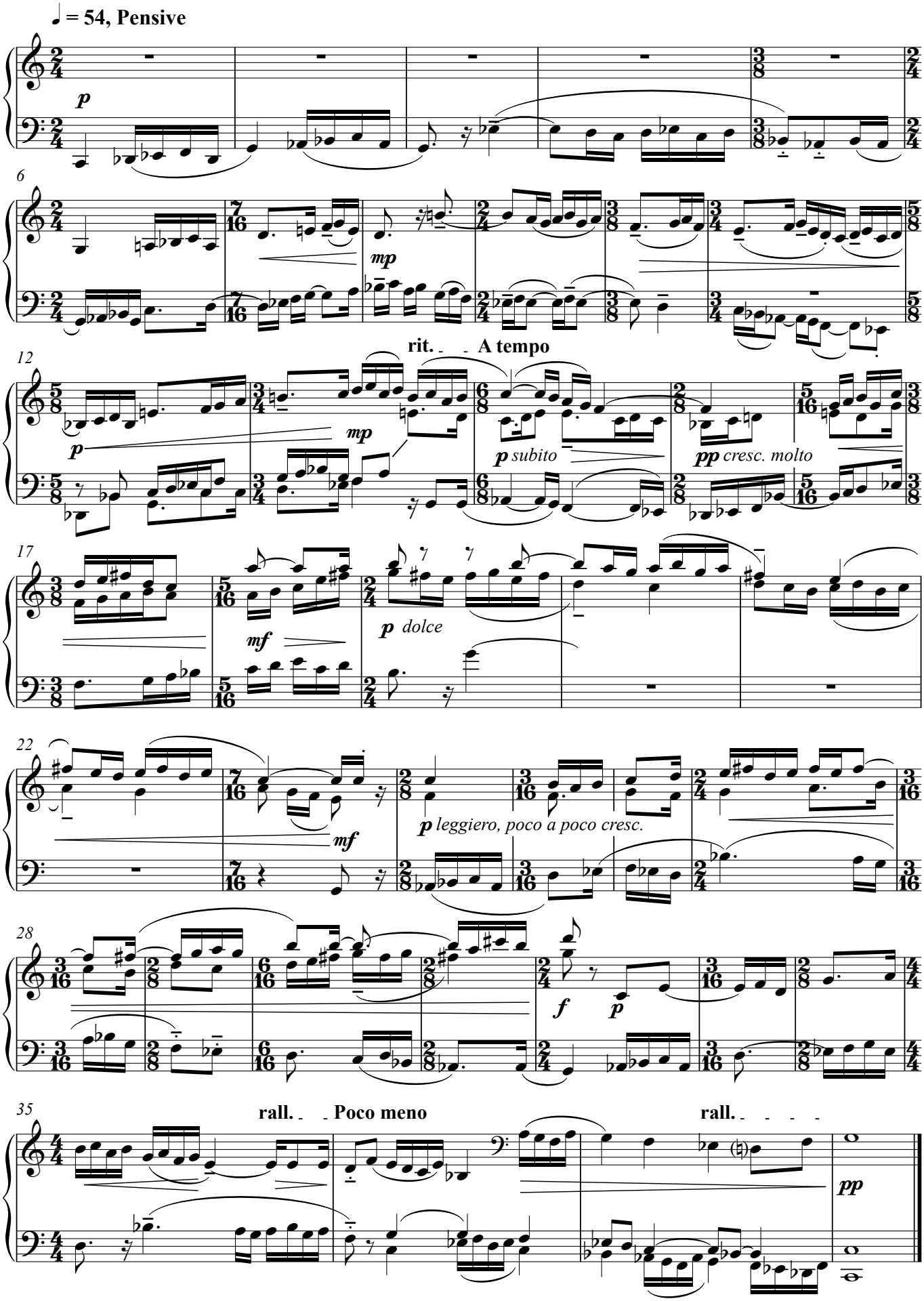
33

34

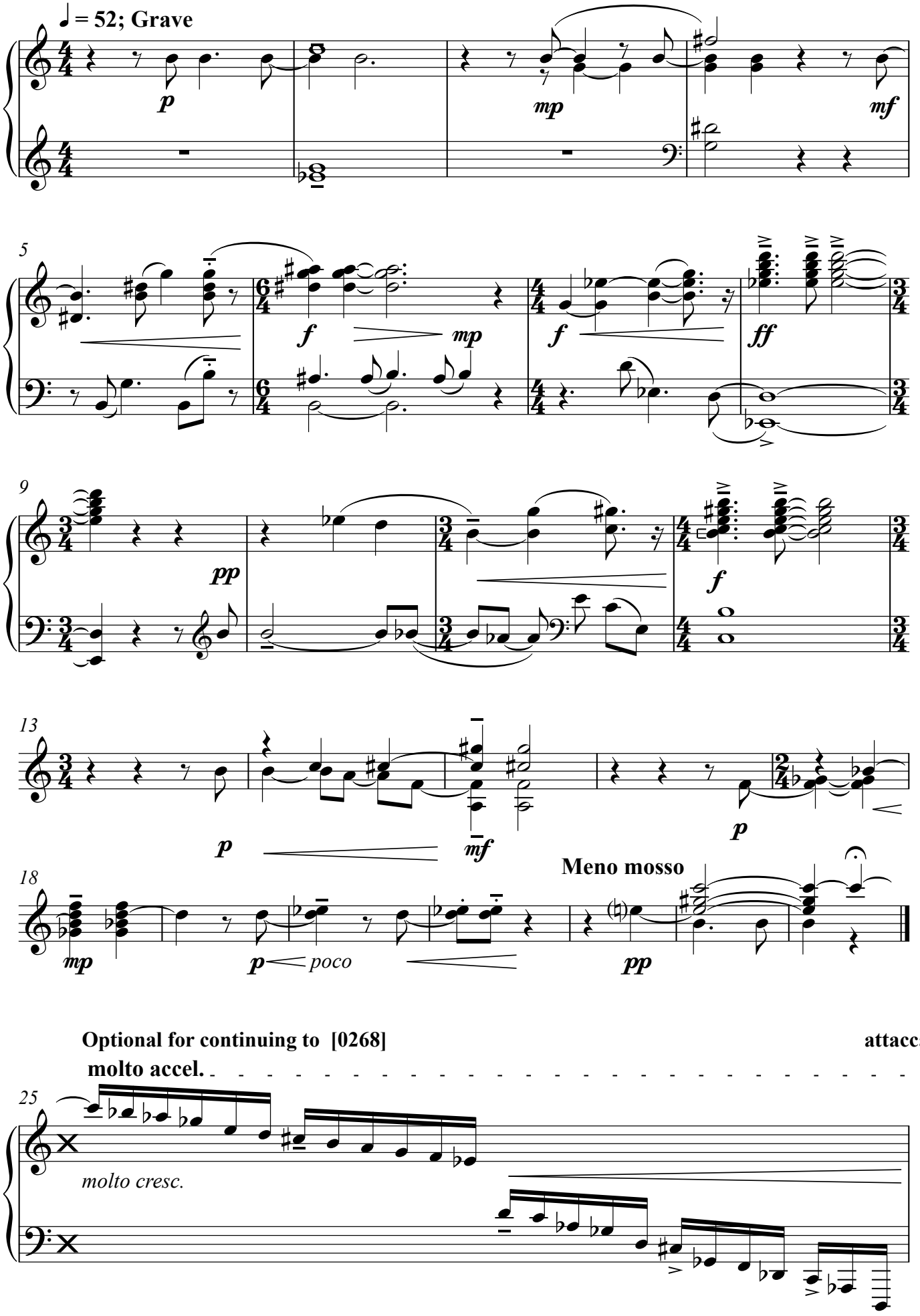
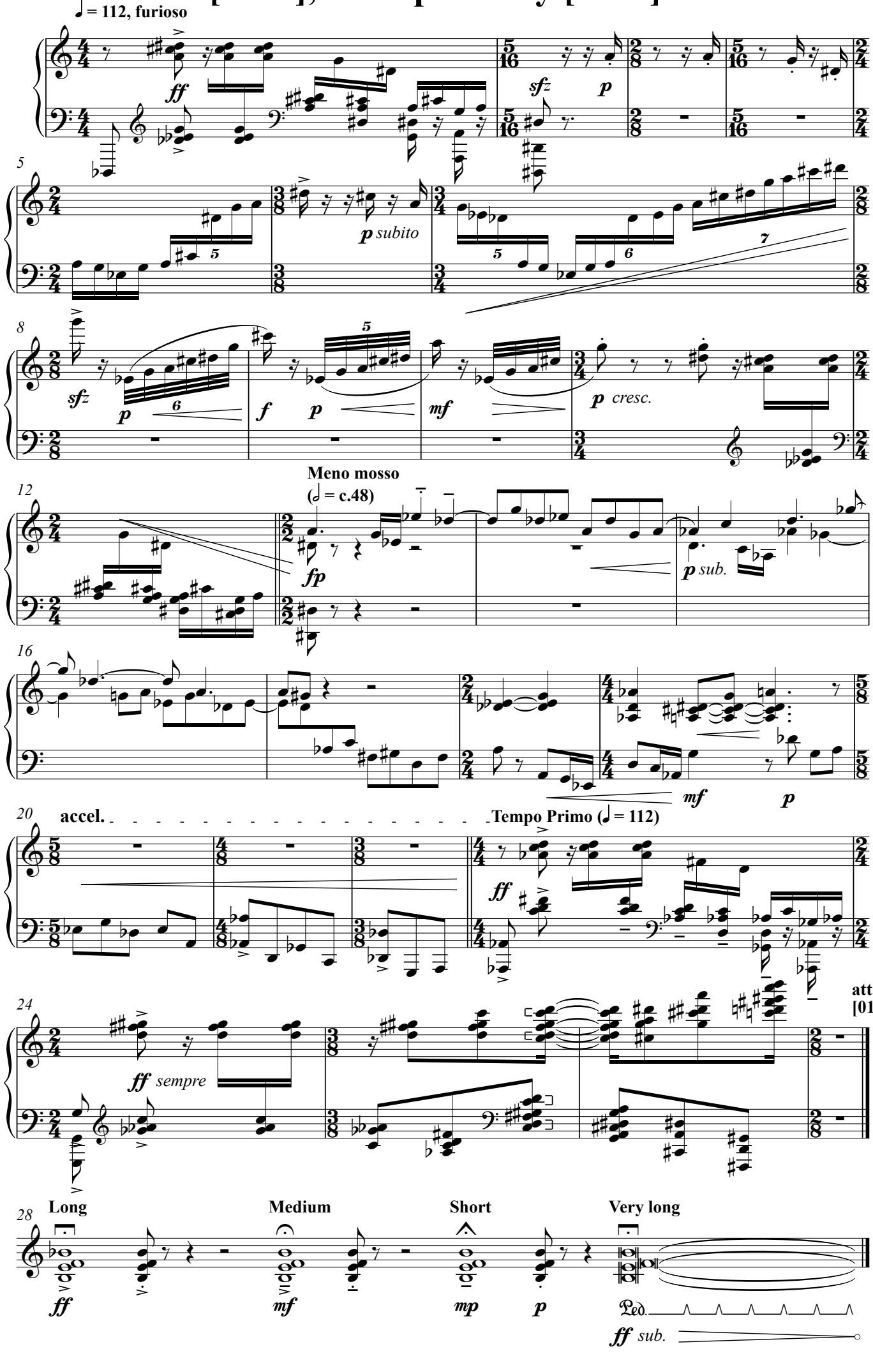
(time)

With the fist
(ad lib.)

[0135]


♩ = 54, Pensive
p
6
mp
rit.
A tempo
12
p
mp
p subito
pp cresc. molto
17
mf
p dolce
22
mf
p leggiero, poco a poco cresc.
28
f
p
35
rall.
Poco meno
rall.
pp

[0148]


♩ = 52; Grave
p
mp
mf
5
f
mp
f
ff
9
pp
f
13
p
mf
p
18
mp
p poco
Meno mosso
pp
Optional for continuing to [0268]
attacca
molto accel.
25
molto cresc.

[0268], and optionally [0167]