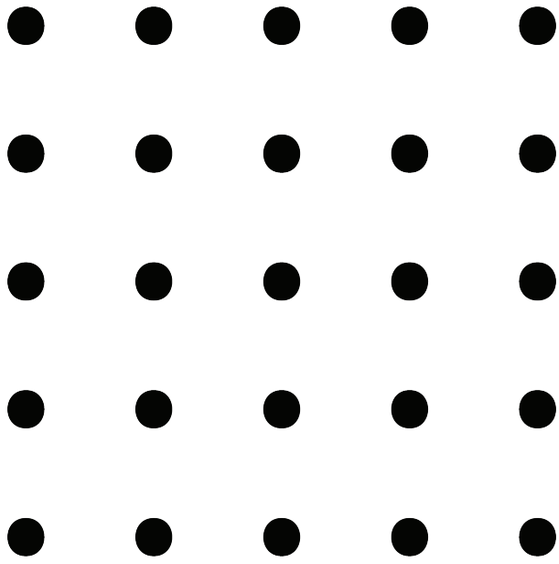
DRONE GARDEN

**FOR 25 STRING MUSICIANS, A MOBILE AUDIENCE,
AND A VERY LARGE ROOM**



Composition and programming by Justin Wright, 2020

GENERAL PERFORMANCE NOTES

NOTE: This score is adapted for my 2020 Princeton application to cover only the third movement, and the legend and performance notes are shortened to reflect this. The score was used to record the individual parts that are featured in the computer program and VR experience.

Drone Garden is an immersive piece for 25 string musicians spread out in a large simulated room created with Unreal Engine. While it was written for a pre-recorded virtual-reality experience, it can also be performed live with click tracks fed to the performers through headphones. Through simulated audio spatialization, a listener's relative proximity to each audio source determines how the aggregate of the parts is perceived, creating a unique experience on every listen.

Consisting three movements that cycle indefinitely, *Drone Garden* is an exploratory proof-of-concept piece that examines the creative possibilities of the sptialized virtual environment. In the third movement, the time signature and click track are meant only as a time reference. Players should vary their parts expressively as individuals, rather than aiming for tight coordination, even with the parts that are doubled. The movement is intended to be a landscape of complementary individual expressions rather than an ensemble acting as a single instrument.

Notes for players:
-No vibrato unless specified.
-For all instruments other than cello and contrabass, tremolo notes are not played in time, and are to be approximately divided according to the number of lines.
-Glissandos should span the entire note preceding the line. Long notes are divided with a tie to indicate this length.
-All performers follow a pre-recorded click track that begins at 120 bpm. From bars 82 to 146, it increases to 152 bpm, where it remains until the end of the movement.

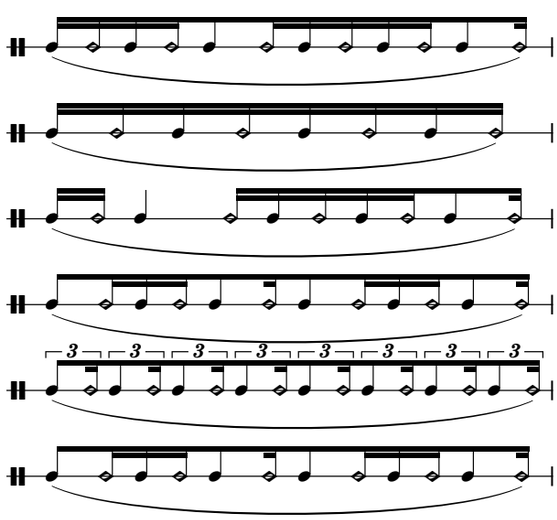
Drone Garden was also intended as a framework for future compositions and a new means of distributing music. Other composers are encouraged to download the Unreal file to place their own compositions into the virtual performance space.

This project was developed with generous support from the PHI Centre and the Canada Council for the Arts.

NOTES FOR CELLOS

Suggested patterns for long notes

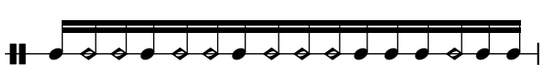
Long cello notes should be played by quickly alternating between a note and its harmonic by simply lifting the left-hand finger slightly. These are suggested rhythmic patterns, based loosely on super-imposed Euclidean note divisions. Performers should become familiar with these rhythms until they are intuitive, and should randomly shuffle through the set of patterns by fluently repeating, truncating, and modifying them as they wish, with bias toward the first pattern listed.



Any transitional harmonics or overtones are encouraged. To achieve this, a performer may want to either lift their left-hand finger more than a harmonic normally requires, or vary their bow position relative to the bridge.

Performers should tune a note to its harmonic, not to the other performers. The time signature and click track are meant only as a time reference. Players should vary their parts expressively as individuals, rather than aiming for tight coordination between all players, even with the parts that are doubled.

Example division of “tremolo” notes



When cello notes are marked as tremolo, the player should alternate quickly and semi-randomly between the note and its harmonic. Doubling or tripling notes is encouraged, as shown in the example rhythm above. Cello notes marked as tremolo should always be divided into 16th notes.

PLAYER POSITIONS

Players should be arranged in the following grid, with approximately 3 meters between each musician:

Cello 4	Viola 1	Violin 1	Viola 2	Cello 2
Violin 3	Cello 3	Viola 8	Cello 3	Violin 5
Viola 5	Violin 8	Cello 3/ Contrabass	Violin 7	Viola 6
Violin 6	Cello 5	Viola 7	Cello 1	Violin 4
Cello 2	Viola 3	Violin 2	Viola 4	Cello 4

LEGEND

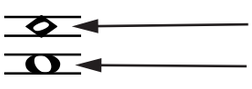
Fade to/from silence

Instant attack/decay: instantly go from silence to desired volume, or vice/versa, similar to the attack of an organ note

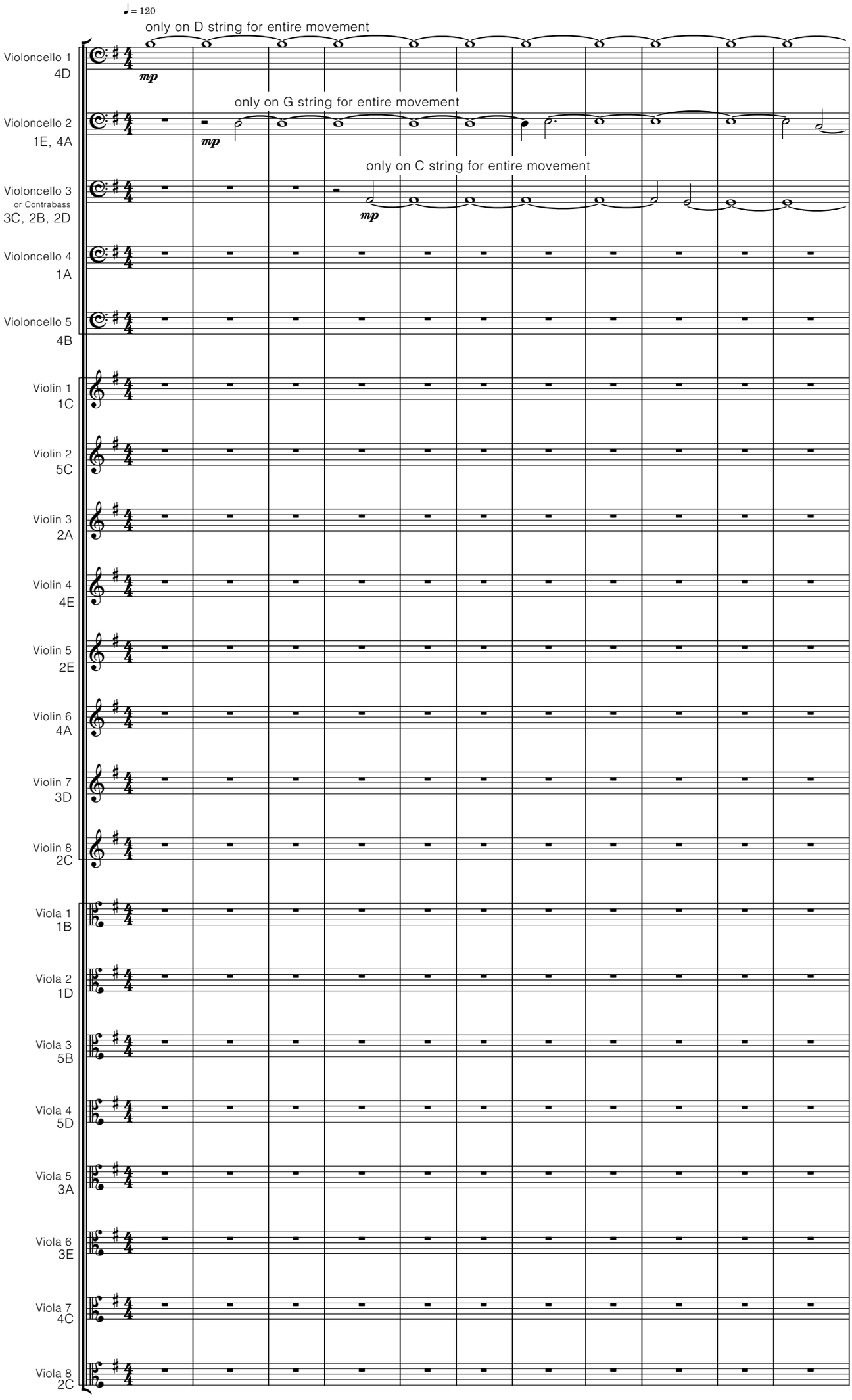
I - IV

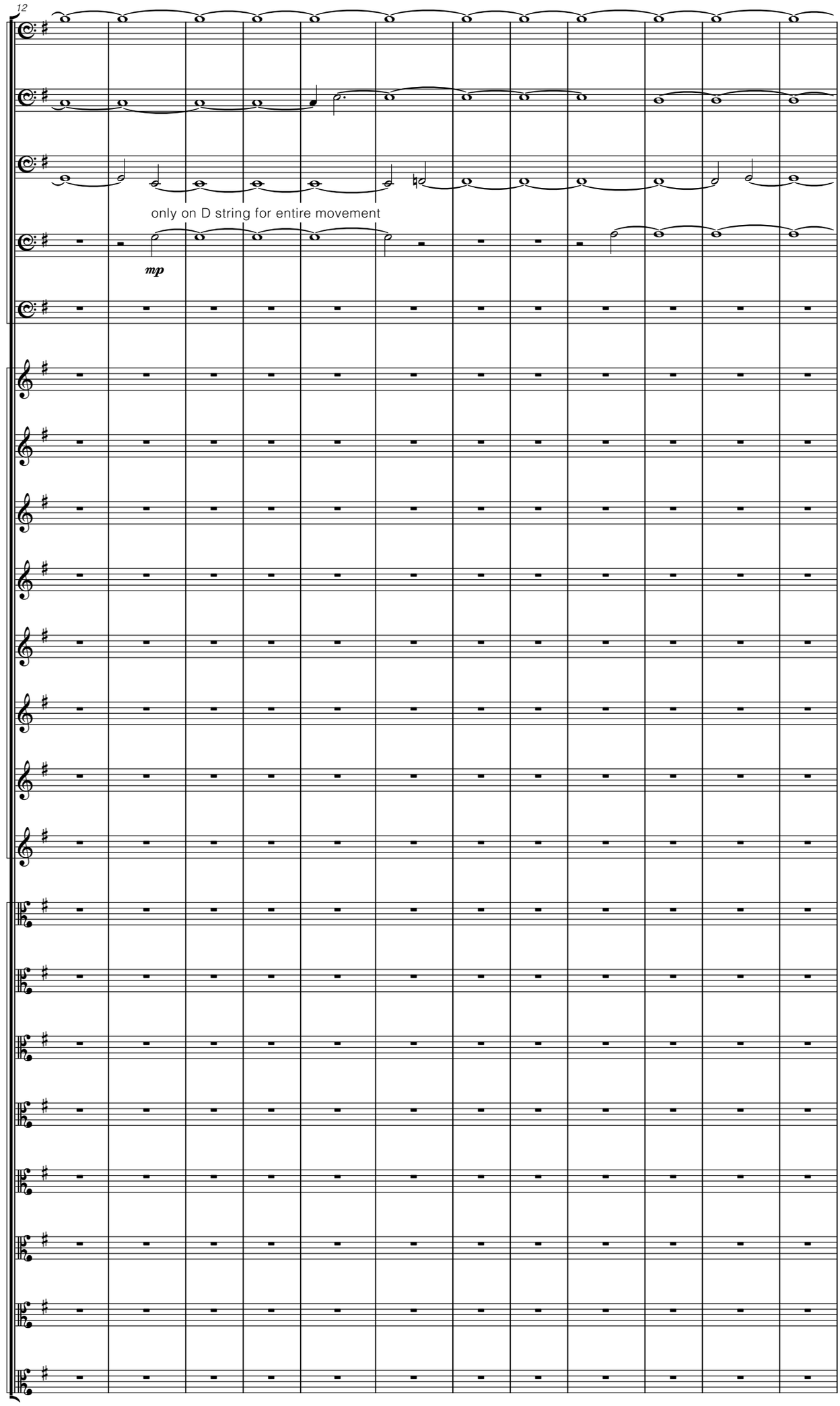
String indicator

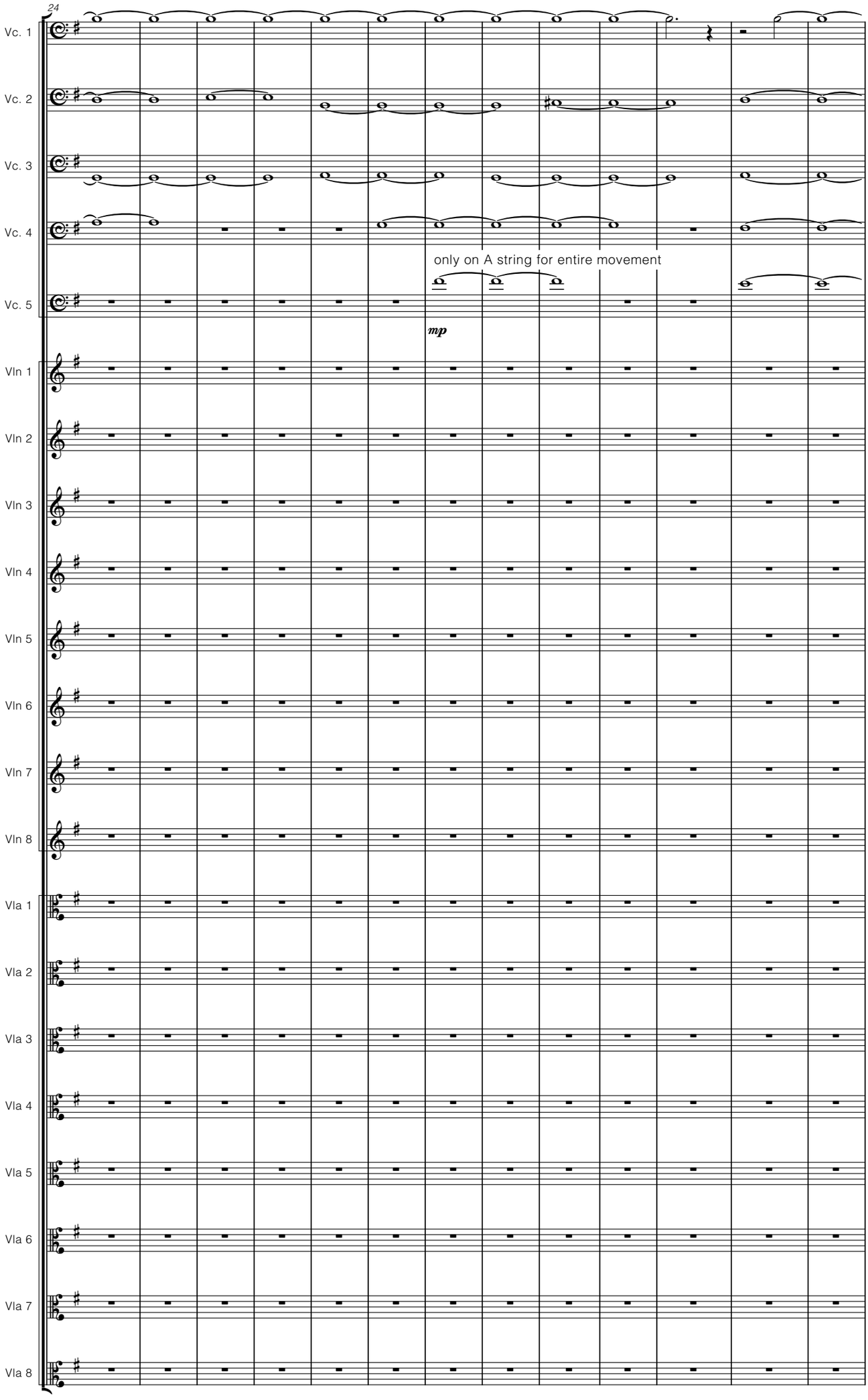
Artificial Harmonics

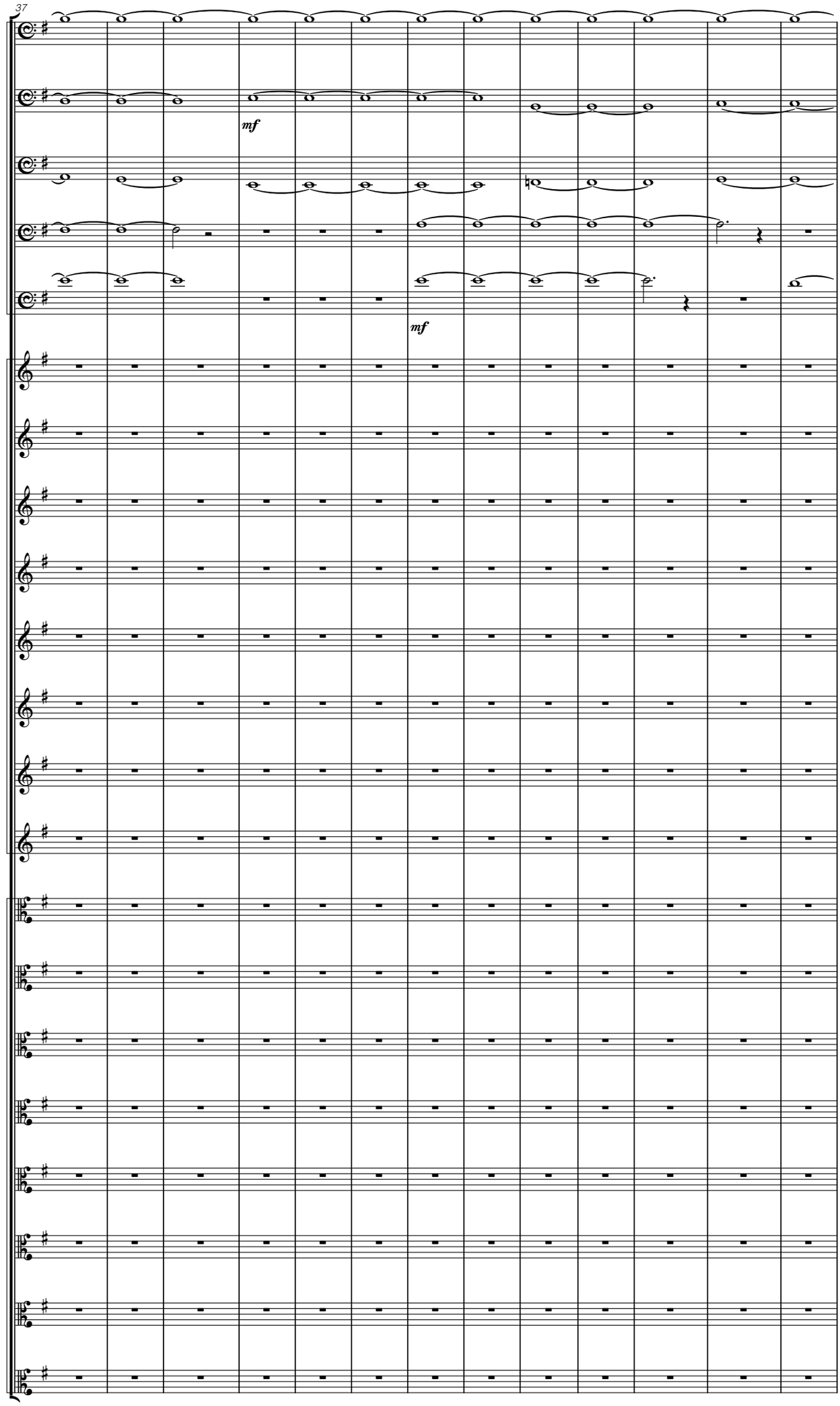


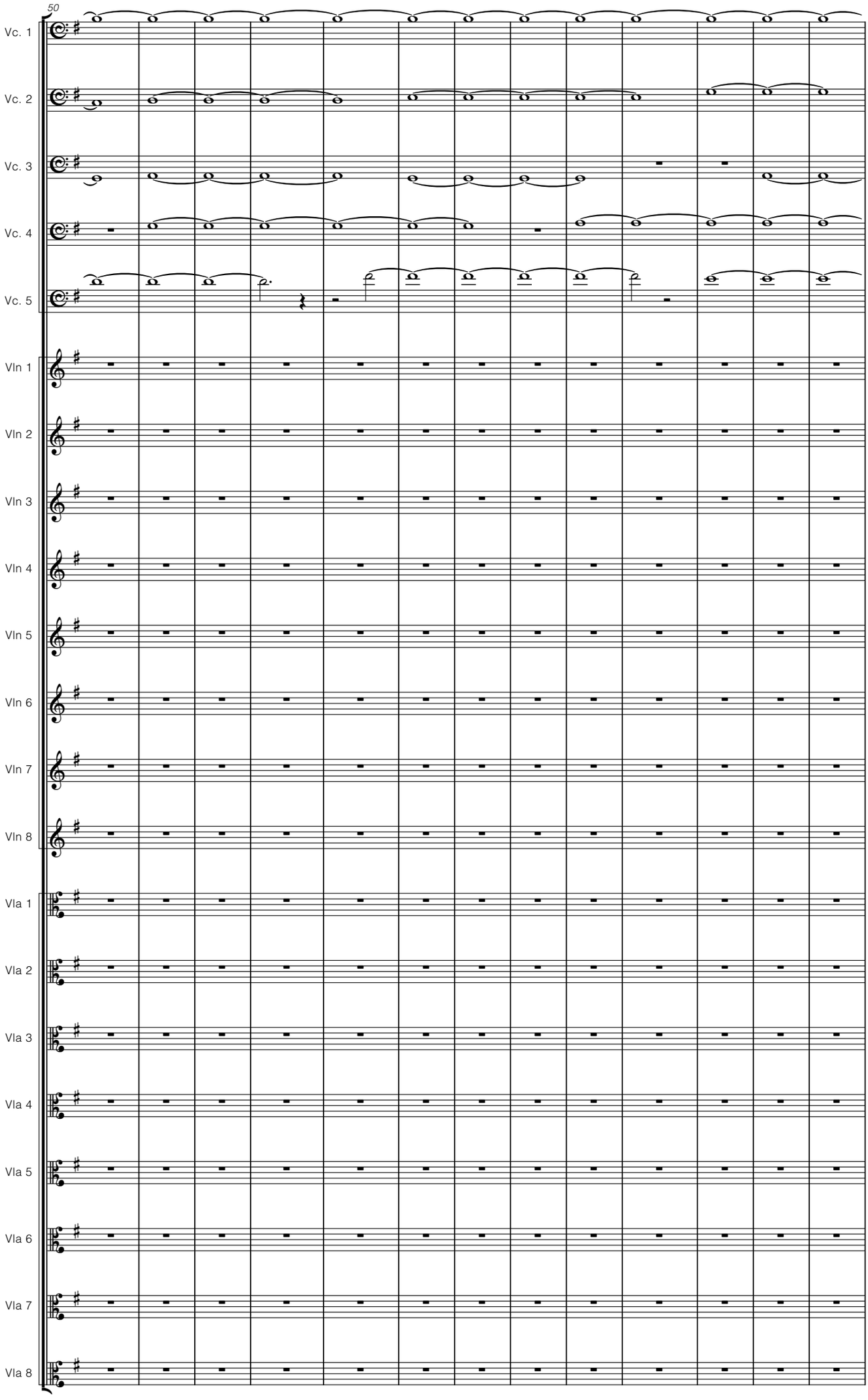
Atonal Slides

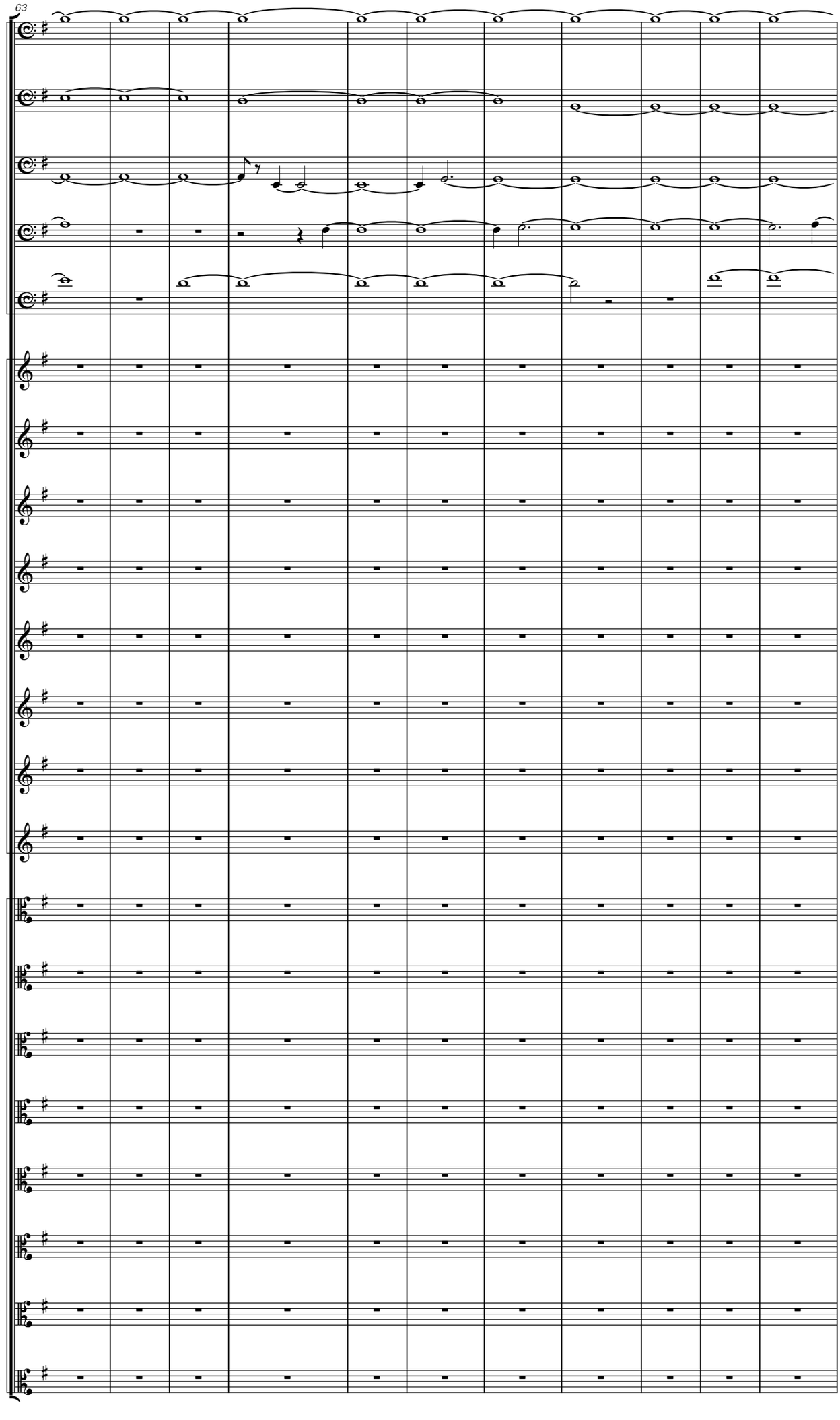

♩ = 120
only on D string for entire movement
mp
only on G string for entire movement
mp
only on C string for entire movement
mp
Violoncello 1
4D
Violoncello 2
1E, 4A
Violoncello 3
or Contrabass
3C, 2B, 2D
Violoncello 4
1A
Violoncello 5
4B
Violin 1
1C
Violin 2
5C
Violin 3
2A
Violin 4
4E
Violin 5
2E
Violin 6
4A
Violin 7
3D
Violin 8
2C
Viola 1
1B
Viola 2
1D
Viola 3
5B
Viola 4
5D
Viola 5
3A
Viola 6
3E
Viola 7
4C
Viola 8
2C

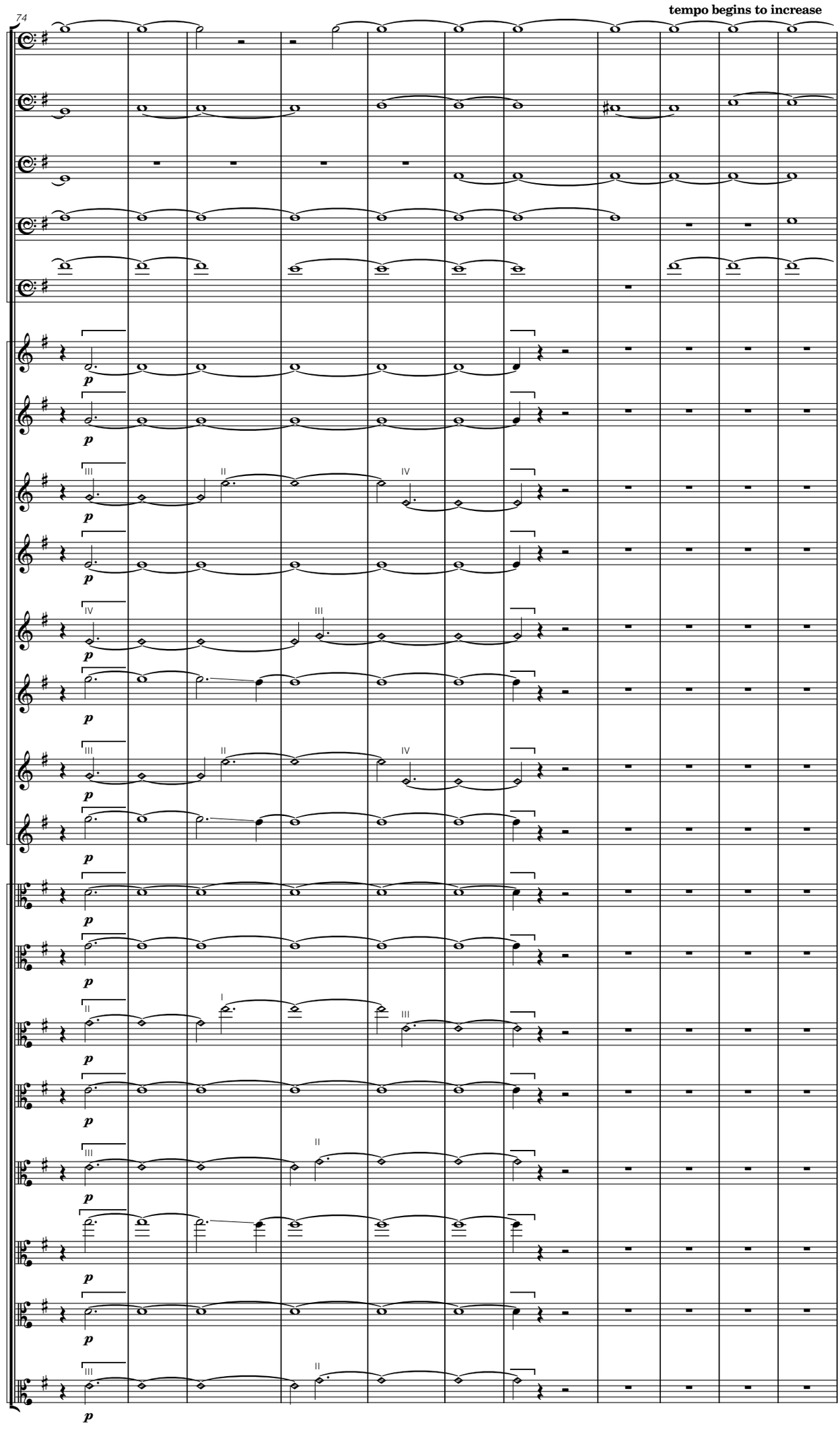

12
Vc. 1
Vc. 2
Vc. 3
only on D string for entire movement
Vc. 4
mp
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

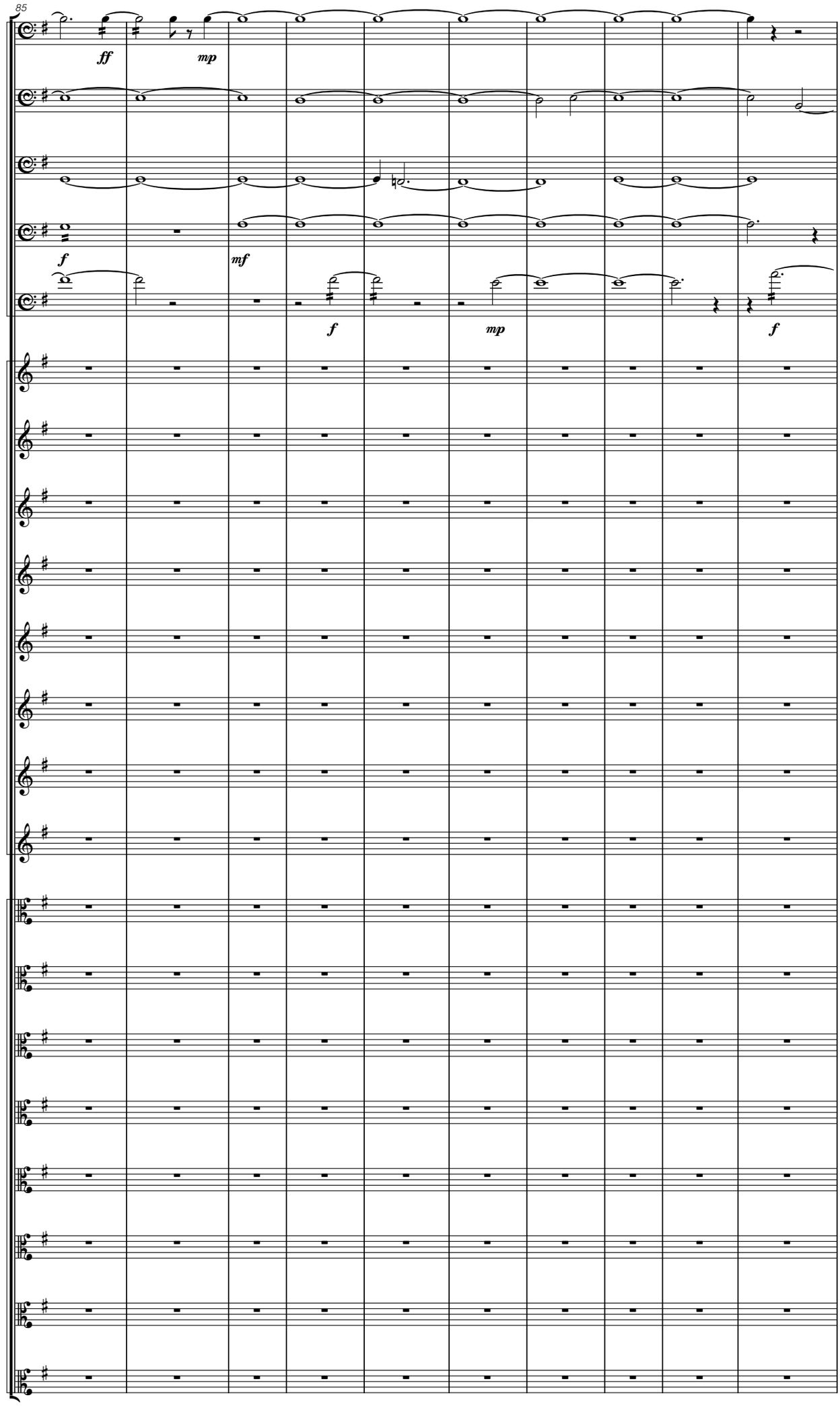

24
Vc. 1
Vc. 2
Vc. 3
Vc. 4
only on A string for entire movement
Vc. 5
mp
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

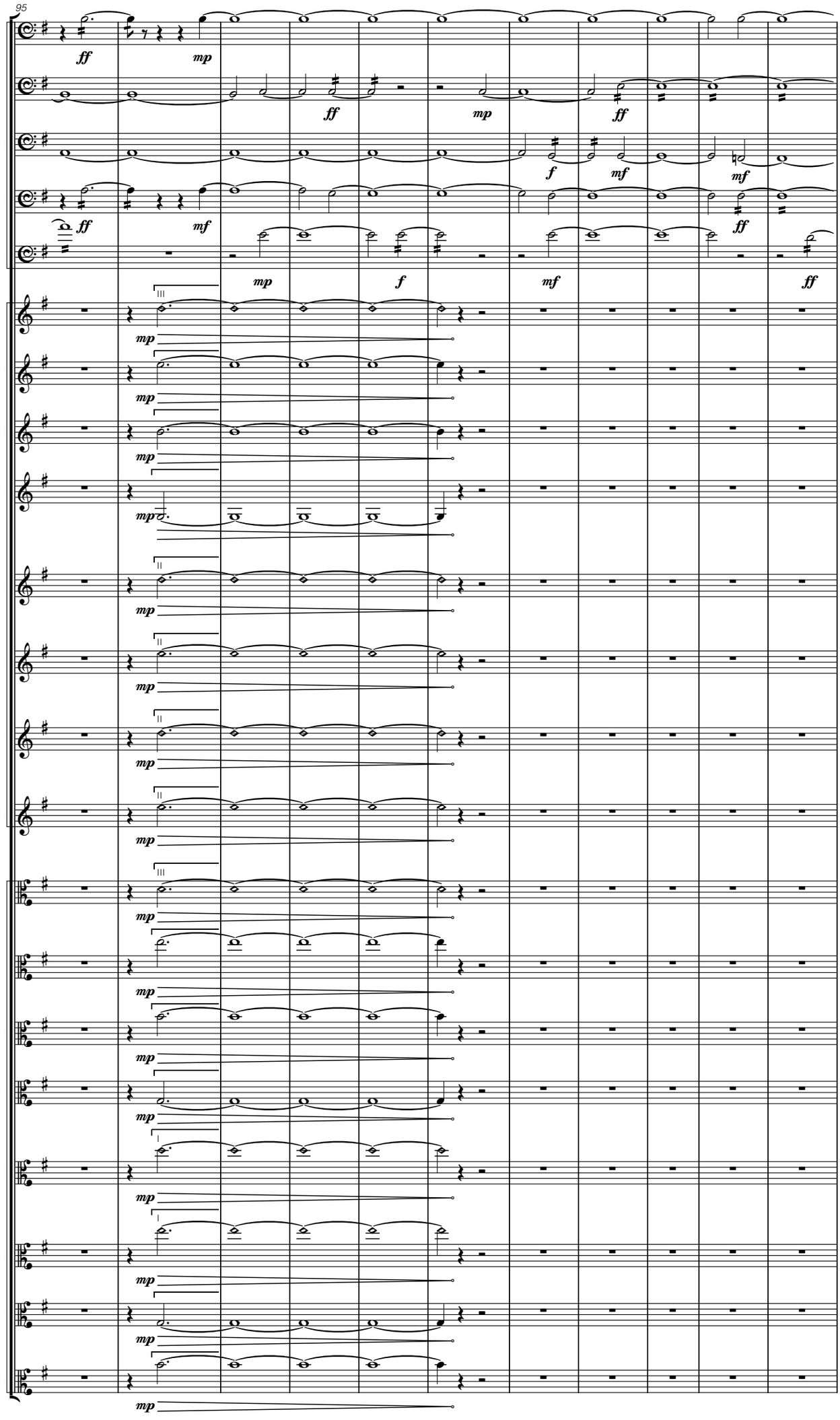

37
Vc. 1
Vc. 2
mf
Vc. 3
Vc. 4
Vc. 5
mf
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

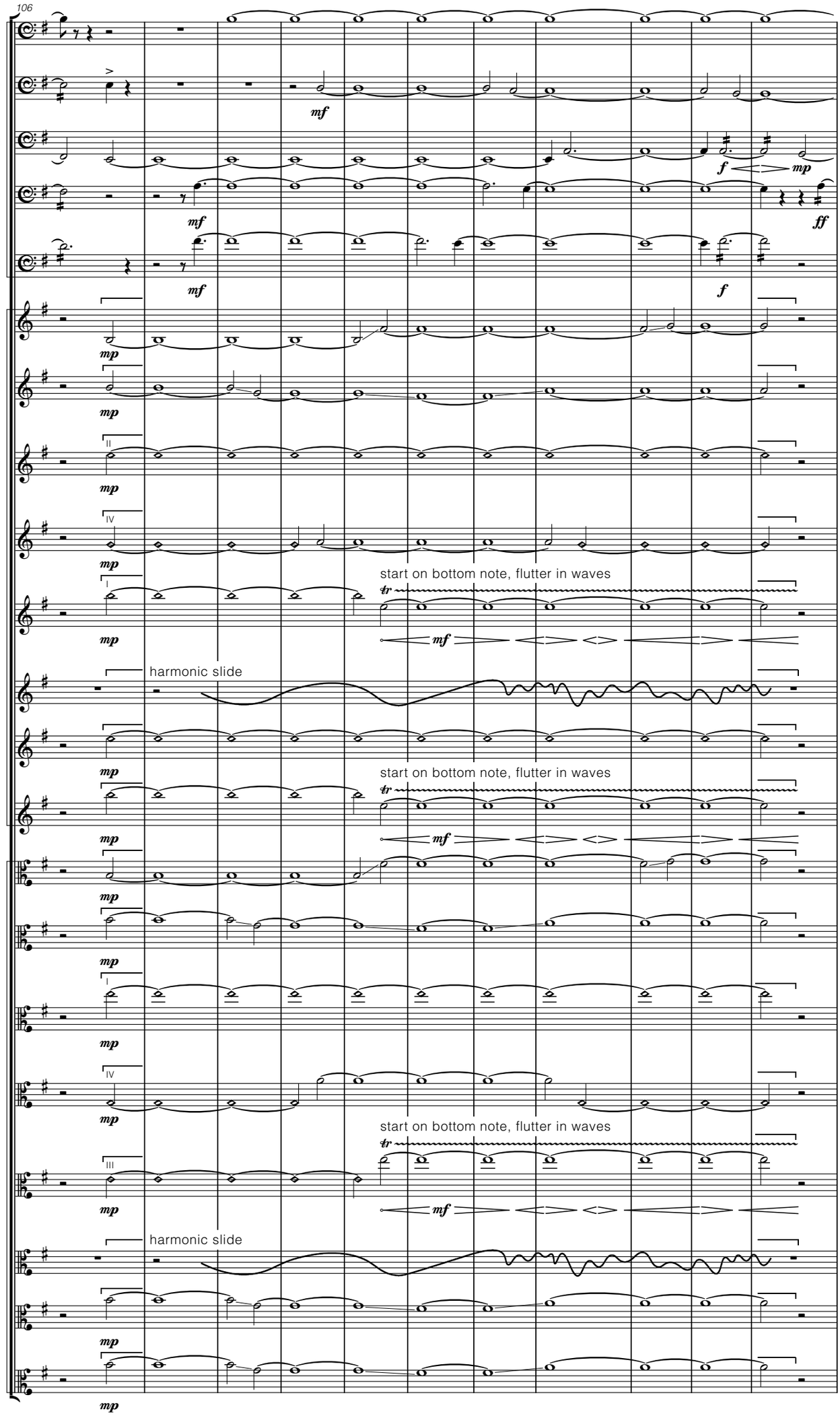

50
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

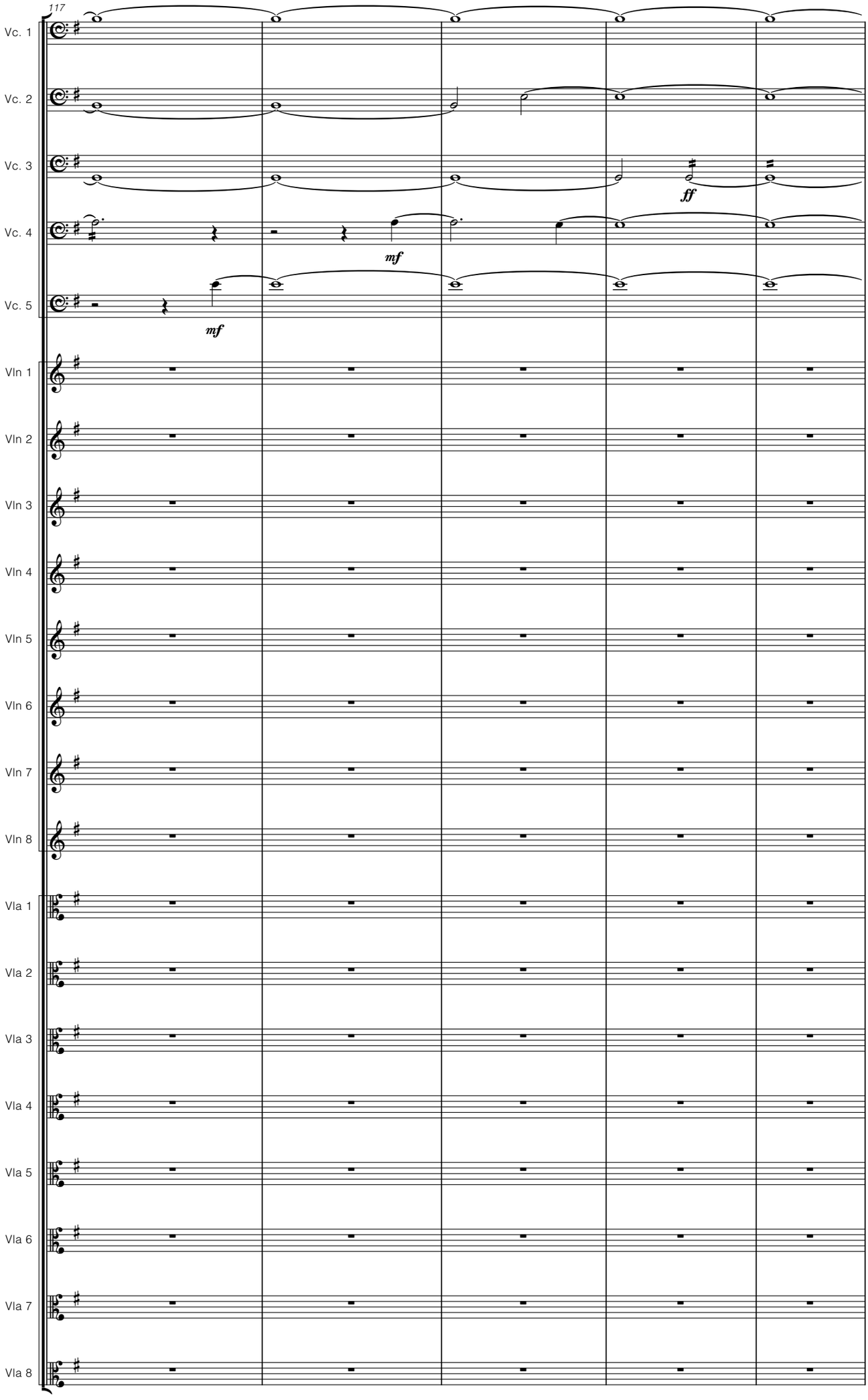

63
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

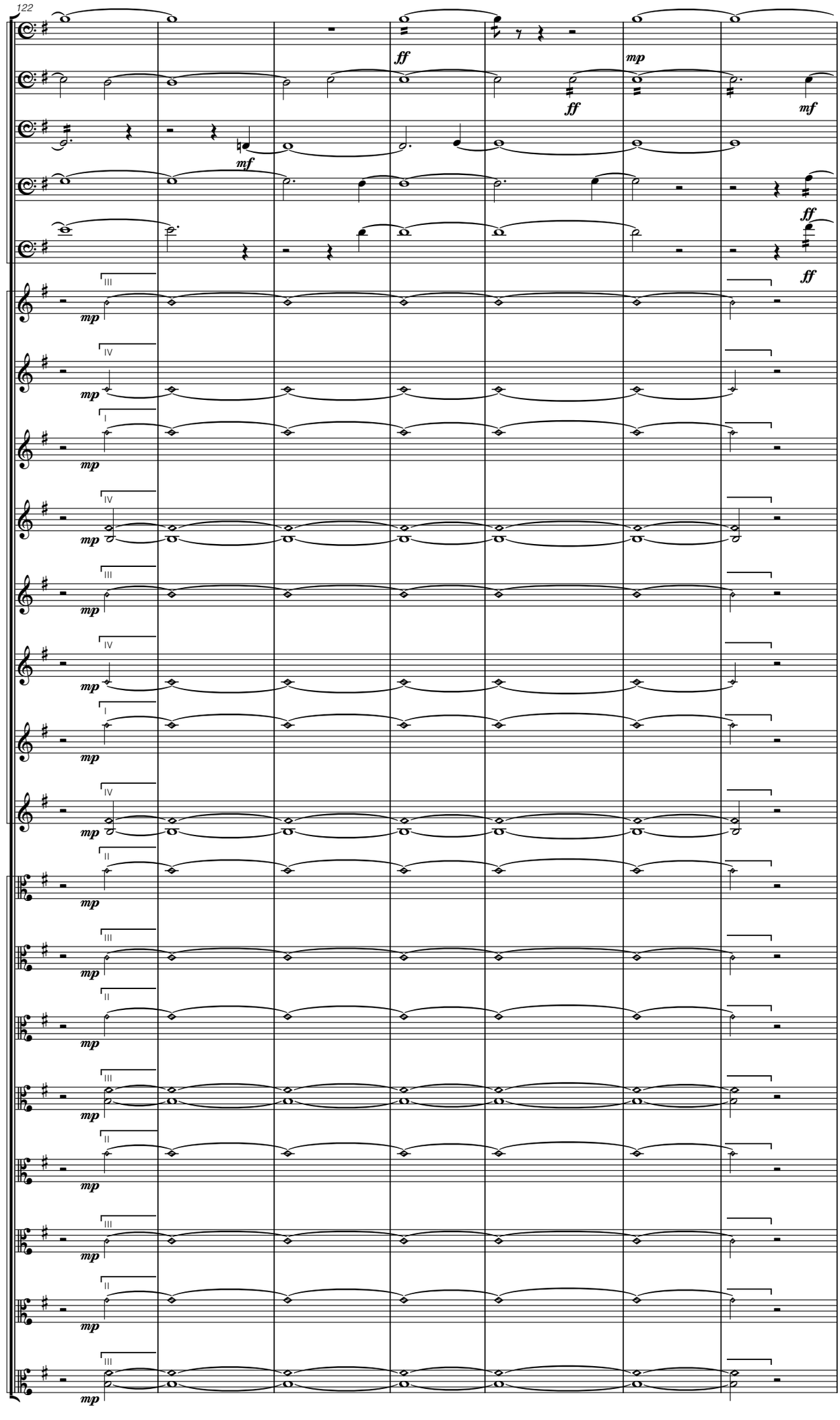

74
tempo begins to increase
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
p

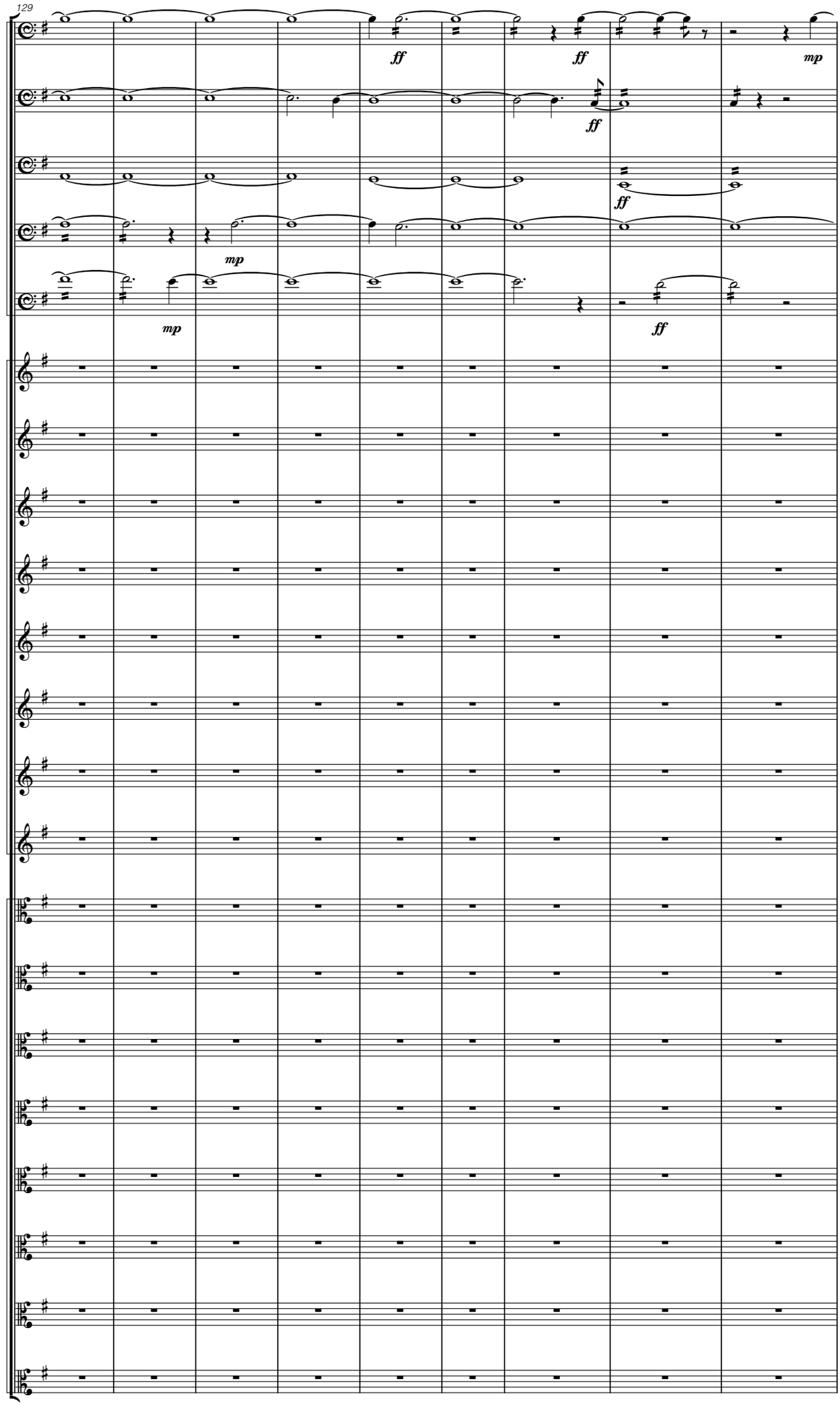

85
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
ff
mp
f
mf
f
mp
f

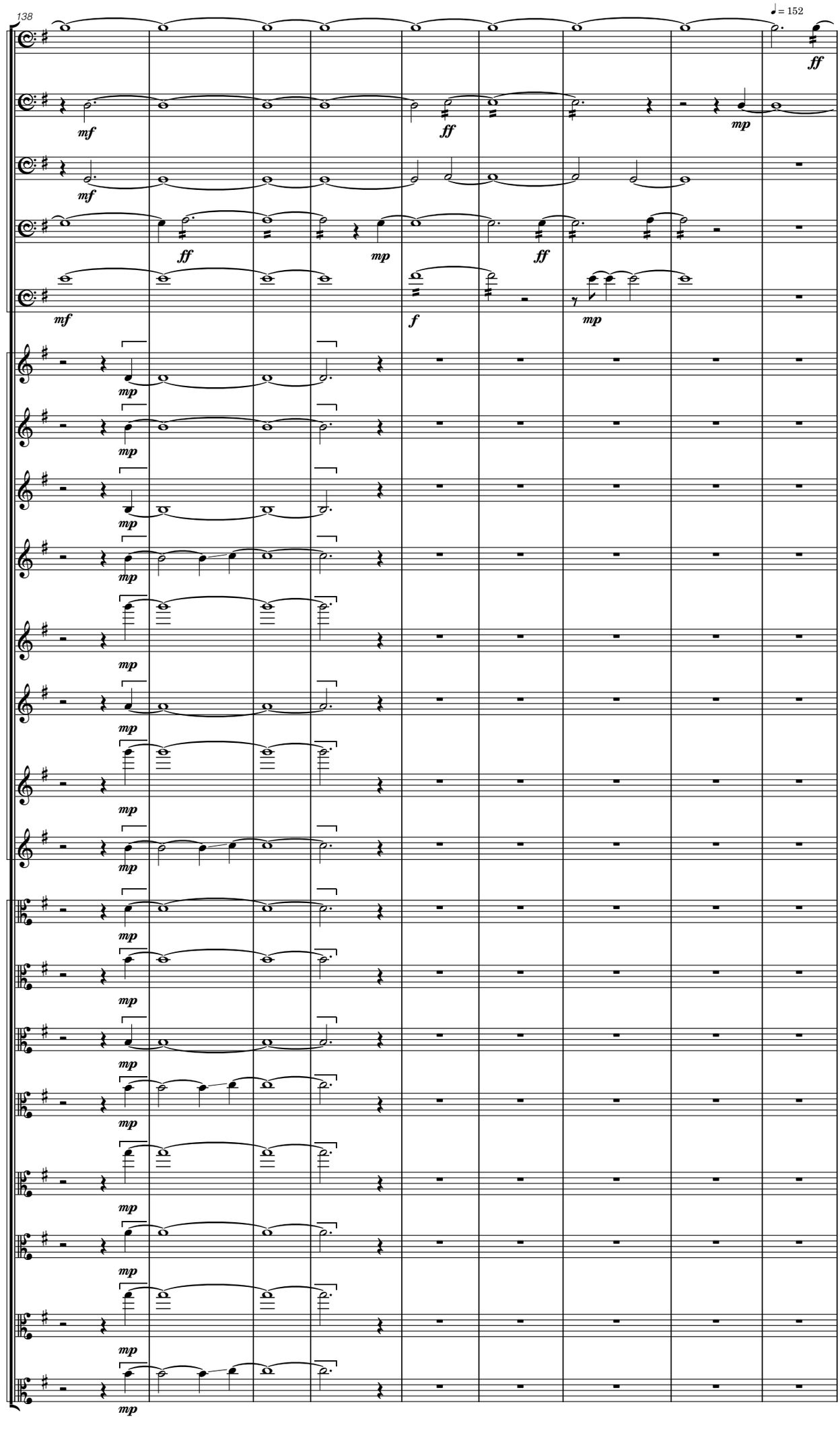

95
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

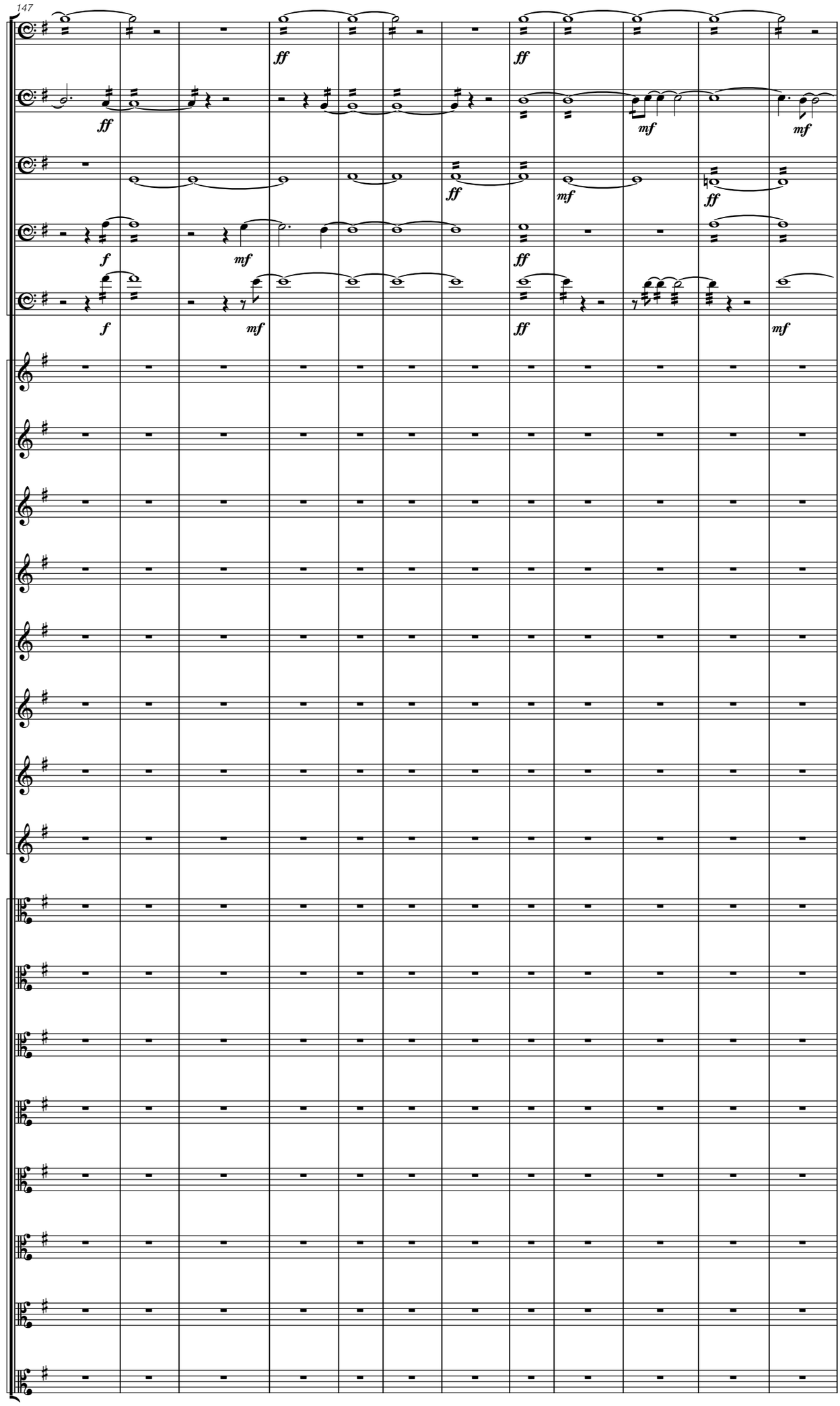

106
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
mf
mp
f
ff
tr
start on bottom note, flutter in waves
harmonic slide

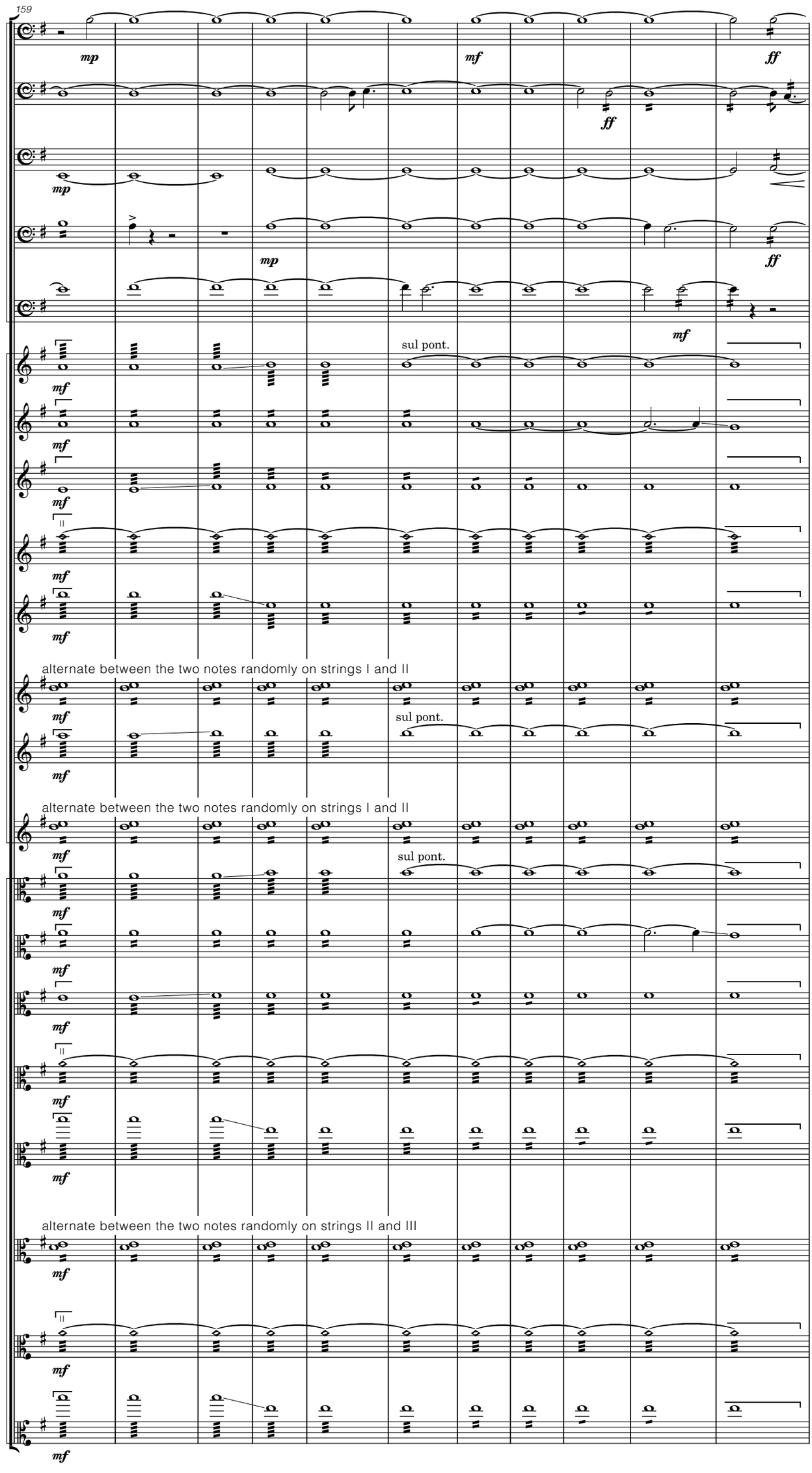

117
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
mf
mf
ff

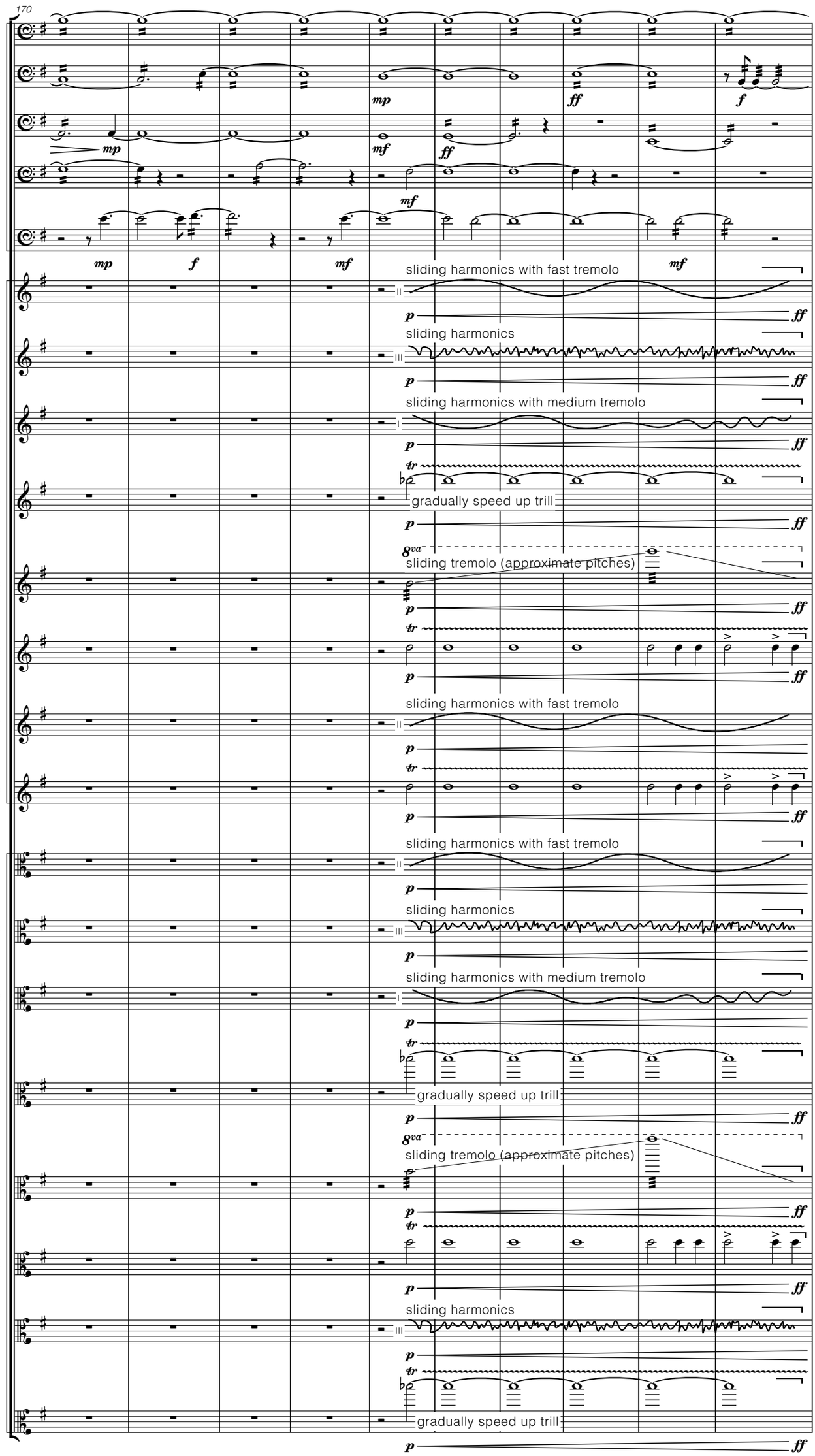

122
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
ff
mp
ff
mf
mf
ff
ff
mp

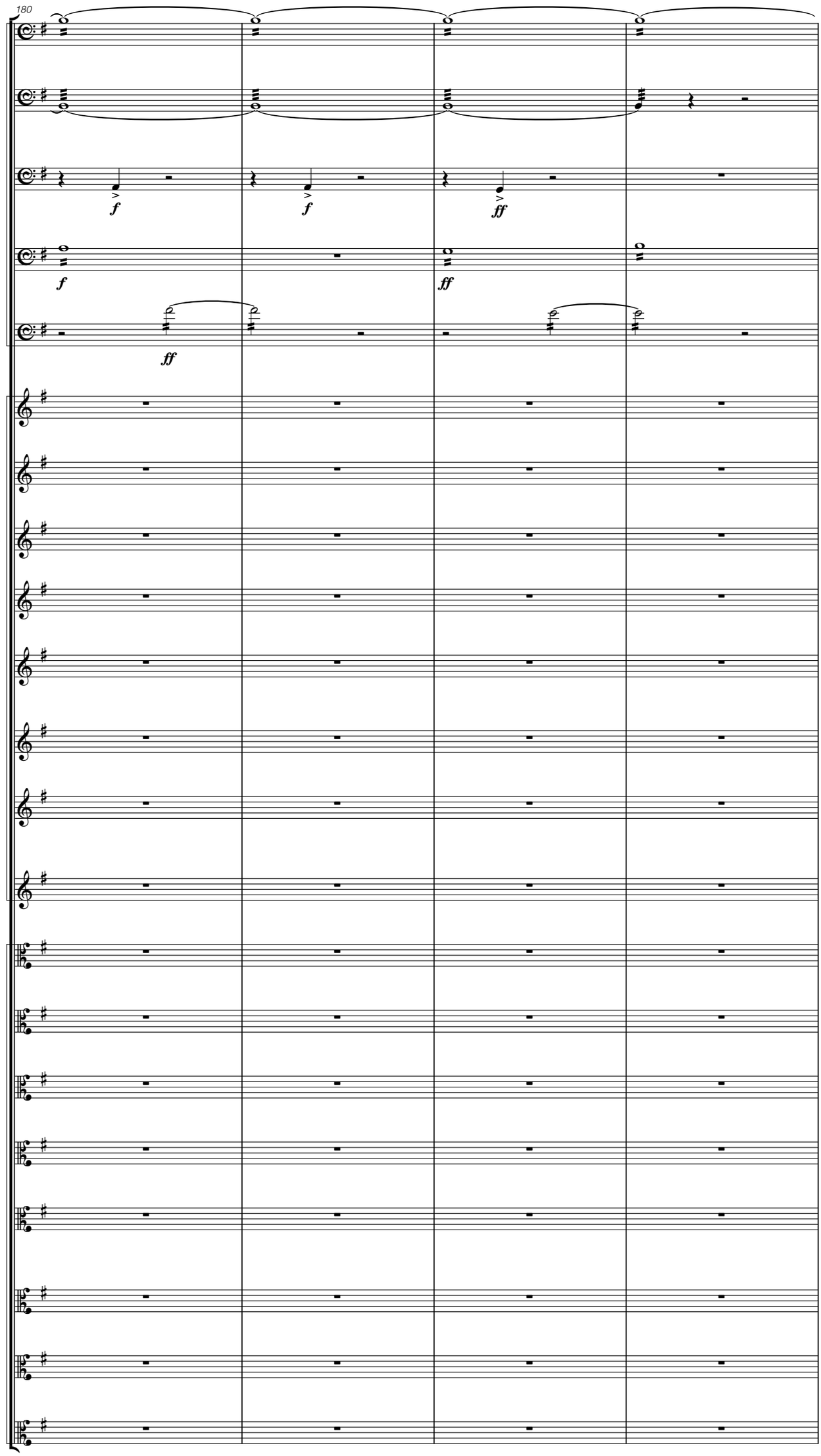

129
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
ff
mp

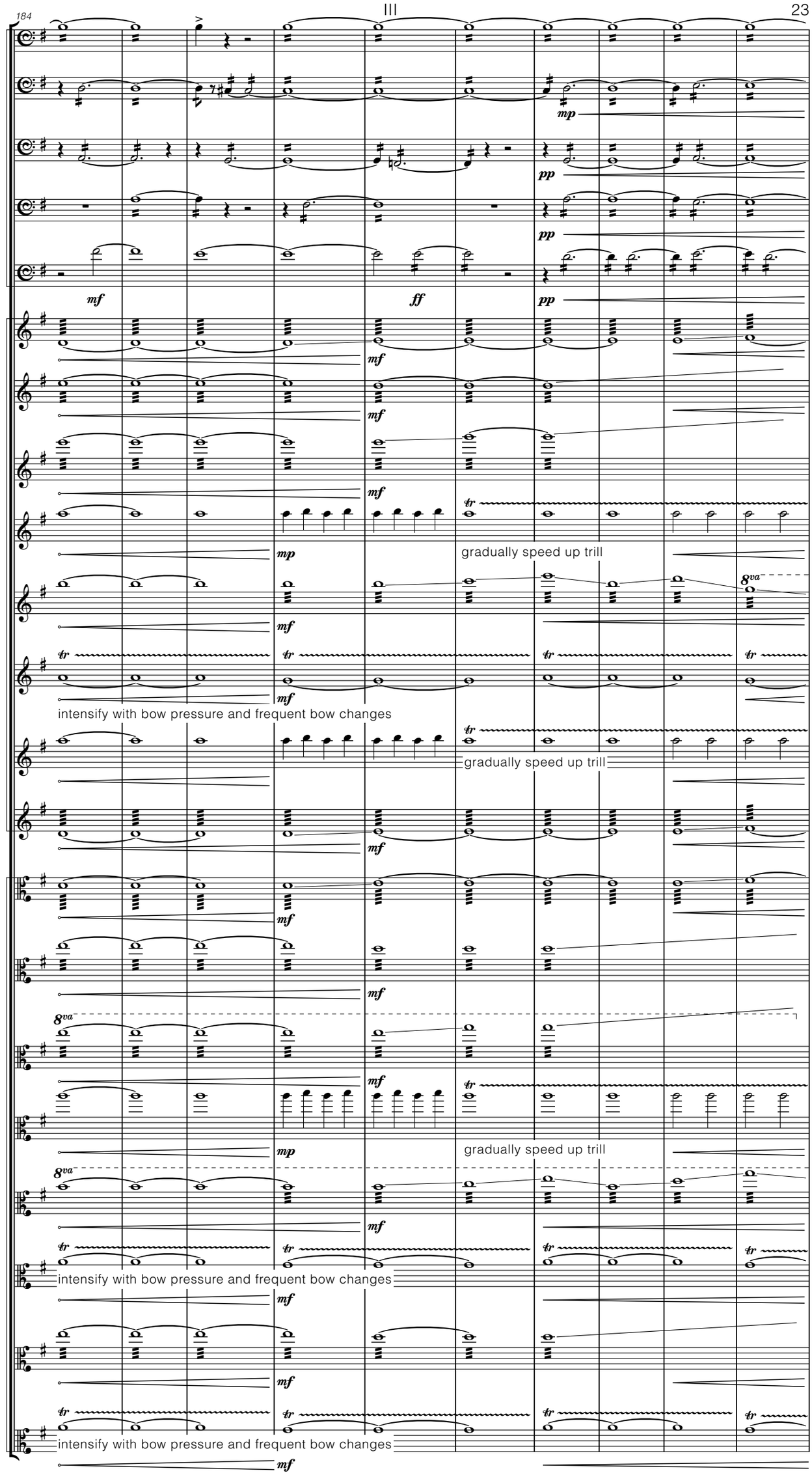

138
♩ = 152
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
mf
ff
mp
f

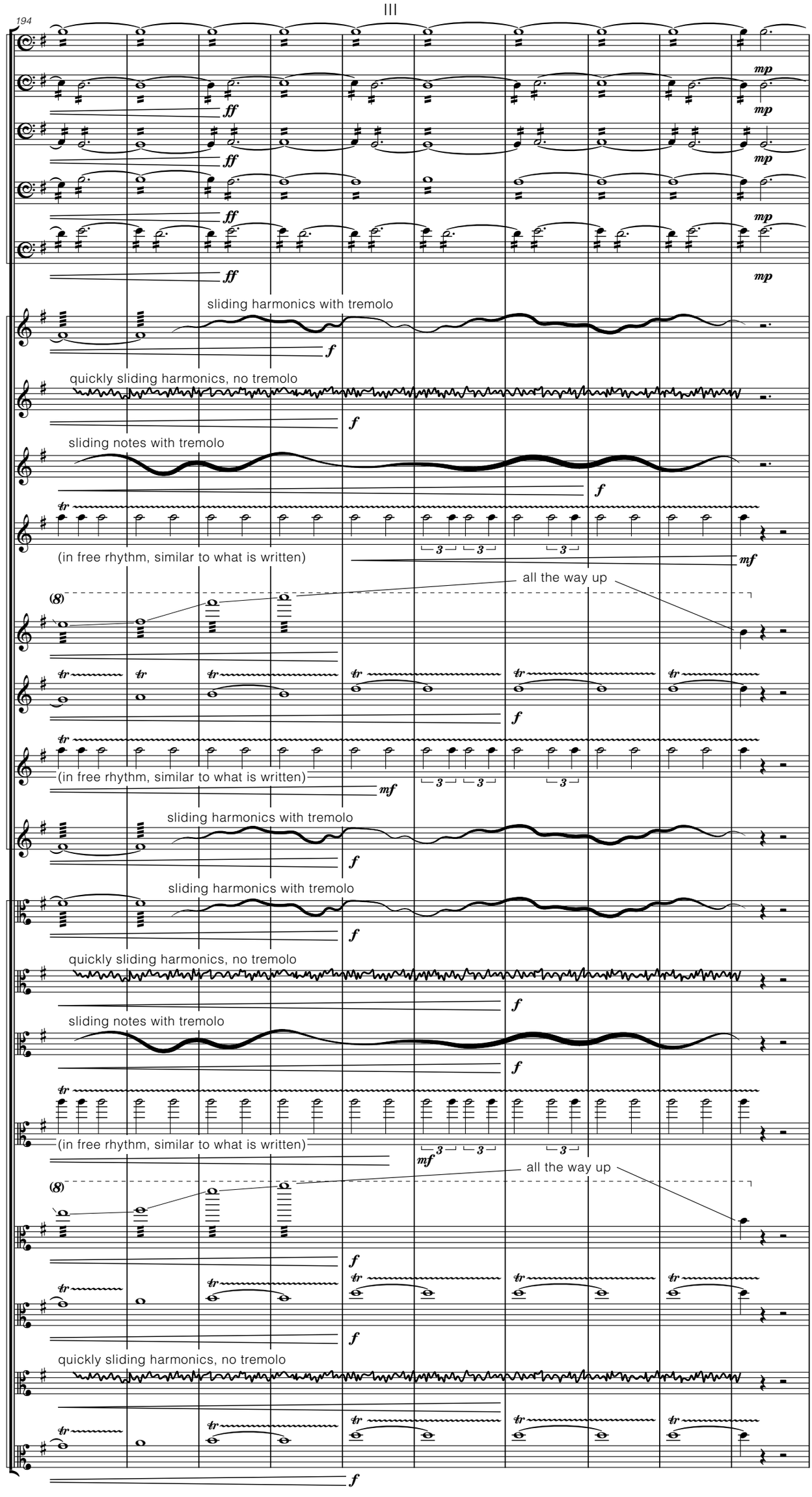

147
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8

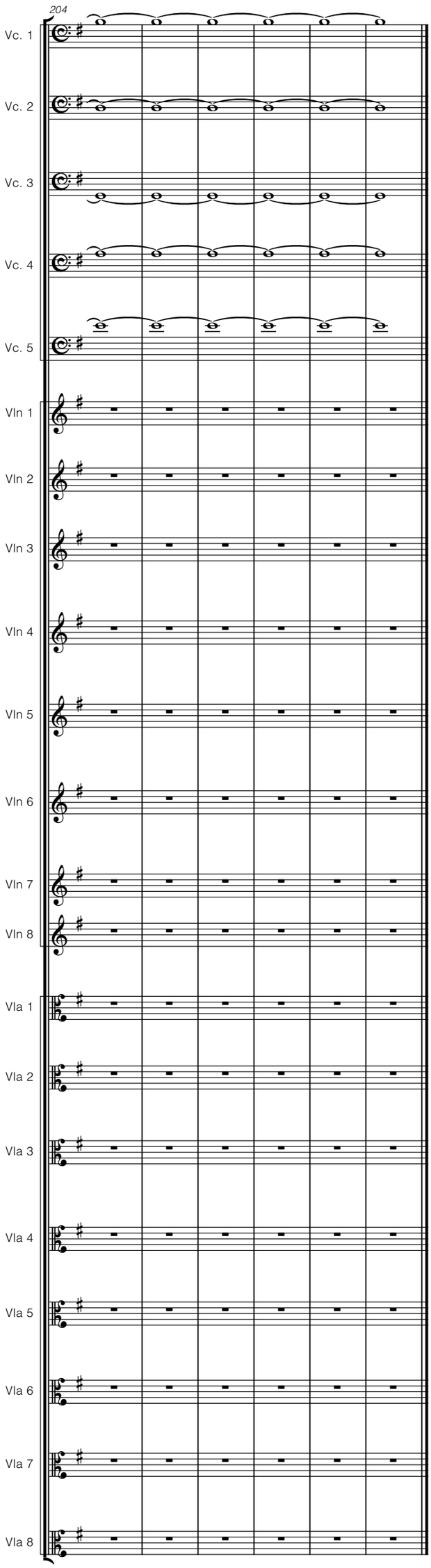

159
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
mp
mf
ff
sul pont.
alternate between the two notes randomly on strings I and II
alternate between the two notes randomly on strings II and III


170
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
mp
f
mf
ff
p
tr
8va
sliding harmonics with fast tremolo
sliding harmonics
sliding harmonics with medium tremolo
gradually speed up trill
sliding tremolo (approximate pitches)


180
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
f
f
ff
f
ff
ff


184
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
mf
ff
mp
pp
tr
8va
gradually speed up trill
intensify with bow pressure and frequent bow changes


194
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8
ff
mp
f
mf
sliding harmonics with tremolo
quickly sliding harmonics, no tremolo
sliding notes with tremolo
(in free rhythm, similar to what is written)
all the way up
(8)
tr
3


204
Vc. 1
Vc. 2
Vc. 3
Vc. 4
Vc. 5
Vln 1
Vln 2
Vln 3
Vln 4
Vln 5
Vln 6
Vln 7
Vln 8
Vla 1
Vla 2
Vla 3
Vla 4
Vla 5
Vla 6
Vla 7
Vla 8