Andrew Orals

Music21 Chance Composition

These pieces were composed by a Python program I developed using MIT's Music21 musicology library. The program is relatively versatile, allowing the use of different instruments, piece lengths, and time signatures. For the three pieces below, the durations of the notes and the pitches of the notes are all selected at random from a list of durations and a list of pitches respectively, using Python's pseudorandom number generator. The time signatures are used in order (the bar number modulo the list length) from a shuffled list of time signatures, which also utilizes Python's "shuffle" method. If there is a chord, the notes in the chord are also chosen at random within the constraint of the MAX_CHORD_SIZE constant. The notes are constrained first by the global MAX_MIDI and MIN_MIDI constants, and secondly by the ranges of each instrument. Measures are generated on an individual basis and successively added to parts. Based on a decimal random number between 0 and 1.0, either a rest or a note is added to the measure. The frequency of rests can be controlled by the constant REST_DISTRIBUTION. Notes with random pitch and duration and rests with random duration (within the constraints) are added to the measure until they fill the duration of the measure. Overall, I thoroughly enjoyed writing this program and I hope to add more features, such as support for dynamics and articulations along with constraints for intervals and chord voicings/qualities.

Link to the program on GitHub:
https://github.com/nd-0r/ChanceComposer/blob/master/generator.py

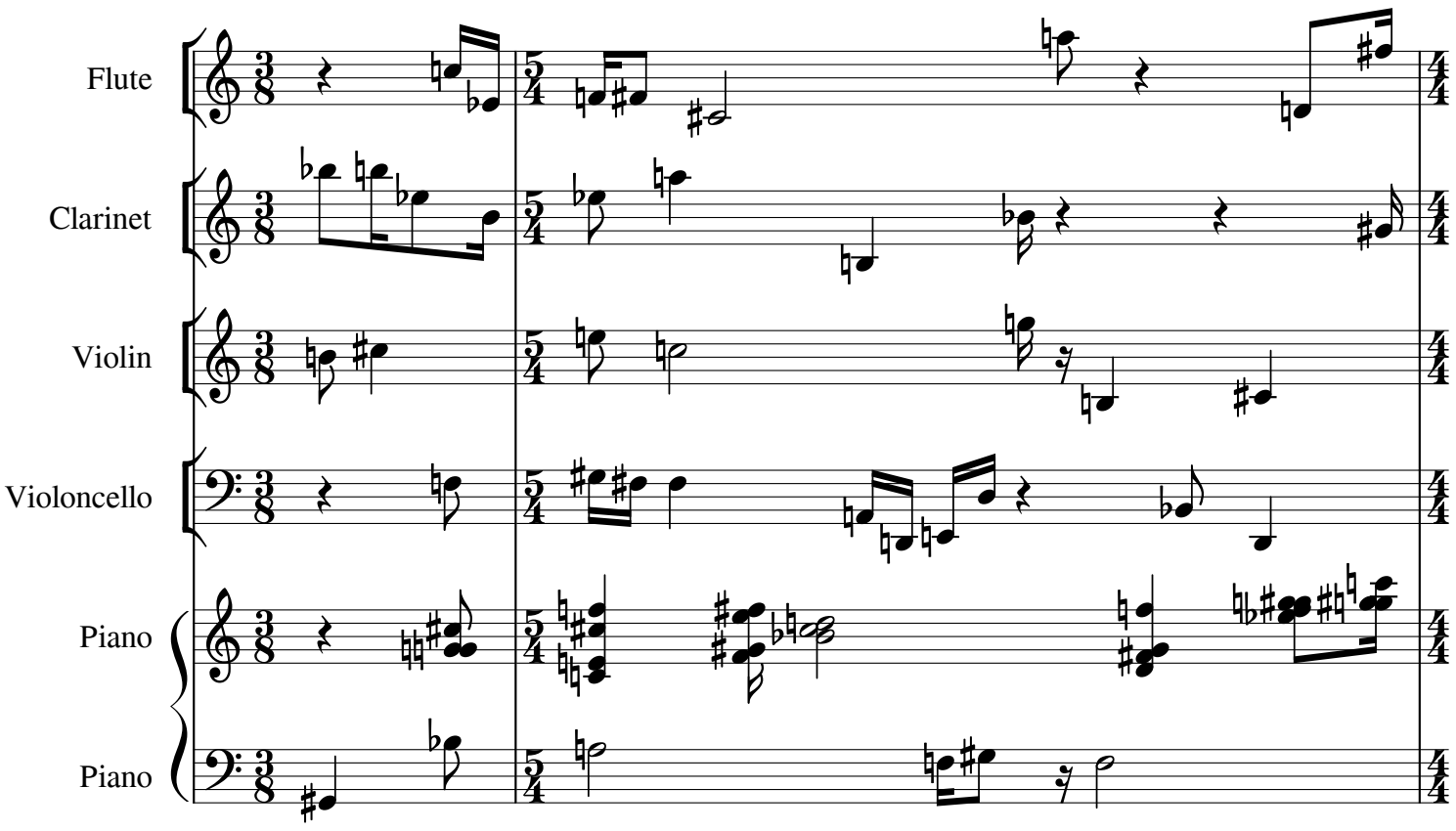
Composition 1:
https://github.com/nd-0r/ChanceComposer/blob/master/ChanceComposition.mp3

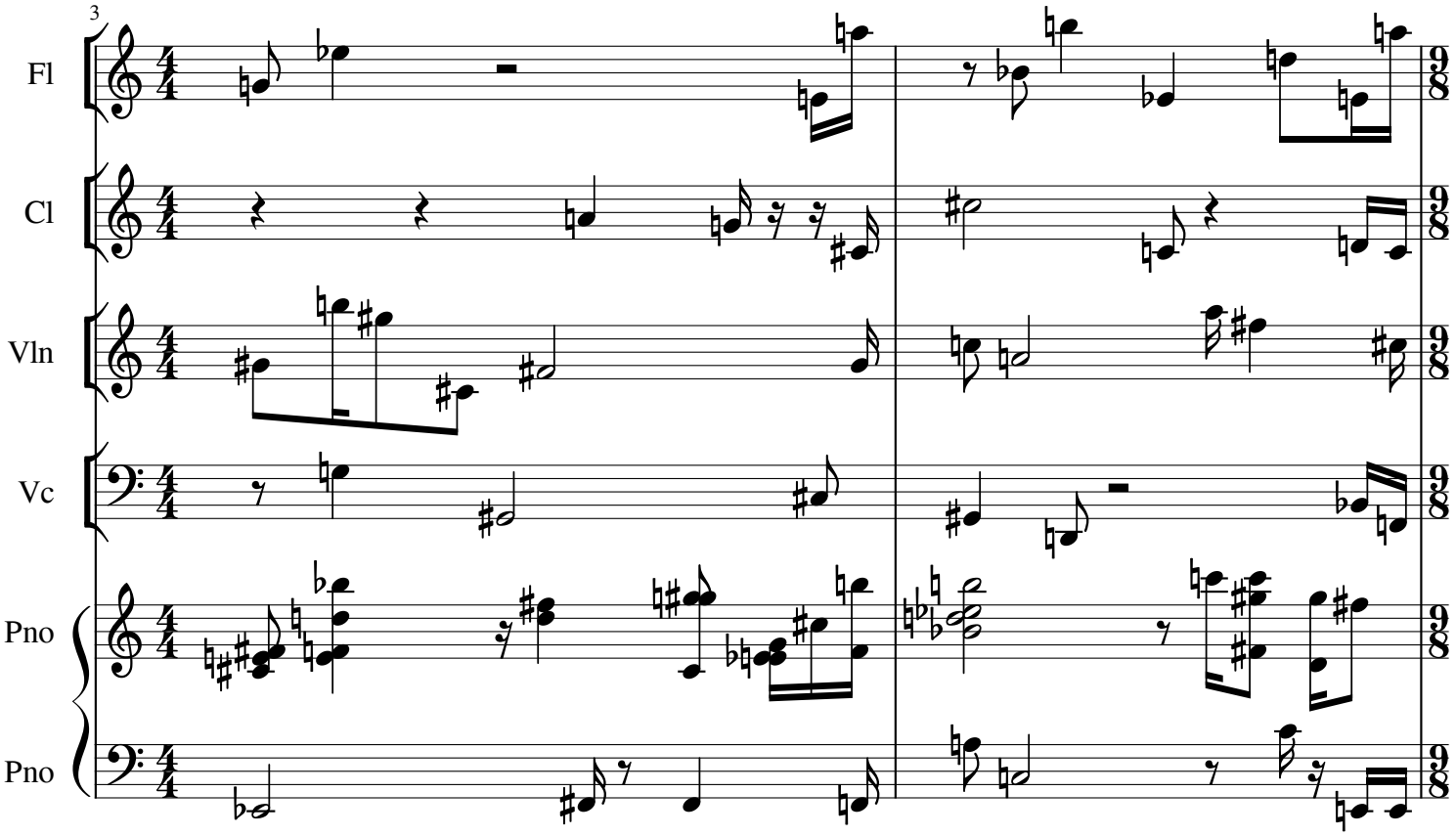
Composition 2:
https://github.com/nd-0r/ChanceComposer/blob/master/ChanceComposition1.mp3

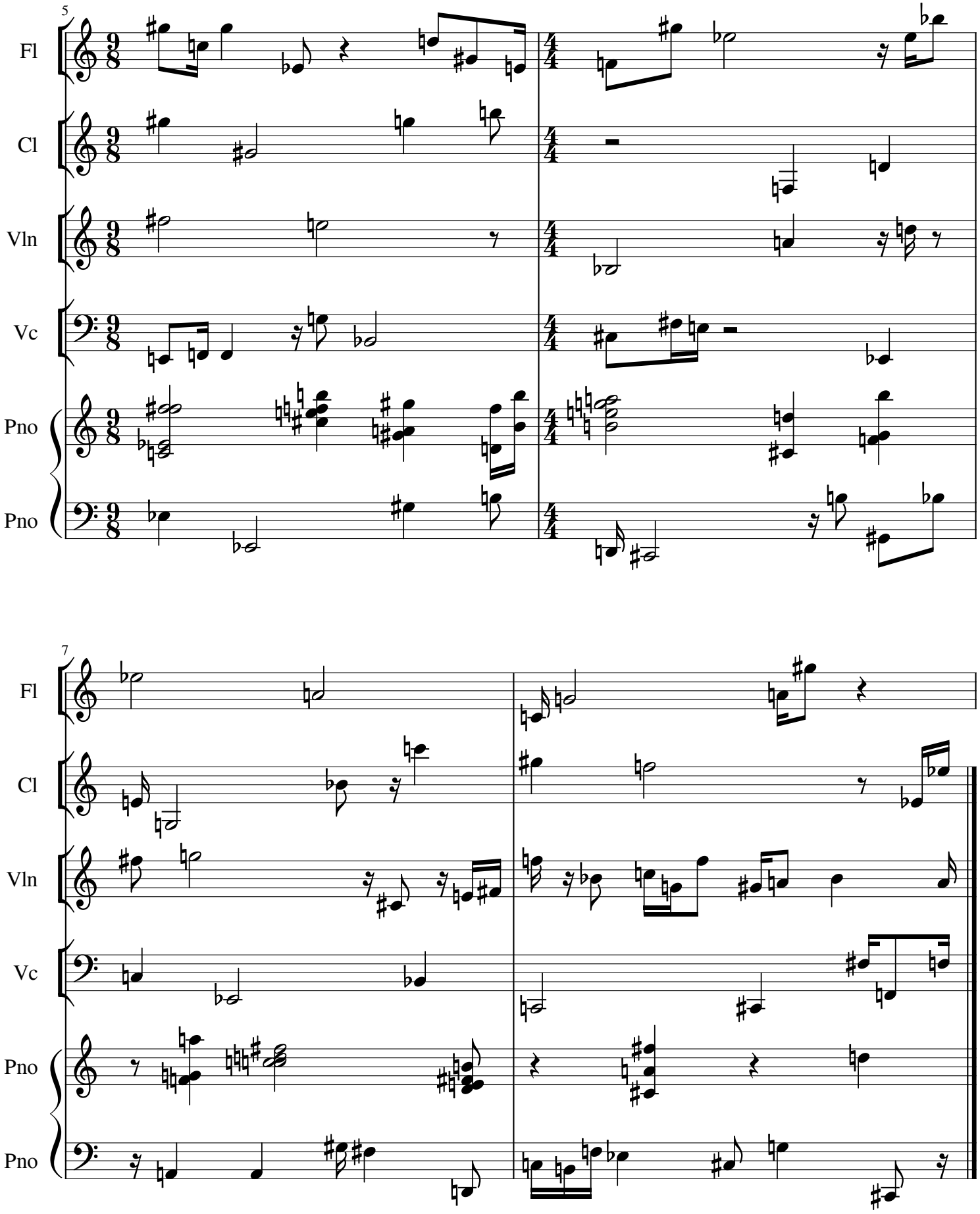
Composition 3:
https://github.com/nd-0r/ChanceComposer/blob/master/ChanceComposition2.mp3

Music21 Fragment

Music21

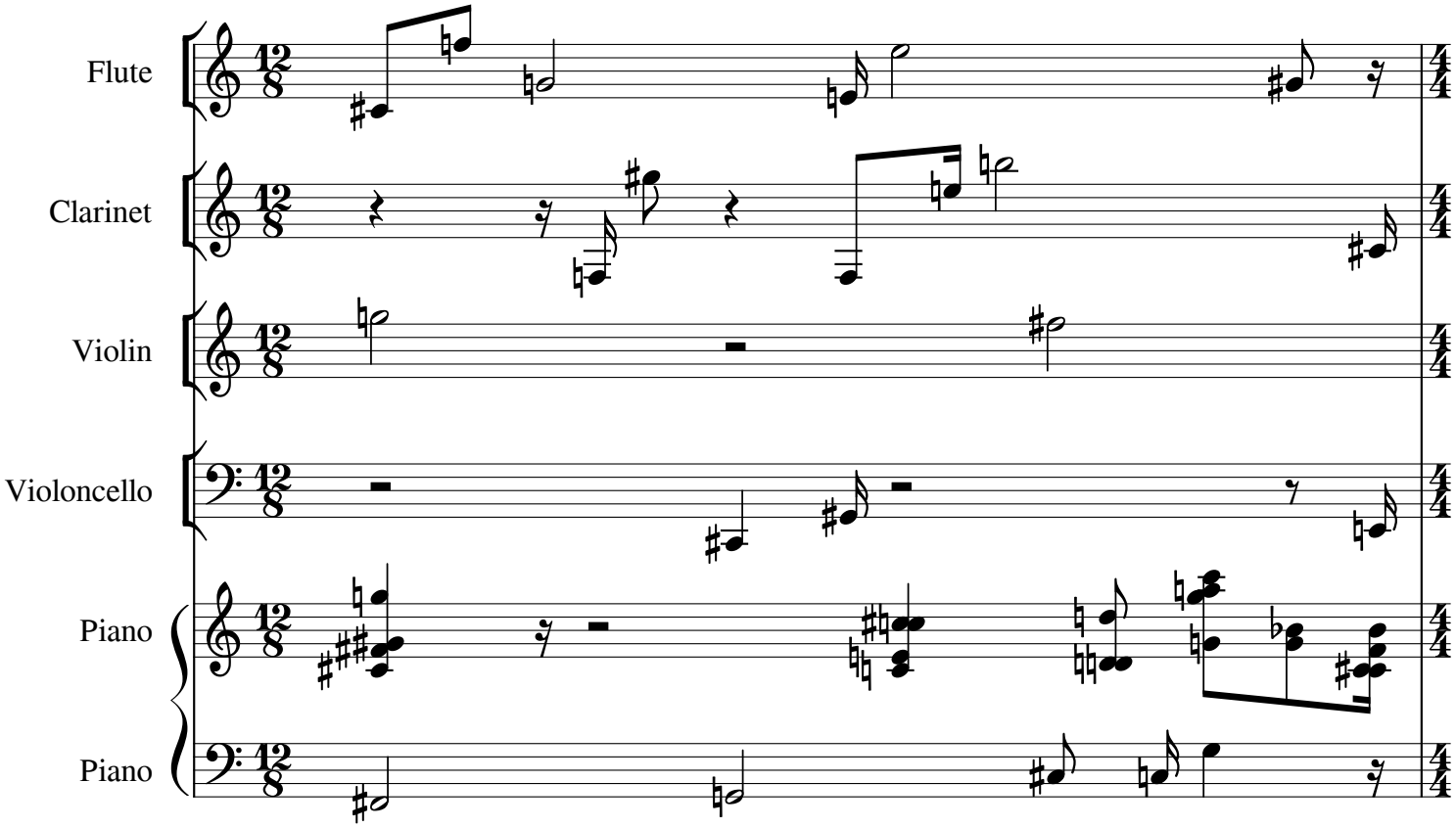


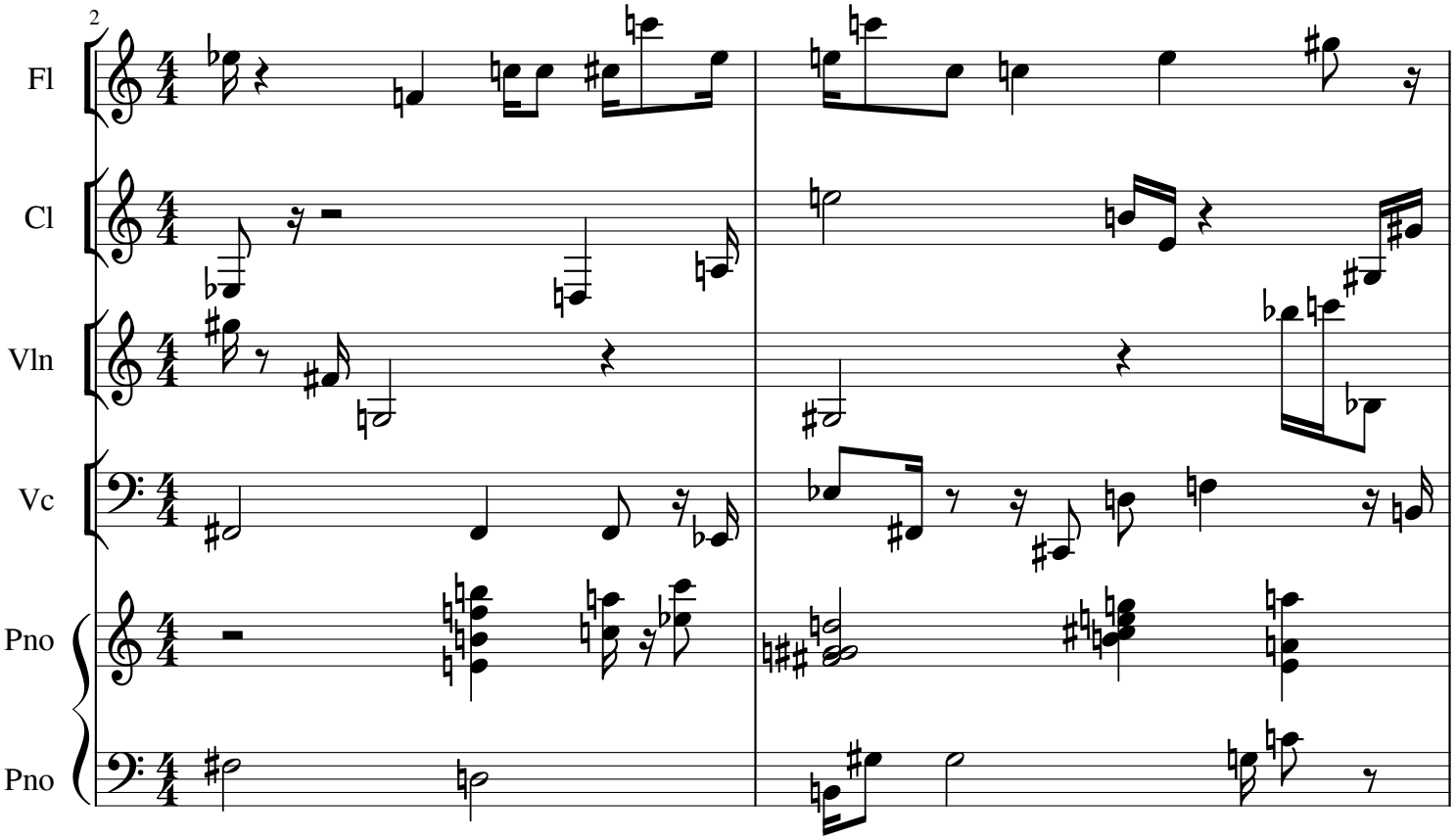


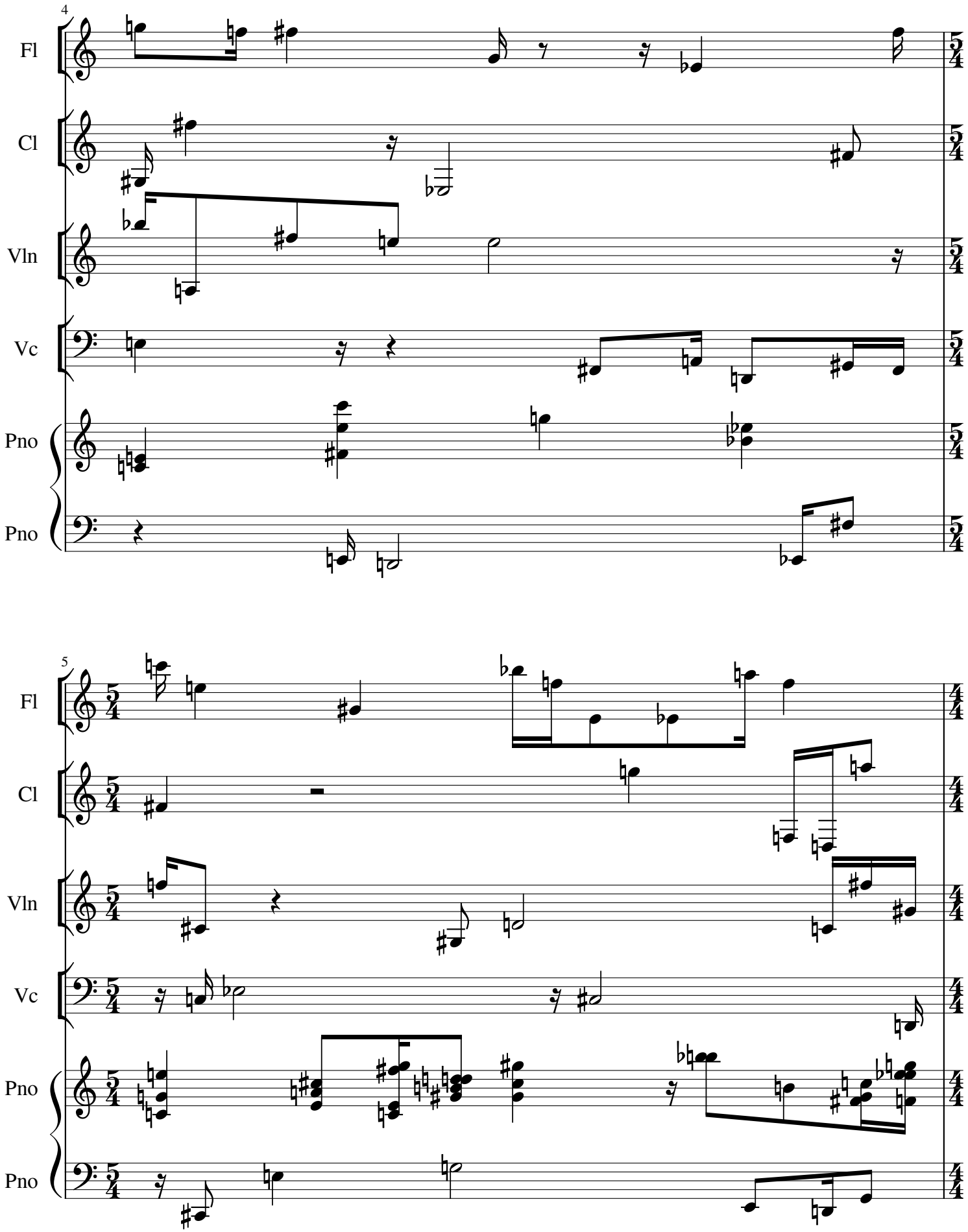

5
Fl
Cl
Vln
Vc
Pno
Pno
7
Fl
Cl
Vln
Vc
Pno
Pno

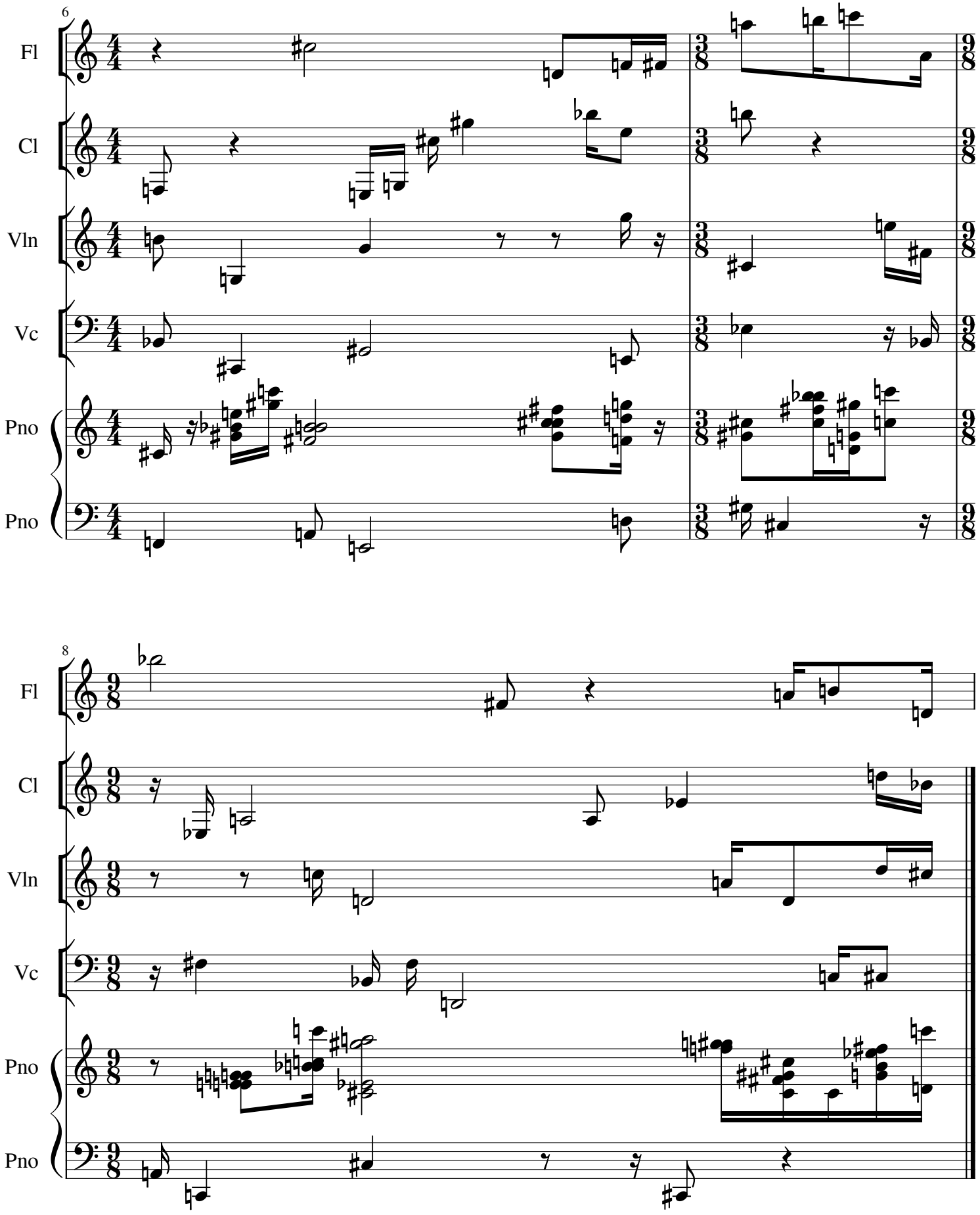
Music21 Fragment

Music21



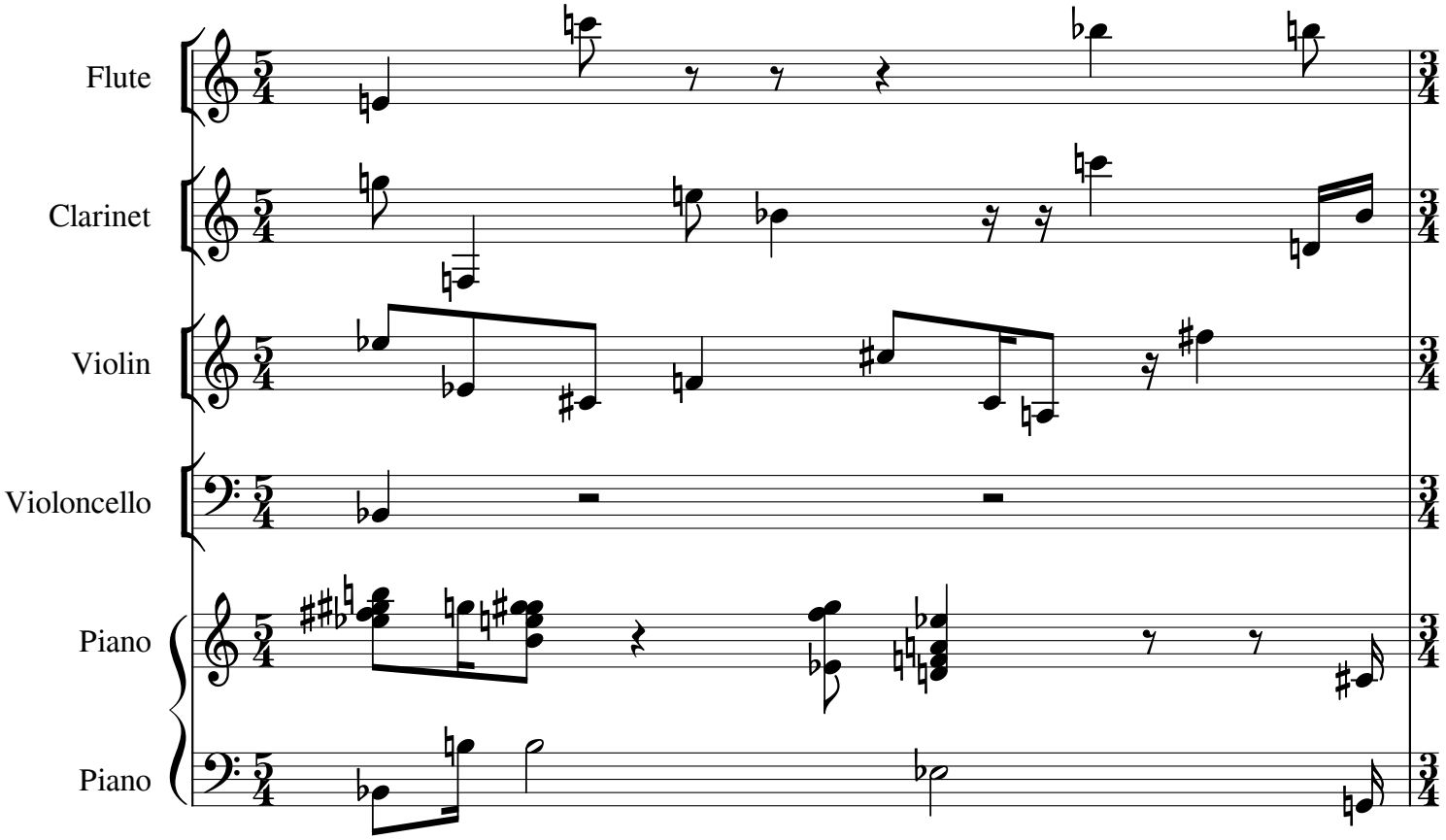


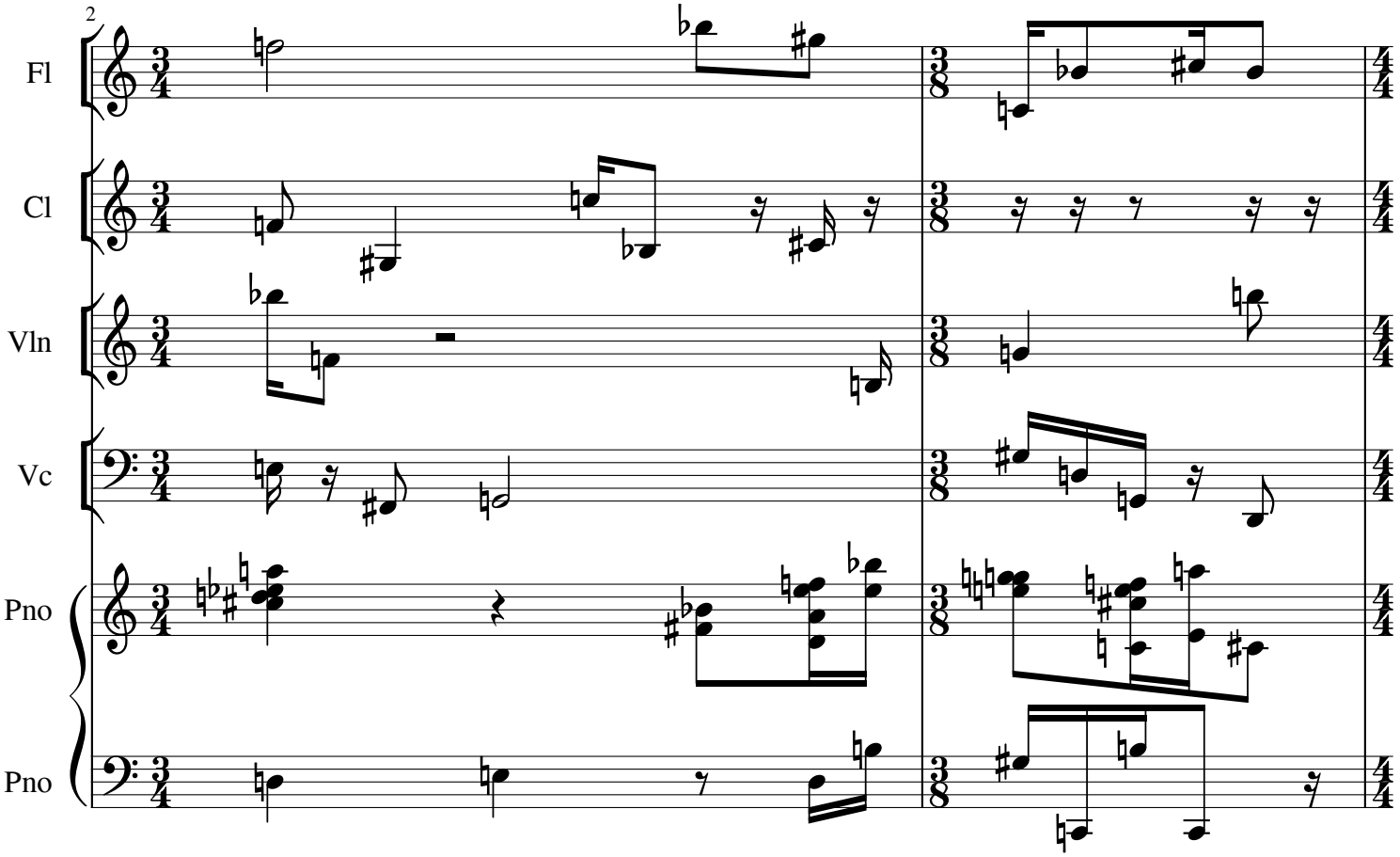

4
Fl
Cl
Vln
Vc
Pno
Pno
5
Fl
Cl
Vln
Vc
Pno
Pno

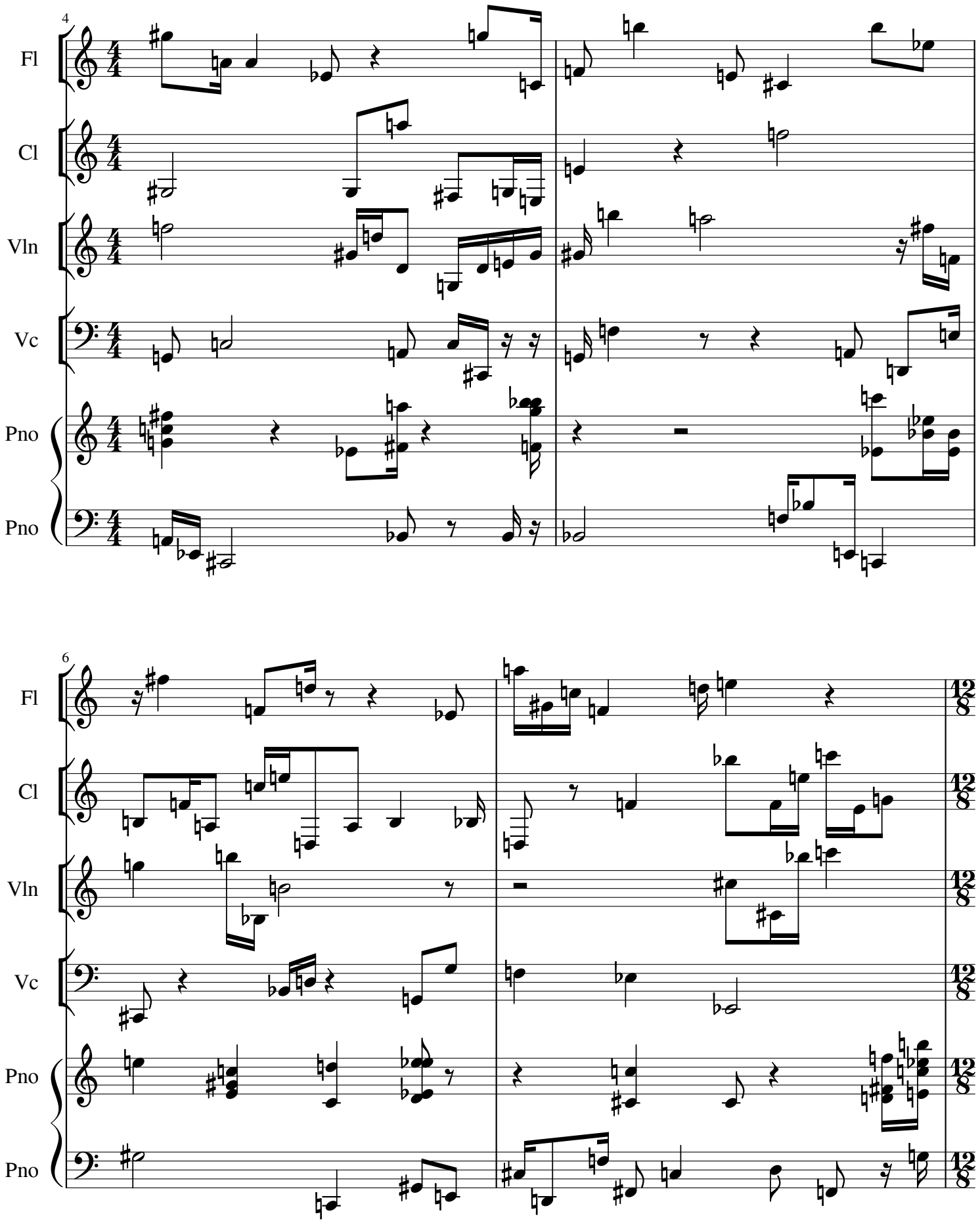

6
Fl
Cl
Vln
Vc
Pno
Pno
8
Fl
Cl
Vln
Vc
Pno
Pno

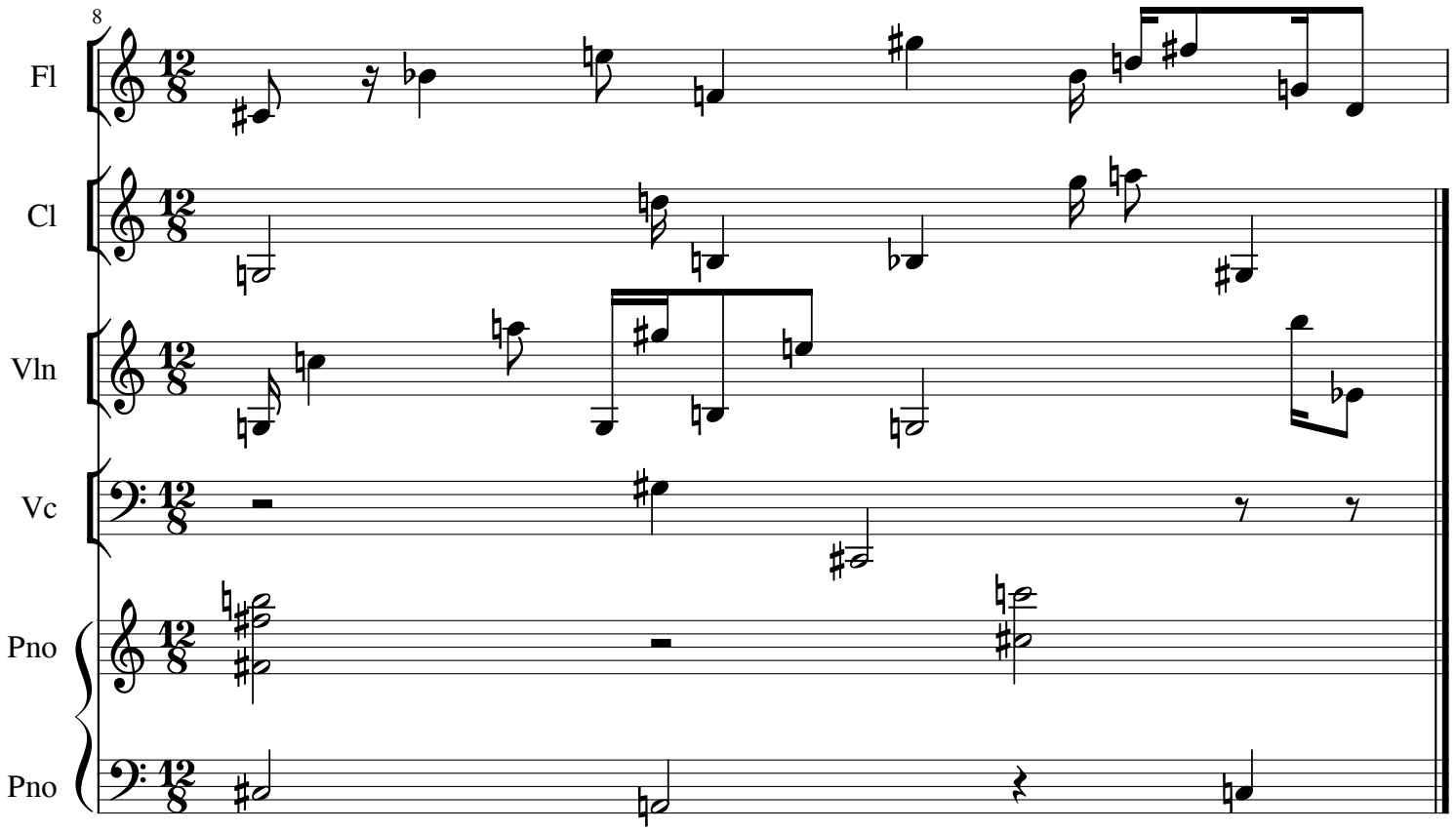
Music21 Fragment

Music21






4
Fl
Cl
Vln
Vc
Pno
Pno
6
Fl
Cl
Vln
Vc
Pno
Pno
12/8


8
Fl
Cl
Vln
Vc
Pno
Pno