POÈME RÉCURSIF

In appreciation György Ligeti & Benoît Mandelbrot

for 64 pieces of percussion

(2005)

TREVOR BAČA

POÈME RÉCURSIF, under the usual interpretation, assigns exactly one player to each of the 64 numbered parts of the piece. Other assignments of players to parts are also possible. An ensemble of, for example, 32 musicians may assign two parts per player and dedicated percussion ensembles even more. The instrumentation of the piece is for 64 pieces of untuned percussion, but exact instrumention is left to the performing ensemble. Each of the 64 parts may be played on exact copies of the same piece of percussion: 64 identical woodblocks, 64 identical templeblocks or 64 identical pieces of cut wood, brought onstage expressly for the performance, for example. Other professional or adapted percussion instruments, whether woods, skins, metal or of other materials, are also allowed, as the situation of each performance dictates. In all cases, however, instruments must be struck and untuned; instruments with a strong connotation of pitch, such as strings played col legno battuto, are discouraged, and sustained tones, whether by bow or by breath, are forbidden.

Whatever the instrumentation chosen for performance, attacks are all to be precise, well-articulated and of exactly equal duration. Make no distinction at all between the attack of a half note and the attack of a sixteenth note. Muffle or mute no sound. The piece can be played either uniformly quietly or uniformly loudly throughout, at the pleasure of the performers. In either case, changes in perceived dynamic are to be effected primarily by the entrance and exit of groups of players, as indicated in the score. Constrast dense sections of the piece considerably with thinner sections and let the massiveness of the patterned, kaleidoscopic transformations between sections vary accordingly. Tempo, once chosen, must remain constant throughout but may vary from performance to performance as indicated.

In all cases, the aural effect is to be that of a cleanly delineated rhythmic network of information in constant transformation, definition and reformation.

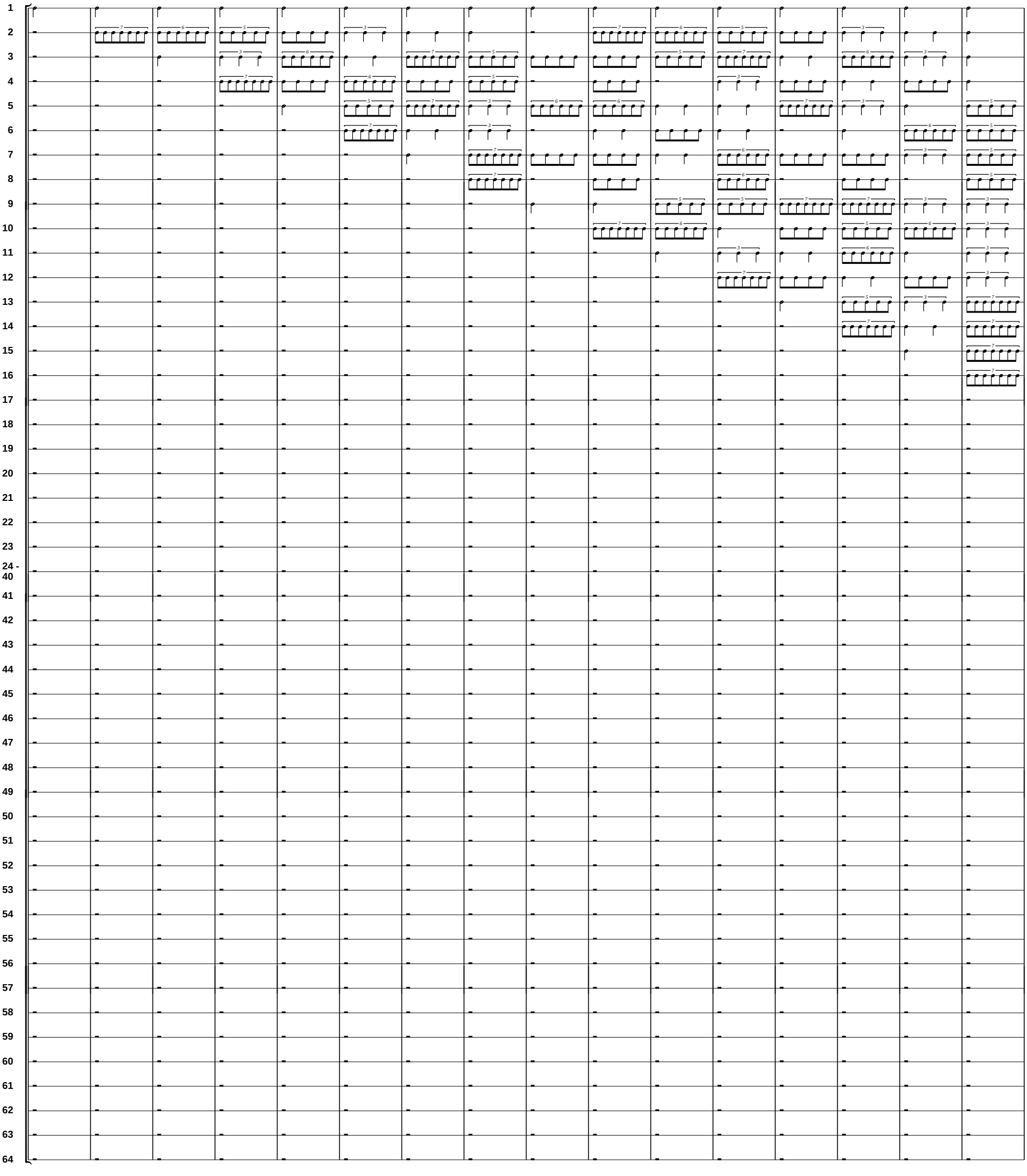
POÈME RÉCURSIF projects some 16384 of the binomial coefficients as pointsets in musical time. The structure of the piece is completely determined. Part n, measure m divides the half note equally by a number equal to Binomial$(255+n-m, n-1)$ MOD 8 and values congruent to 0 MOD 8 take only a rest. The binomial recurrence holds everywhere in this piece and ensures that the number of divisions of each measure equals the sum, MOD 8, of the number of divisions of the measure immediately above and the measure immediately following. The underlying structure yields, therefore, to calculation by hand, even for very large values of n and m, and closely mirrors the grid-like growth and transformation of certain cellular automata.

Preliminary sketches for this piece were written in 1993 in response to the music of Edgar Varèse and György Ligeti and after the exploration of certain two-dimensional recurrences and images from fractal geometry. POÈME RÉCURSIF was finished in August 2003 and is dedicated, with appreciation, to György Ligeti and Benoît Mandelbrot || Austin, 2003.

POÈME RÉCURSIF

In appreciation György Ligeti and Benoît Mandelbrot

Trevor Bača (*1975)



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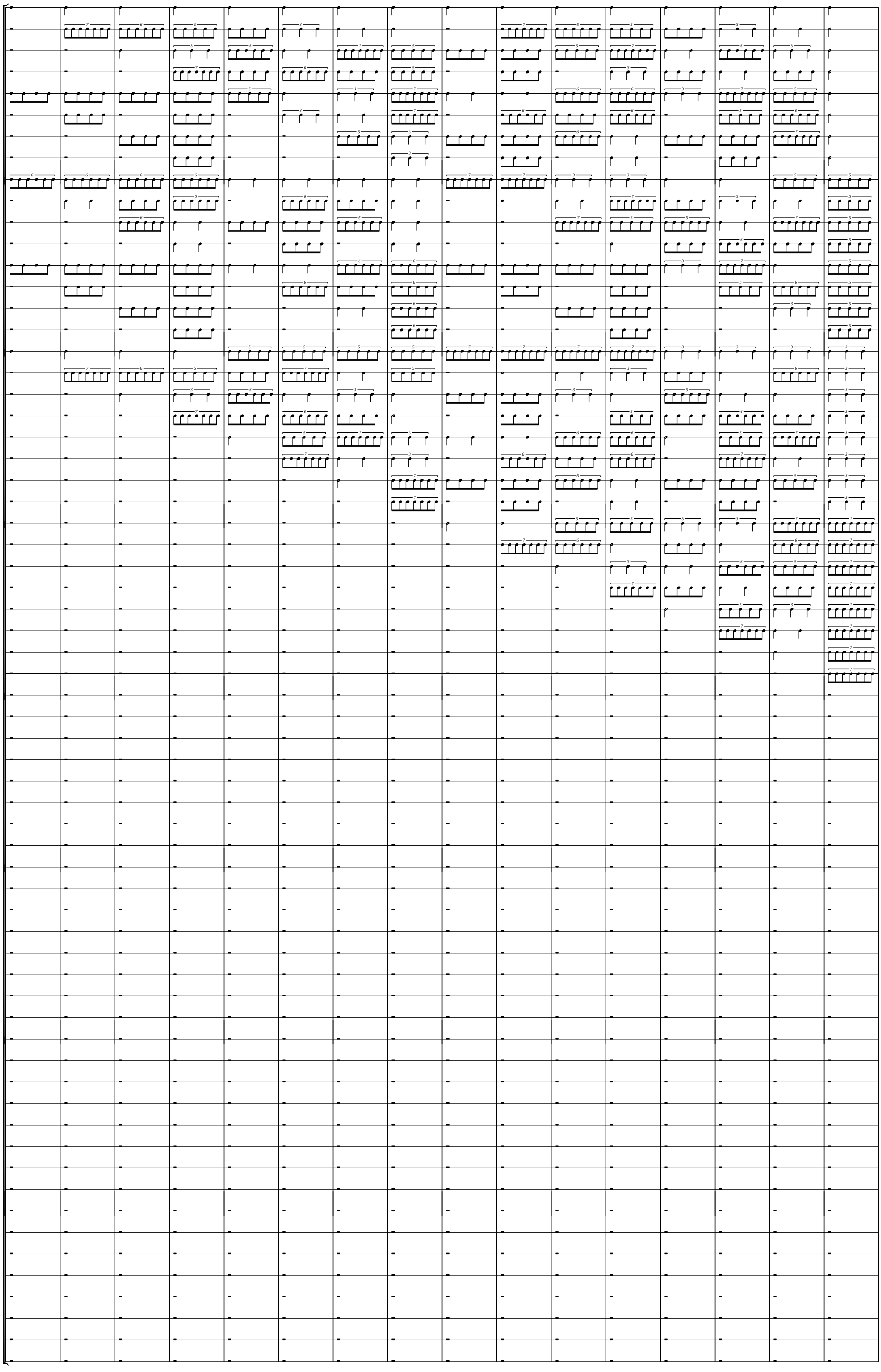

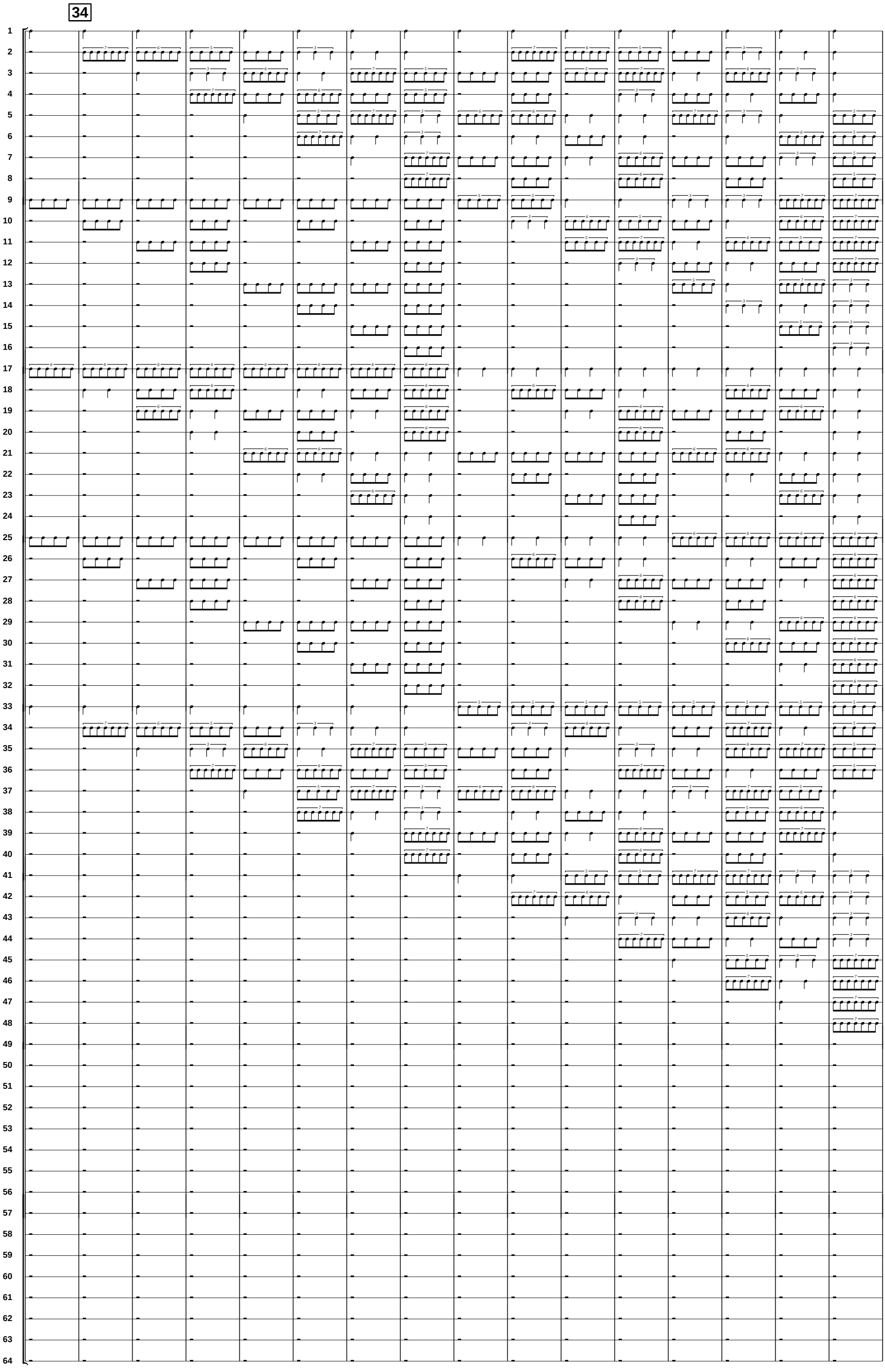
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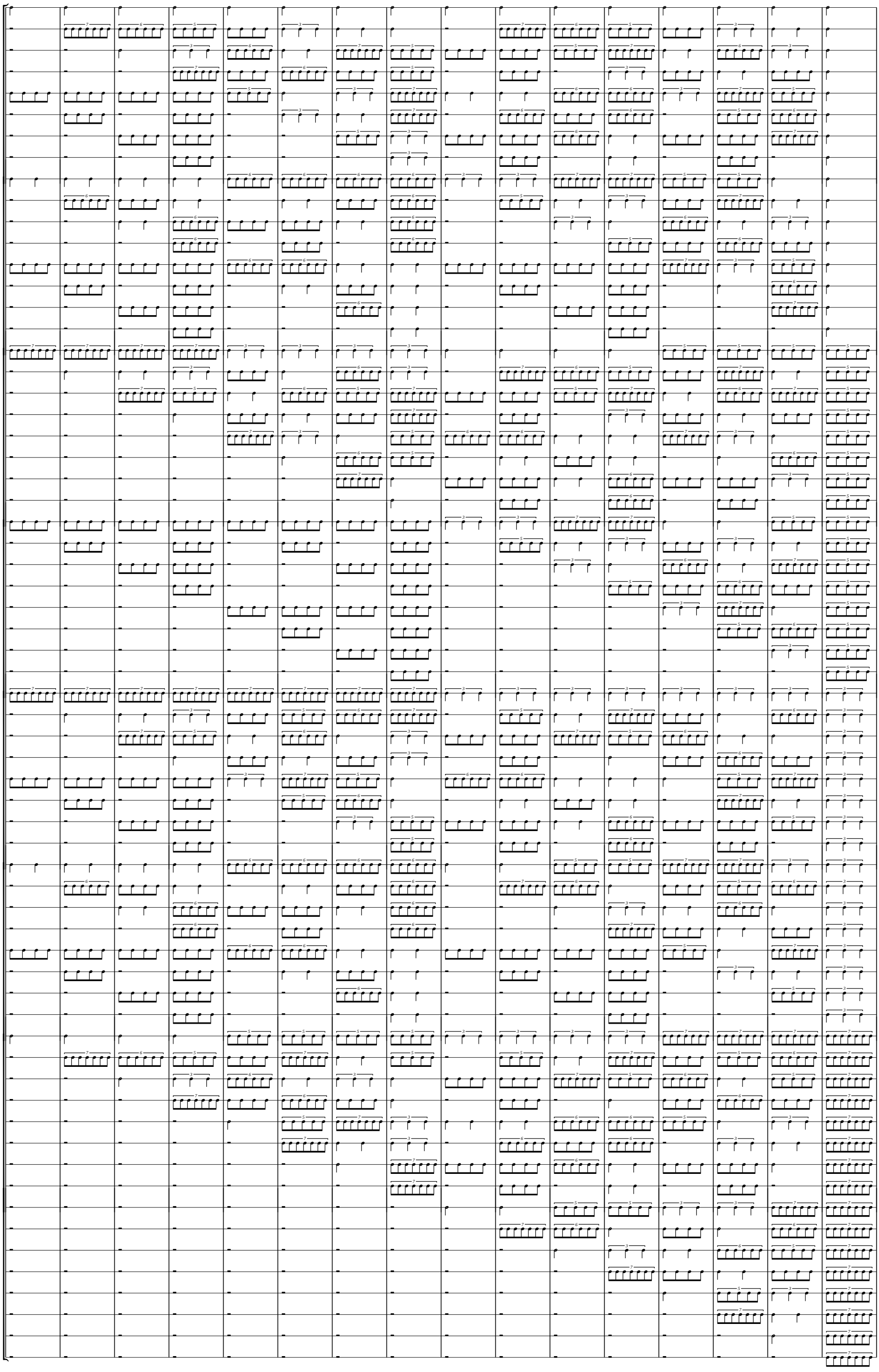

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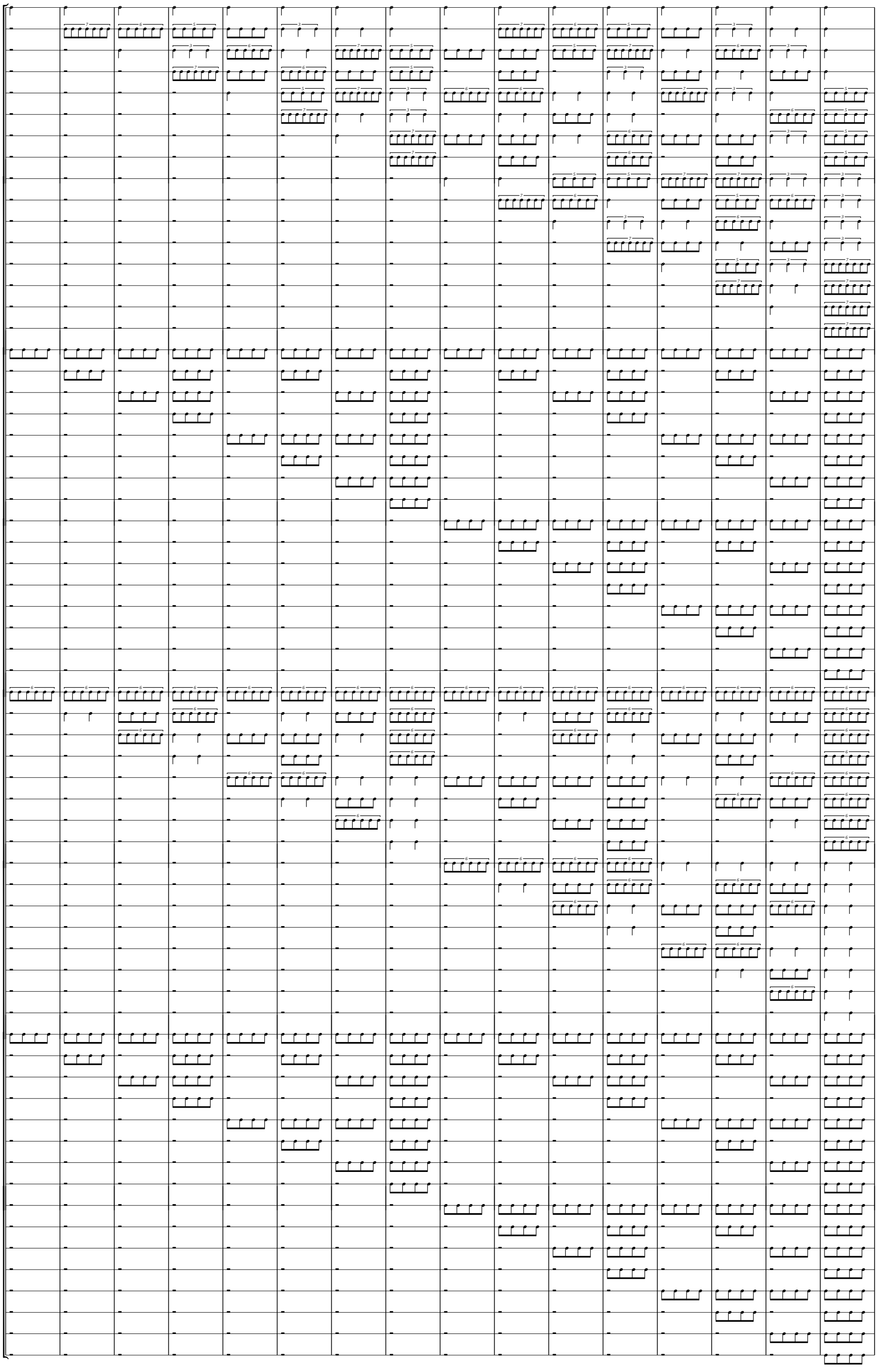

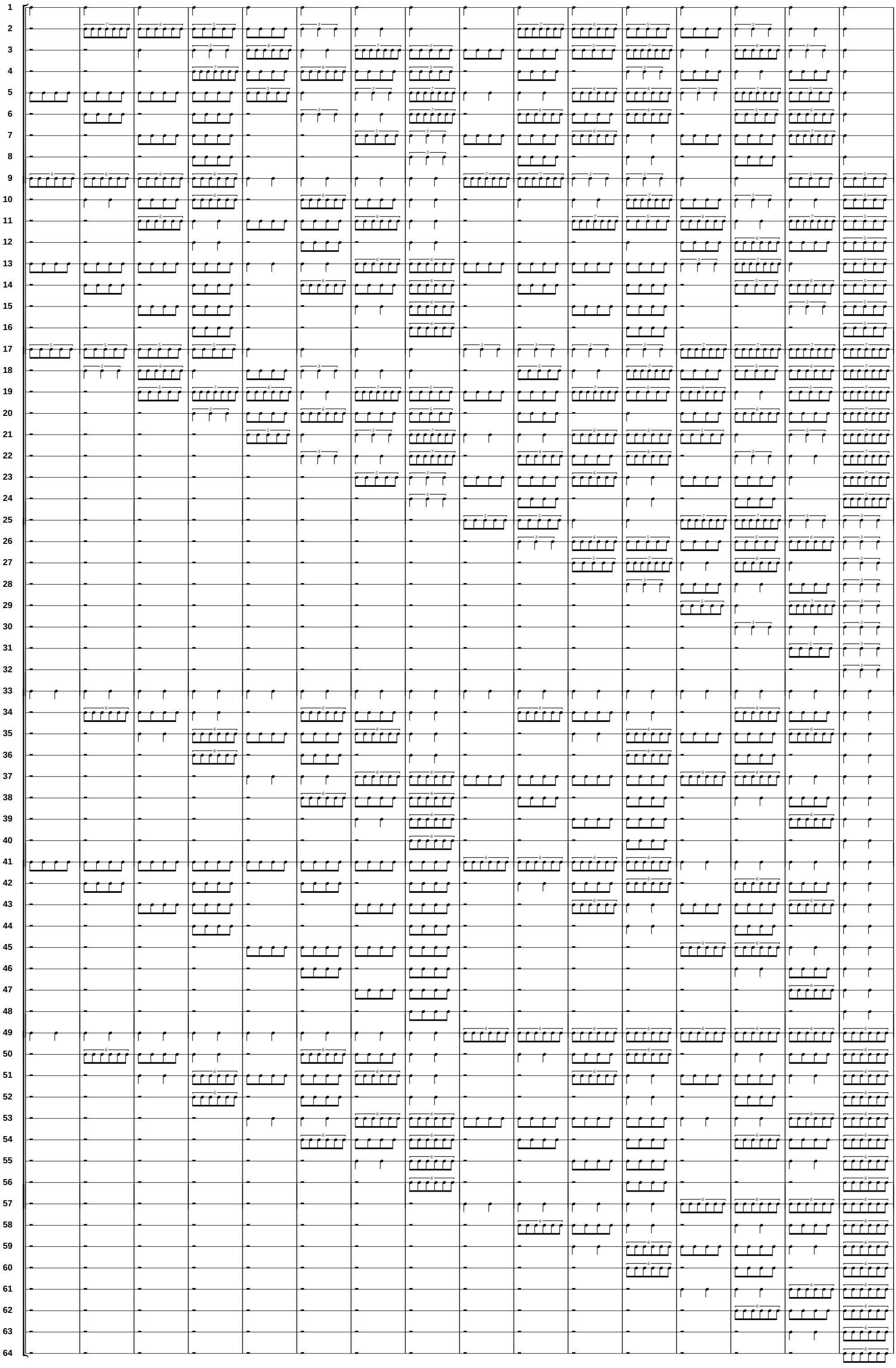

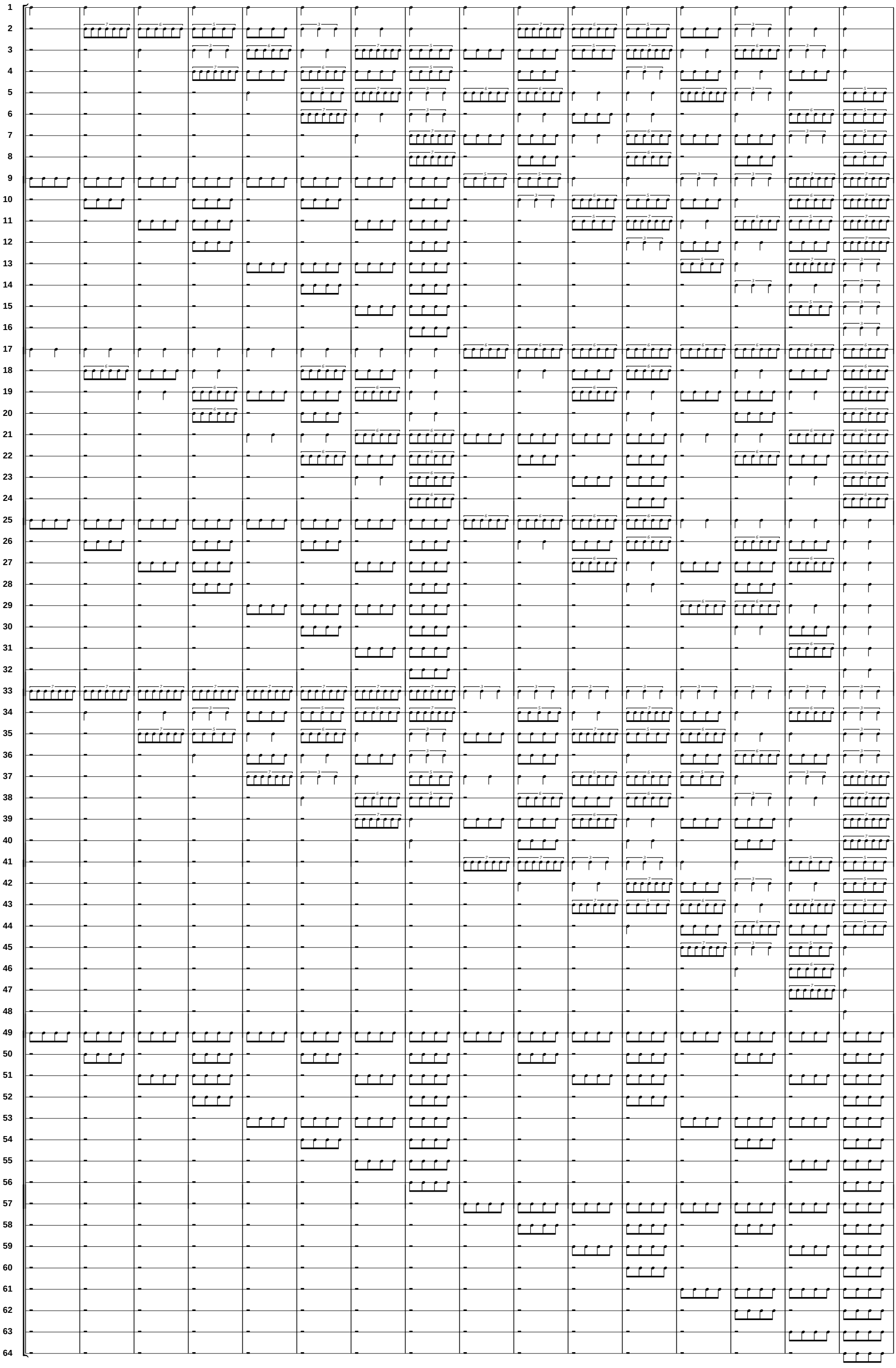

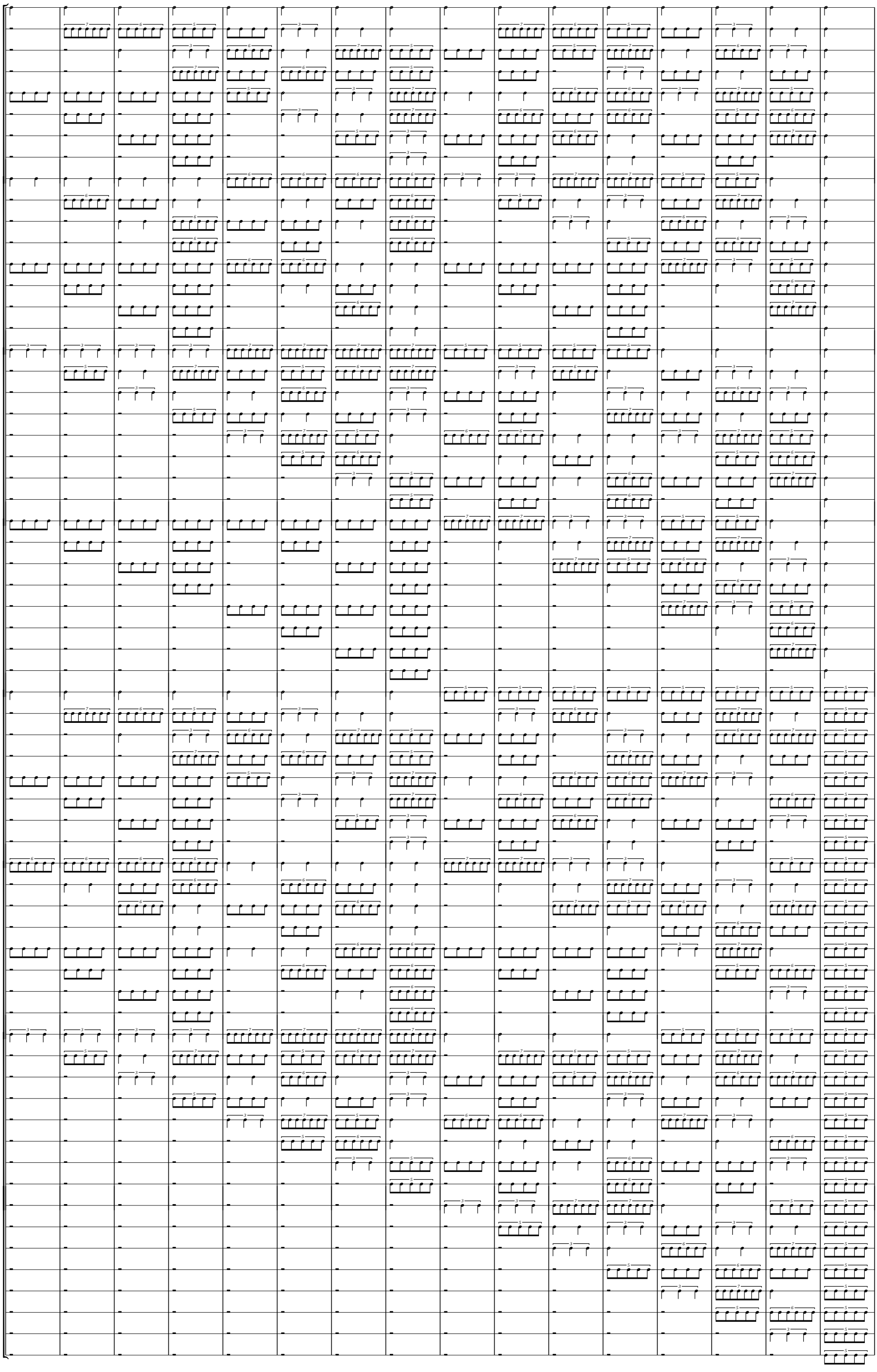

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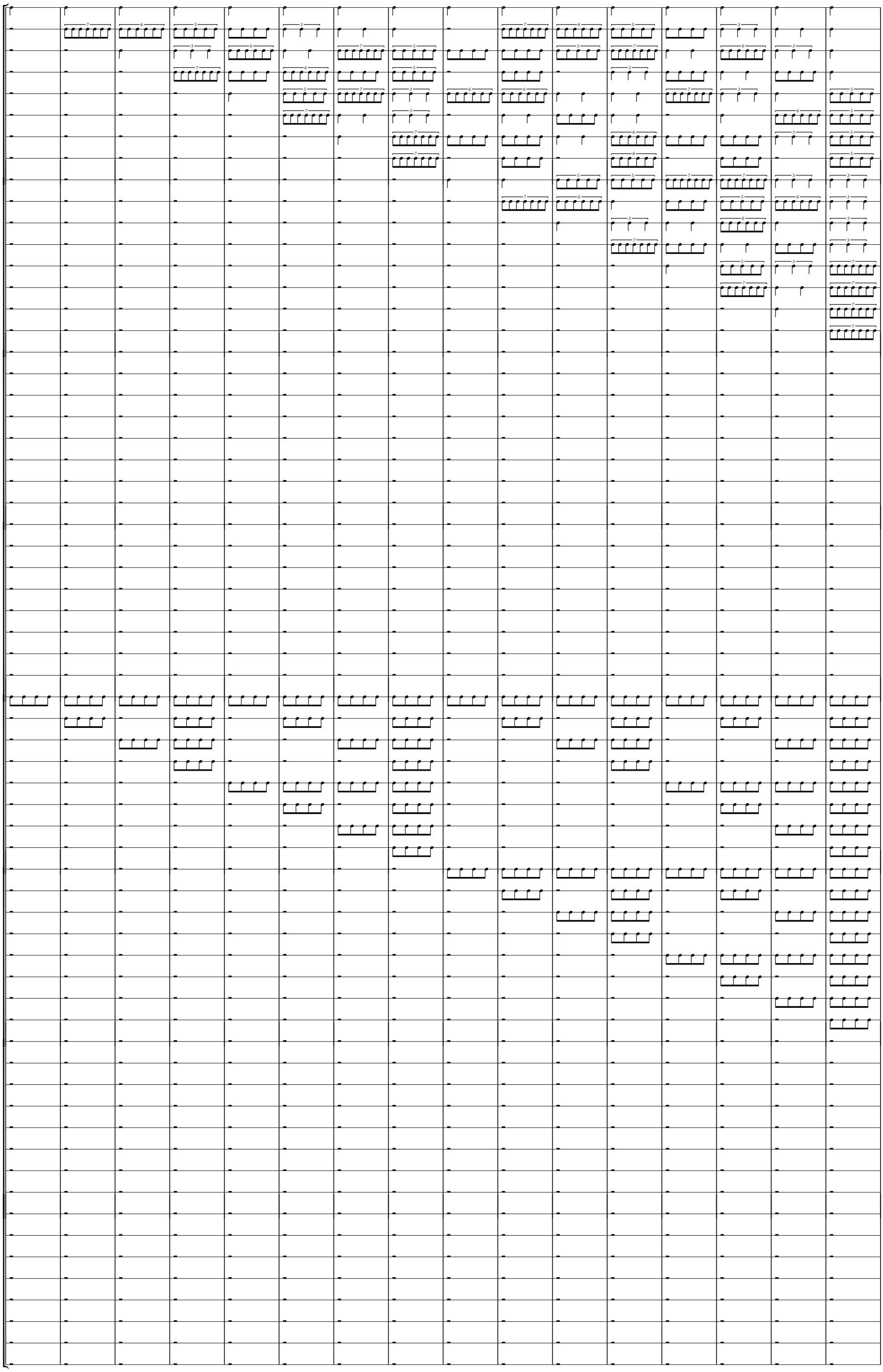

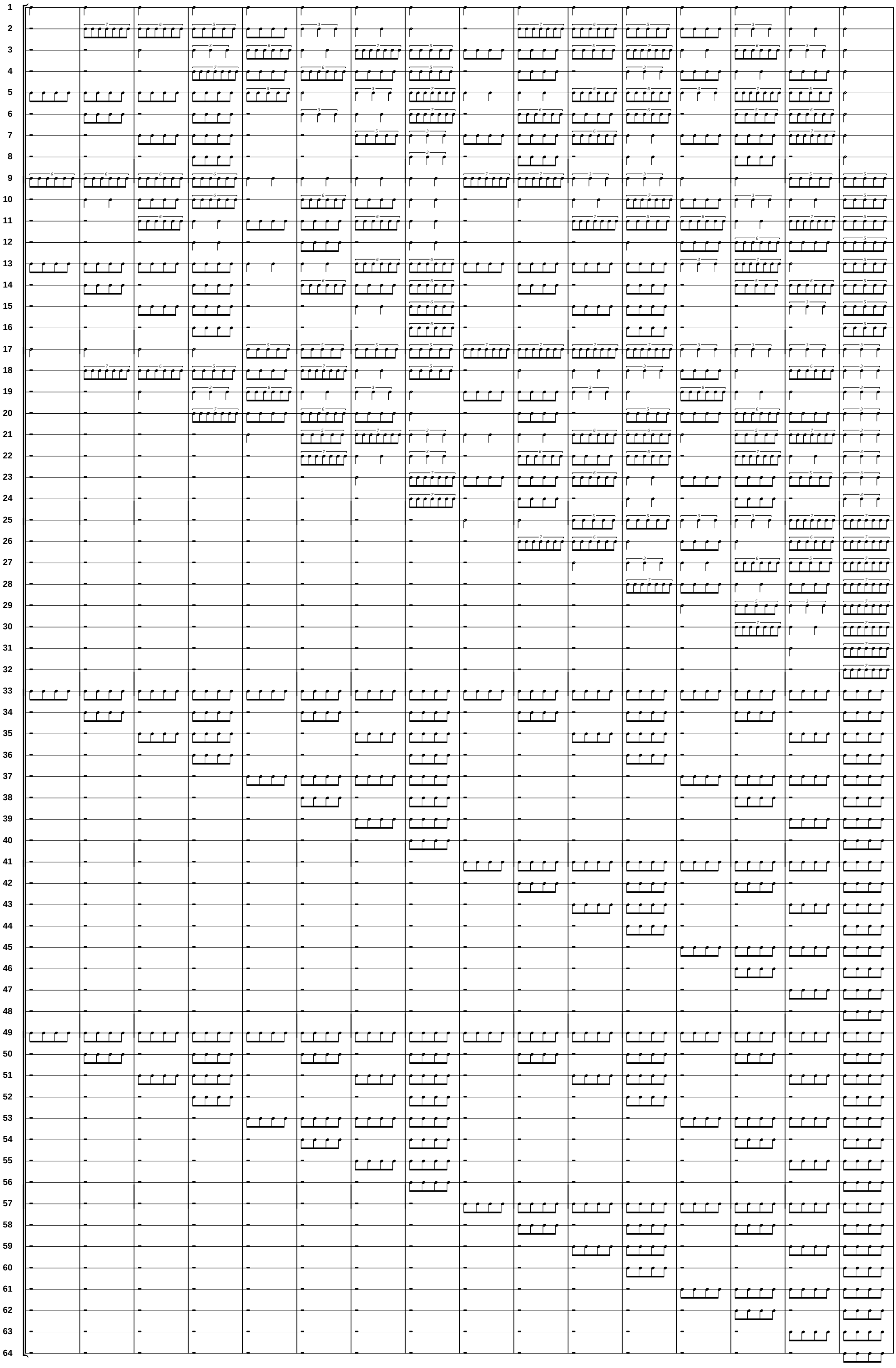

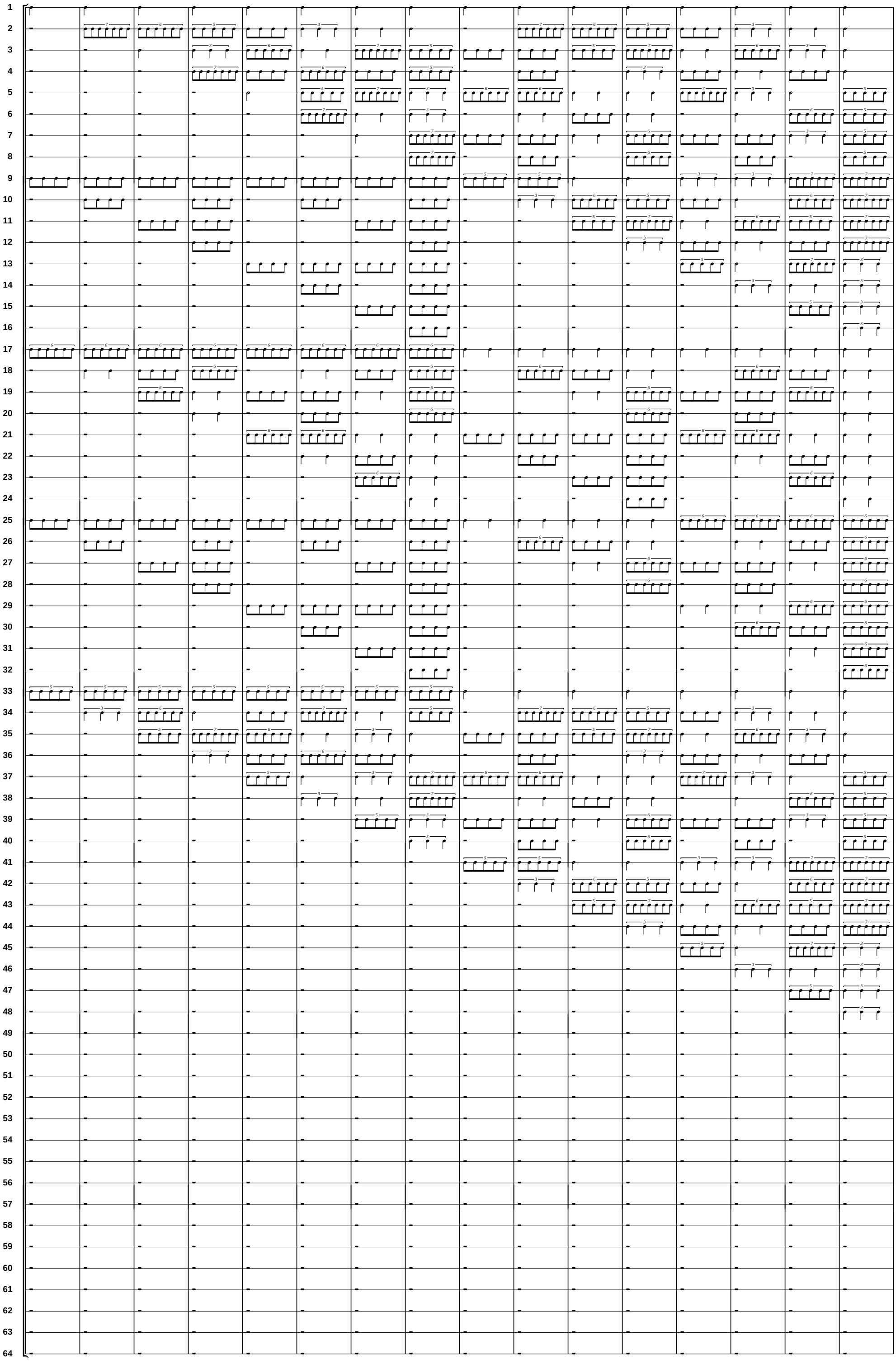

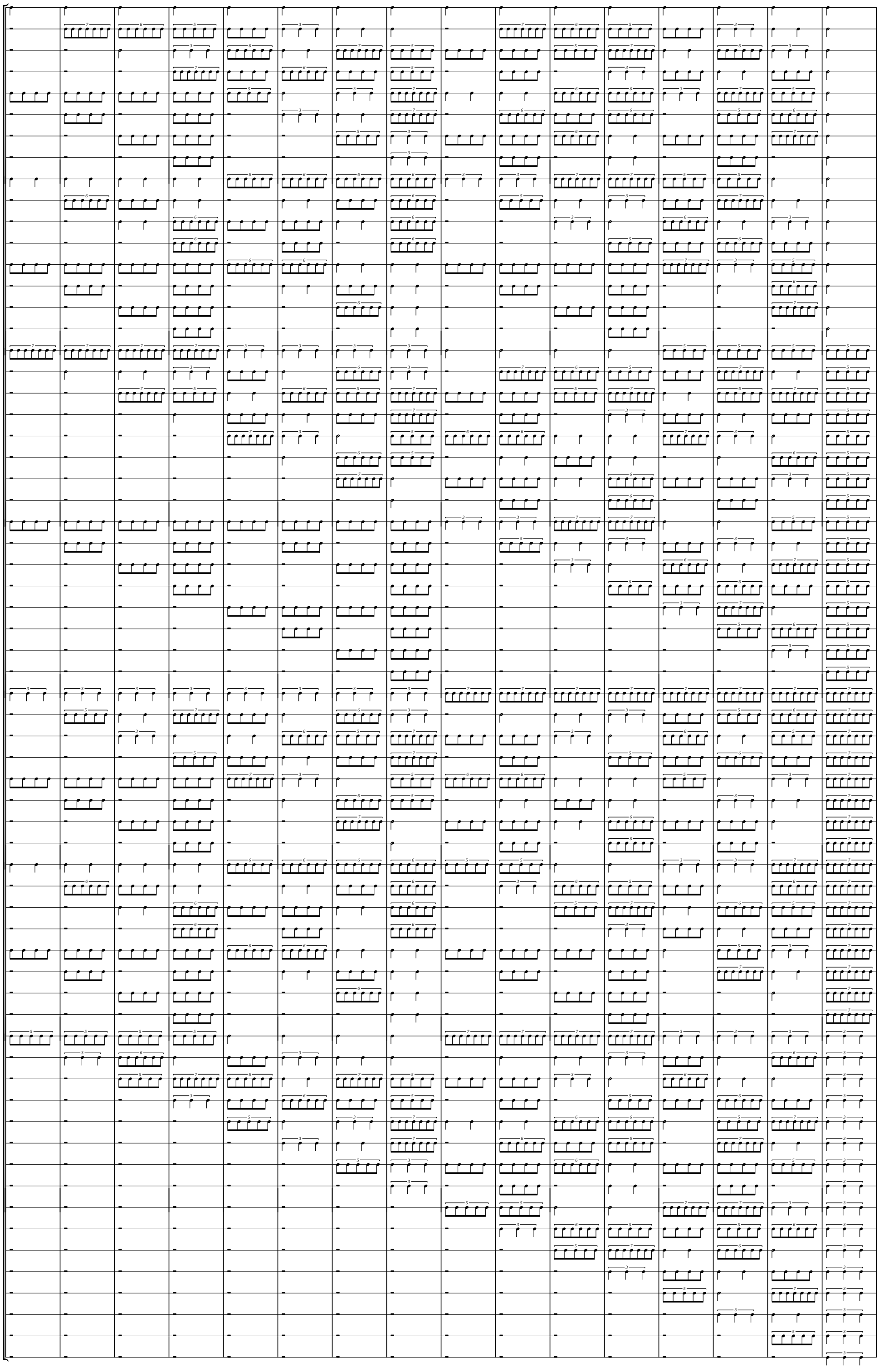

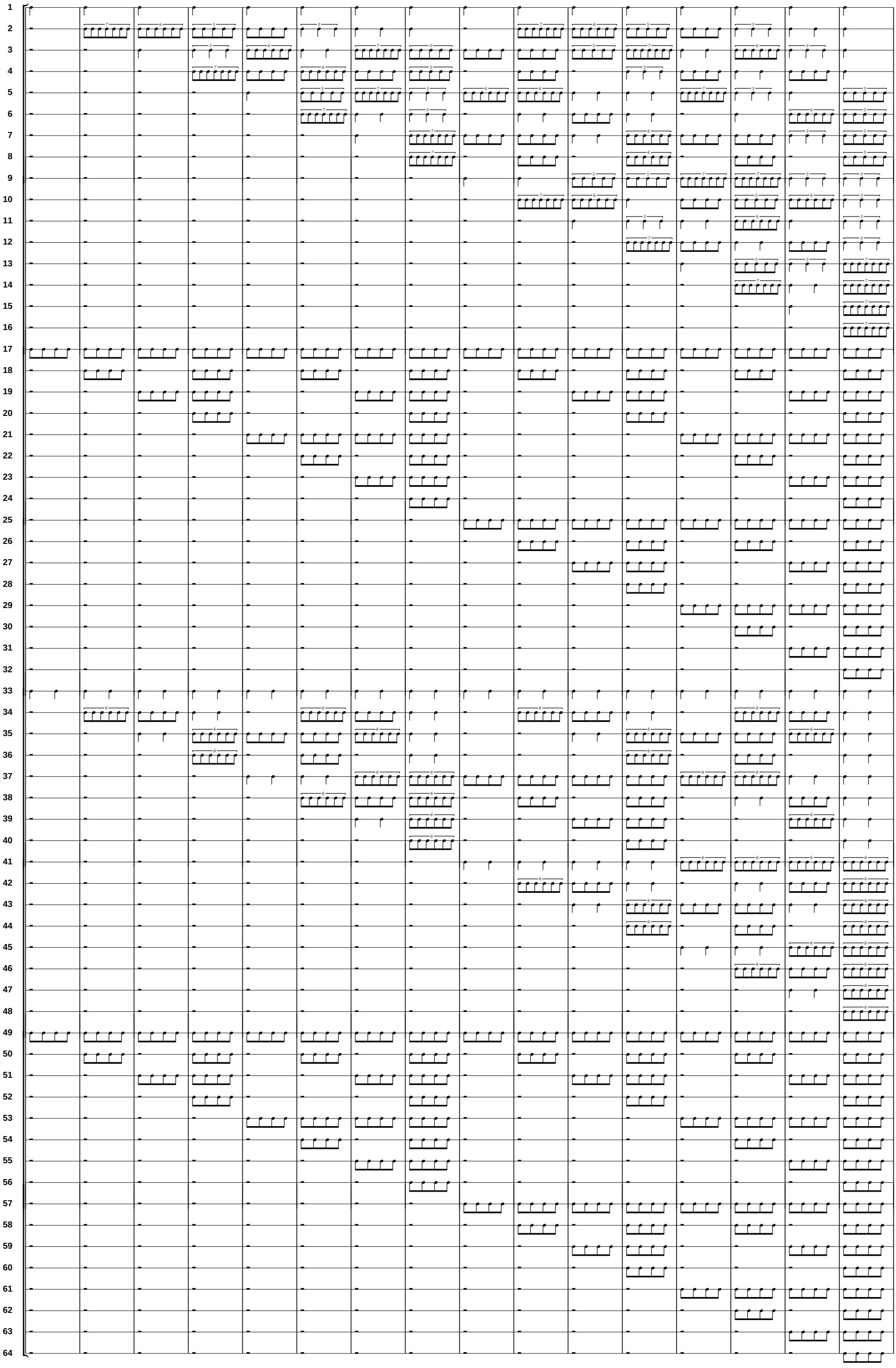

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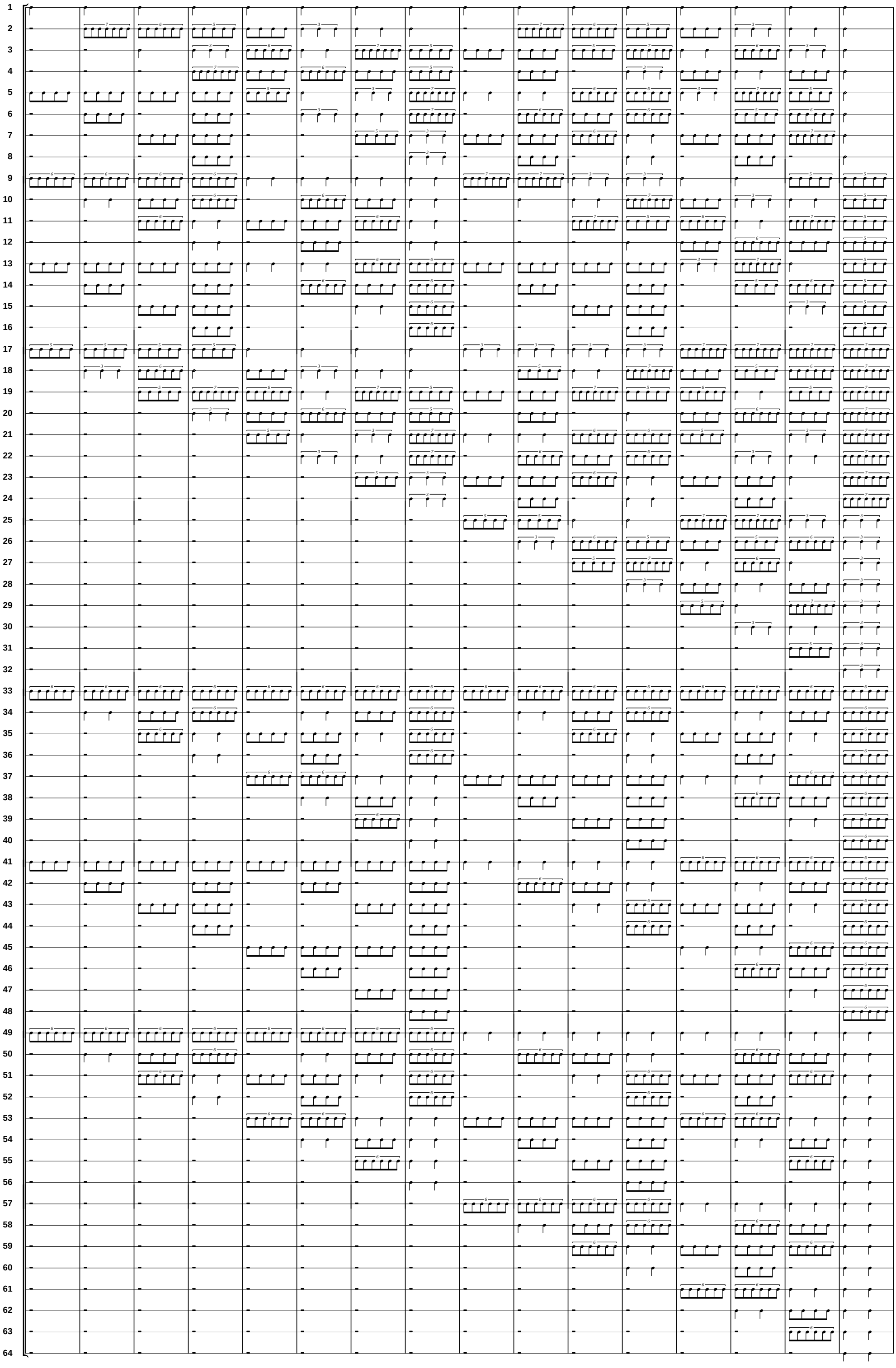

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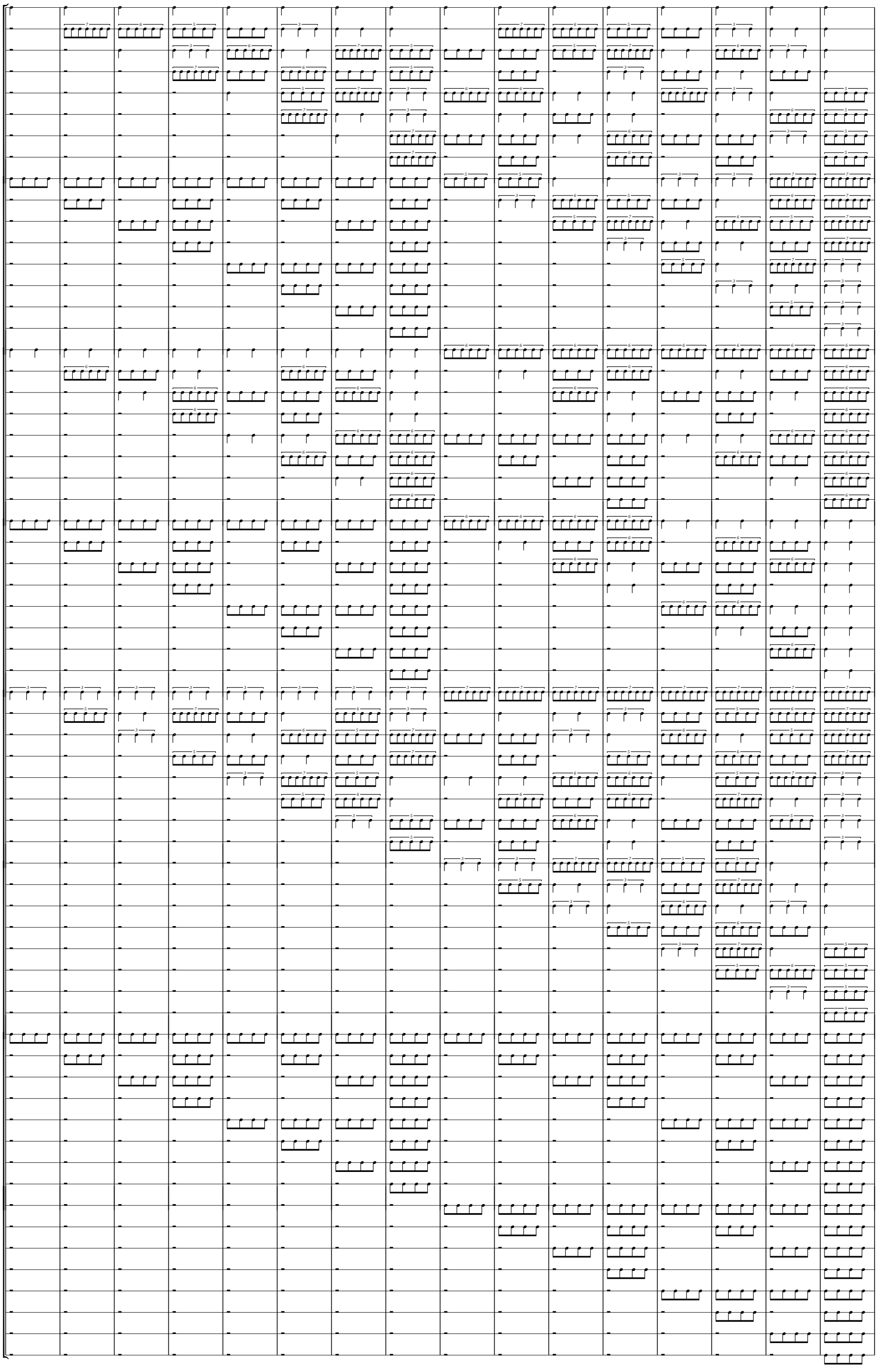

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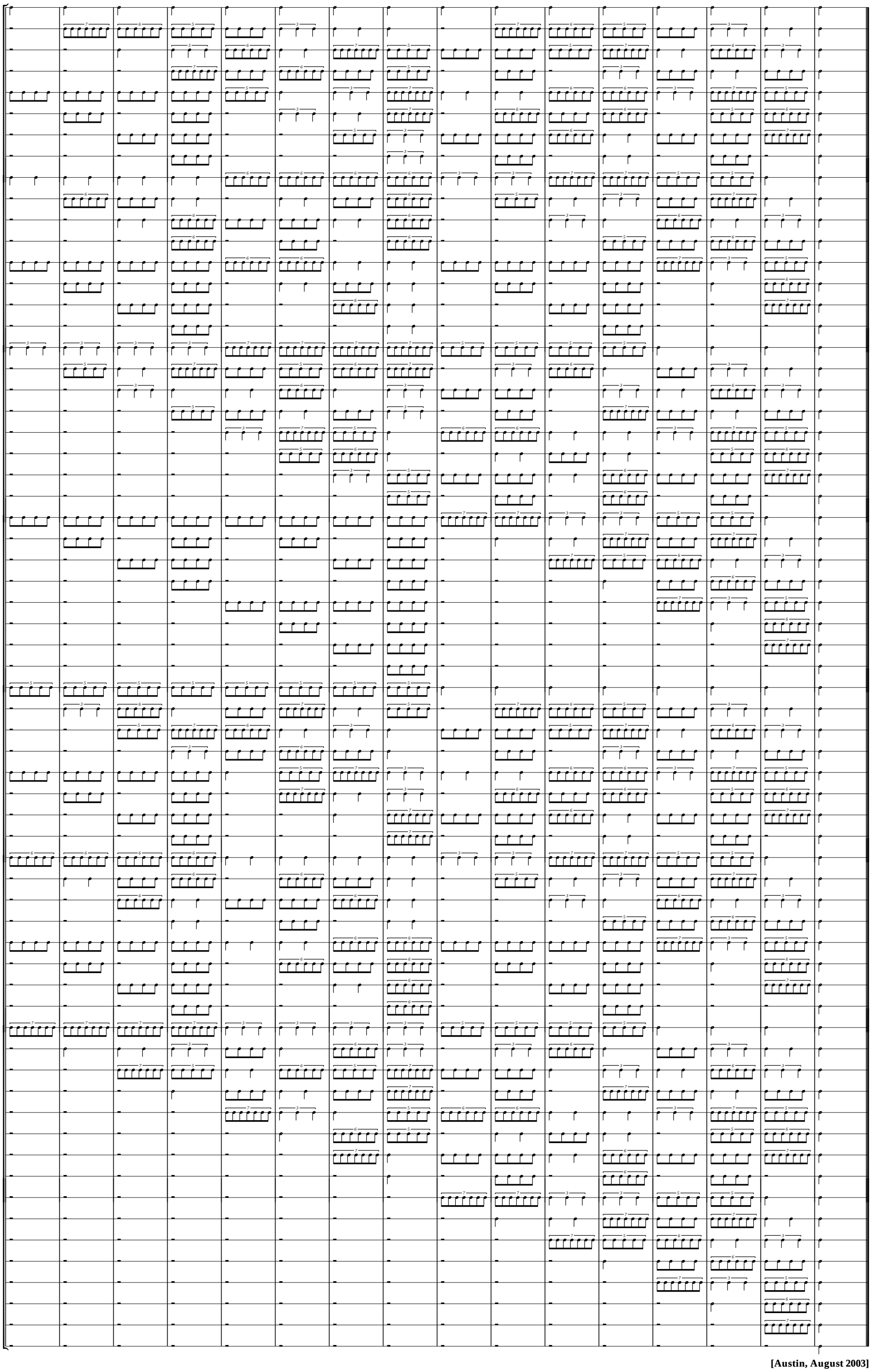

[Austin, August 2003]