Praveen Venkataramana

Magic Suite

for 6-string Kite guitar
5’

Tucson, Arizona

Edition Zalzal

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Preface

In *Magic Suite*, I attempted to fit a loosely Renaissance-inspired musical idiom to the Kite guitar, which is structured according to a regular temperament called "magic." Magic temperament has major thirds which are flat enough that three of them differ from an octave by a quarter-tone-sized interval.

The piece opens with an invocatory "Hymn to Calliope," where I used the quarter-tones to approximate the ancient Greek enharmonic genus. Following this are three short Renaissance-inspired dance movements.

—*P. S. V.*

Biography

Praveen S. Venkataramana considers himself a Wilsonian in approach and has composed a variety of chamber, solo, and electronic pieces in various tuning systems. He is mostly self-taught in music, but he studied cello with Rich Eckert, South Indian music with Neyveli Santhanagopalan and composition with Keeril Makan. He received a Philip Loew Memorial Award for creative accomplishment at MIT and his music has been performed by the ensembles Either/Or and Sound Icon.

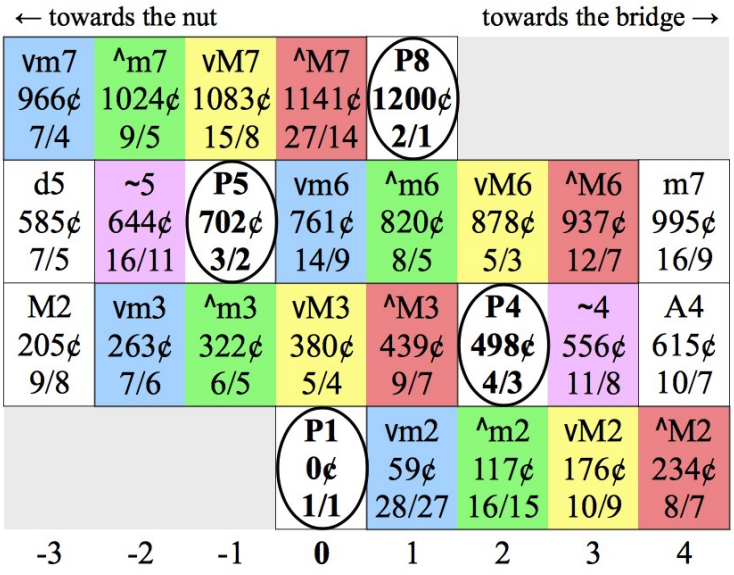
The Kite Guitar

The Kite guitar, named for its inventor Kite Giedraitis (**https://tallkite.com**), is a new solution to a problem that musicians and instrument builders have grappled with for centuries: How do you balance accurate tuning, ergonomic playing, and the ability to modulate between keys?

If all harmonic intervals are tuned to pure Just Intonation, the instrument must favor a single key (or only a few), or else the number of pitches rapidly proliferates. If there is a large number of pitches, physical navigation of the instrument becomes more difficult. And if absolute freedom of modulation is desired, an equal division of the octave (edo) must be used—yet the most accurate edos are quite large, with many pitches, and the smaller and more ergonomic edos are much less accurate.

The Kite guitar solves this conundrum by using 41-edo, a large and accurate edo, combined with the idea of "skip-fretting" as developed by Matthew Autry. In this scheme, only every *other* fret is used, so adjacent frets are *two* steps of 41-edo apart. This makes the fretboard much more playable than a full 41-edo board, because the fret spacing is not as narrow. Only half of the intervals of 41-edo are available on a single string; however, the strings are tuned an odd number of edo-steps apart, and thus all pitches are available on each *pair* of strings. In addition, because the strings are all tuned the same interval apart, interval shapes and chord shapes are consistent everywhere on the fingerboard: the system is "isomorphic," unlike a standard guitar.

The following diagram graphically demonstrates the utility of the Kite system. In this diagram, the strings are tuned 13 steps of 41-edo (13\41) apart, representing a "downmajor" third in Kite parlance, very close to the Just Intonation ratio 5/4 (386c). This is the most common tuning for Kite guitar, though others are possible. With this tuning, 25 different intervals, all commonly of interest to microtonal musicians, are available across 4 strings and a compass of 8 frets, equivalent to roughly 4-5 frets on a standard guitar. Thus, they all lie easily under the hand without shifting position.

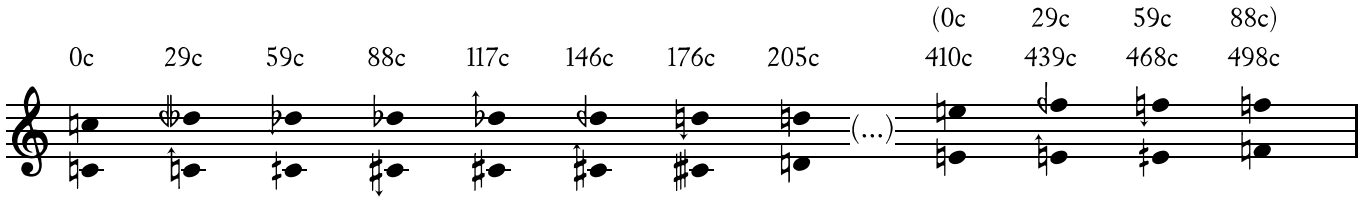


Further resources are available at **https://kiteguitar.com**.

—R. L. H.

Notation

41-edo Accidentals



pitches and equivalent spellings in a whole step

pitches and equivalent spellings in a half step

Note that all pitch information necessary for performance is contained in the tablature—the staff notation is primarily for understanding what sounds to expect.

This piece is in 41-edo. In this edo, the perfect 5th is close to harmonically pure, only very slightly sharp. Translated into notation, this means that all *standard* accidentals represent pitches derived from a spiral of these near-pure 5ths. Pitches in the direction of rising 5ths (C-G-D-A-E...) become increasingly sharper than their 12-edo equivalents, while pitches in the descending direction (C-F-B♭-E♭...) become increasingly flatter. As shown in the diagram above, the result is that flats are lower in pitch than their usual enharmonic sharps.

An alteration by one step of 41-edo (half of the interval between adjacent frets) is typically notated by an arrow attached to a standard accidental. Two steps (a full fret) are typically notated by a quarter-tone accidental, as shown.

Tablature

The tablature uses the fret numbers of the Kite system. For ease of reading the numbers, all rhythmic, articulation and expressive information is shown on the standard notation staff.

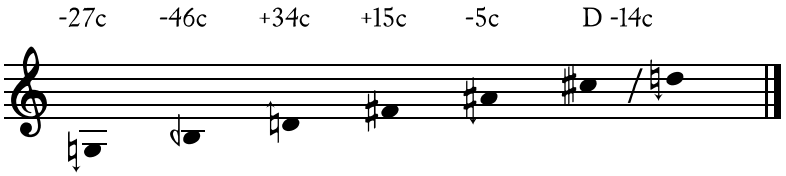
For a comprehensive discussion of Edition Zalzal's approach to notation, please see **https://untwelve.org/zalzal/notation**.

—*R. L. H.*

right: two 8-string Kite guitars.

Fretboard and Tuning

Open String Tuning



This piece uses the most common Kite guitar tuning, "downmajor" thirds. This is shown above, and cent deviations from 12-edo are included for reference.

The open strings of a standard Kite guitar are tuned 4\41 (117c) flatter than the pitches given above. However, notating this piece with standard Kite tuning would make nearly all key centers microtonal, and the staff notation would become less useful for analysis (being more difficult to read). The composer chose, instead, to use a transposition that places several common key centers on C and F.

The tablature is unaffected. It is expected that the piece will be played in standard Kite tuning, so it will sound 117c lower than written on the staff.

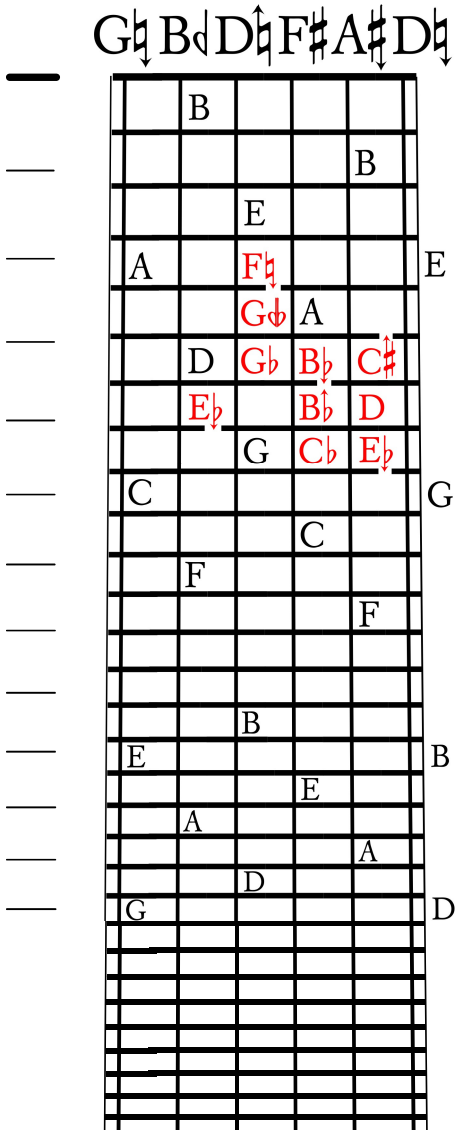
Fretboard

The fretboard according to this edition is shown at right. (Note that on a guitar with standard Kite tuning, all pitches would be 4\41 lower than those pictured.) To the left of the fretboard, 12-edo is provided for visual reference. All of the "plain" diatonic notes are marked in black—note that each individual string contains only half of these in its first octave. Finally, a characteristic scale from the first movement of this piece is shown in red (reminiscent of the ancient Greek enharmonic scale, with adjacent quarter-tone intervals).

Comparing this with the interval diagram on page 4 is highly recommended. While the Kite guitar was designed to favor well-tuned major and minor diatonic intervals (with Just Intonation ratios involving factors of 5 or 7), this piece instead exploits the pitches that lie on adjacent frets. This is done either melodically, as in the first movement; or harmonically via chord roots and parsimonious voice leading, as in several other movements. The spellings of these pitches may seem bizarre, but in many cases, it is merely a result of this usage of adjacent frets, and examination of the tablature will prove invaluable for analysis as well as performance.

The Kite guitar community is very welcoming and supportive, and their website **https://kiteguitar.com** gives several ways to make or acquire a Kite-fretted guitar. In addition, **https://untwelve.org/zalzal/microtonal_guitar** has more resources for microtonally altering guitars in general.

—R. L. H.



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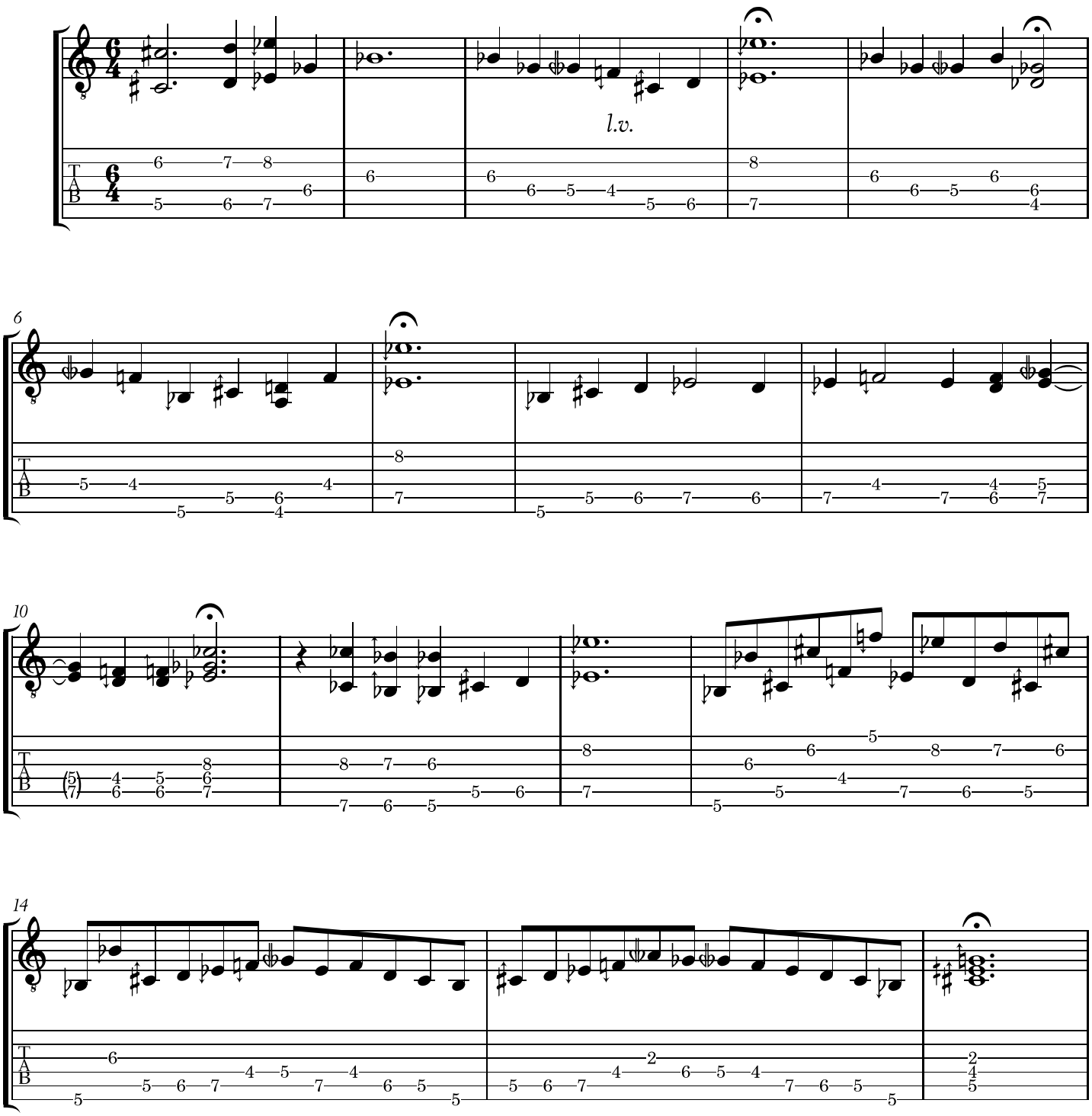
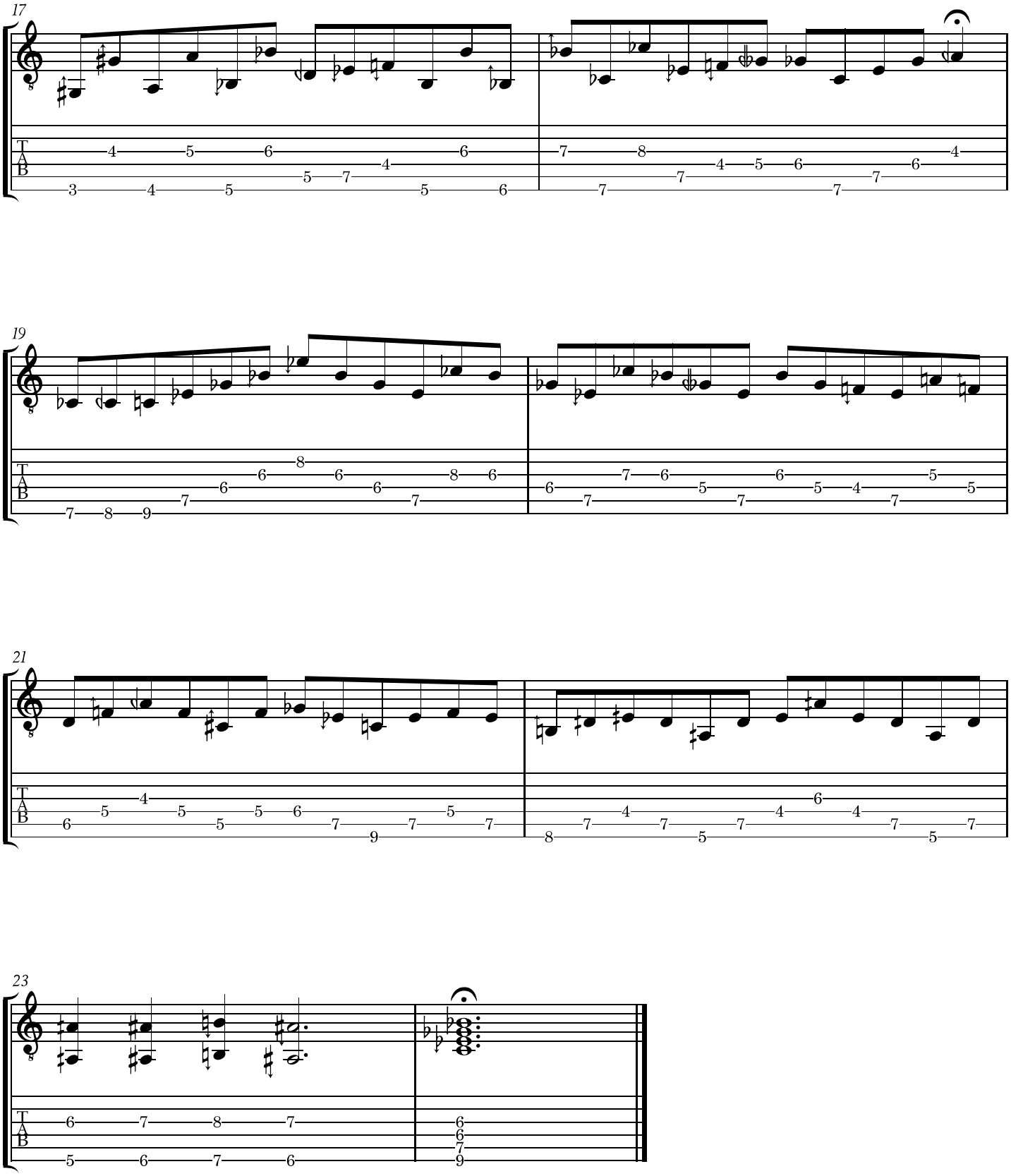
1. Hymn to Calliope

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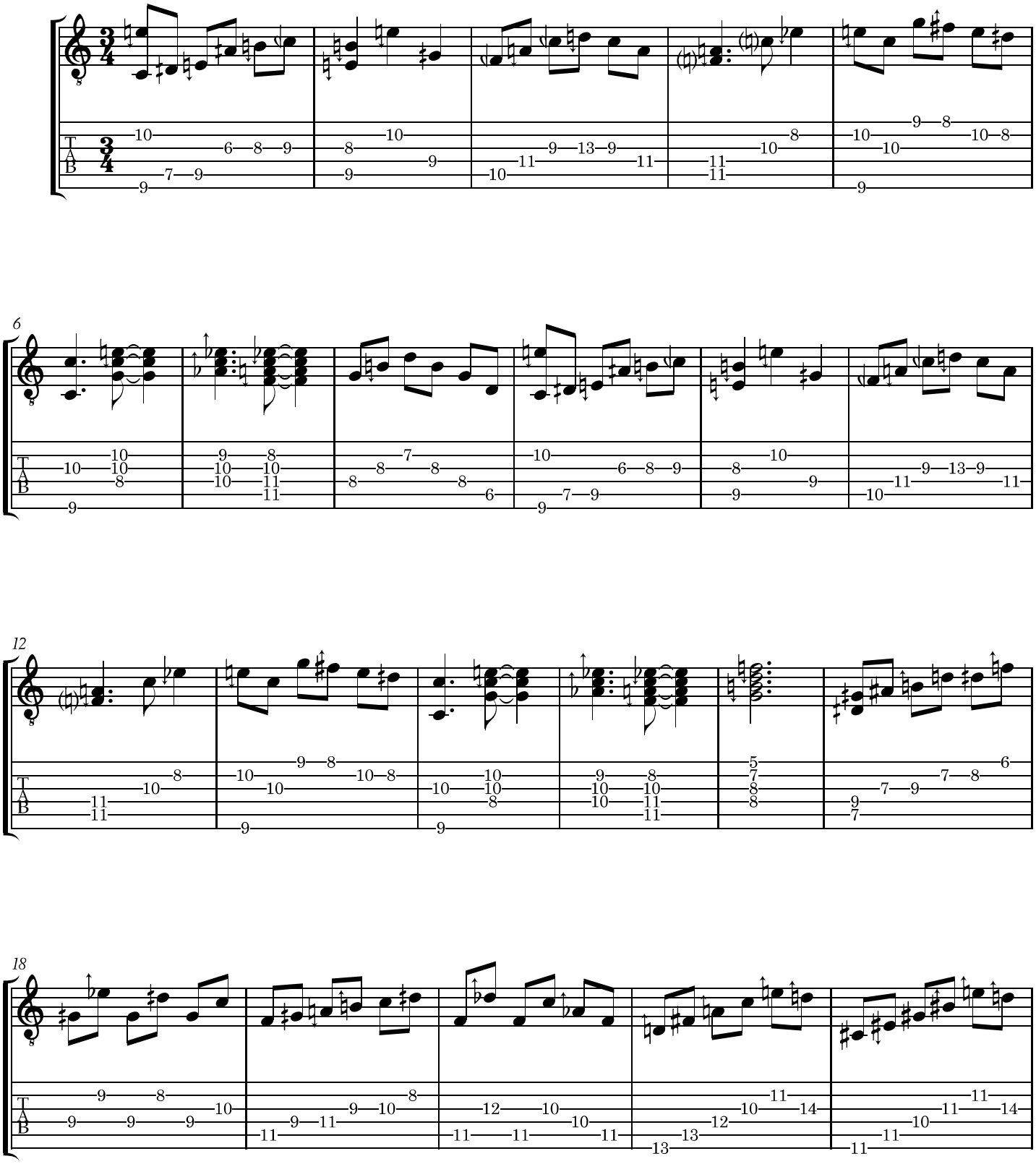
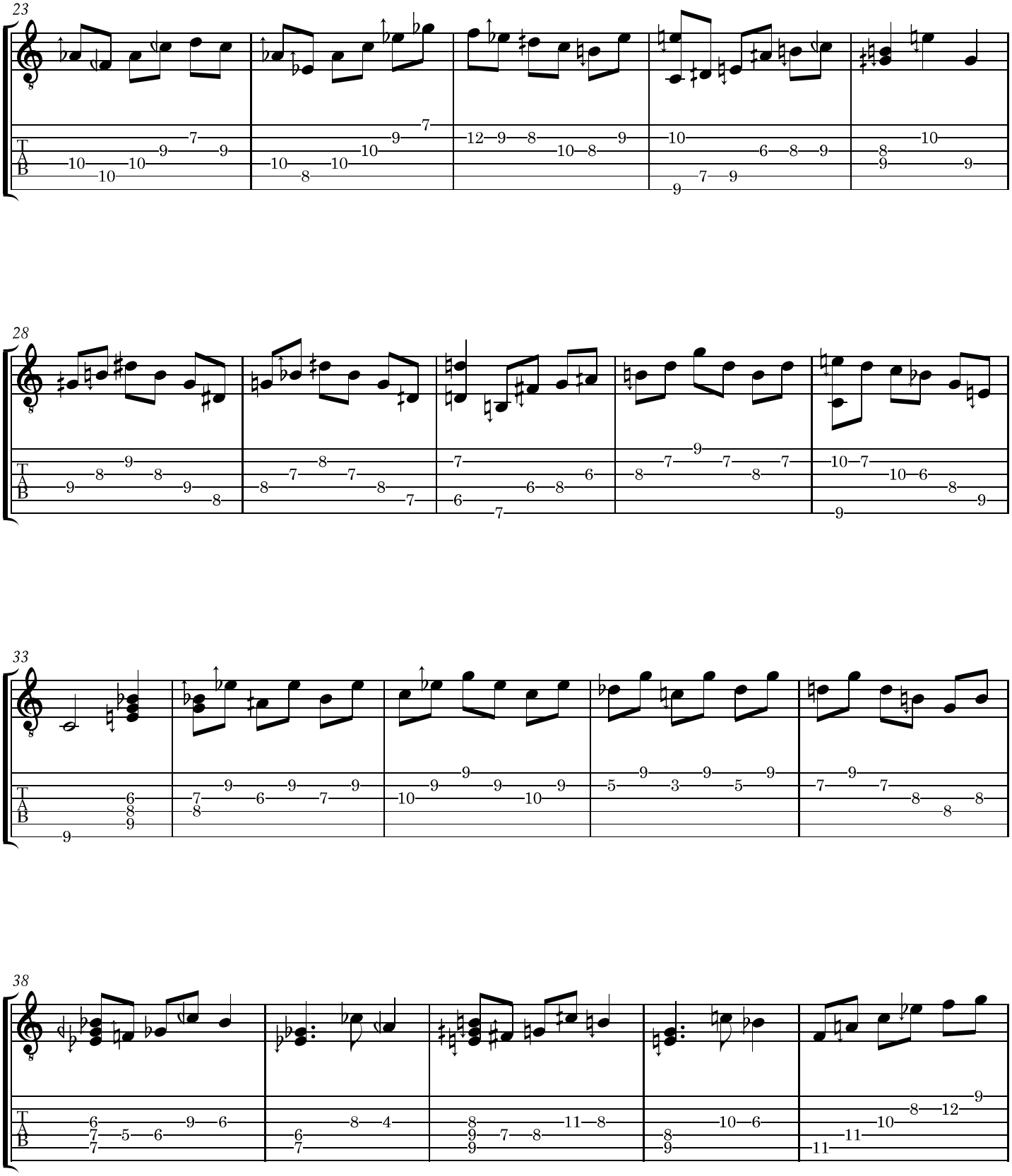
2. Galliard

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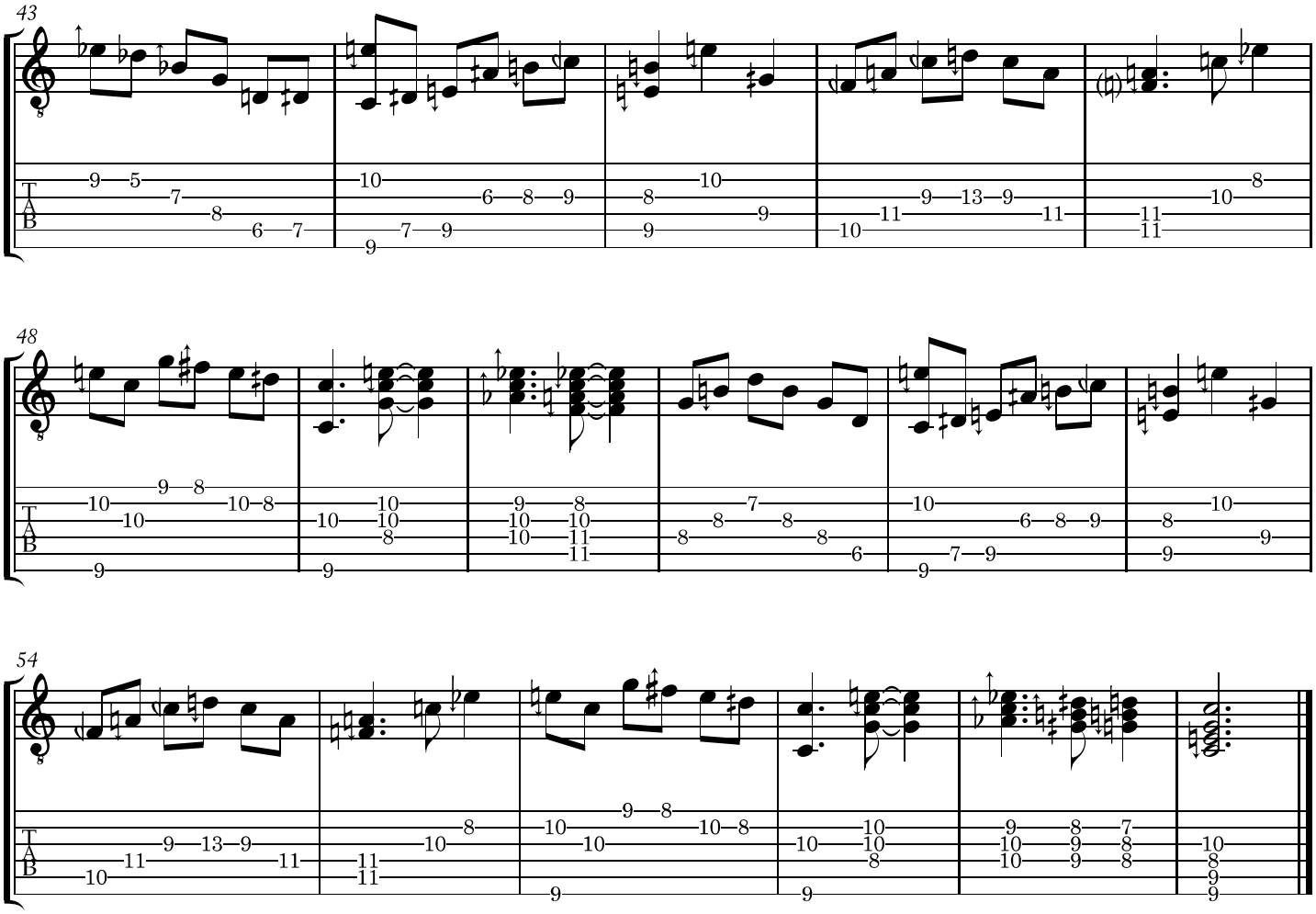
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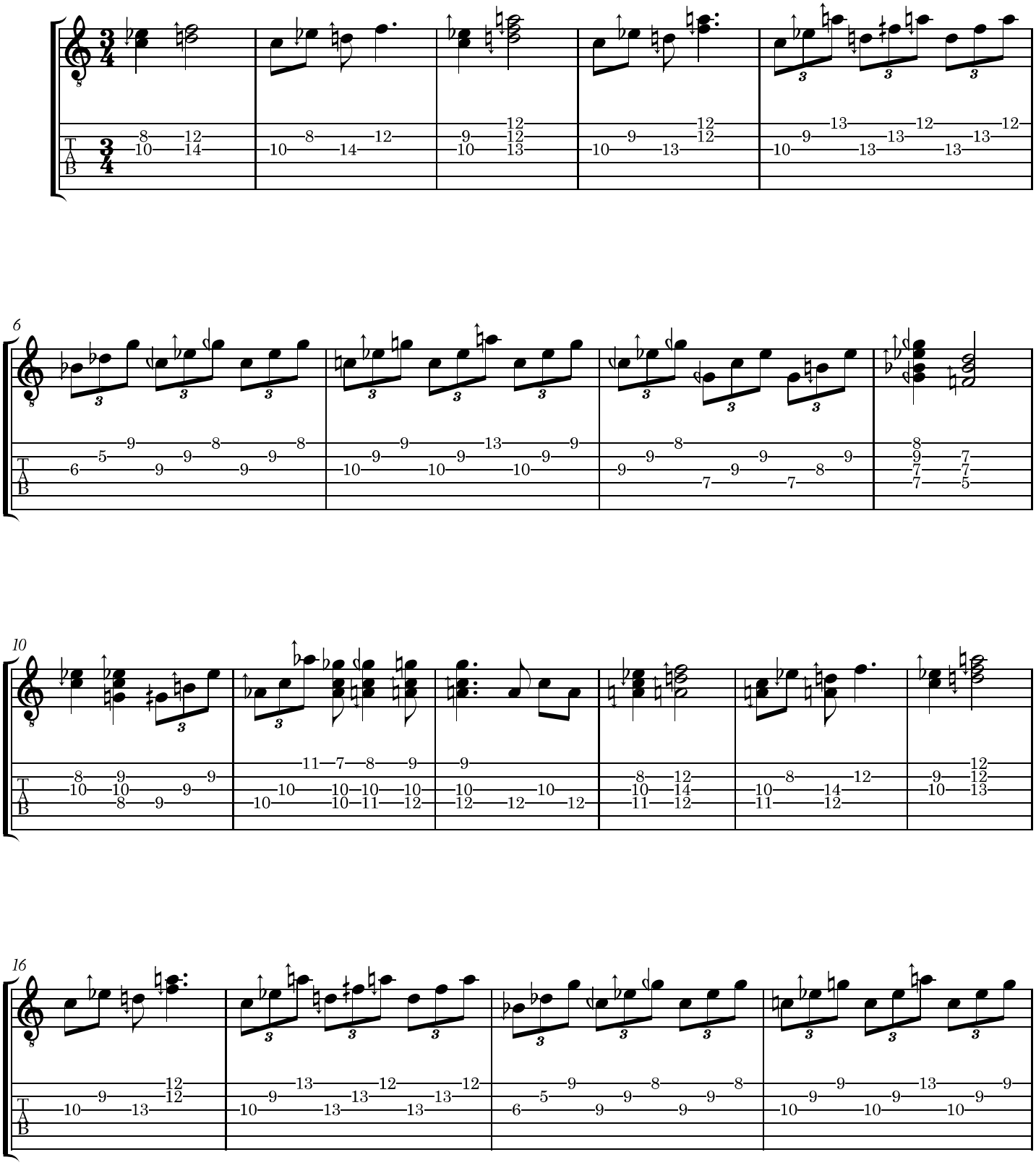
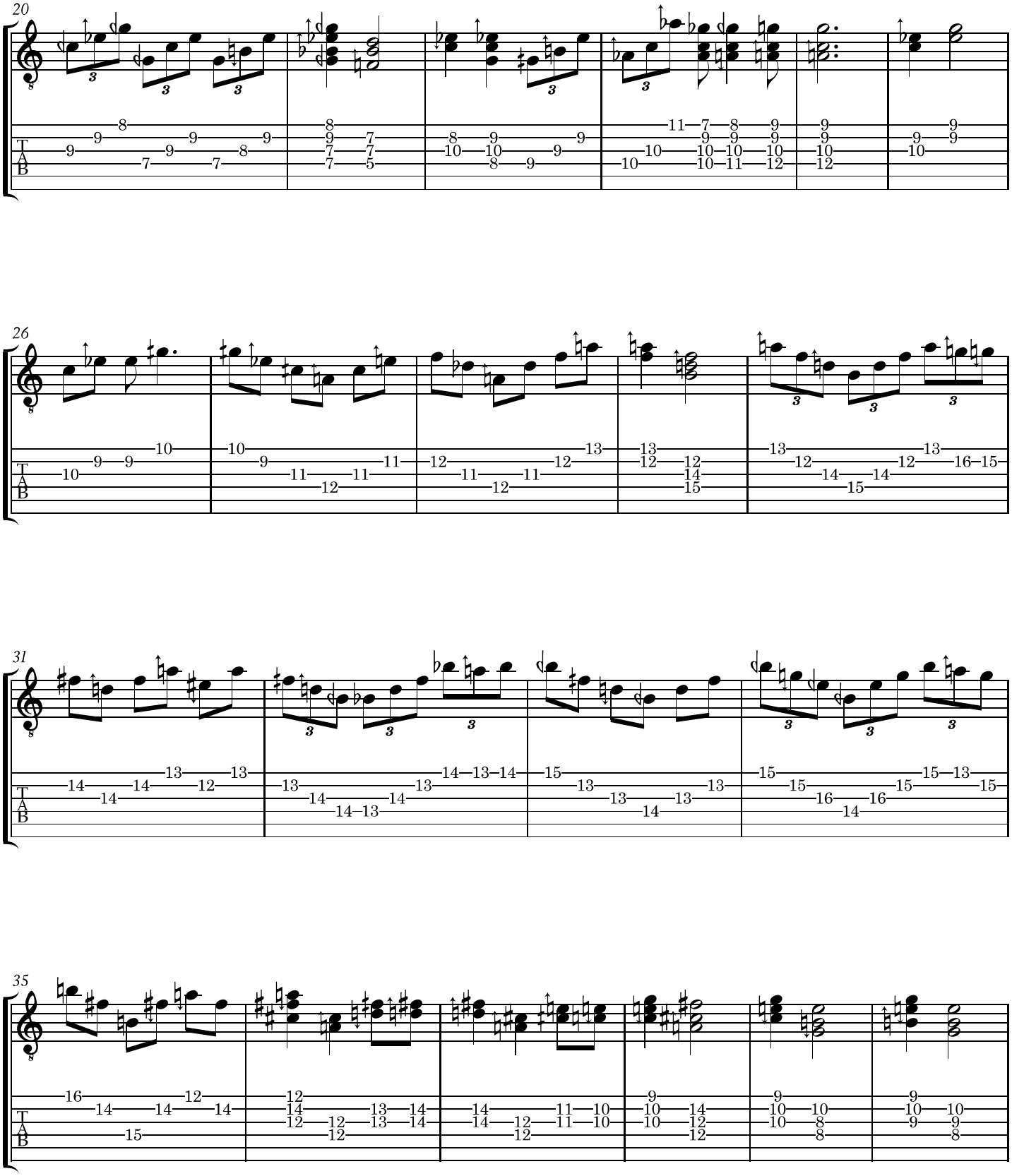
3. Sarabande

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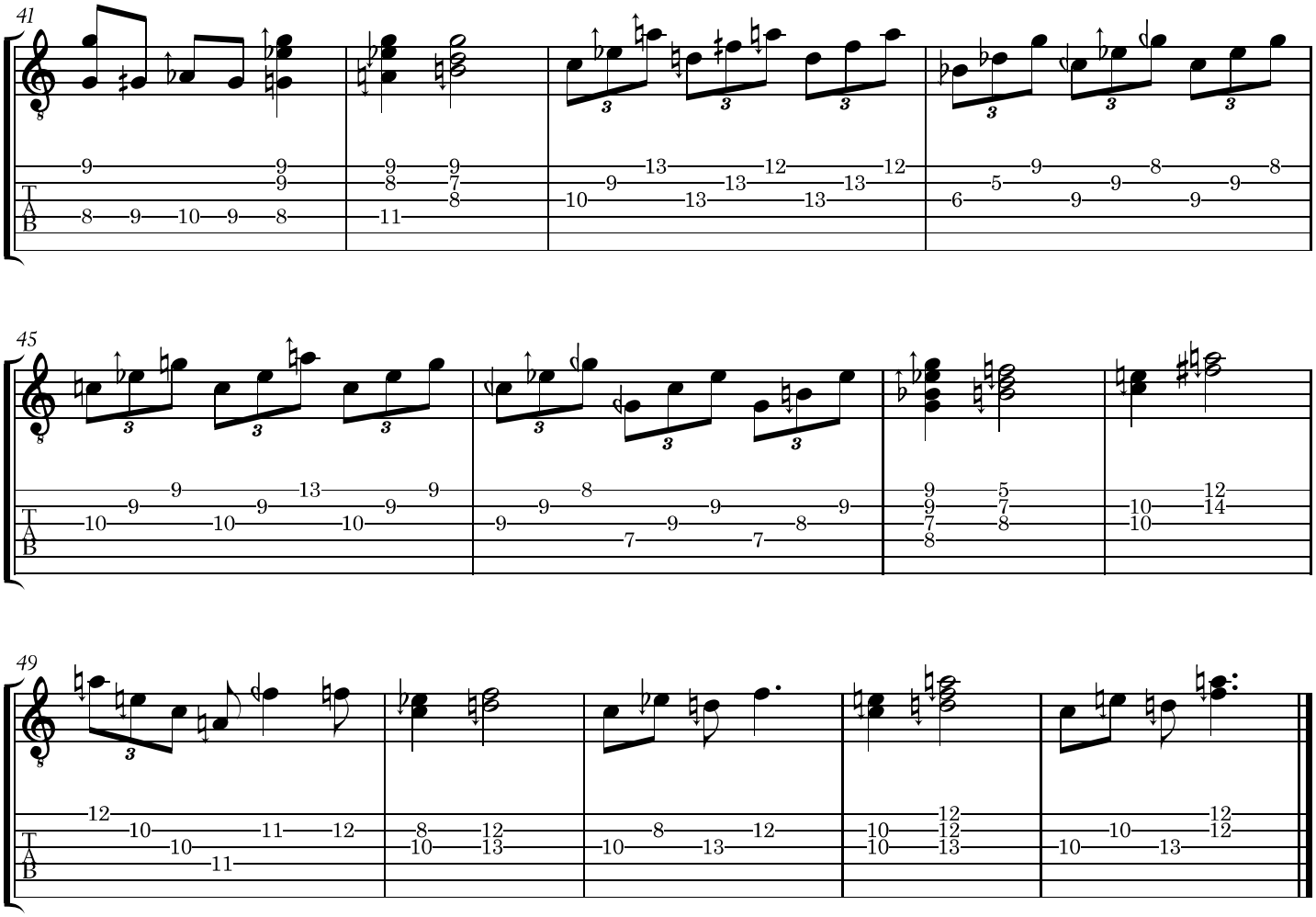
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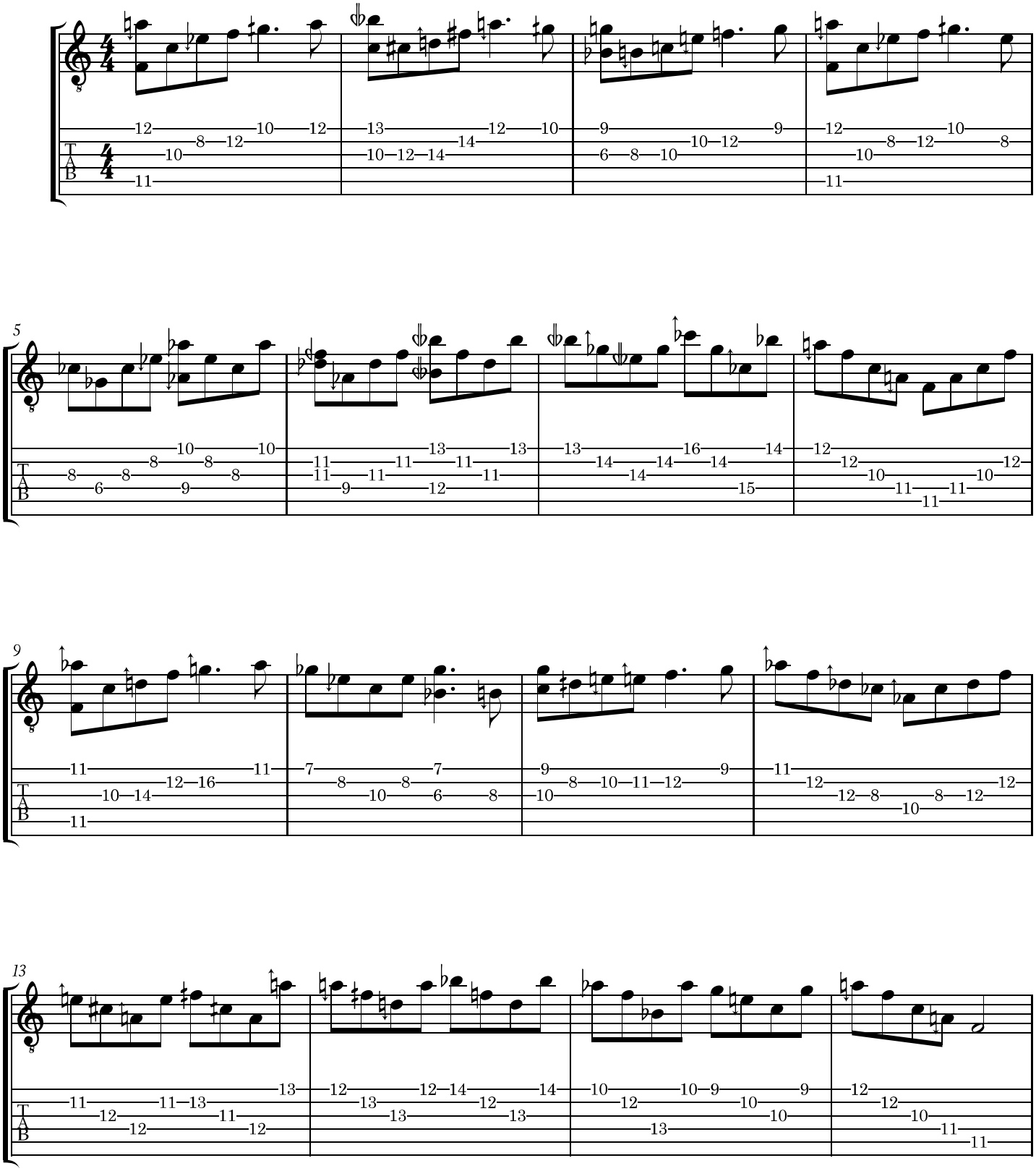
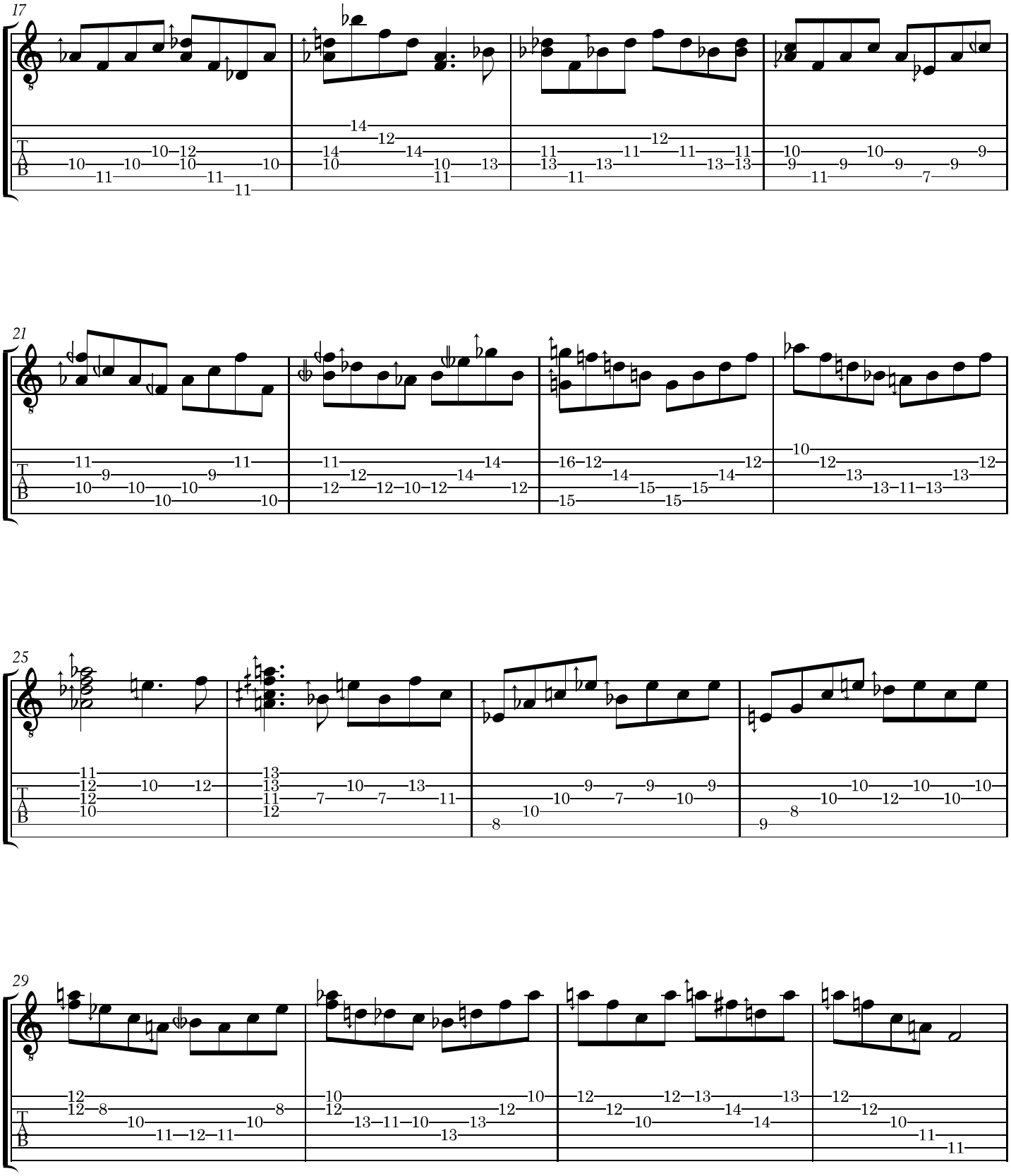
4. Rondeau

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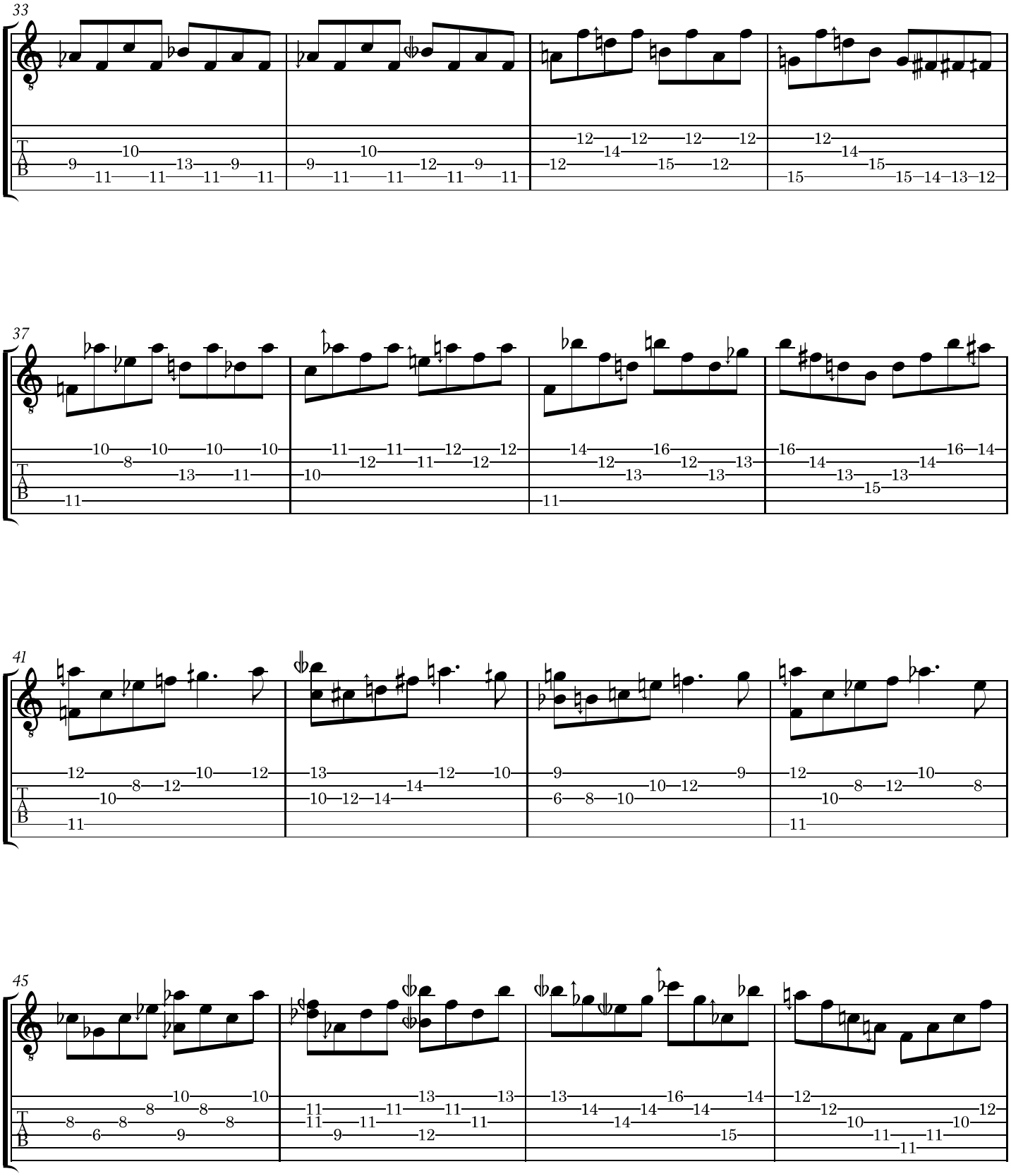
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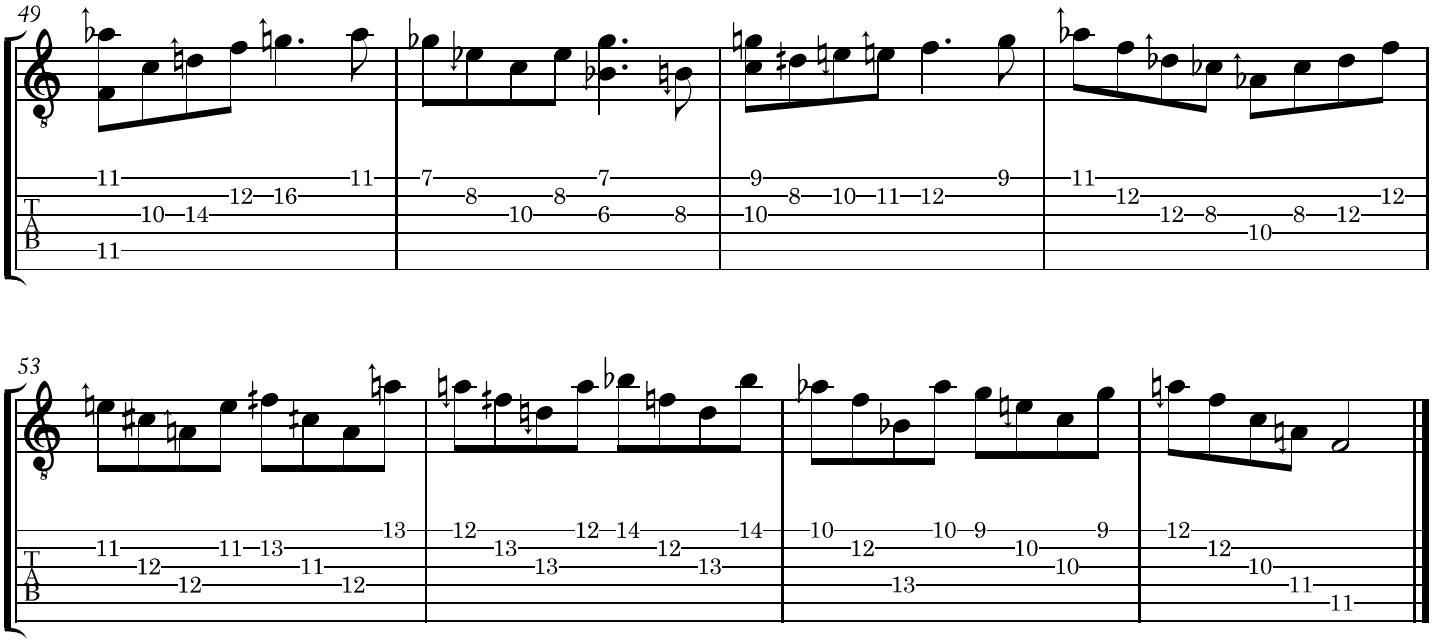
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Edition Zalzal is named in honor of the medieval oud player Mansur Zalzal. His talents were legendary, and his contribution extends to music theory: The interval with a size between that of a minor and major third—an interval which we now consider "microtonal"—has long been known as the "third of Zalzal."

This series aims to make microtonal guitar music available to the general public in clear, readable, and beautiful editions. We strive to bring to light important unpublished works of the past, as well as the vibrant and vital music of today. We celebrate the radical diversity and creativity of microtonal music. And—for maximum clarity—we use a single standard notation, adapted to the many idiosyncratic tuning systems in our catalogue.