Hindemithian Trichords

In the music of Anna Webber

Andrew Watkins-Alcocer

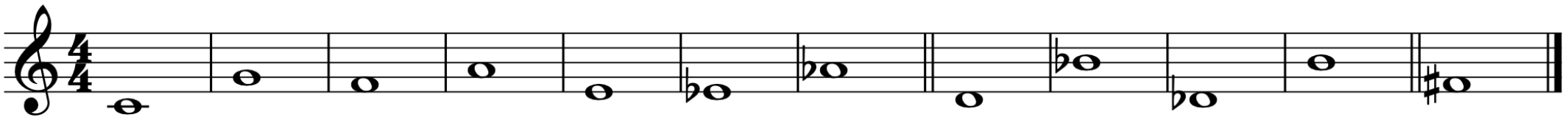
Hindemithian Roots

Parent tone of the chord derived from intervals

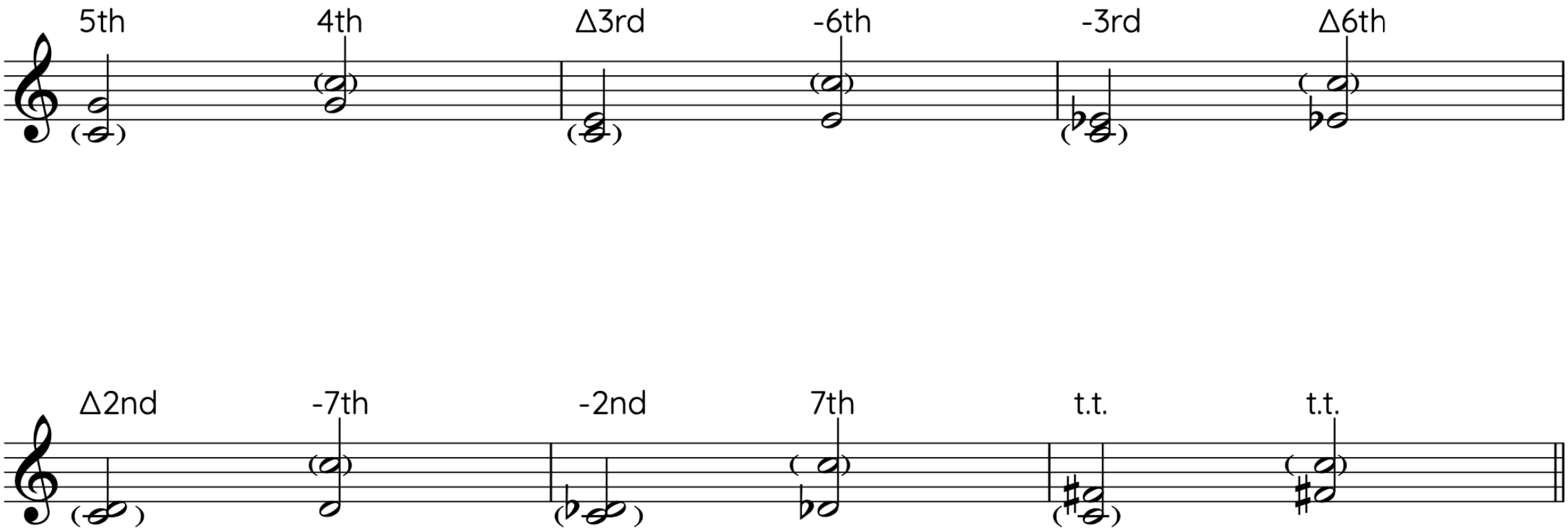
Primarily derived from the overtone series

Tritones are represented by the nearest interval

Series 1 – musica mundana



Series 2 – interval roots



Departure from Hindemith

Tritones are given their own ability to be used as roots

Presence of [01x] type chords lacks harmonic clarity

3rds and 6ths are preserved, so invertibility applies less (applies to trichords over III or ♭III most prevalently)

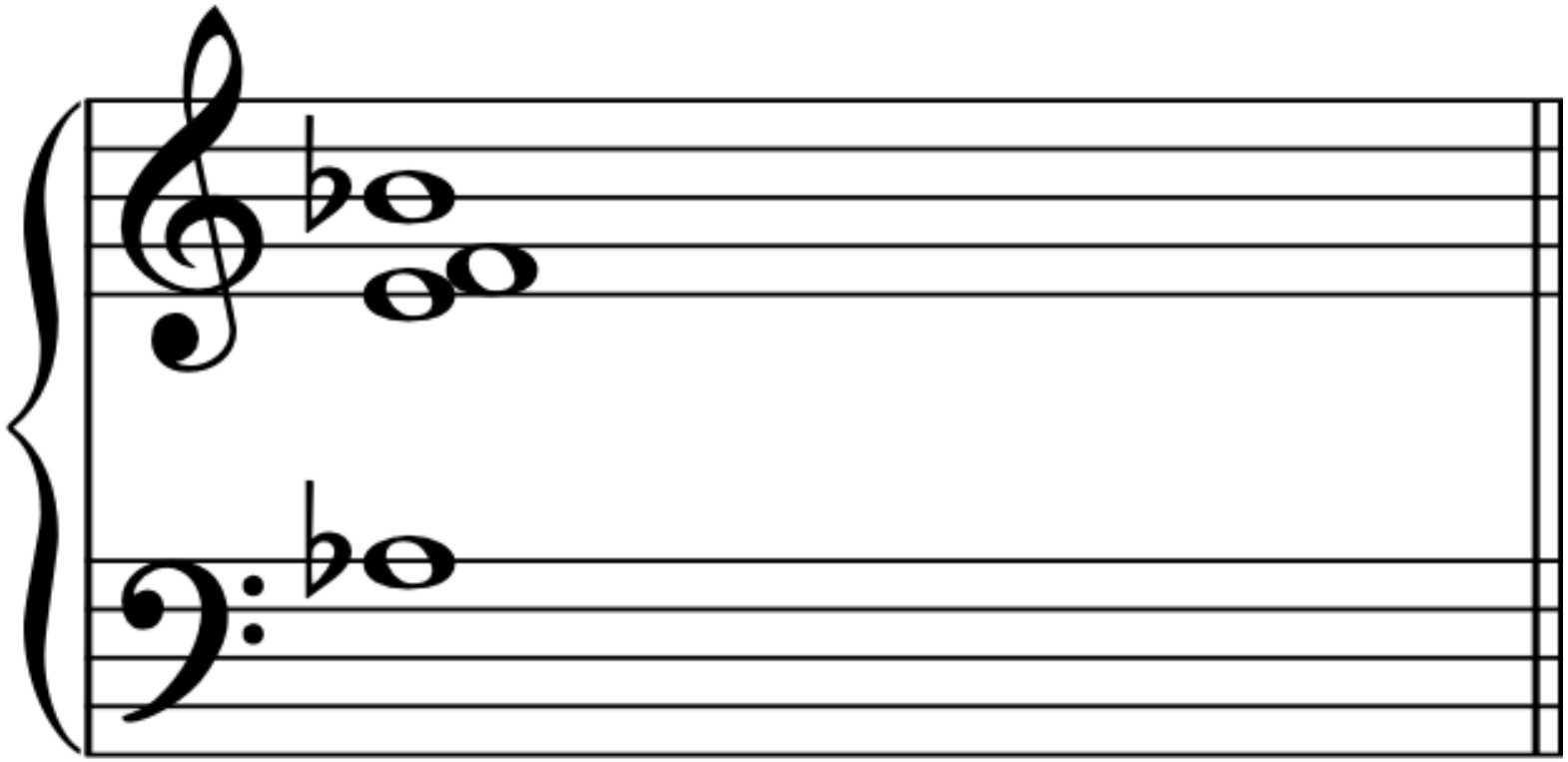
Chordal definition

Concerned with finding the true harmonic nature of a line in combination with a juxtaposed note

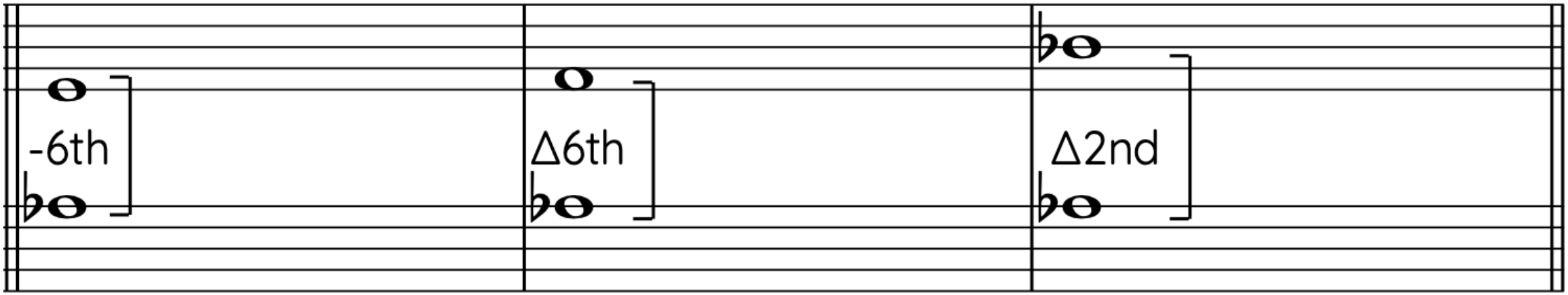
Essentially Bass note—with the color above

This can take the form of *replacing* the root of the chord to generate its true harmonic nature

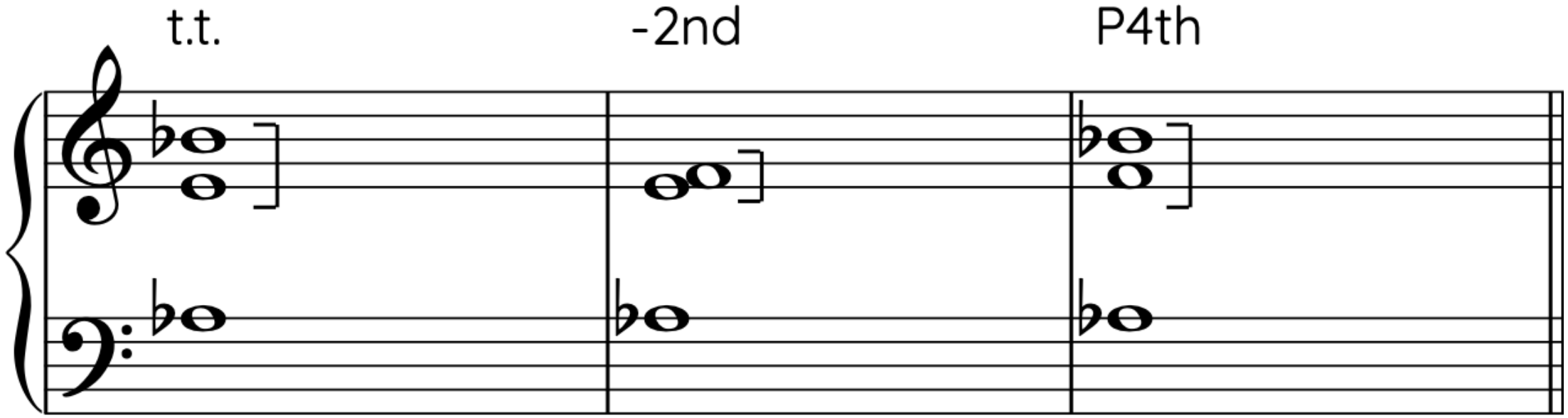
Finding the true series 1.



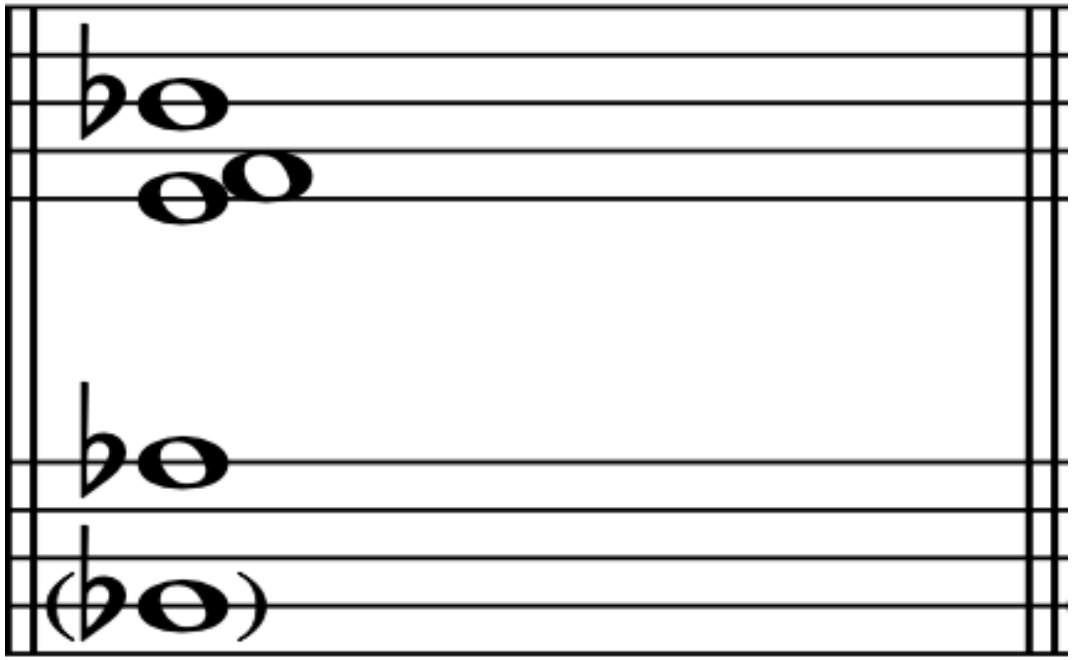
Finding the true series 2.



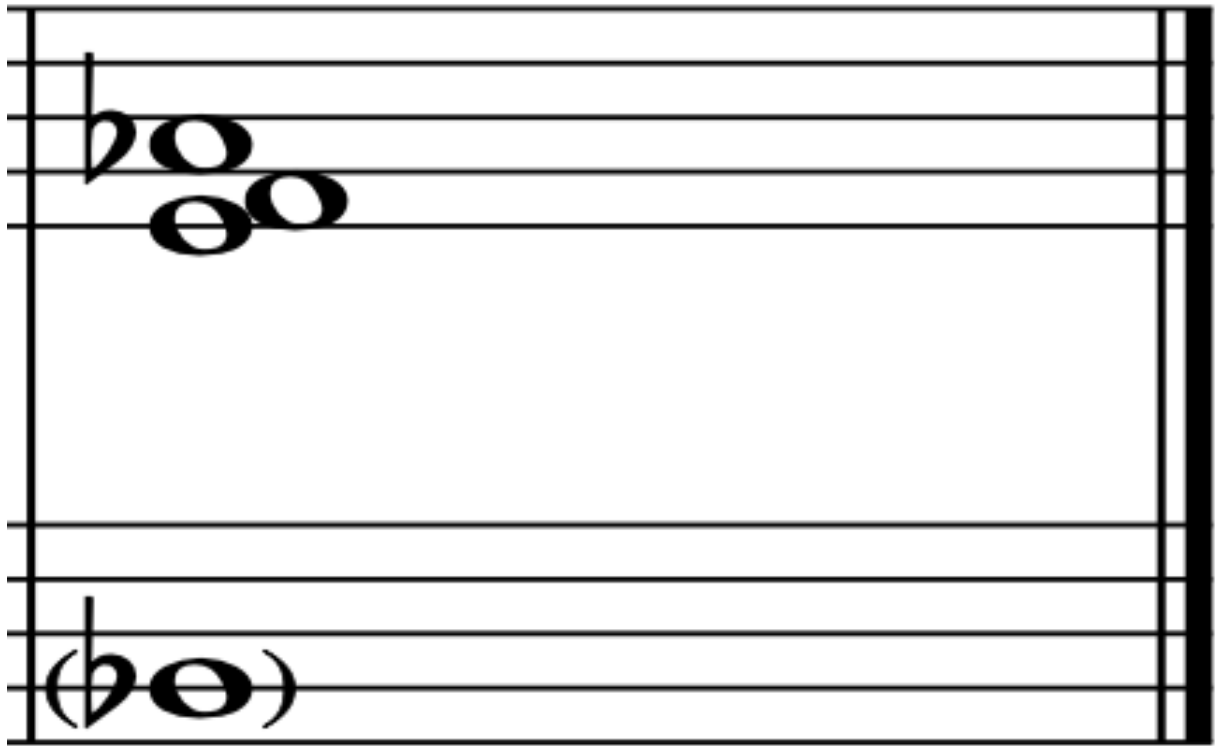
Finding the true series 3.



Finding the true series



Finding the true series



Kore I

Anna Webber

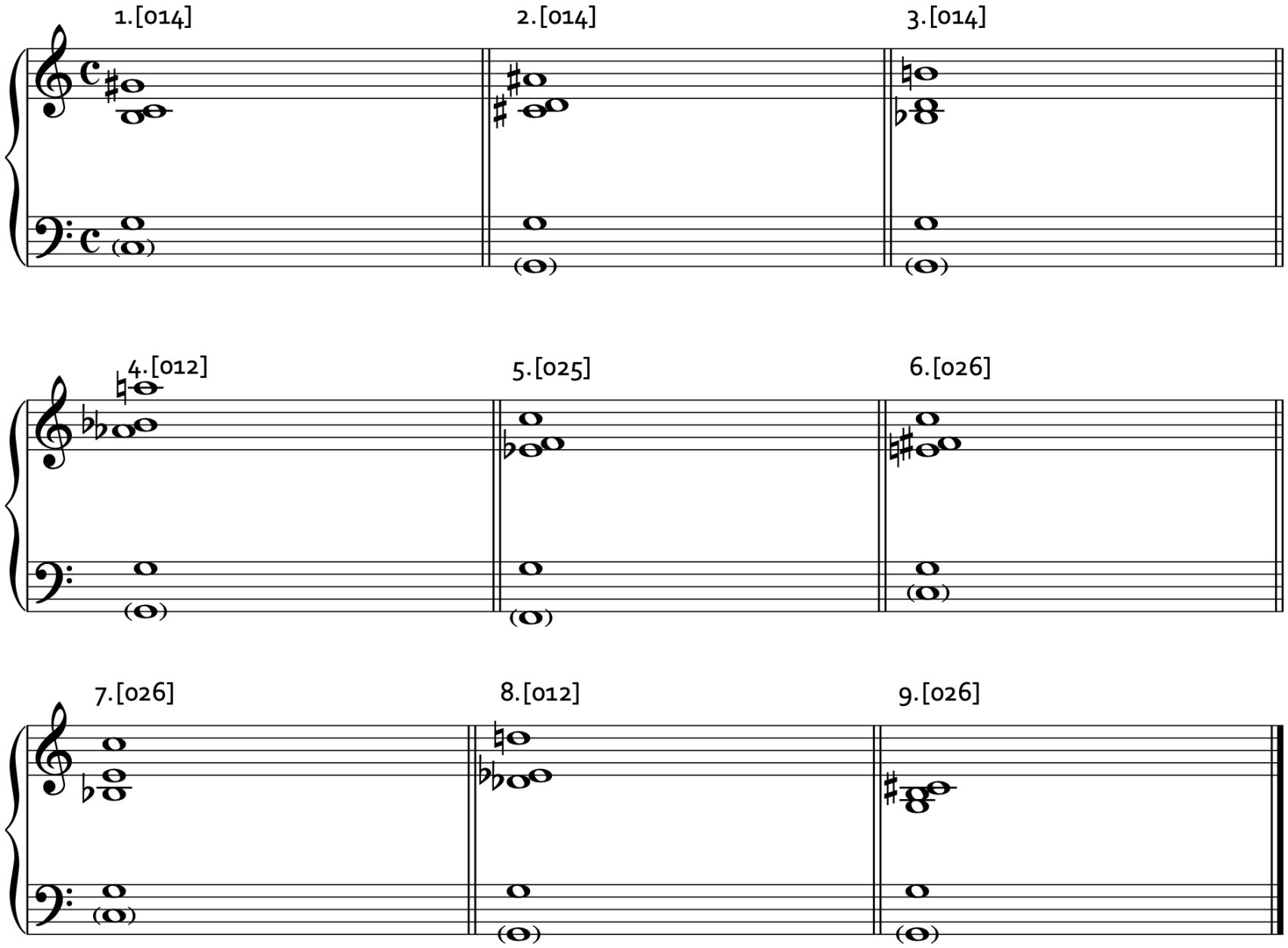
Based on Iannis Xenakis' piece *Persephassa*

Atonal, primarily trichord based

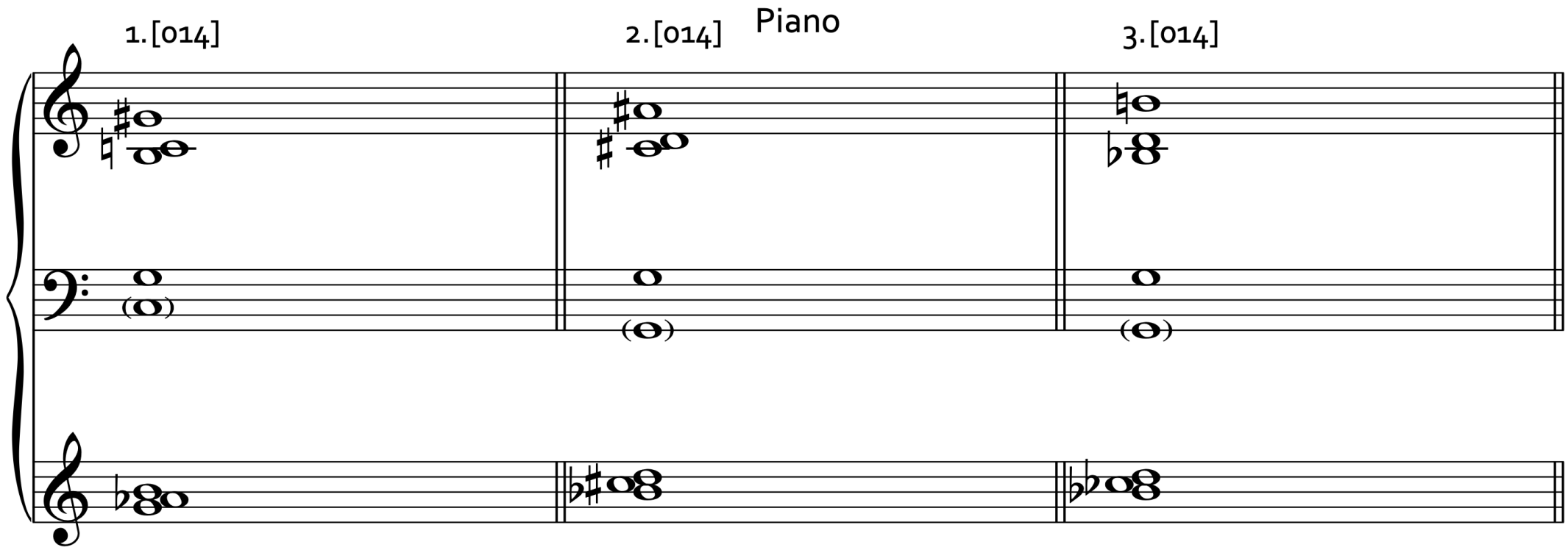
Pedal-point juxtaposition

Additive rhythms

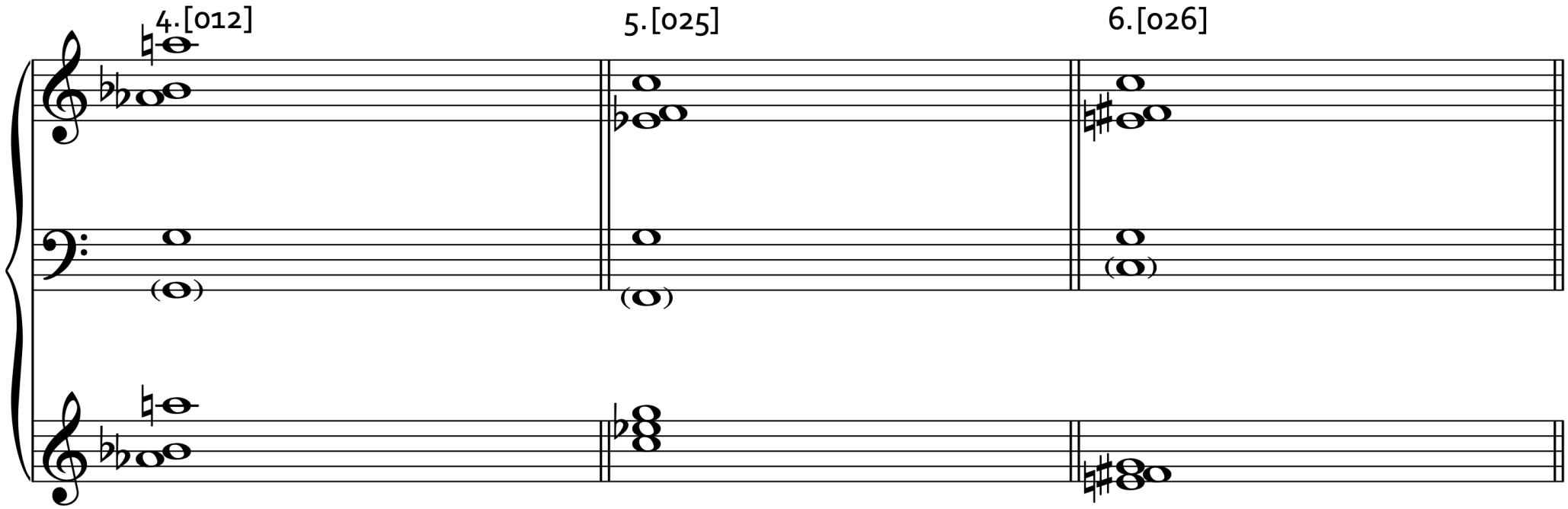
Background Figures



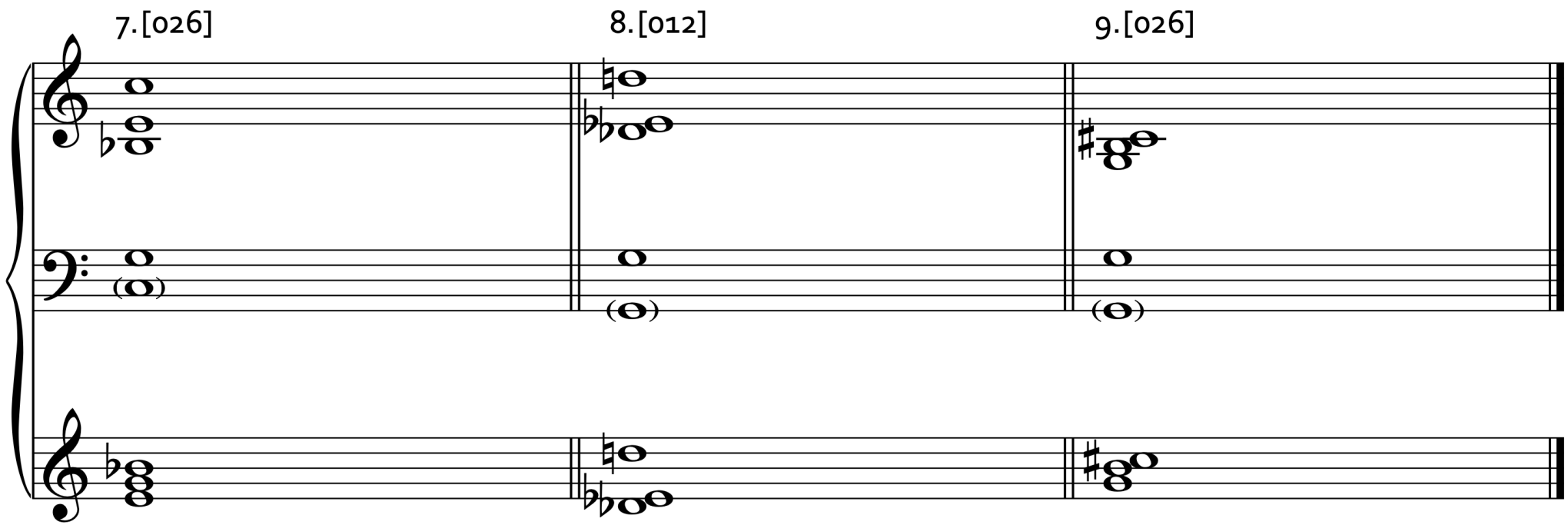
New Chords 1.



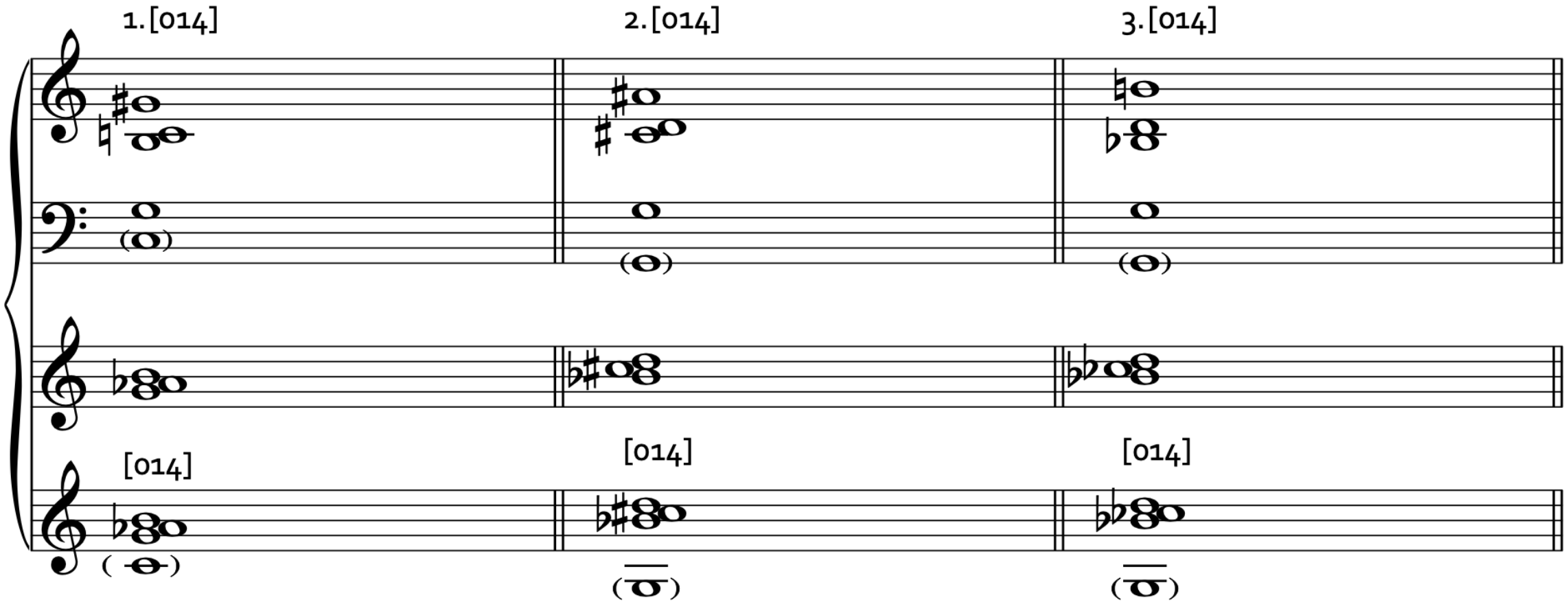
New Chords 2.



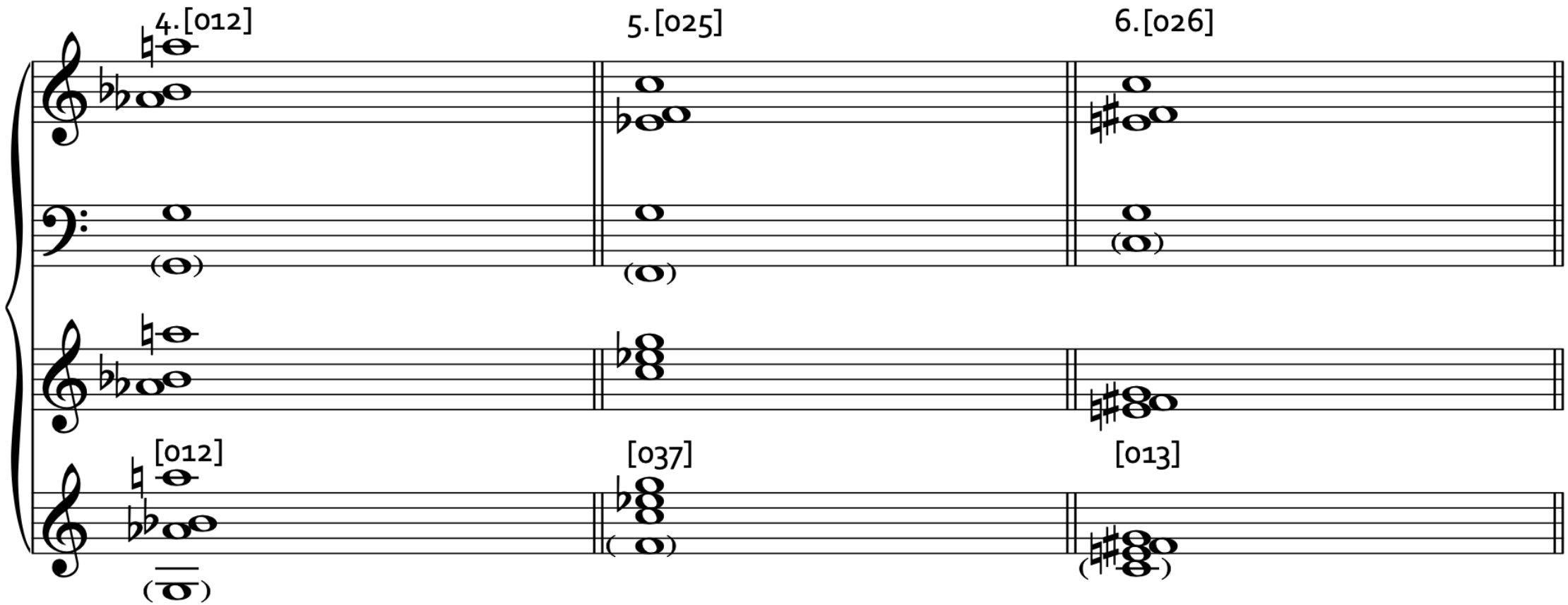
New Chords 3.



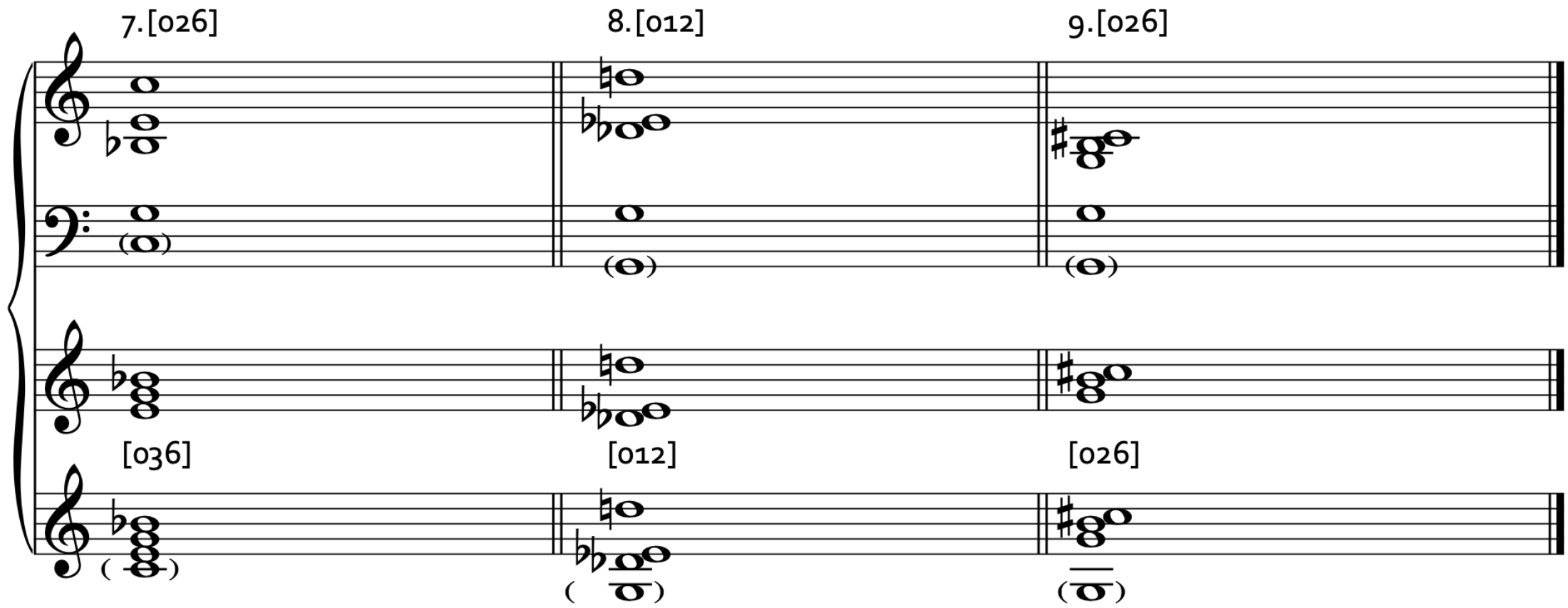
New Chords Full Set 1.



New Chords Full Set 2.

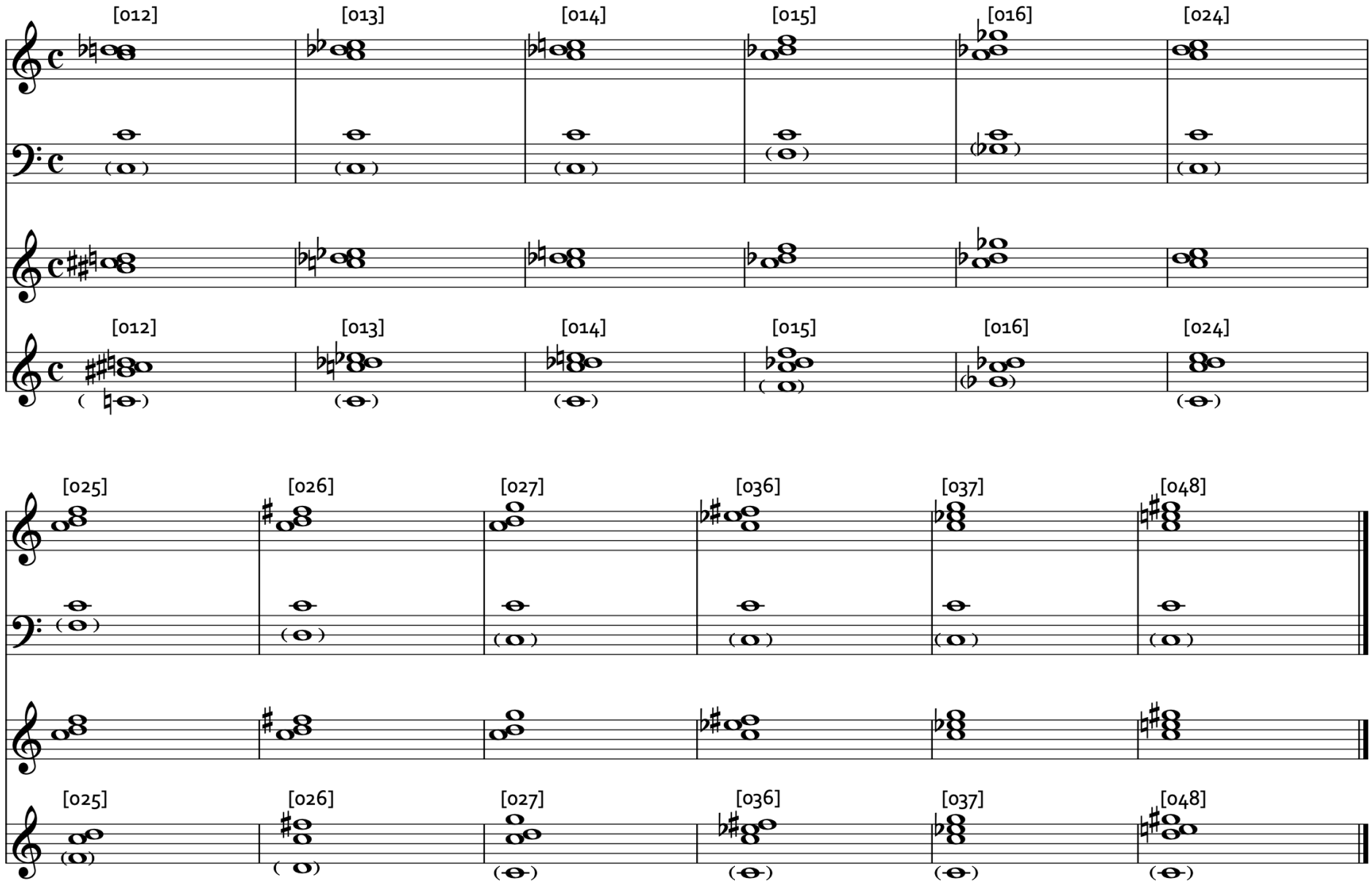


New Chords Full Set 3.



This can inform a new organization of harmonic material based on trichord/root

Can be expanded to include all possible trichordal combinations with their associated root


[012]
[013]
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[016]
[024]
[012]
[013]
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[024]
[025]
[026]
[027]
[036]
[037]
[048]
[025]
[026]
[027]
[036]
[037]
[048]

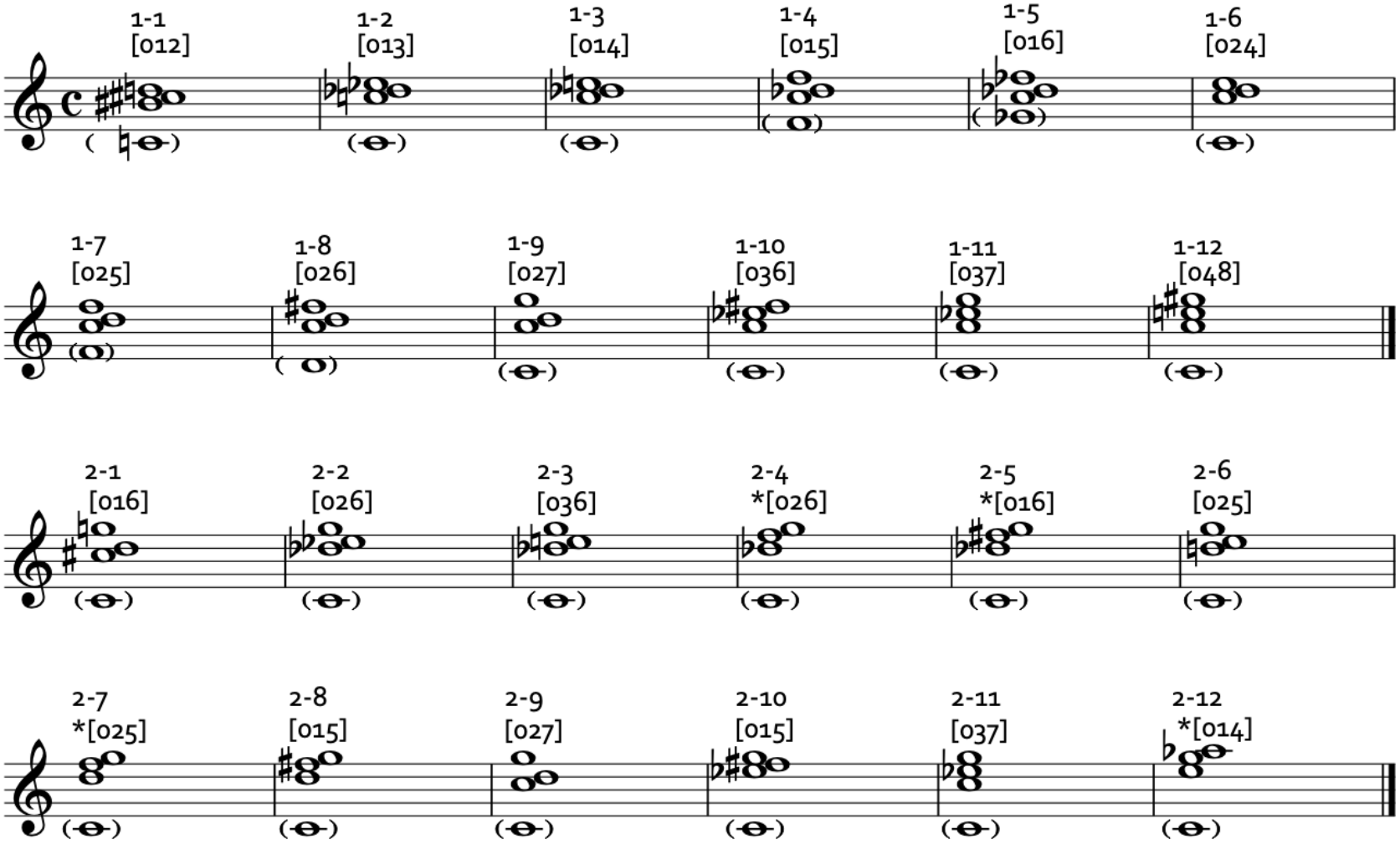
Trichords/I generates multiple roots

This situation happens with every series

I, V, IV, VI, etc….

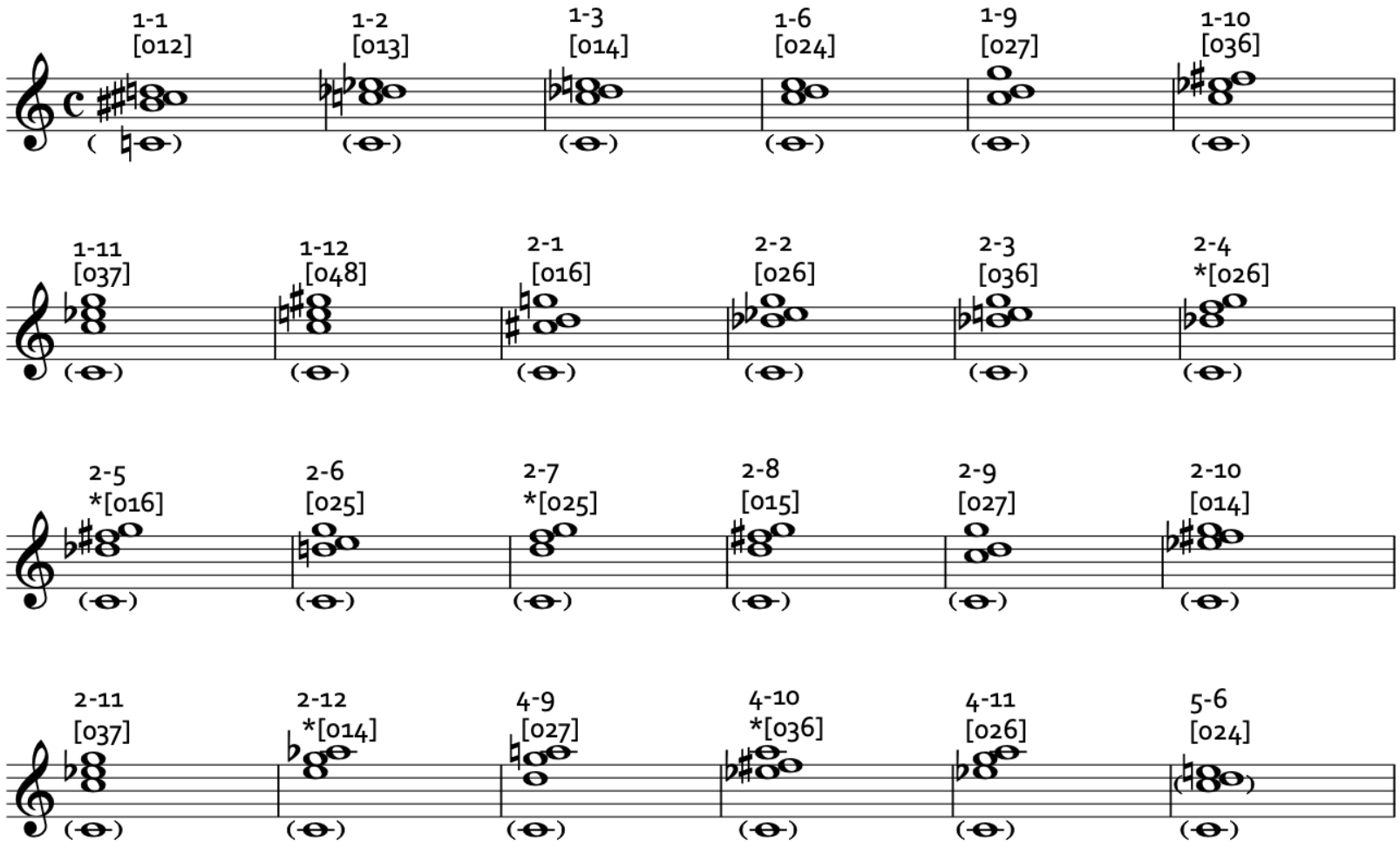
Therefore, the organization can be divvyed into collections of series (original root) or by the new root

Series Organization

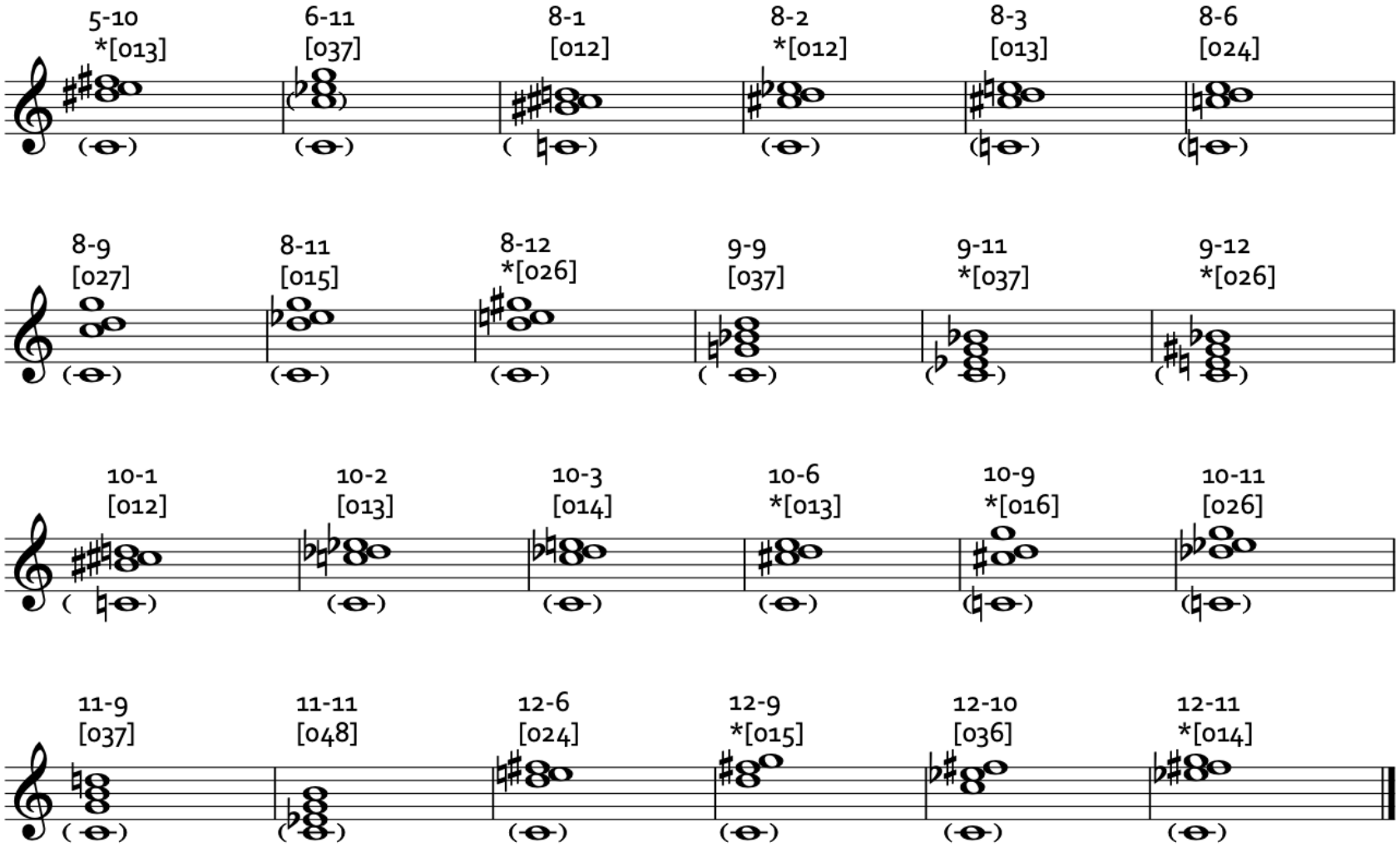


and etc.....

Root Organization 1.

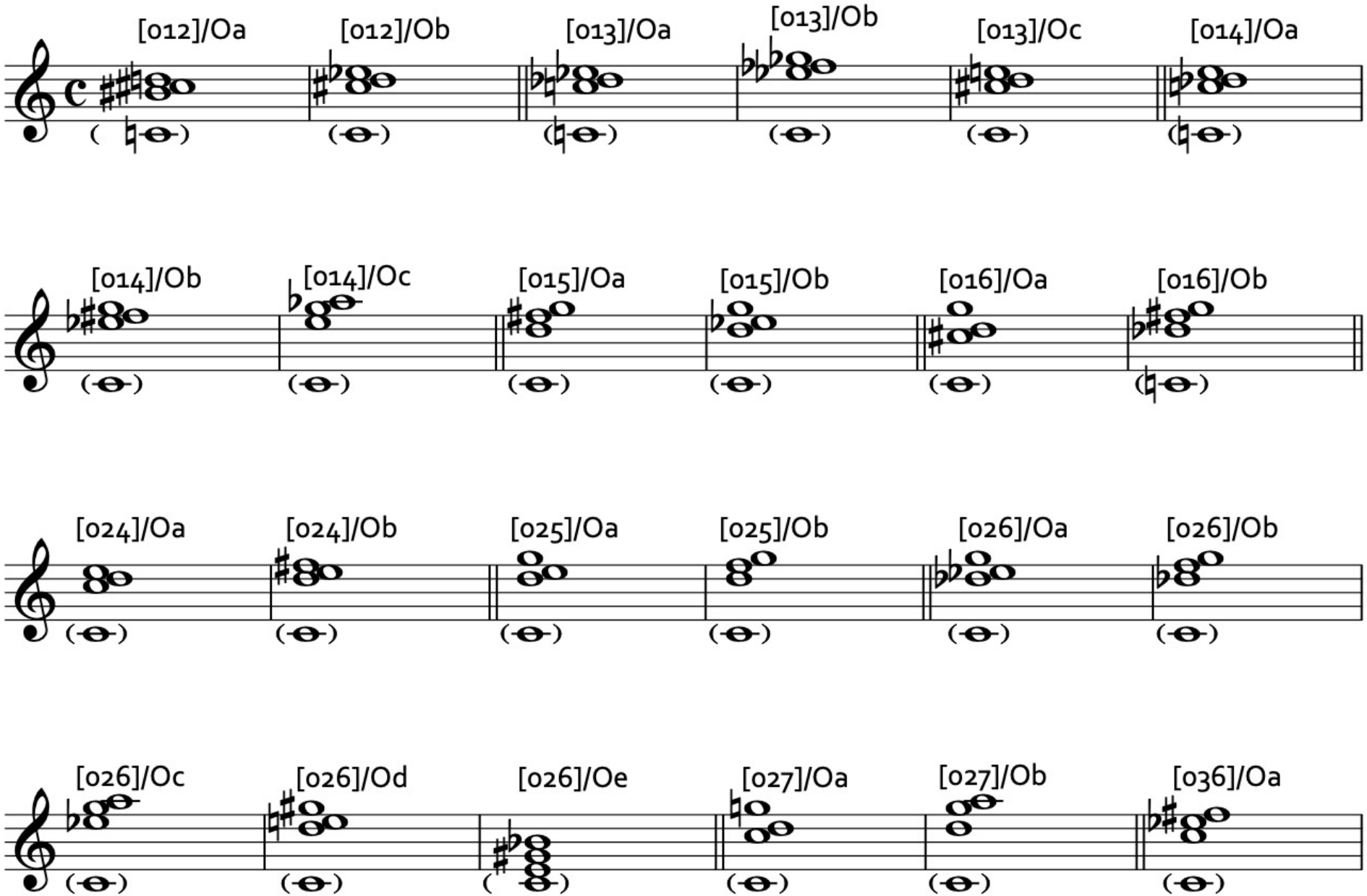


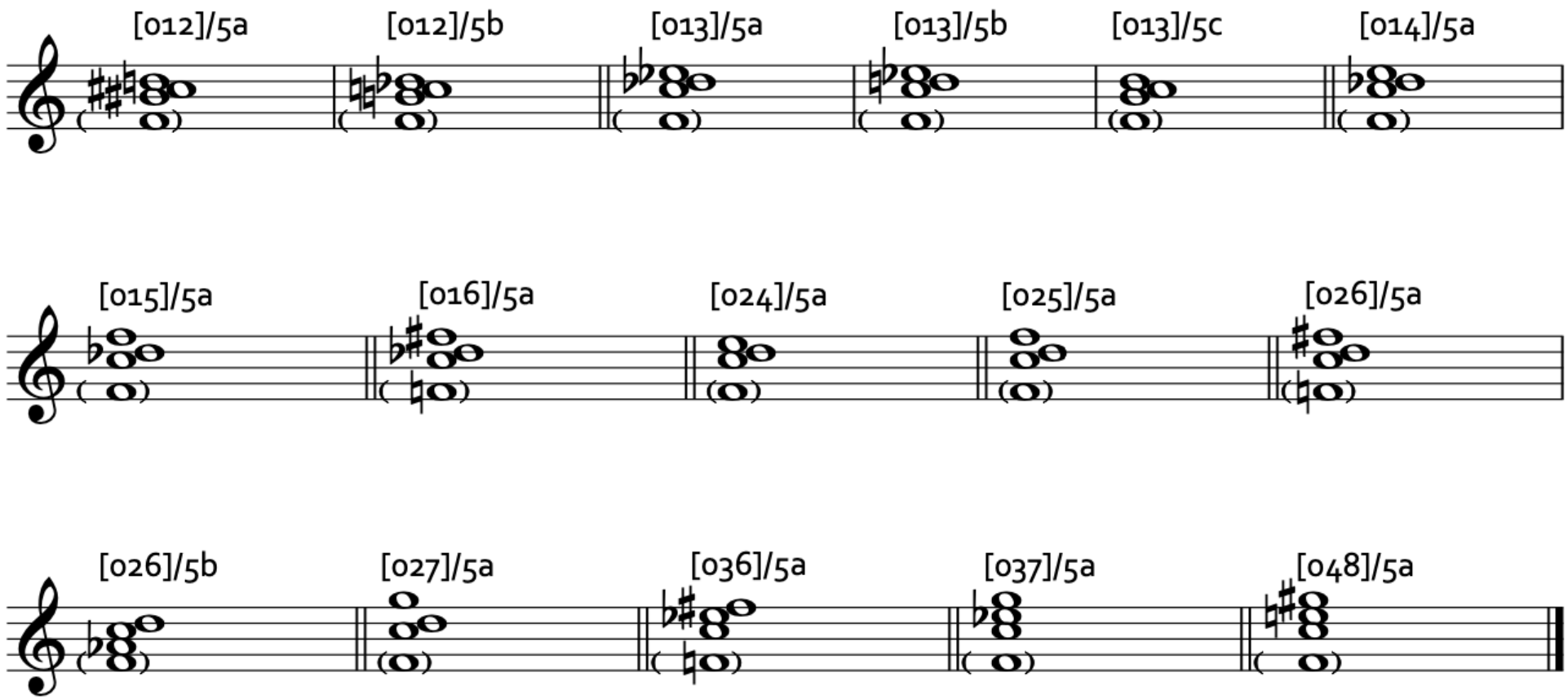
Root Organization 2.



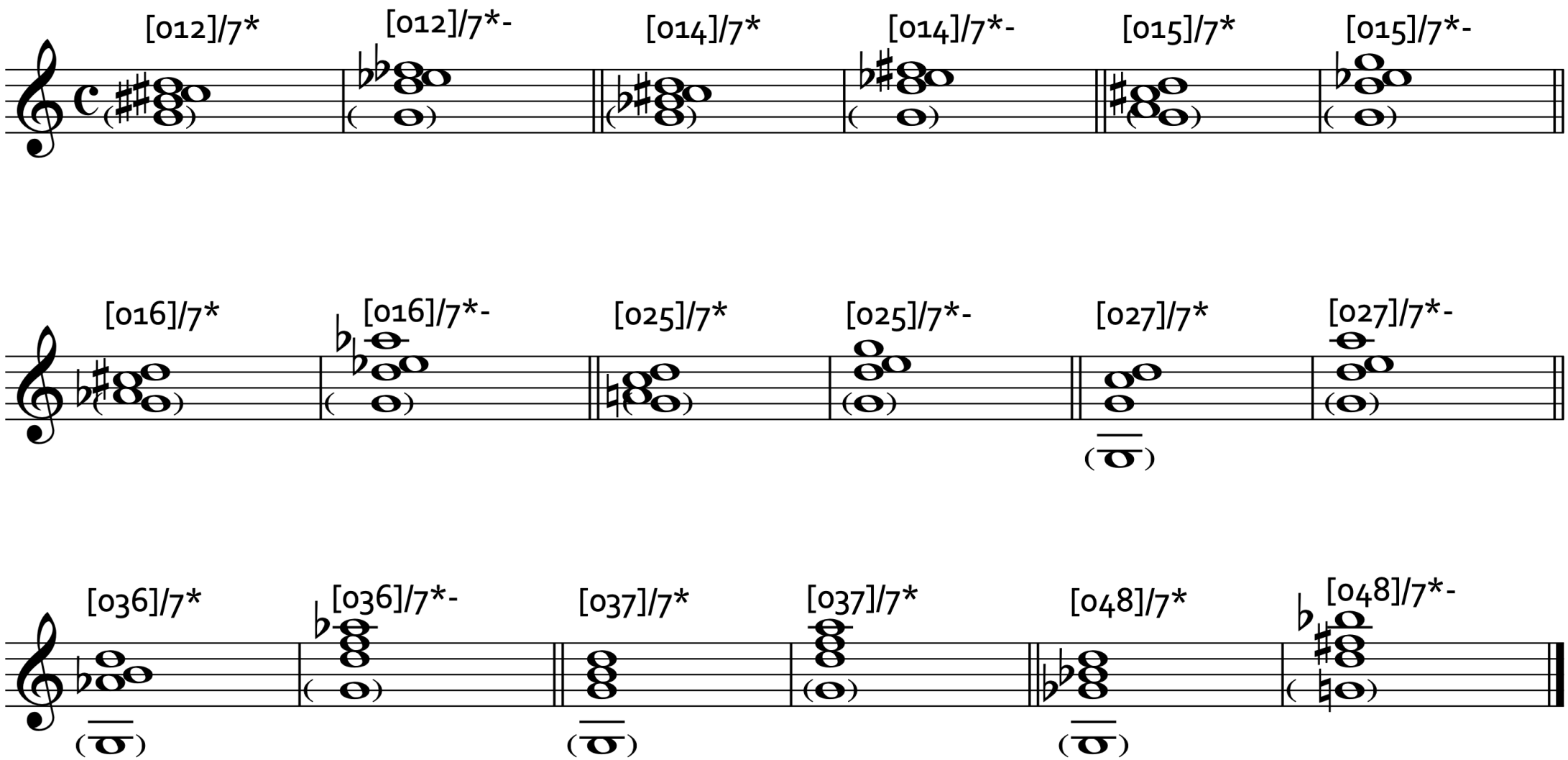
Due to duplicates, it’s possible to discern prime sets of the the trichordal formations

This allows the harmonies to be organized by possible occurences, in ascending trichordal order


[012]/Oa
[012]/Ob
[013]/Oa
[013]/Ob
[013]/Oc
[014]/Oa
[014]/Ob
[014]/Oc
[015]/Oa
[015]/Ob
[016]/Oa
[016]/Ob
[024]/Oa
[024]/Ob
[025]/Oa
[025]/Ob
[026]/Oa
[026]/Ob
[026]/Oc
[026]/Od
[026]/Oe
[027]/Oa
[027]/Ob
[036]/Oa


[012]/5a
[012]/5b
[013]/5a
[013]/5b
[013]/5c
[014]/5a
[015]/5a
[016]/5a
[024]/5a
[025]/5a
[026]/5a
[026]/5b
[027]/5a
[036]/5a
[037]/5a
[048]/5a

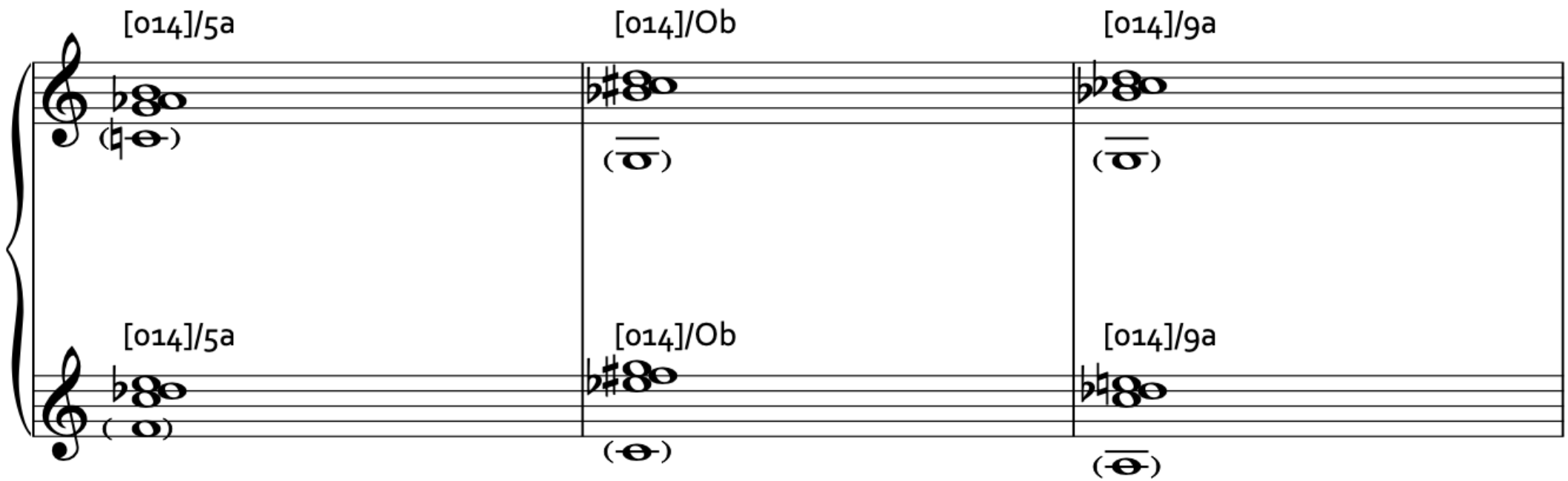
There are also multiple trichord that don’t occur naturally in this system, labeled as “artificial” trichords

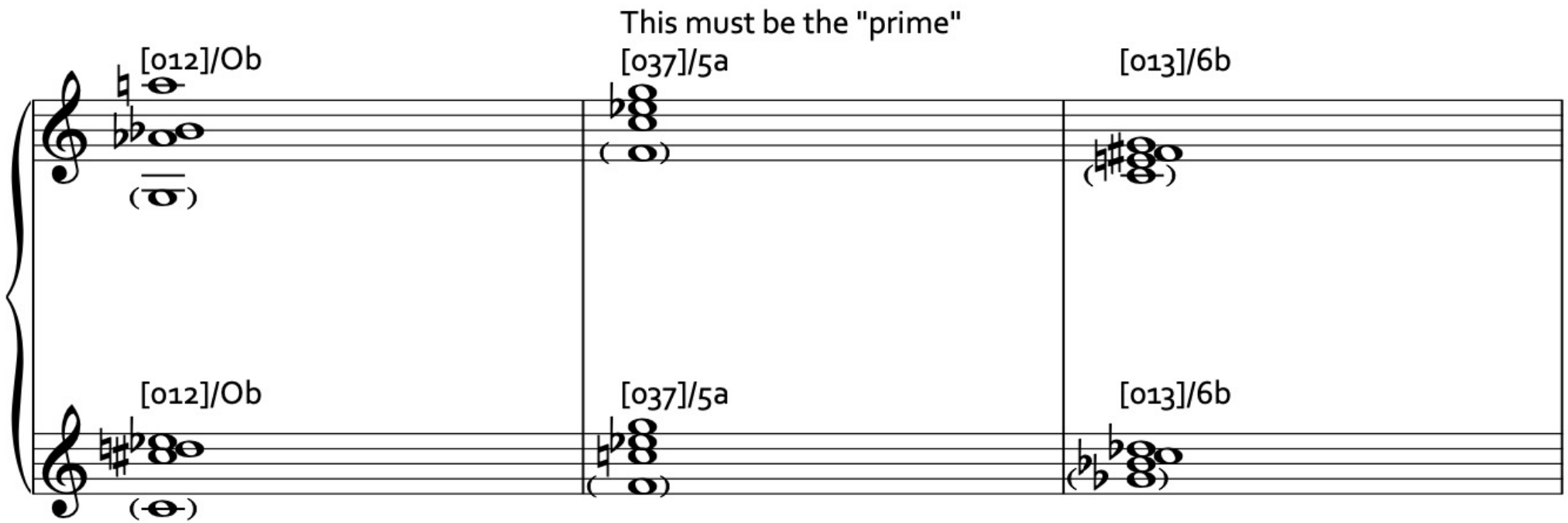

[012]/7*
[012]/7*-
[014]/7*
[014]/7*-
[015]/7*
[015]/7*-
[016]/7*
[016]/7*-
[025]/7*
[025]/7*-
[027]/7*
[027]/7*-
[036]/7*
[036]/7*-
[037]/7*
[037]/7*
[048]/7*
[048]/7*-

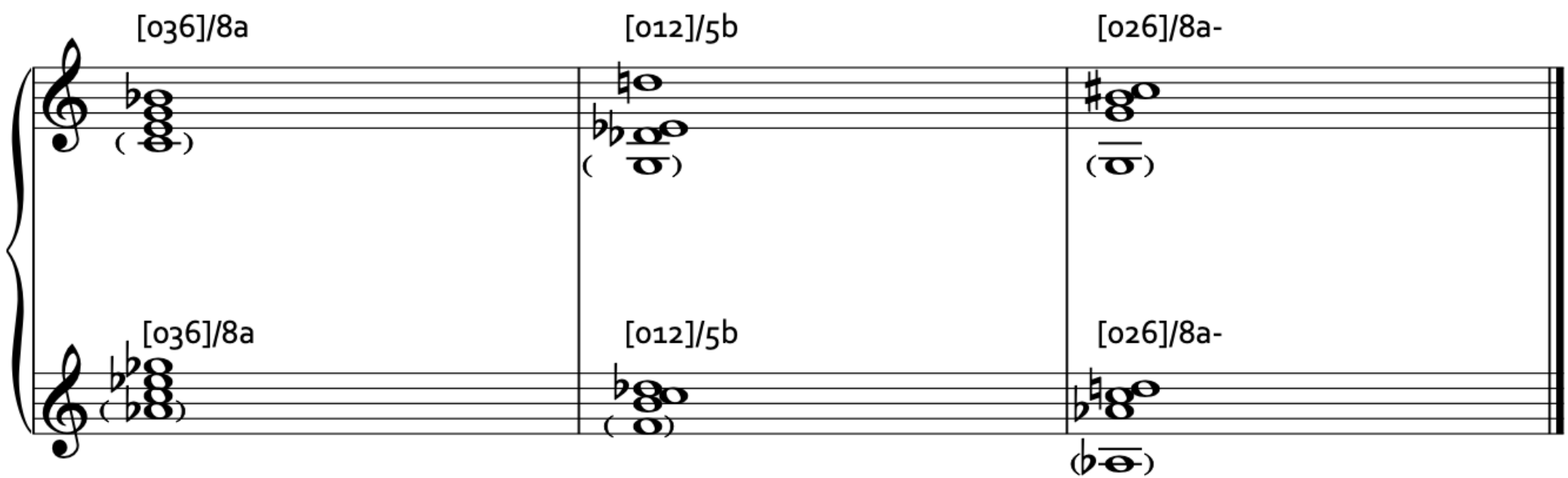
Applied to “Kore I”

By using these new formations, we can find the “prime” of the individual sets from the analysis

This will reveal what is possibly the “tonic” of the section, as well as the degrees of separation the other sets are to their primes.

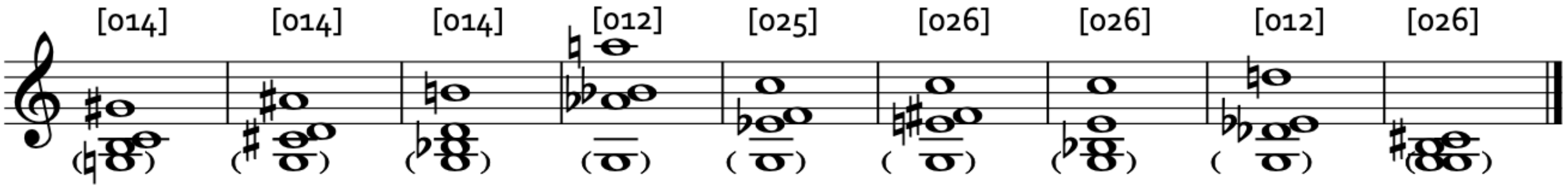

[014]/5a
[014]/Ob
[014]/9a
[014]/5a
[014]/Ob
[014]/9a


This must be the "prime"
[012]/Ob
[037]/5a
[013]/6b
[012]/Ob
[037]/5a
[013]/6b

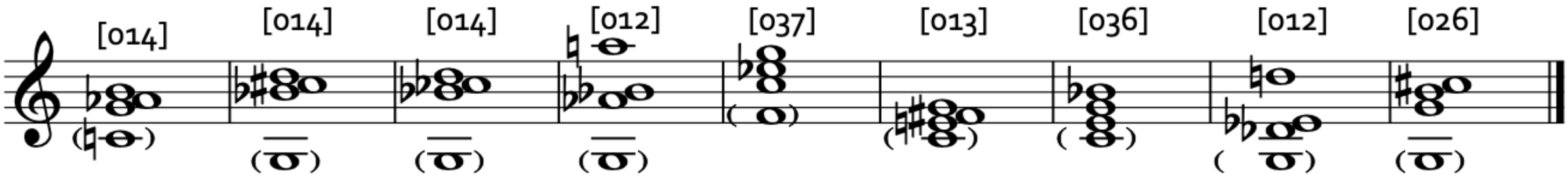

[036]/8a
[012]/5b
[026]/8a-
[036]/8a
[012]/5b
[026]/8a-

We can begin to look at the progression from the standpoint of primes

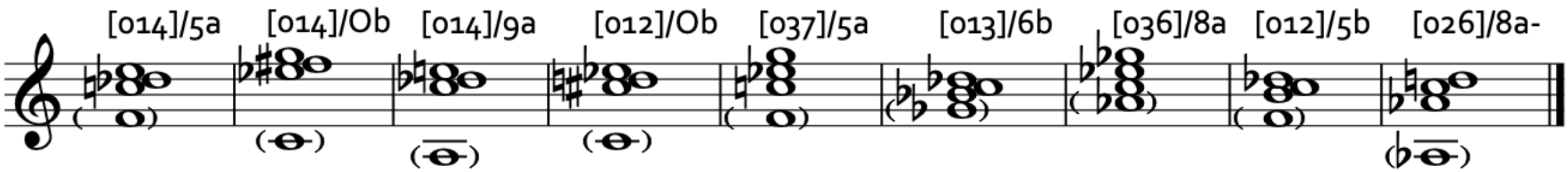
We’ve gone from this…



To this…



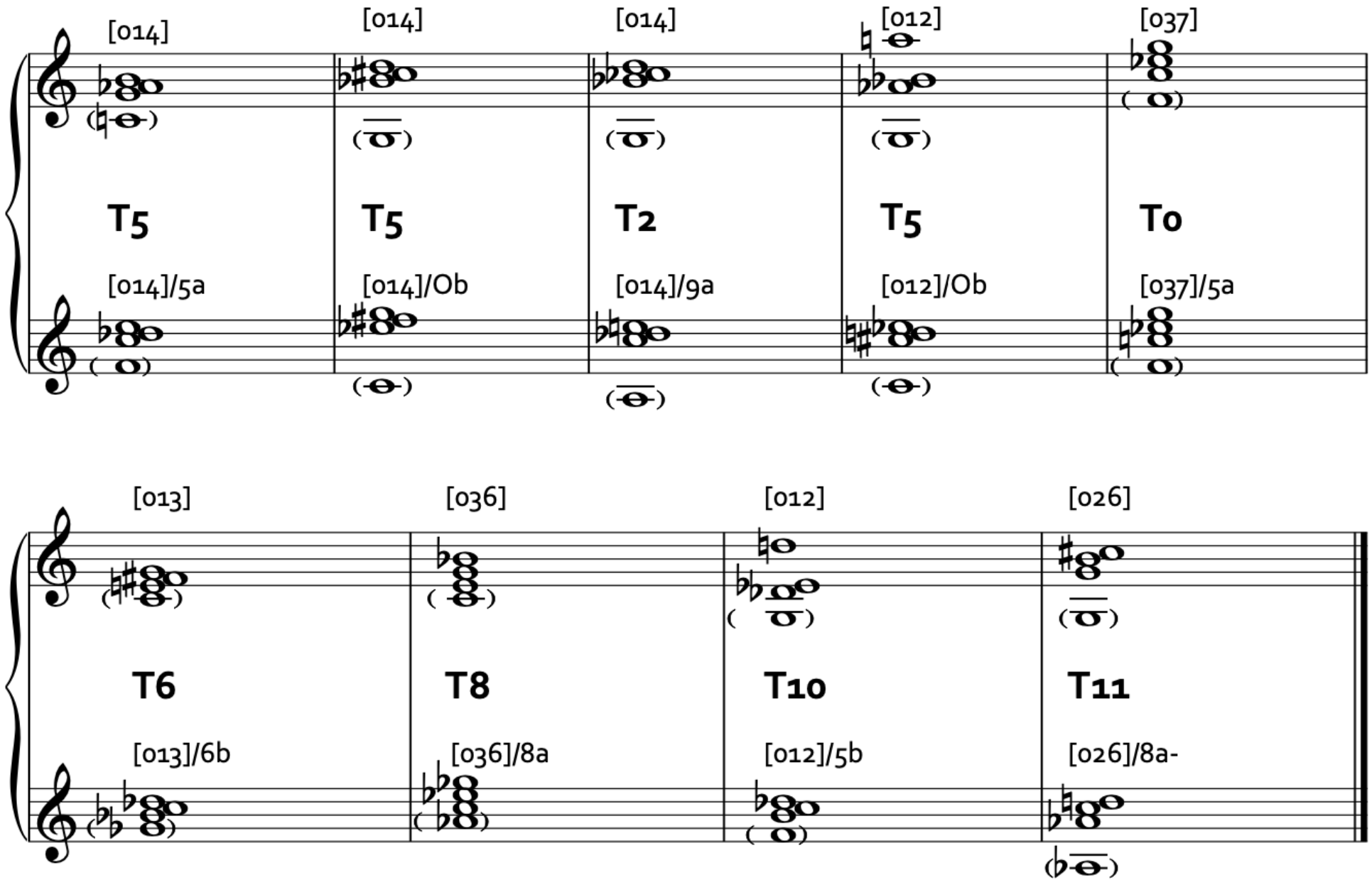
To finally this…



Observations

It appears that the 5th chord can be labeled as a “tonic,” as it doesn’t require a transposition to become a prime set.

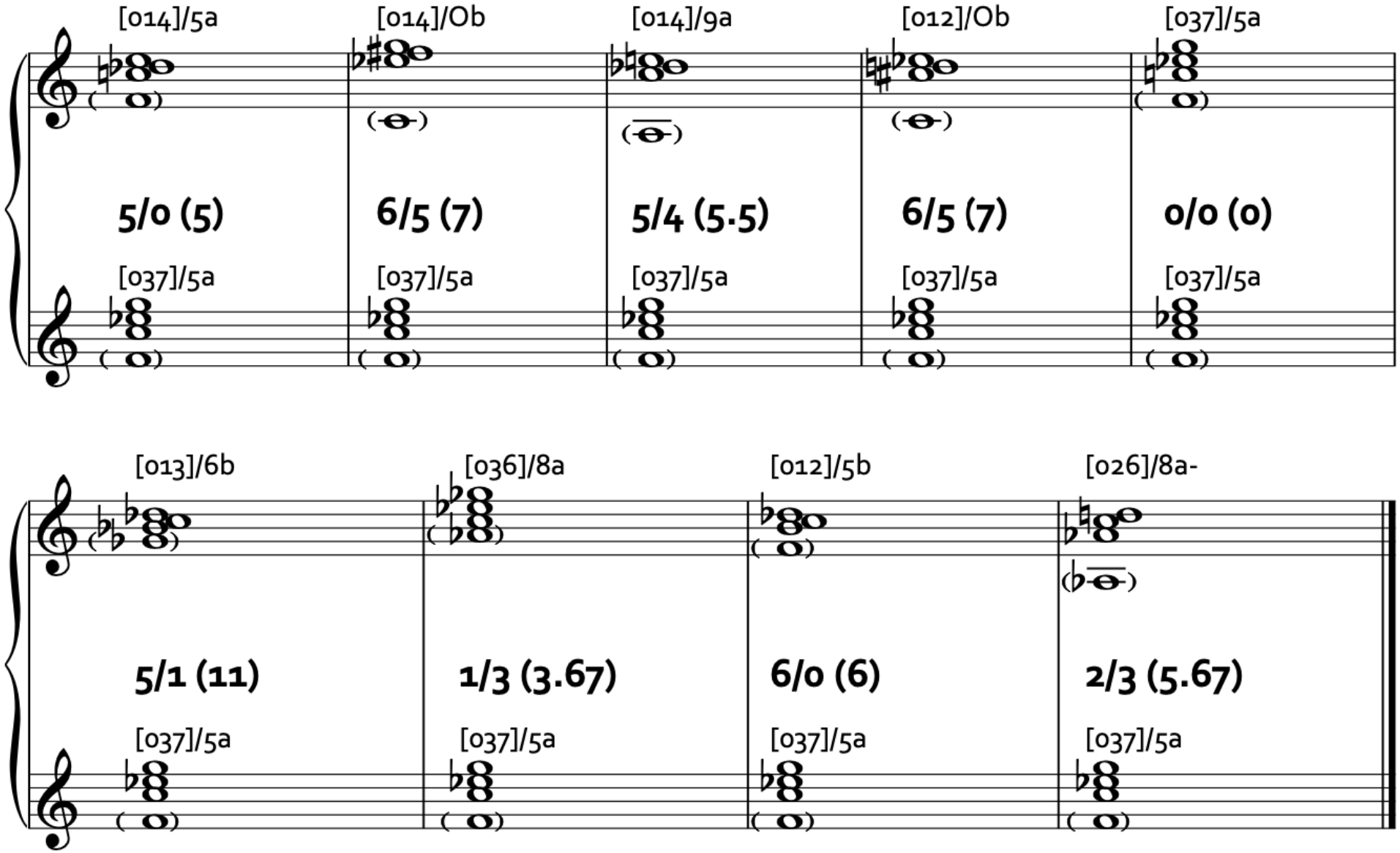
Because of this, it sets [037]/5a as ”tonic,” and ”F” as the ”I” for the progression.


[014]
T5
[014]/5a
[014]
T5
[014]/Ob
[014]
T2
[014]/9a
[012]
T5
[012]/Ob
[037]
T0
[037]/5a
[013]
T6
[013]/6b
[036]
T8
[036]/8a
[012]
T10
[012]/5b
[026]
T11
[026]/8a-

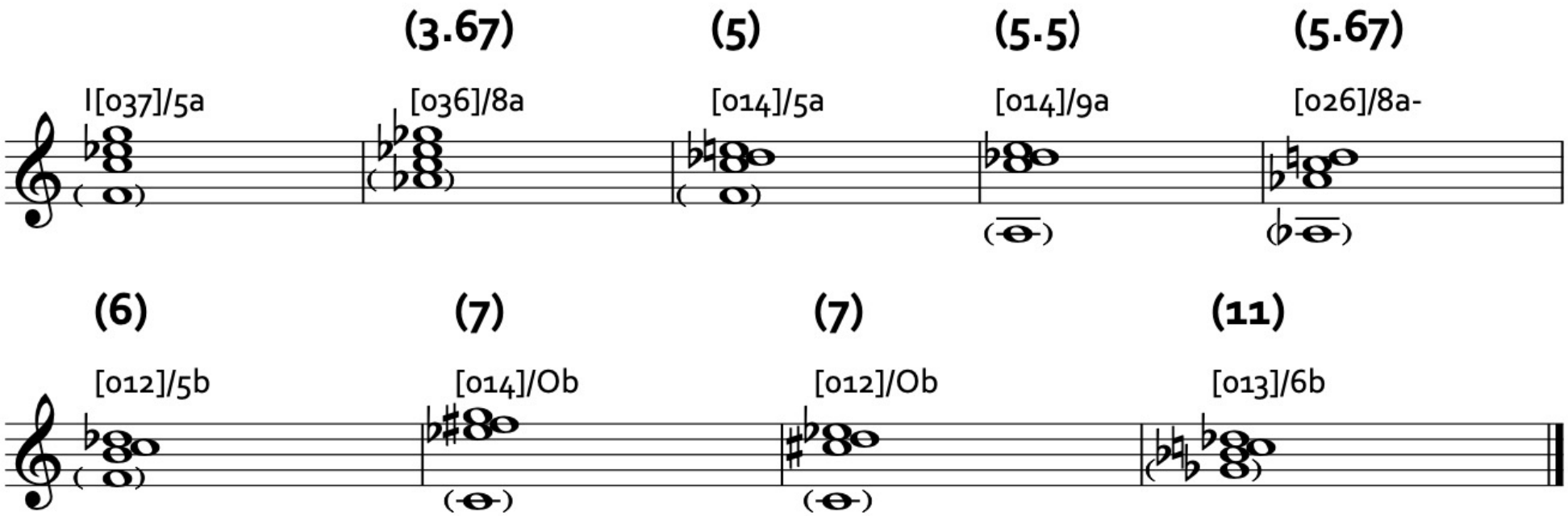
Total distance

Measured by finding the smoothness between the voicings, added to the transposition divided by the smoothness of the roots

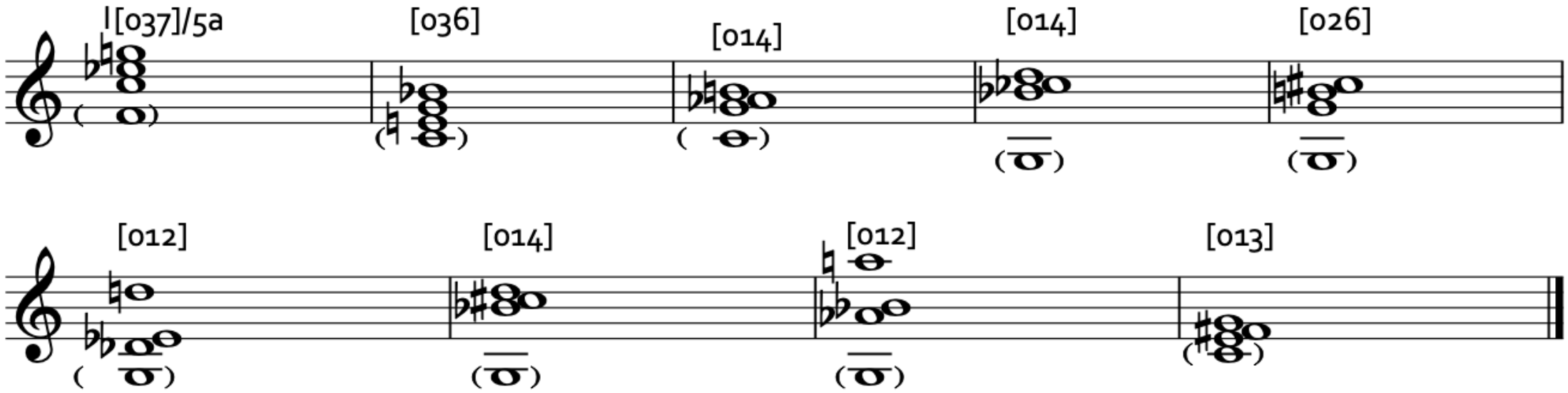
(smoothness)+(Tn/root smoothness) = distance


[014]/5a
[014]/Ob
[014]/9a
[012]/Ob
[037]/5a
5/0 (5)
6/5 (7)
5/4 (5.5)
6/5 (7)
0/0 (0)
[037]/5a
[037]/5a
[037]/5a
[037]/5a
[037]/5a
[013]/6b
[036]/8a
[012]/5b
[026]/8a-
5/1 (11)
1/3 (3.67)
6/0 (6)
2/3 (5.67)
[037]/5a
[037]/5a
[037]/5a
[037]/5a

In order of distance



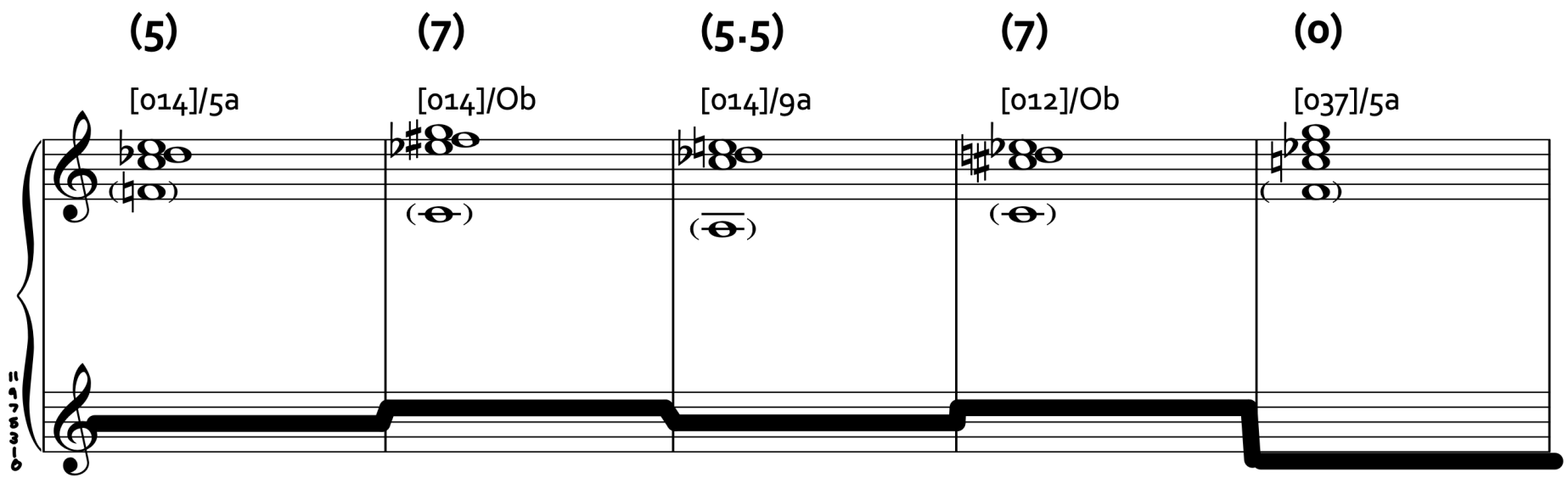
Substituting original sets back in

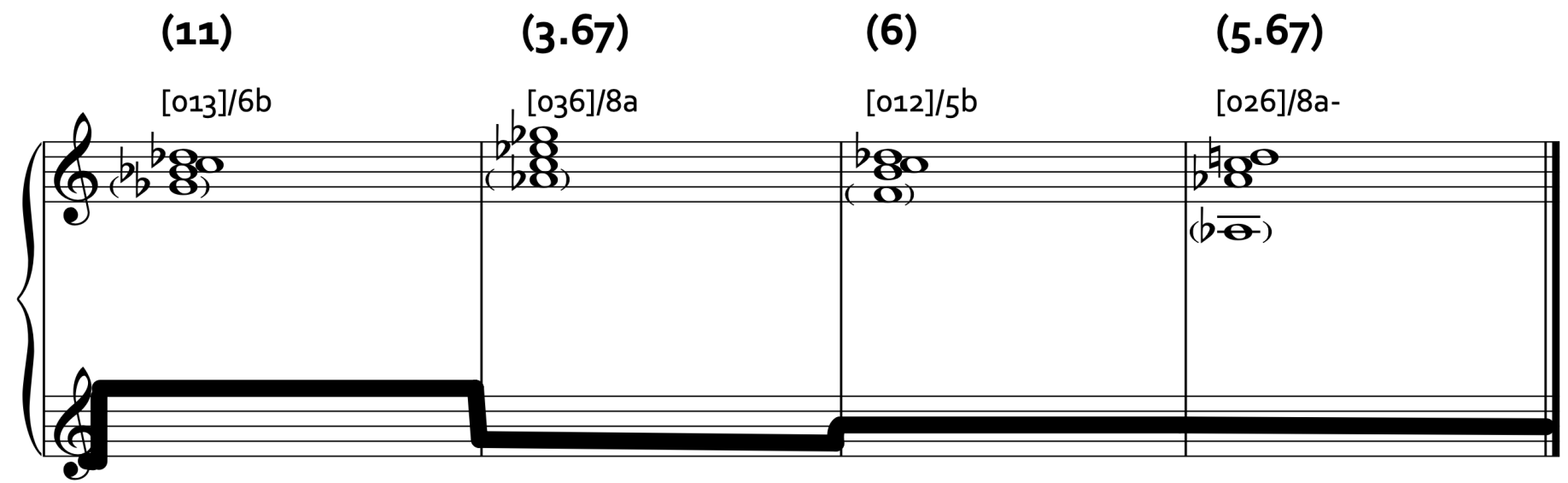


Analysis

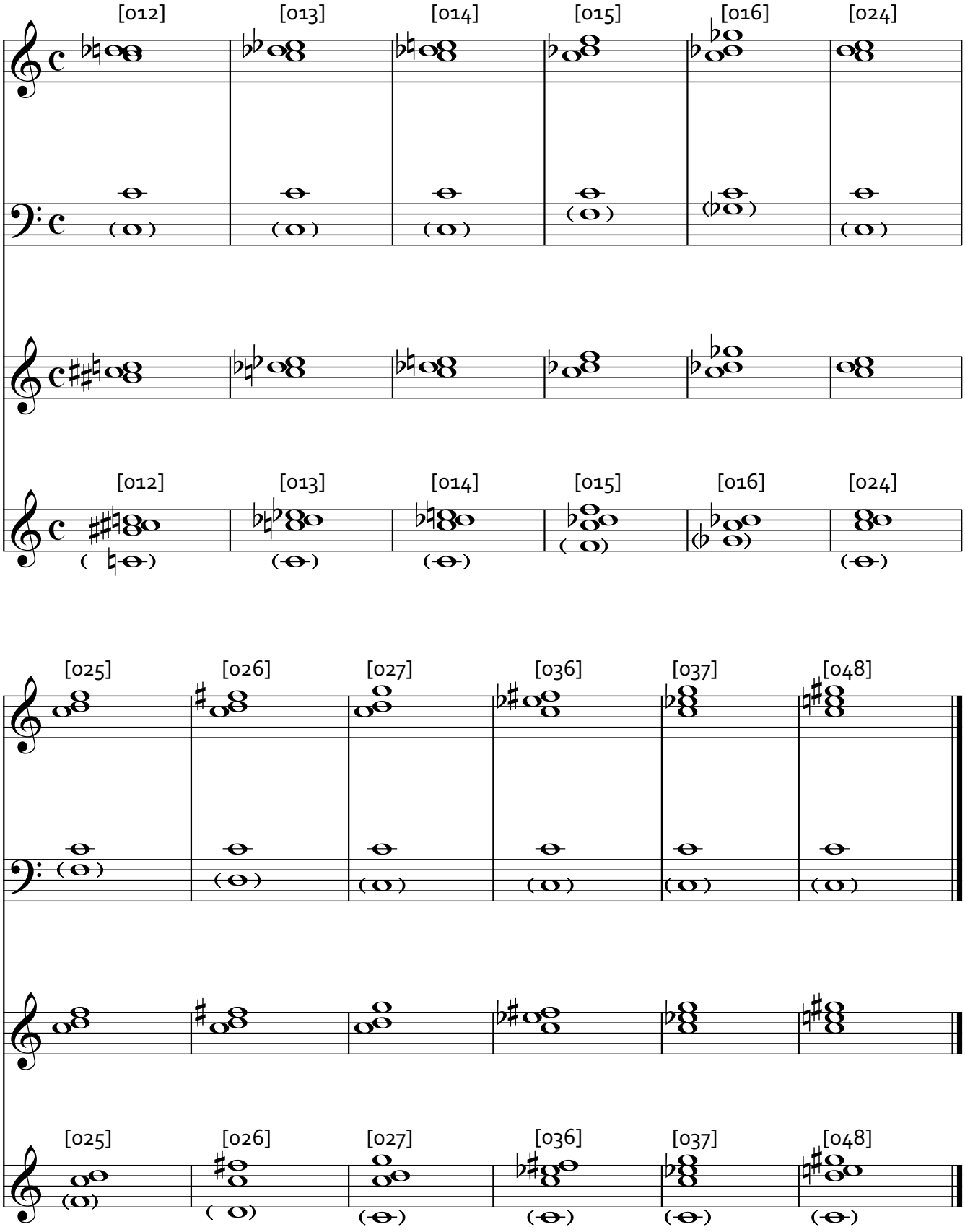
Appears to use root notes from I, ii, and V; which can be labeled as Tonic (I), Subdominant (ii), and Dominant (V)

Degrees of tension can be show visually with Ulehla's analysis


(5)
[014]/5a
(7)
[014]/Ob
(5.5)
[014]/9a
(7)
[012]/Ob
(0)
[037]/5a


(11)
[013]/6b
(3.67)
[036]/8a
(6)
[012]/5b
(5.67)
[026]/8a-

Trichord/I


[012]
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[016]
[024]
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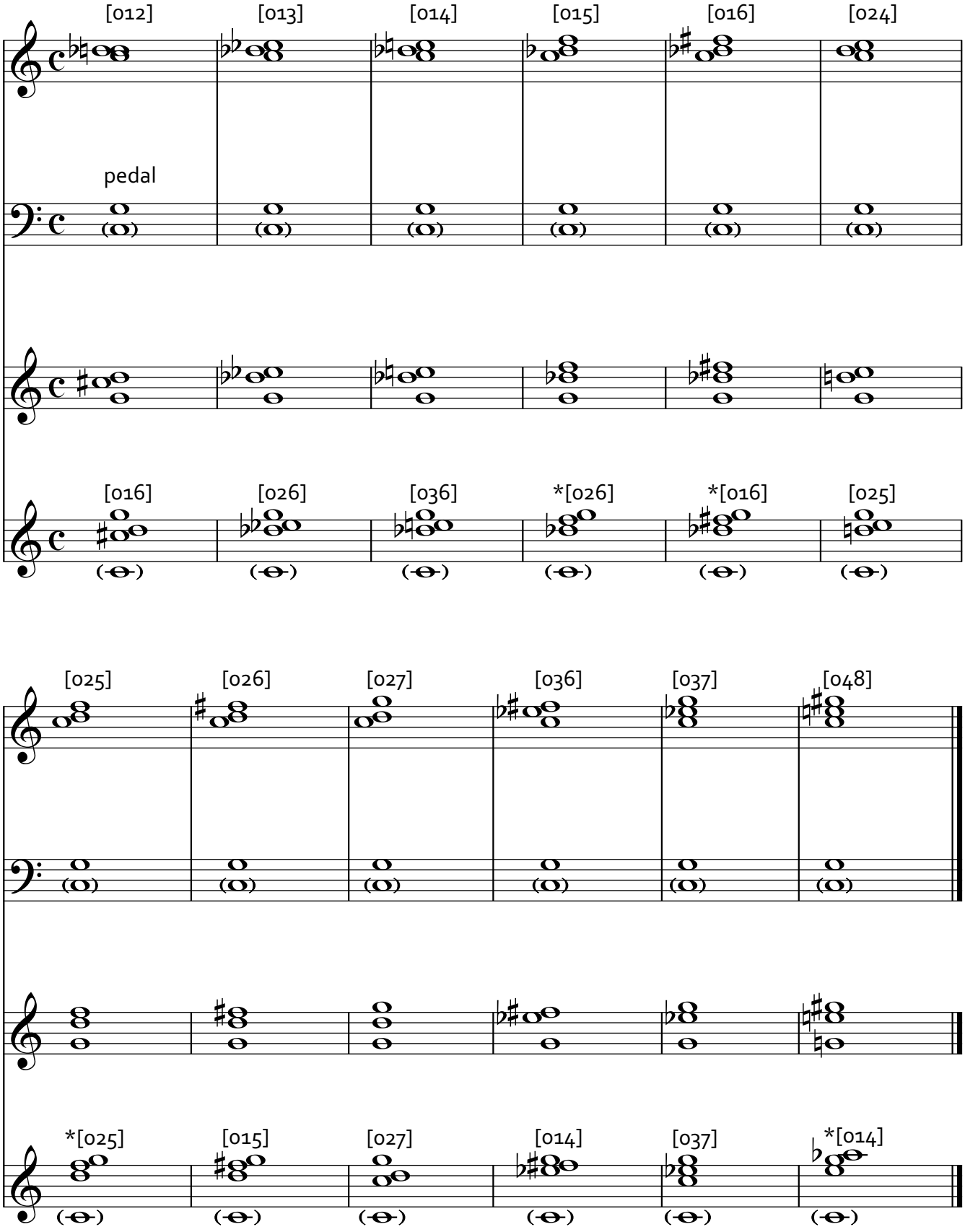
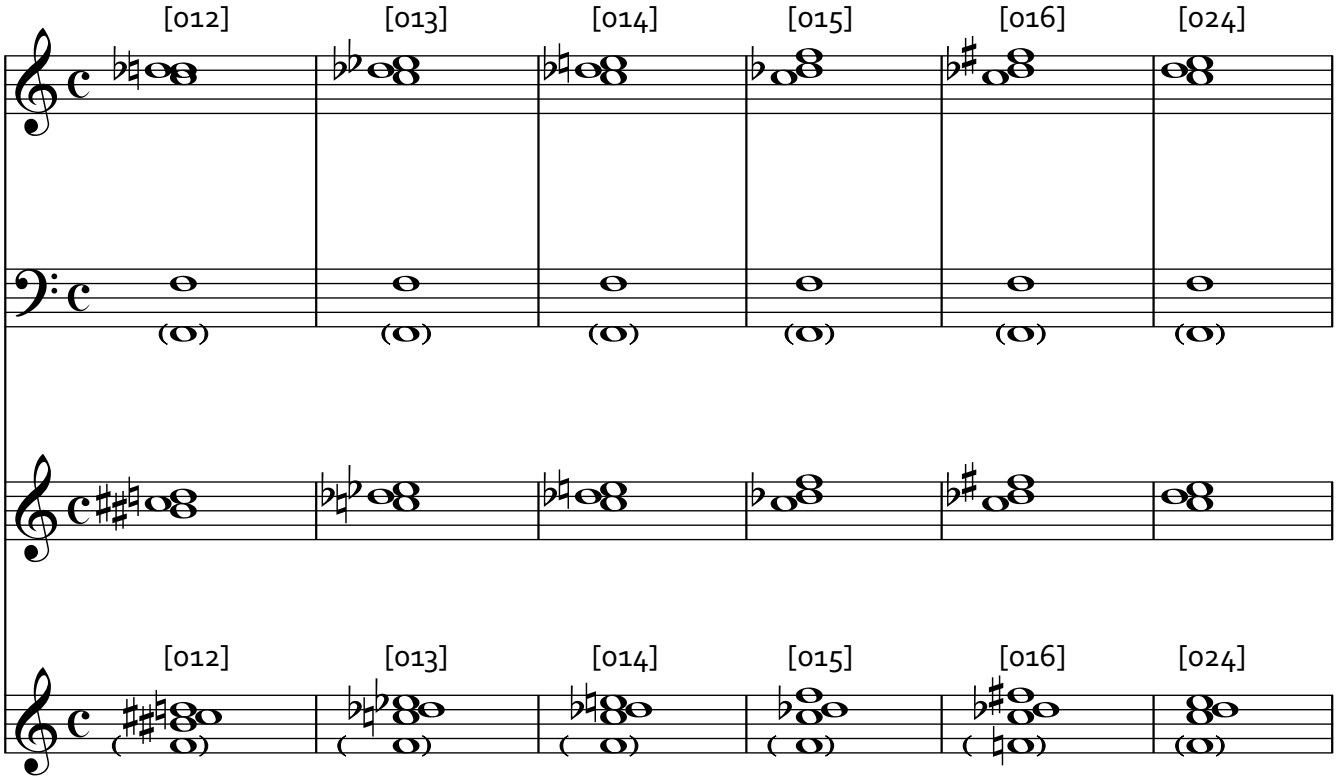
[013]
[014]
[015]
[016]
[024]
[025]
[026]
[027]
[036]
[037]
[048]
[025]
[026]
[027]
[036]
[037]
[048]

Trichord/V


[012]
[013]
[014]
[015]
[016]
[024]
pedal
[016]
[026]
[036]
*[026]
*[016]
[025]
[025]
[026]
[027]
[036]
[037]
[048]
*[025]
[015]
[027]
[014]
[037]
*[014]

Trichord/IV


[012]
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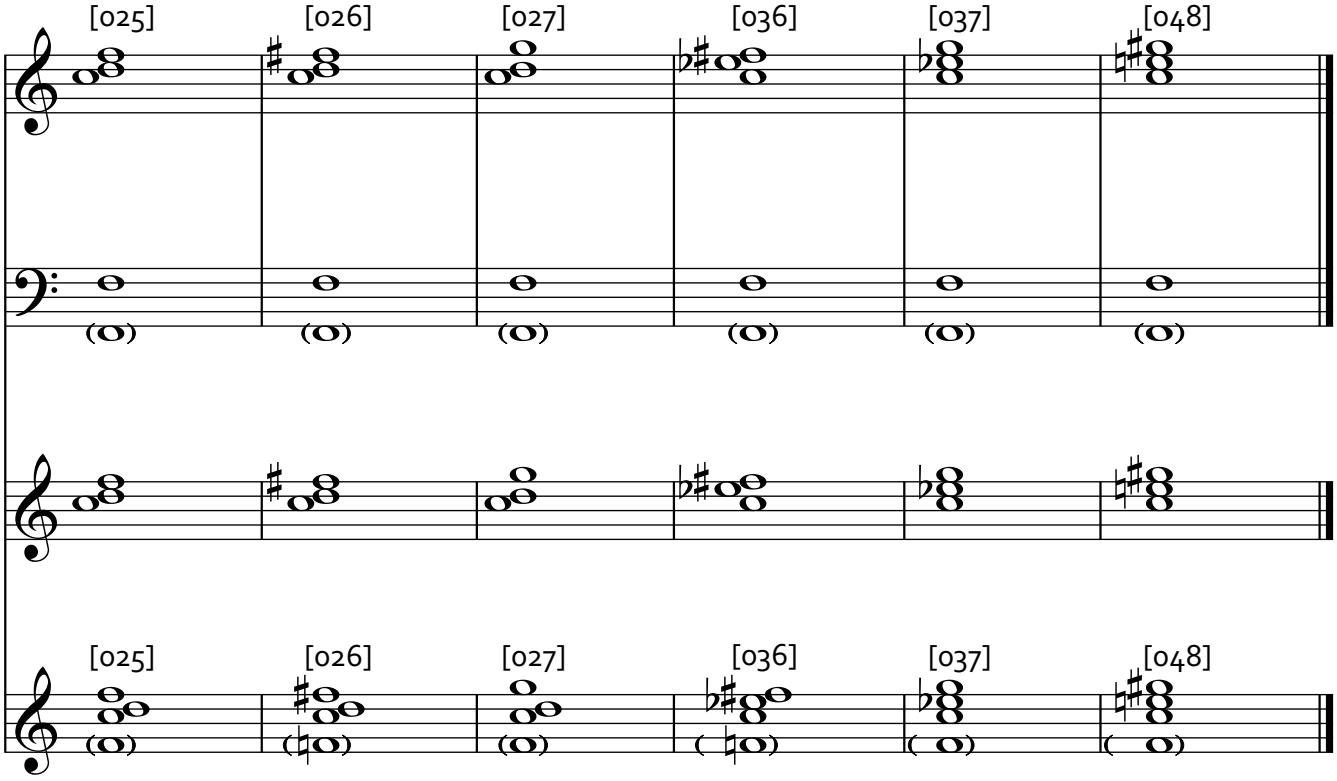
[015]
[016]
[024]


[025]
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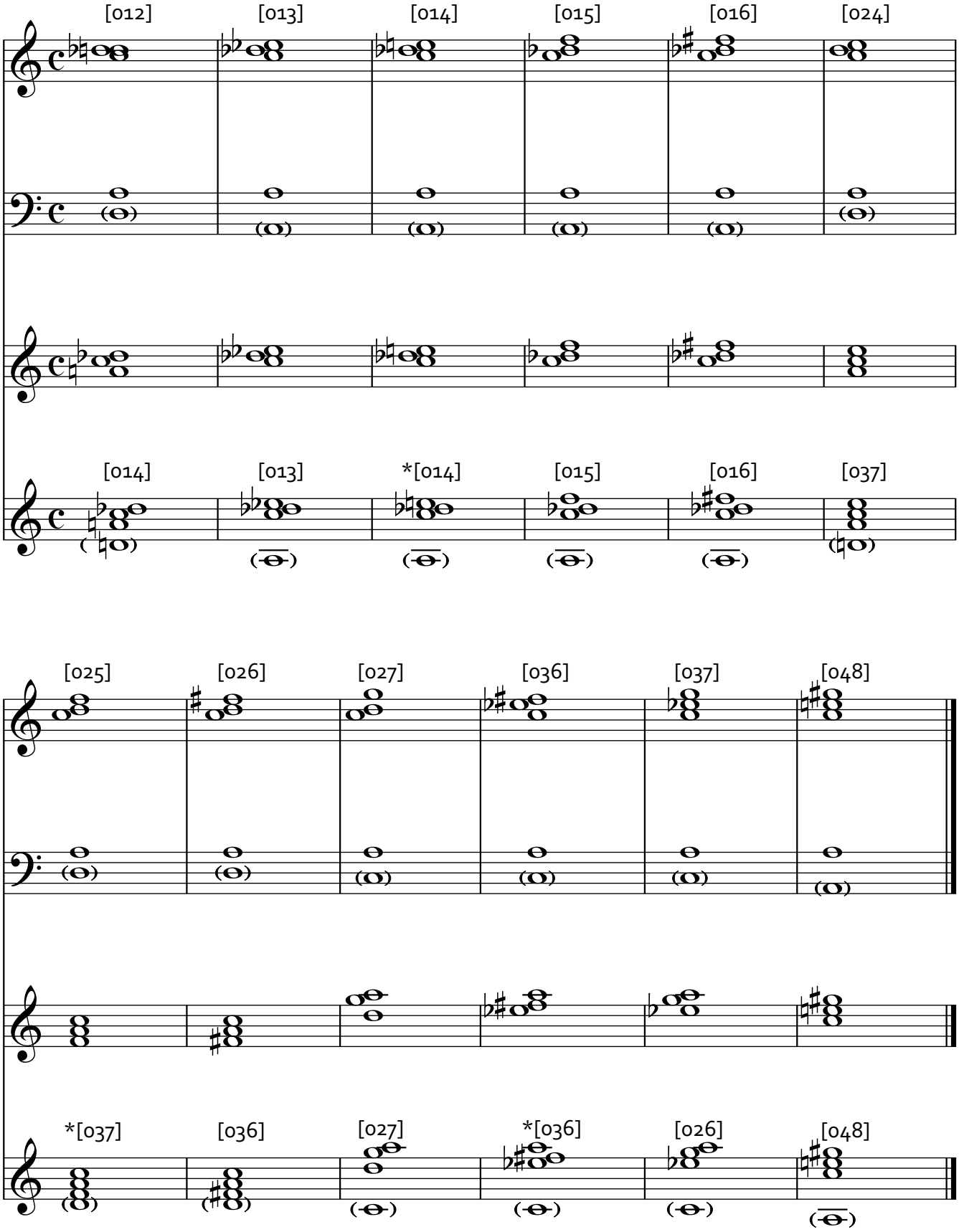
Trichord/VI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[025]
[026]
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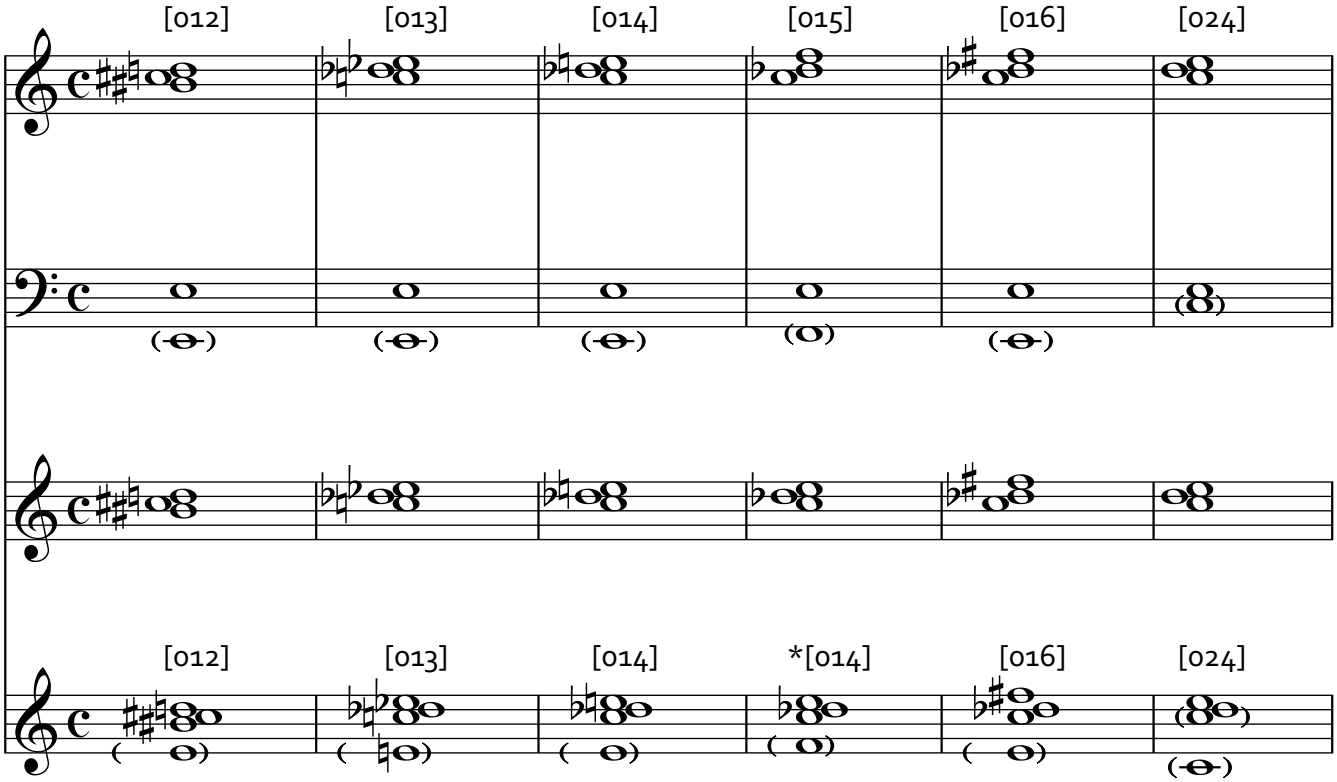
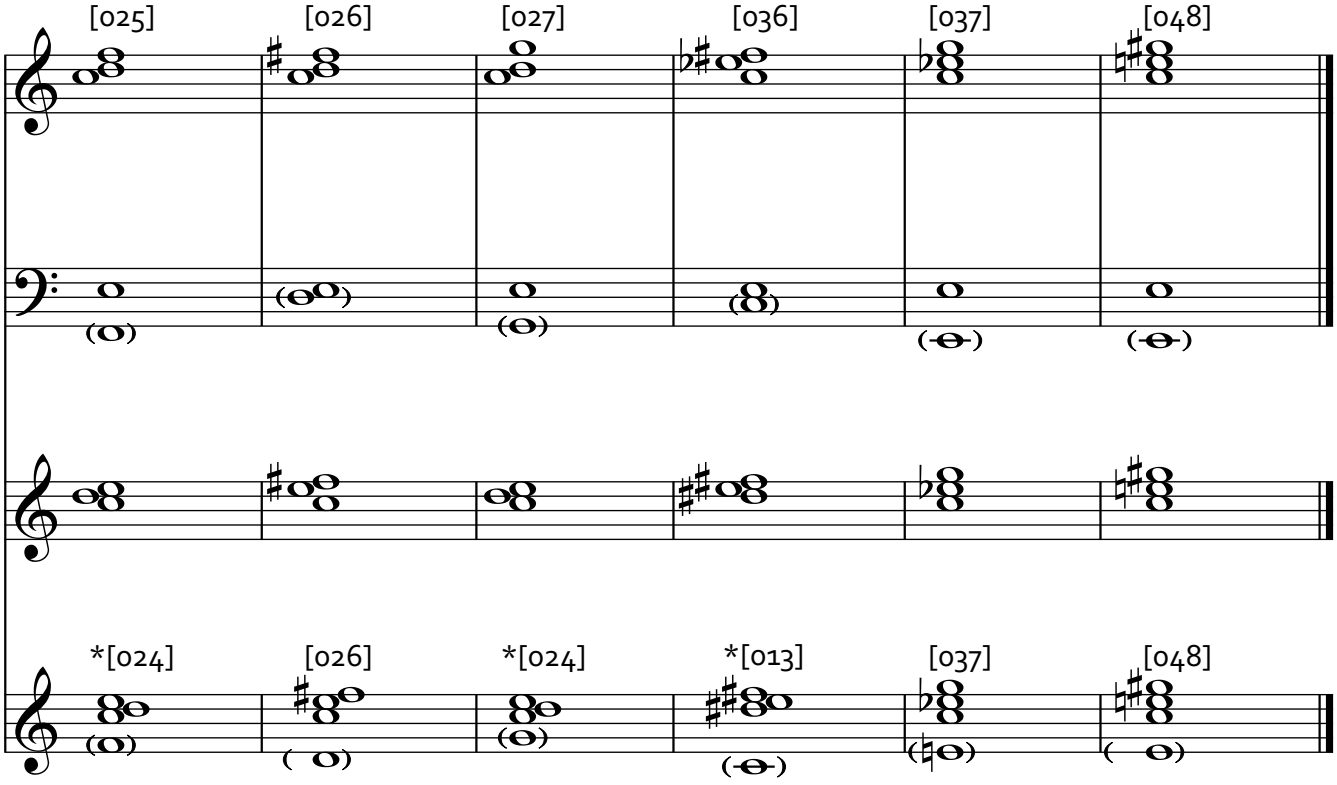
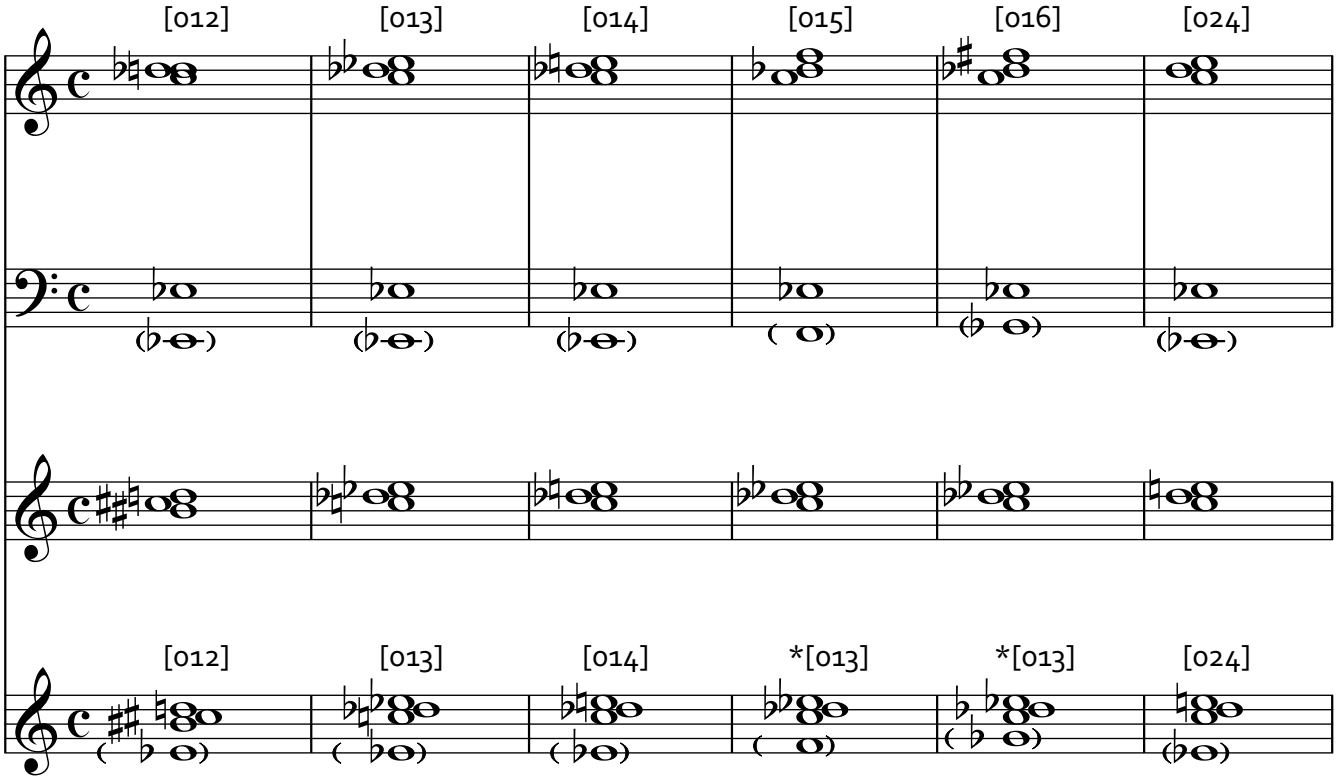
[048]
*[037]
[036]
[027]
*[036]
[026]
[048]

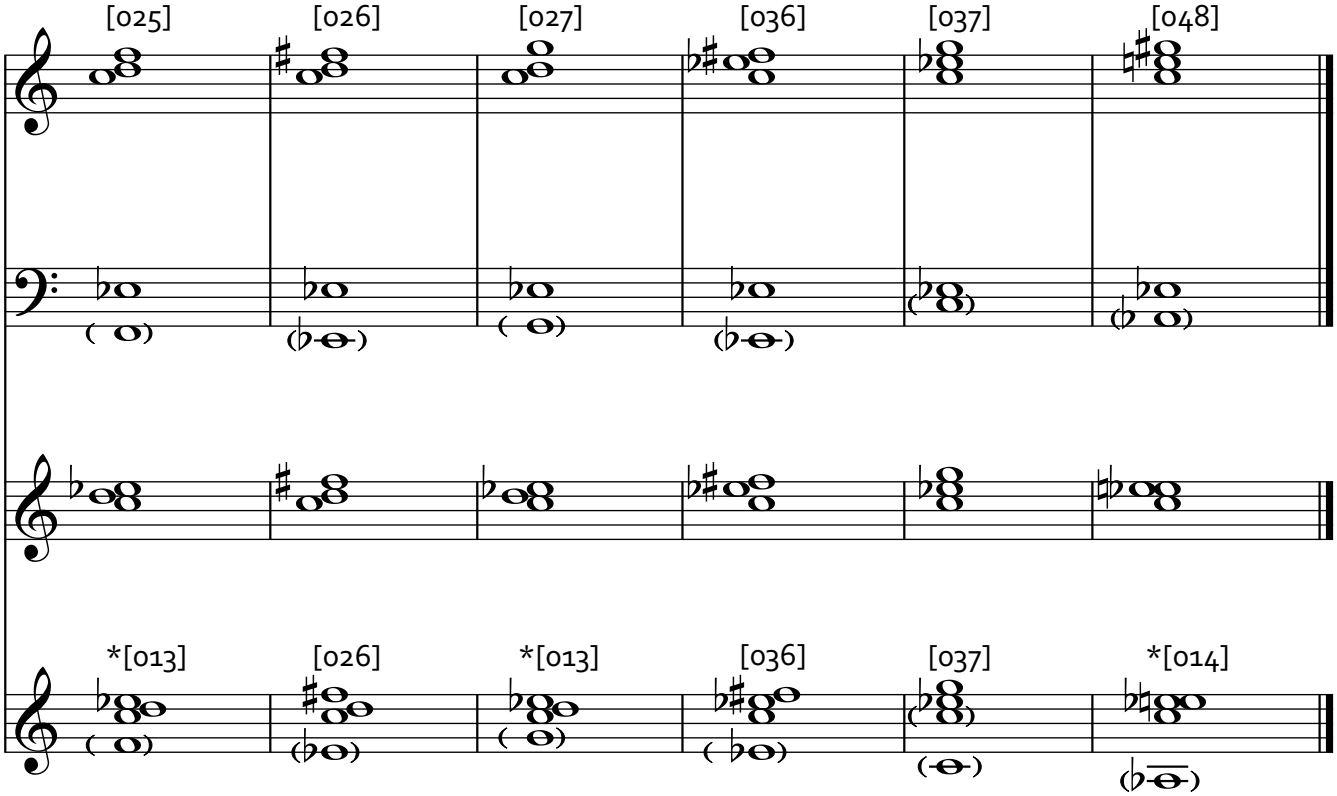
Trichord/III





Trichord/♭III





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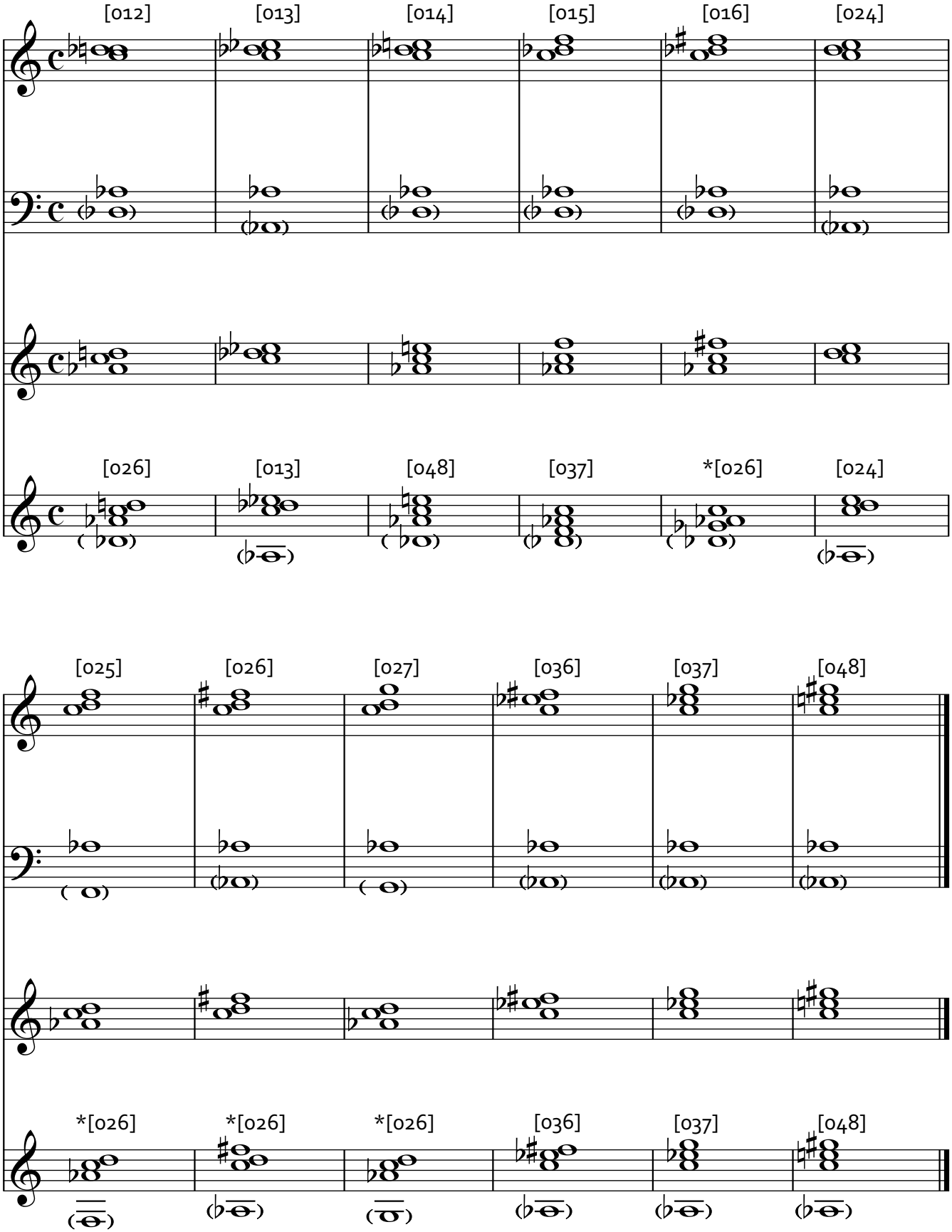
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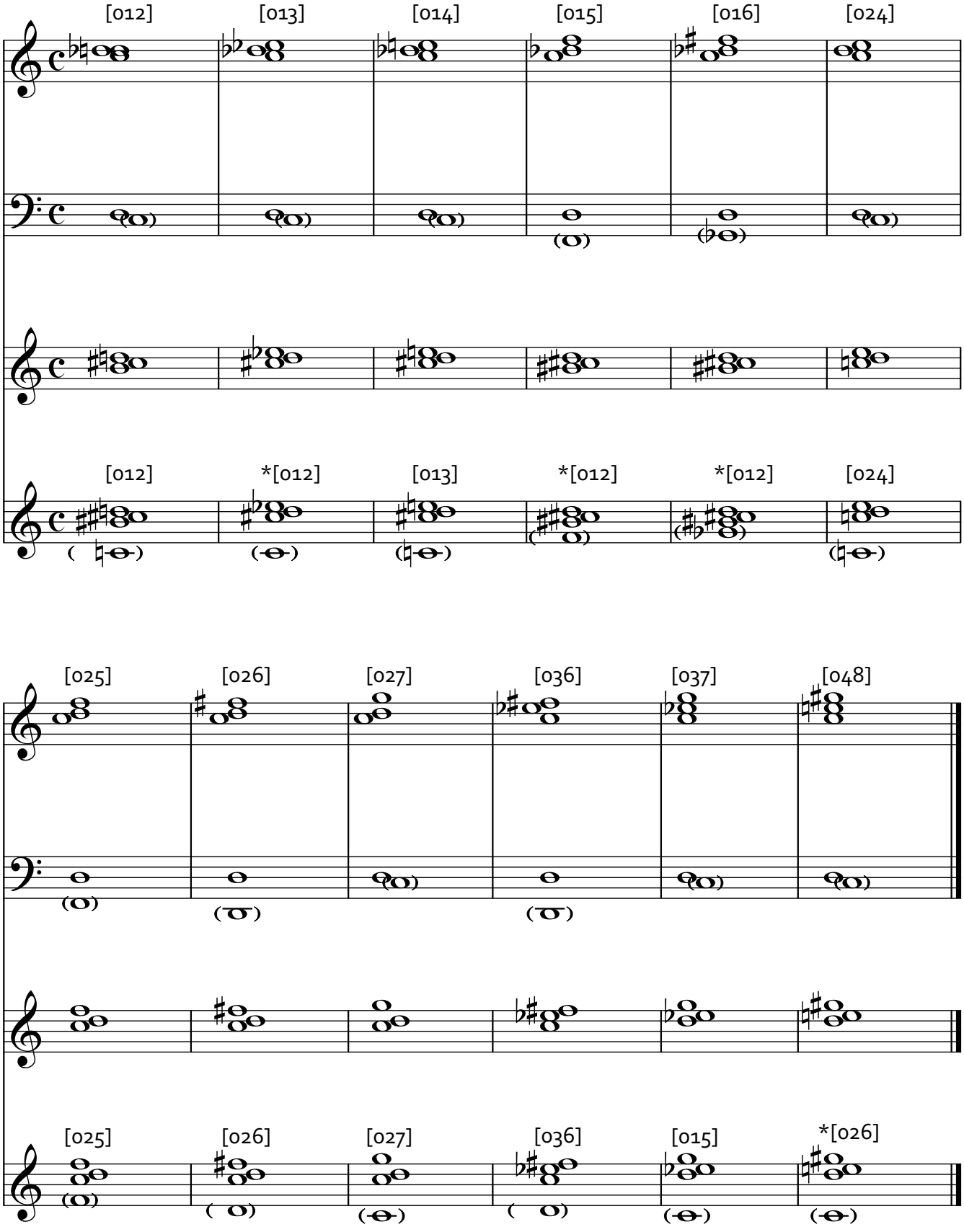
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Trichord/♭VII

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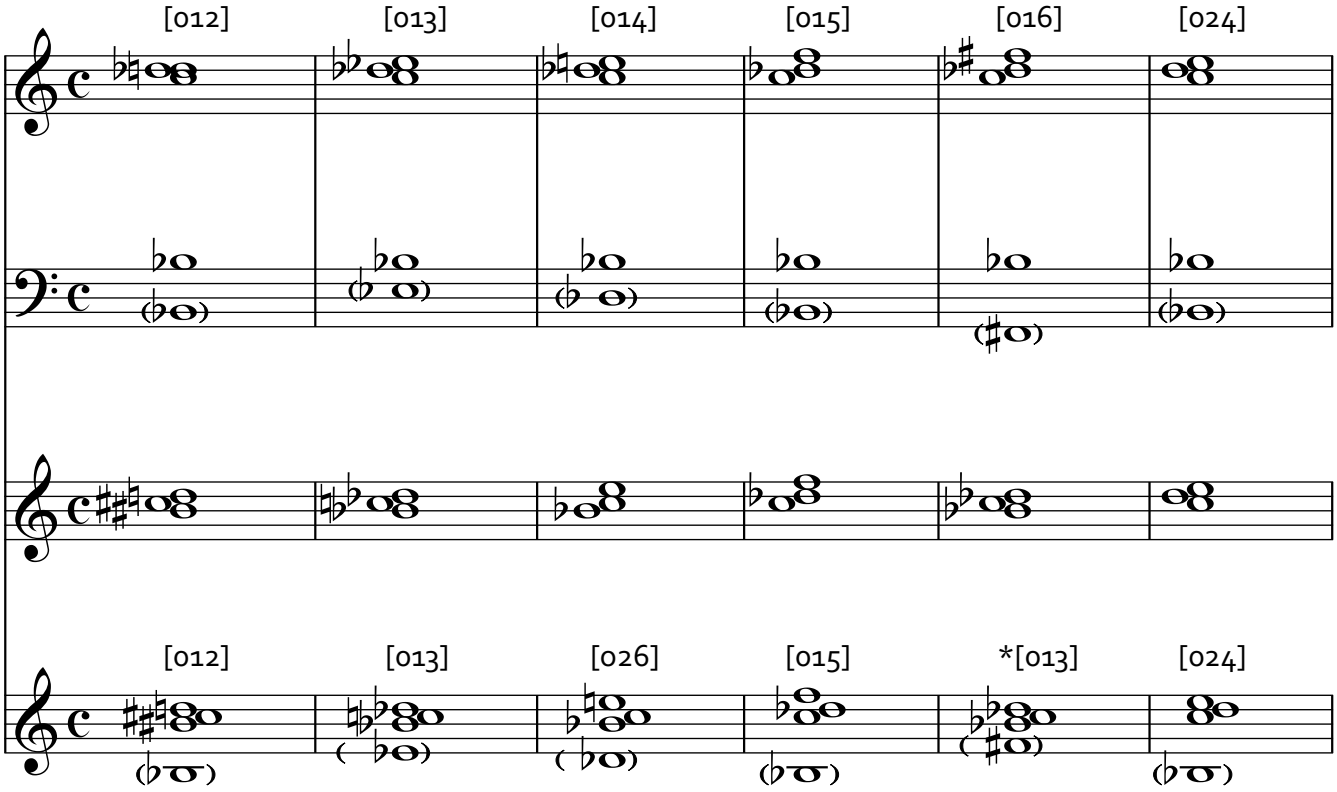

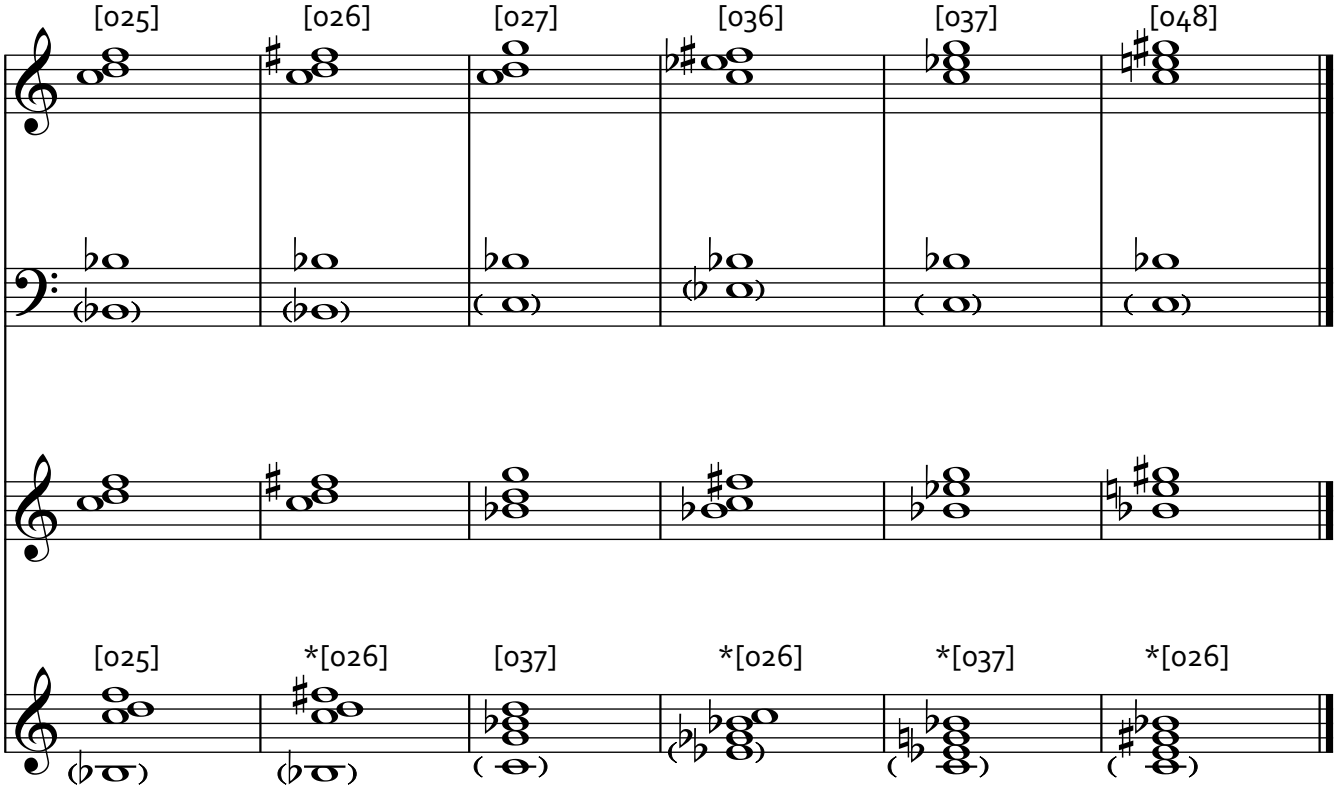

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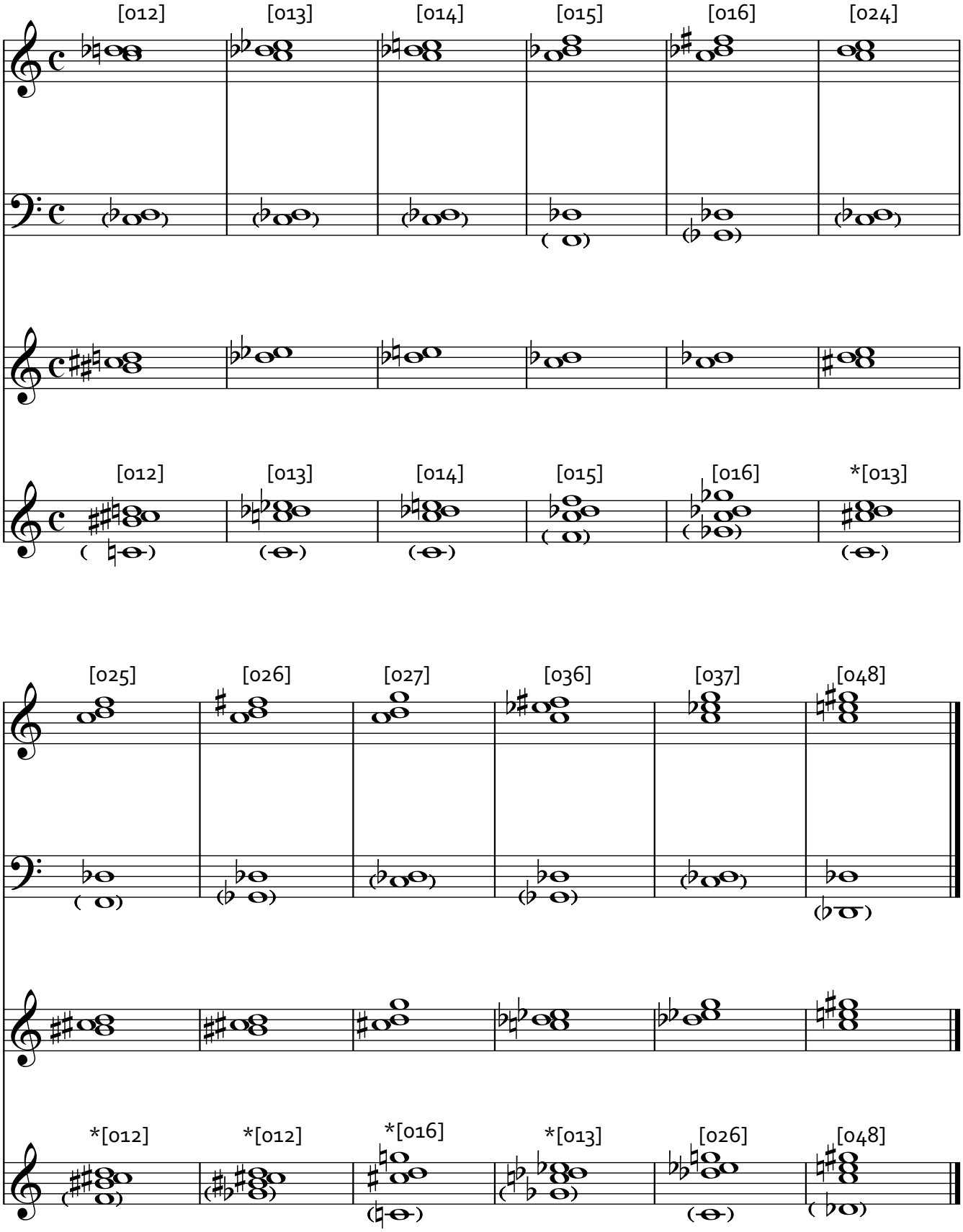
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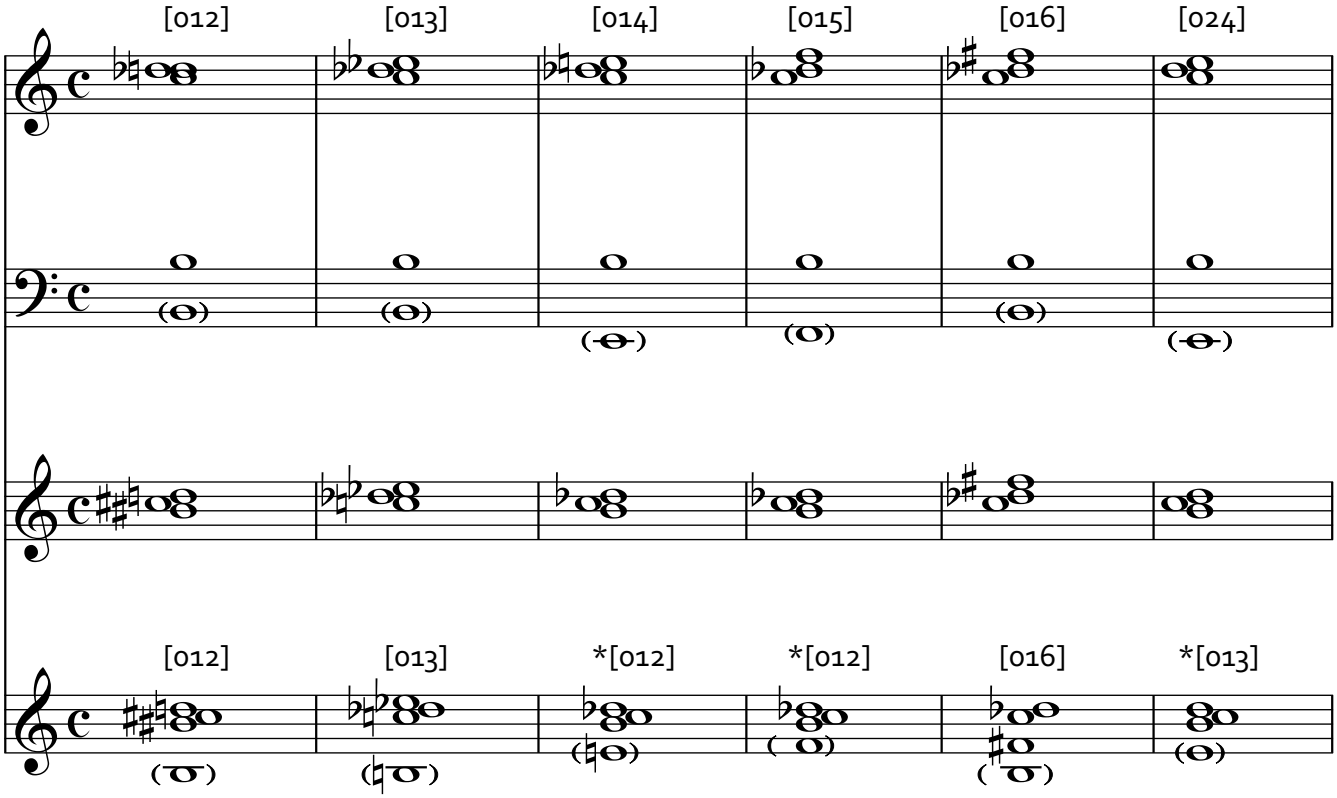

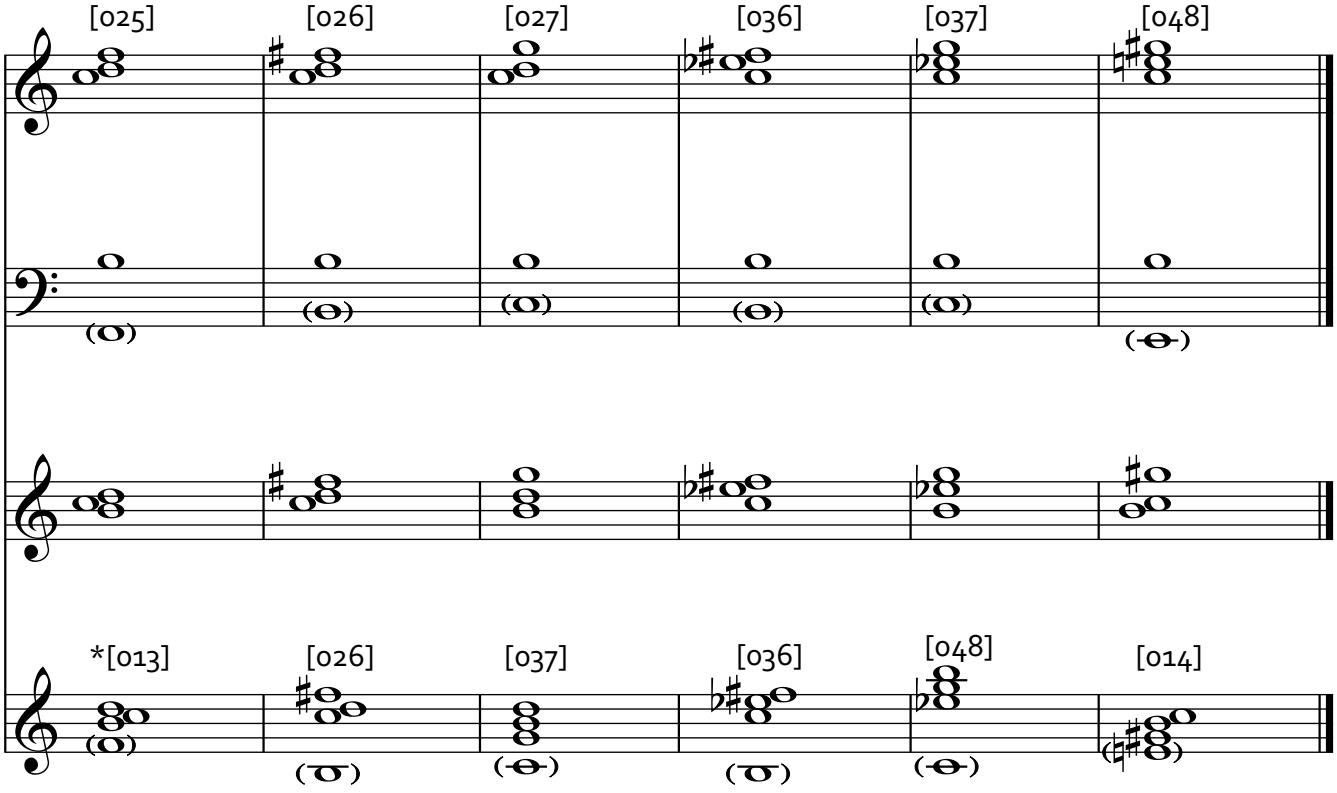

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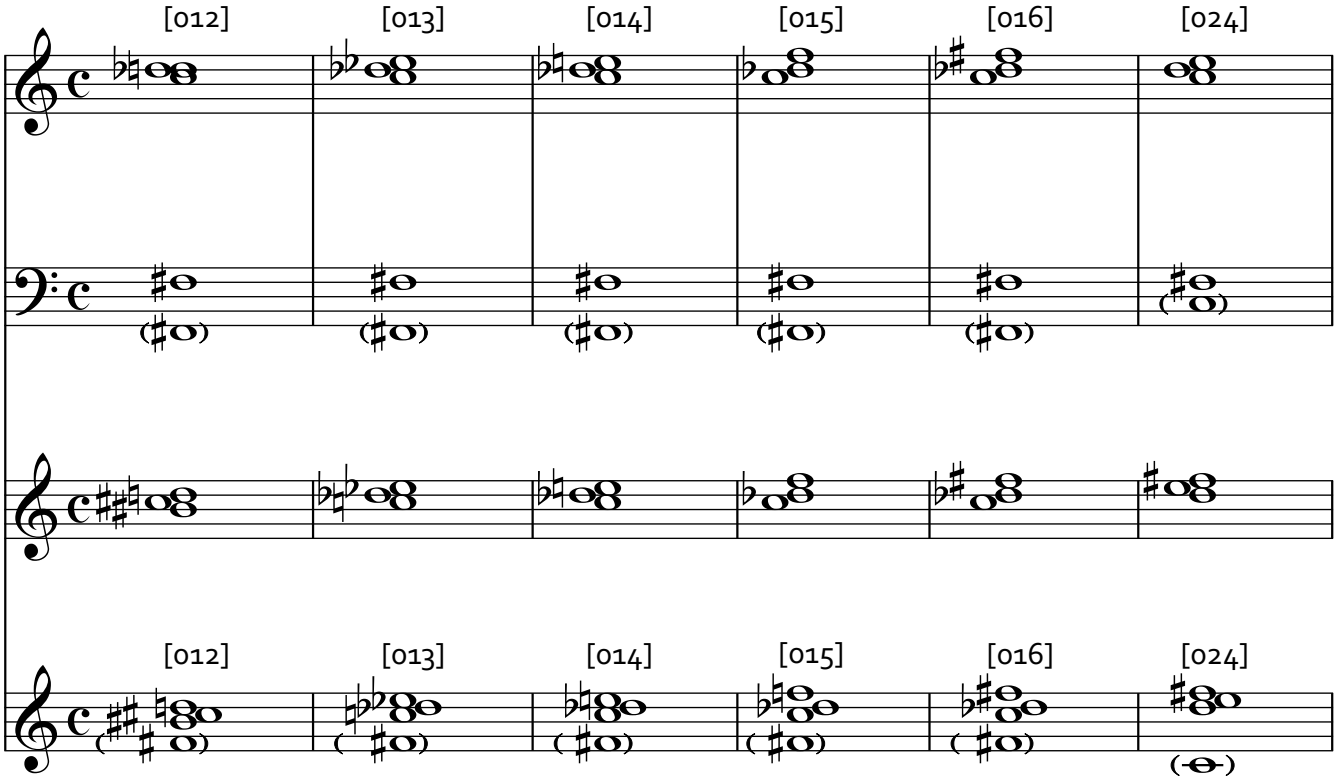
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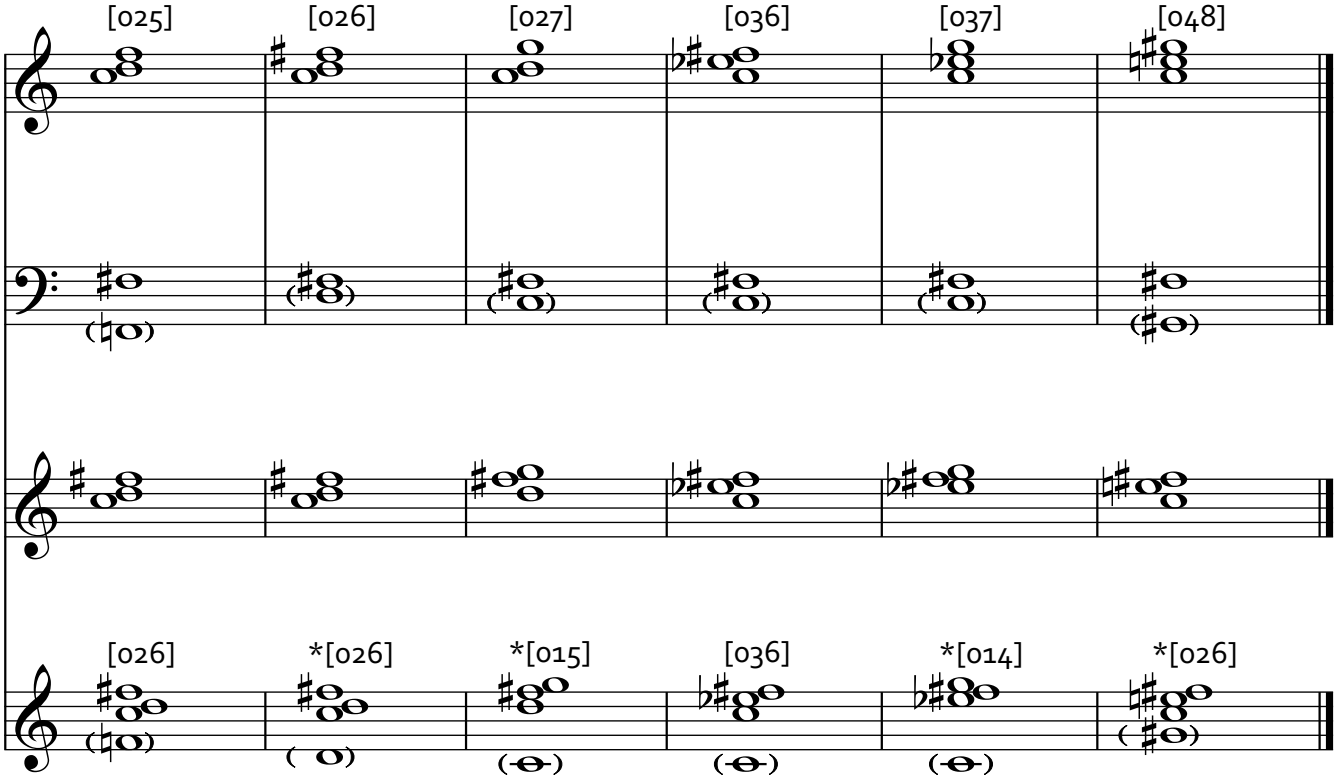
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Hindemithian Trichords
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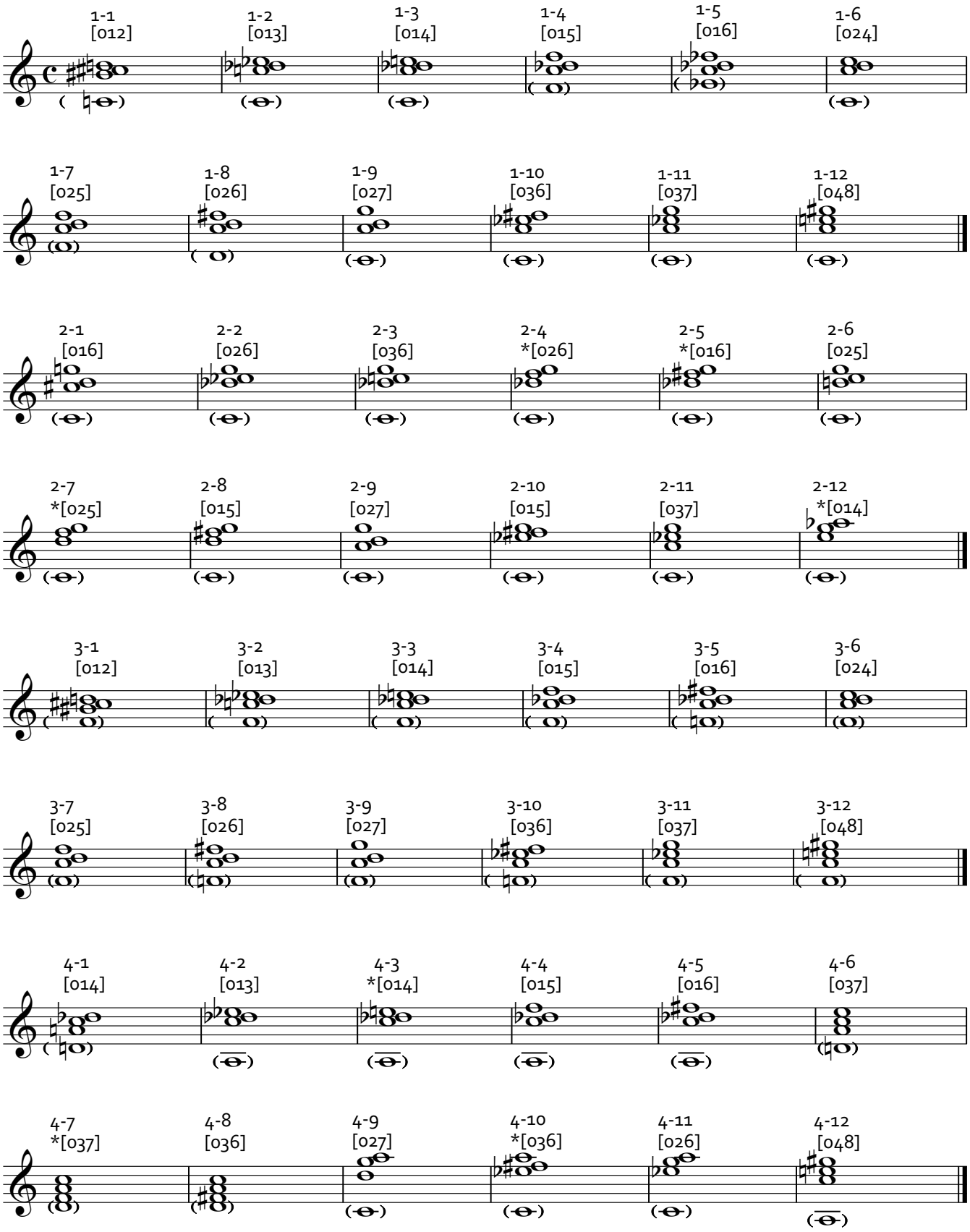

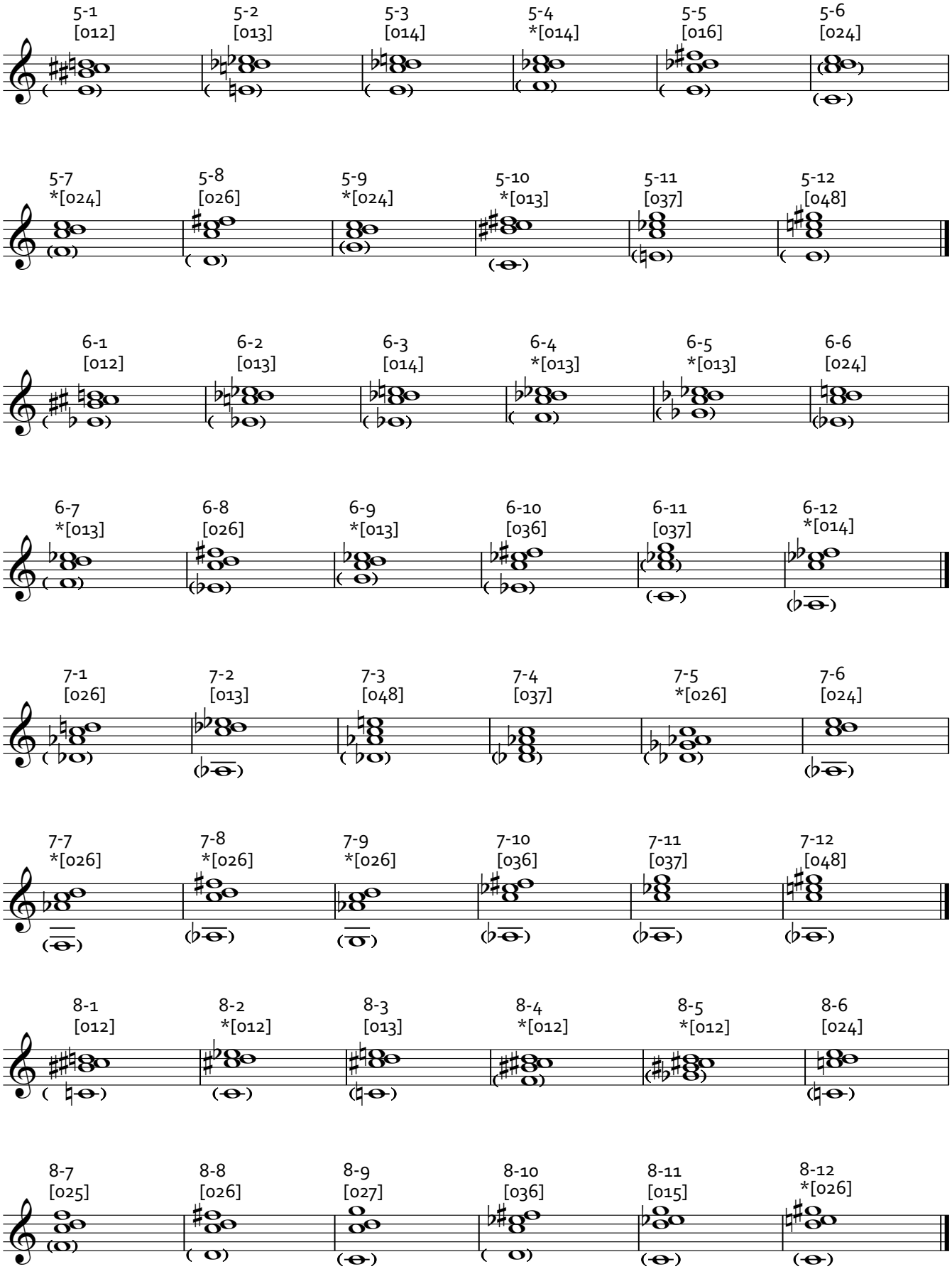
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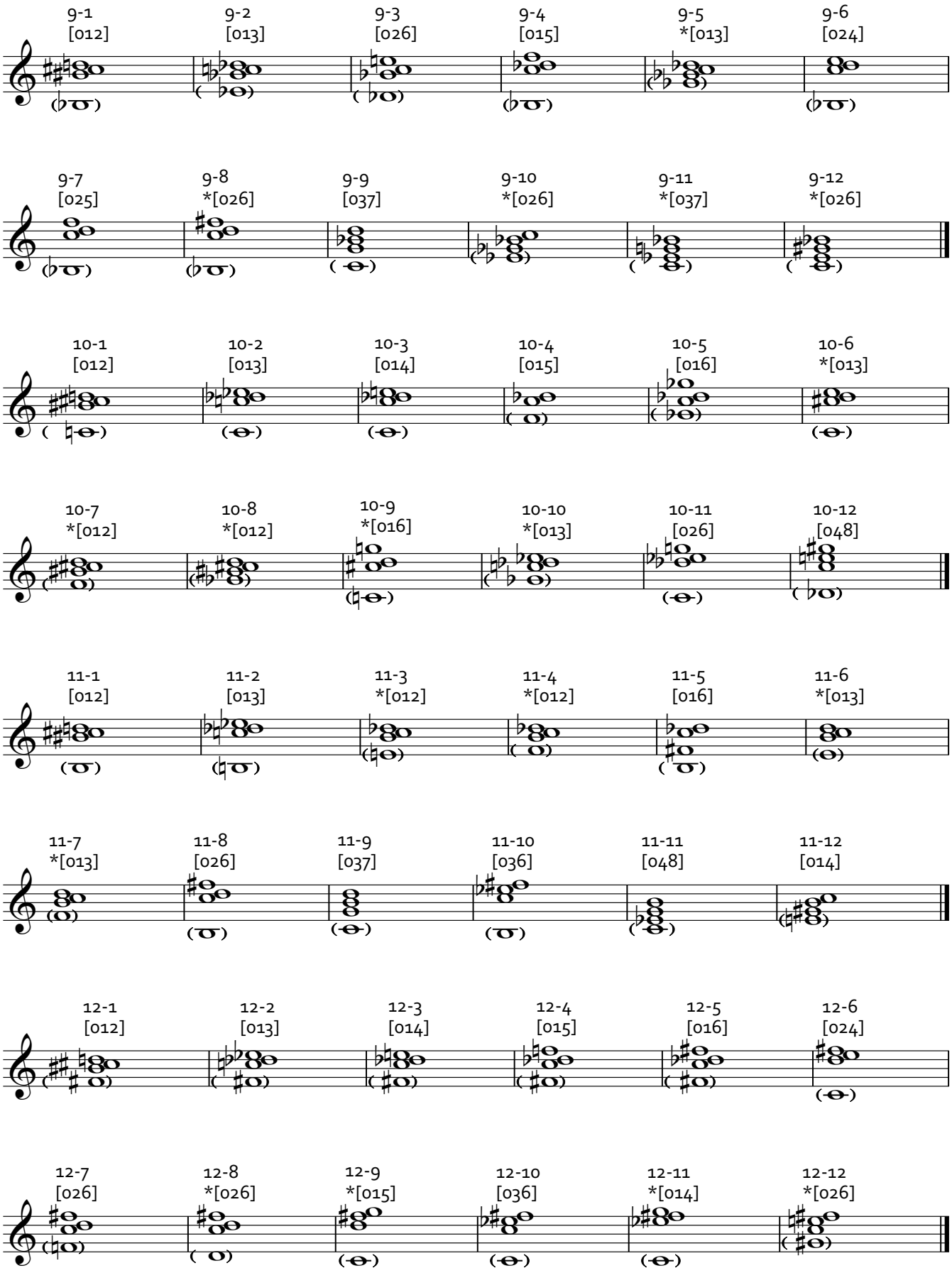
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Hindemithian Trichords
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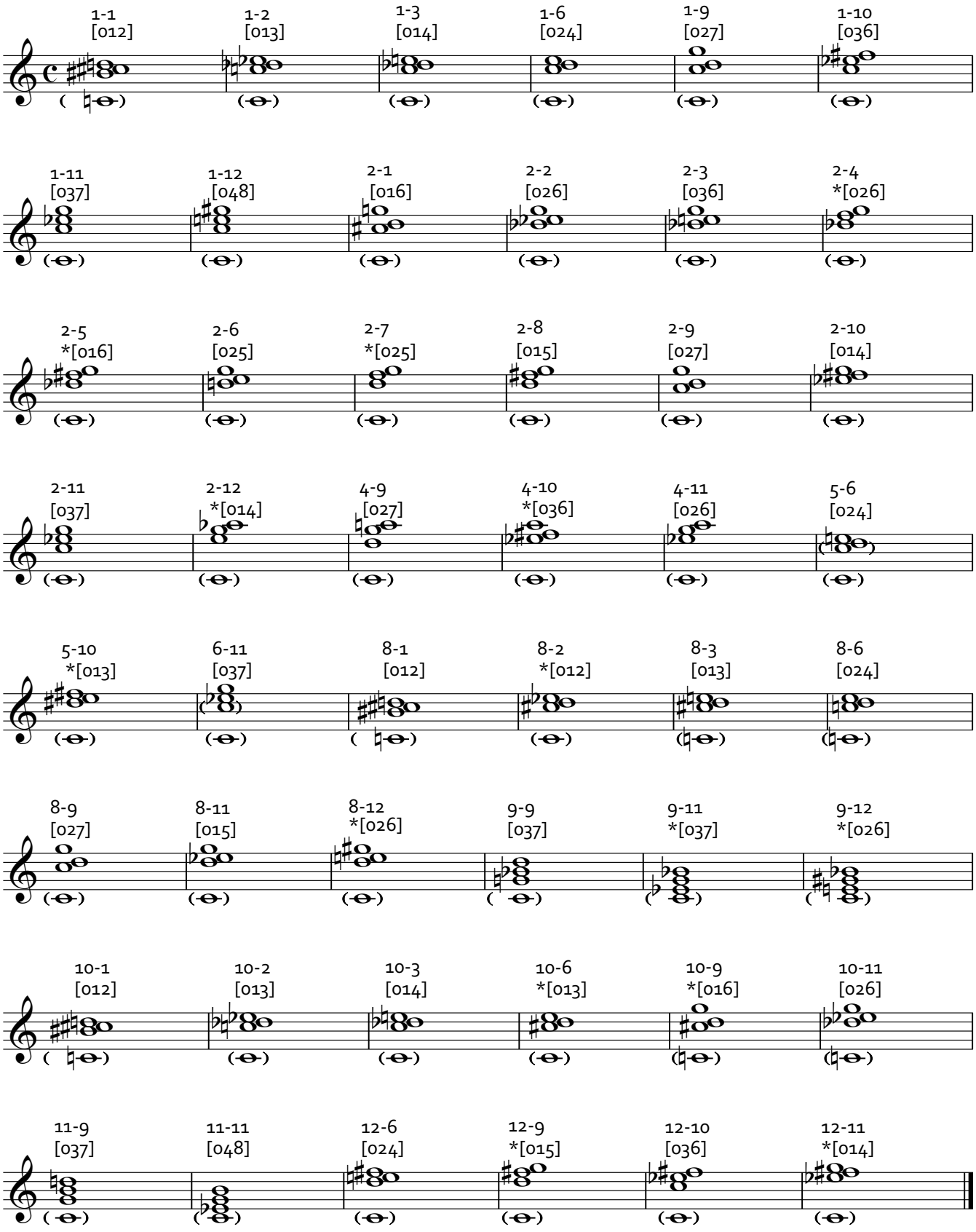

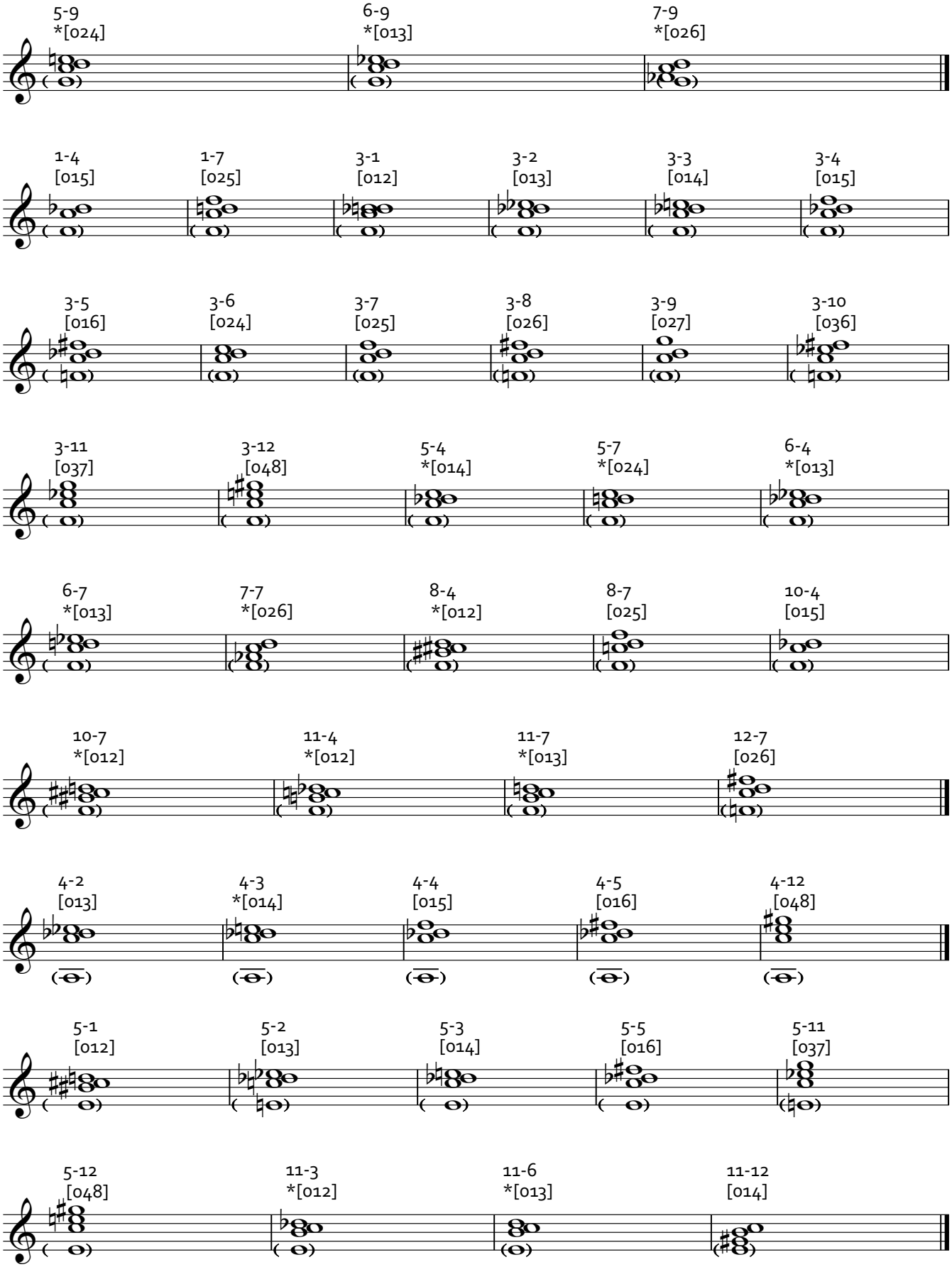
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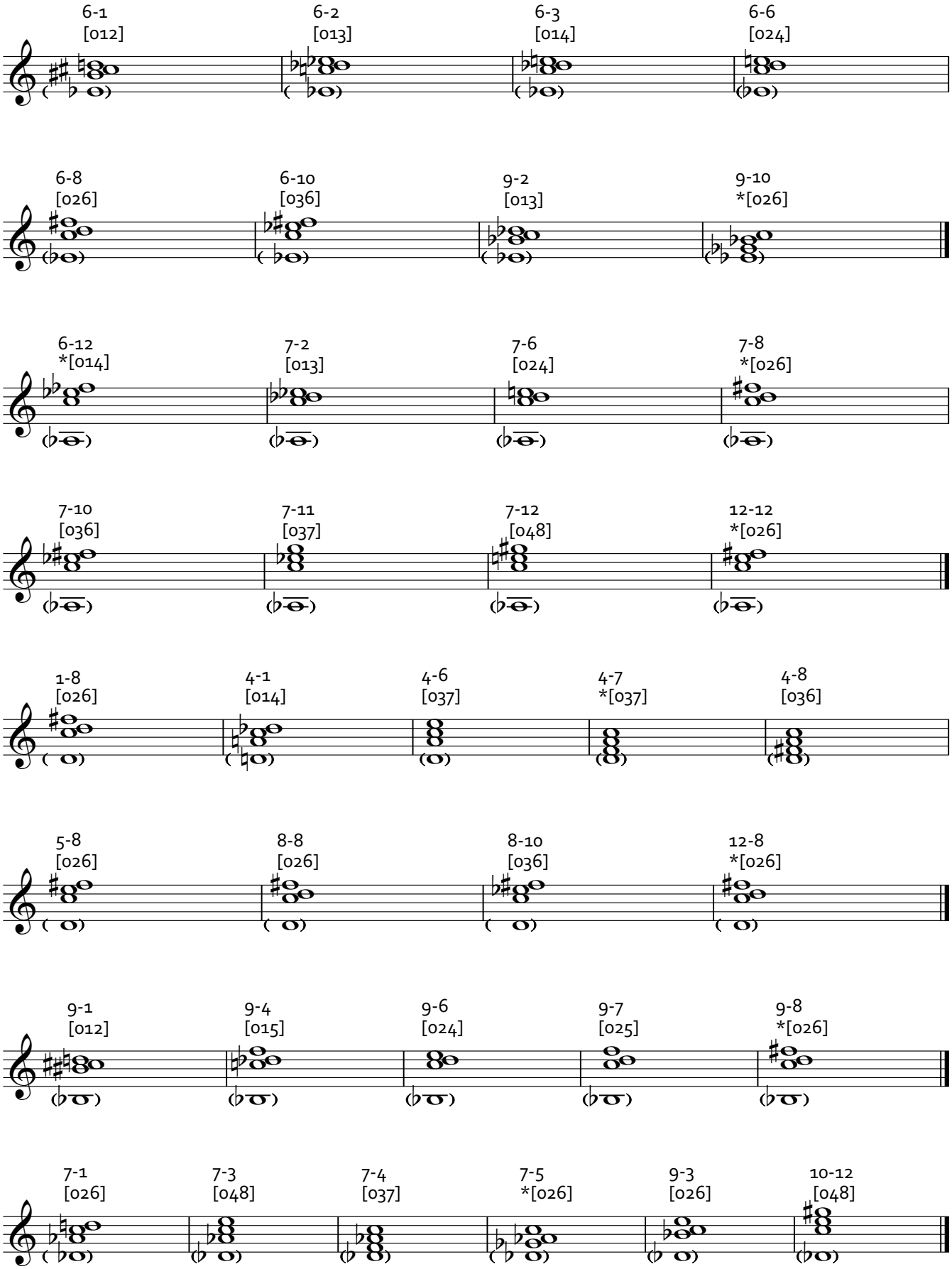
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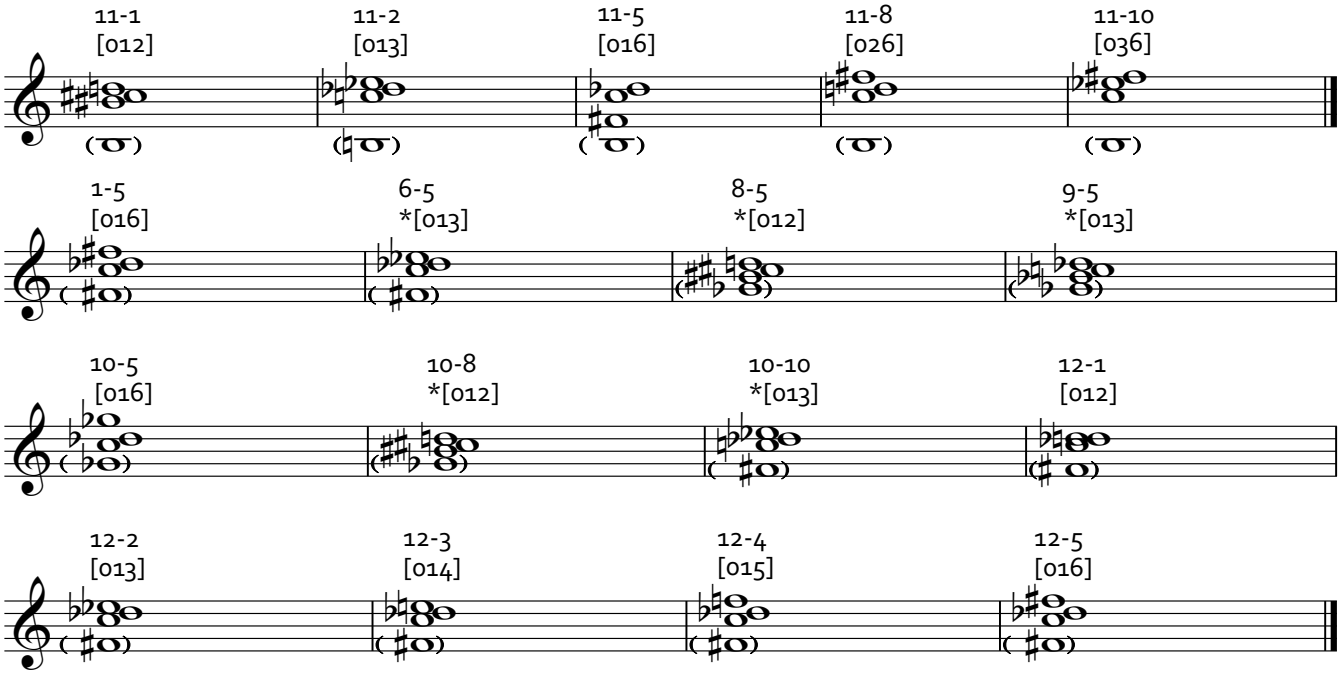
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Hindemithian Trichords
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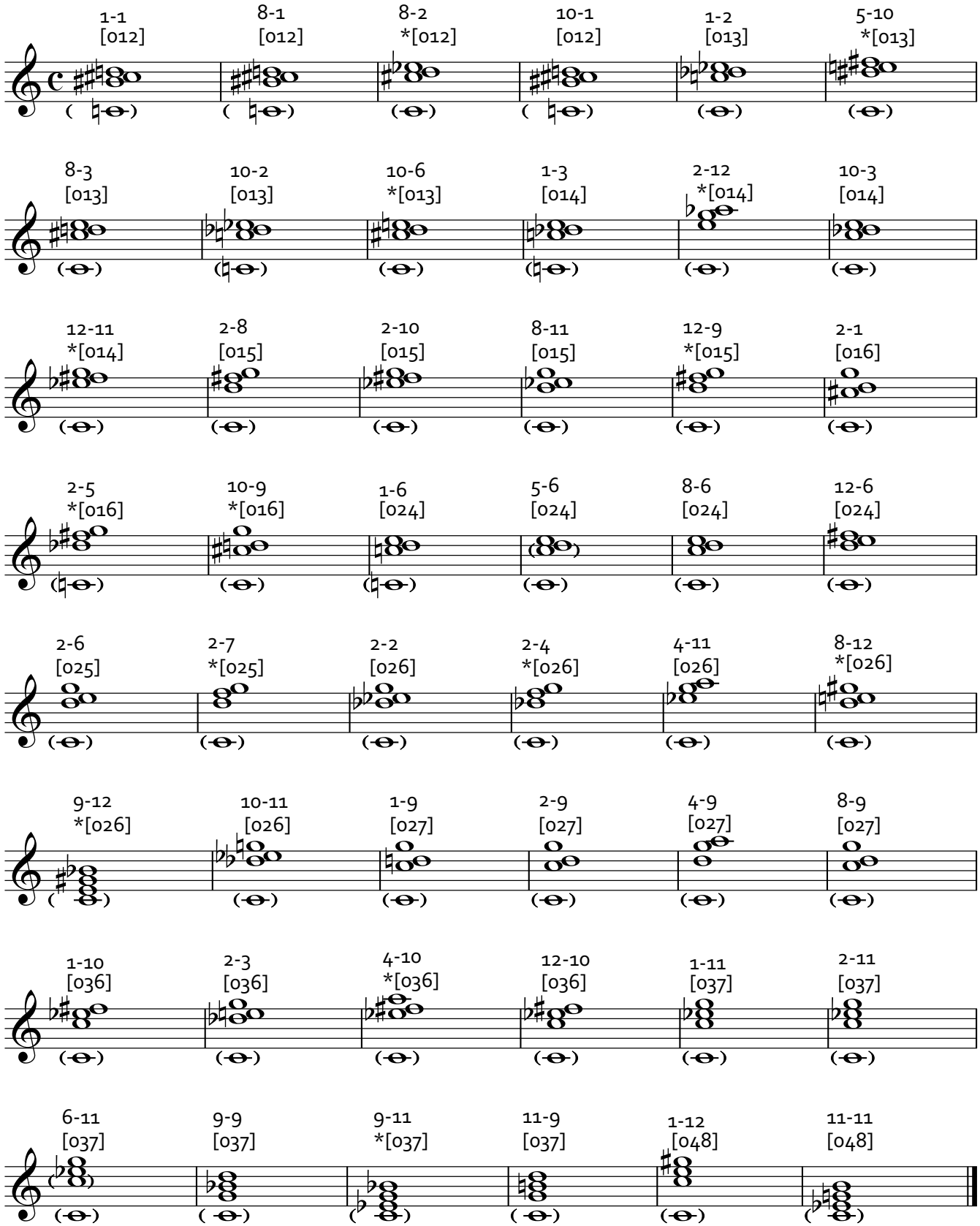

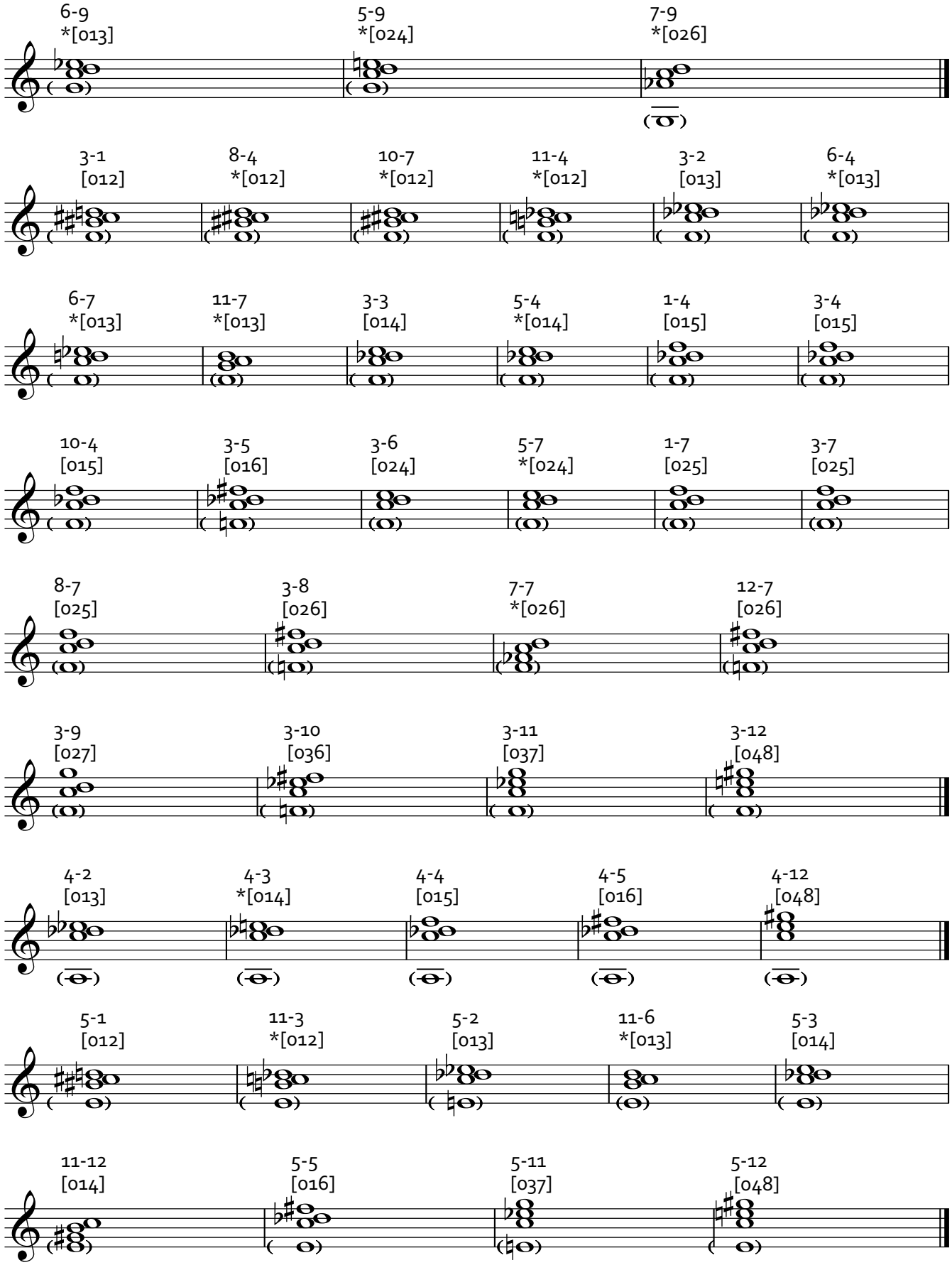
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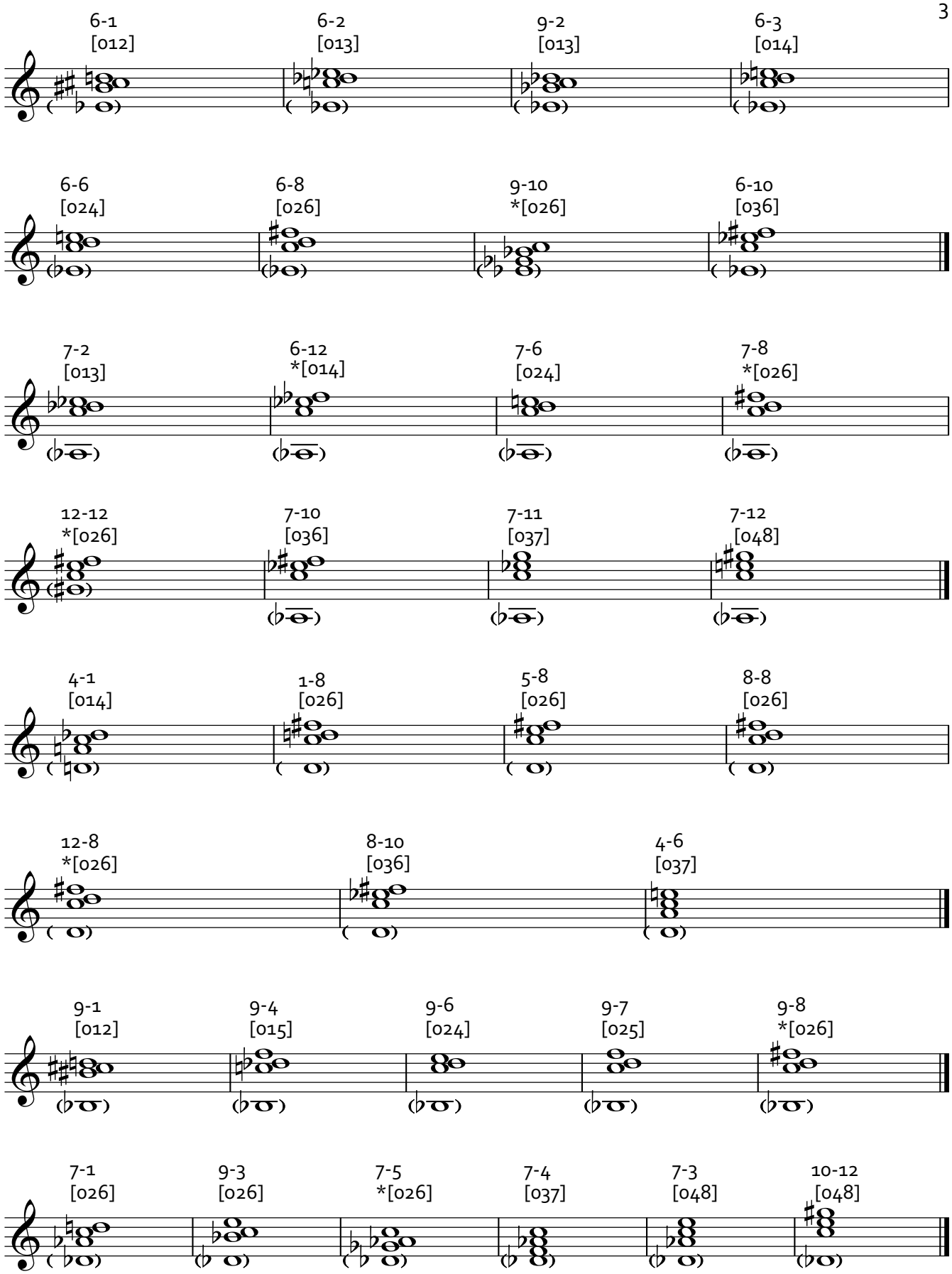
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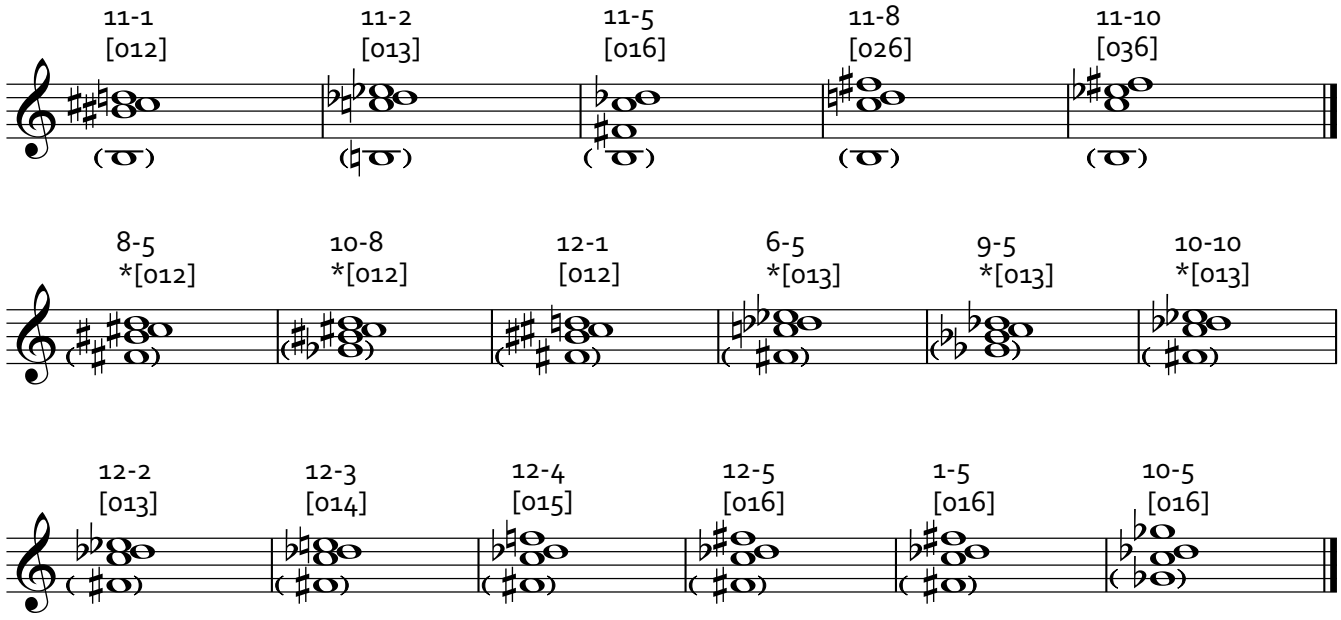
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Hindemithian Trichords
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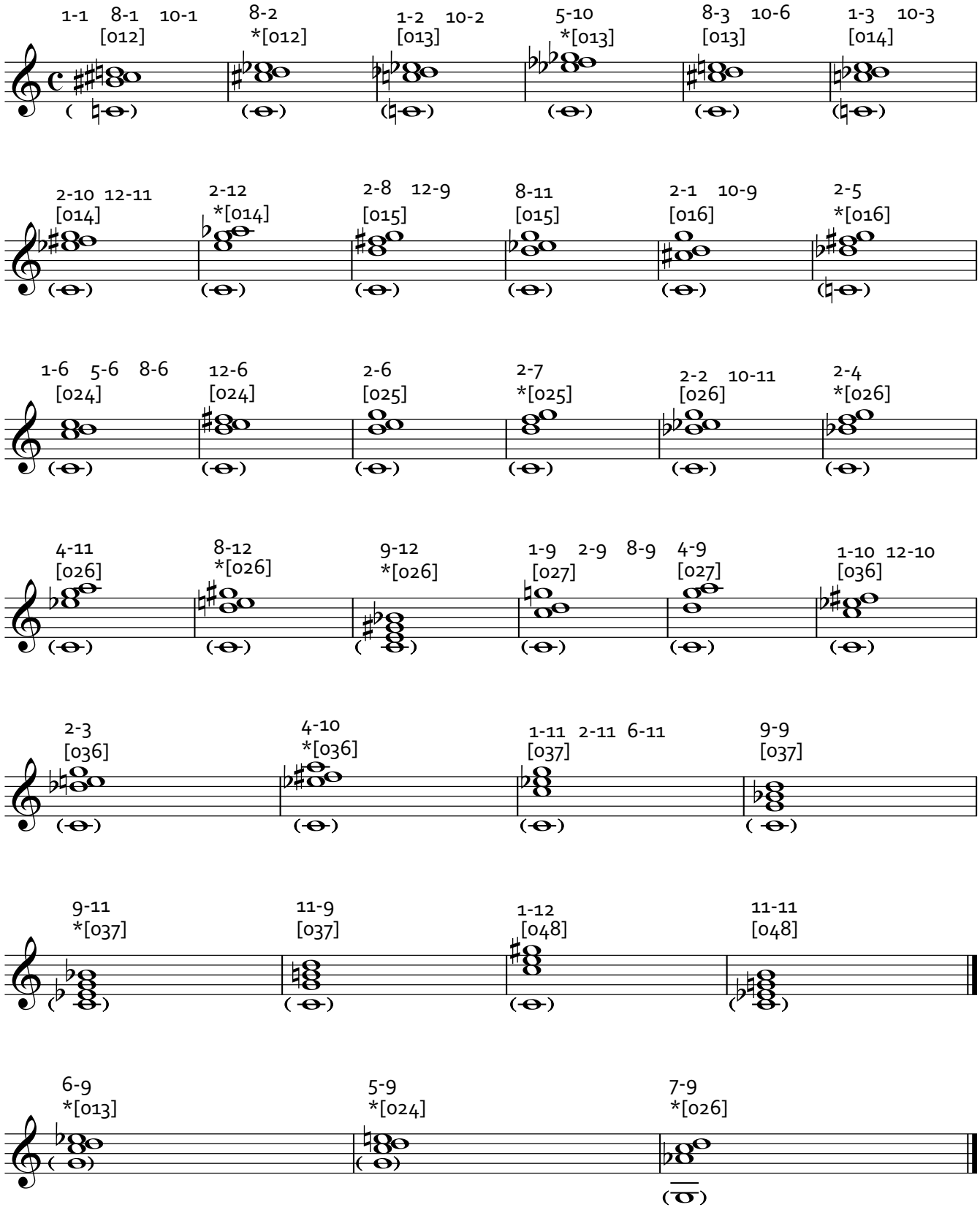

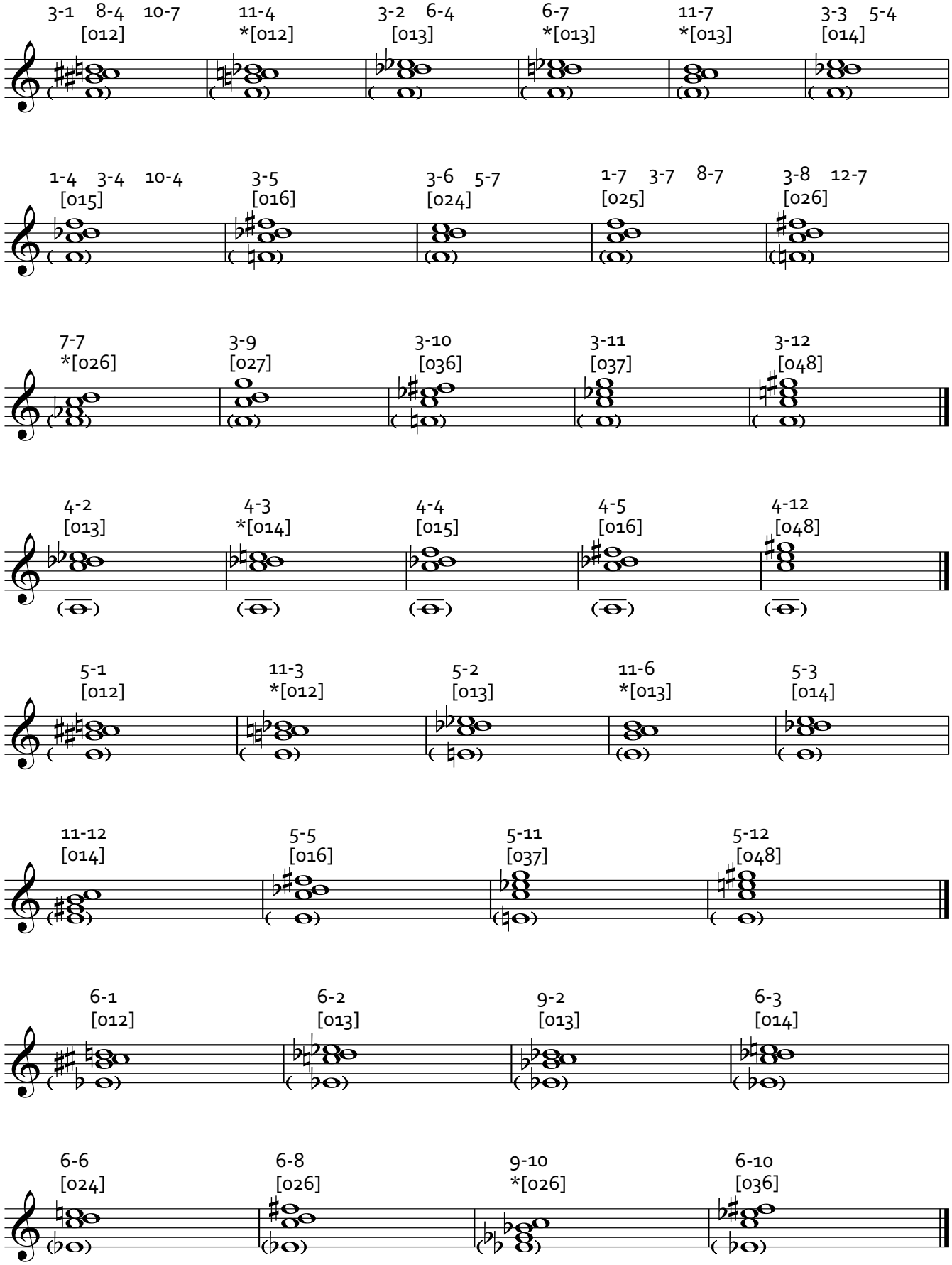
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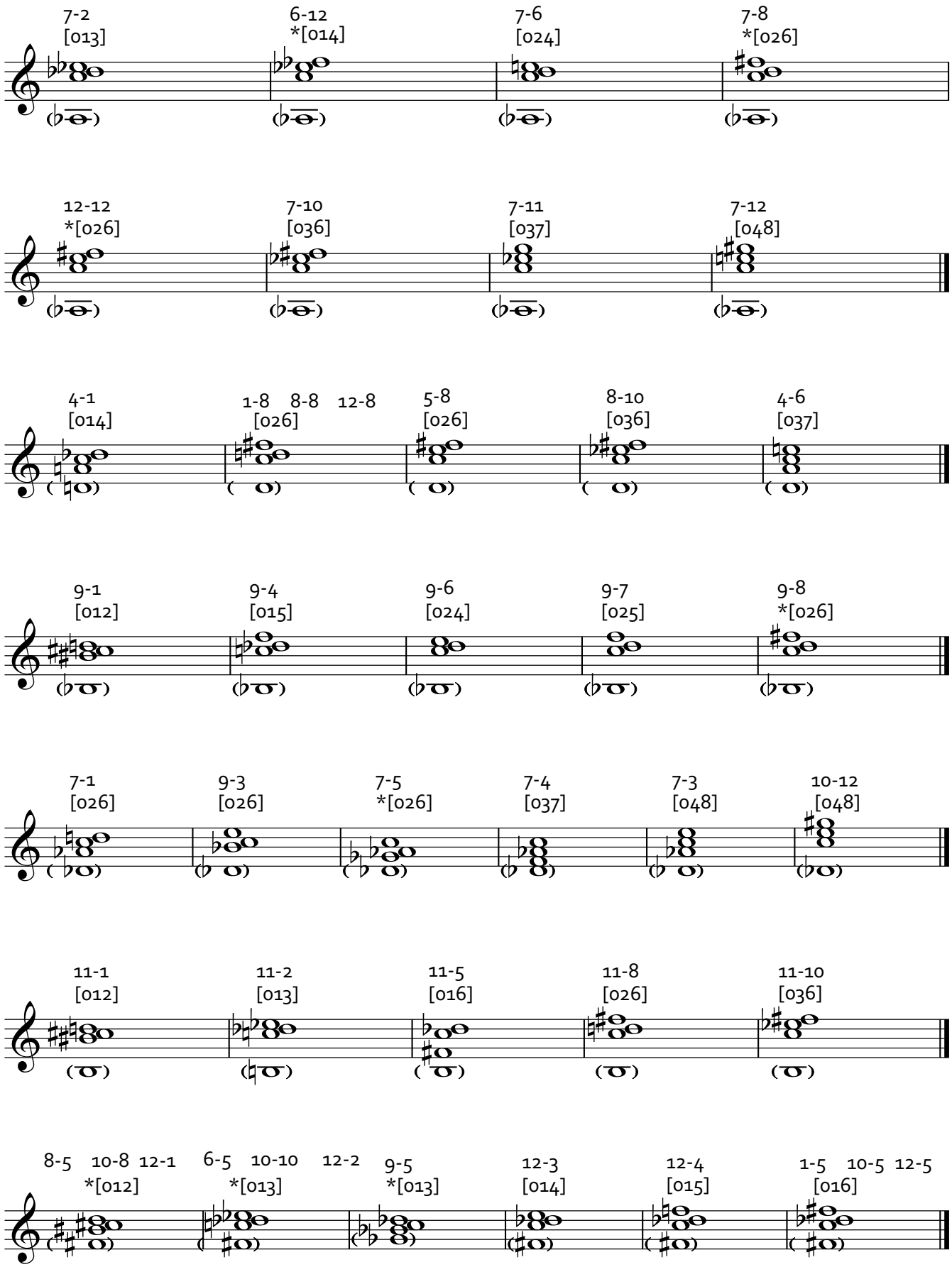
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Hindemithian Trichords
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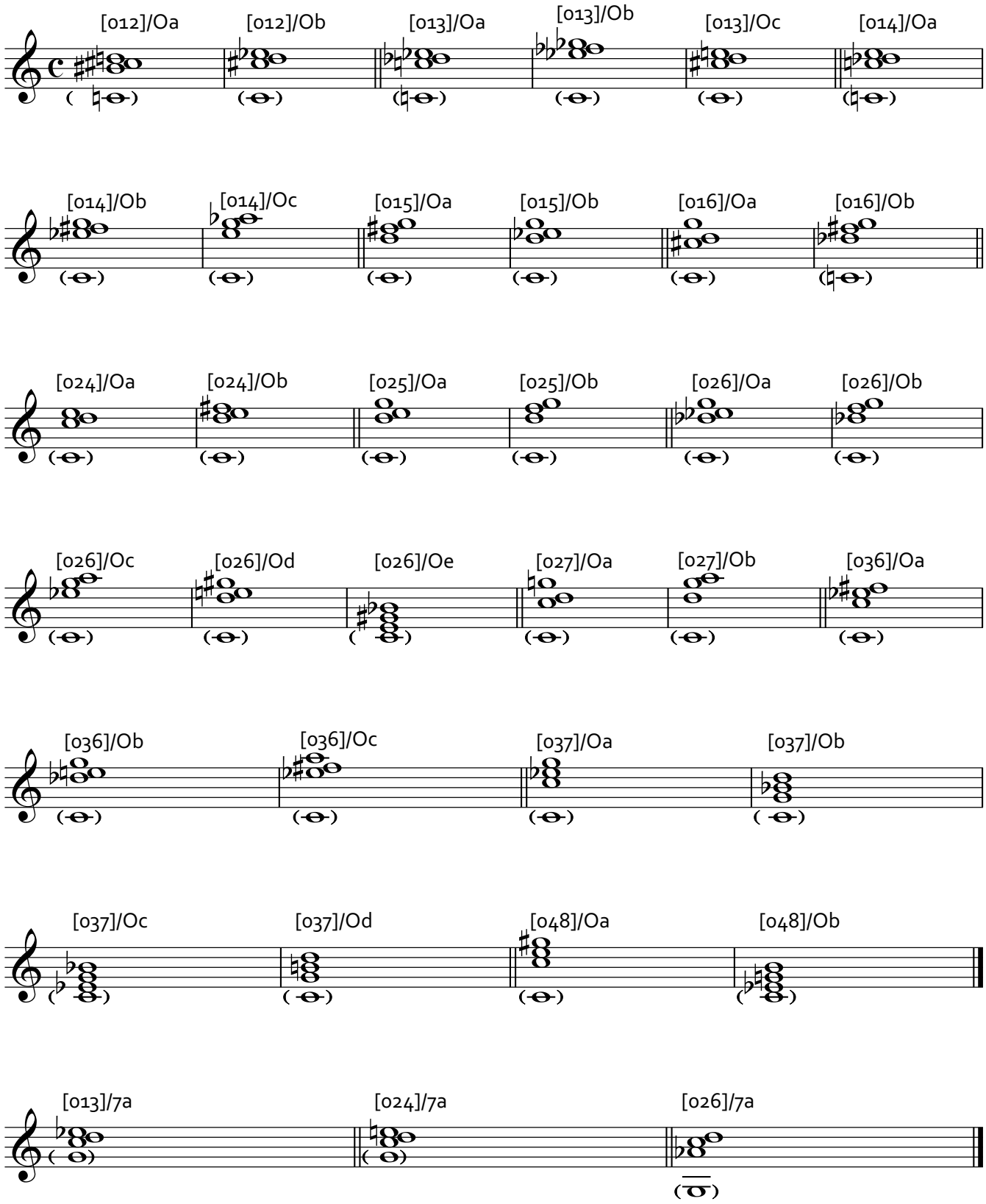

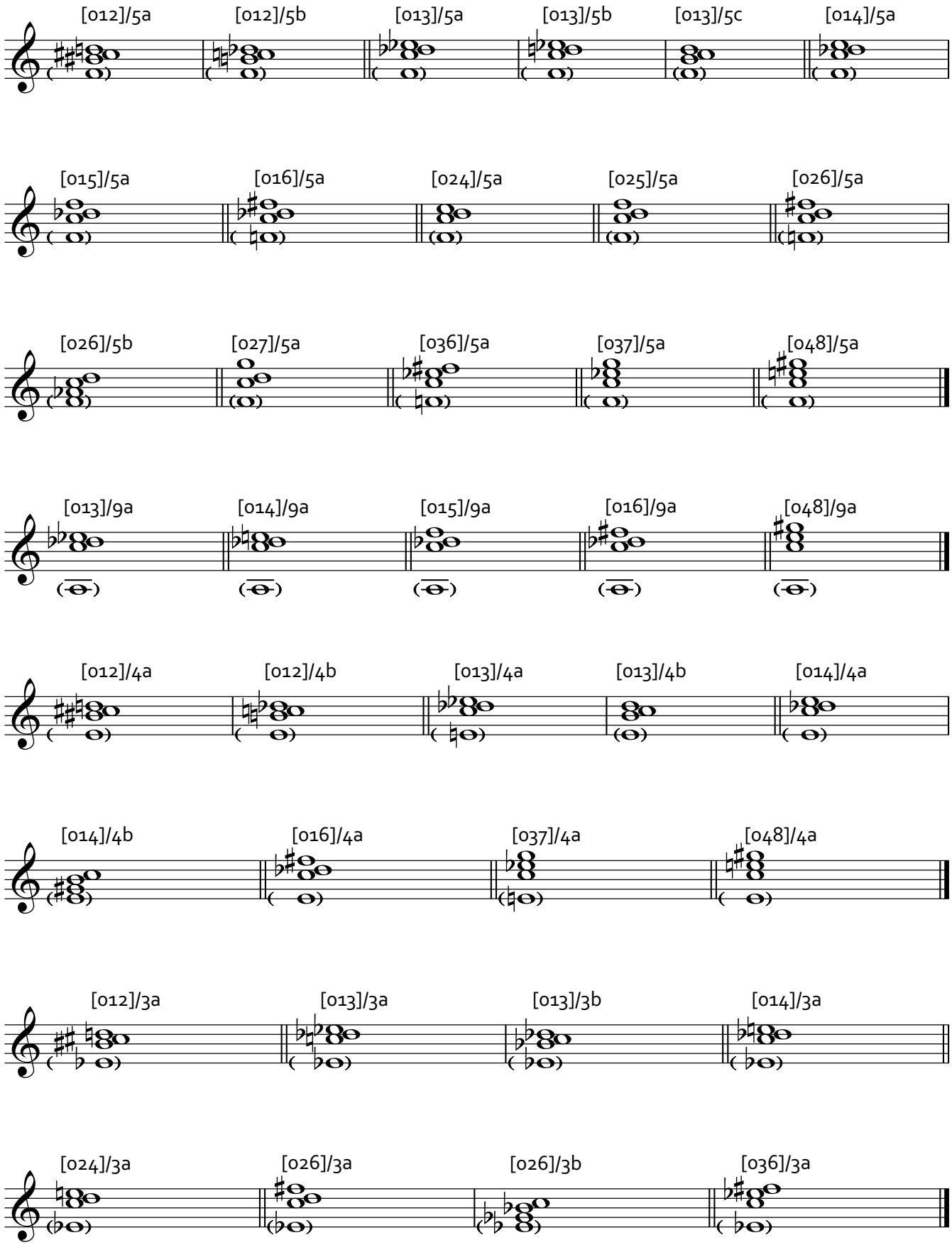
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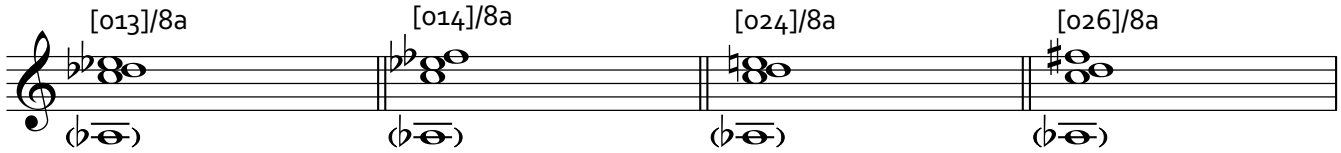
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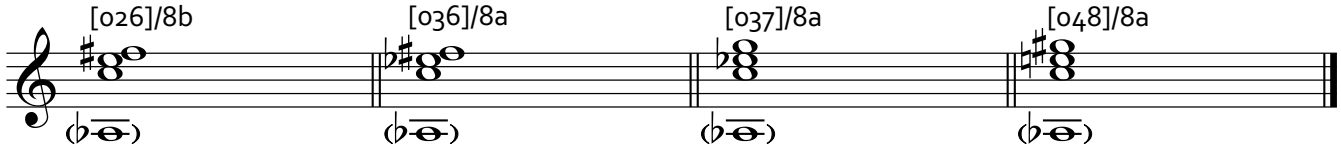
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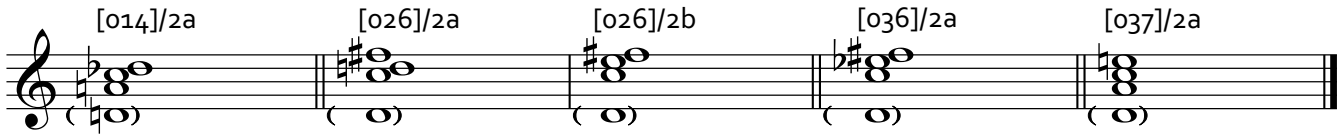
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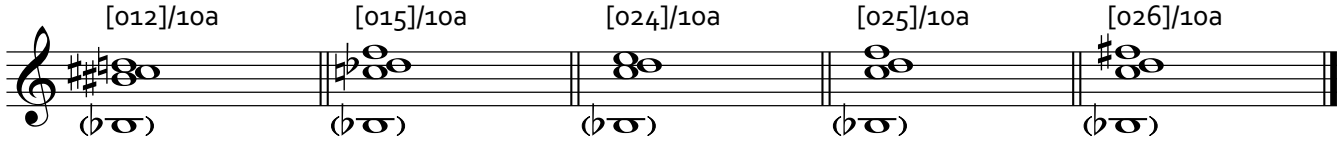
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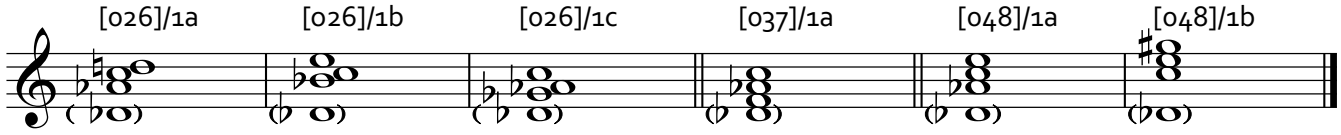
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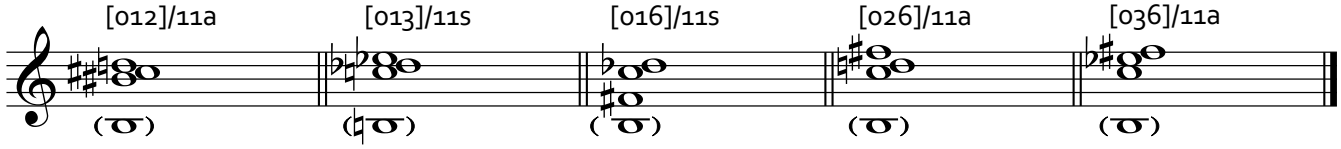
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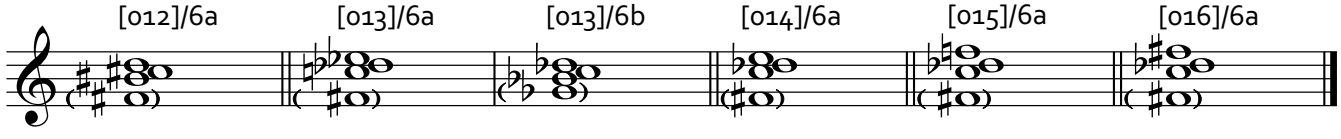
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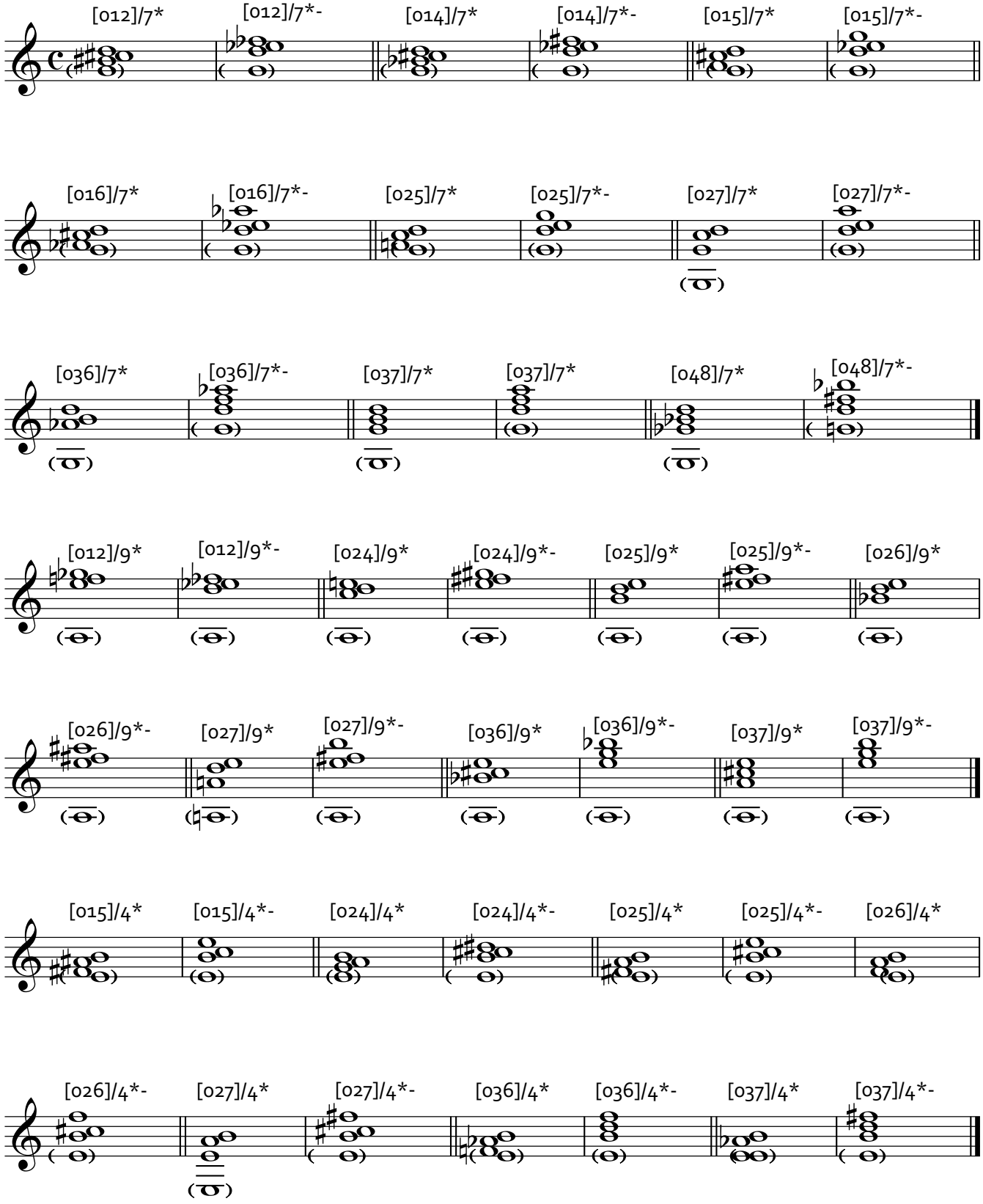
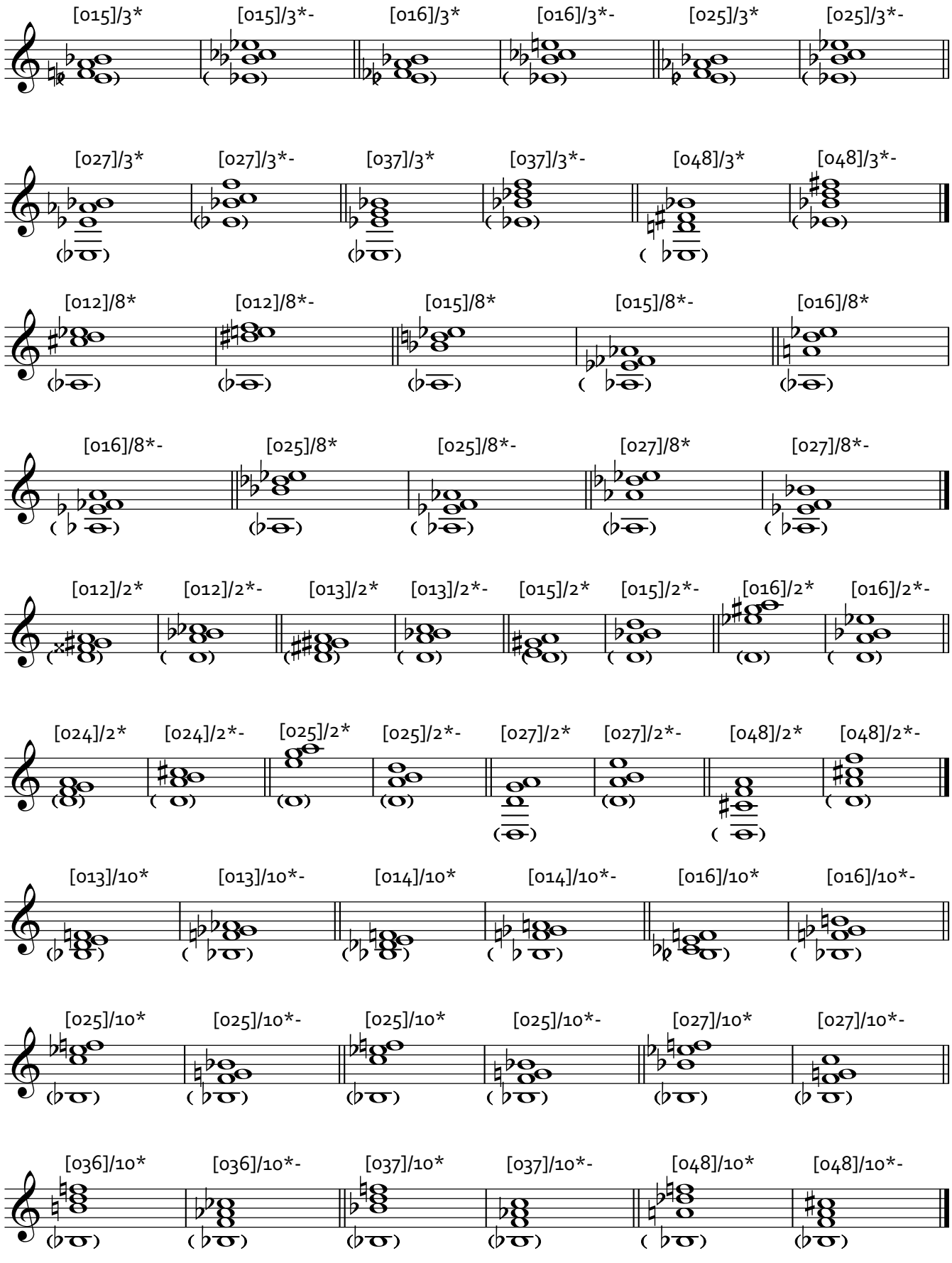
Hindemithian Trichords
Artificial Sets

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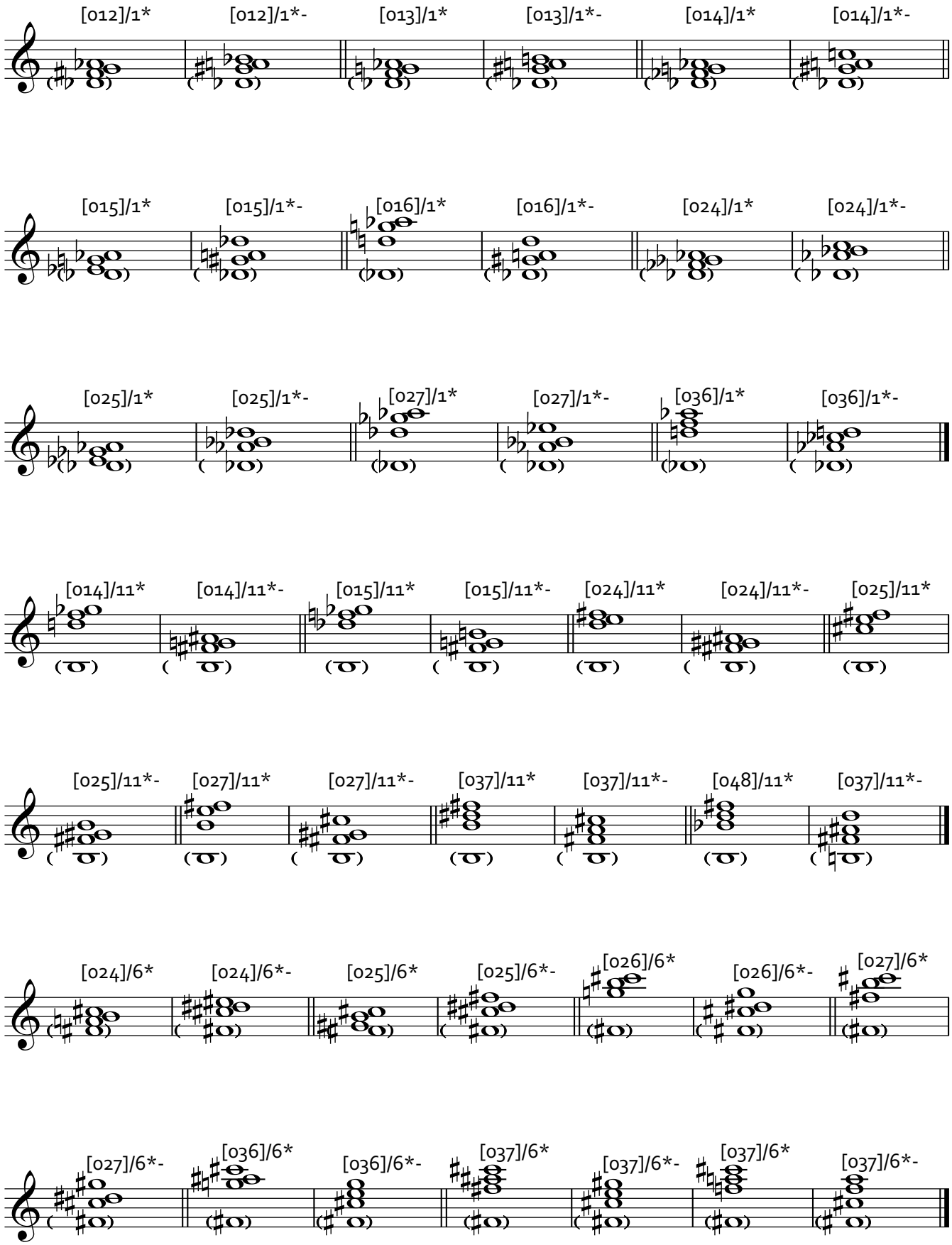
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Kore I Figures

Anna Webber

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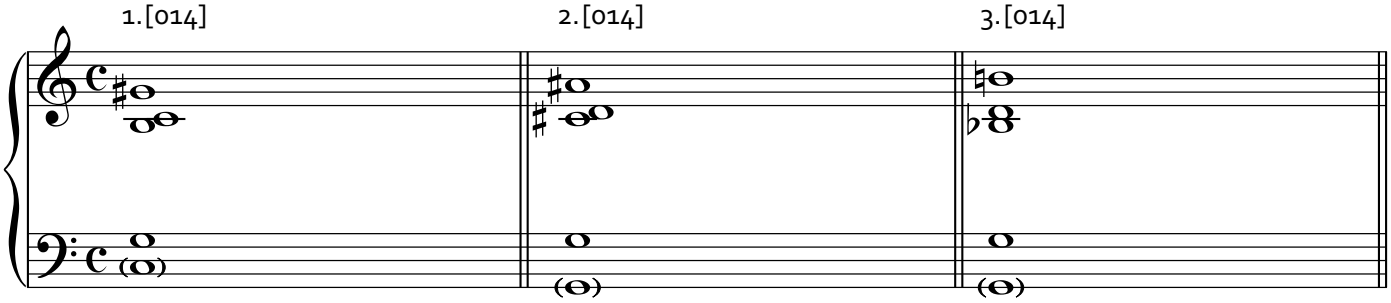

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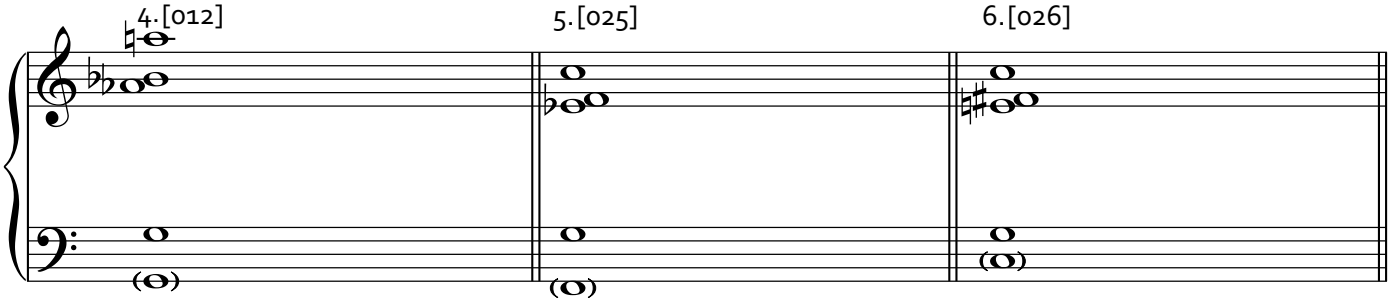

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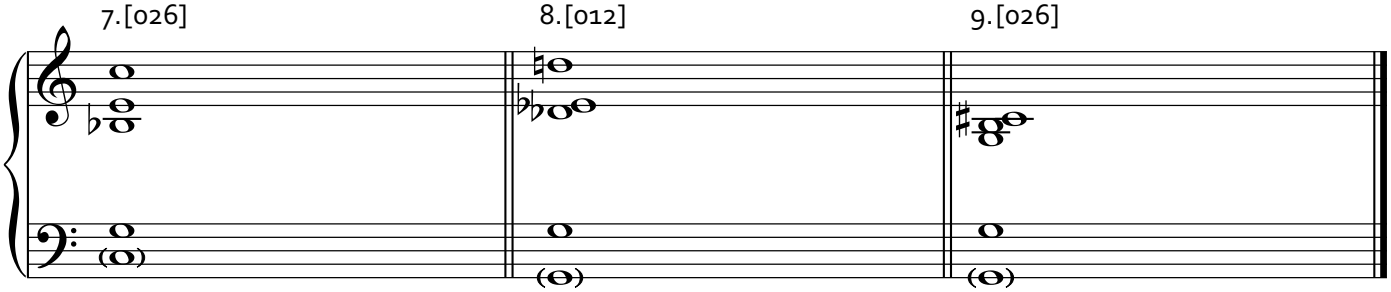

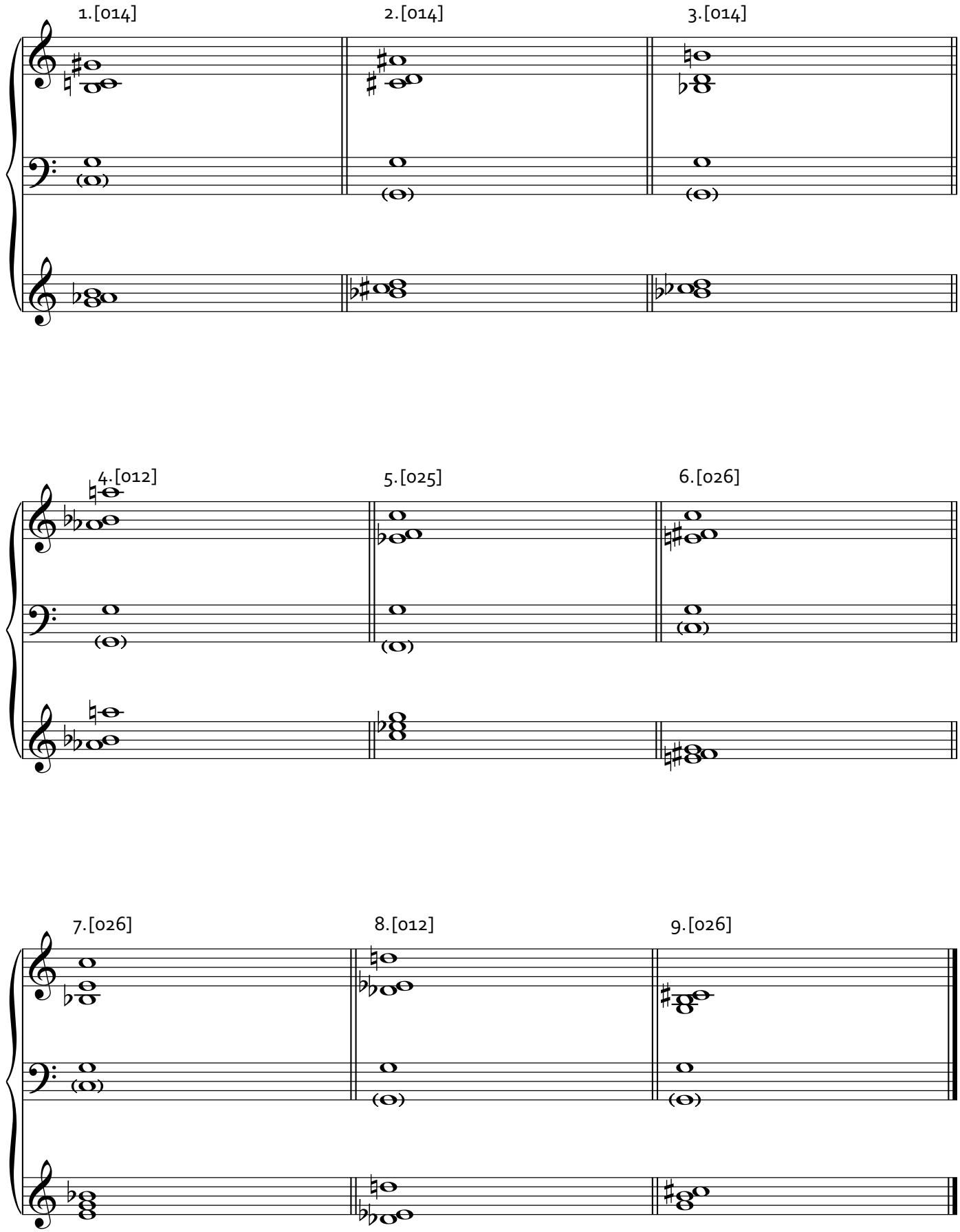
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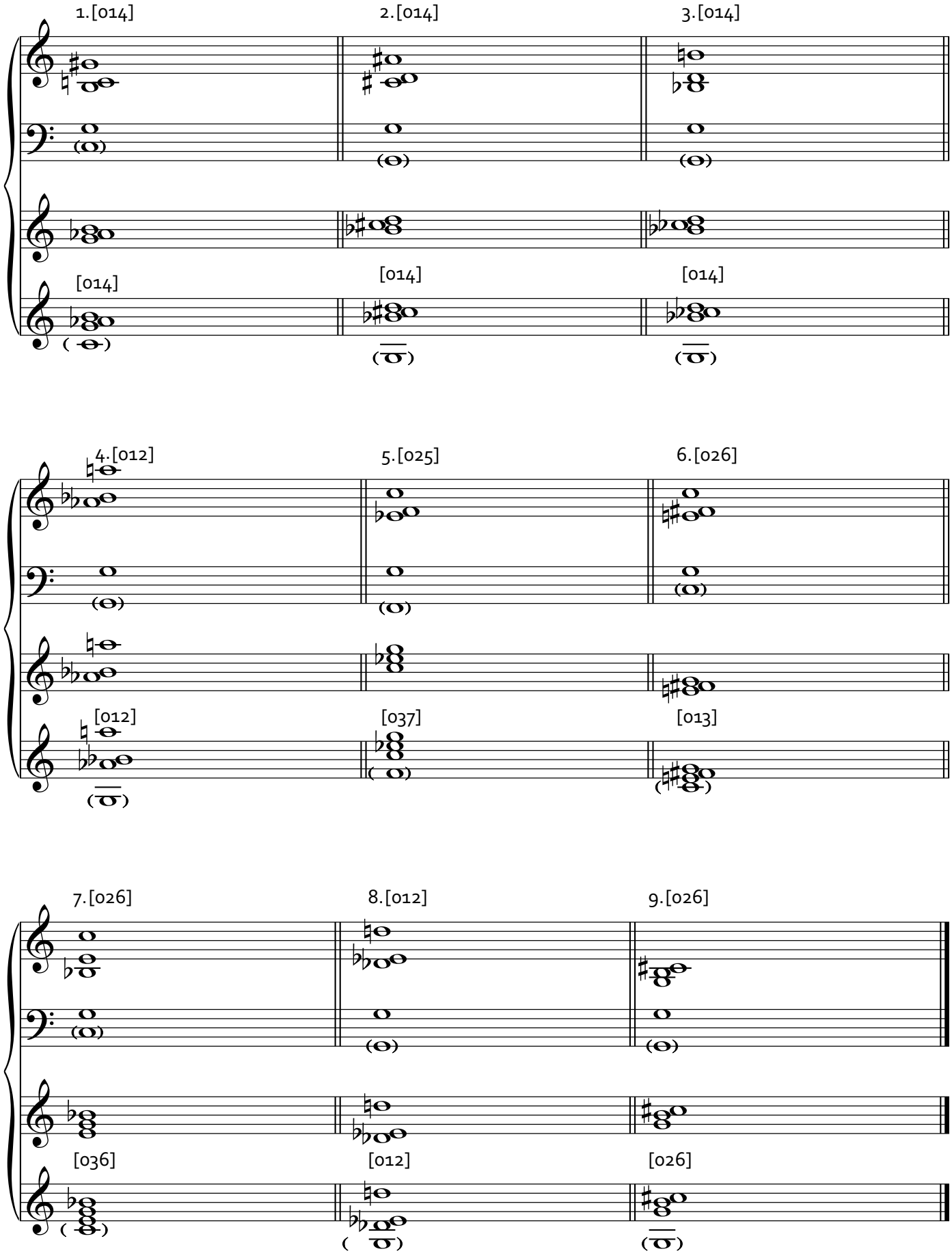
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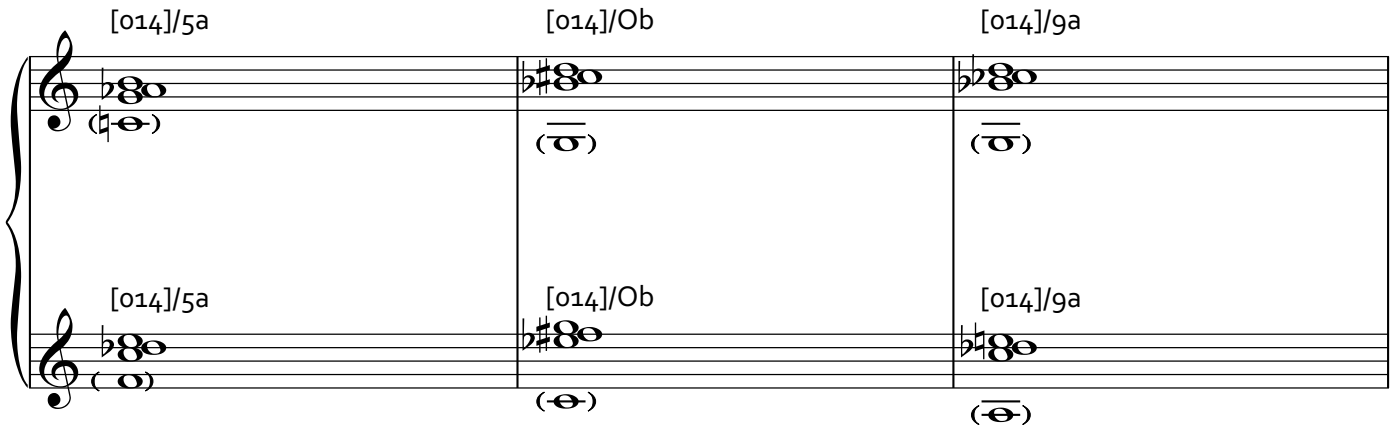

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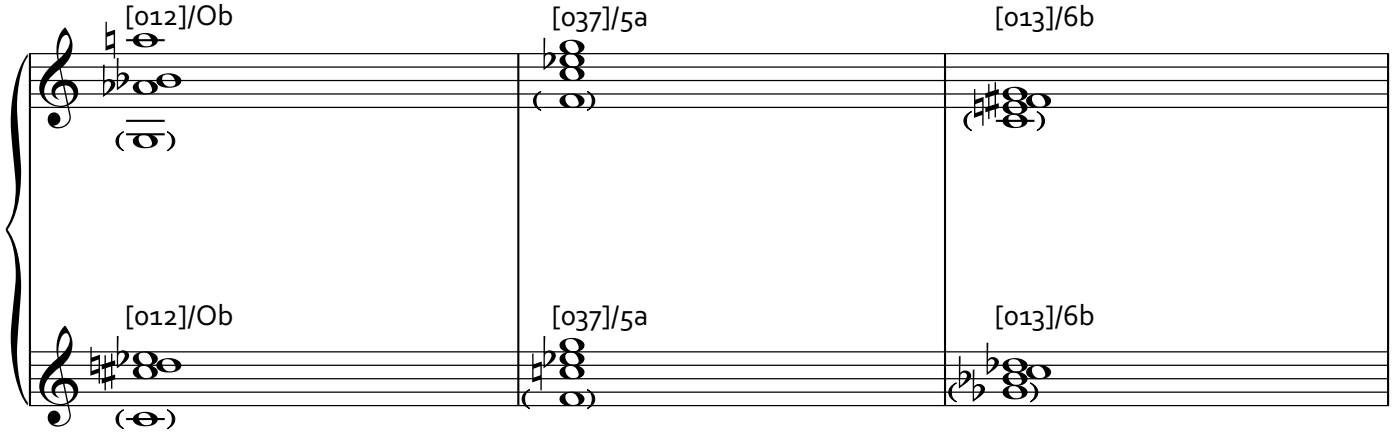

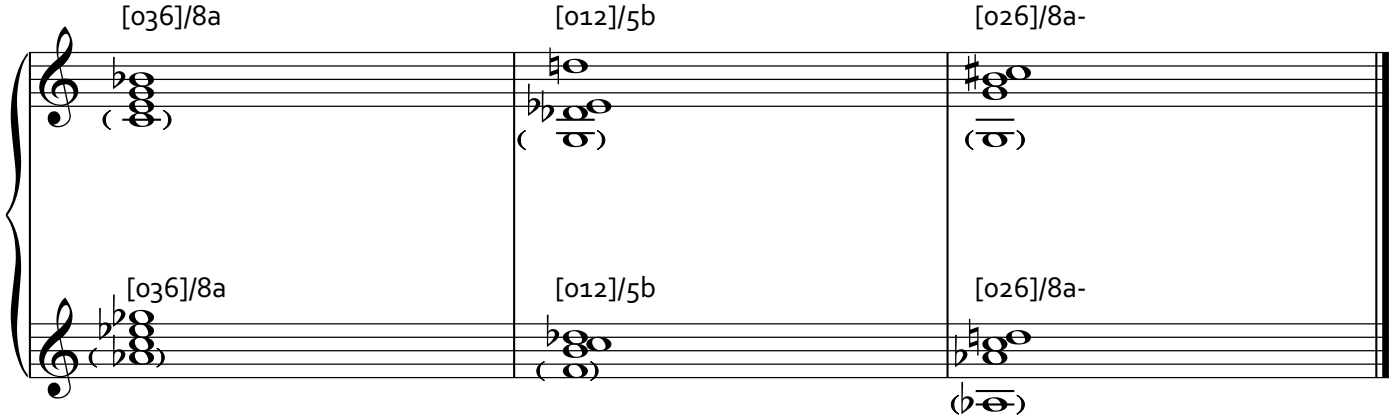

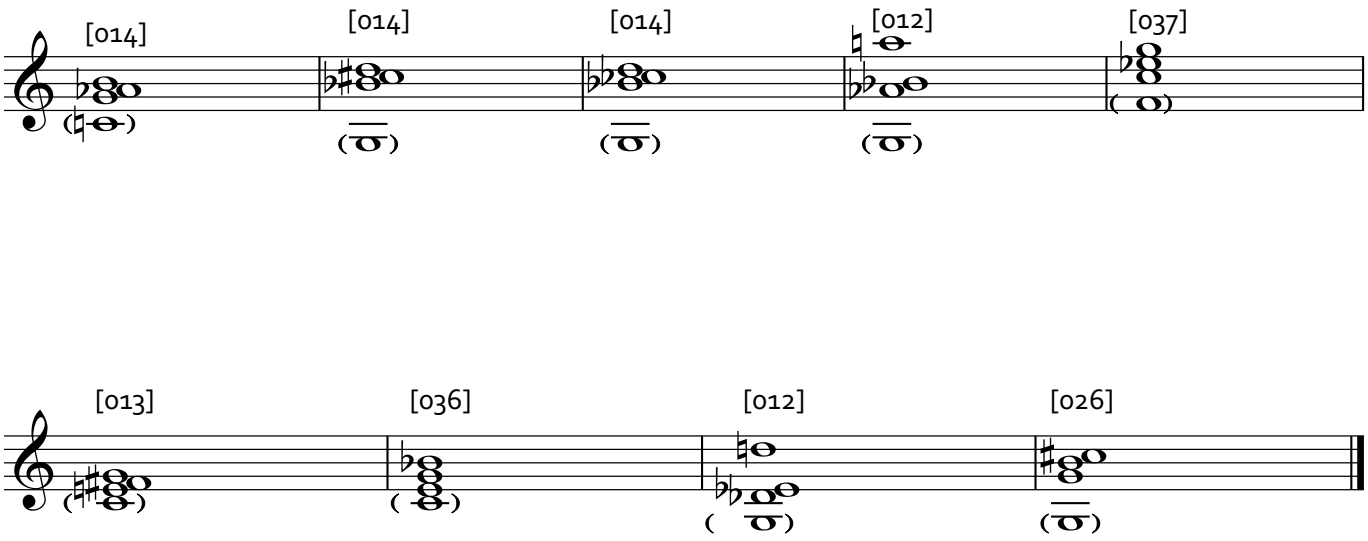
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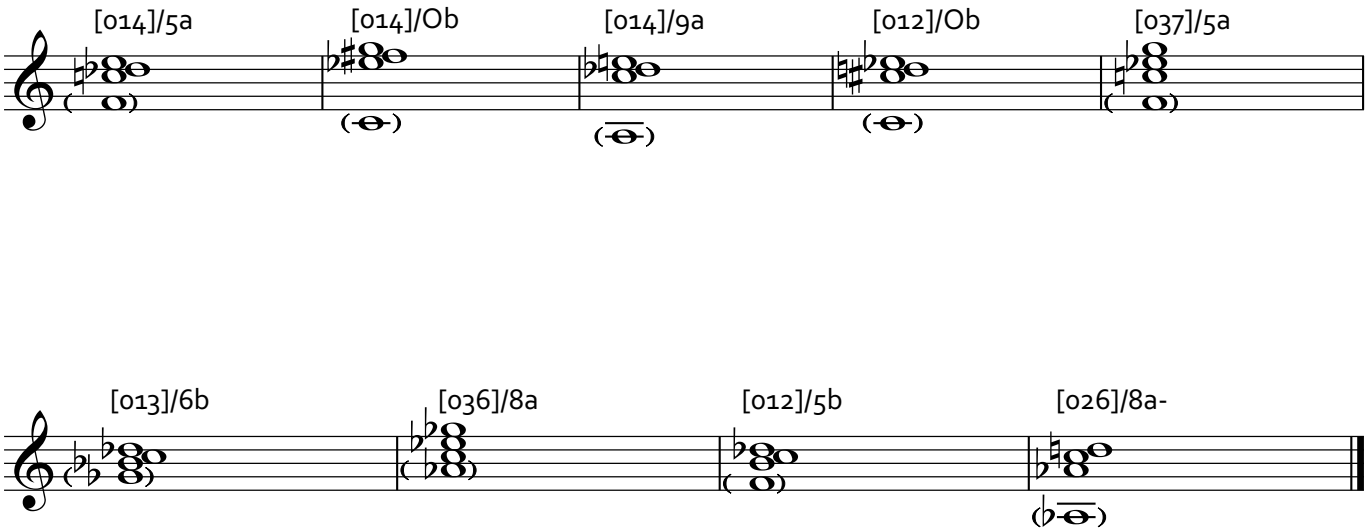
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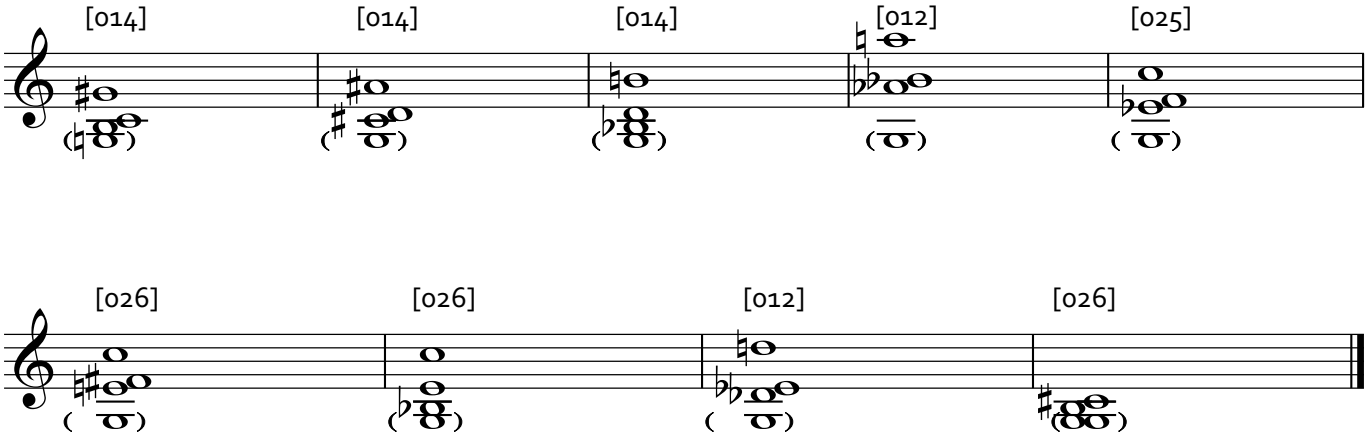
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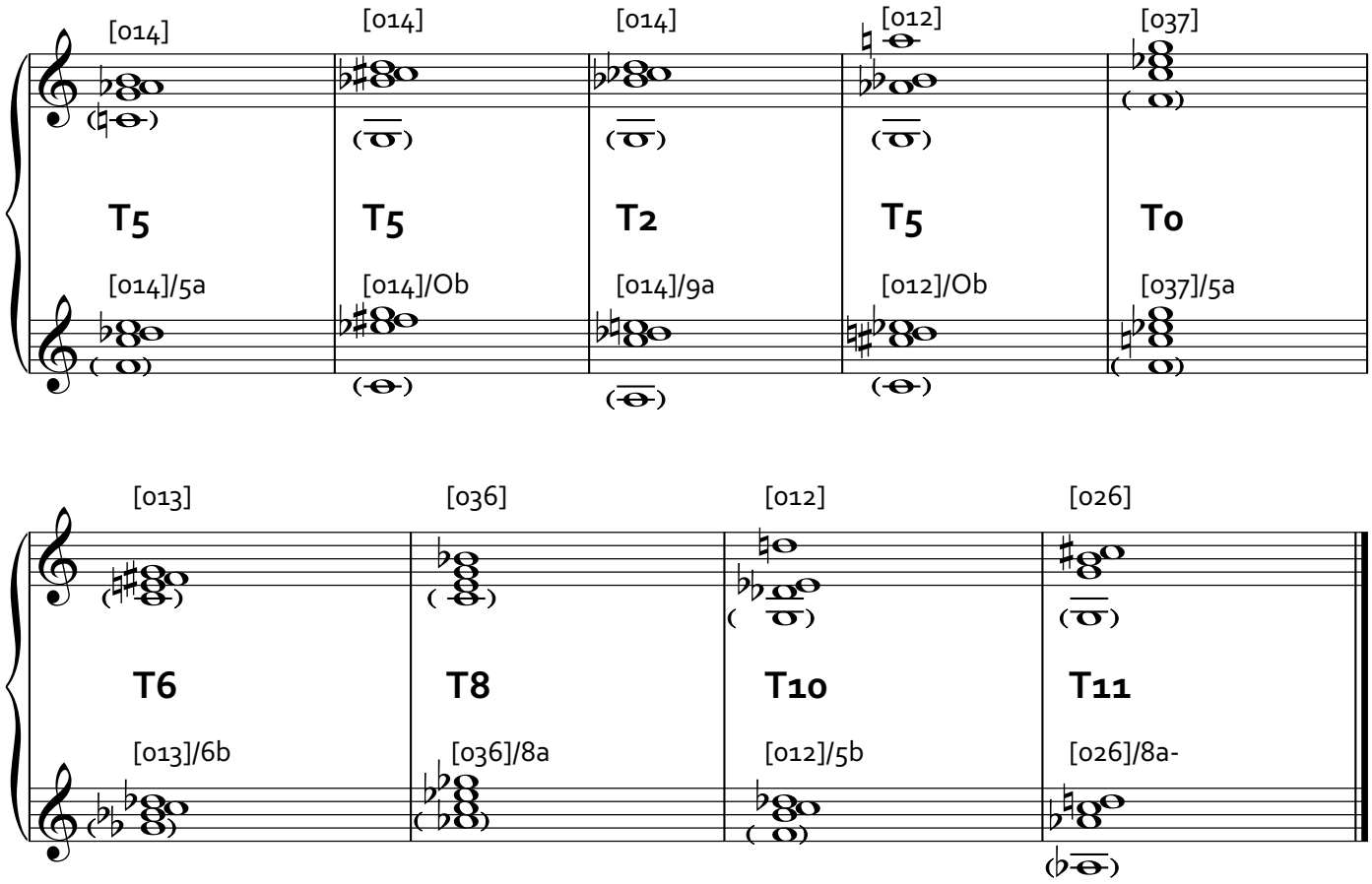
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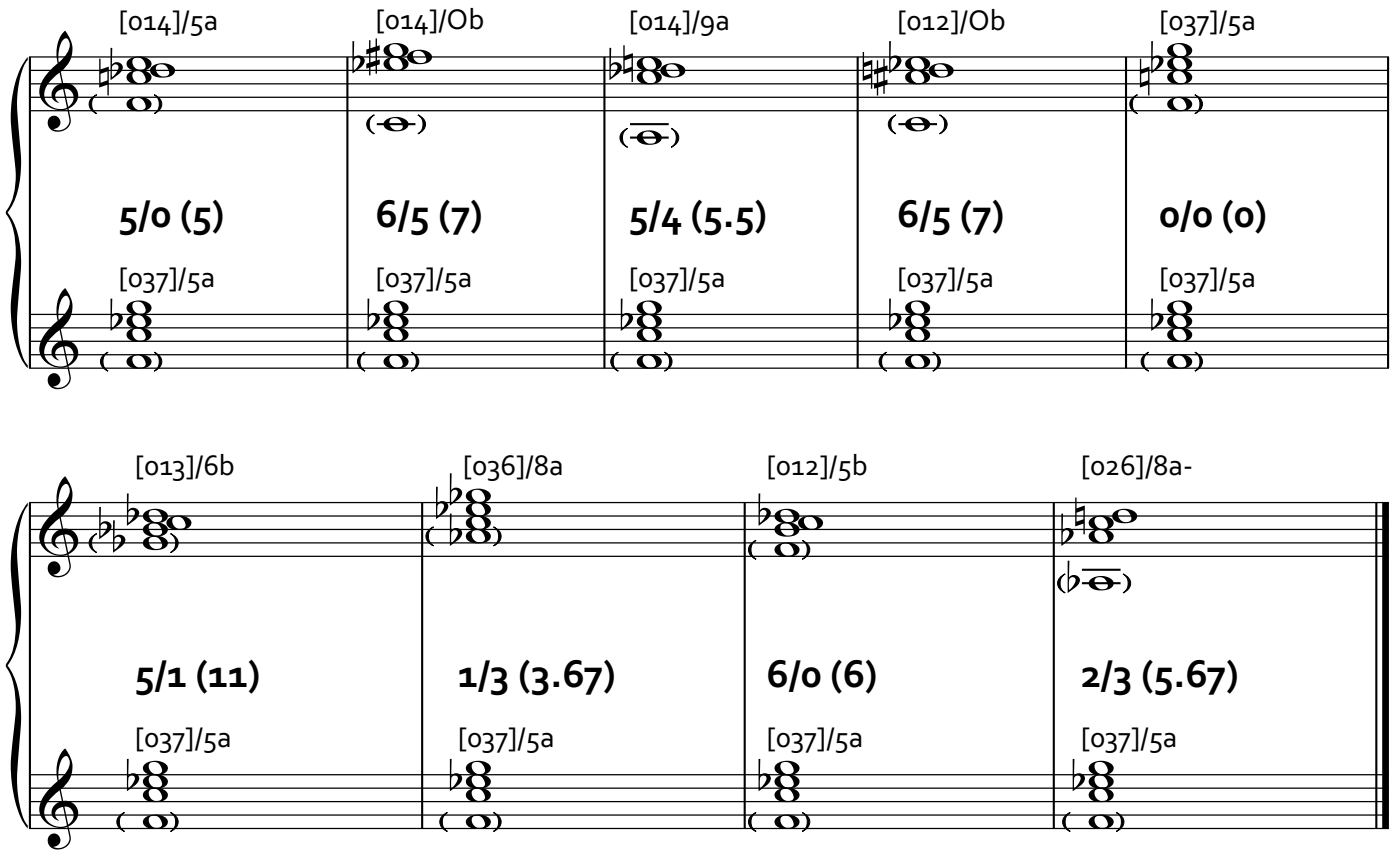
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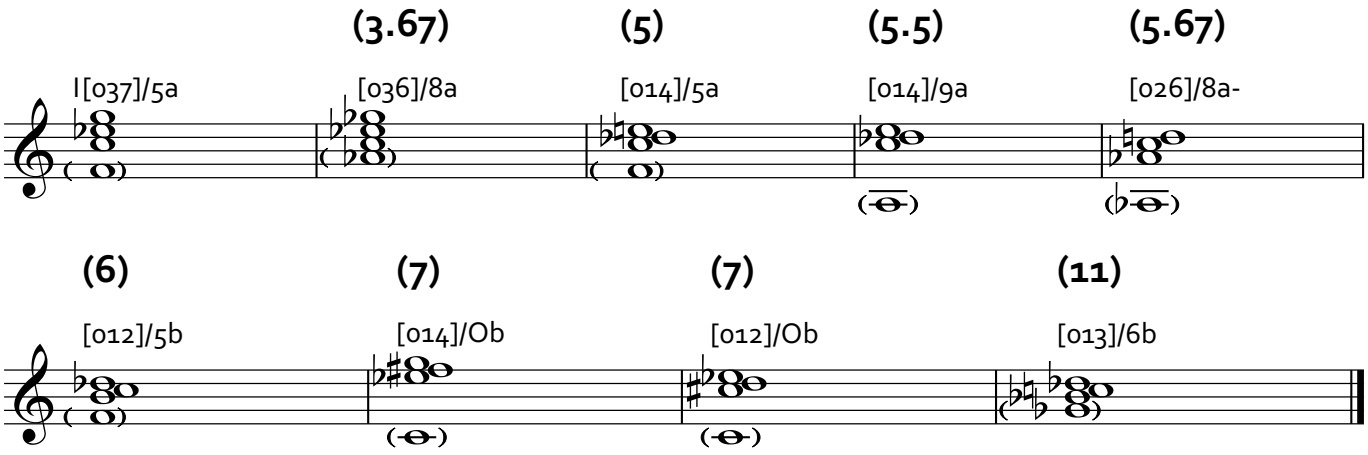
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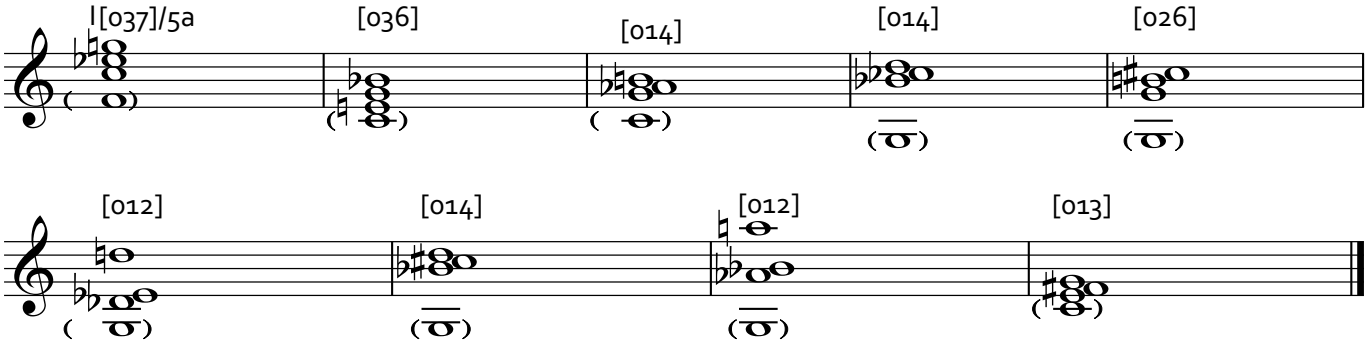
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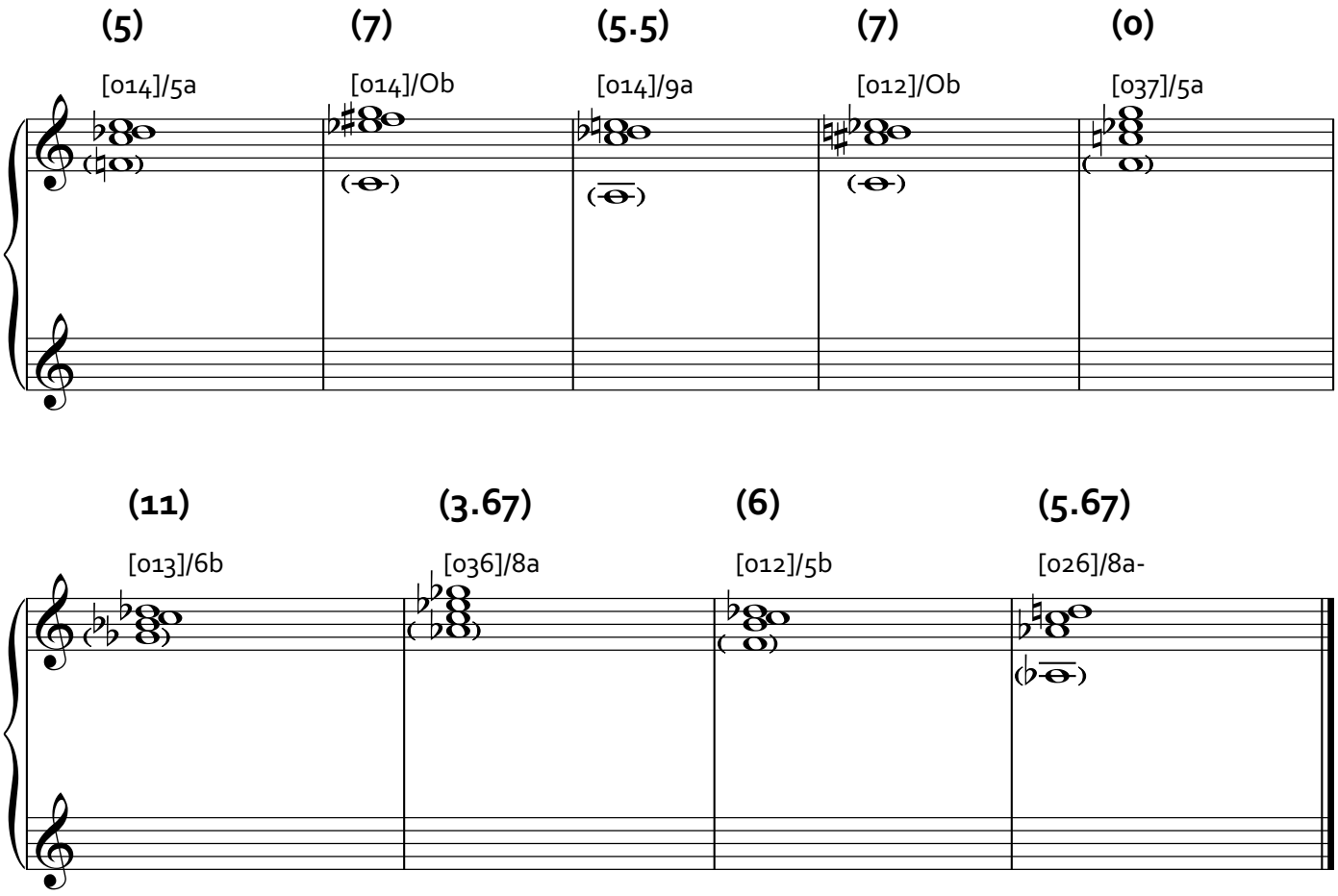
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