Michelangelo Galilei

Bart Witte paintings Joost Witte transcriptions

Lute tablature transcribed to staff notation

Painting cover
Atelier, 2015
Bart Witte

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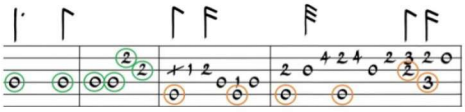
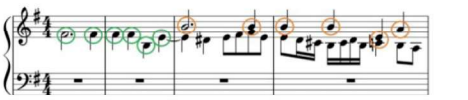
Versione oktober 2019

Lute tablature
Michelangelo Galilei

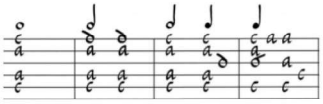
Transcribed and transposed
Joost Witte

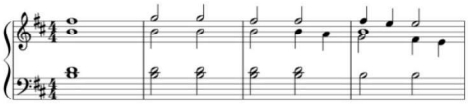
Ricercare
Galilei juniore
Firenze Galilei 9 - I



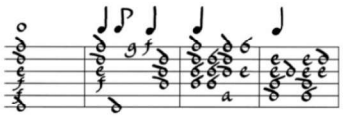


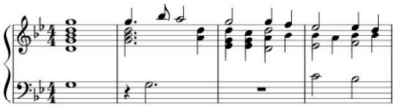
Tocata M.Galilei
Leopold Fuhrmann
Testudo Gallo-Germanica 1615



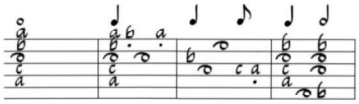


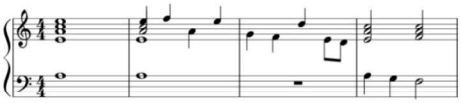
Subplementum folii
Leopold Fuhrmann
Testudo Gallo-Germanica 1615





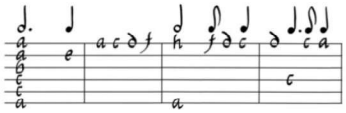
Phantasiae et Fugae
Elias Mertel
Hortus Musicalis Novus 1615

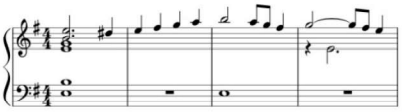




Filiae Jerusalem
Georg Victorinus
Siren Coelestis 1616

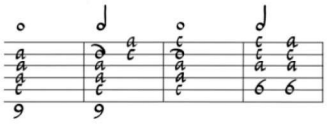
Toccata dellistesso
Jean-Baptiste Besard
Novus Partus 1617

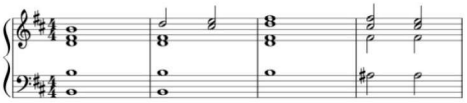




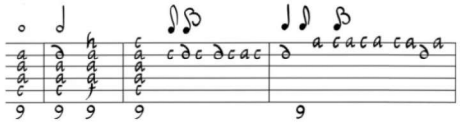
Painting
Waterkleur, 2016
Bart Witte

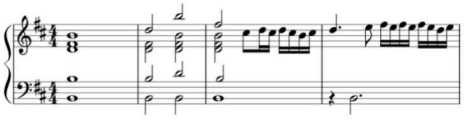
Toccata 01
Michelangelo Galilei
IL Primo Libro 1620



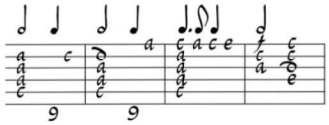


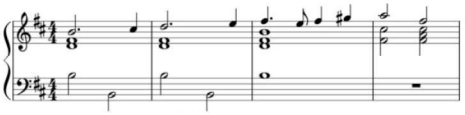
Seconda parte 02
Michelangelo Galilei
IL Primo Libro 1620



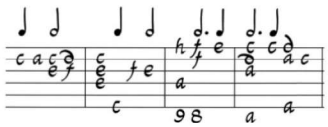


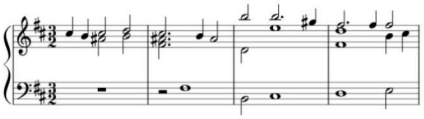
Terza parte 03
Michelangelo Galilei
IL Primo Libro 1620



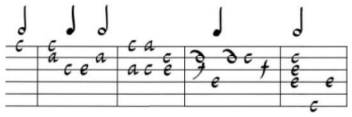


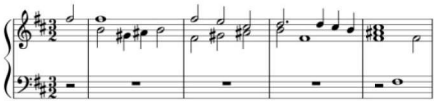
Gagliarda 04
Michelangelo Galilei
IL Primo Libro 1620



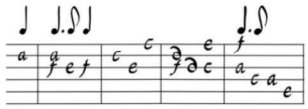


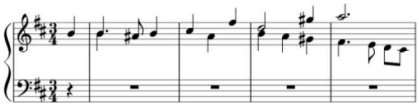
Gagliarda 05
Michelangelo Galilei
IL Primo Libro 1620



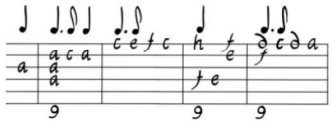


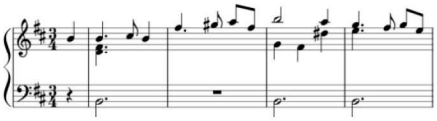
Corrente 06
Michelangelo Galilei
IL Primo Libro 1620



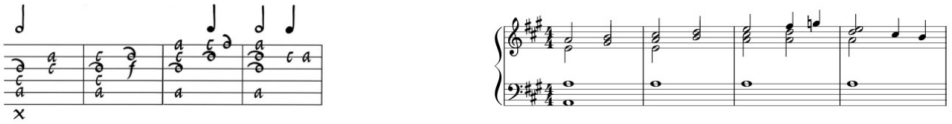


Volta 07
Michelangelo Galilei
IL Primo Libro 1620

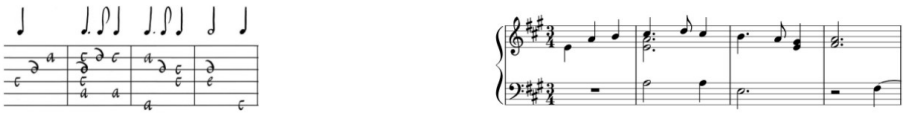




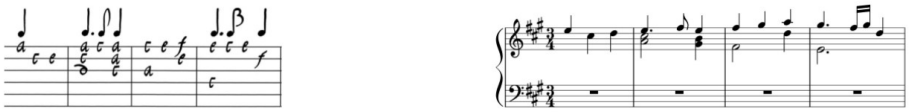
Toccata 08
Michelangelo Galilei
IL Primo Libro 1620



Volta 09
Michelangelo Galilei
IL Primo Libro 1620



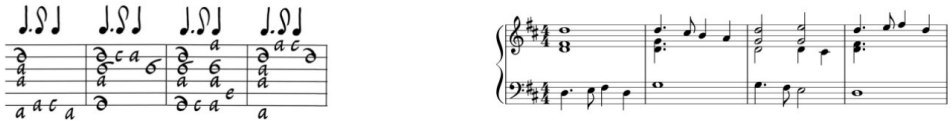
Volta 10
Michelangelo Galilei
IL Primo Libro 1620



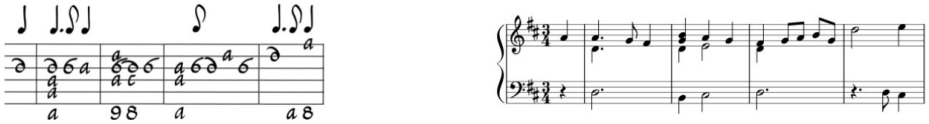
Volta 11
Michelangelo Galilei
IL Primo Libro 1620

Volta 12
Michelangelo Galilei
IL Primo Libro 1620

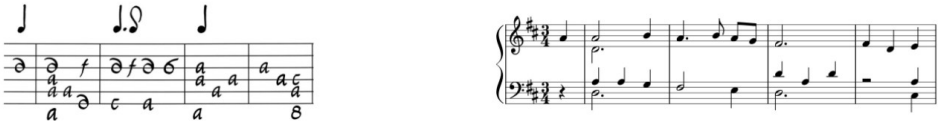
Toccata 13
Michelangelo Galilei
IL Primo Libro 1620



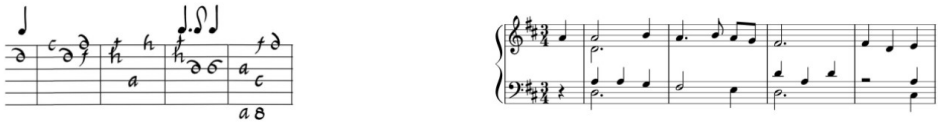
Corrente 14
Michelangelo Galilei
IL Primo Libro 1620



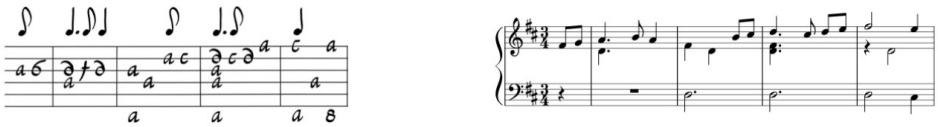
Corrente 15
Michelangelo Galilei
IL Primo Libro 1620



Volta 16
Michelangelo Galilei
IL Primo Libro 1620

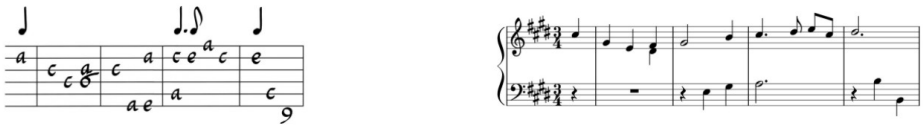


Volta 17
Michelangelo Galilei
IL Primo Libro 1620



Toccata 18
Michelangelo Galilei
IL Primo Libro 1620

Corrente 19
Michelangelo Galilei
IL Primo Libro 1620



Corrente 20
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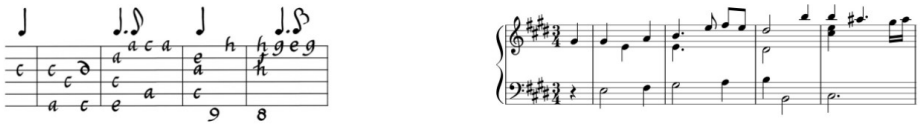
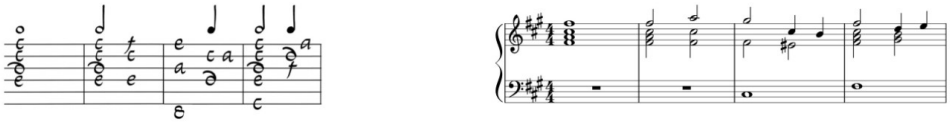
IL Primo Libro 1620



Corrente 21
Michelangelo Galilei
IL Primo Libro 1620

Volta 22
Michelangelo Galilei
IL Primo Libro 1620

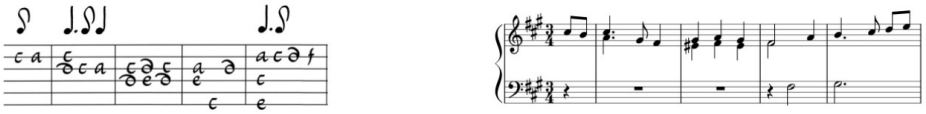
Toccata 23
Michelangelo Galilei
IL Primo Libro 1620



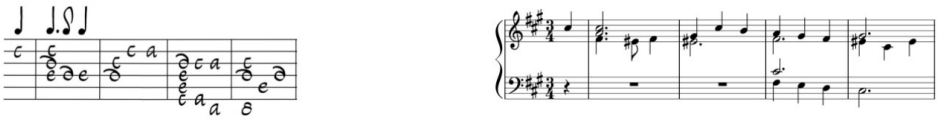
Corrente 24
Michelangelo Galilei
IL Primo Libro 1620

Corrente 25
Michelangelo Galilei
IL Primo Libro 1620

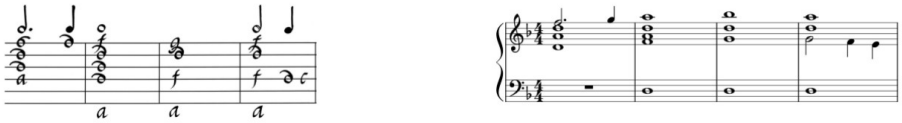
Corrente 26
Michelangelo Galilei
IL Primo Libro 1620



Volta 27
Michelangelo Galilei
IL Primo Libro 1620



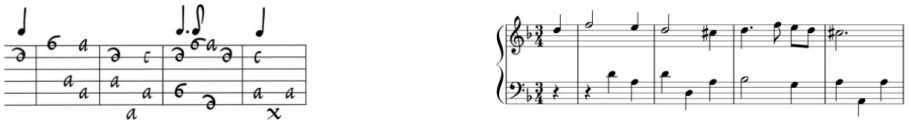
Toccata 28
Michelangelo Galilei
IL Primo Libro 1620



Corrente 29
Michelangelo Galilei
IL Primo Libro 1620

Corrente 30
Michelangelo Galilei
IL Primo Libro 1620

Volta 31
Michelangelo Galilei
IL Primo Libro 1620



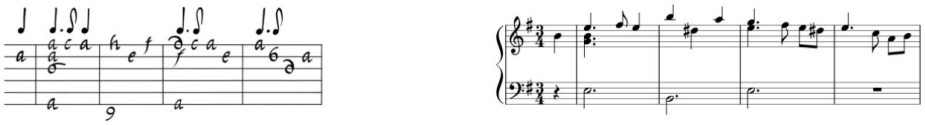
Volta 32
Michelangelo Galilei
IL Primo Libro 1620

Toccata 33
Michelangelo Galilei
IL Primo Libro 1620

Corrente 34
Michelangelo Galilei
IL Primo Libro 1620

Corrente 35
Michelangelo Galilei
IL Primo Libro 1620

Corrente 36
Michelangelo Galilei
IL Primo Libro 1620



Corrente 37
Michelangelo Galilei
IL Primo Libro 1620

Toccata 38
Michelangelo Galilei
IL Primo Libro 1620

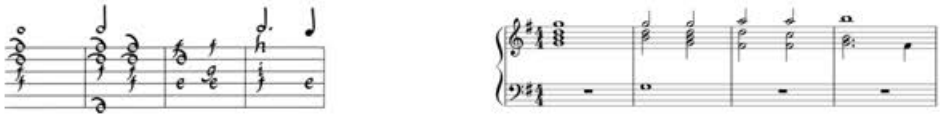
Corrente 39
Michelangelo Galilei
IL Primo Libro 1620

Corrente 40
Michelangelo Galilei
IL Primo Libro 1620

Corrente 41
Michelangelo Galilei
IL Primo Libro 1620

Corrente 42
Michelangelo Galilei
IL Primo Libro 1620

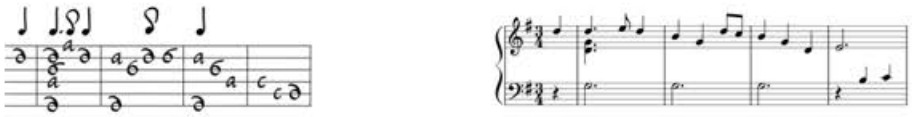
Toccata 43
Michelangelo Galilei
IL Primo Libro 1620



Corrente 44
Michelangelo Galilei
IL Primo Libro 1620

Volta 45
Michelangelo Galilei
IL Primo Libro 1620

Volta 46
Michelangelo Galilei
IL Primo Libro 1620



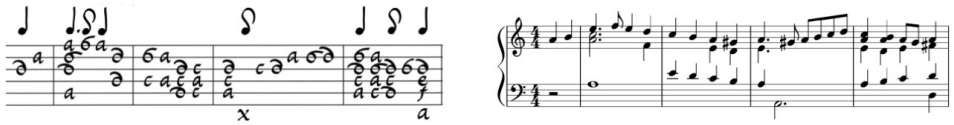
Toccata 47
Michelangelo Galilei
IL Primo Libro 1620

Volta 48
Michelangelo Galilei
IL Primo Libro 1620

Volta 49
Michelangelo Galilei
IL Primo Libro 1620

Volta 50
Michelangelo Galilei
IL Primo Libro 1620

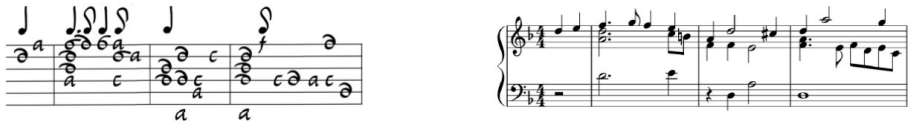
Passemezzo 51
Michelangelo Galilei
IL Primo Libro 1620



Seconda parte 52
Michelangelo Galilei
IL Primo Libro

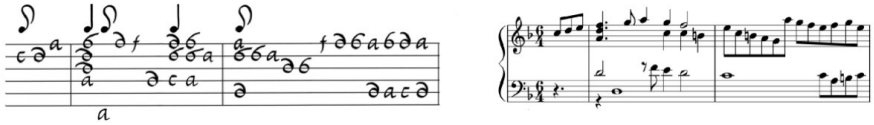
Saltarello 53
Michelangelo Galilei
IL Primo Libro

Passemezzo 54
Michelangelo Galilei
IL Primo Libro



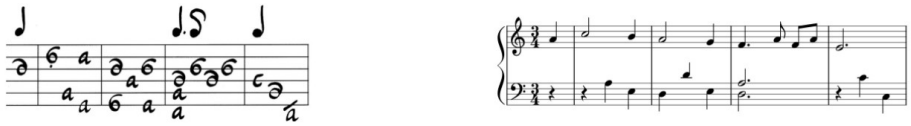
Seconda parte 55
Michelangelo Galilei
IL Primo Libro

Saltarello 56
Michelangelo Galilei
IL Primo Libro



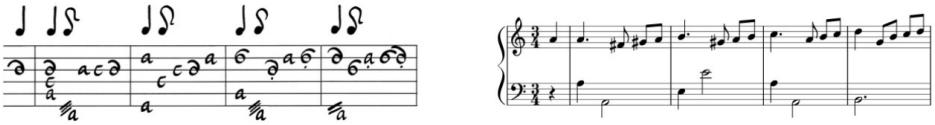
Painting
School, 2015
Bart Witte

Corrente W. 08ii & 09ii
Albrecht Werl
London K.3.m.21



Seconda parte 09iii
Albrecht Werl
London K.3.m 21

Terza parte 12ii
Albrecht Werl
London K.3.m.21



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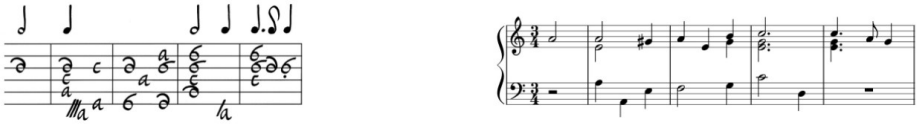
München BSB ms. 21646



Entrada Volta 10ii
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London K.3.m.21

Corrente 11ii
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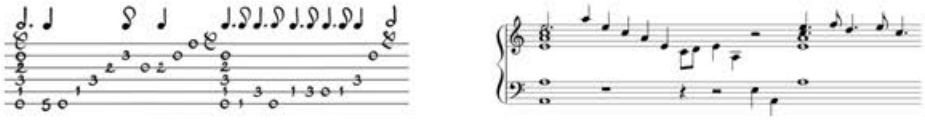
London K.3.m.21

Courante Novelle
Joannes Aegidius Berner von Retterwert
Praha IV.G.18

Courante Galilei
Joannes Aegidius Berner von Retterwert
Praha IV.G.18

Toccata galilei
Joannes Aegidius Berner von Retterwert
Praha IV.G.18



Ballet galilei
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Praha IV.G.18

Volte D.G.
Joannes Aegidius Berner von Retterwert
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Passomezo galilei
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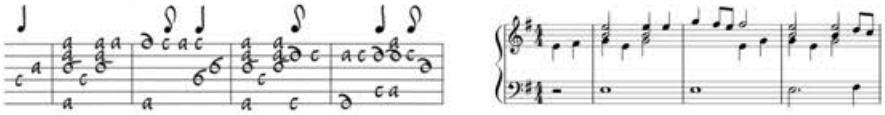
Dolmetsch M.II.B.1



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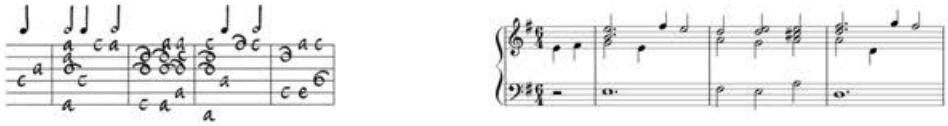

Saltarello aliud
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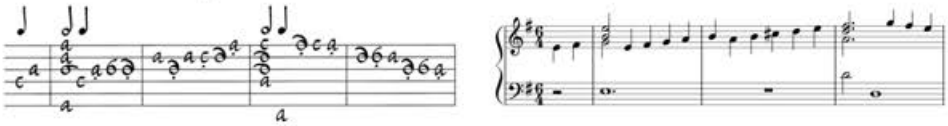

Intrada Galilei
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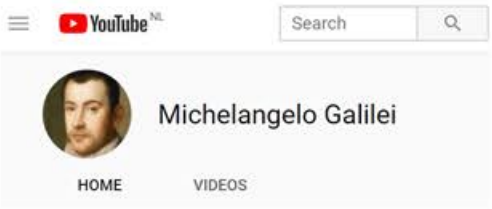
Dolmetsch M.II.B.1

Painting
Zonder titel, 2009
Bart Witte

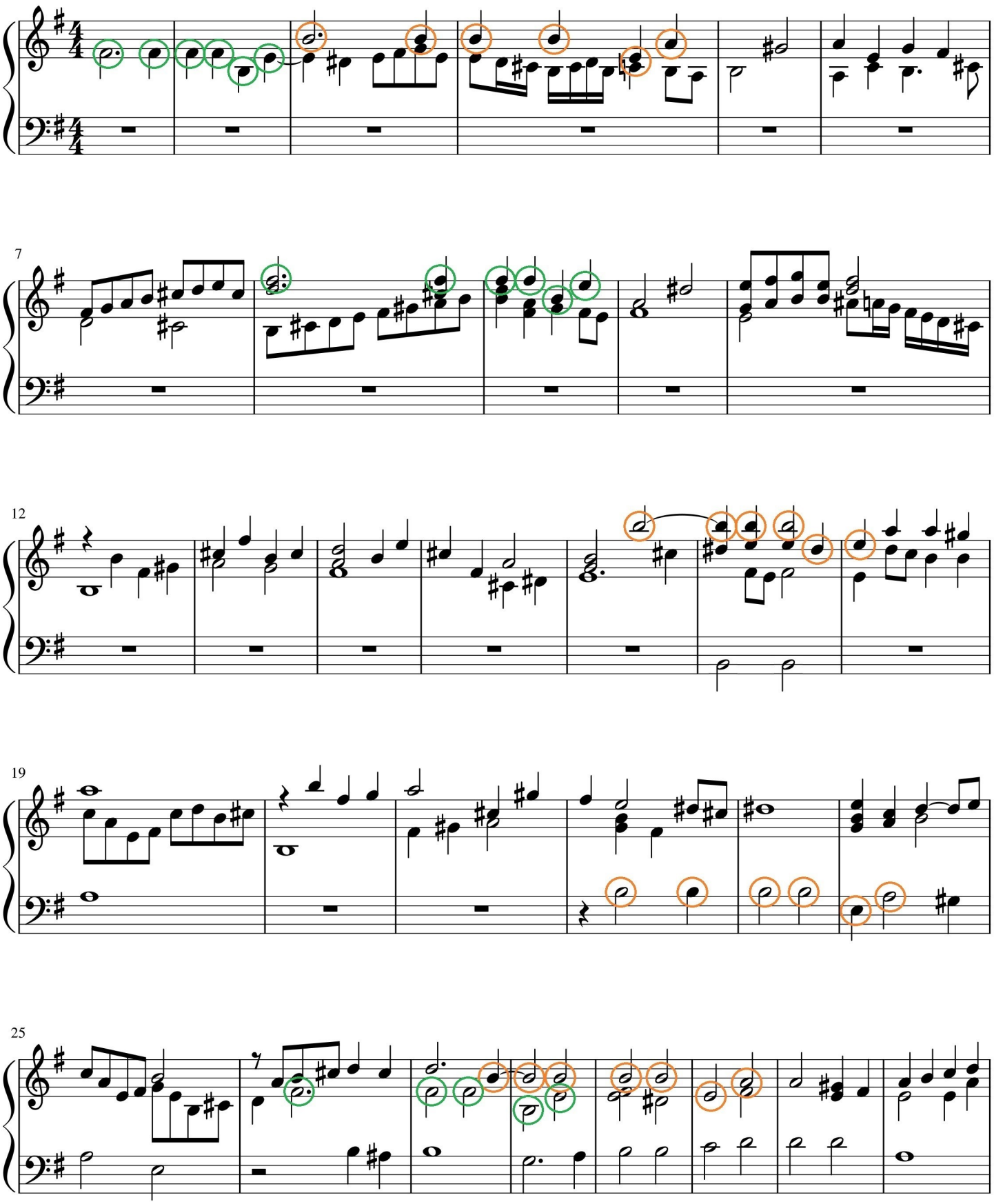


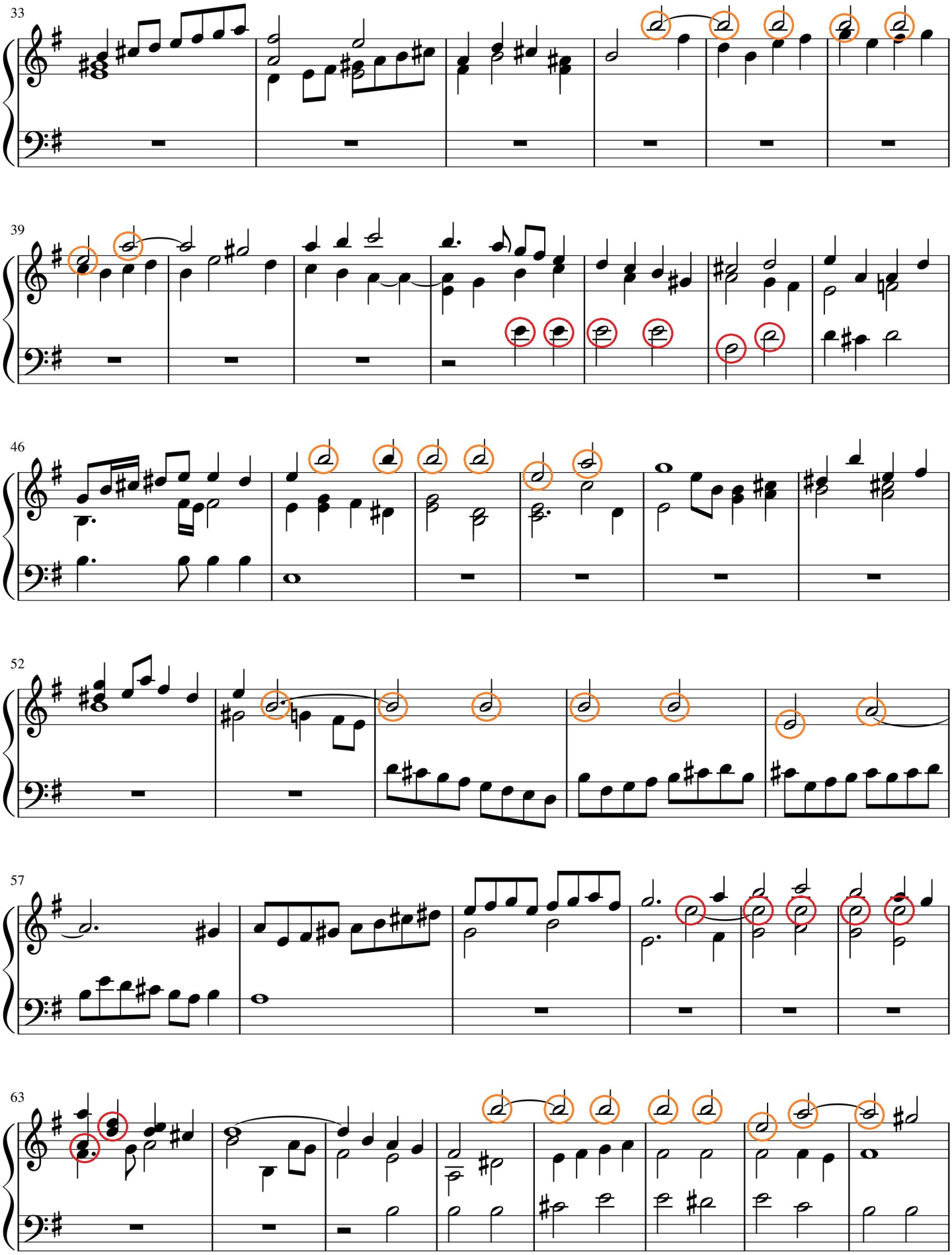
Michelangelo Galilei Lute Music before & after 1620

Michelangelo Galilei Lute Music 1620 Il Primo Libro

Ricercare Galilei juniore

Biblioteca Nazionale Centrale di Firenze manoscritto Galilei 9 folio 24 recto

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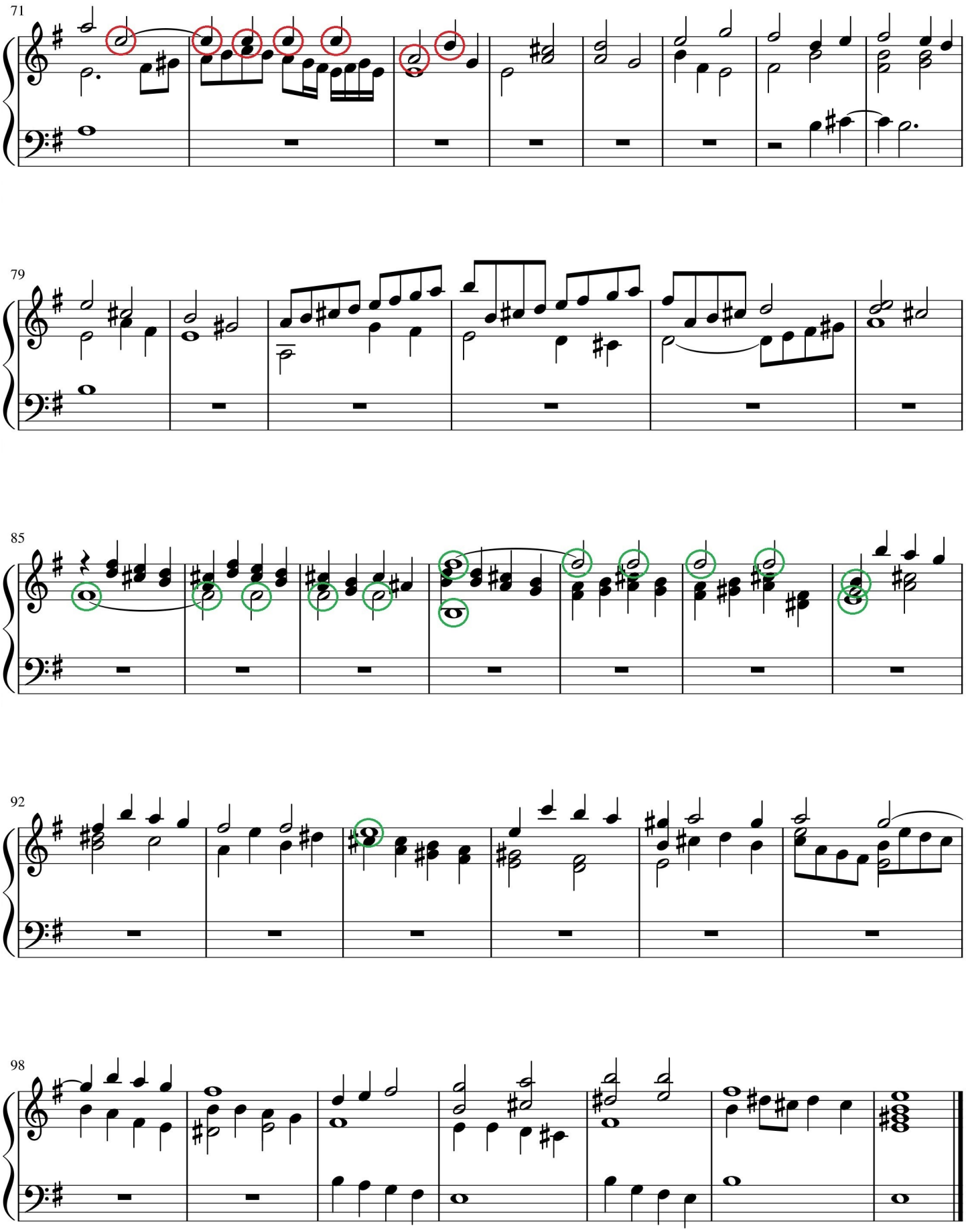
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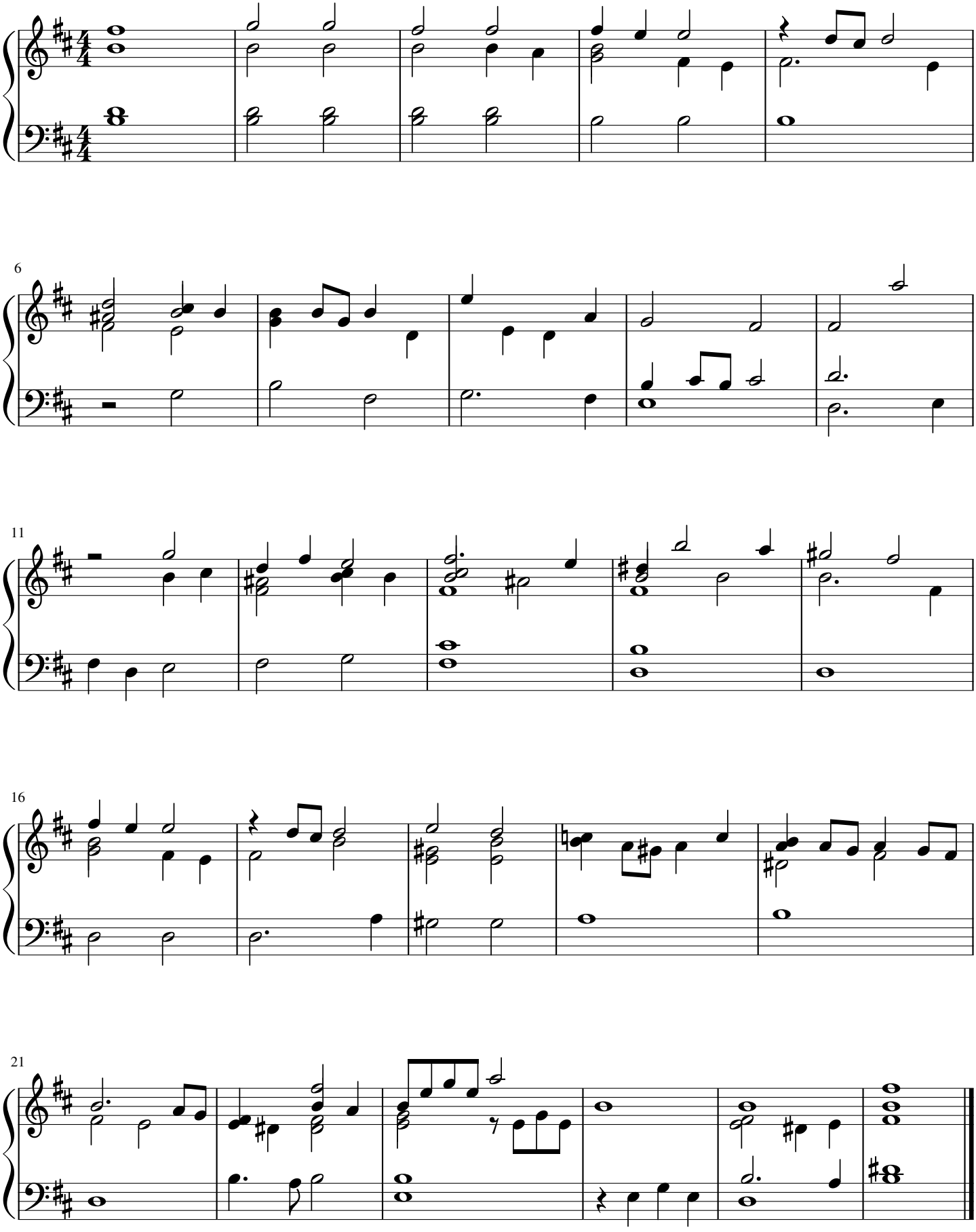
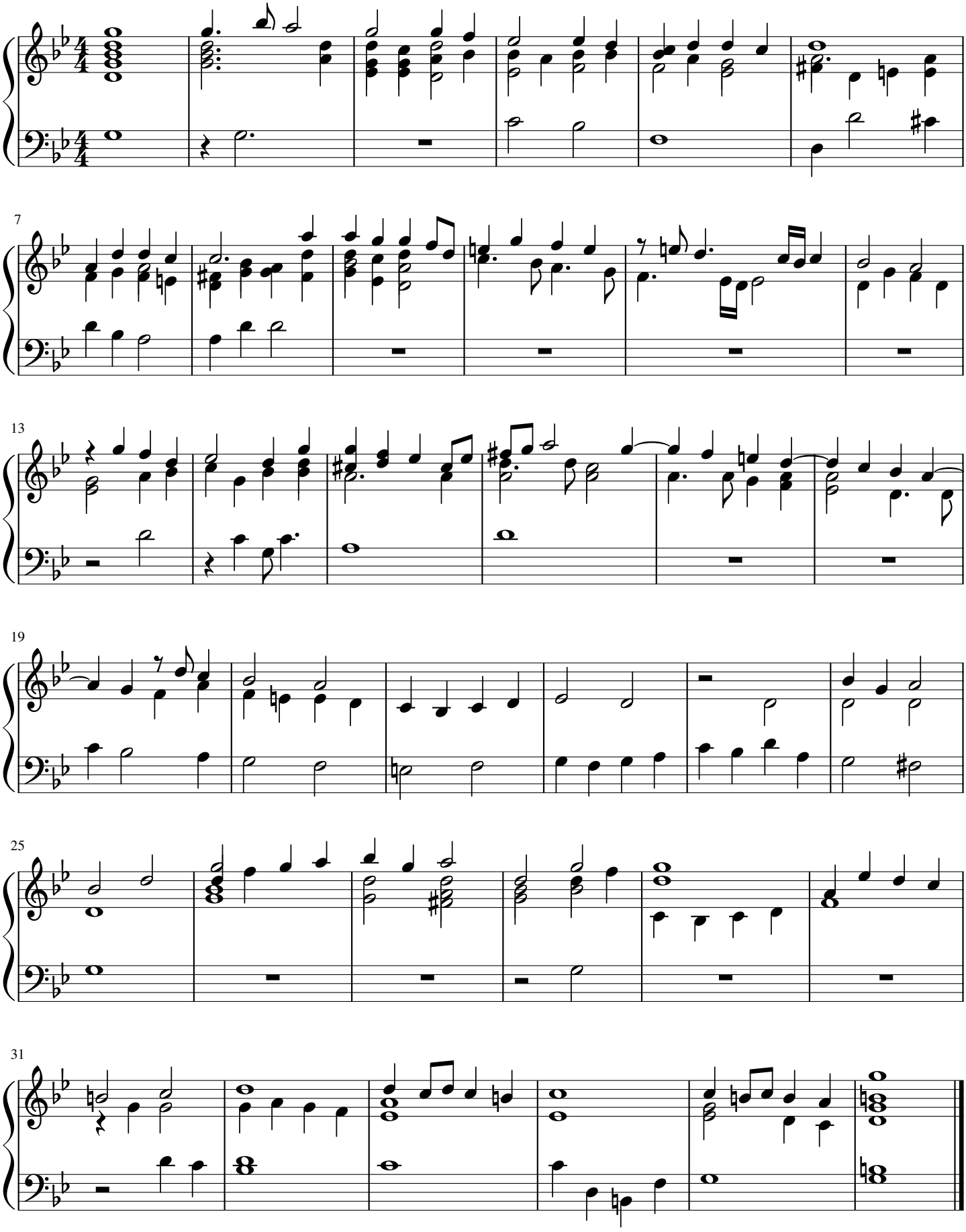
Tocata M. Galilei

Leopold Fuhrman Testudo Gallo-Germanica suplementum folii page 23



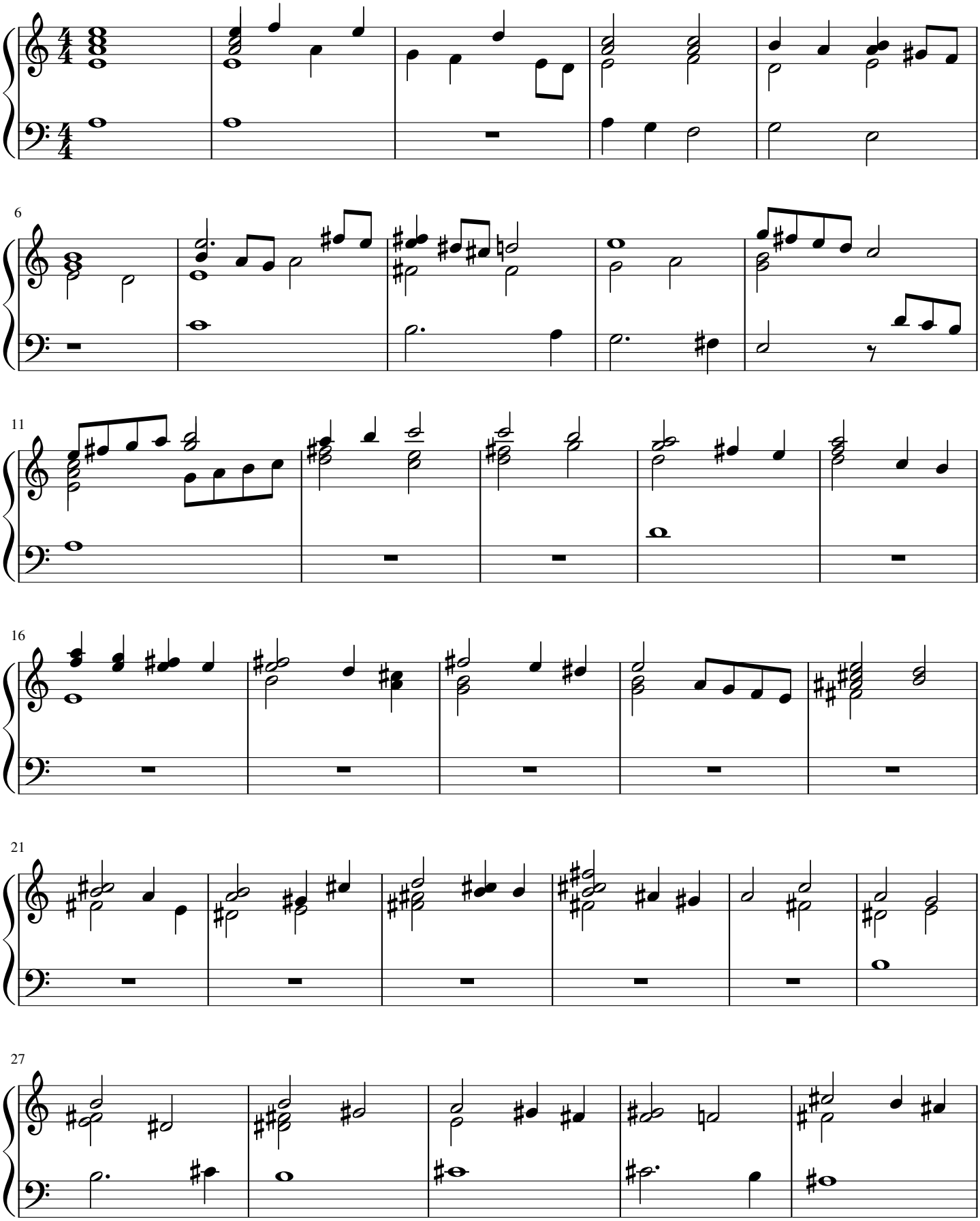
Subplementum folii

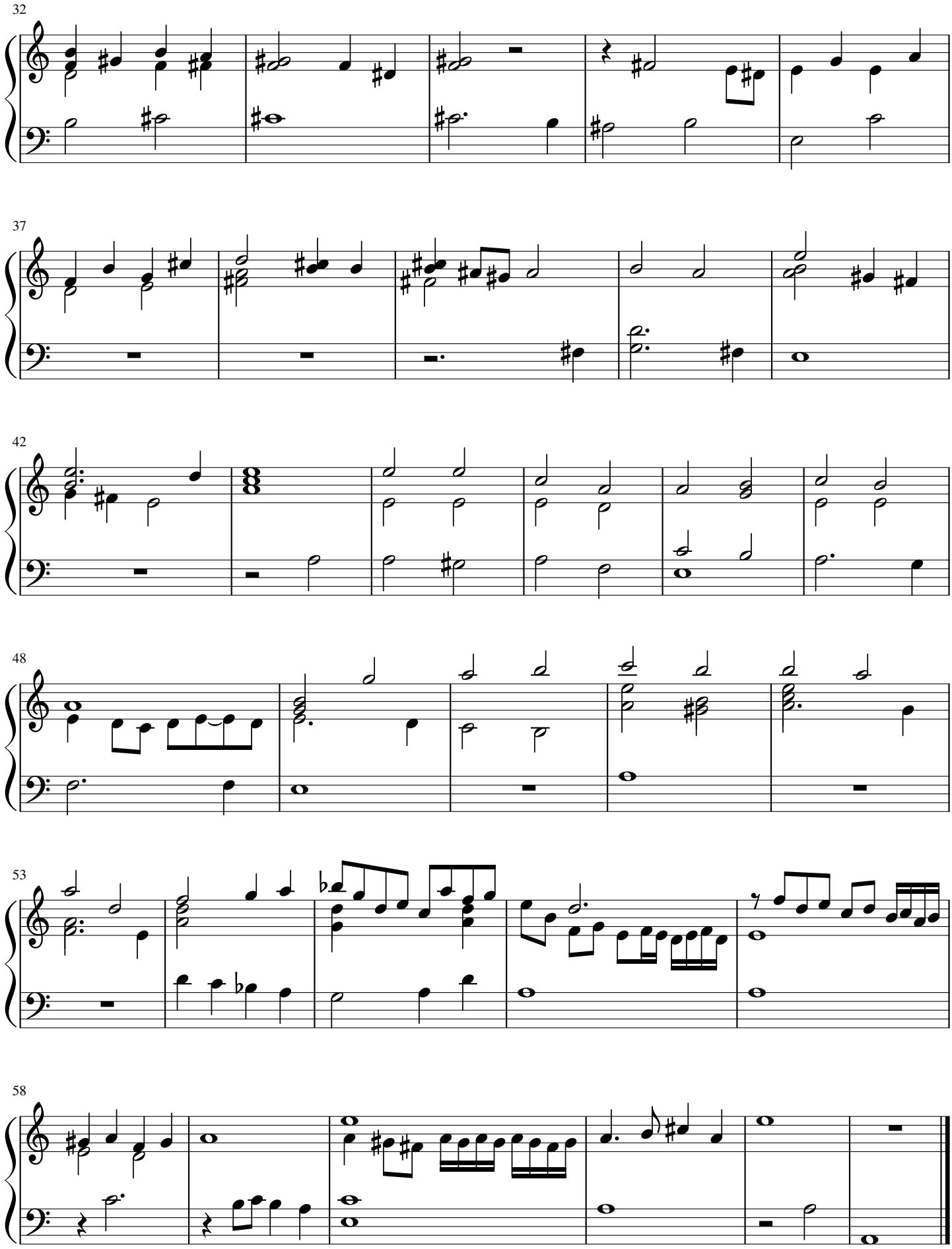
Leopold Fuhrmann Testudo Gallo-Germanica page 29



Phantasiae et Fugae

Elias Mertel Hortus Musicalis Novus page 131

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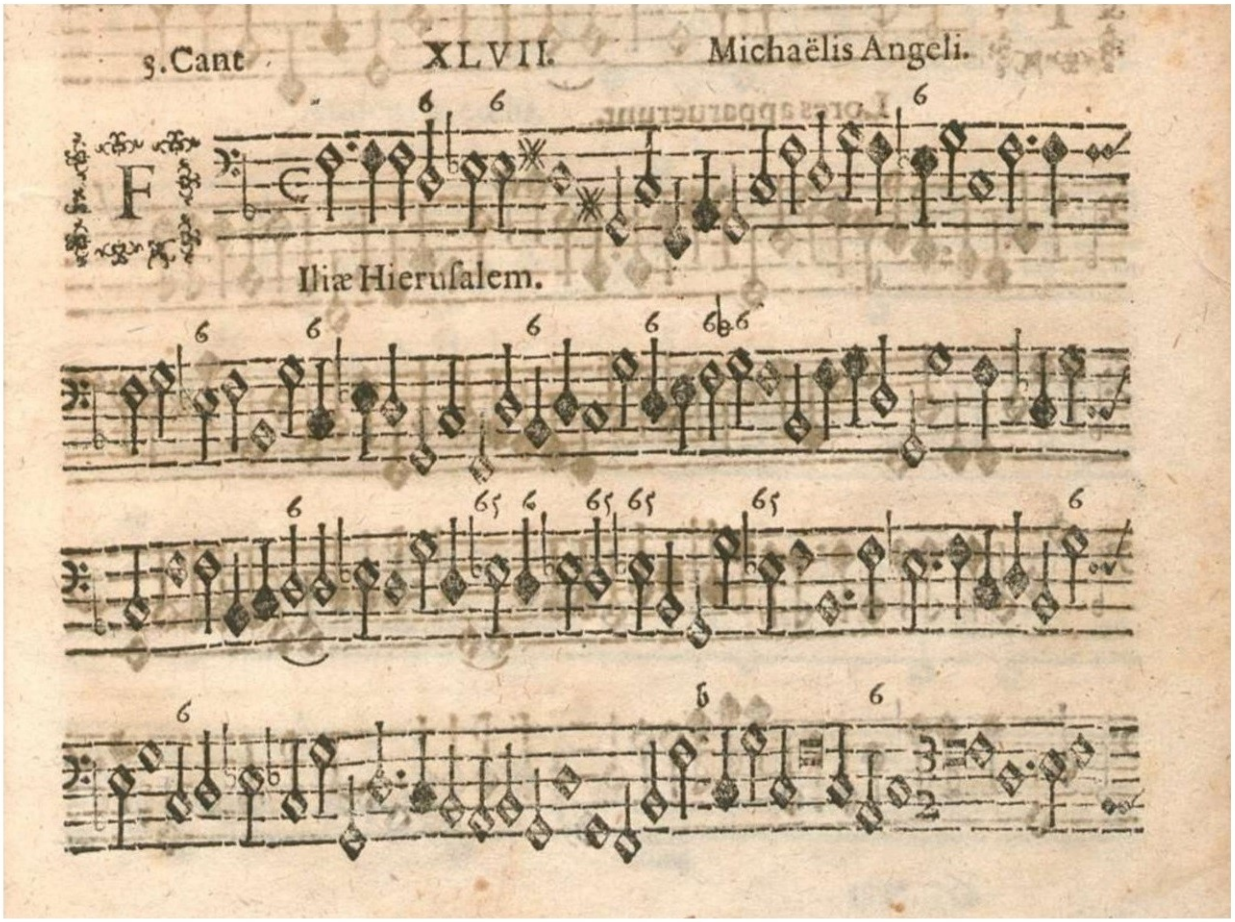
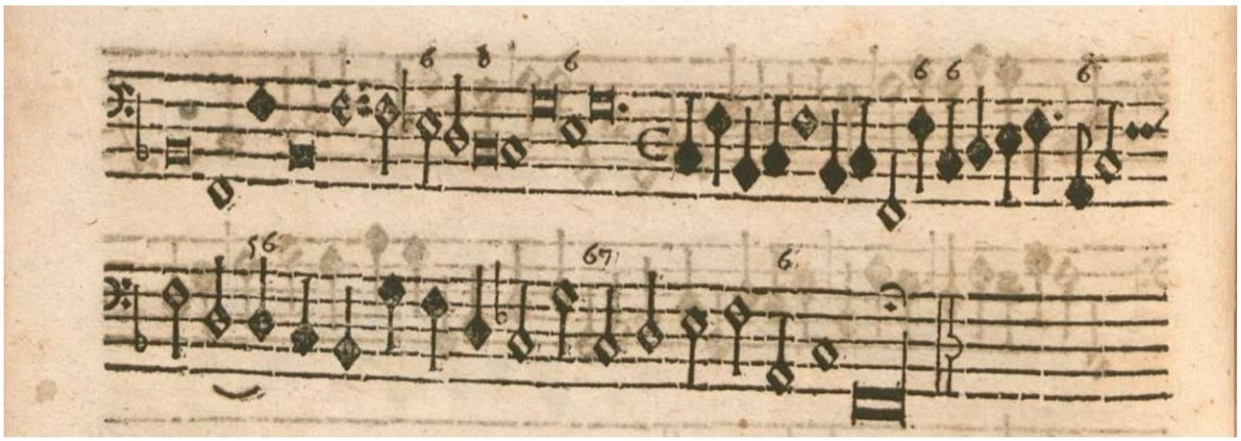
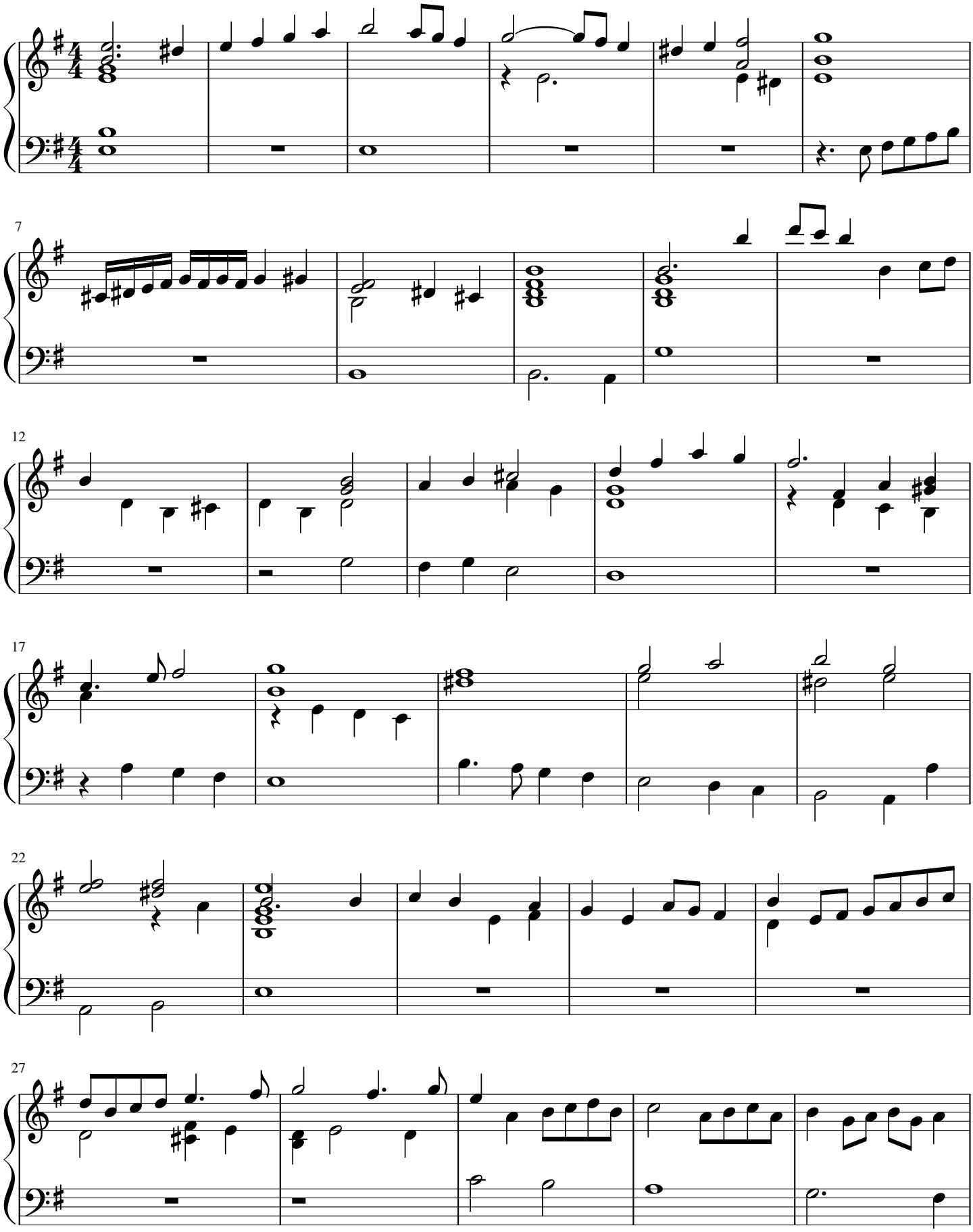
Georg Victorinus
Siren Coelestis 1616
3.Cant XLVII. Michaëlis Angeli

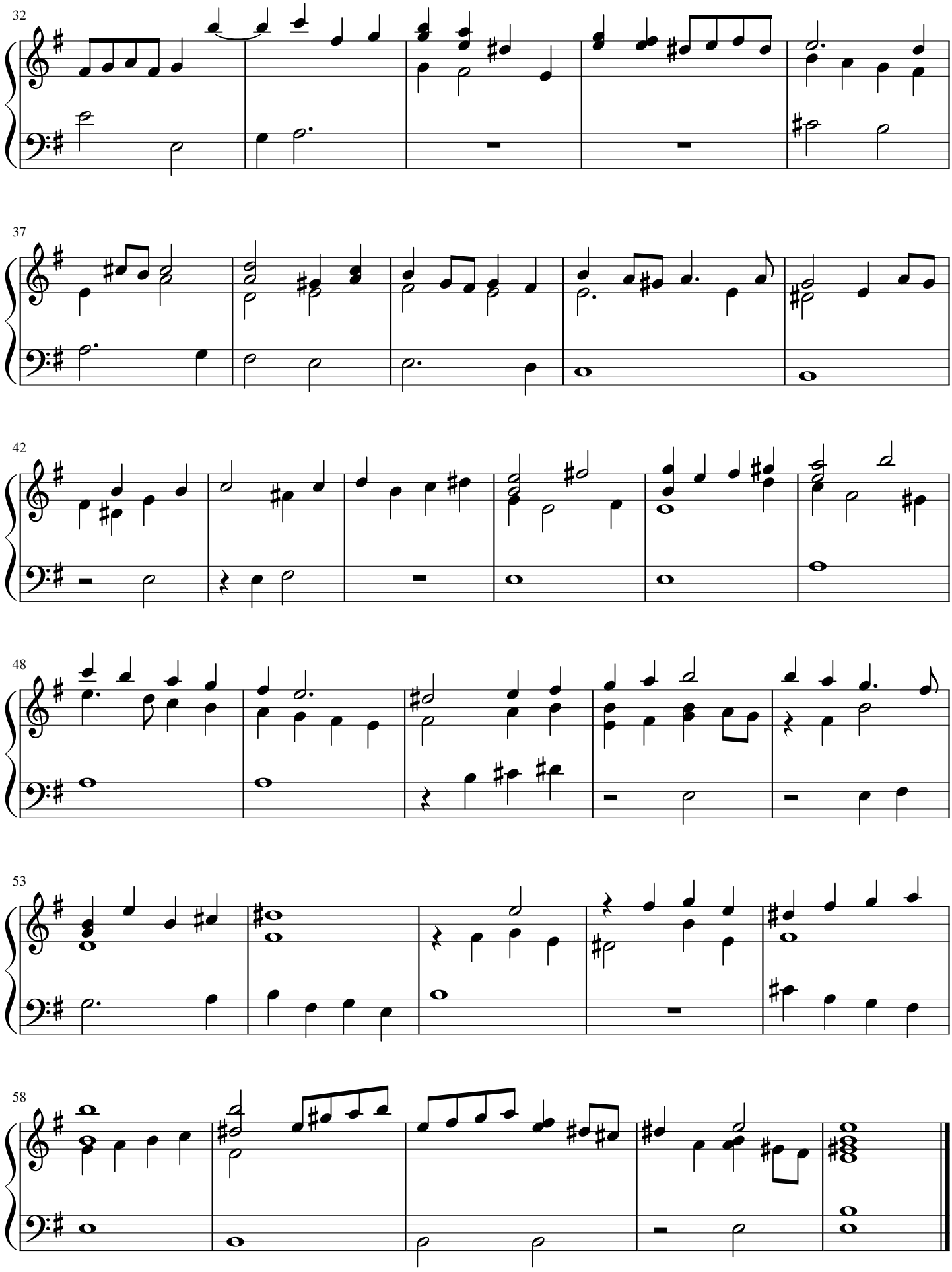




31 Toccata dellistesso

Jean-Baptiste Besard Novus Partus

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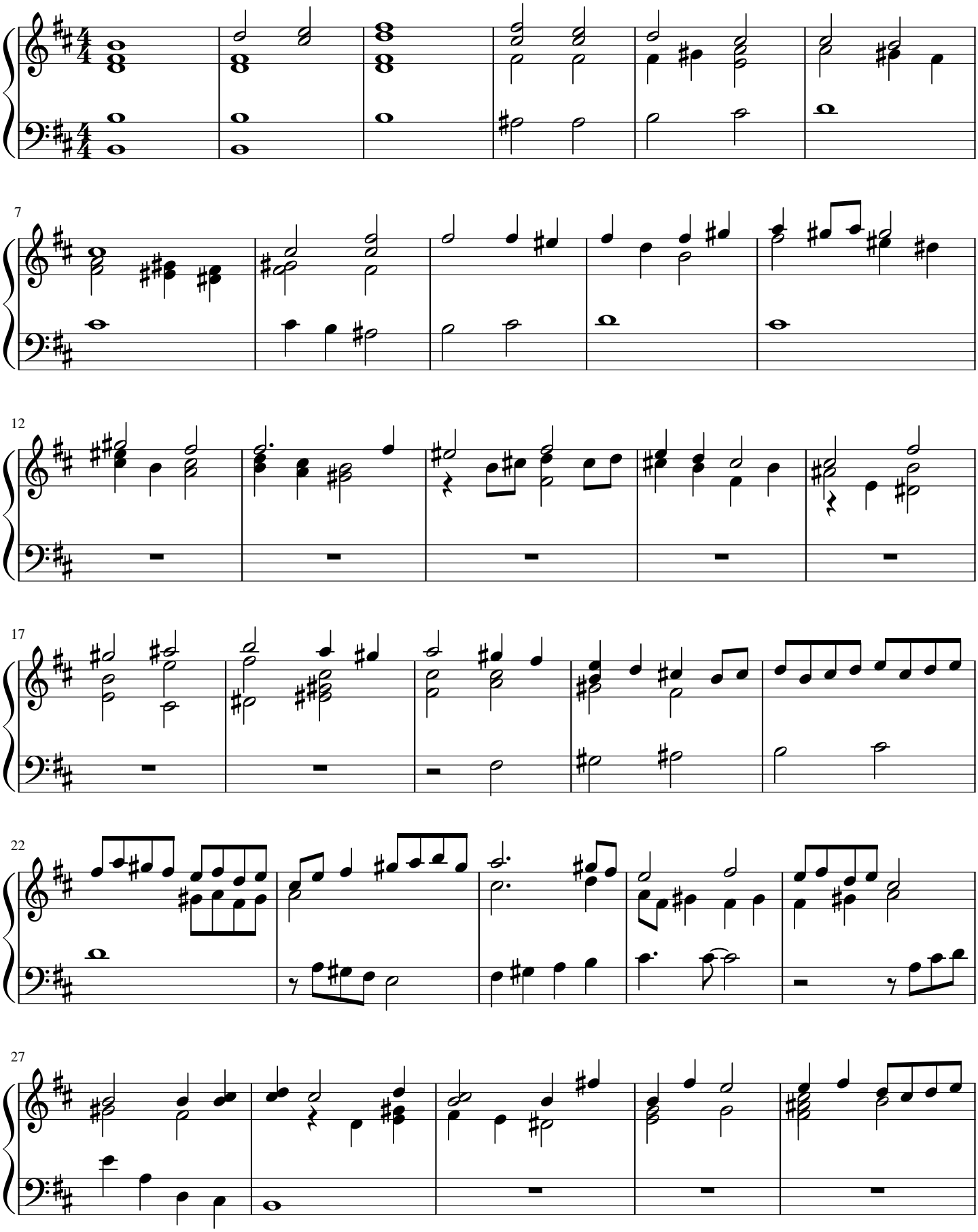
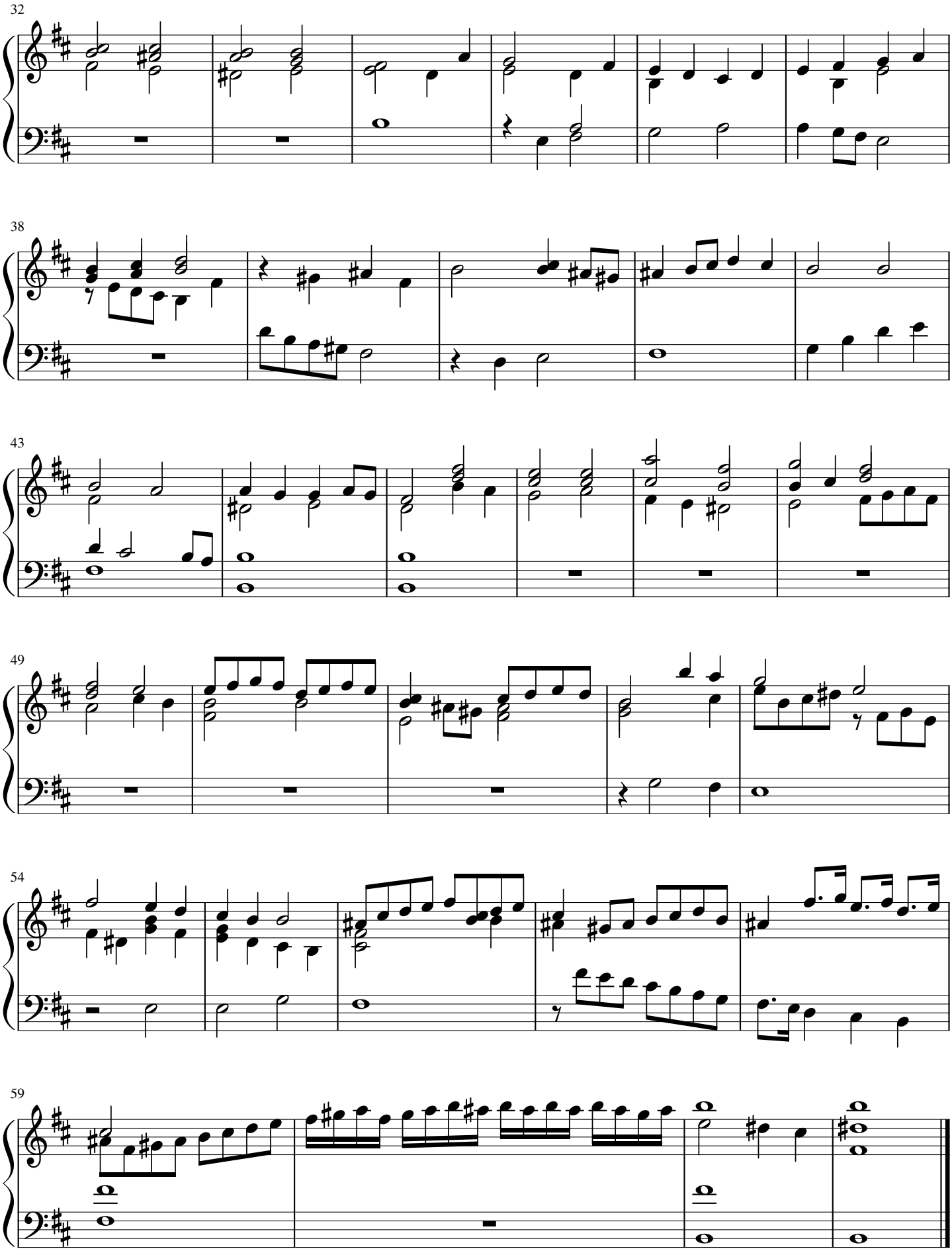
IL Primo Libro

Il primo libro d'intavolatura di livto di Michelagnolo Galilei nobile fiorentino Livtista del' Ser.mo Sig.r Dvca Massimiliano di Baviera, Nel Quale Si Contēgono Varie Sonate: Come, Toccate, Gagliarde, Correnti, Volte, Passemezzi & Salterelli, Nuouamente Composto e dato in luce in Monaco di Baviera, MDCXX.

Toccata page 01

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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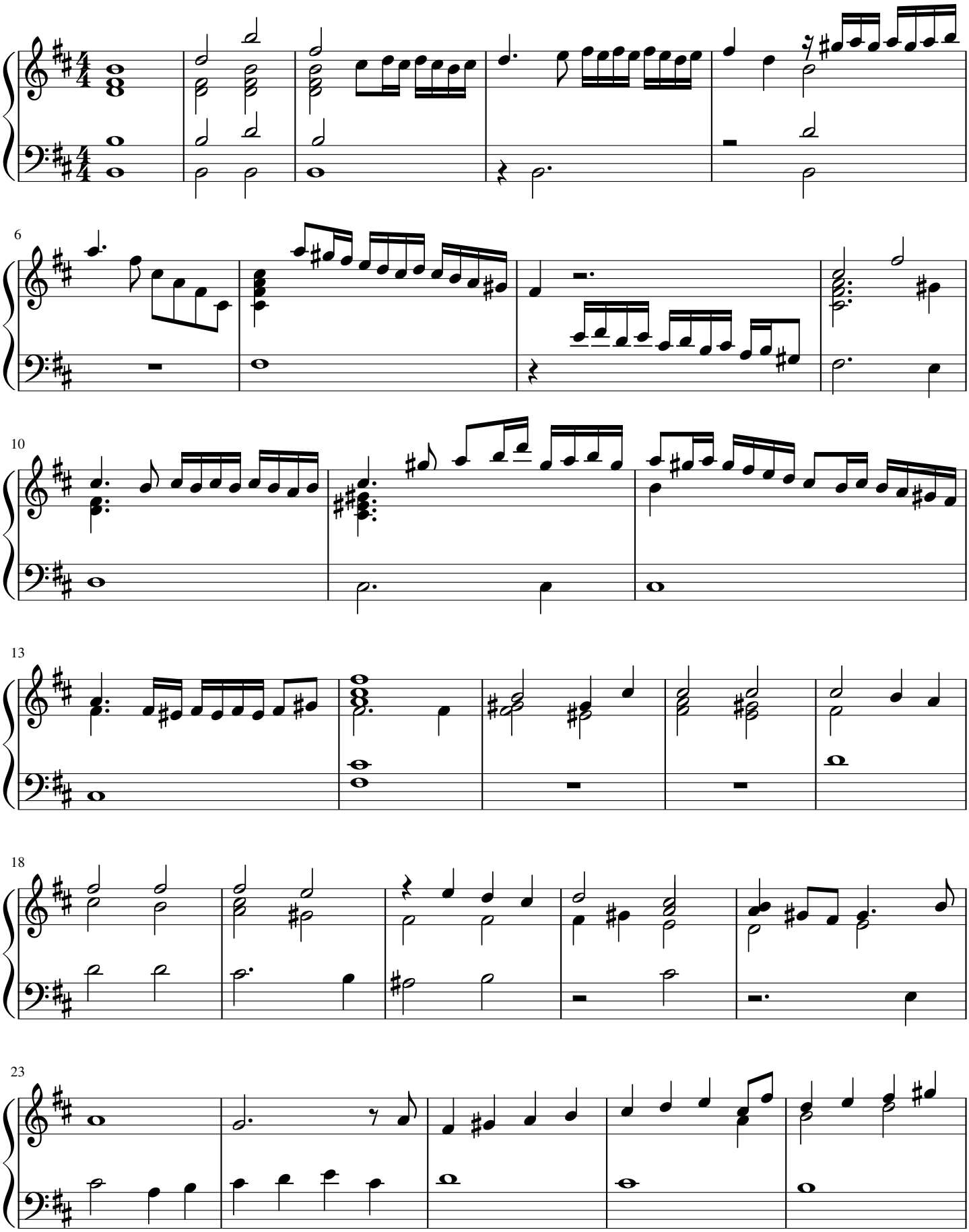
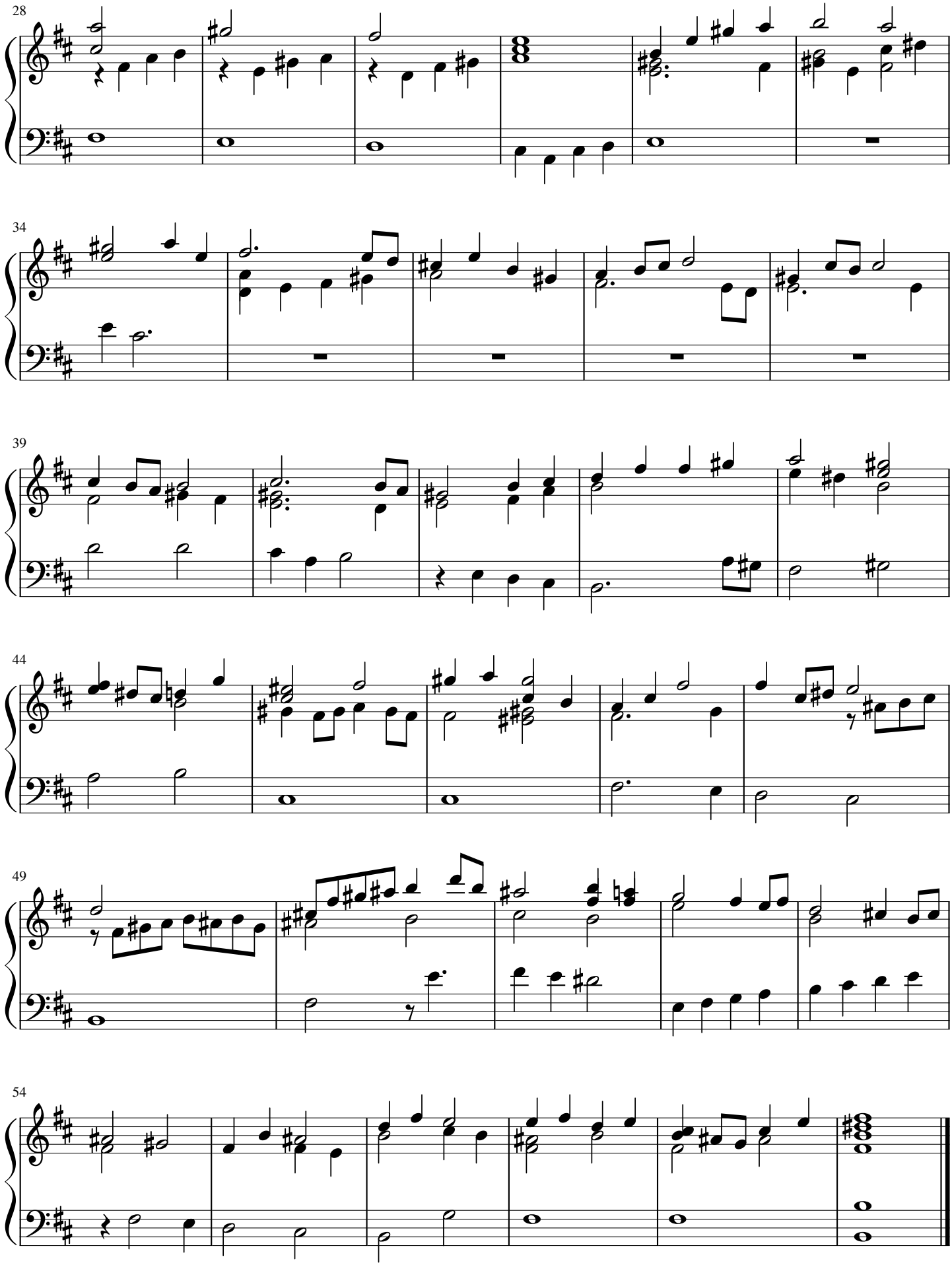
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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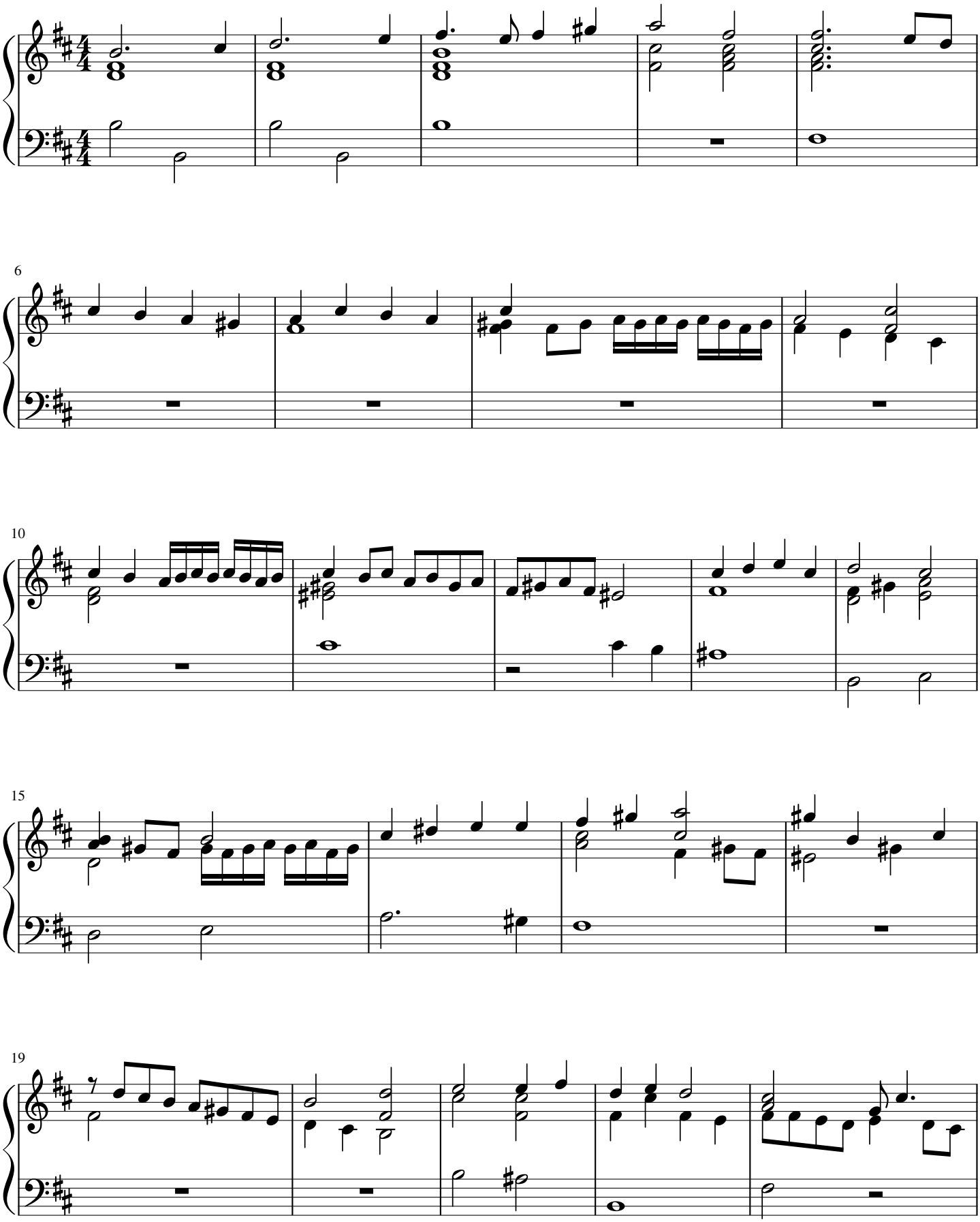
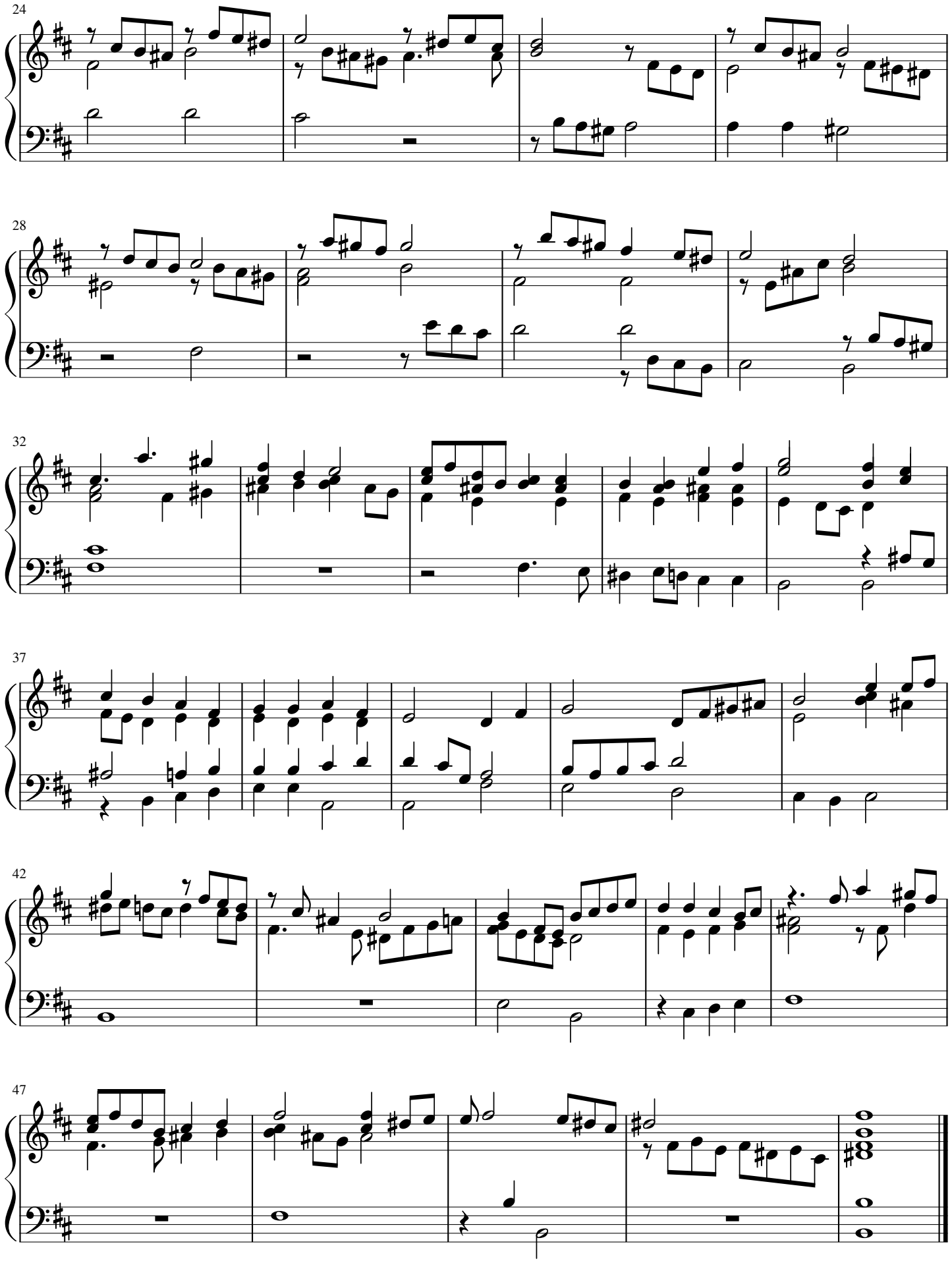
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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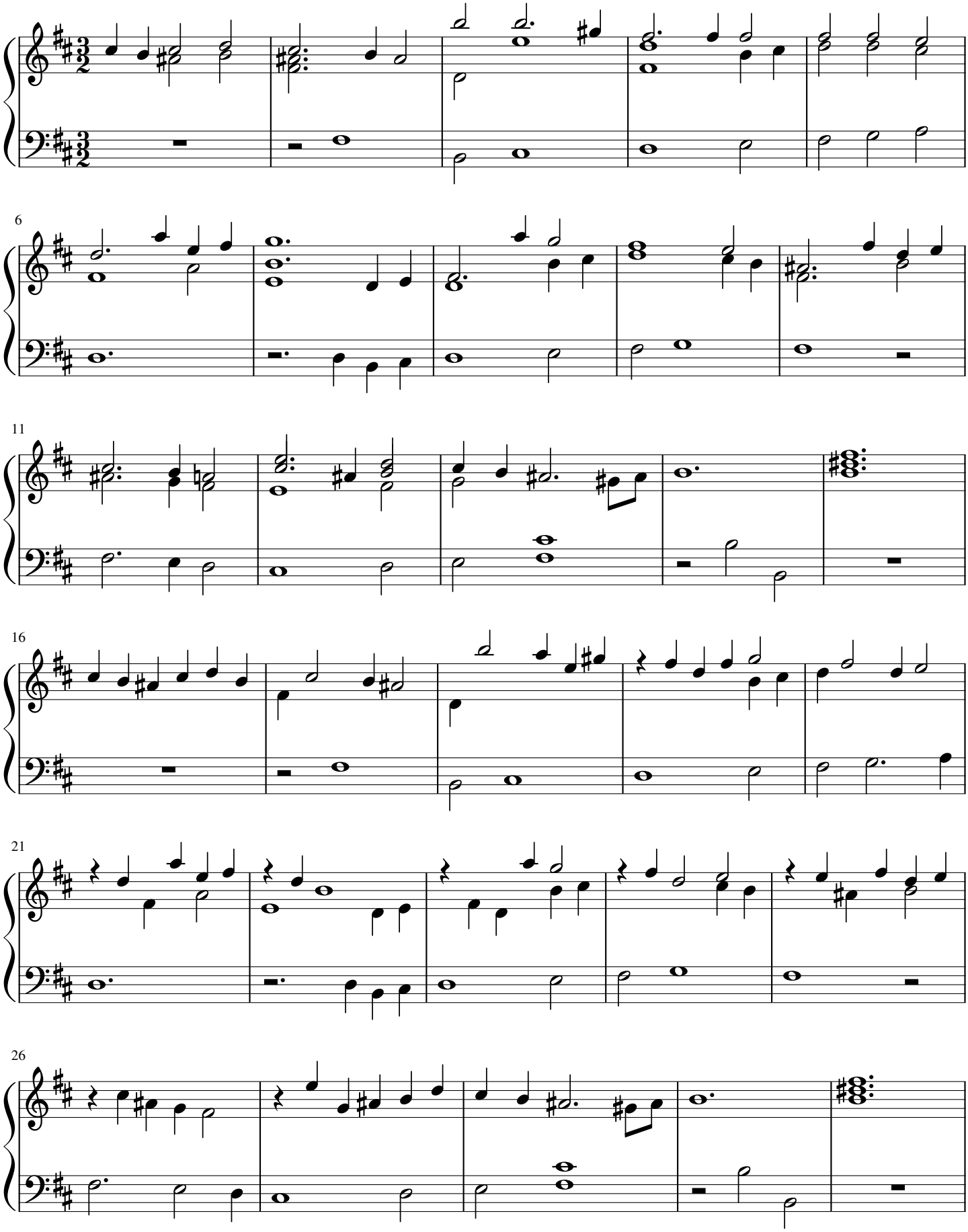
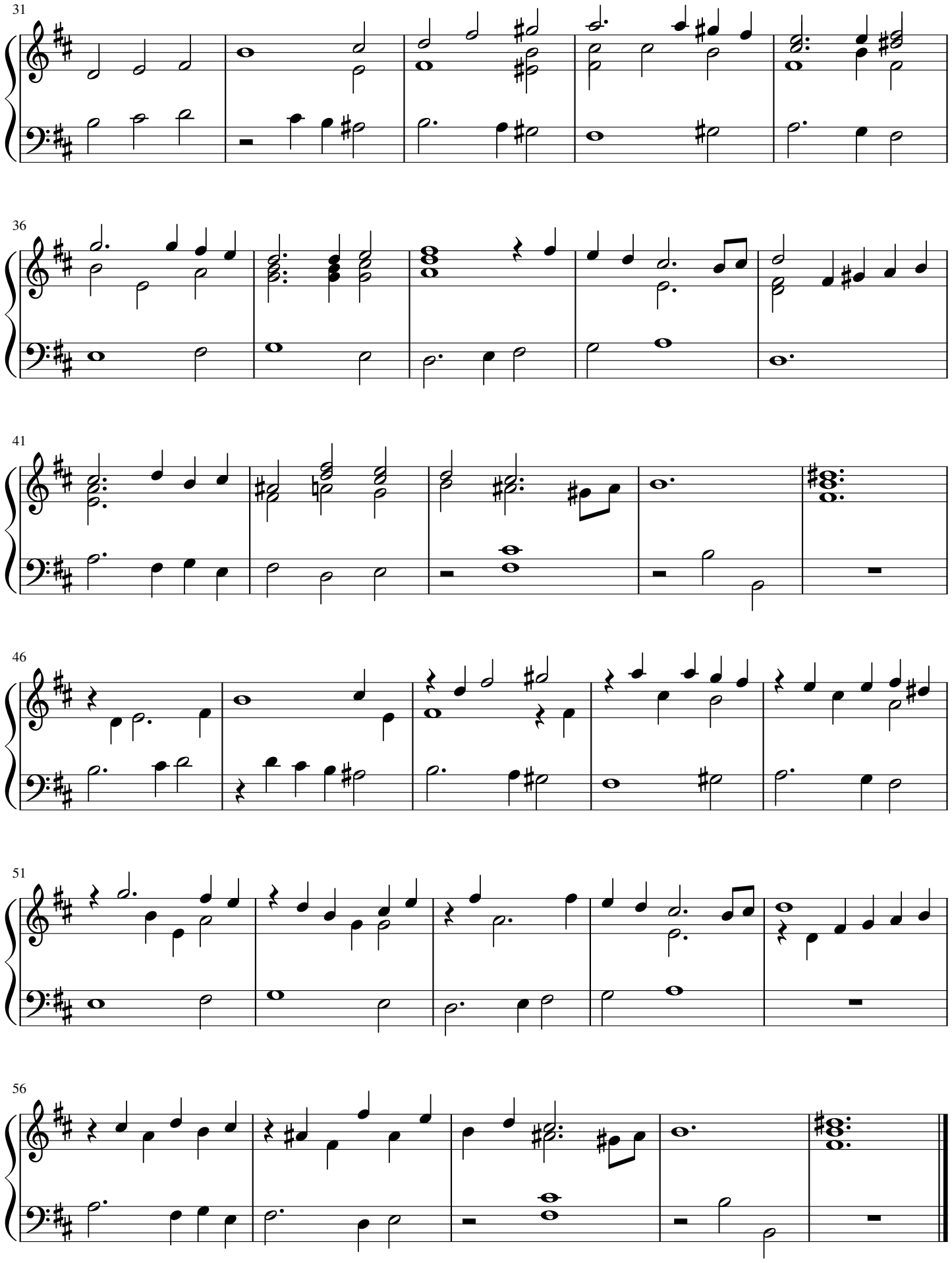
Gagliarda page 04

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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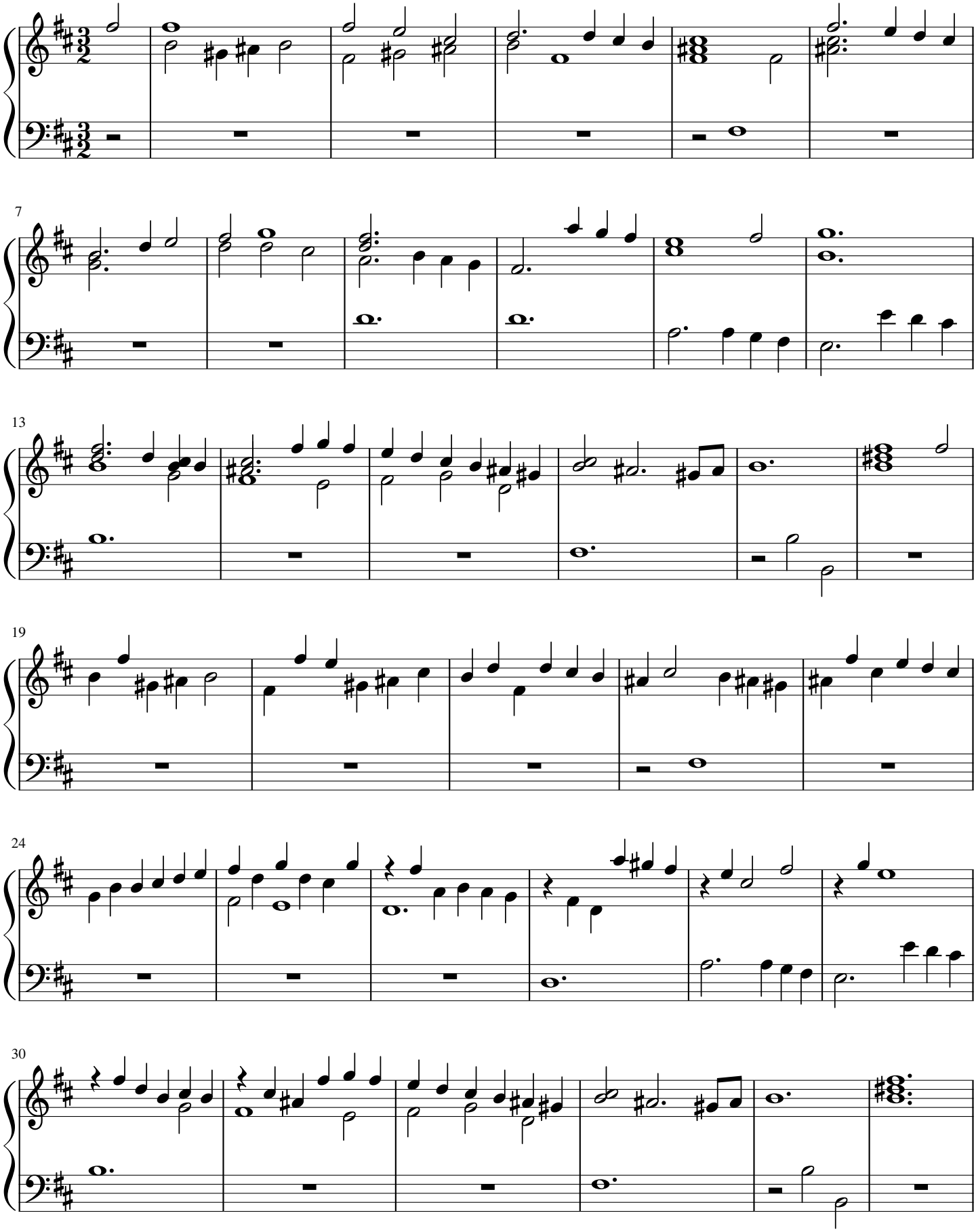
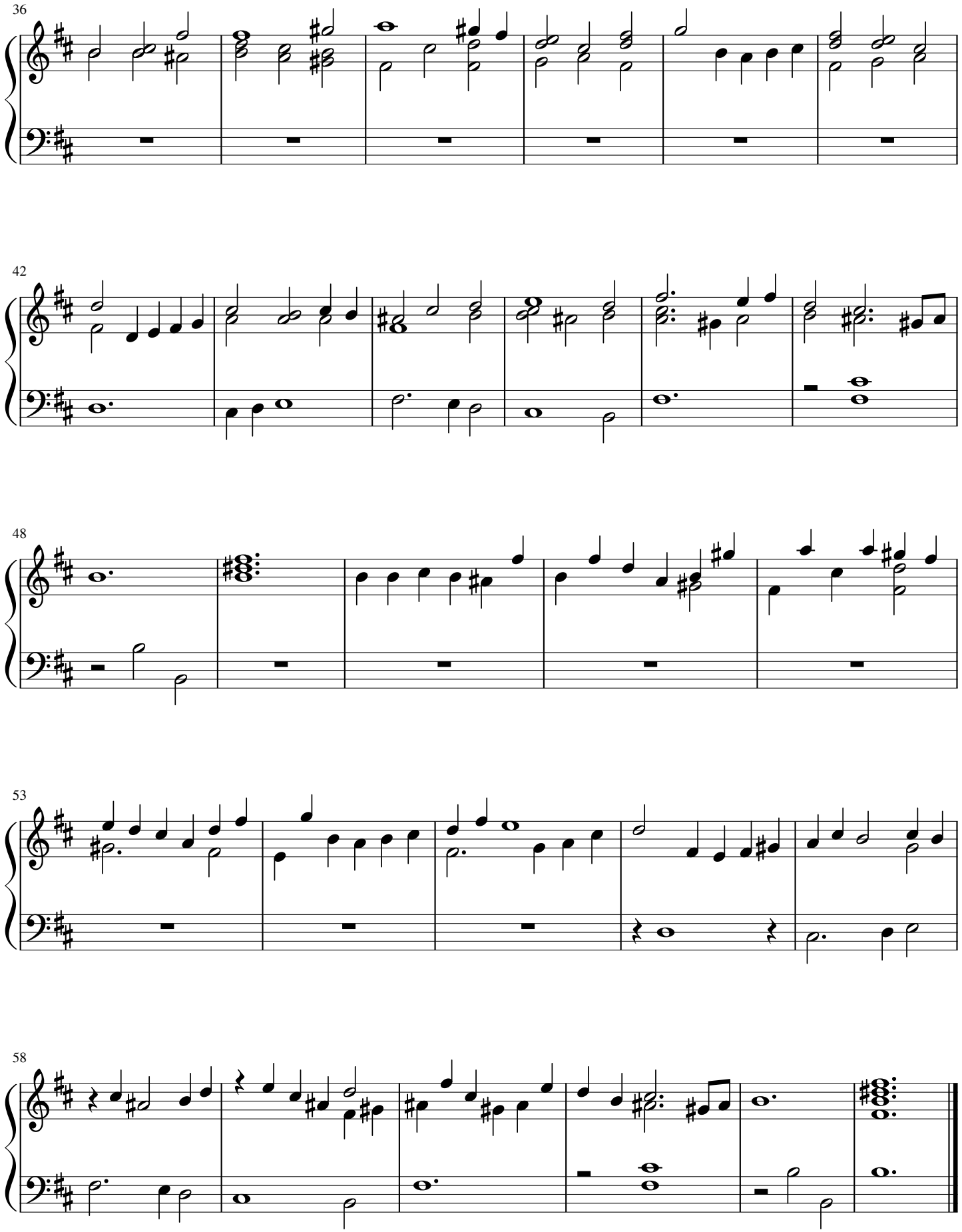
Gagliarda page 05

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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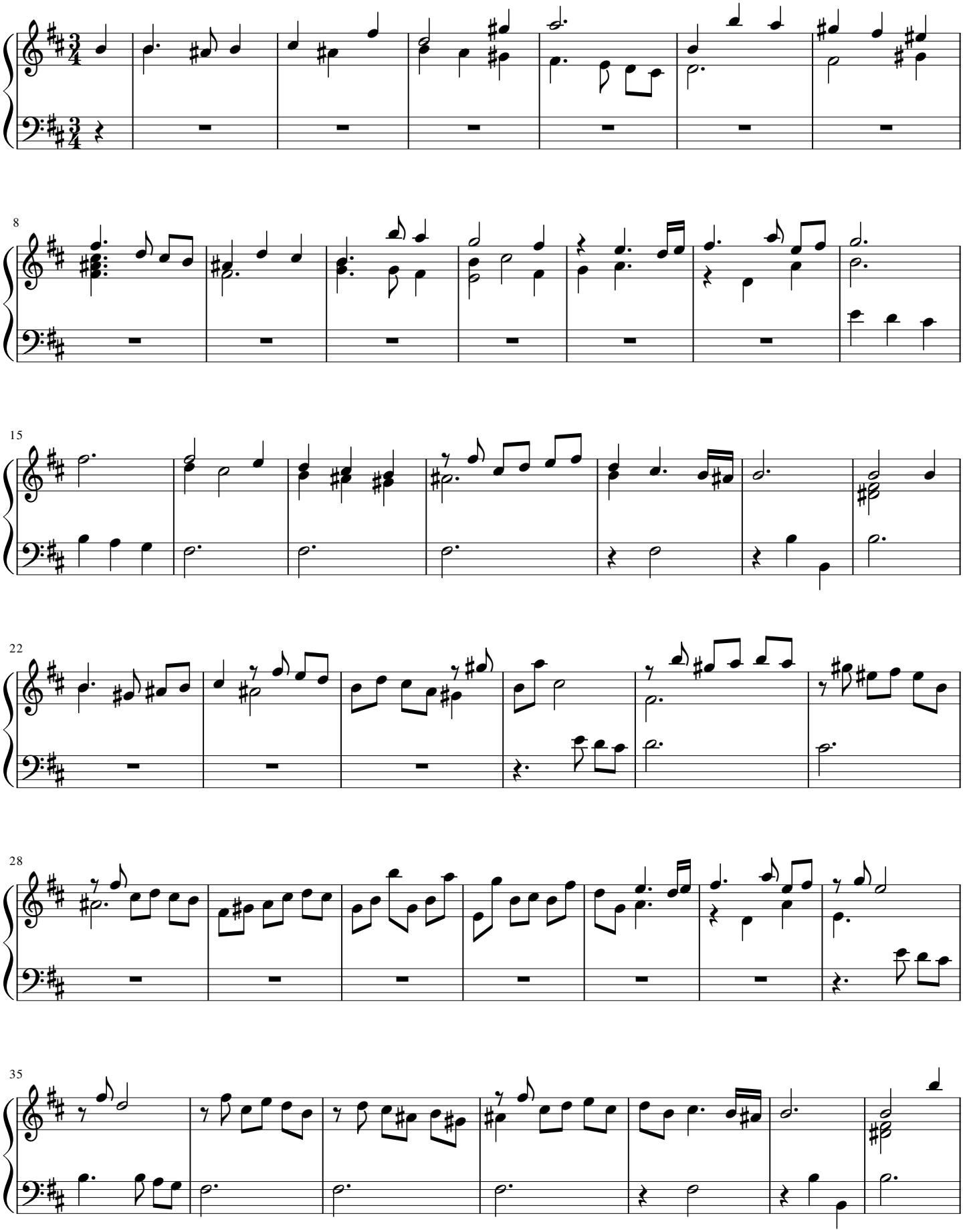
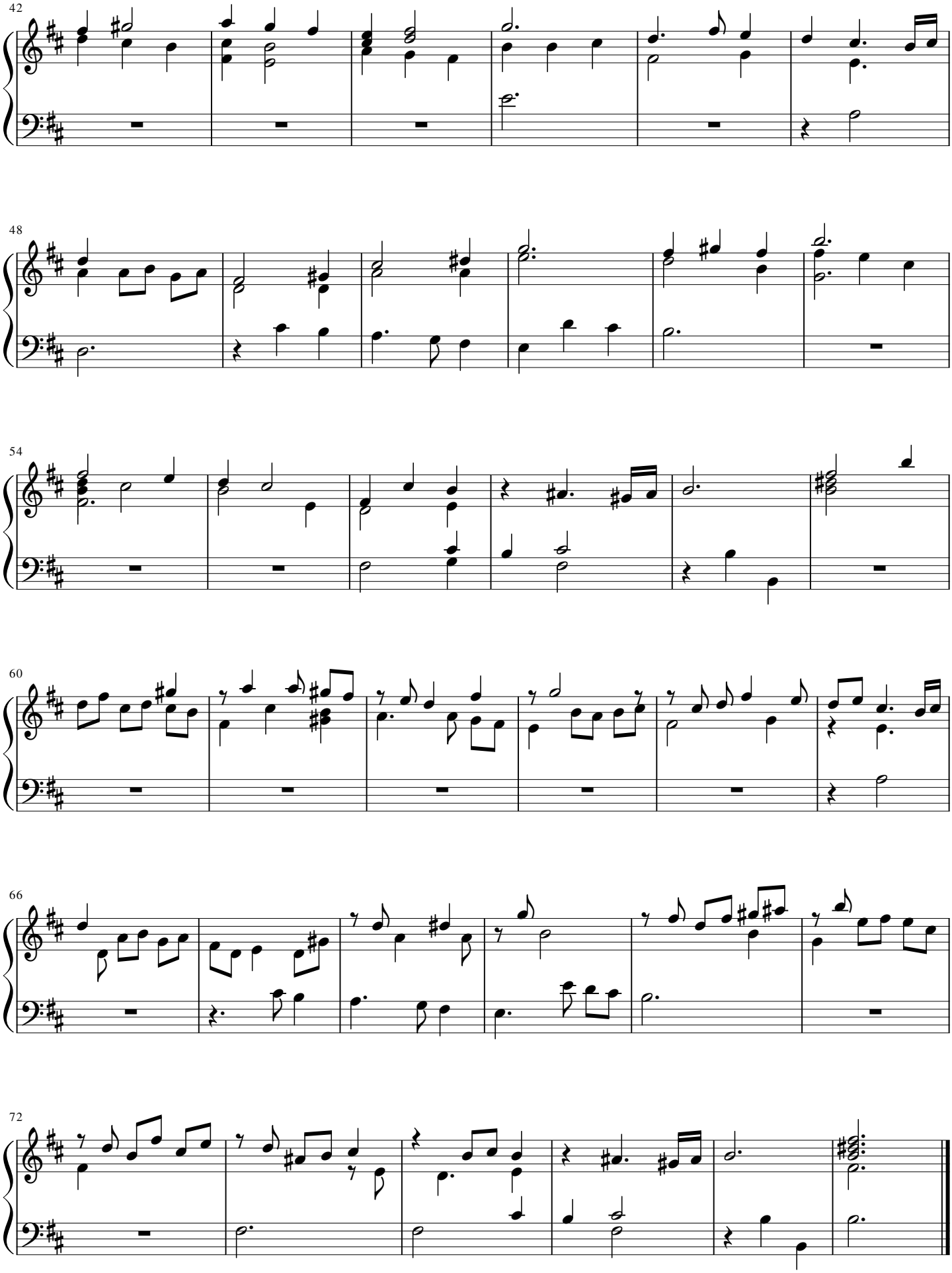
Corrente page 06

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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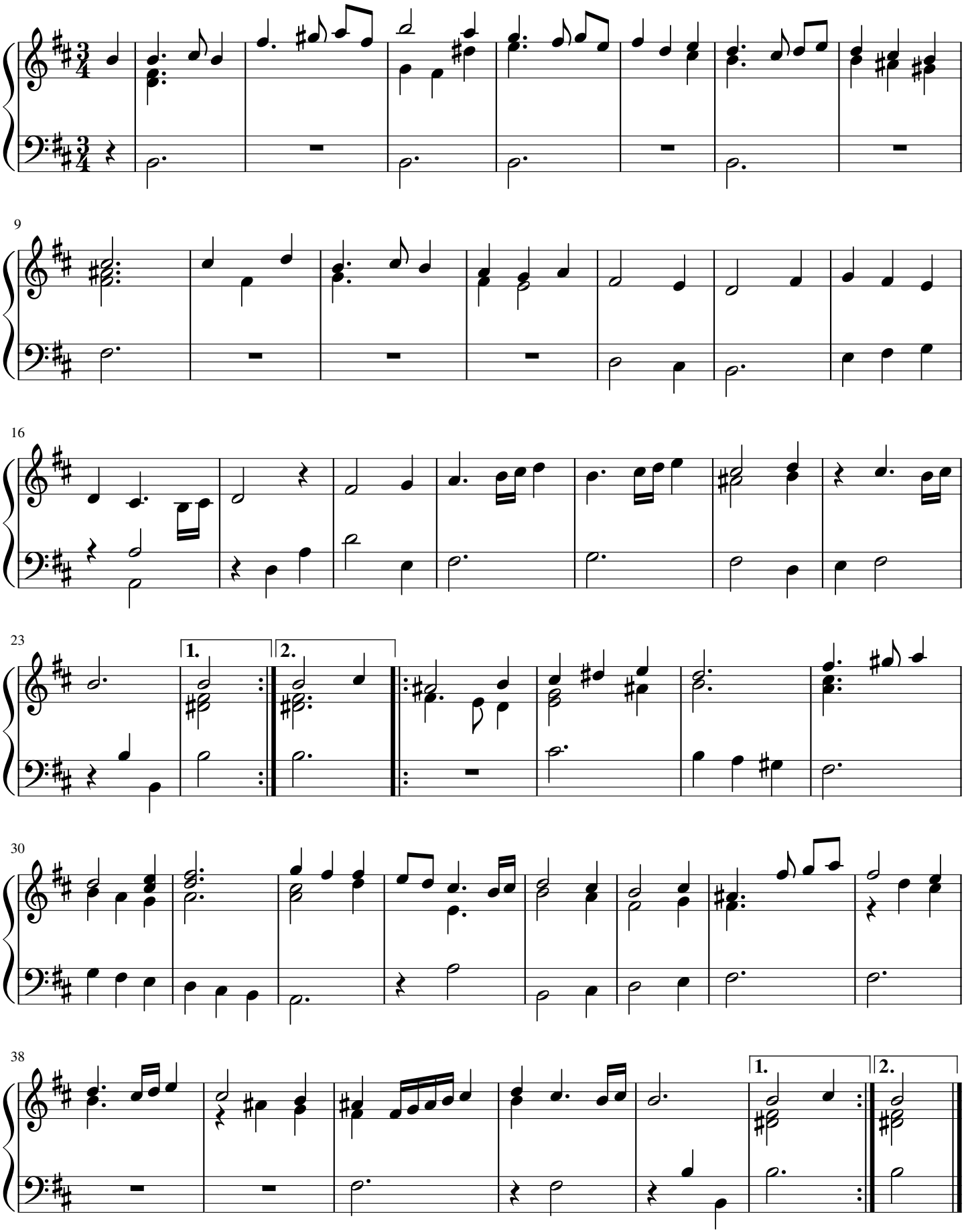
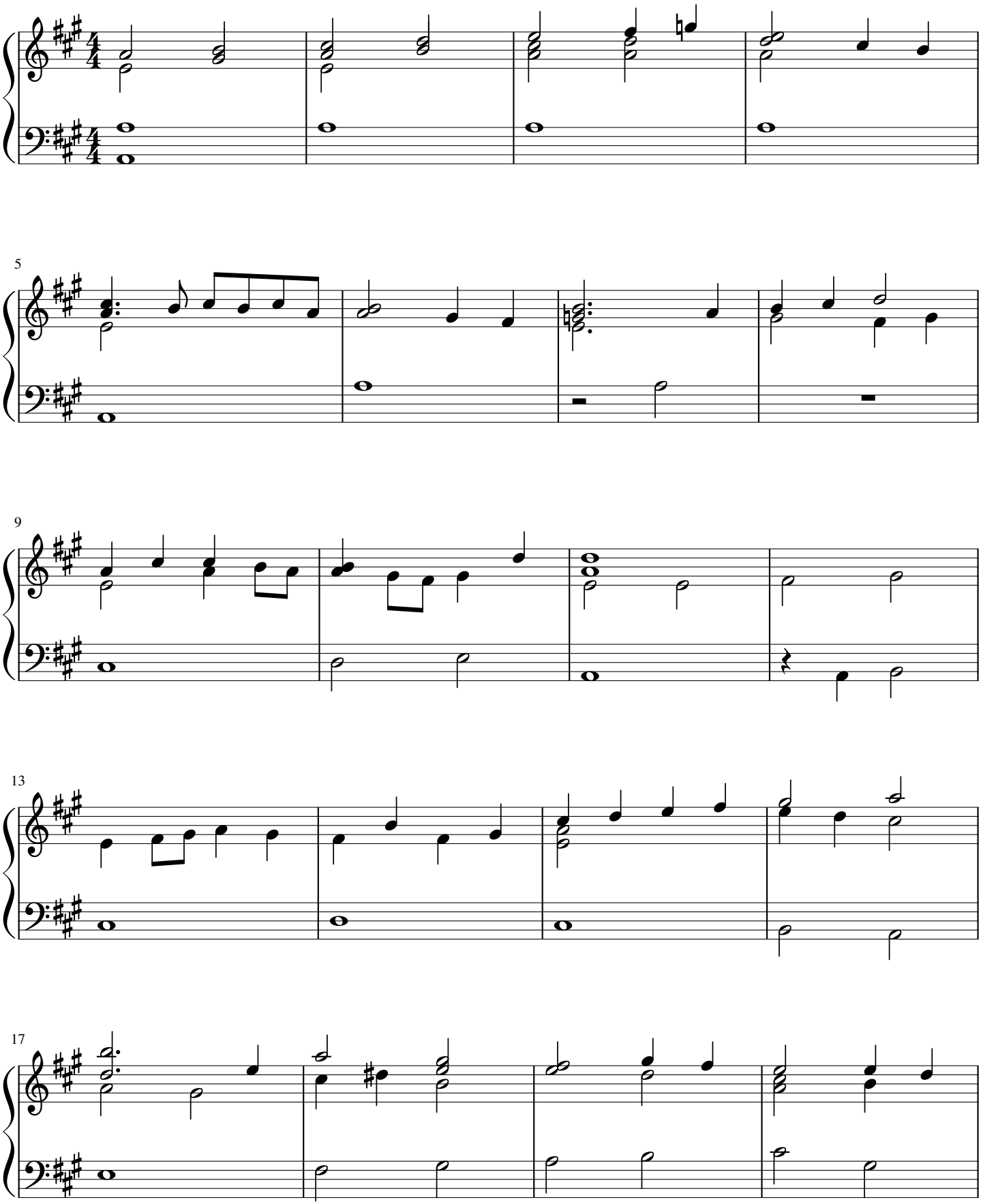
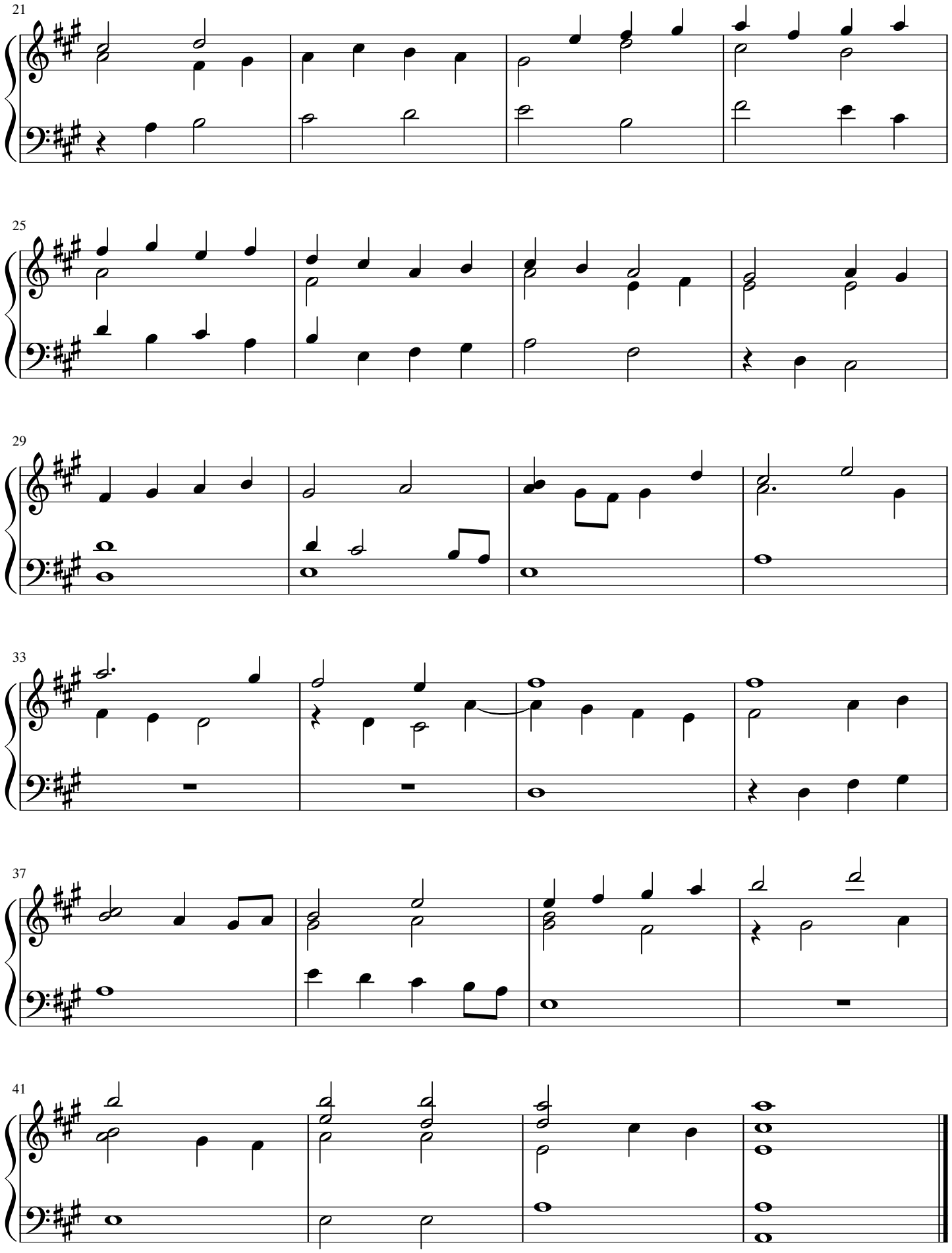
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Toccata page 08

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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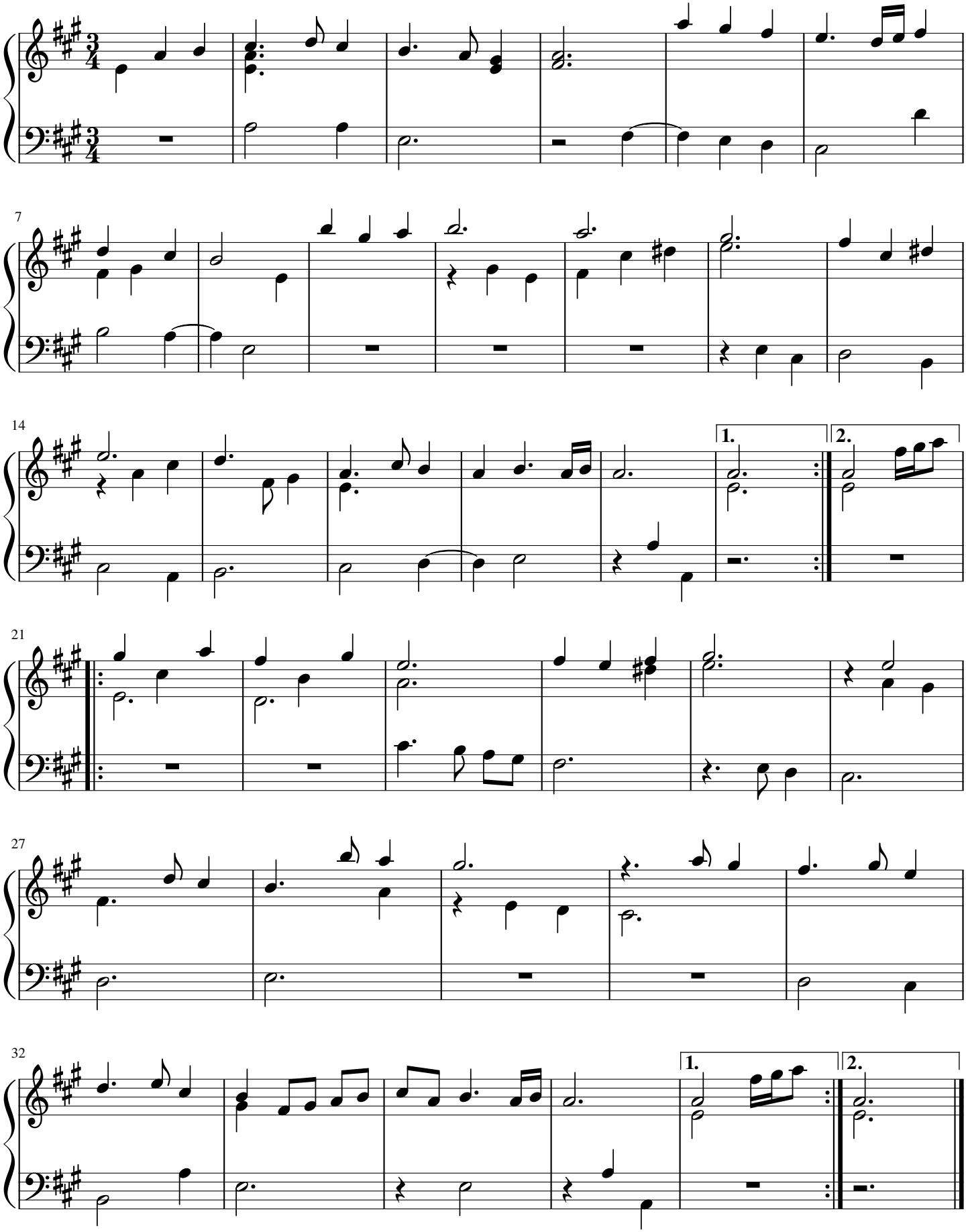
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Volta page 10
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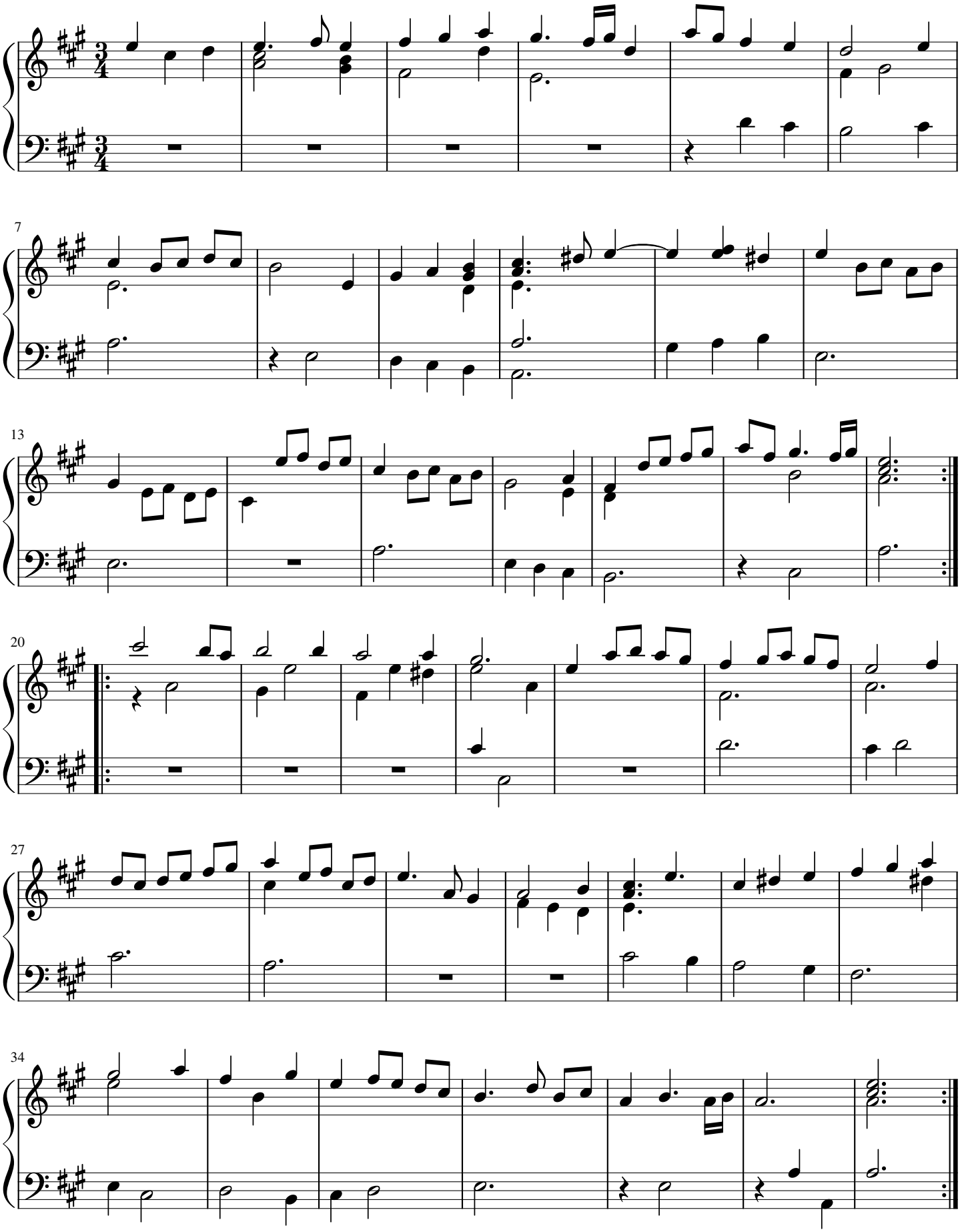

Volta page 11

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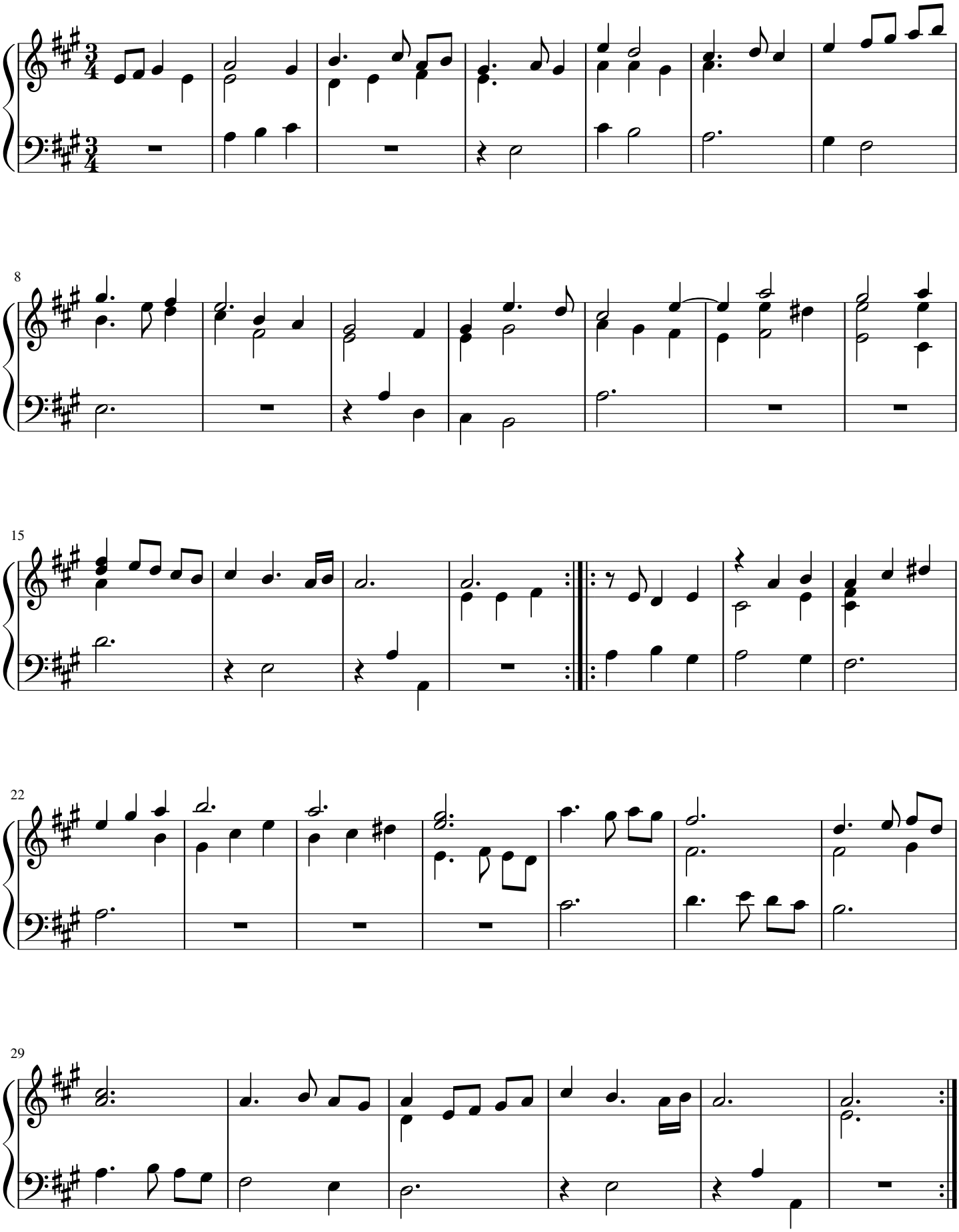

Volta page 12

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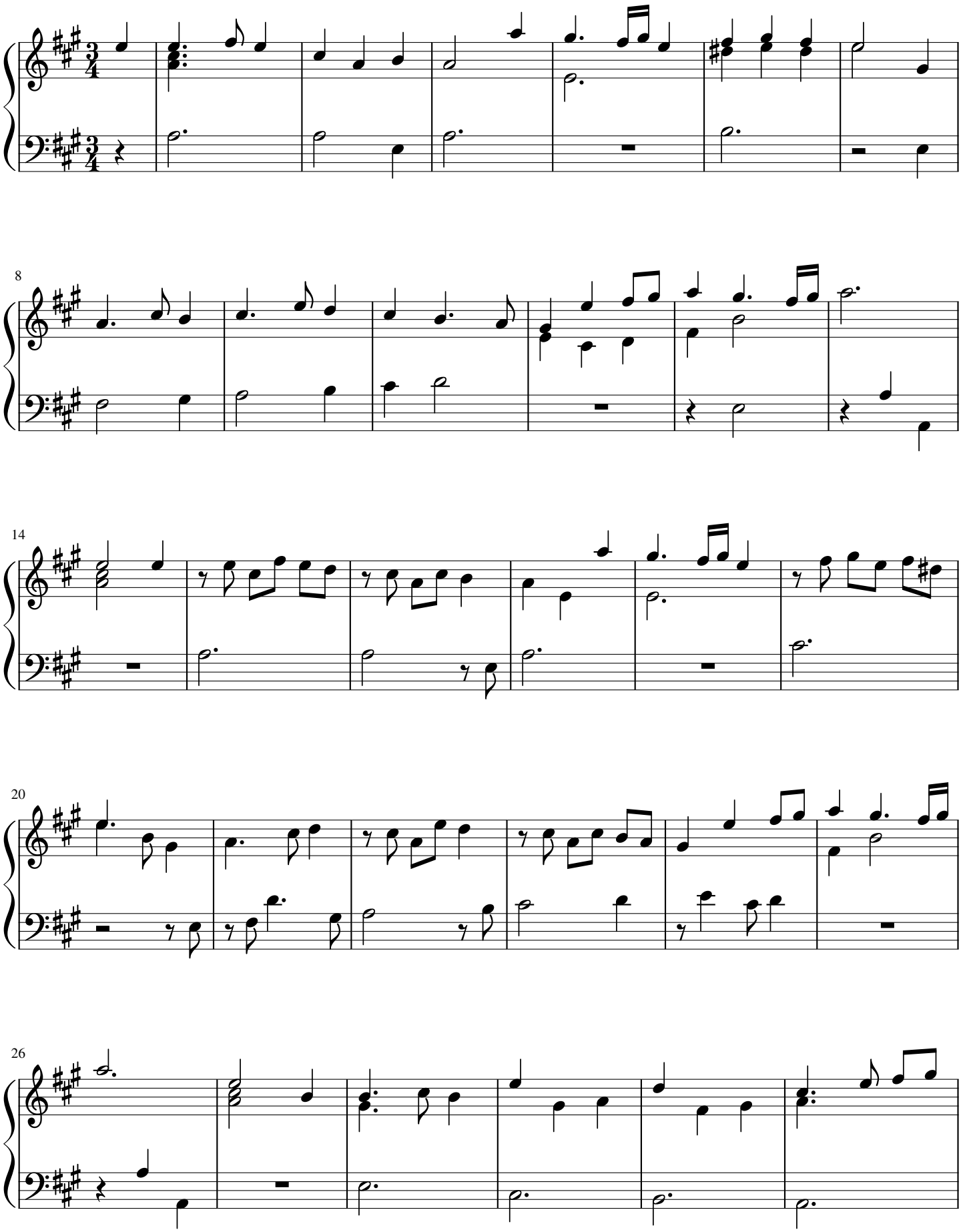

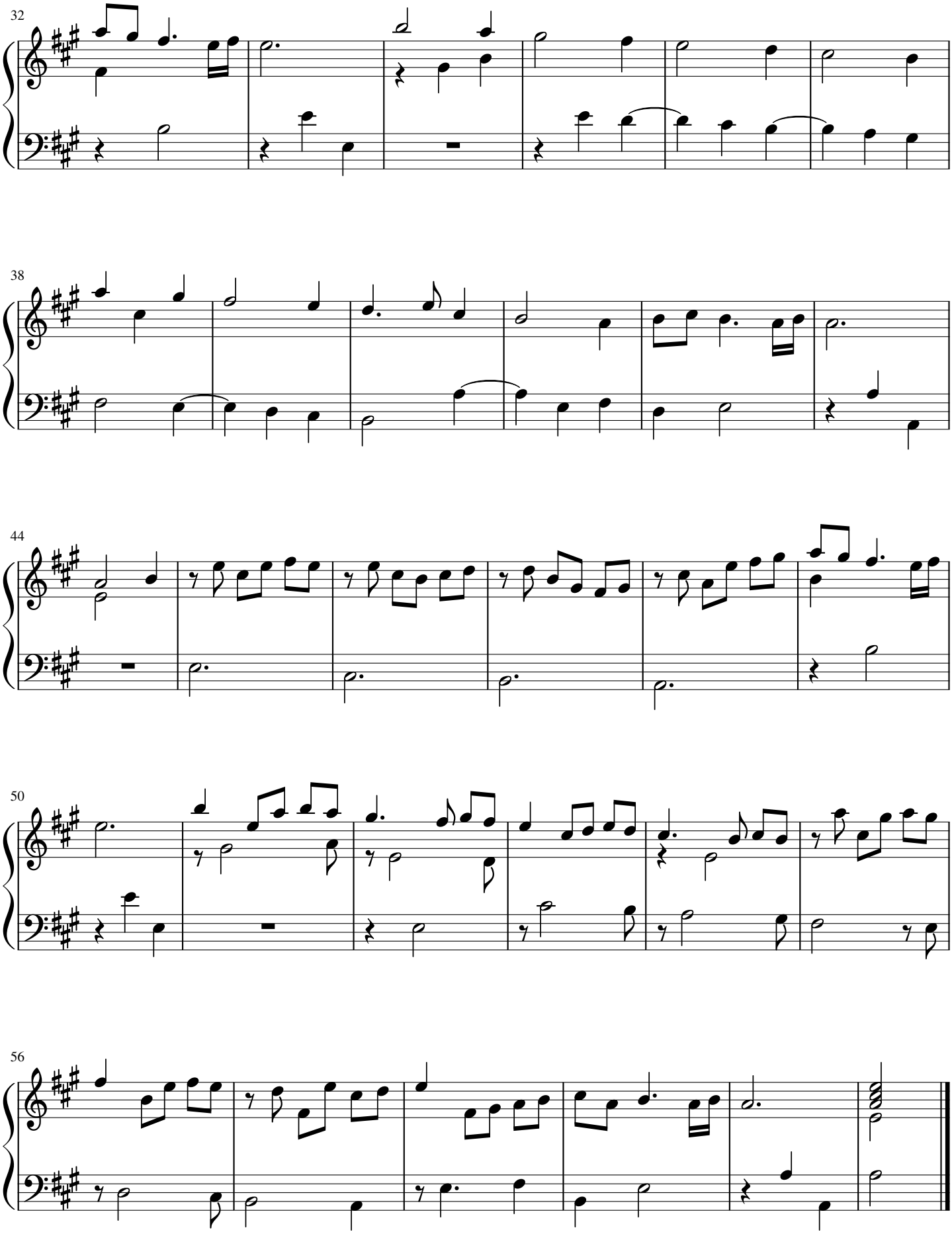
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Toccata page 13

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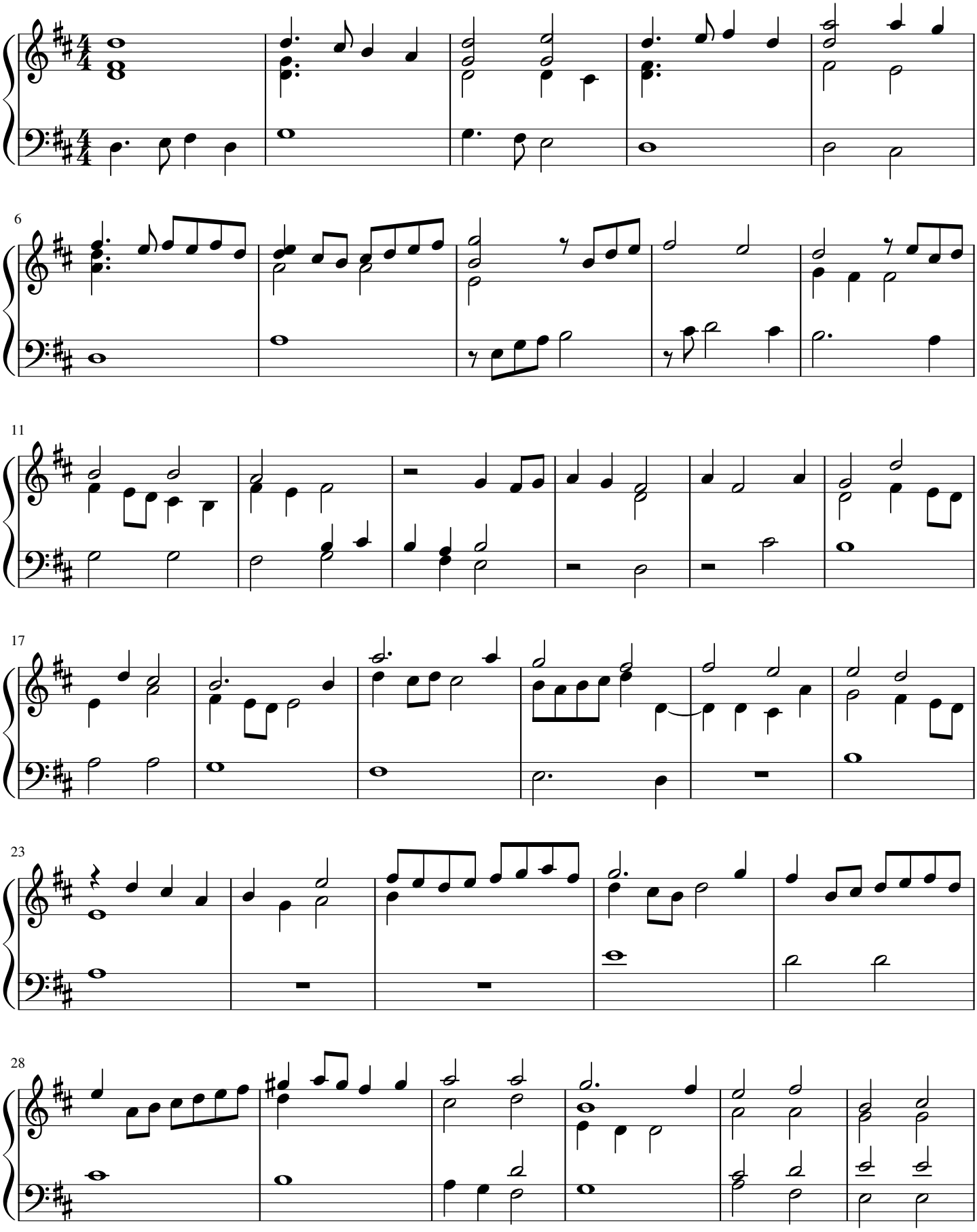

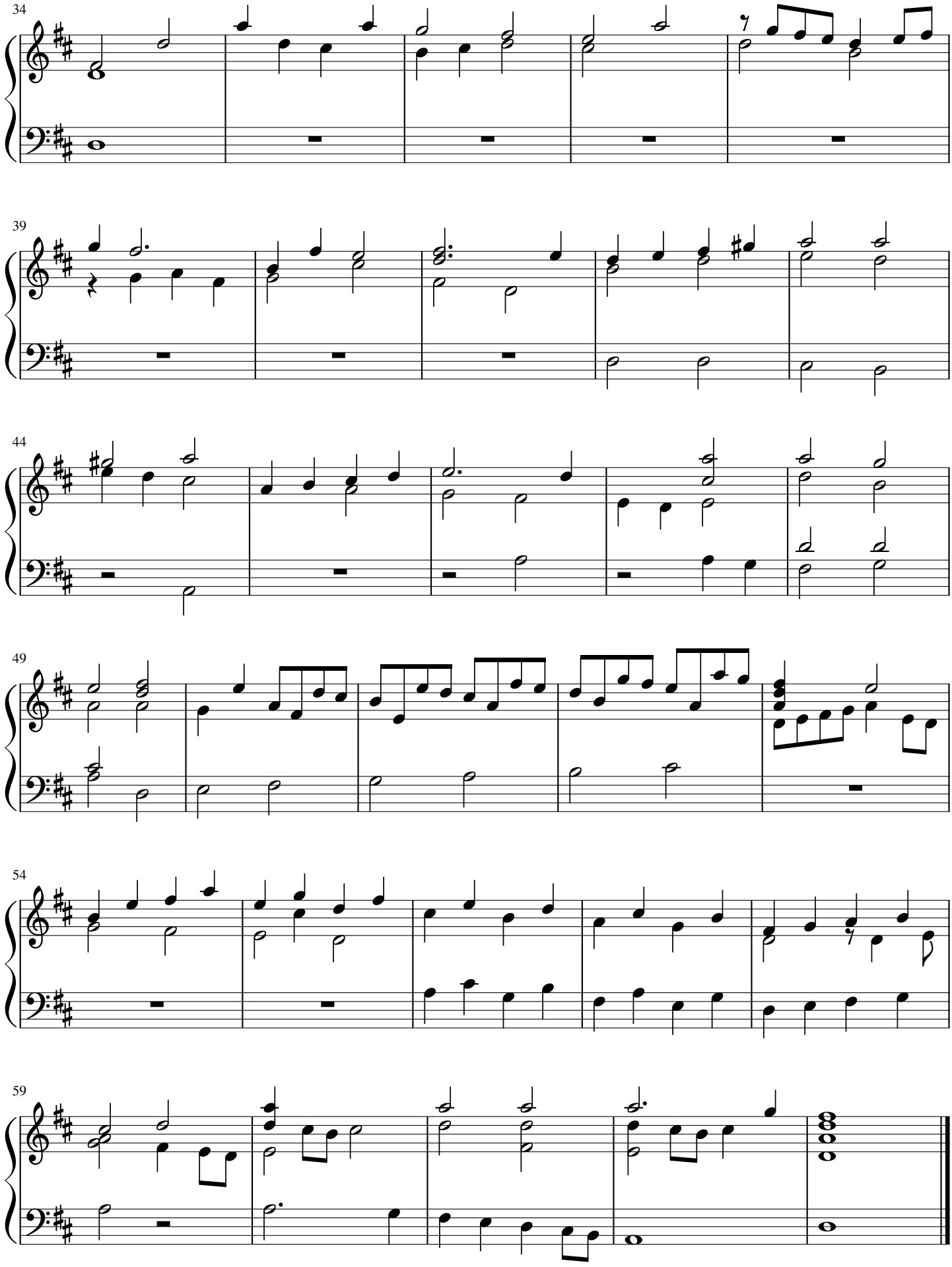
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Corrente page 14

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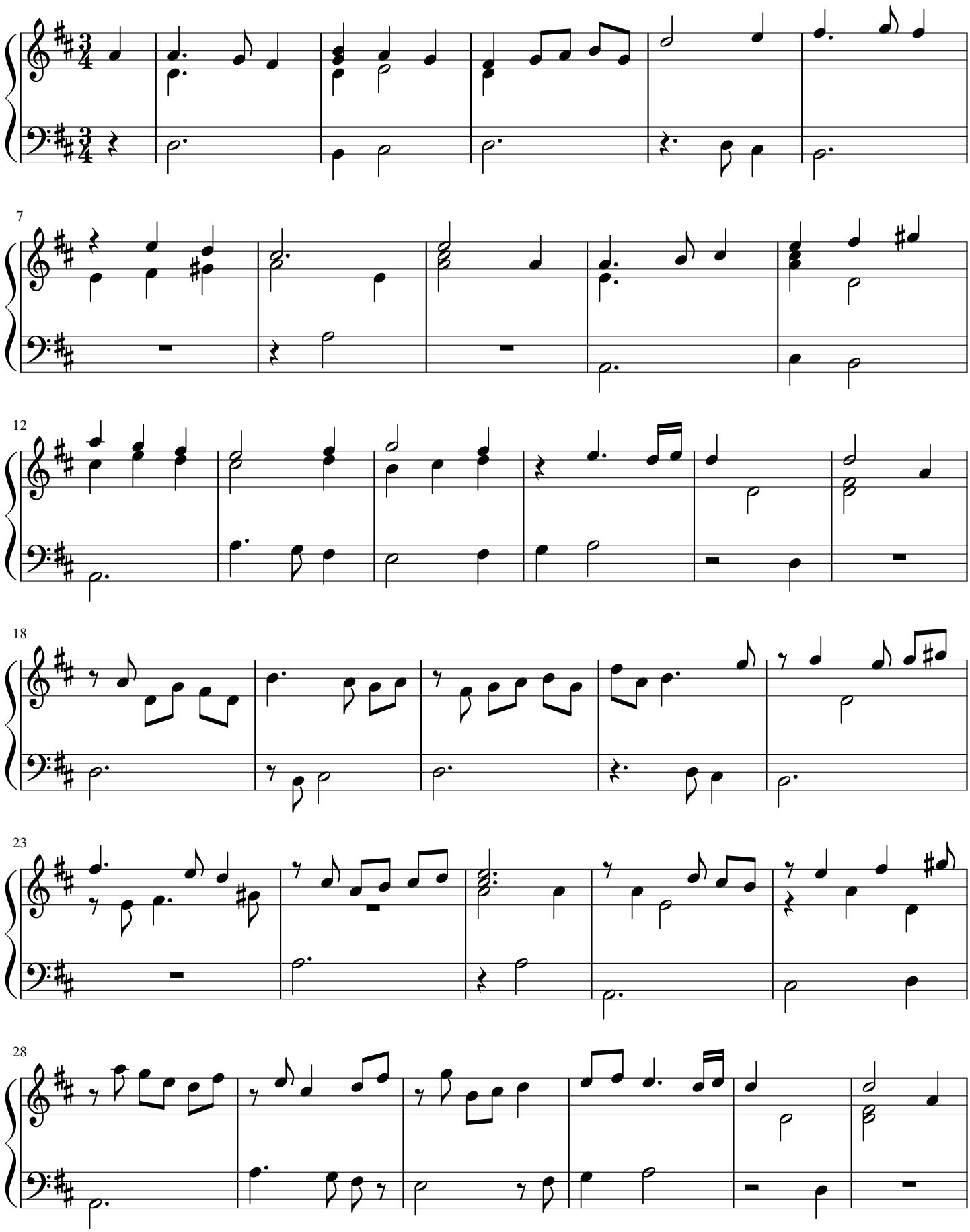

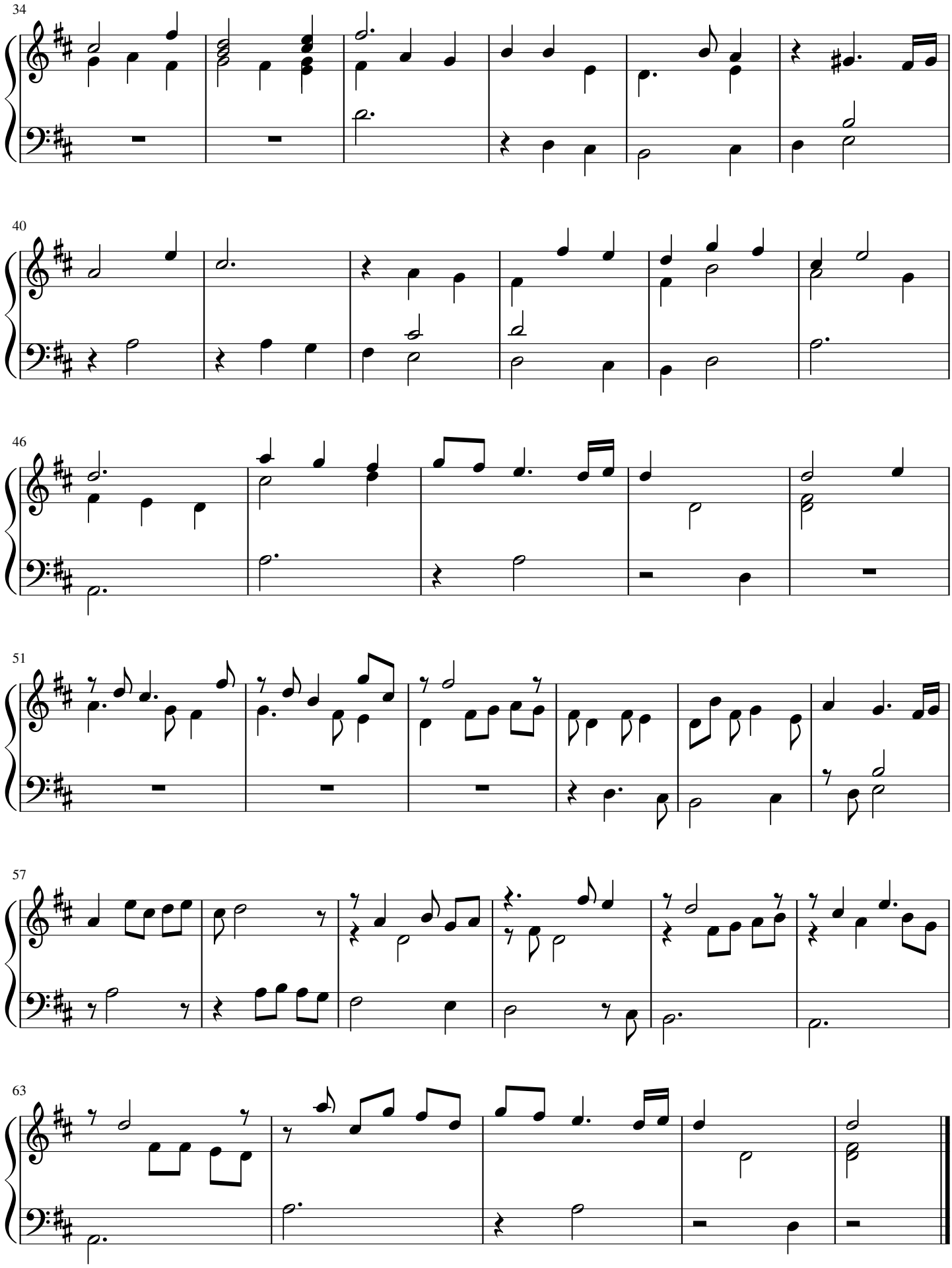
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Corrente page 15

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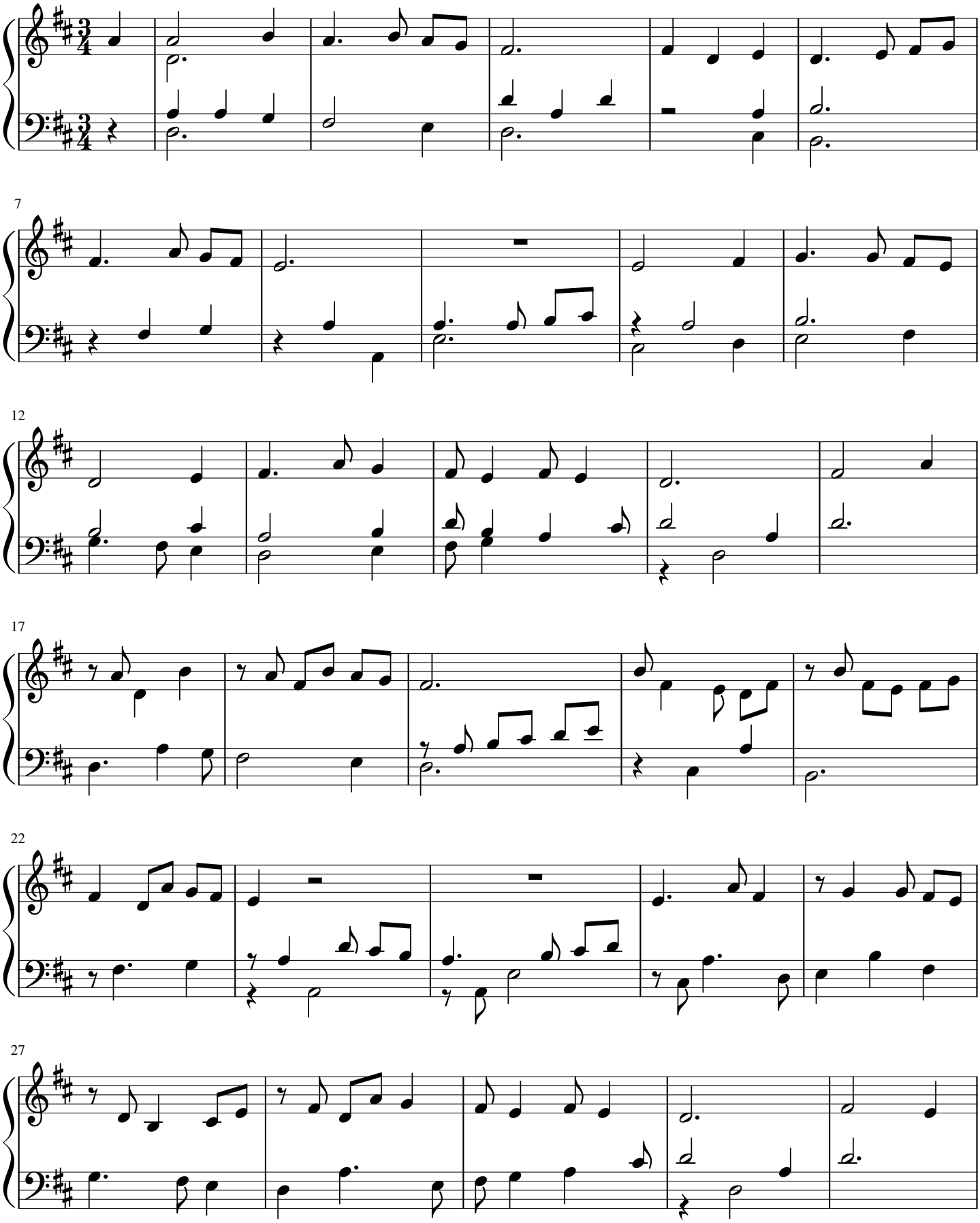

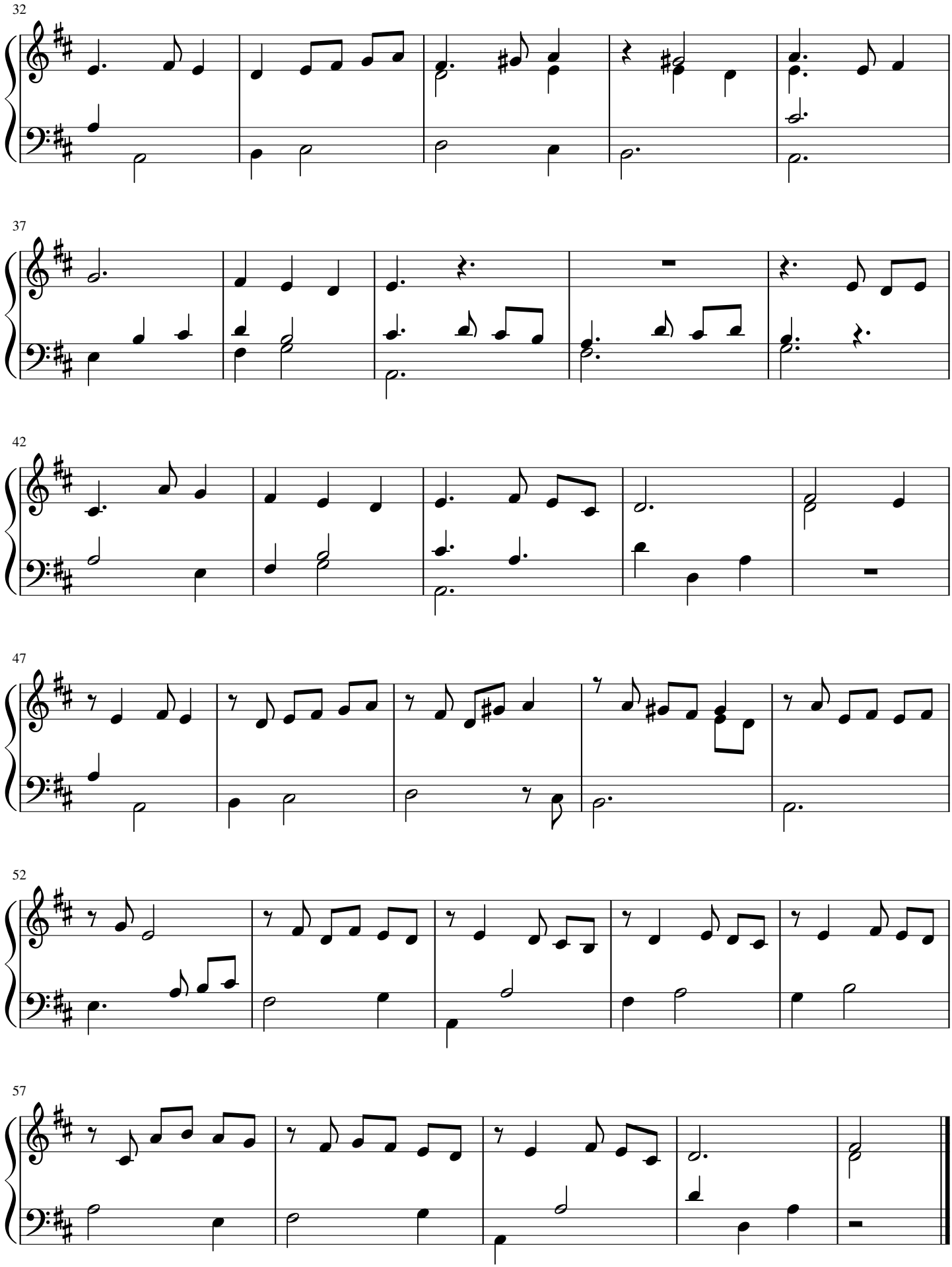
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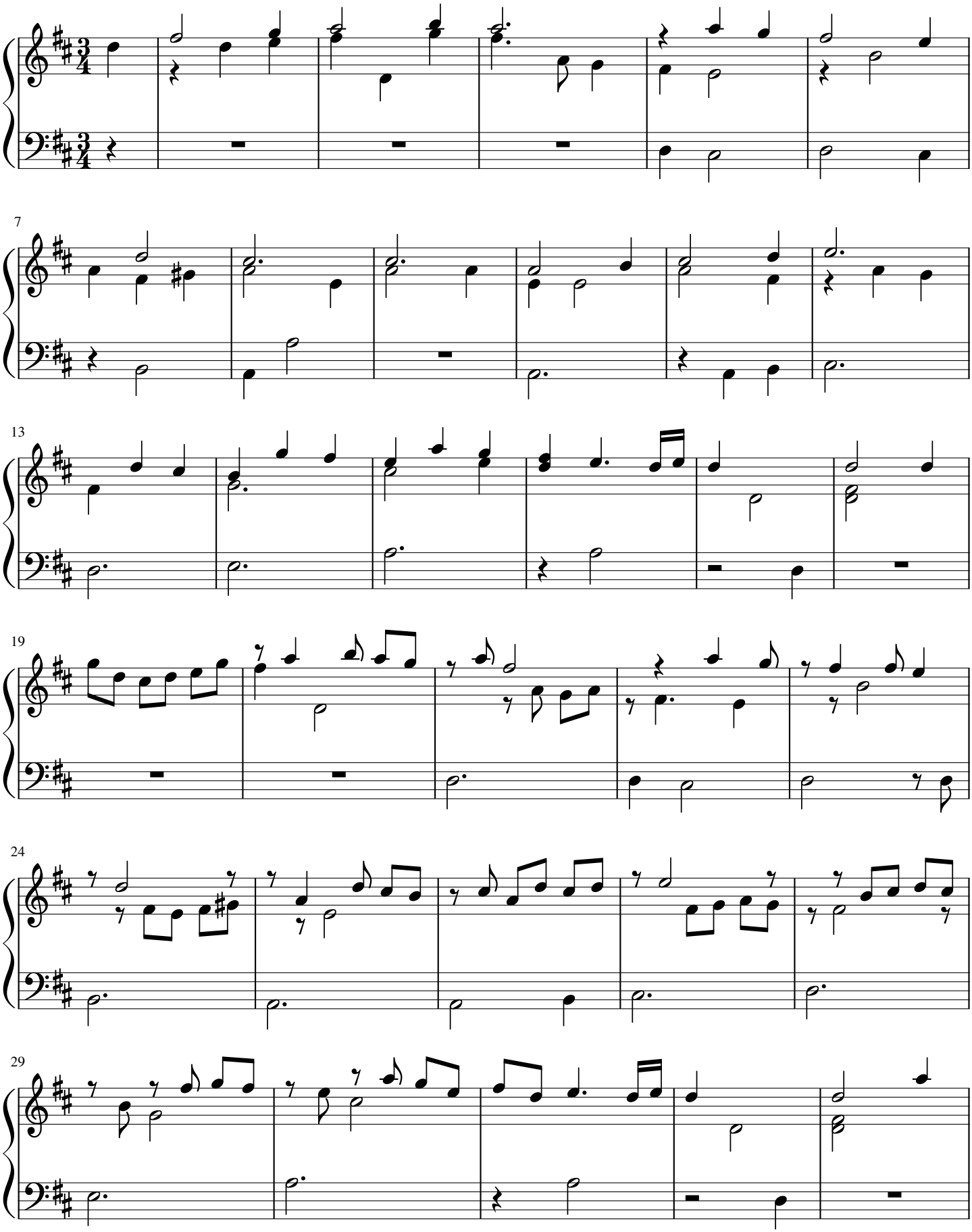
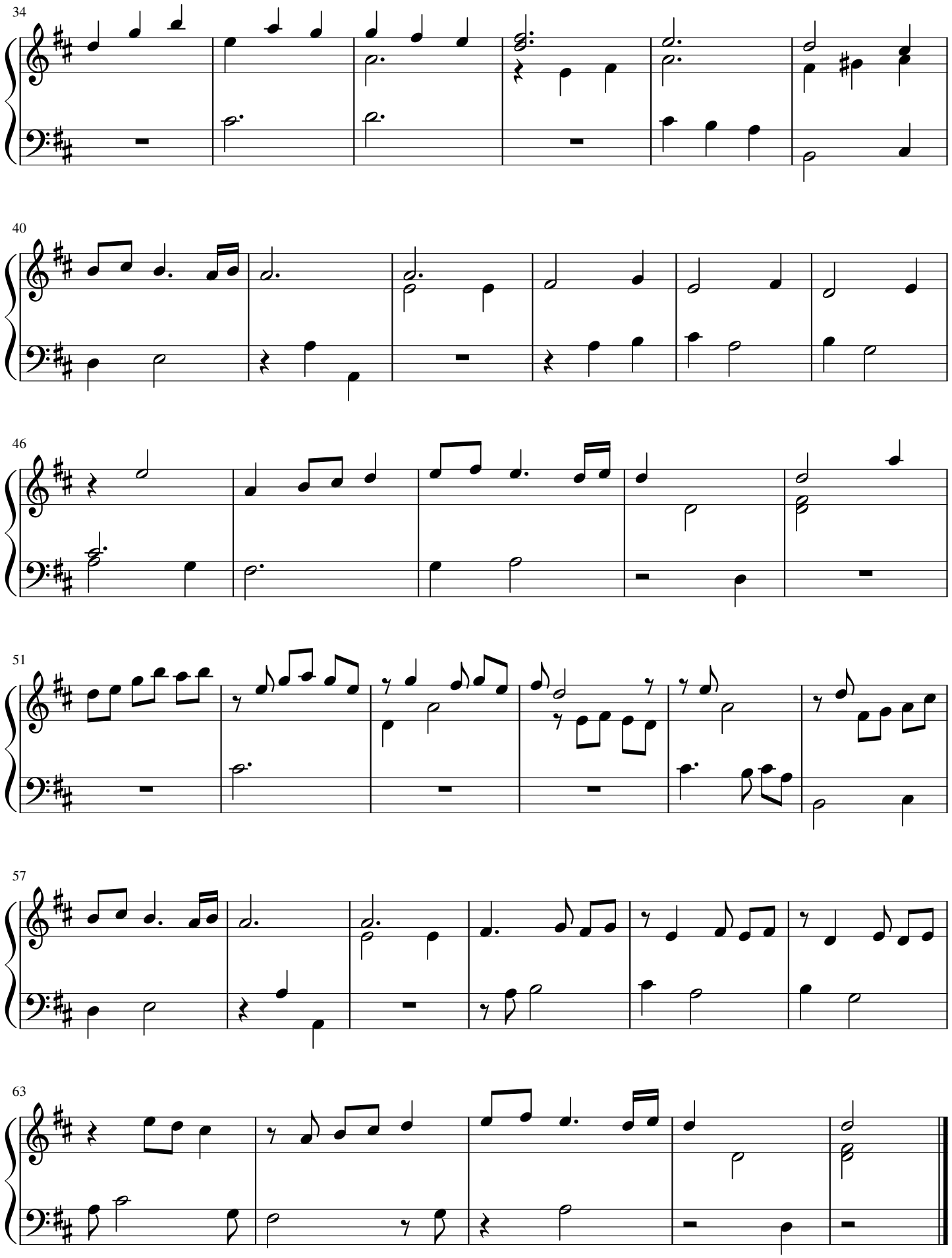
Volta page 16

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei / (Swan Ms. O no. 124 page 50 & 51)

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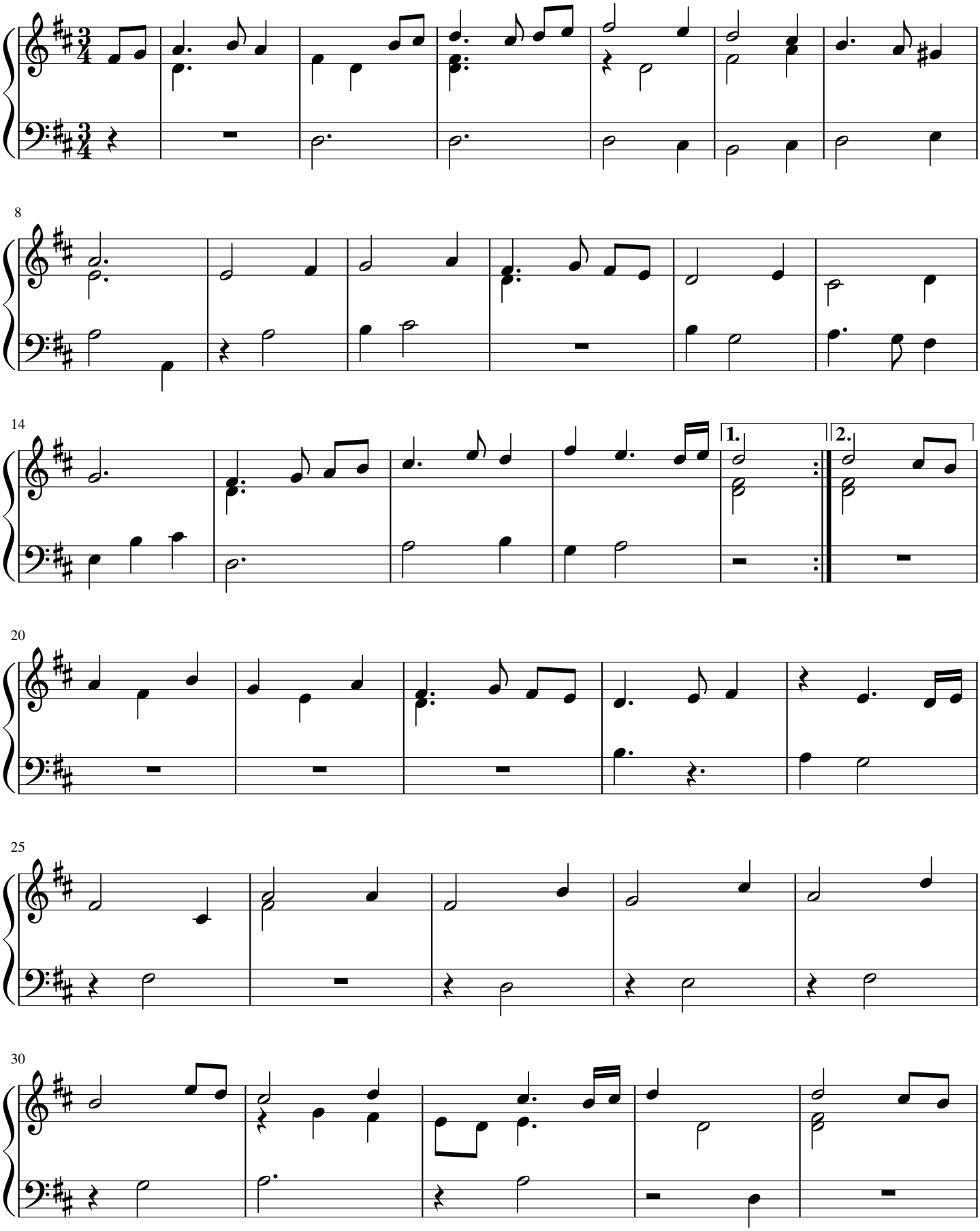
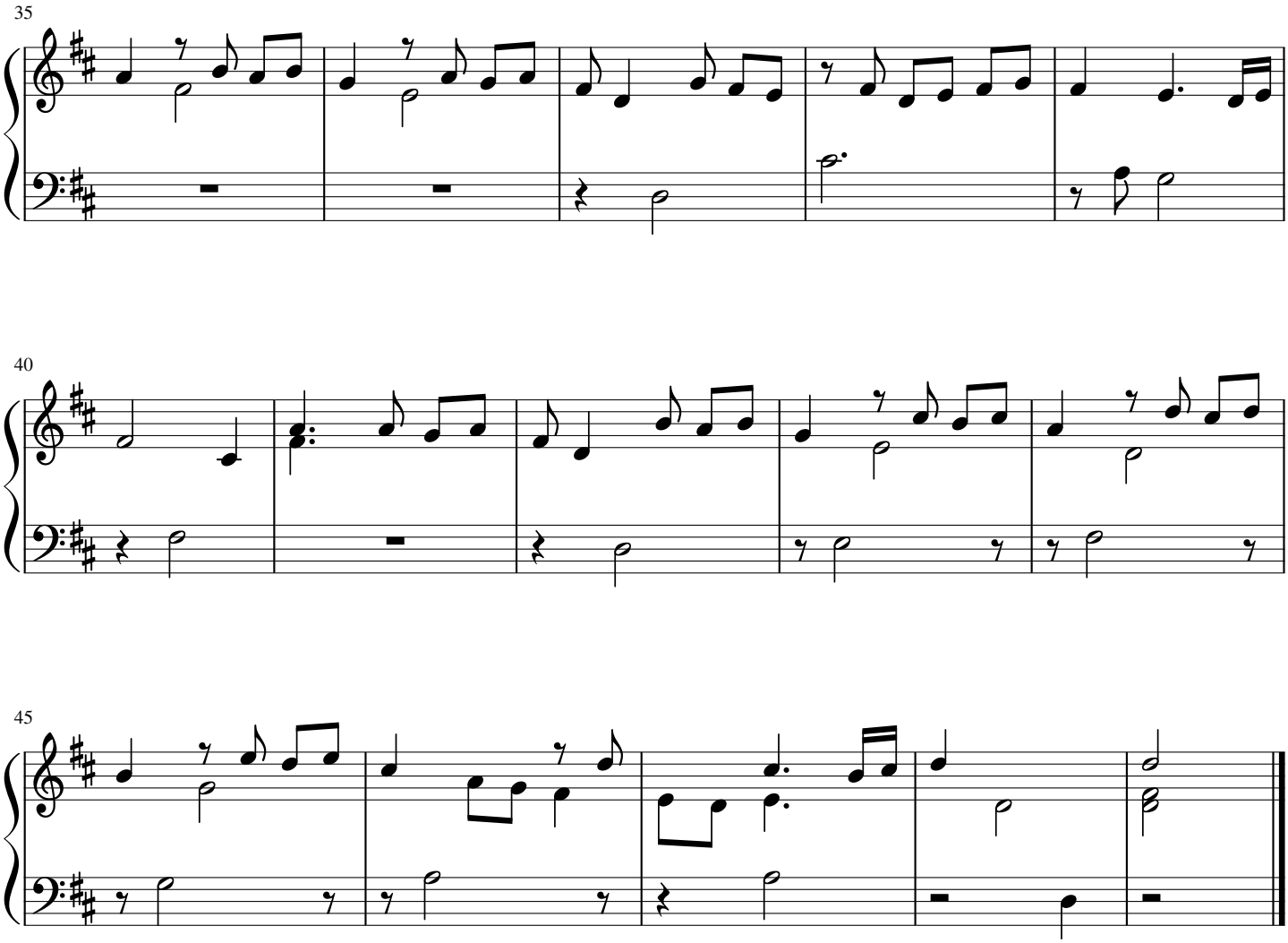
Volta page 17

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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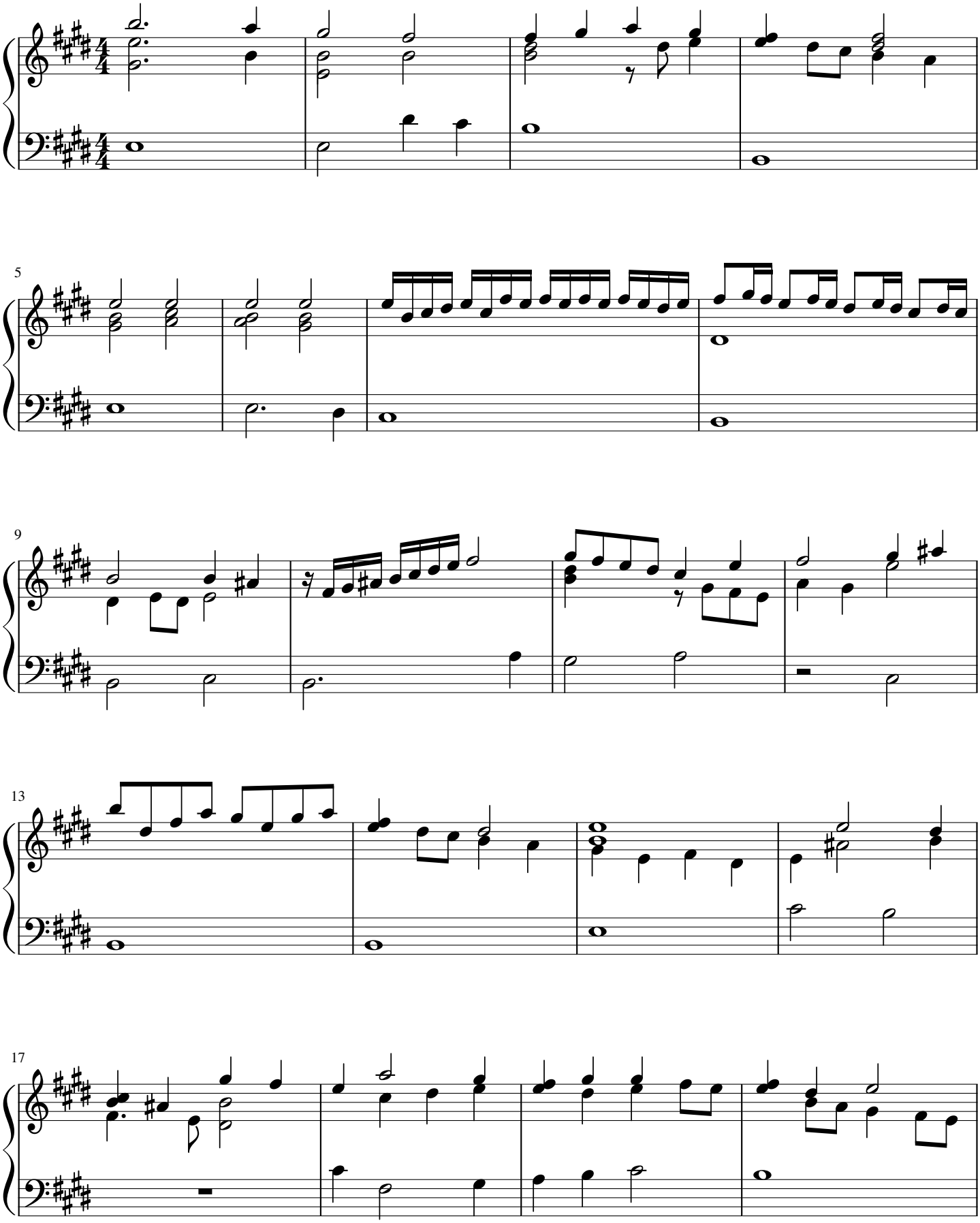
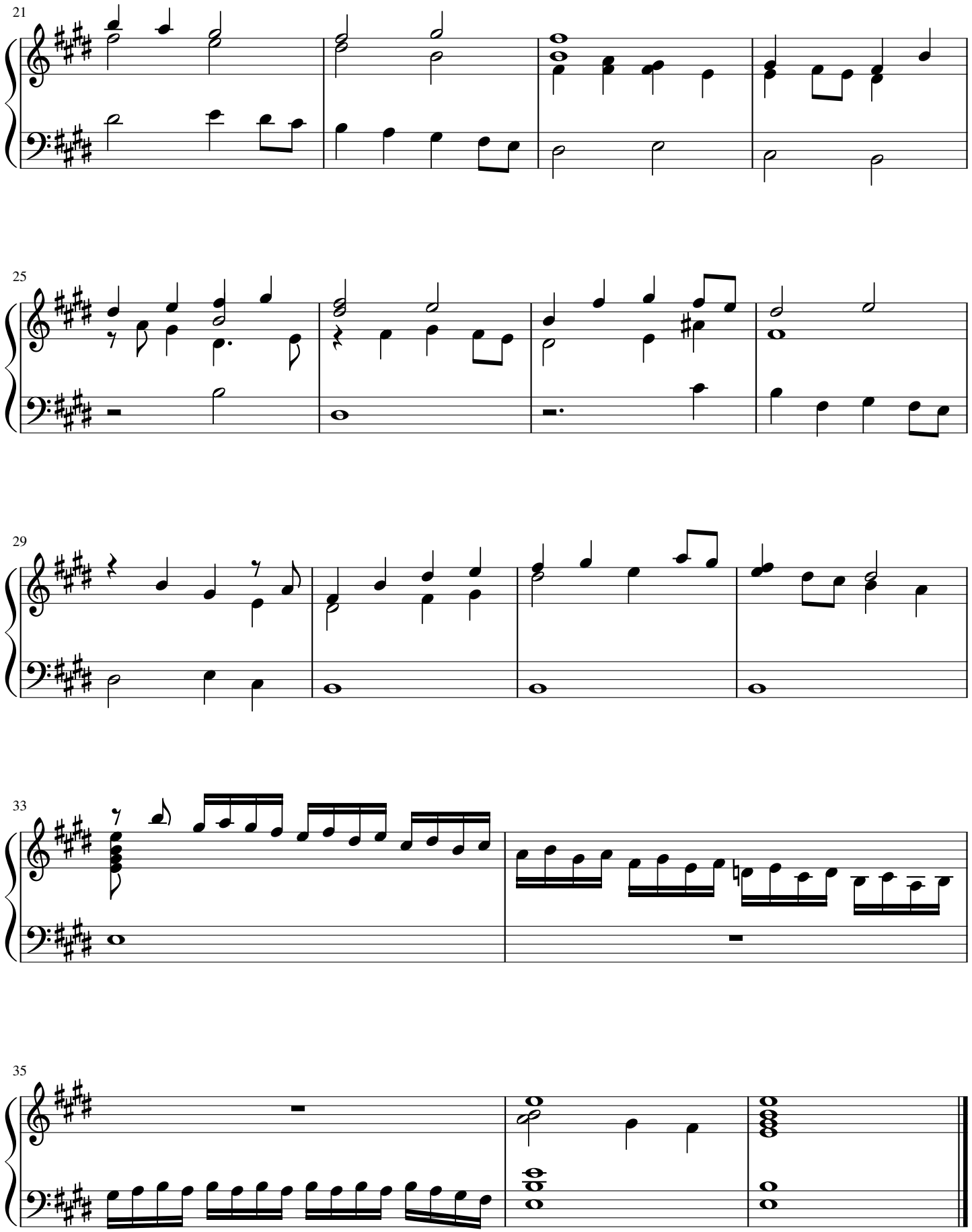
Toccata page 18

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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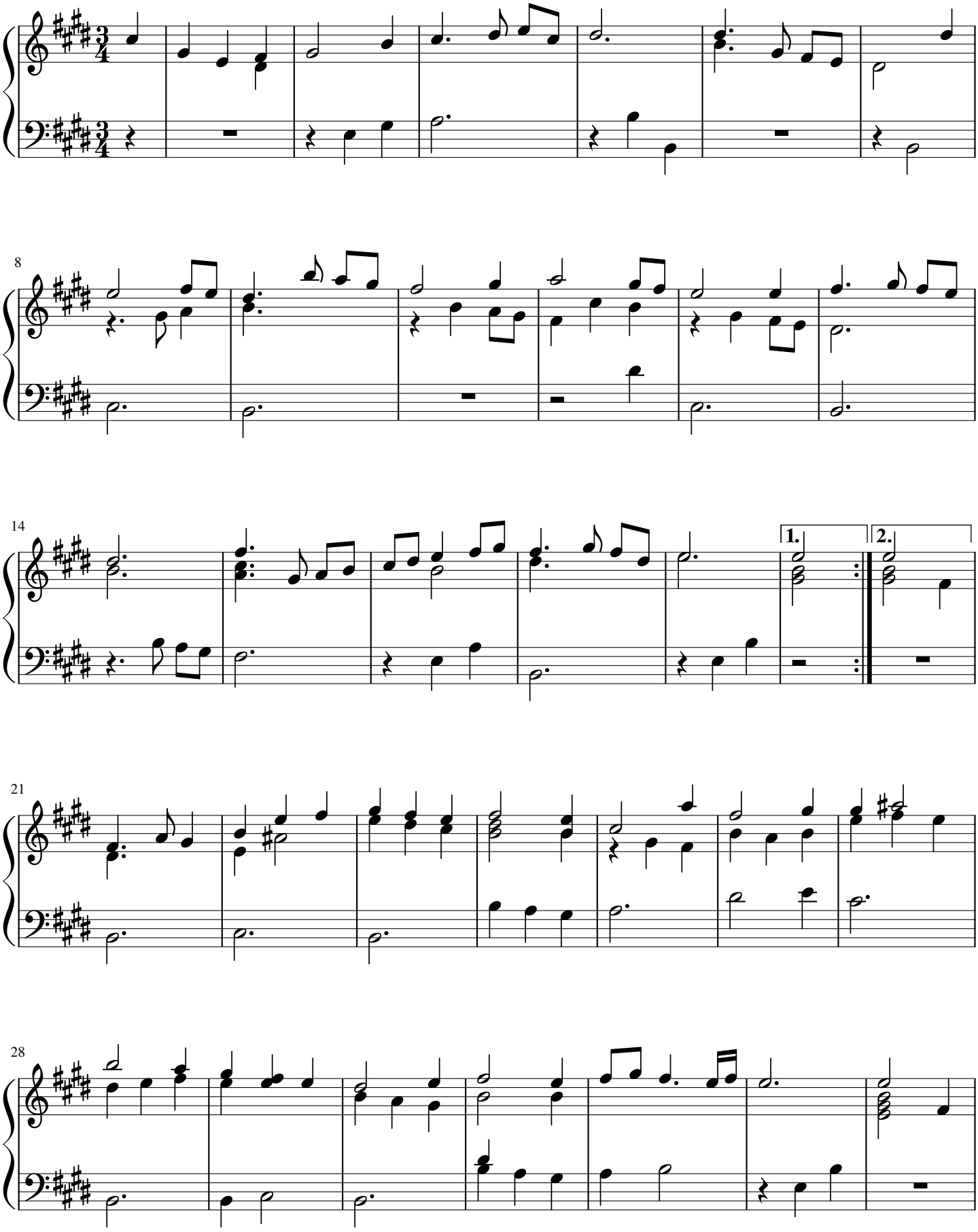
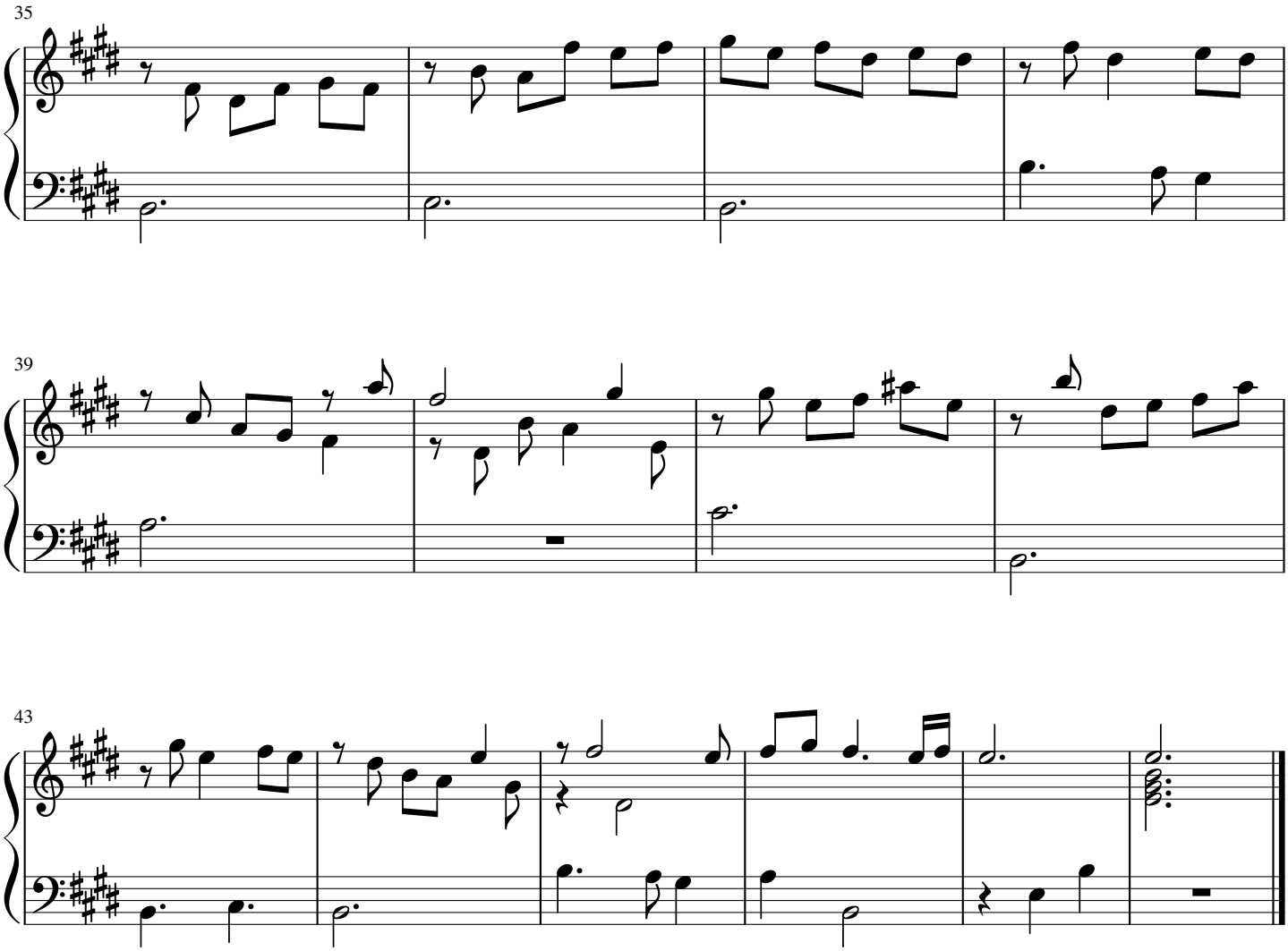
Corrente page 19

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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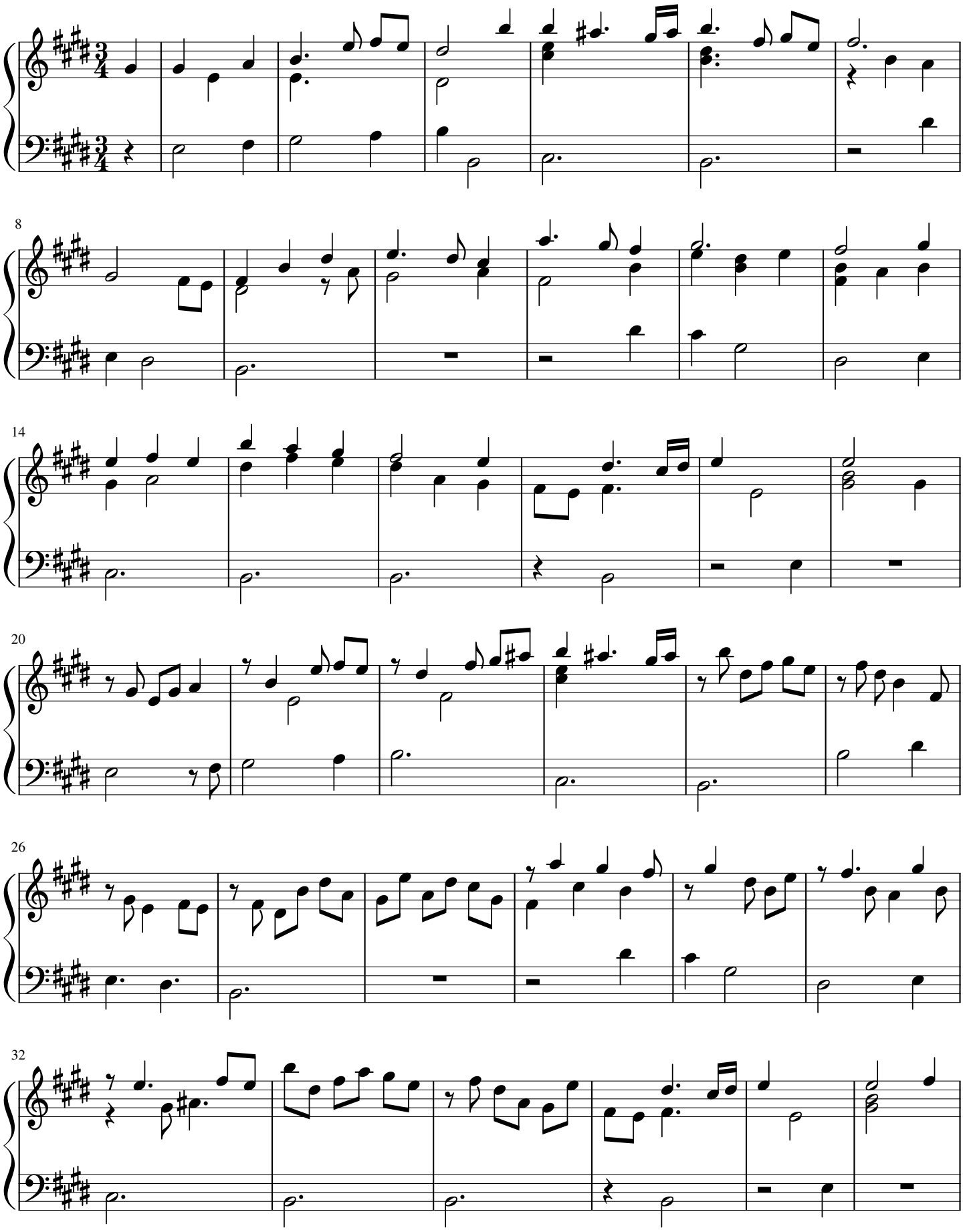
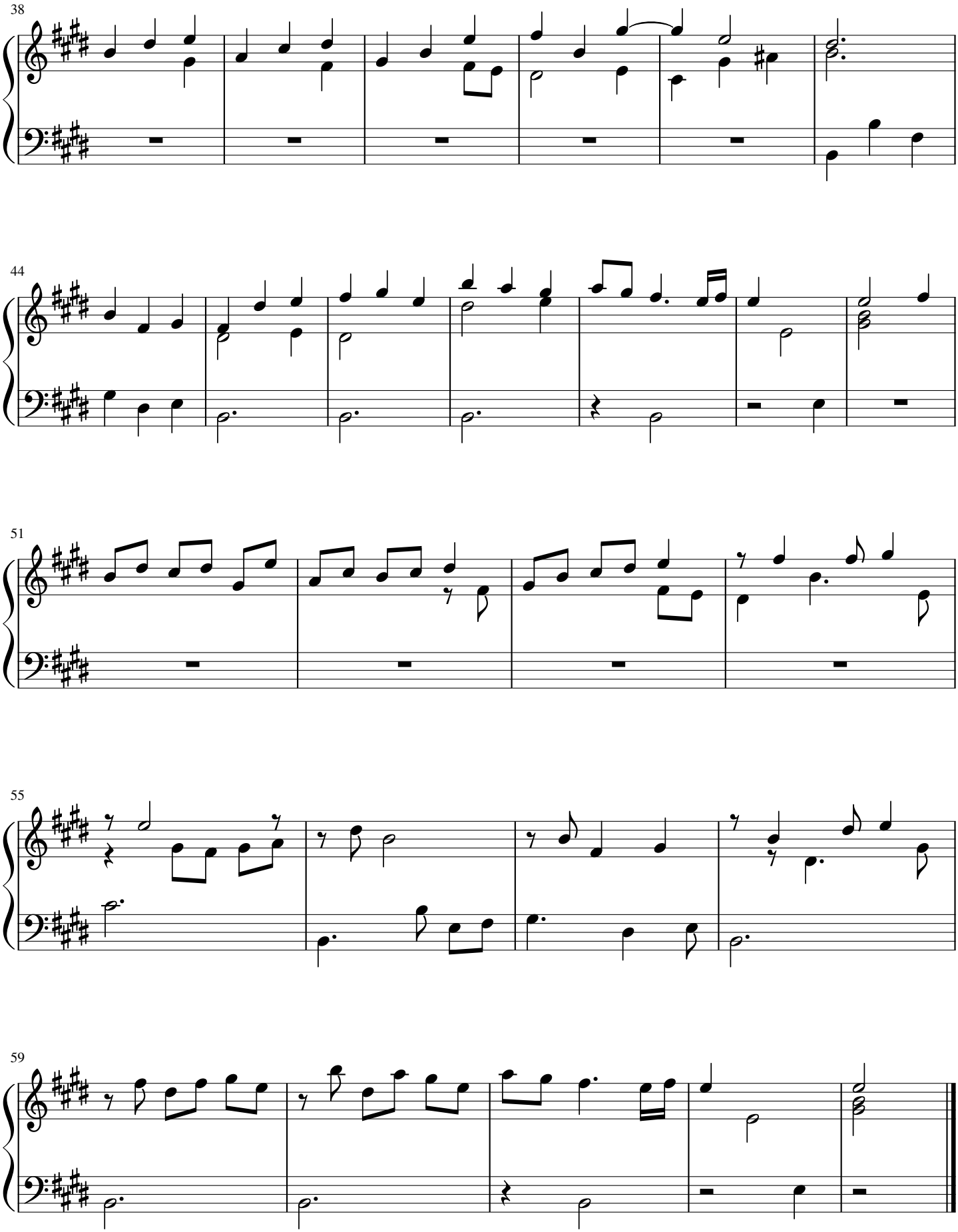
Corrente page 20

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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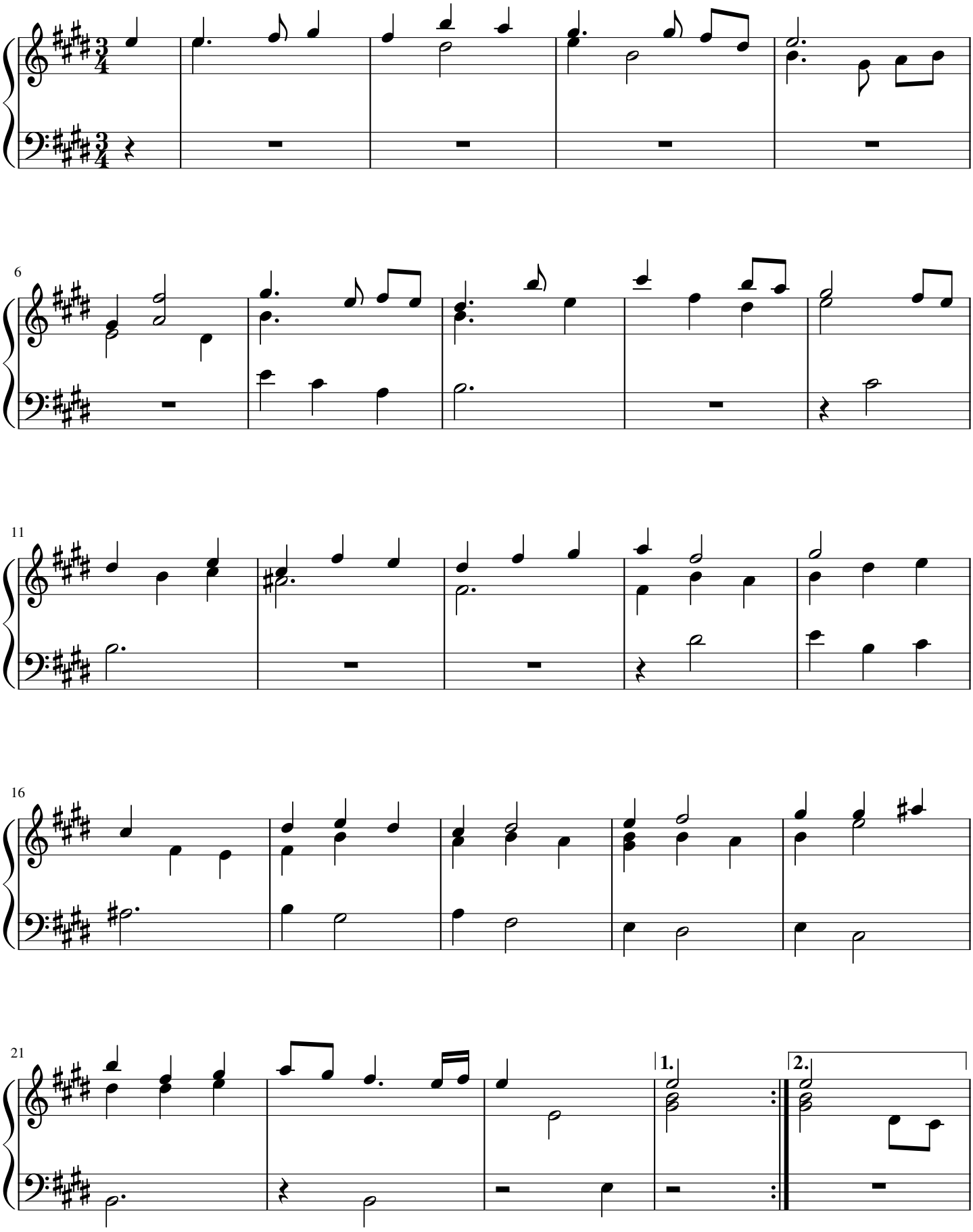
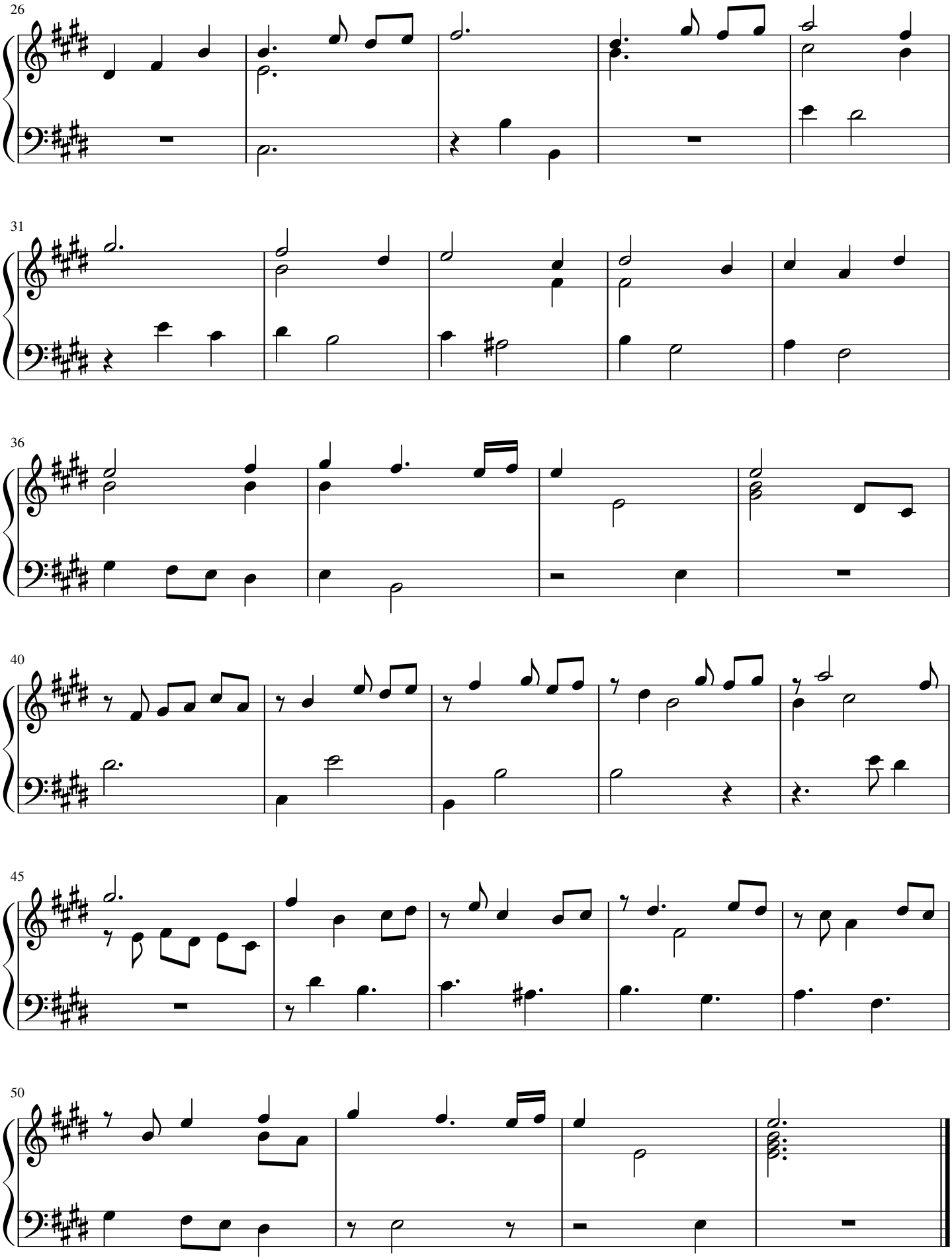
Corrente page 21

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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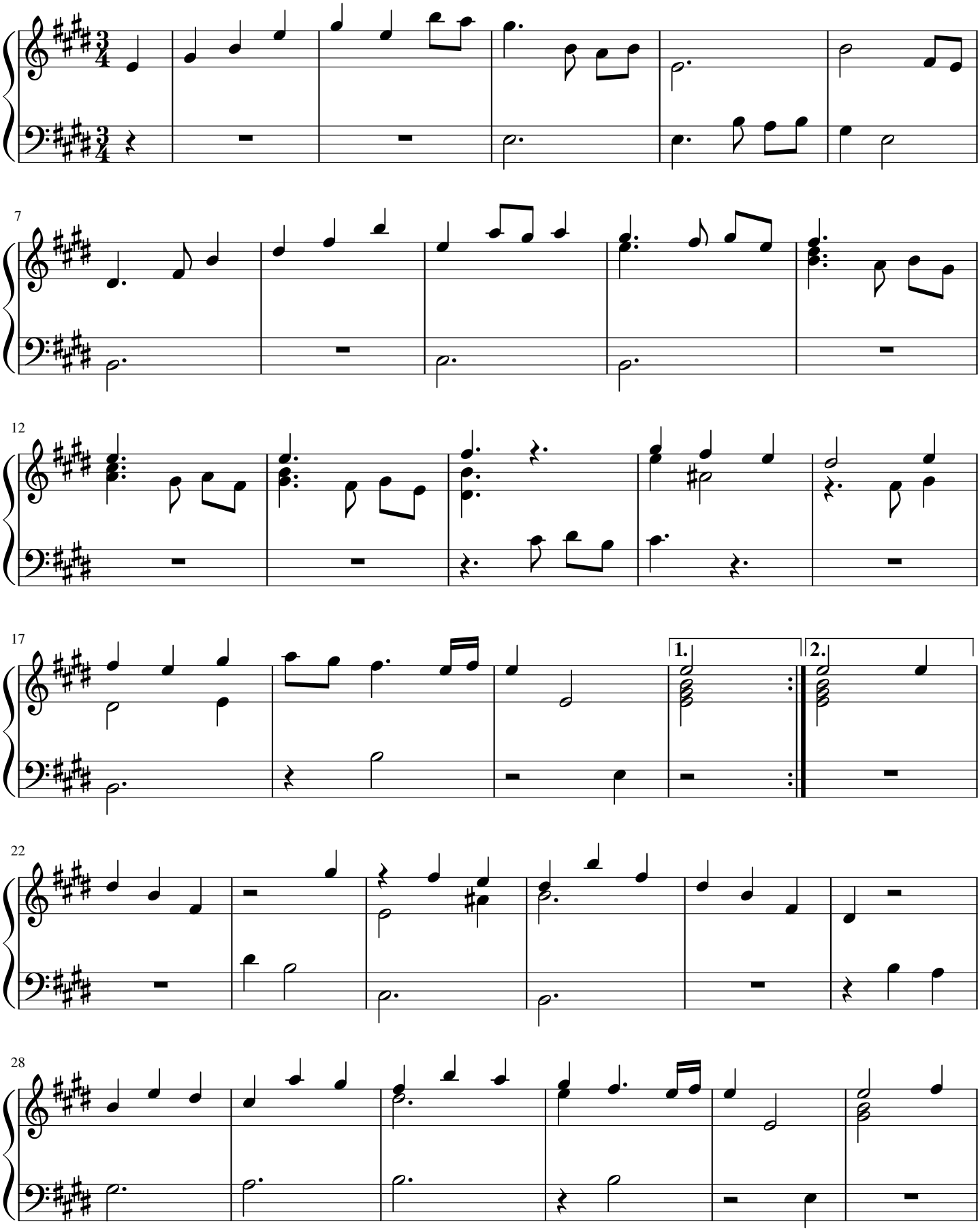
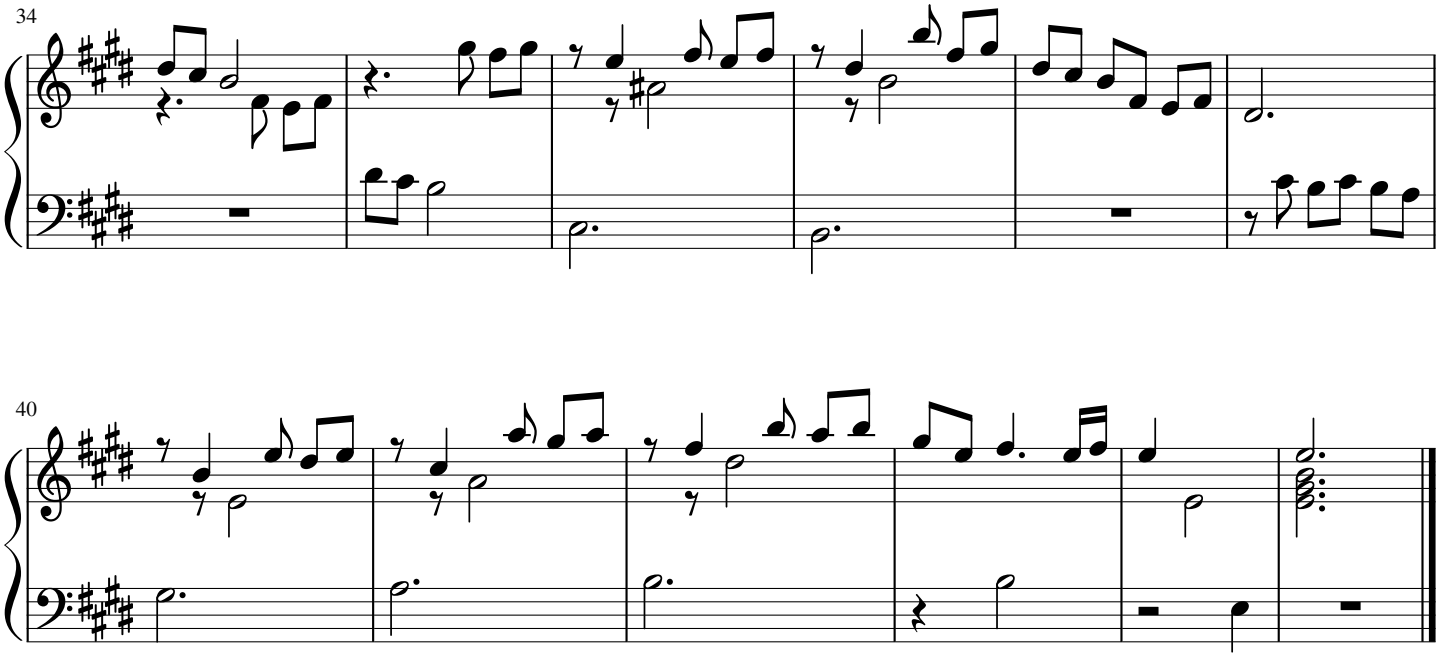
Volta page 22

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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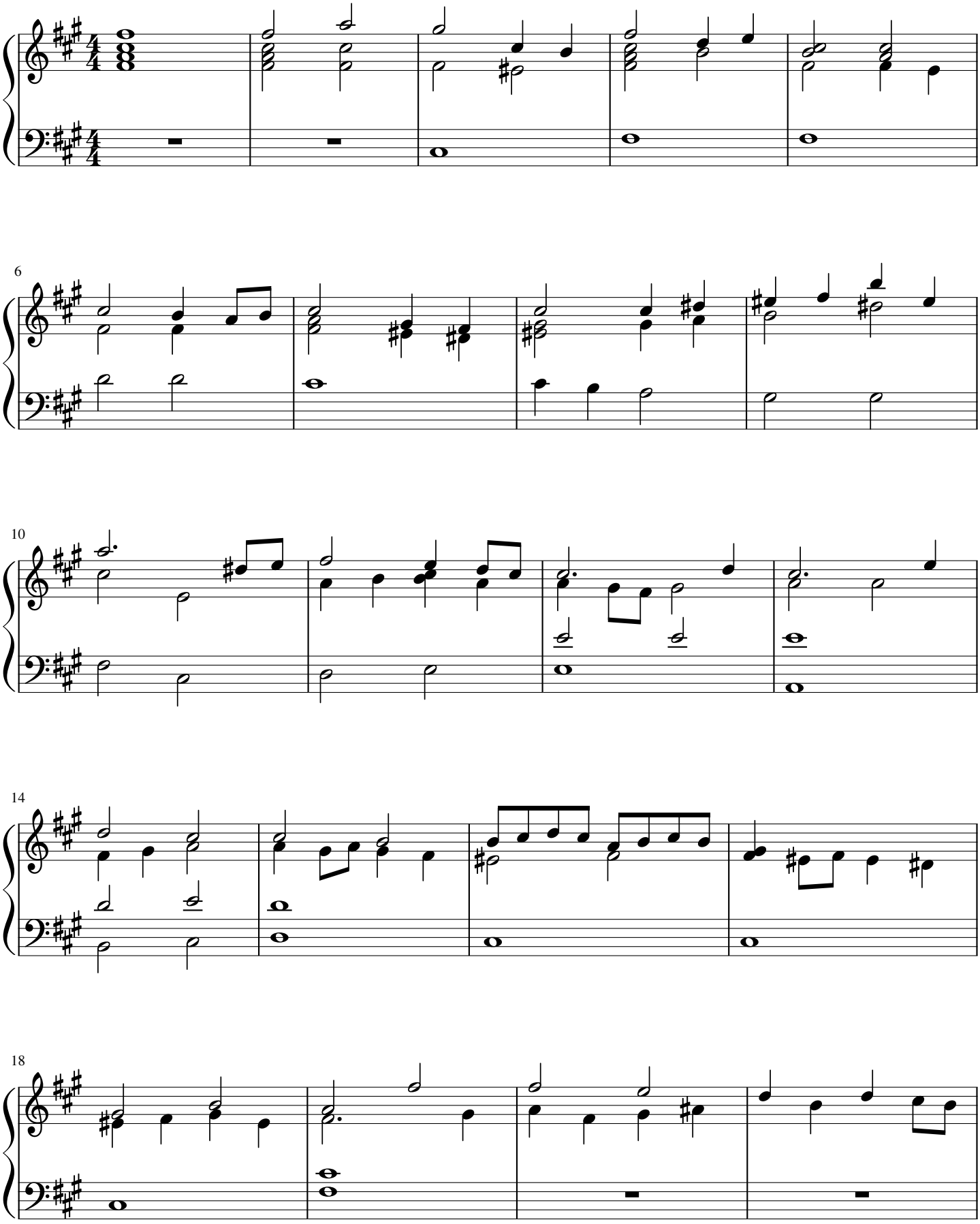
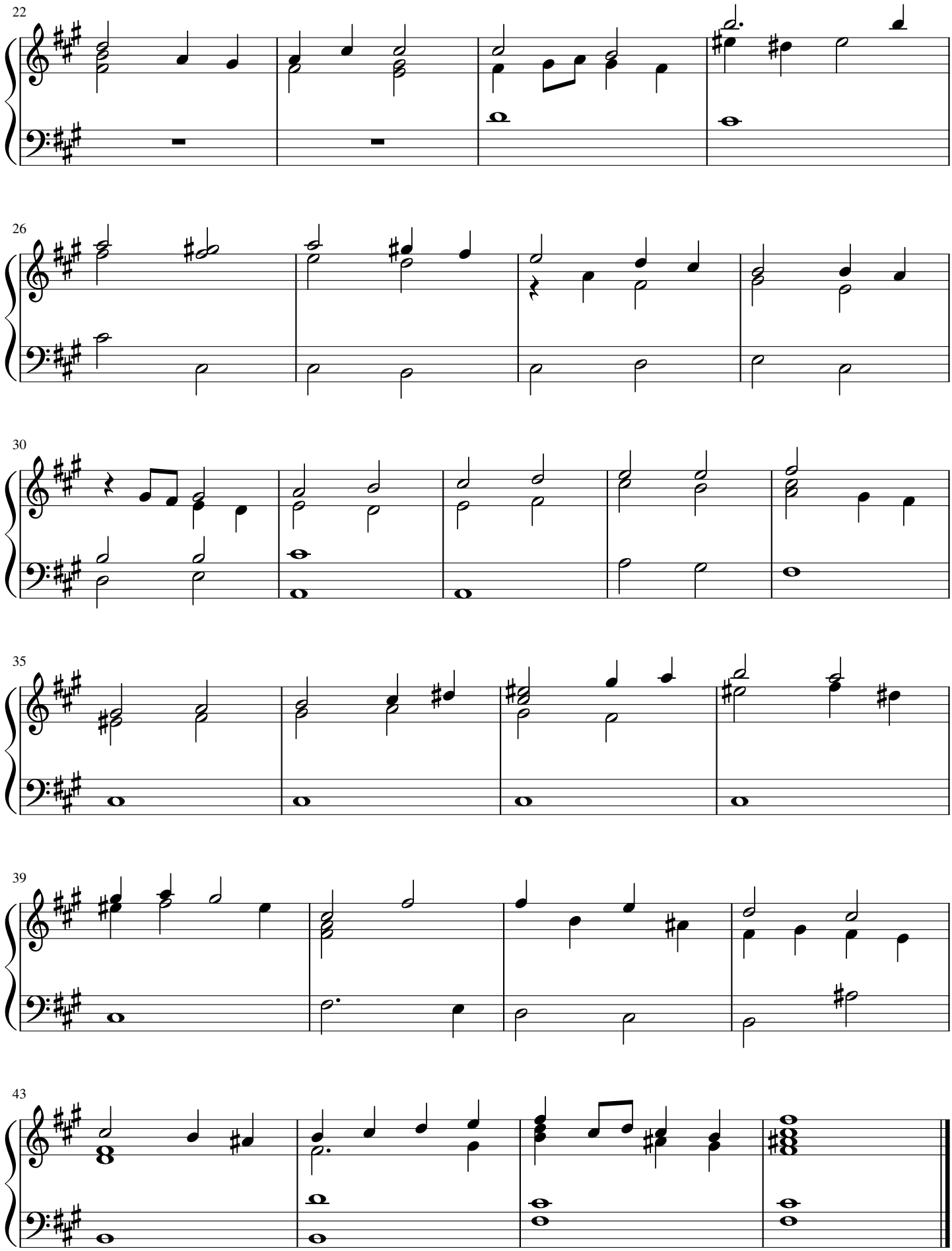
Toccata page 23

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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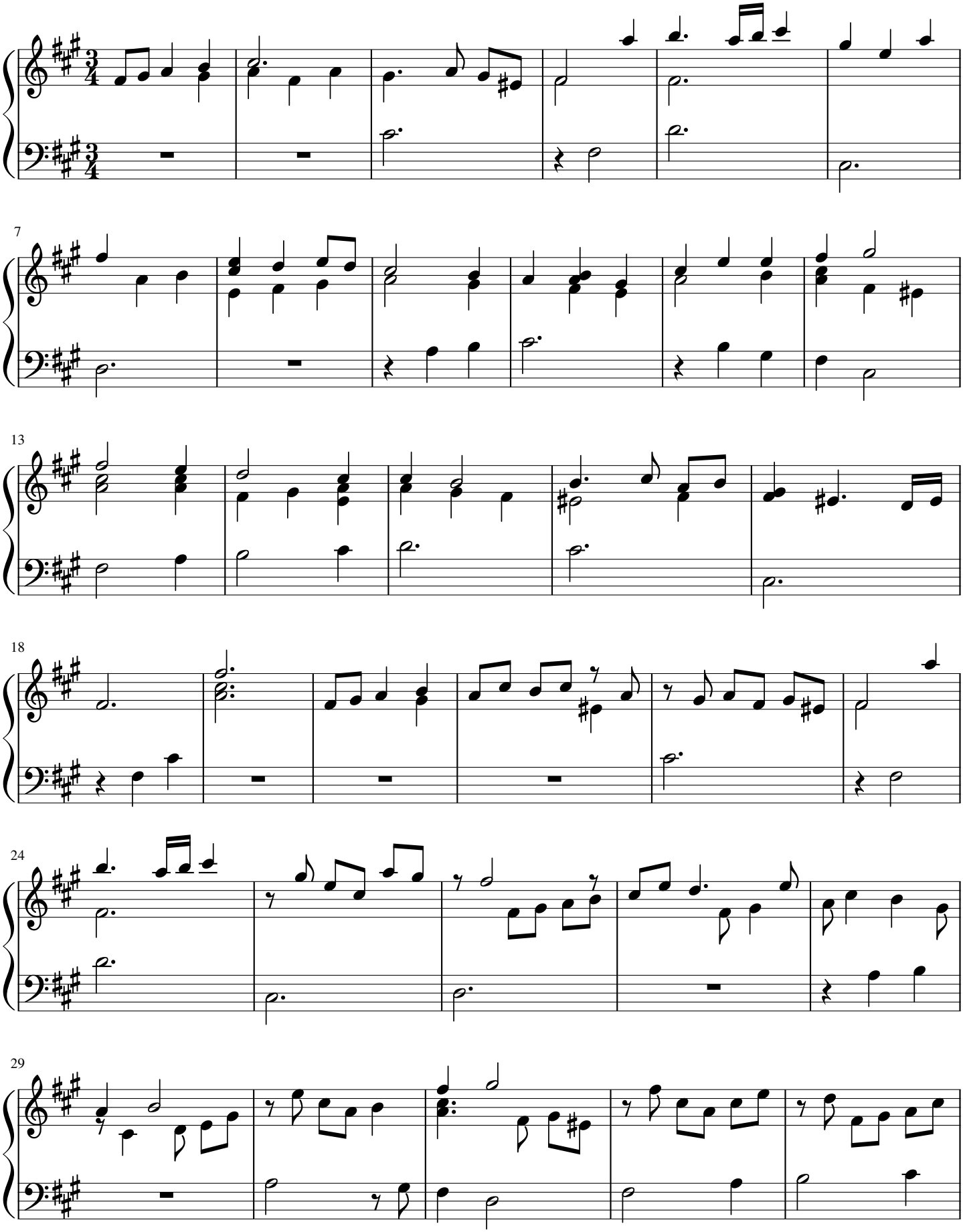
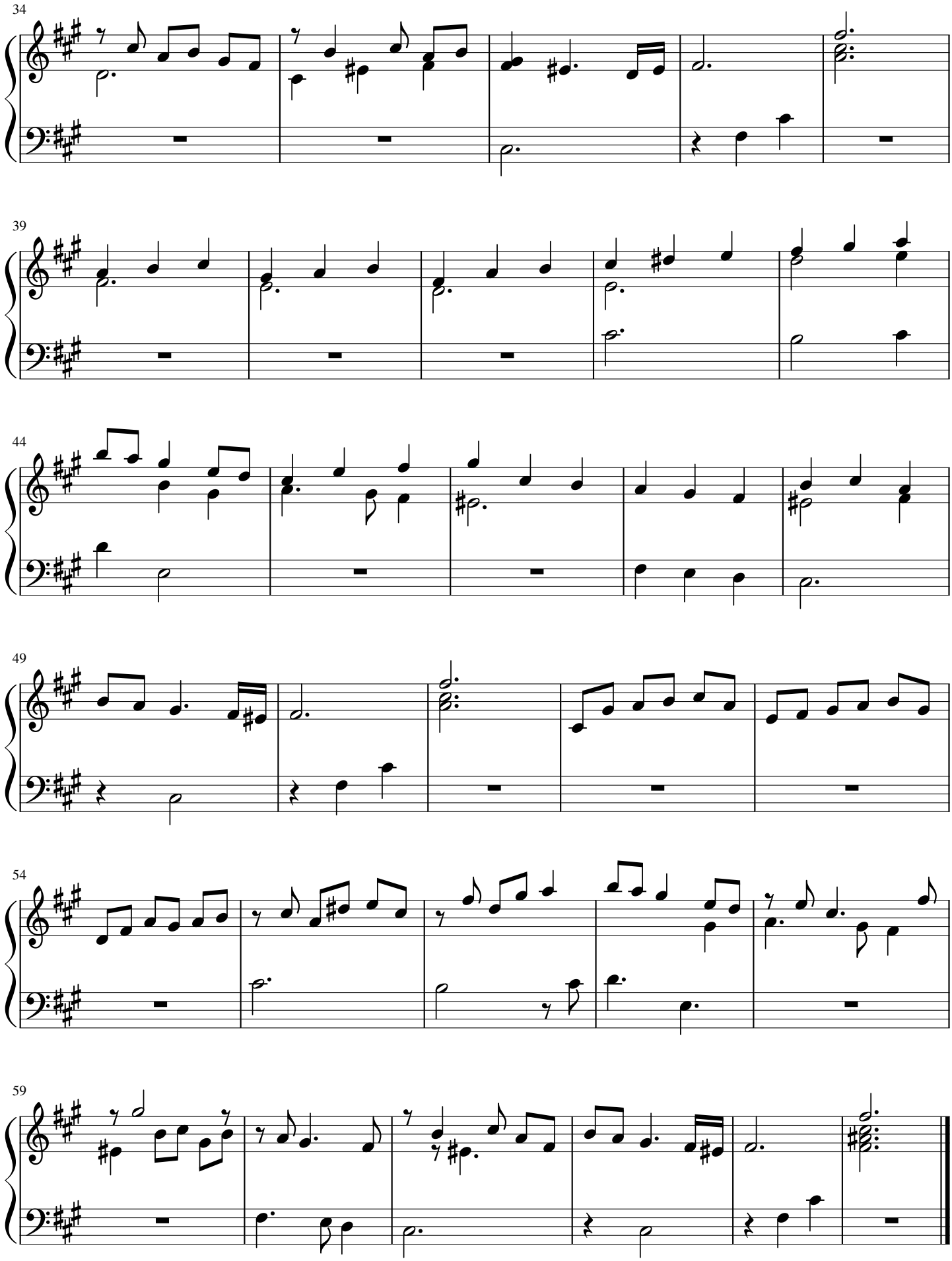
Corrente page 24

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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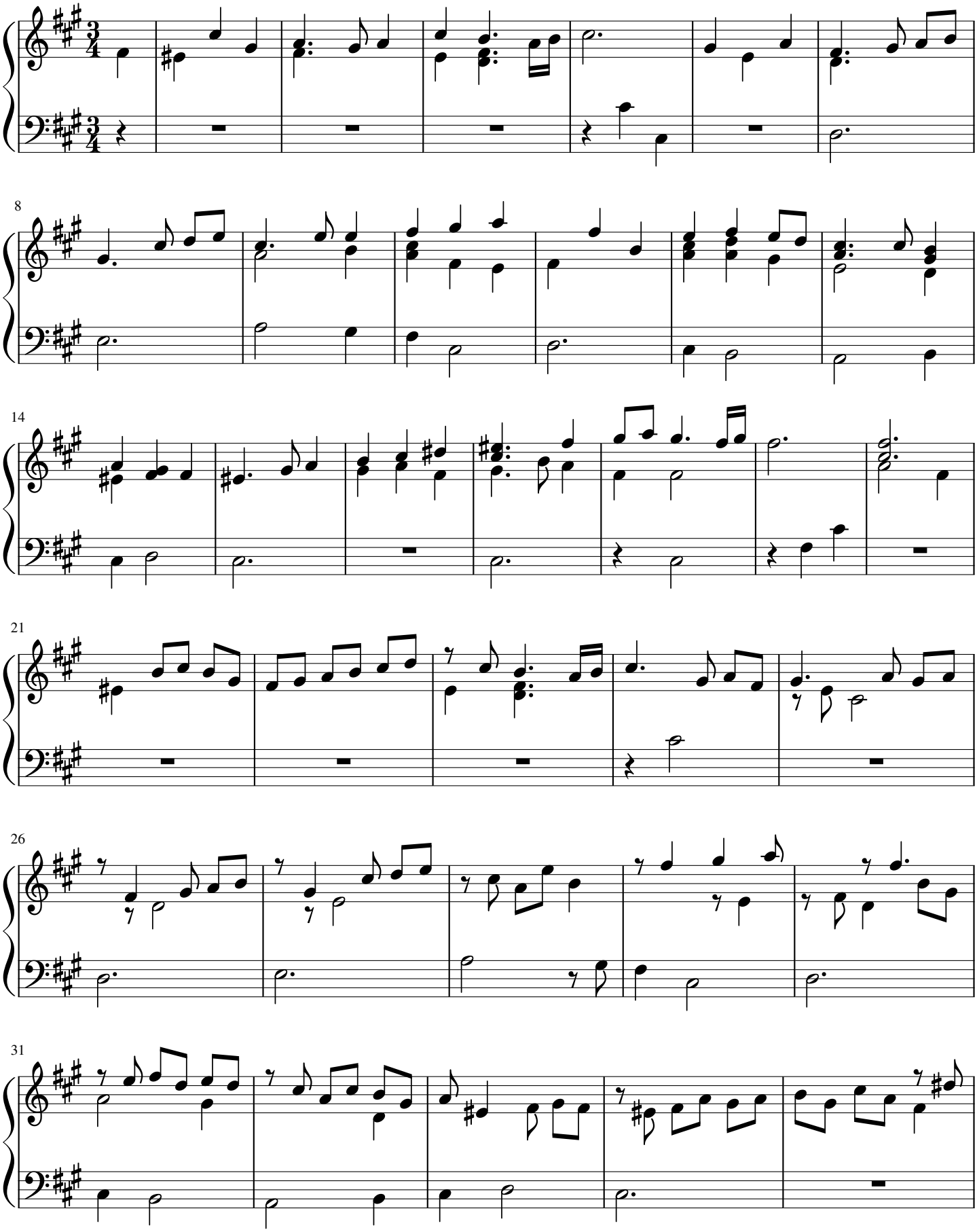
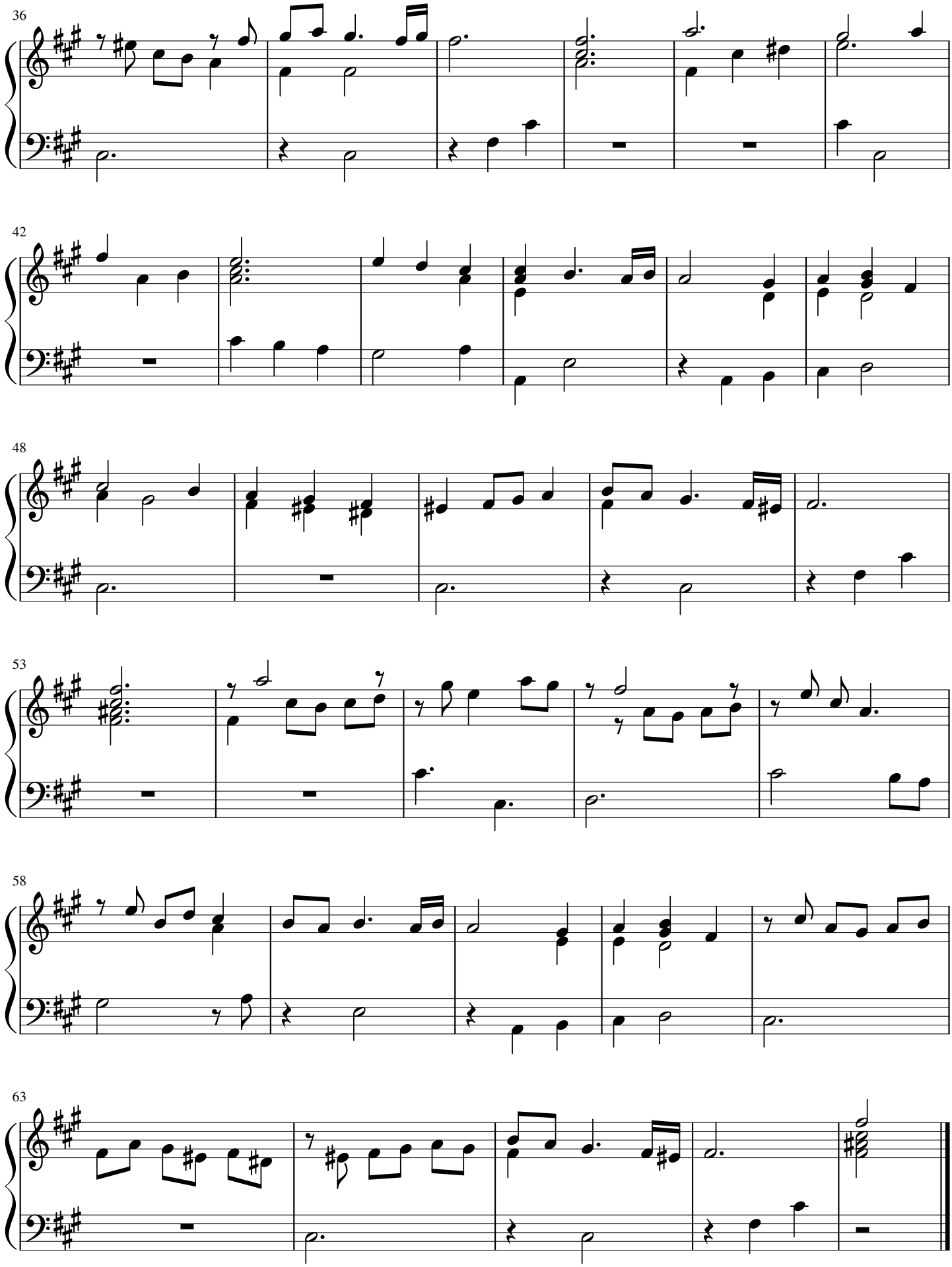
Corrente page 25

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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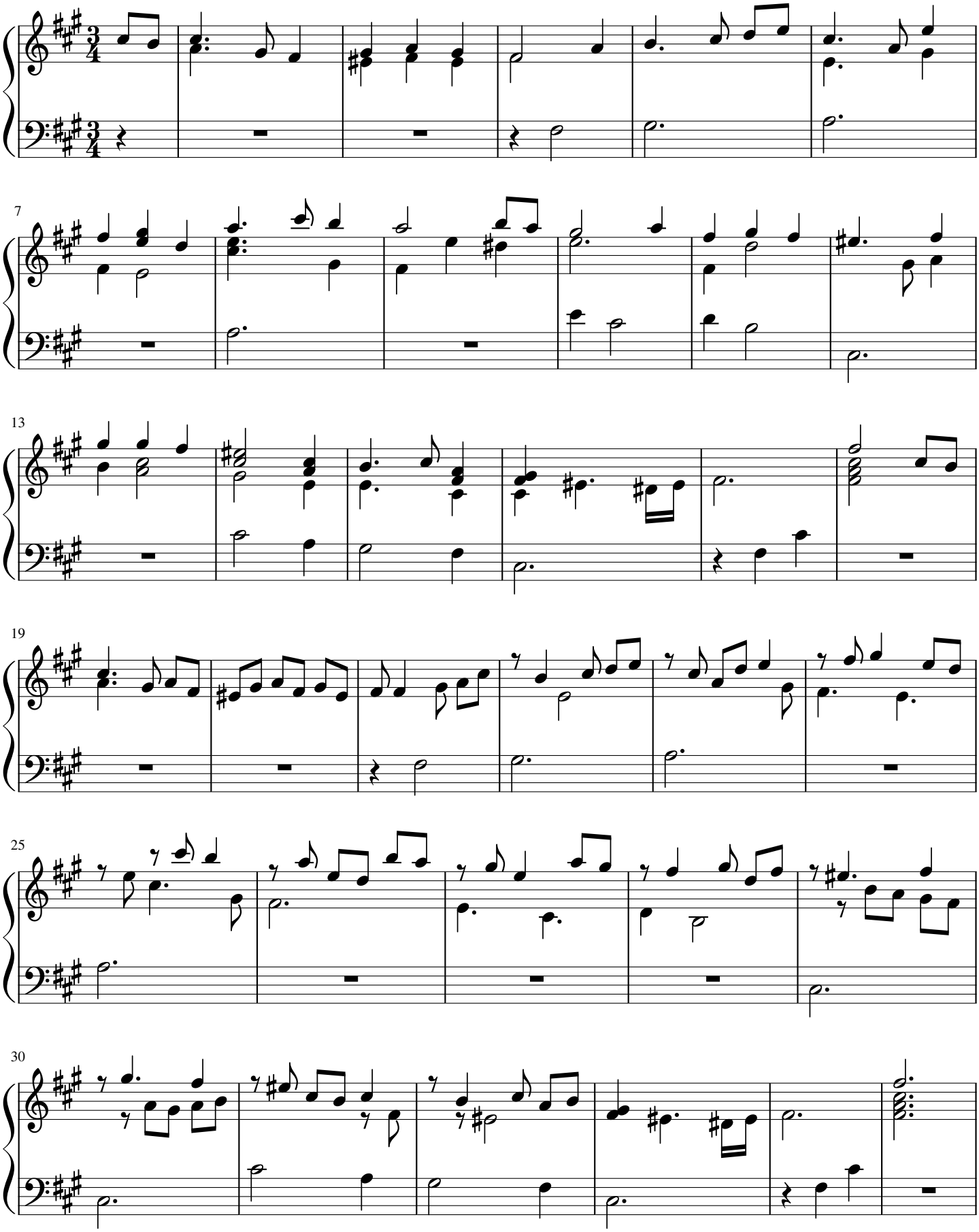
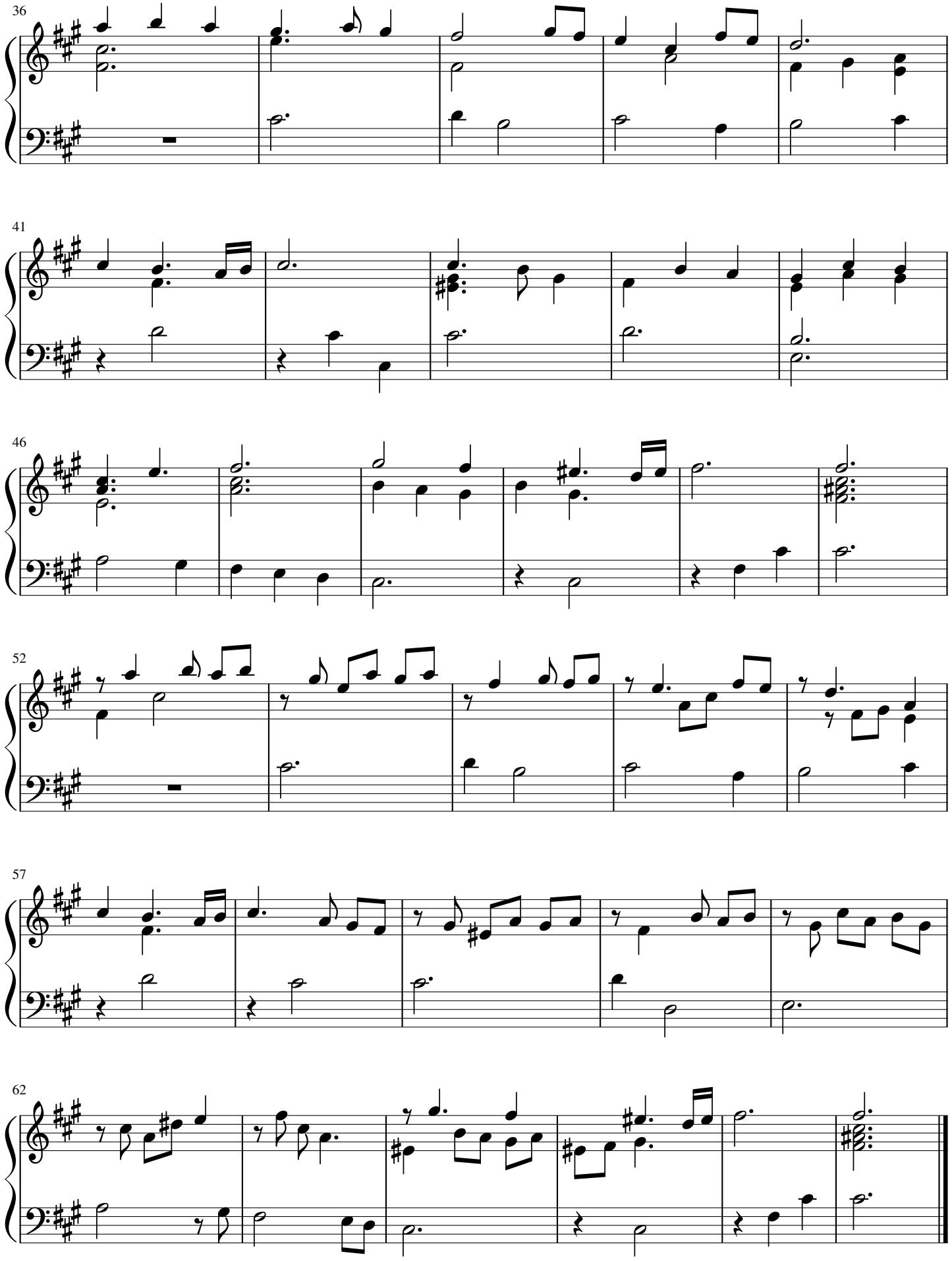
Corrente page 26

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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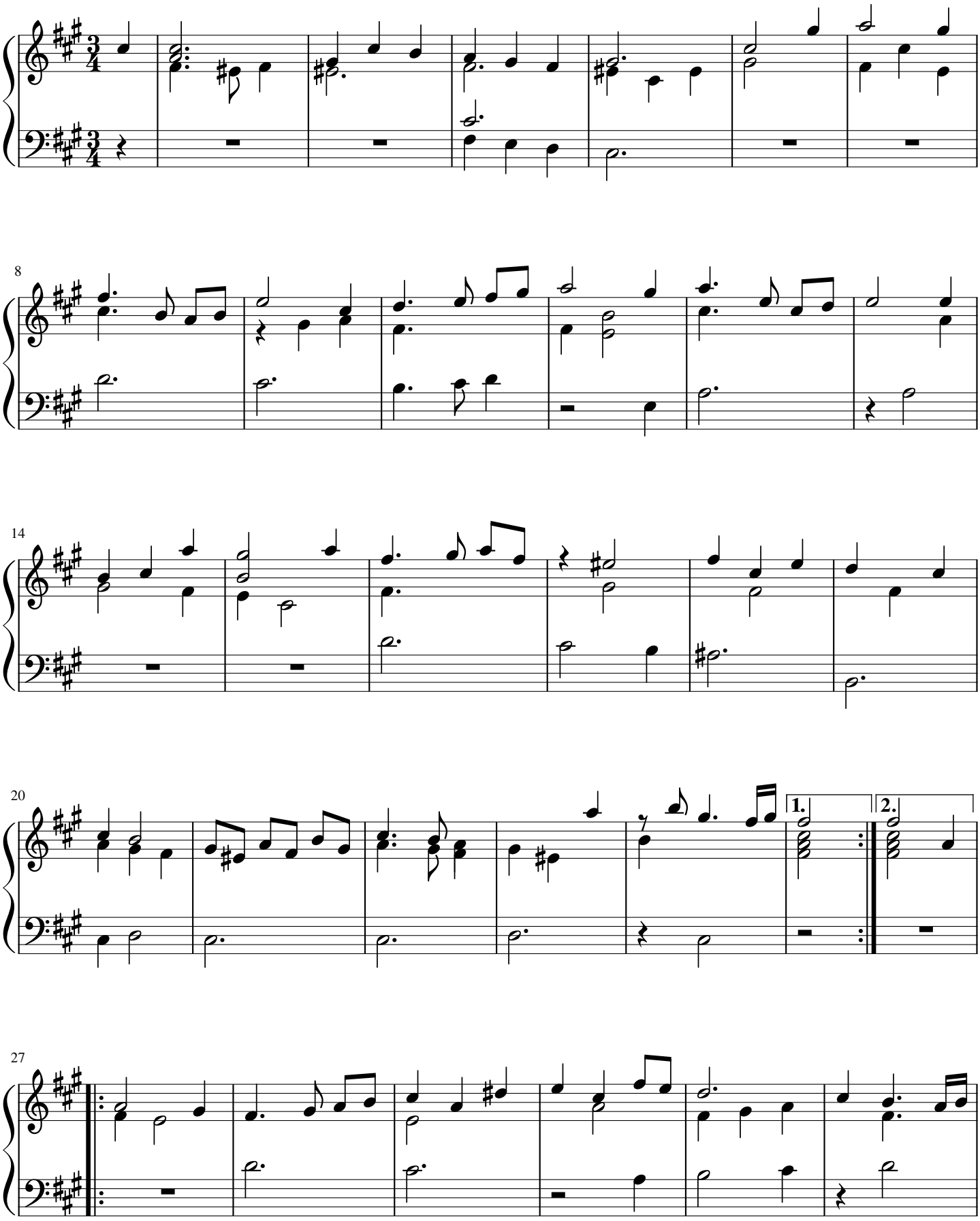
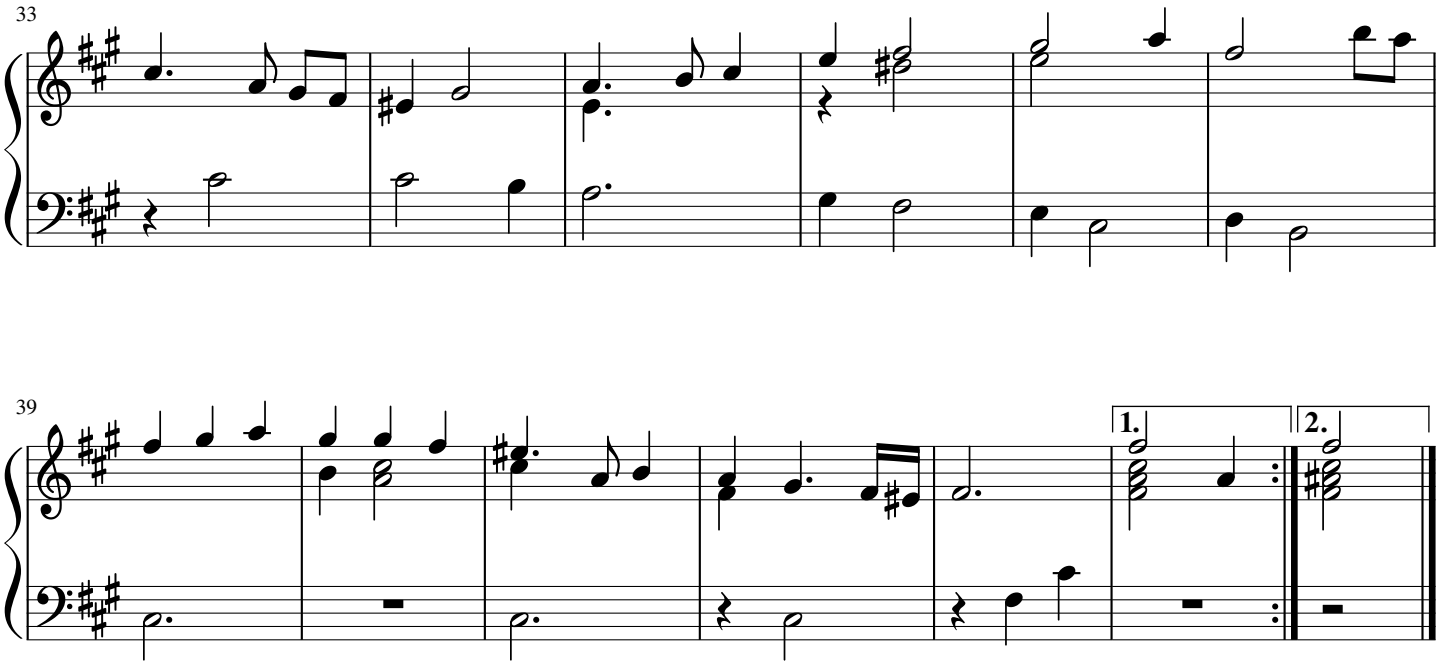
Volta page 27

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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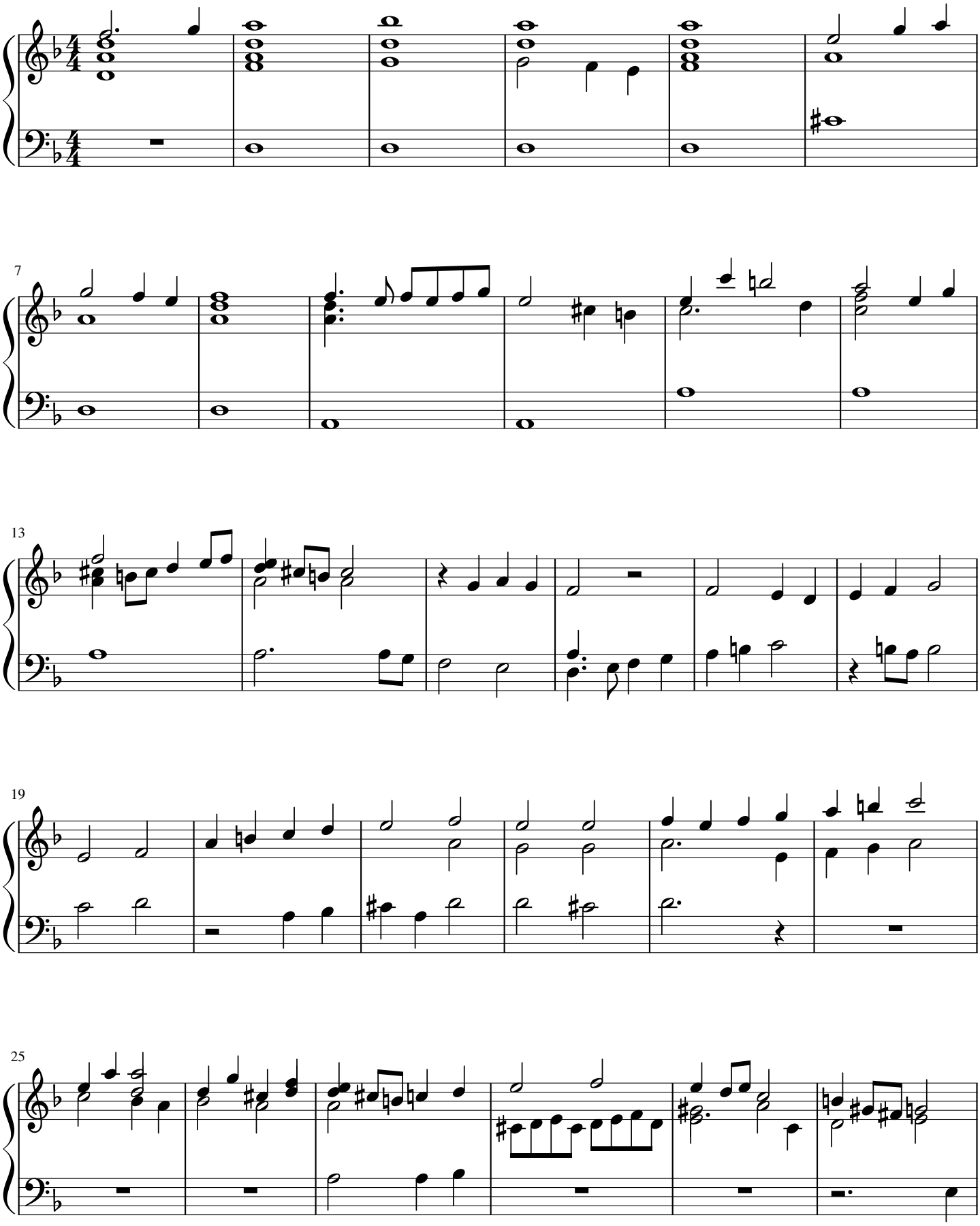
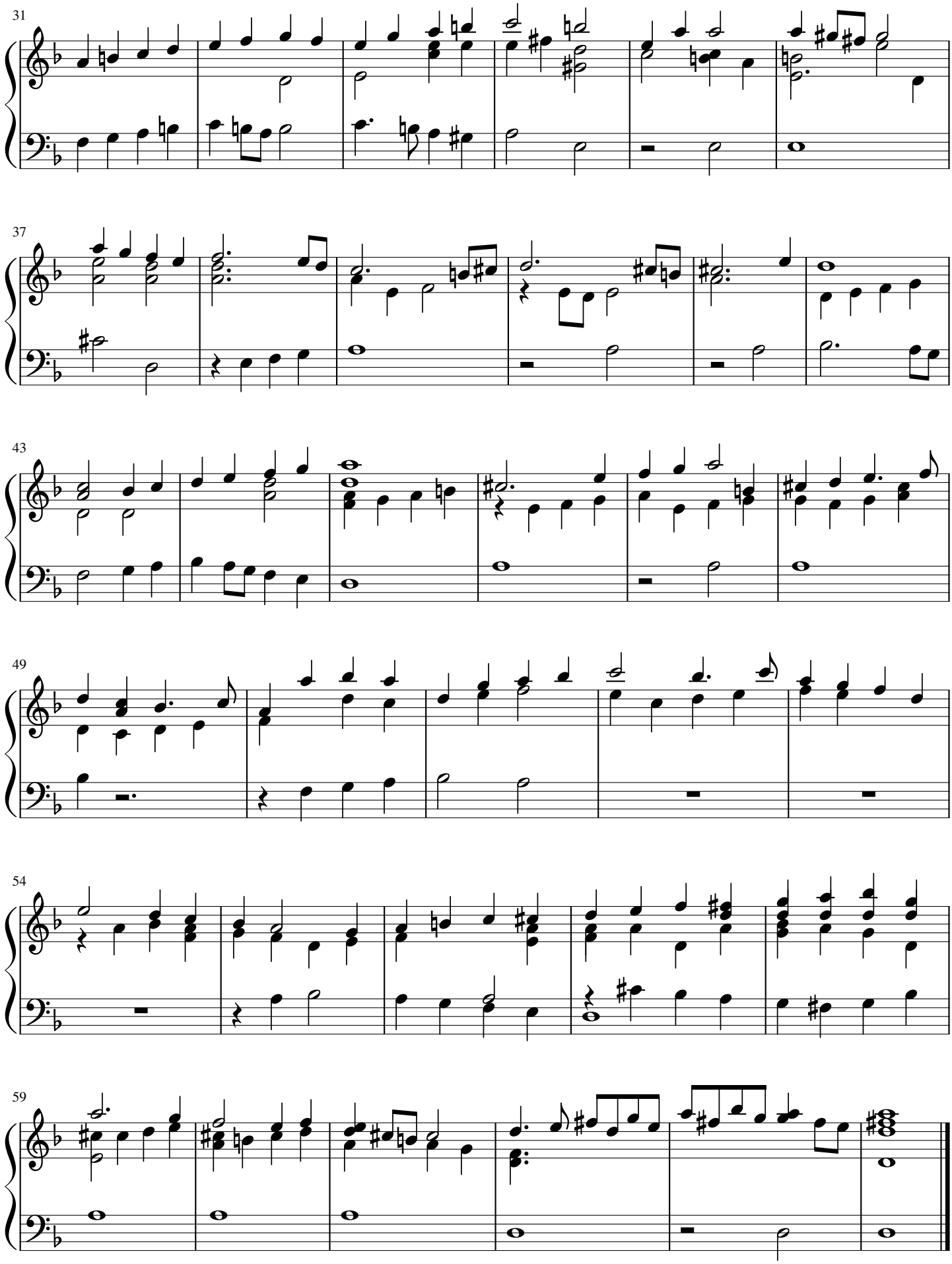
Toccata page 28

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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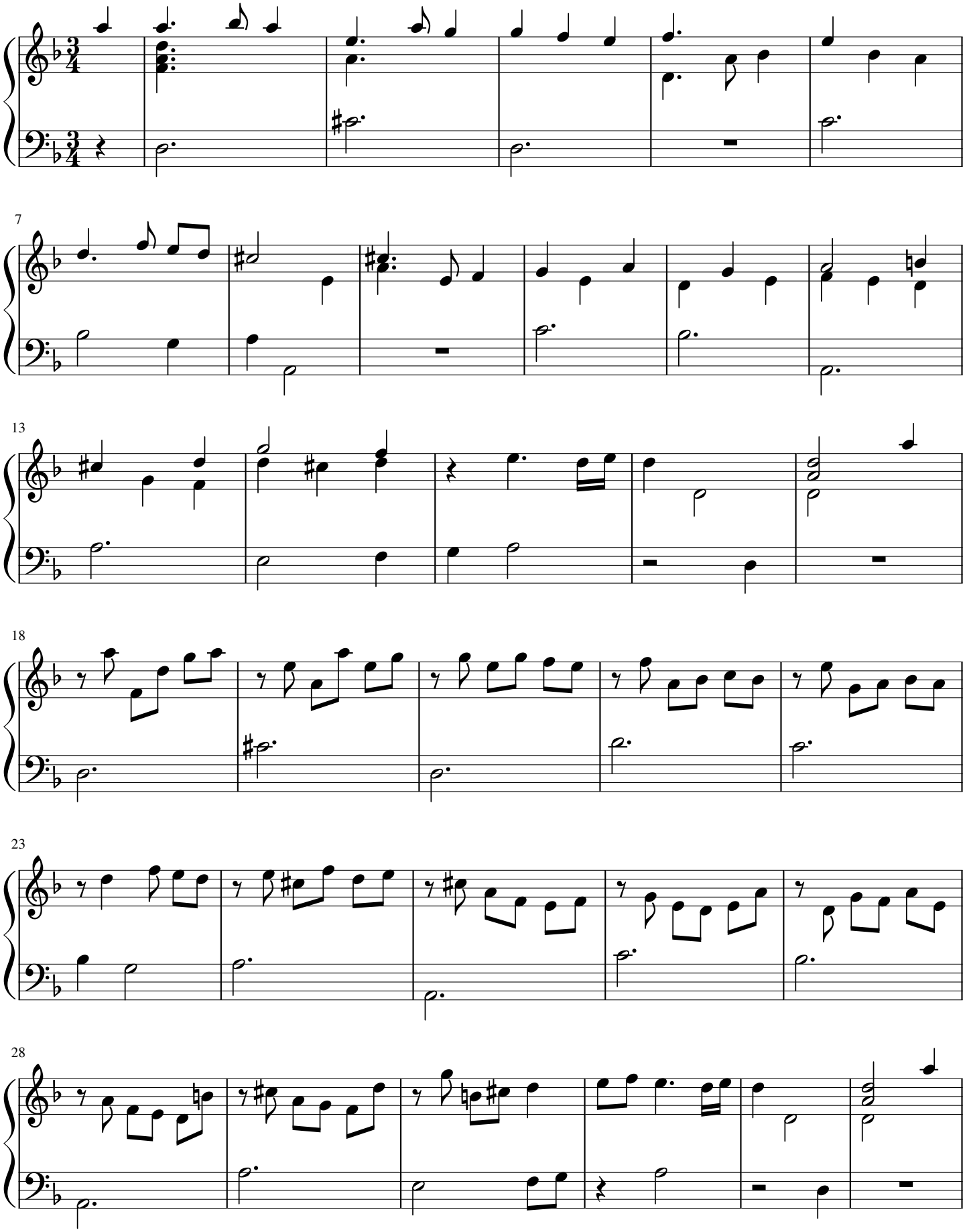
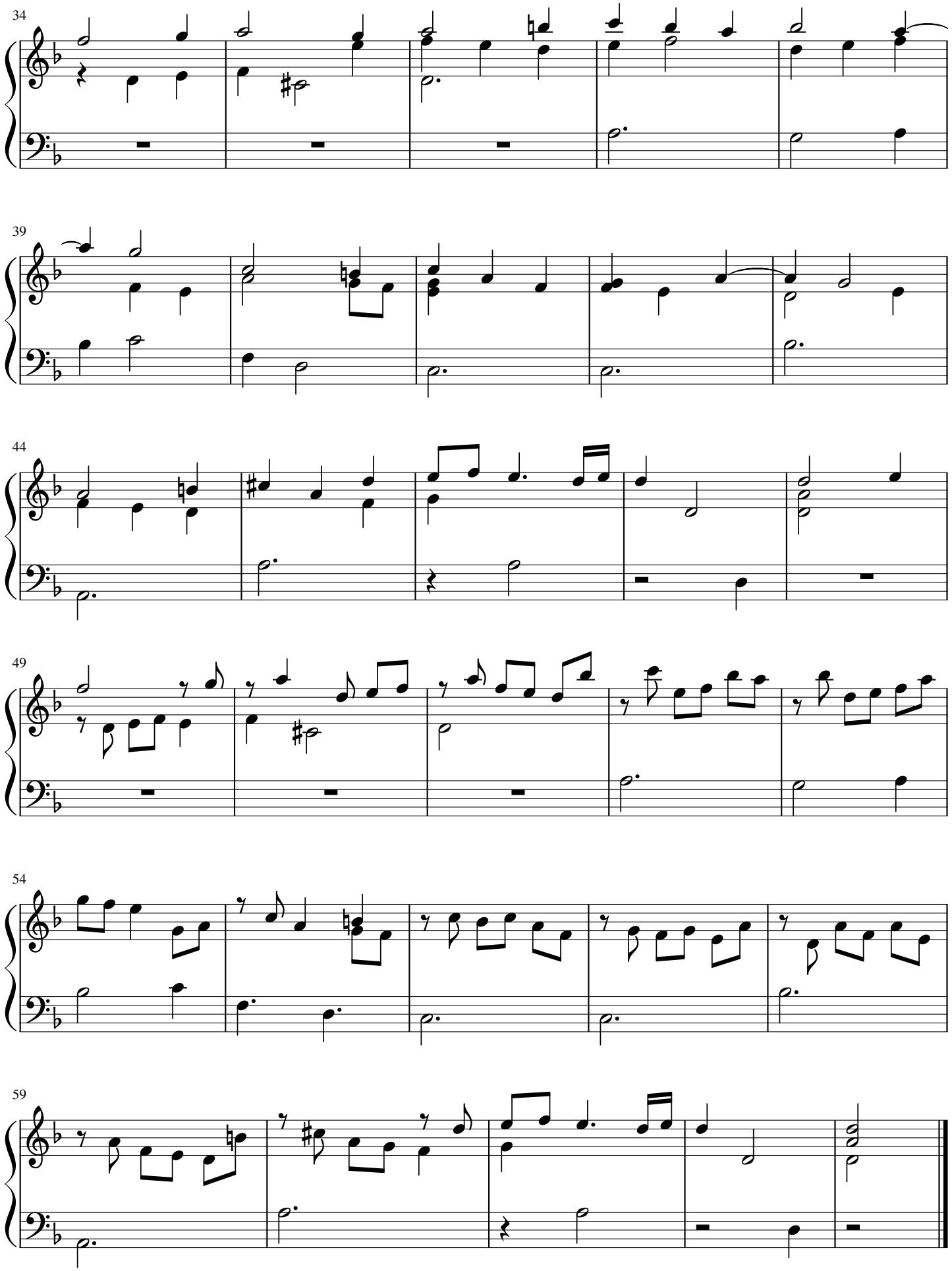
Corrente page 29

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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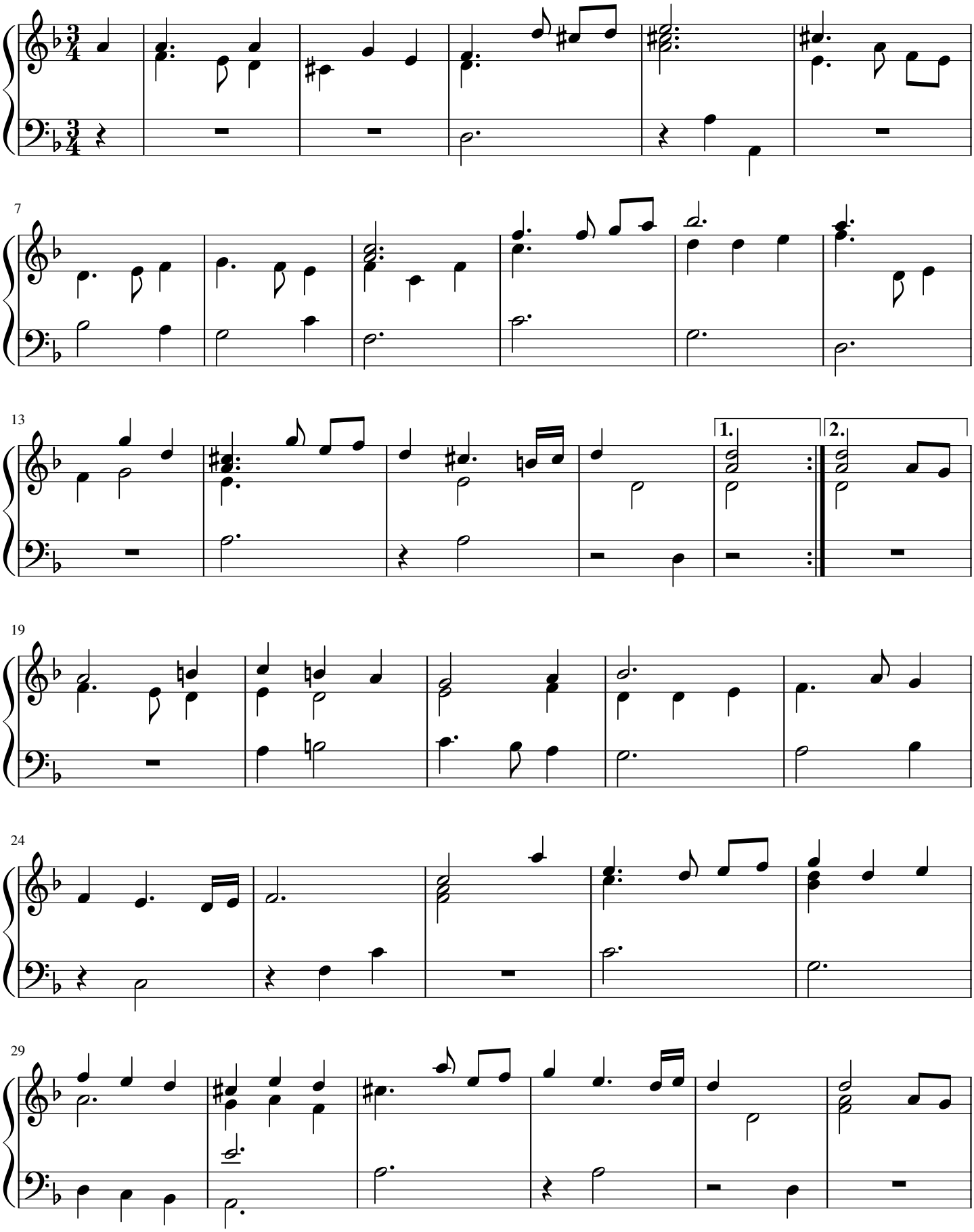
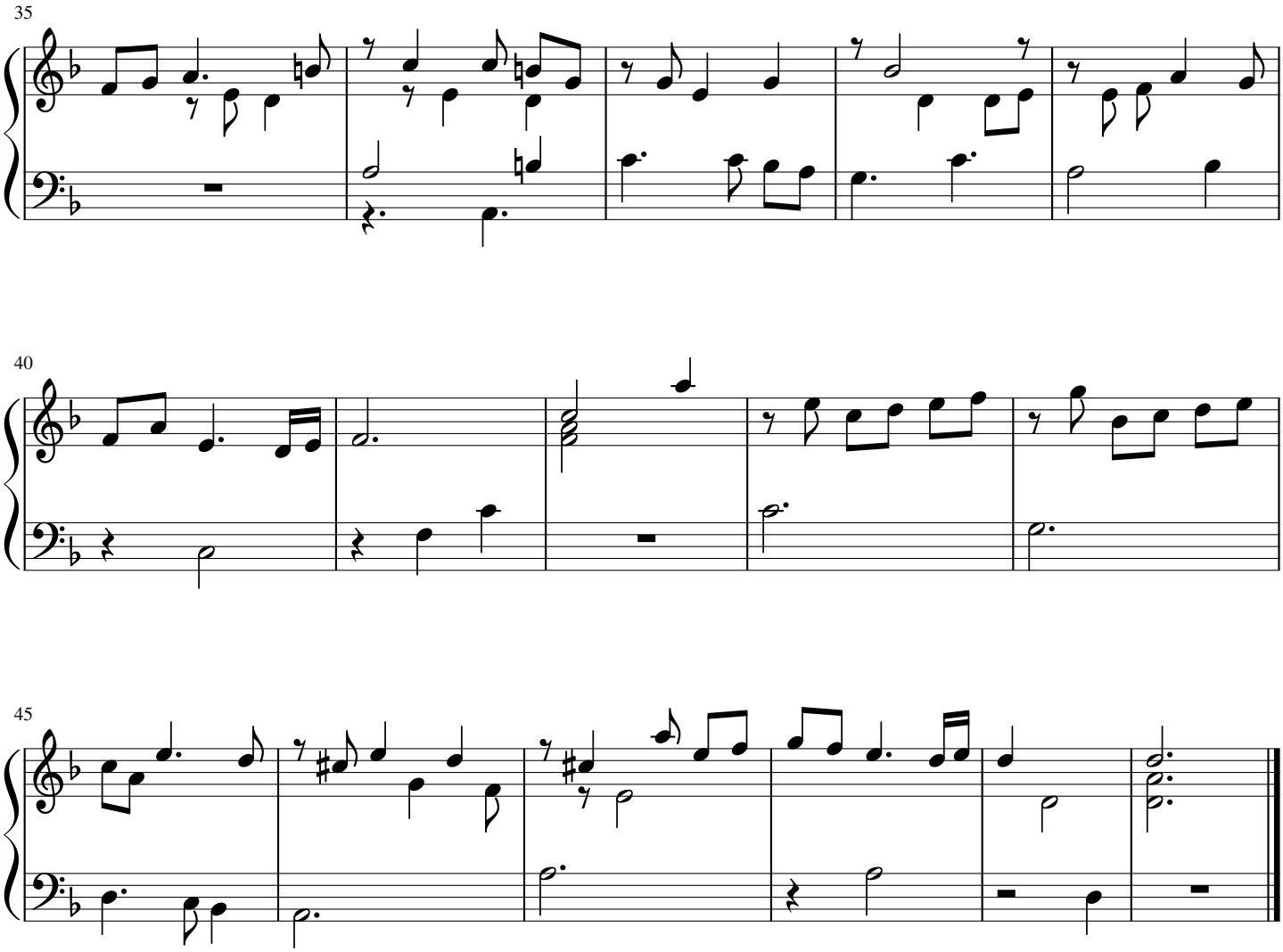
Corrente page 30

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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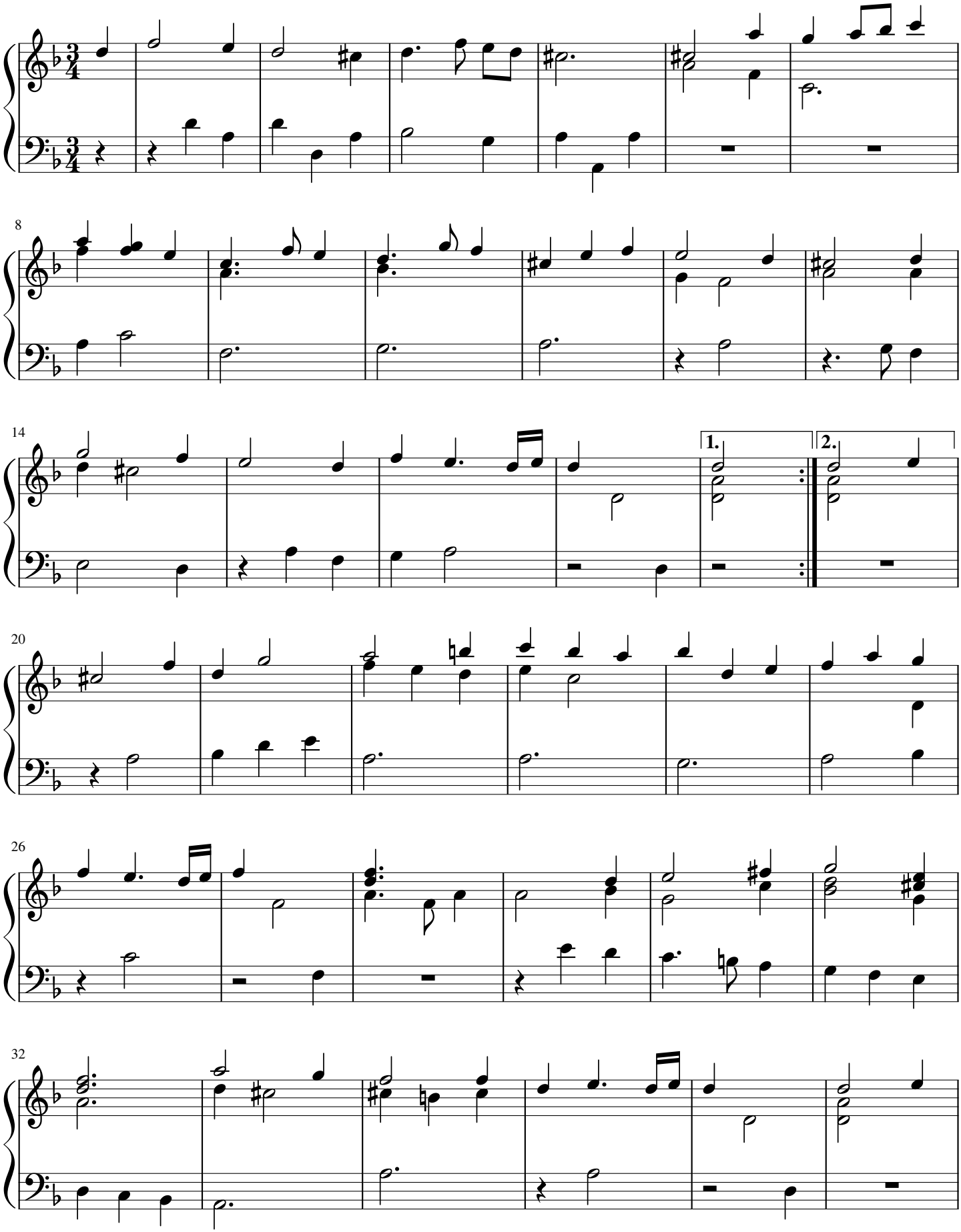
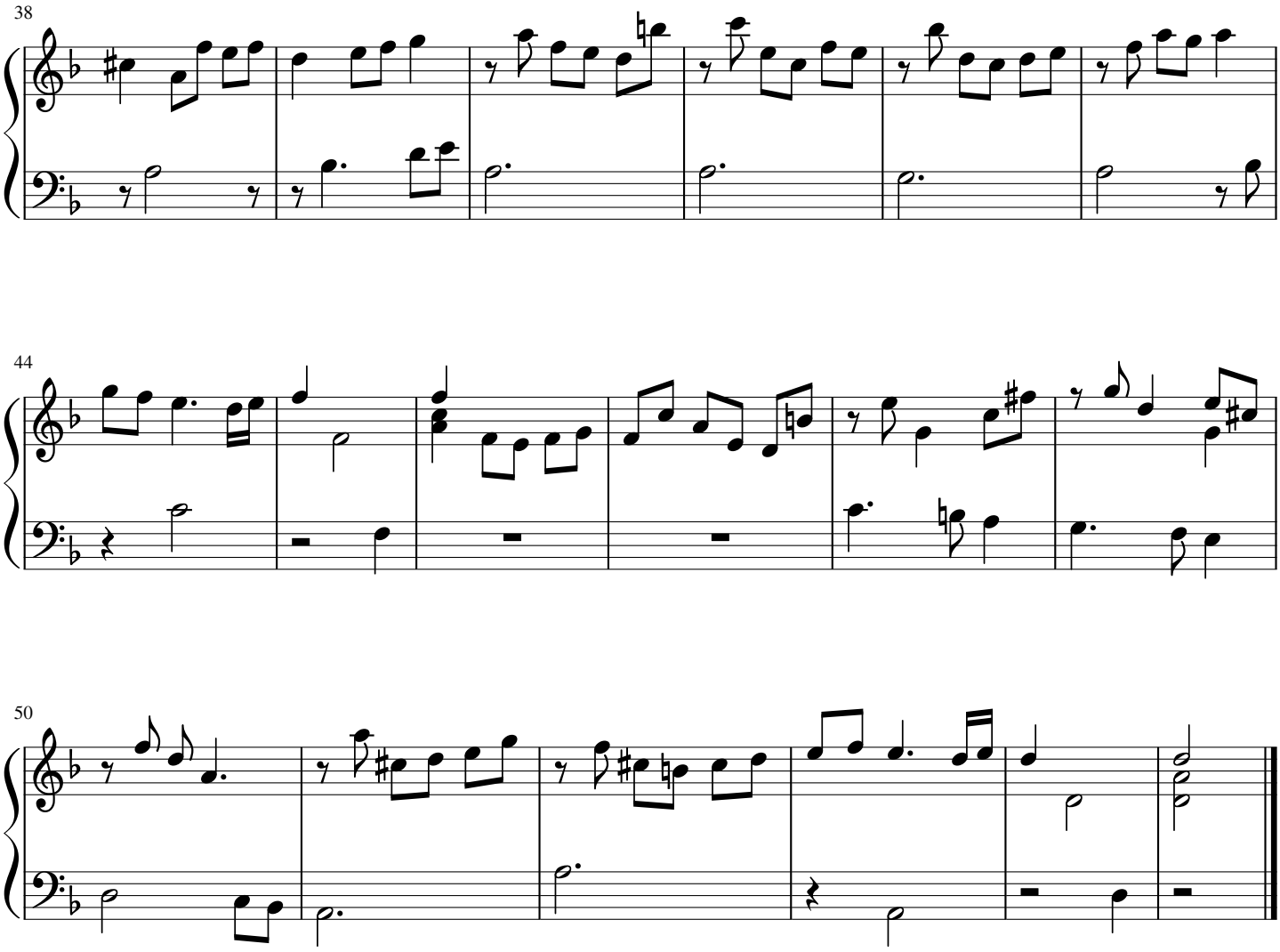
Volta page 31

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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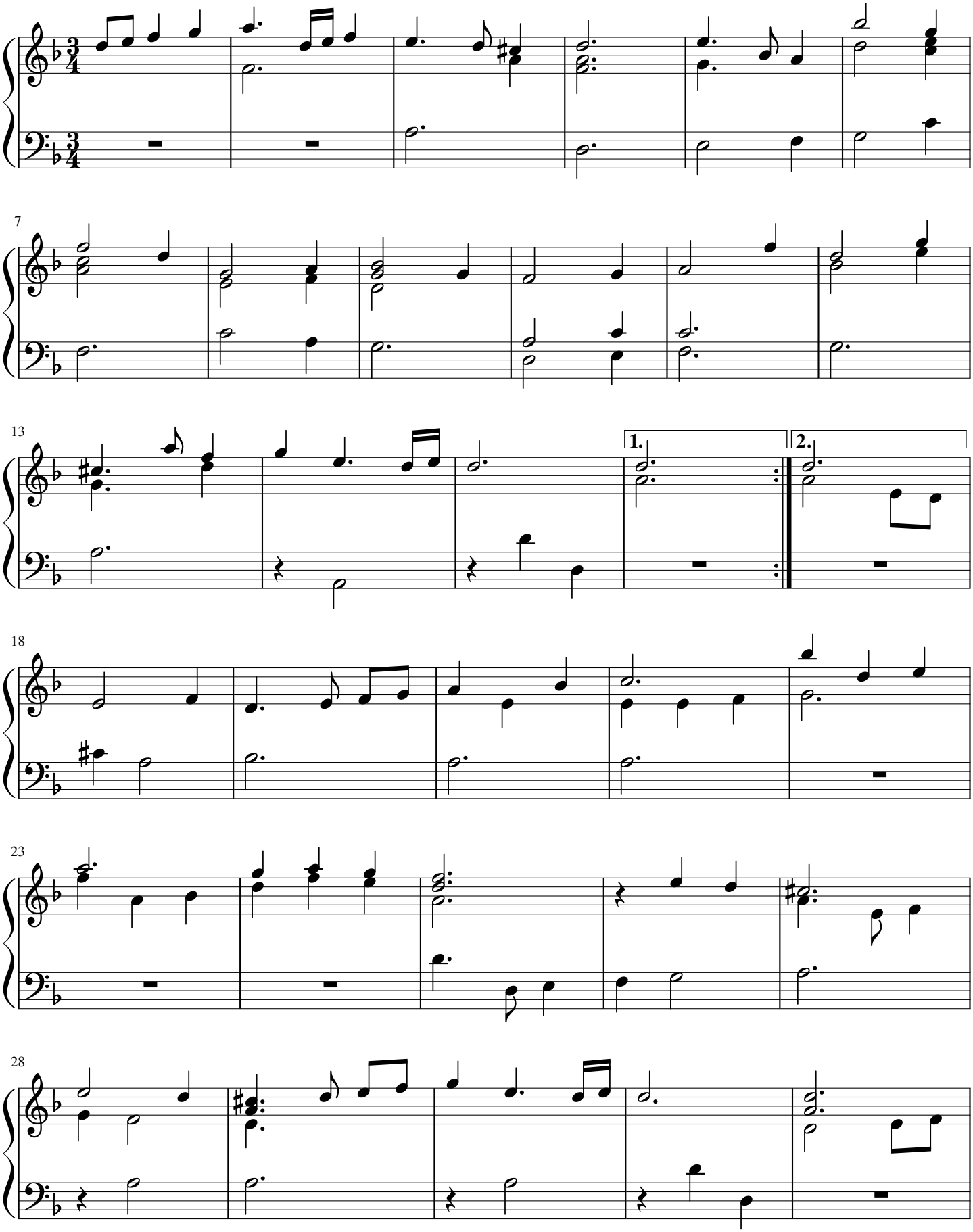
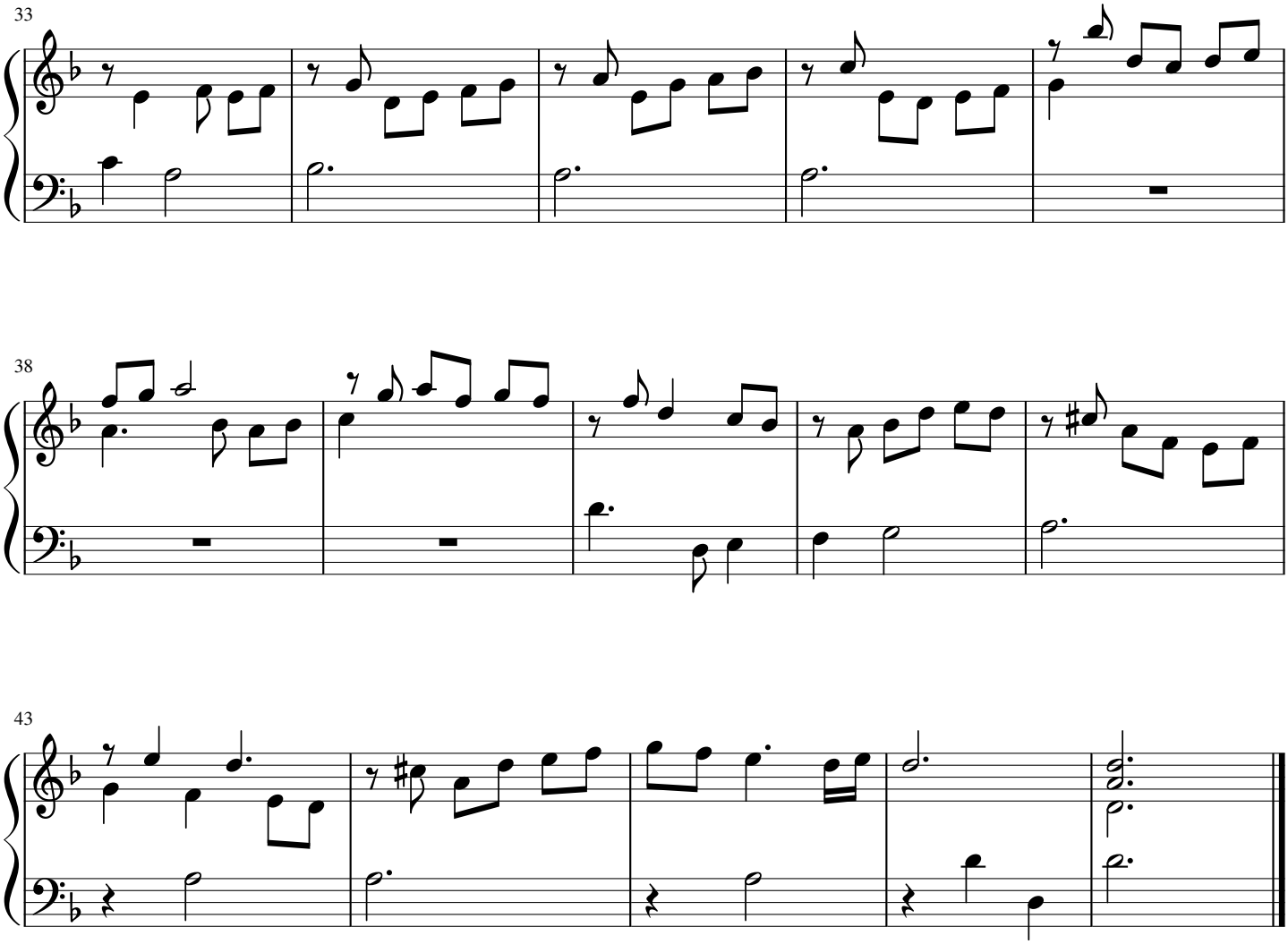
Volta page 32

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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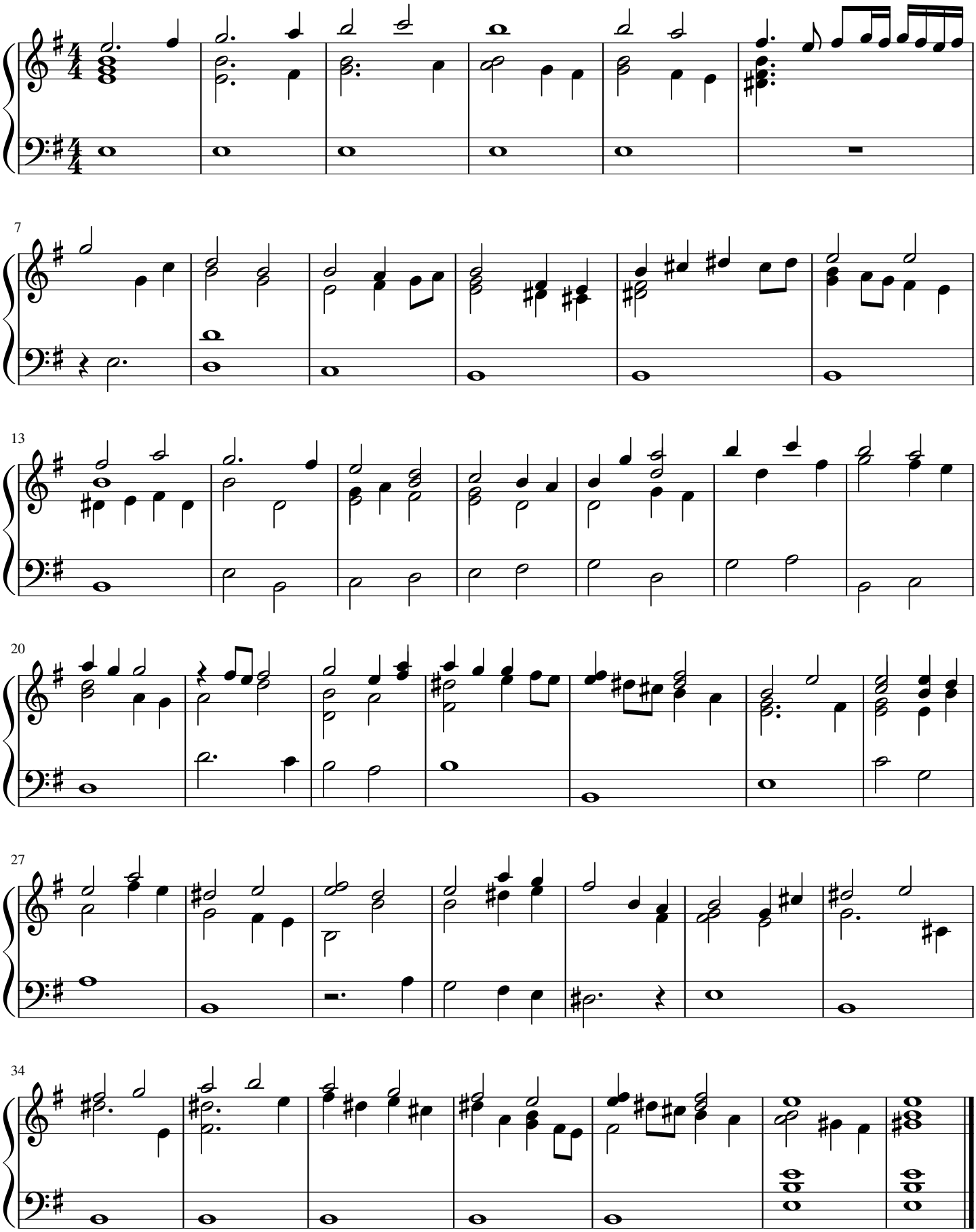
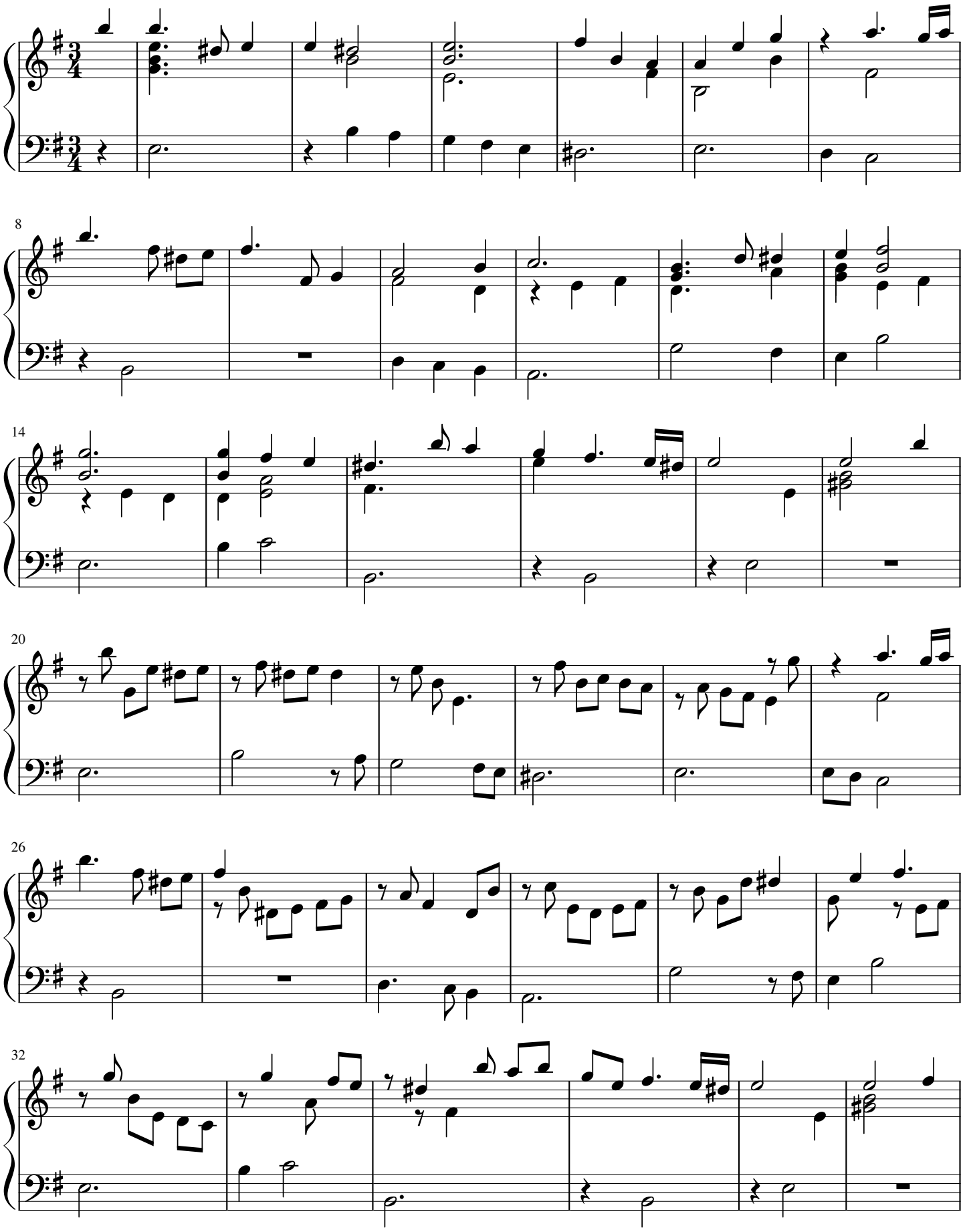
Toccata page 33

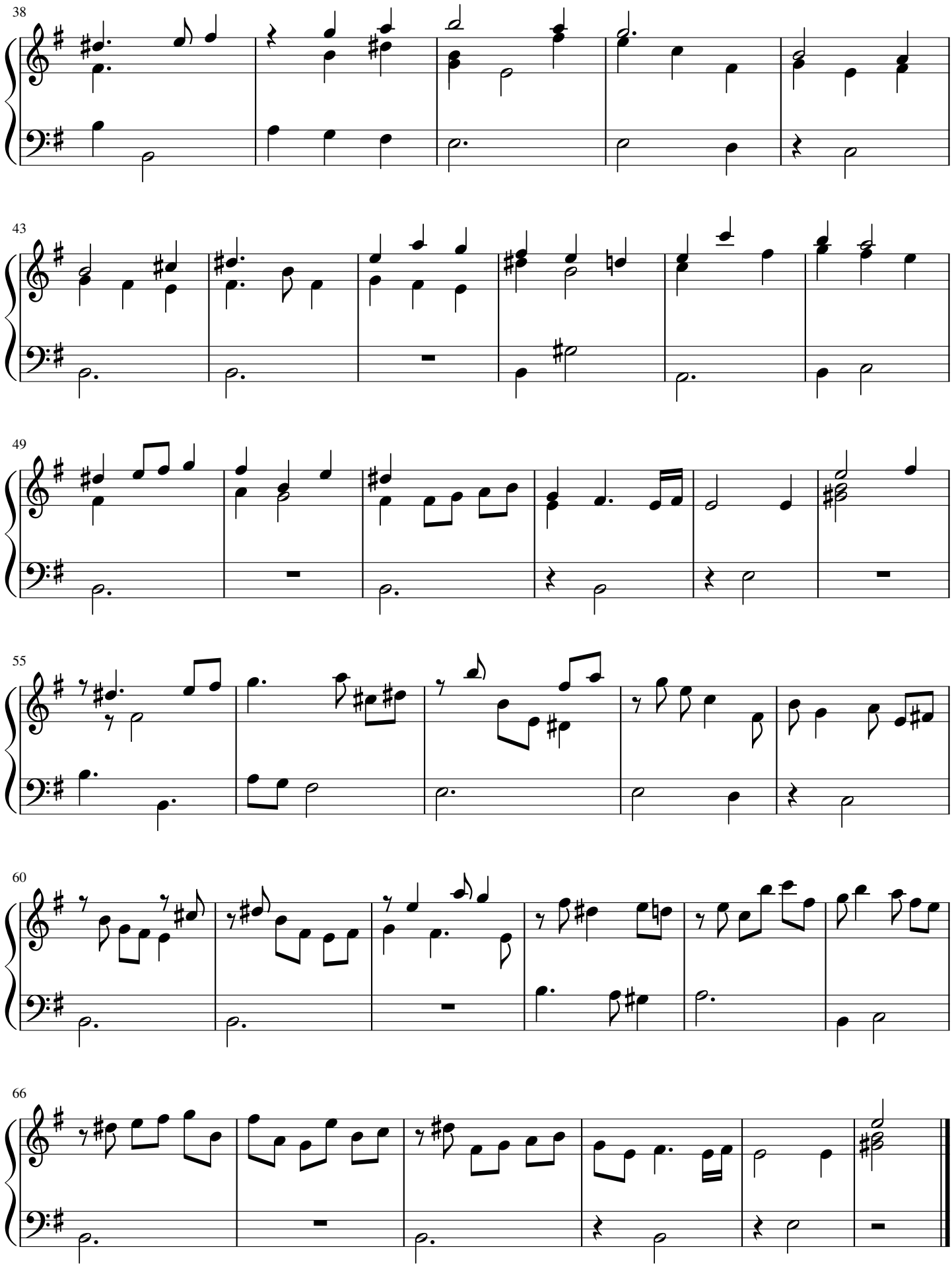
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Corrente page 34

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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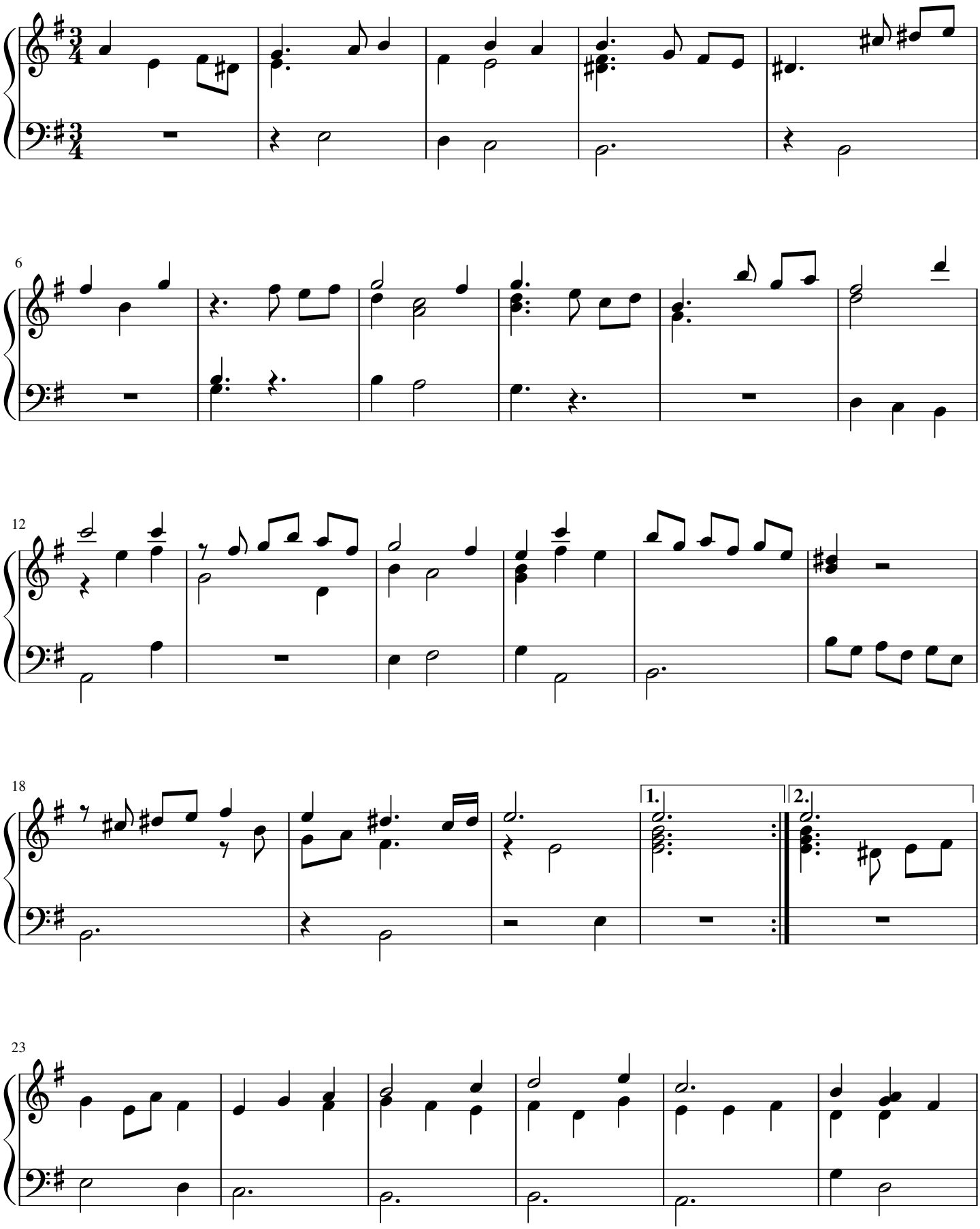
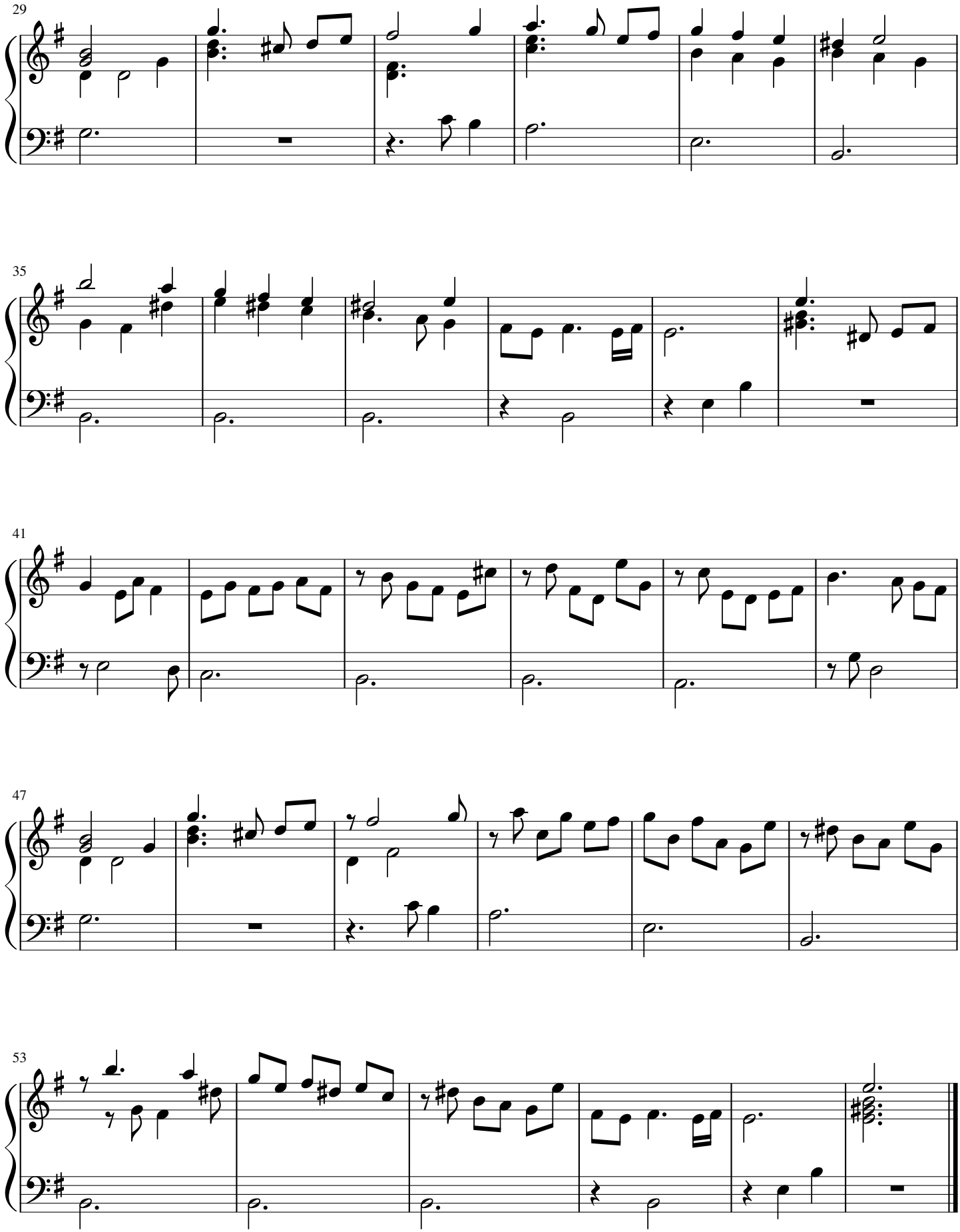
Corrente page 35

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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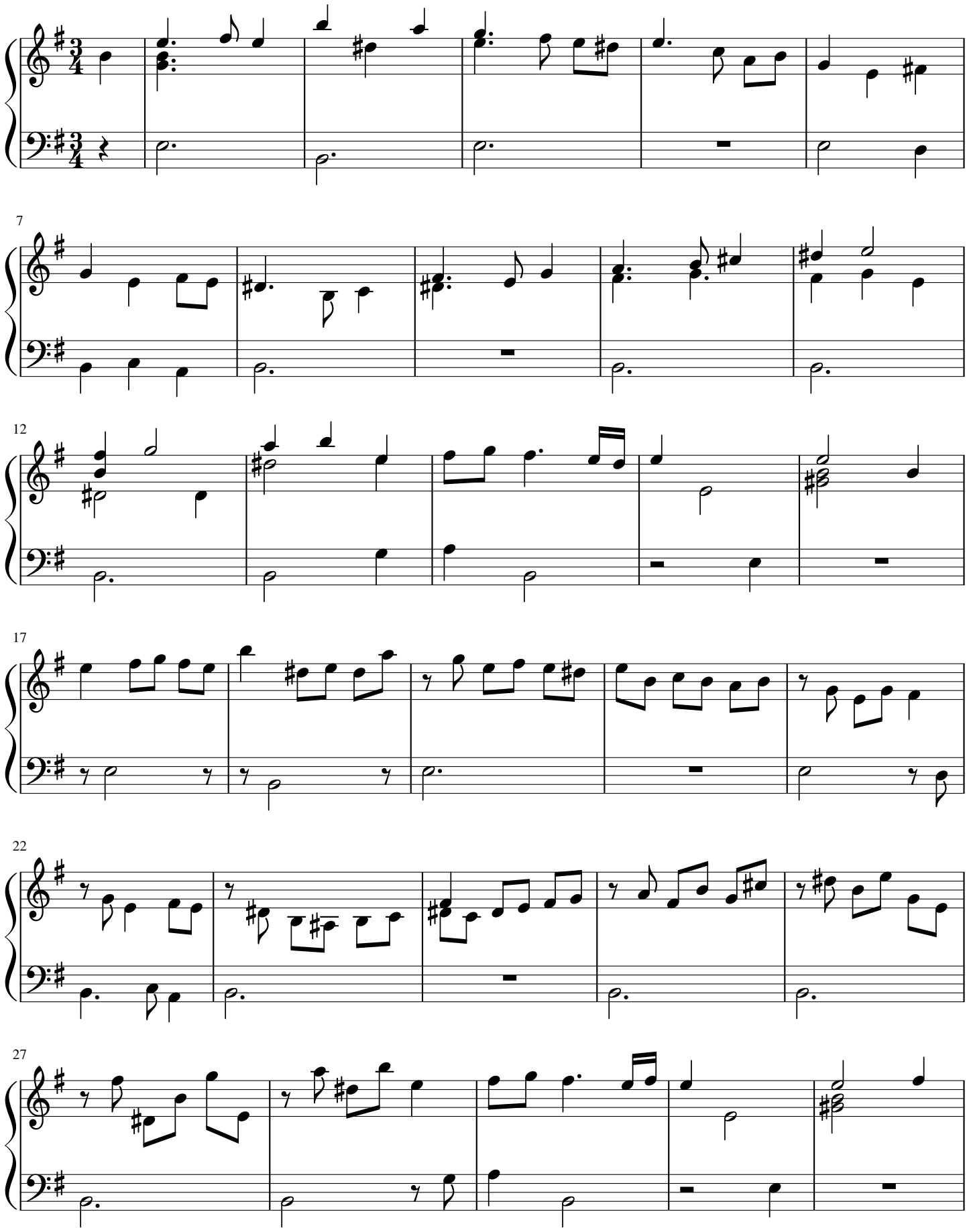
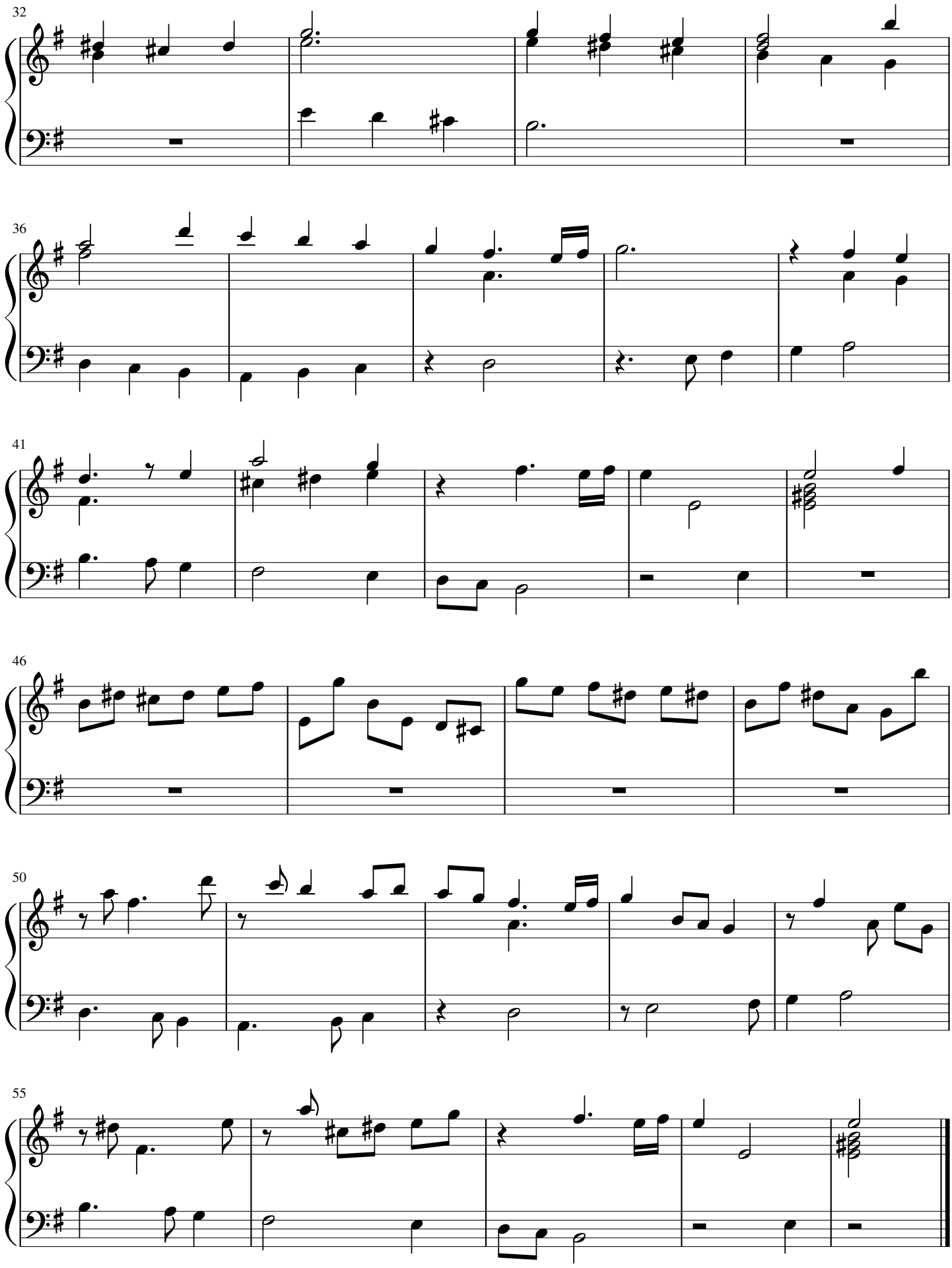
Corrente page 36

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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Corrente page 37

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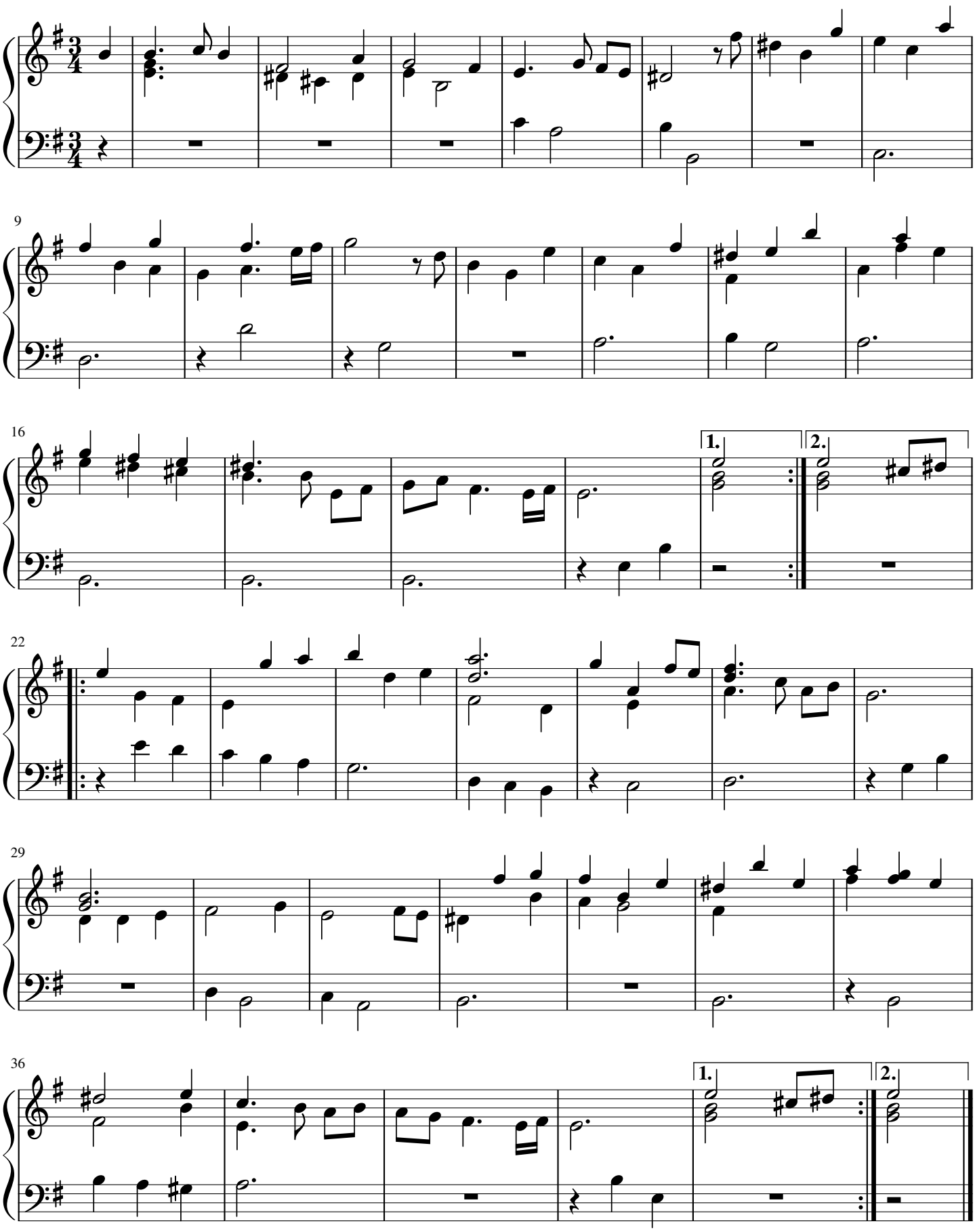
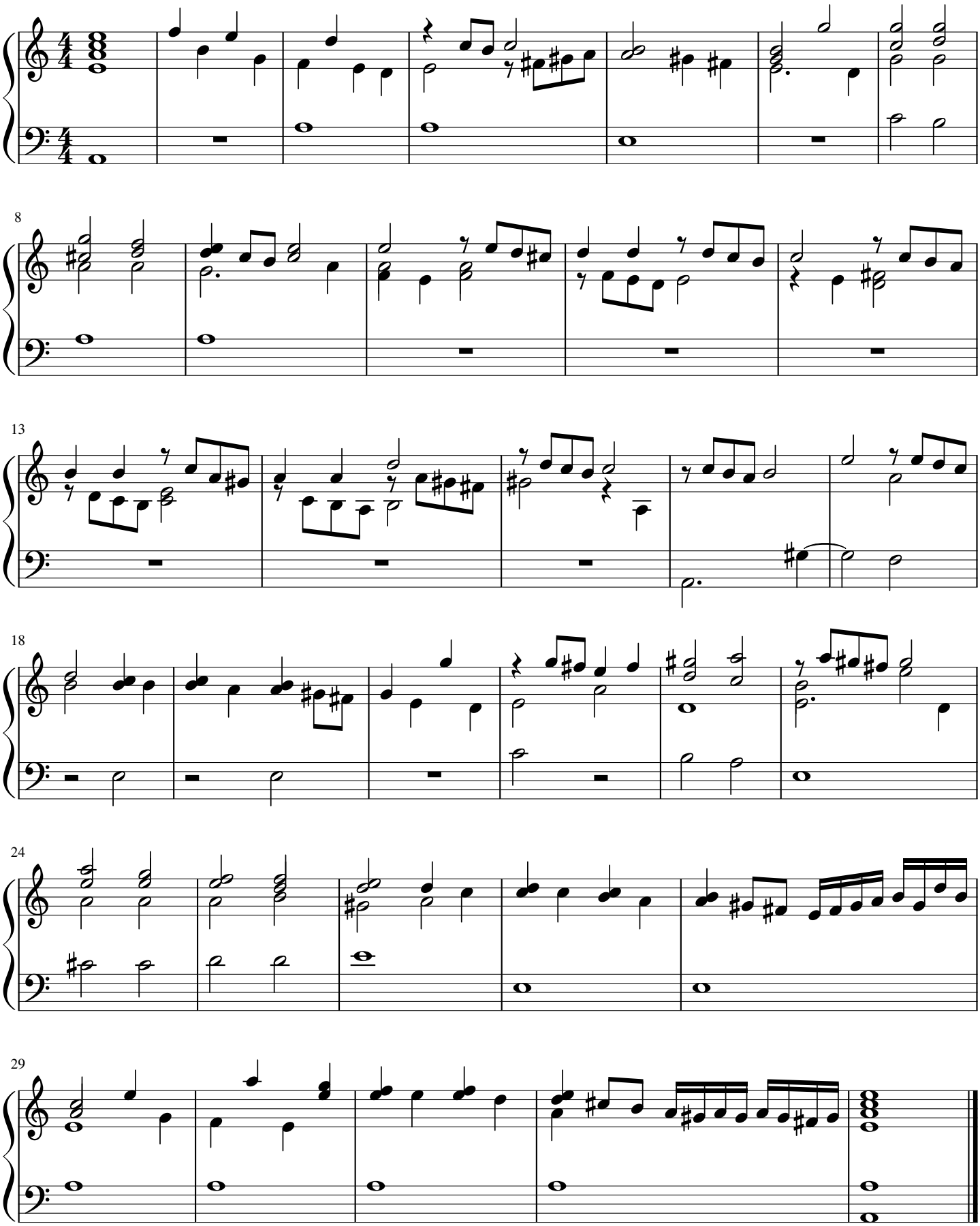


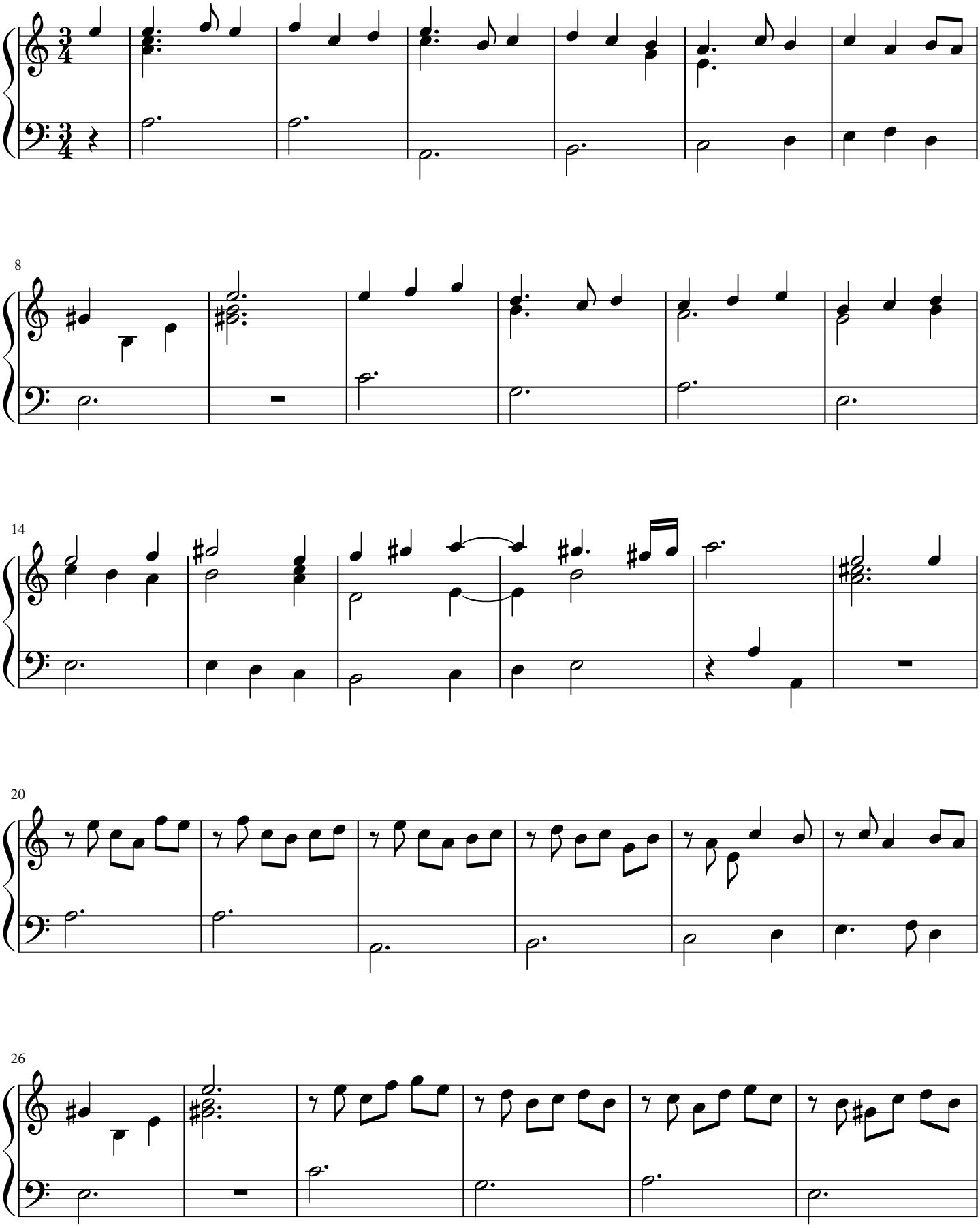
Toccata page 38

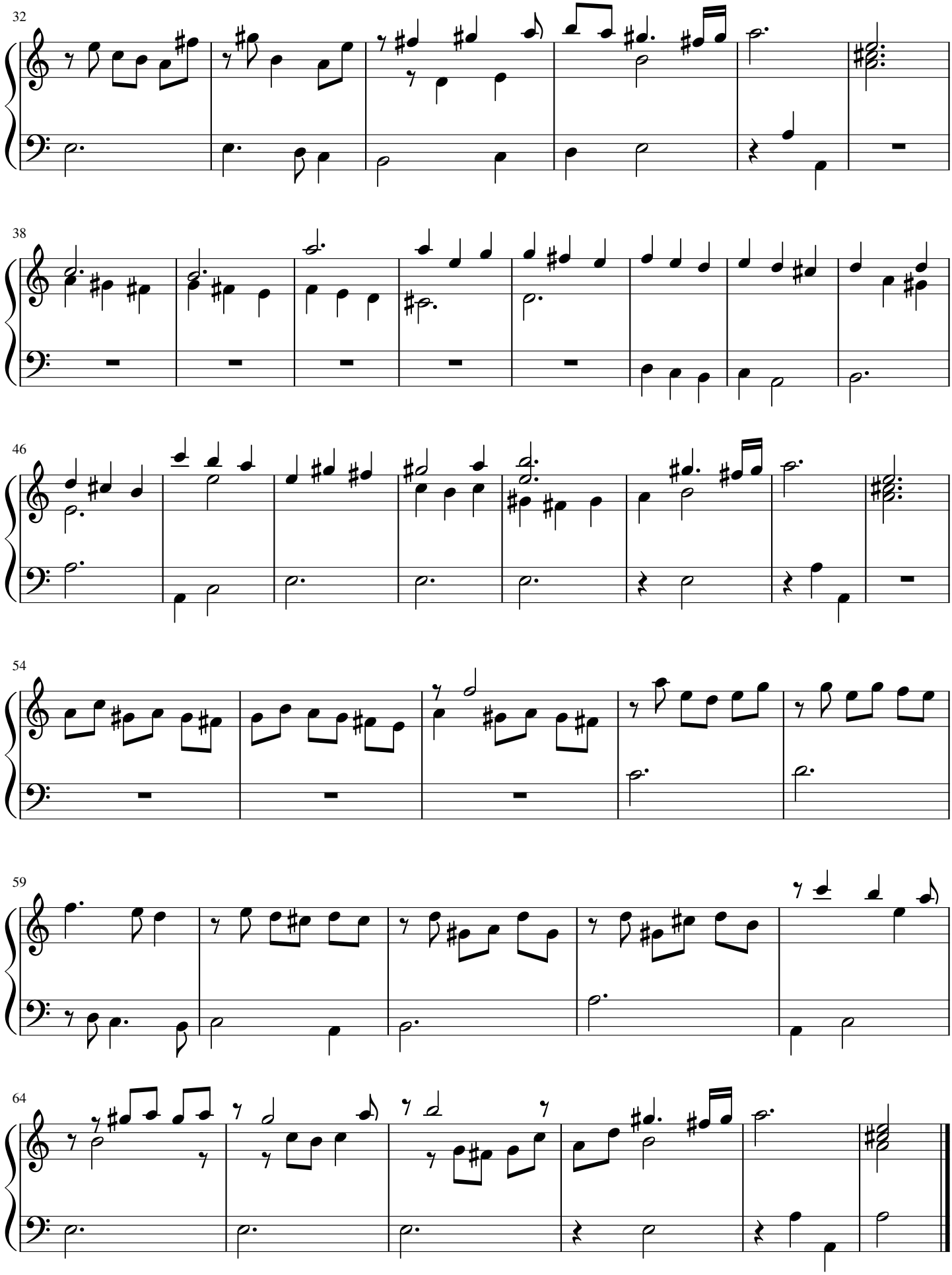
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Corrente page 39

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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Corrente page 40

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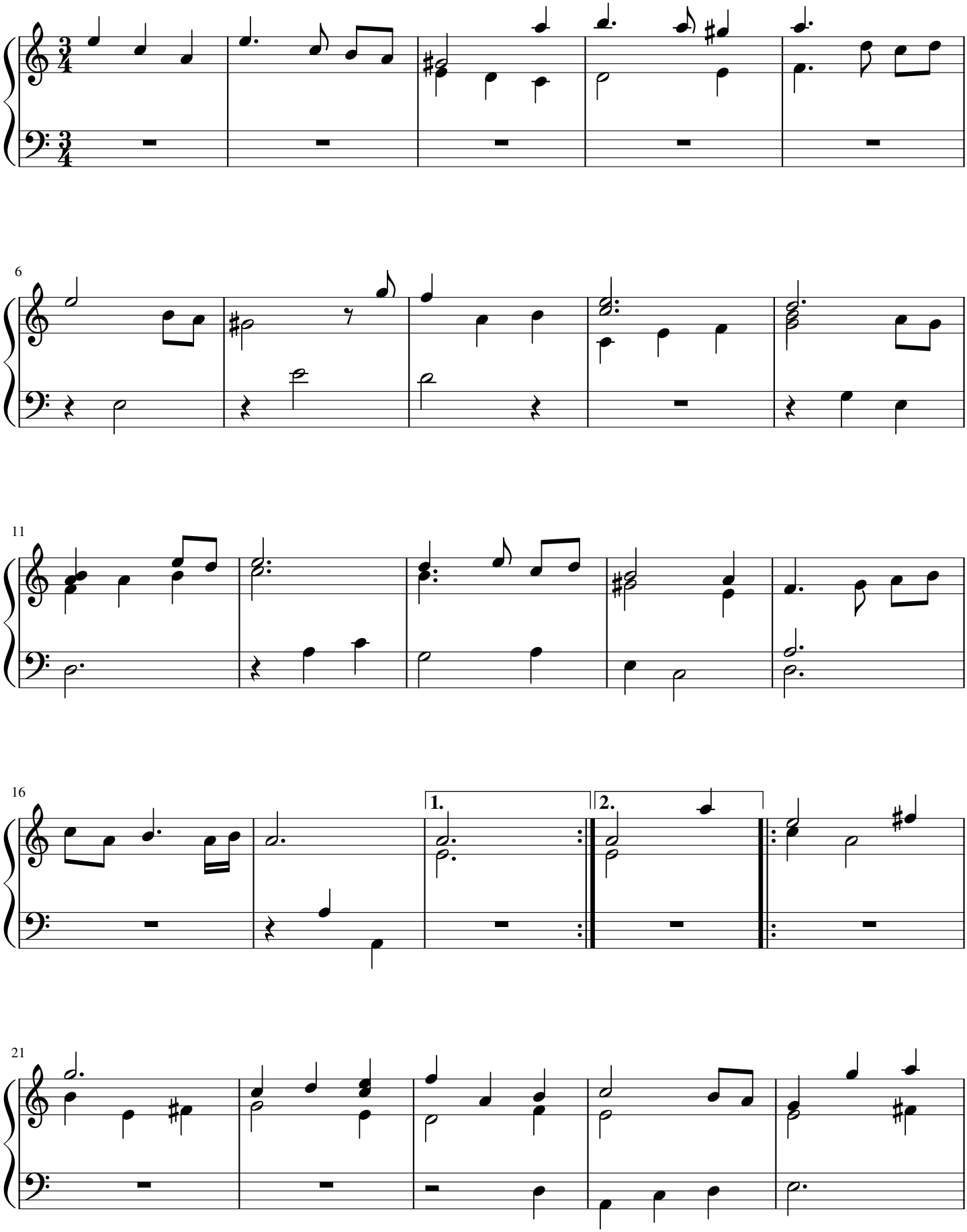

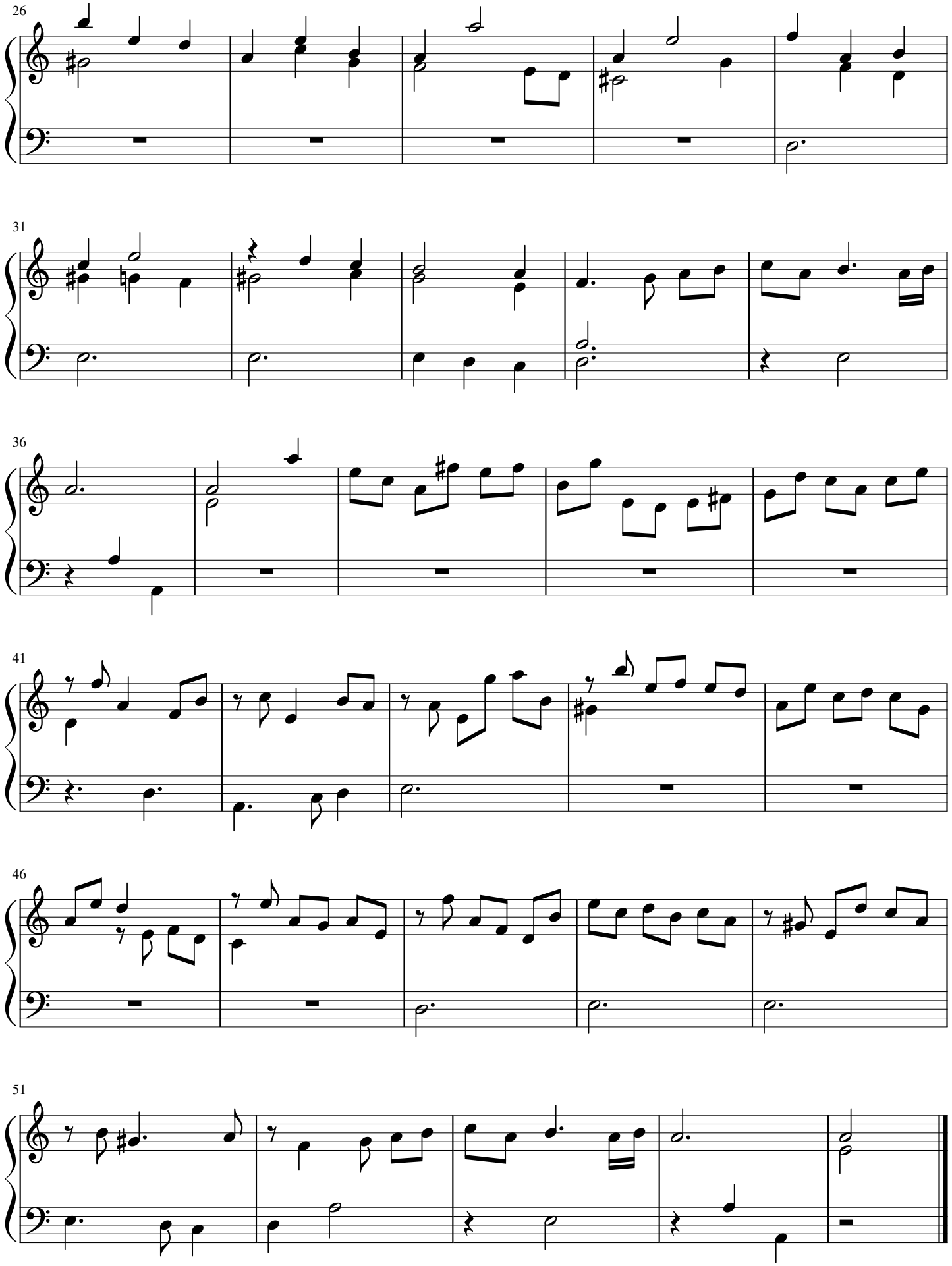
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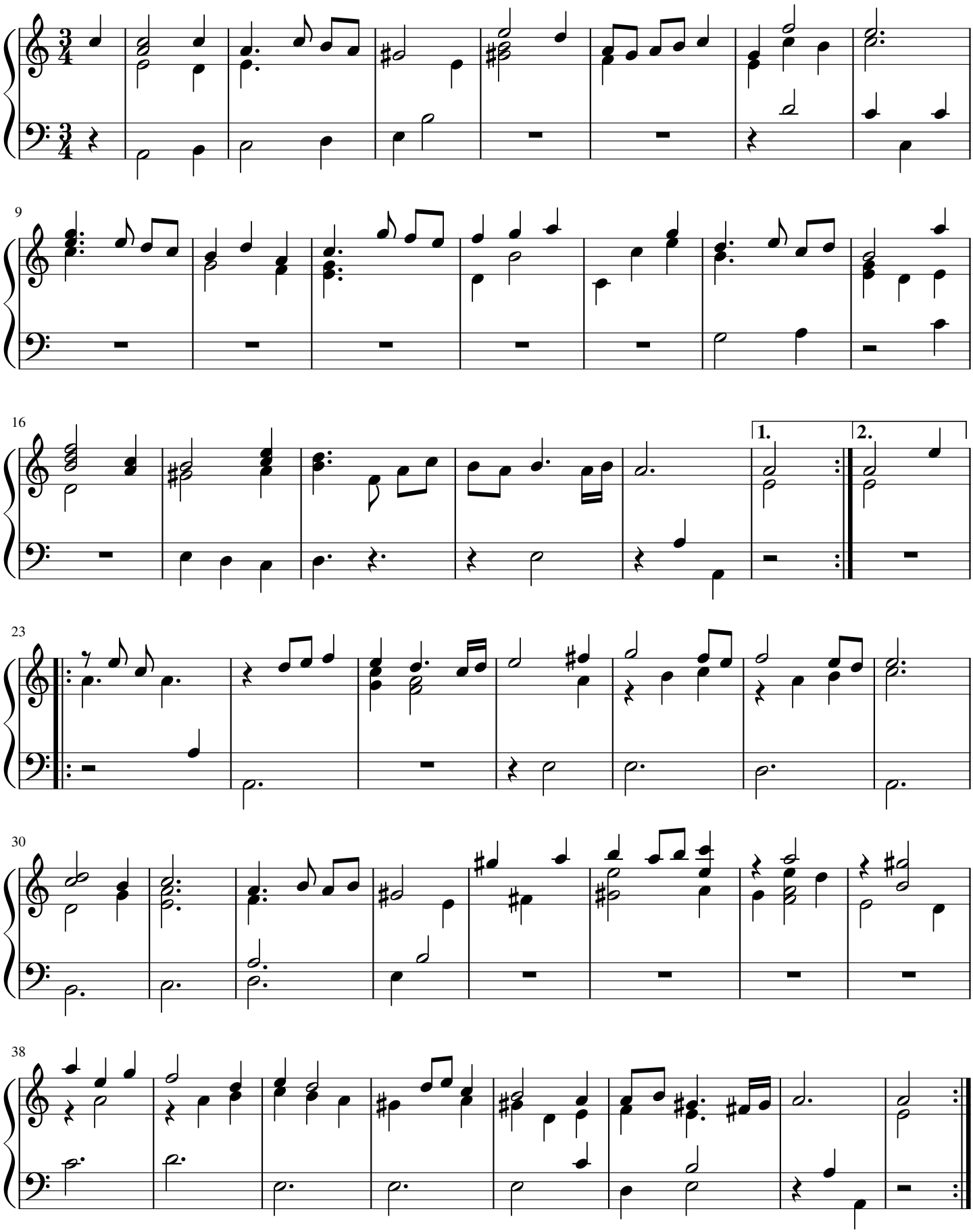
Corrente page 41

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



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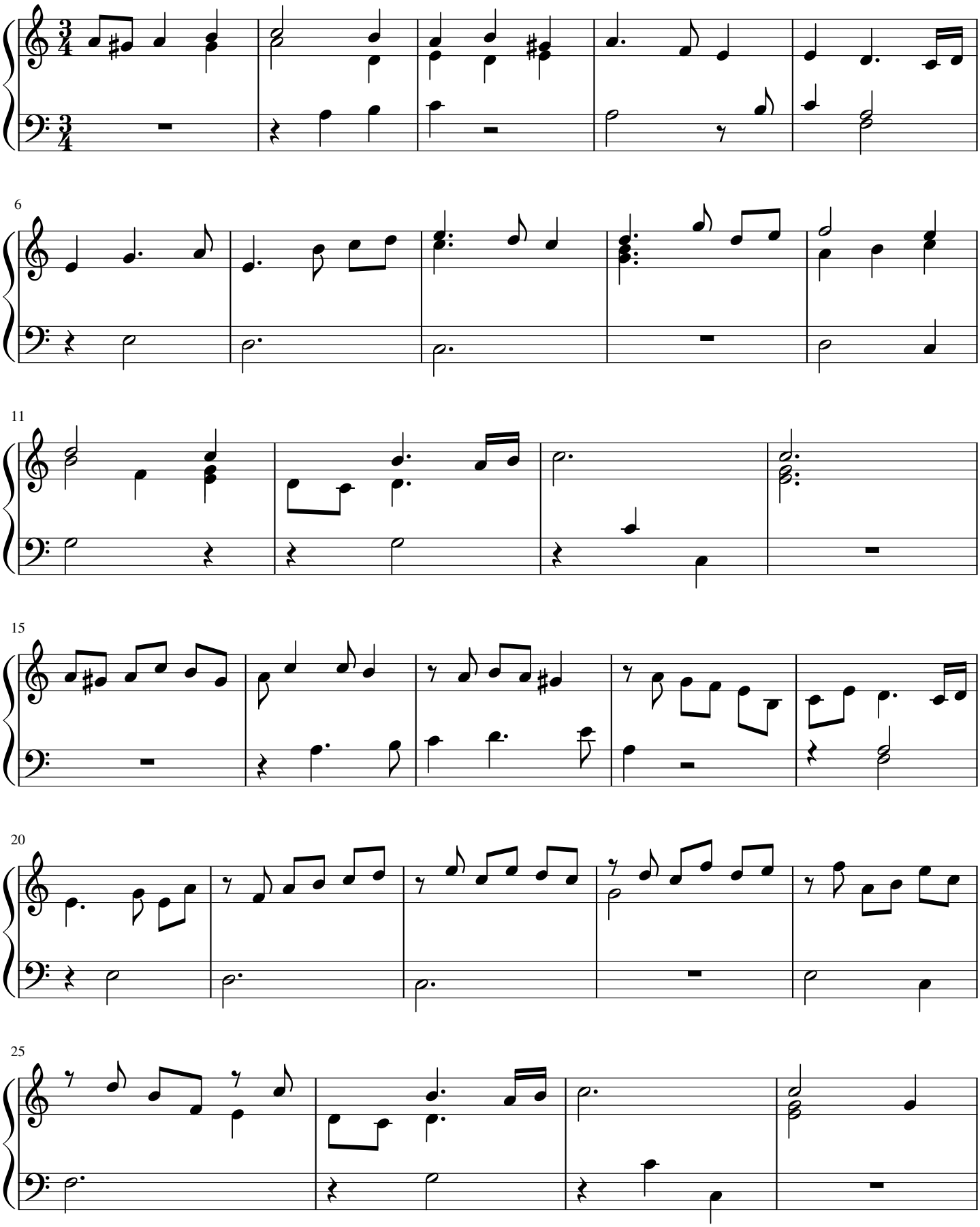
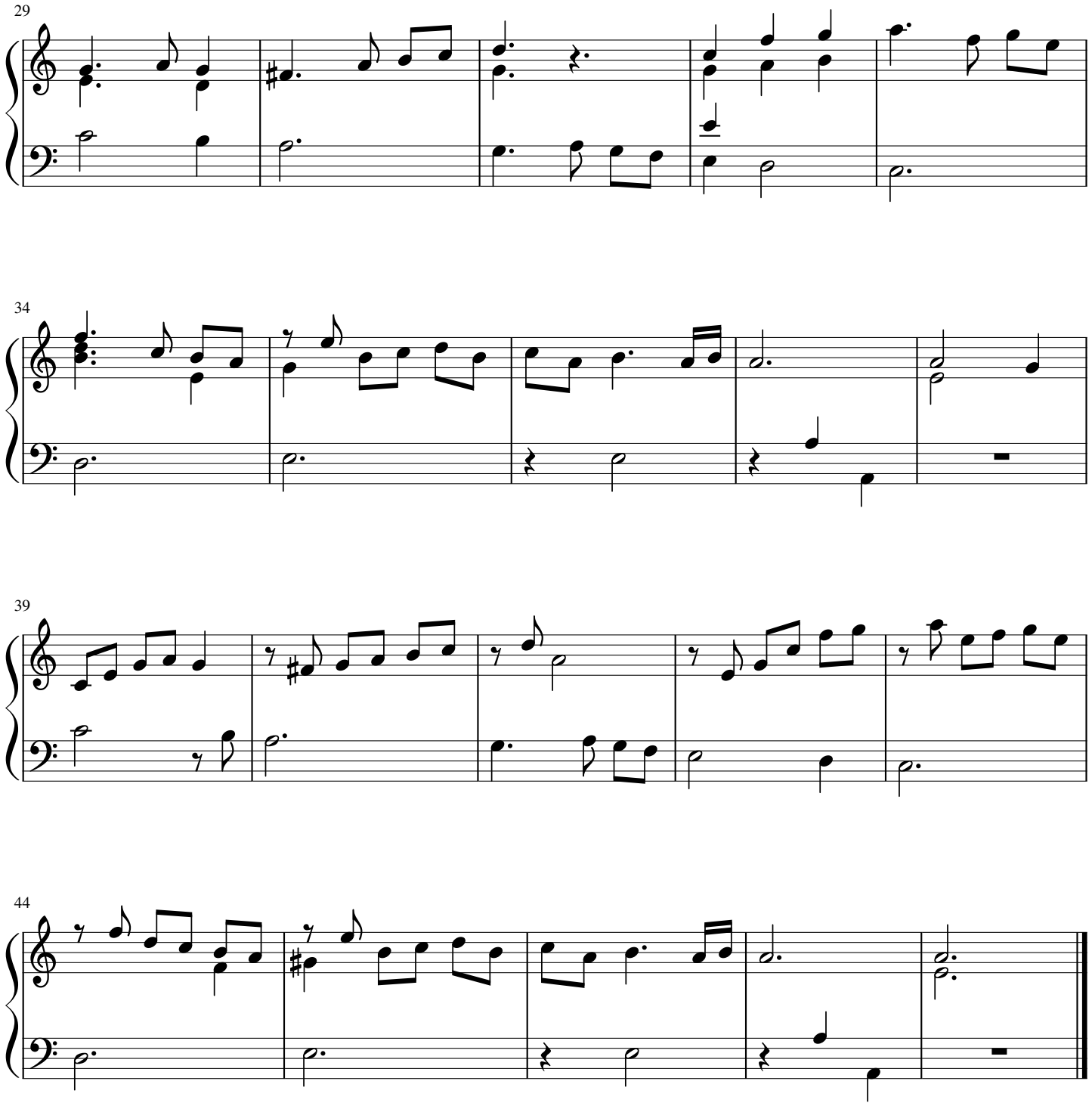
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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Toccata page 43

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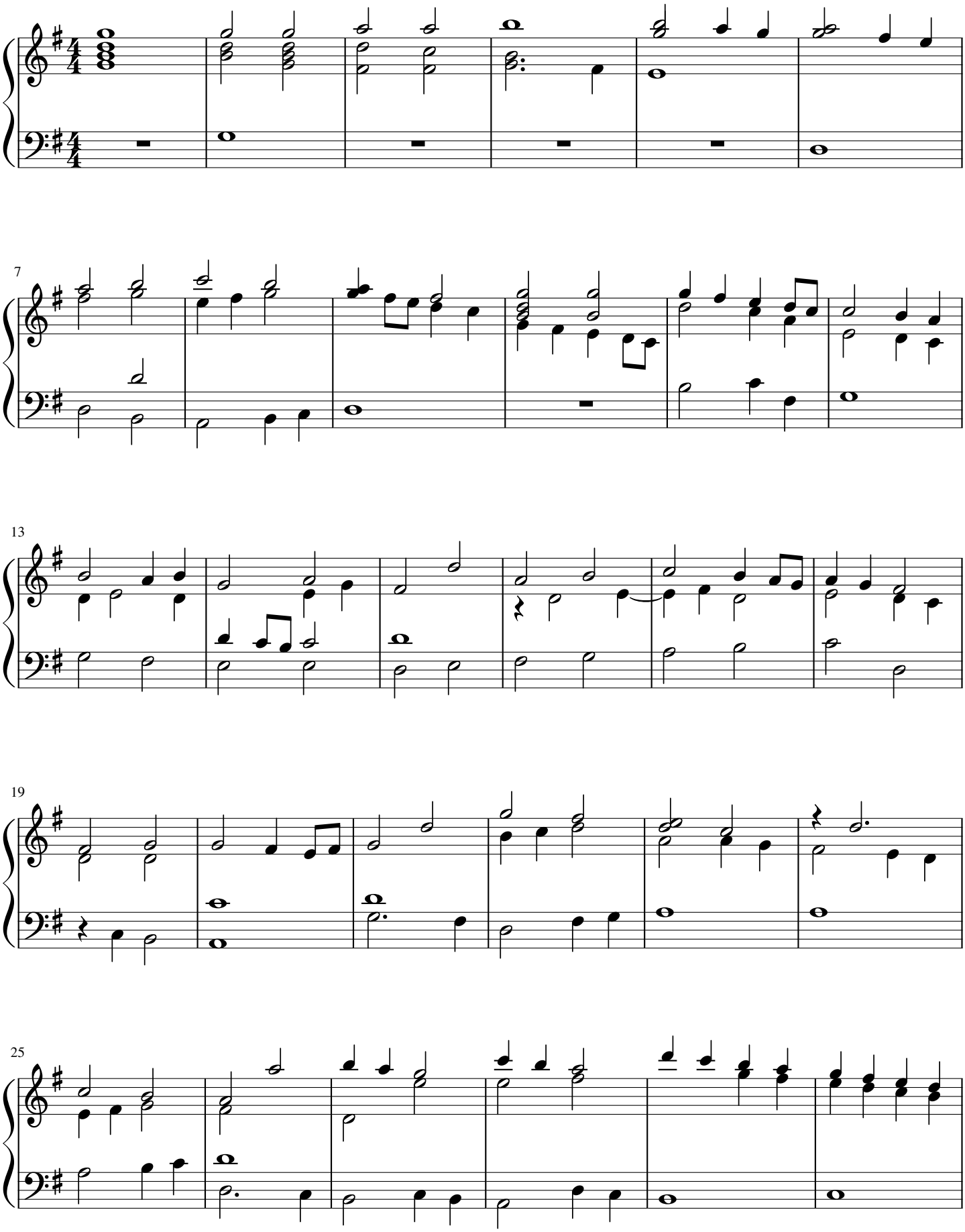

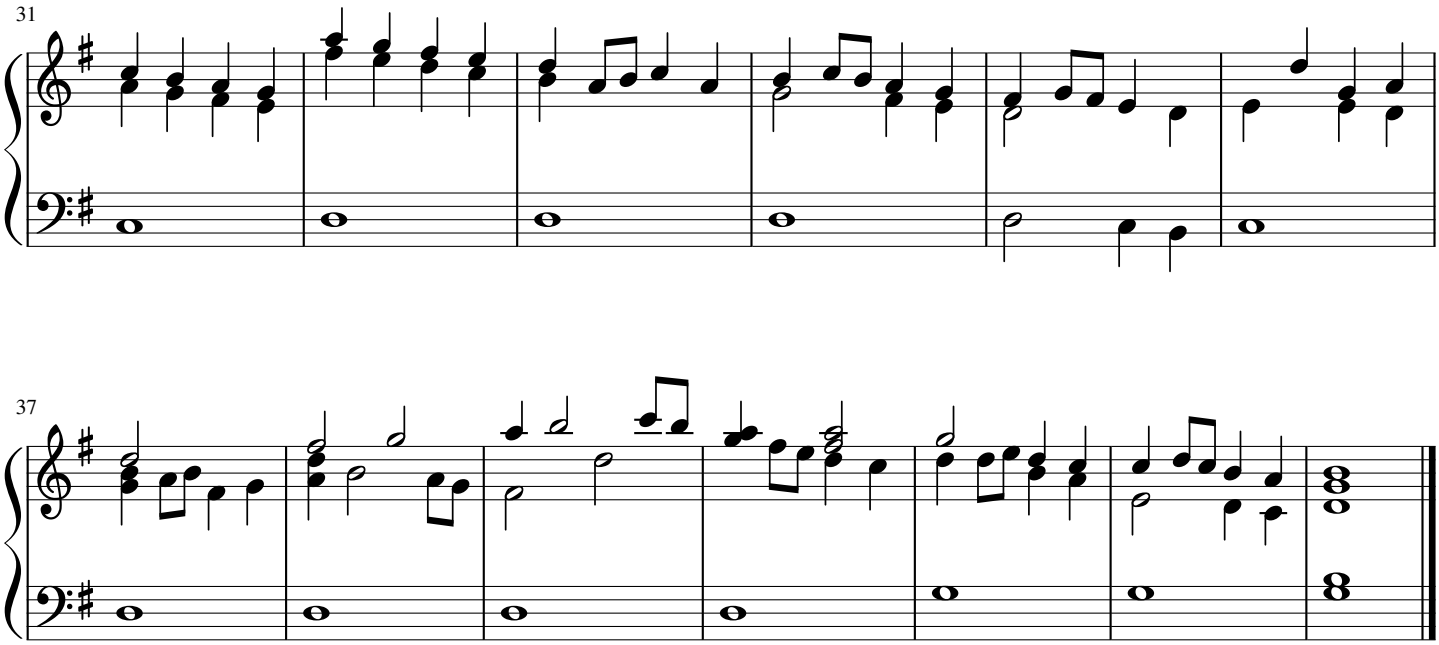
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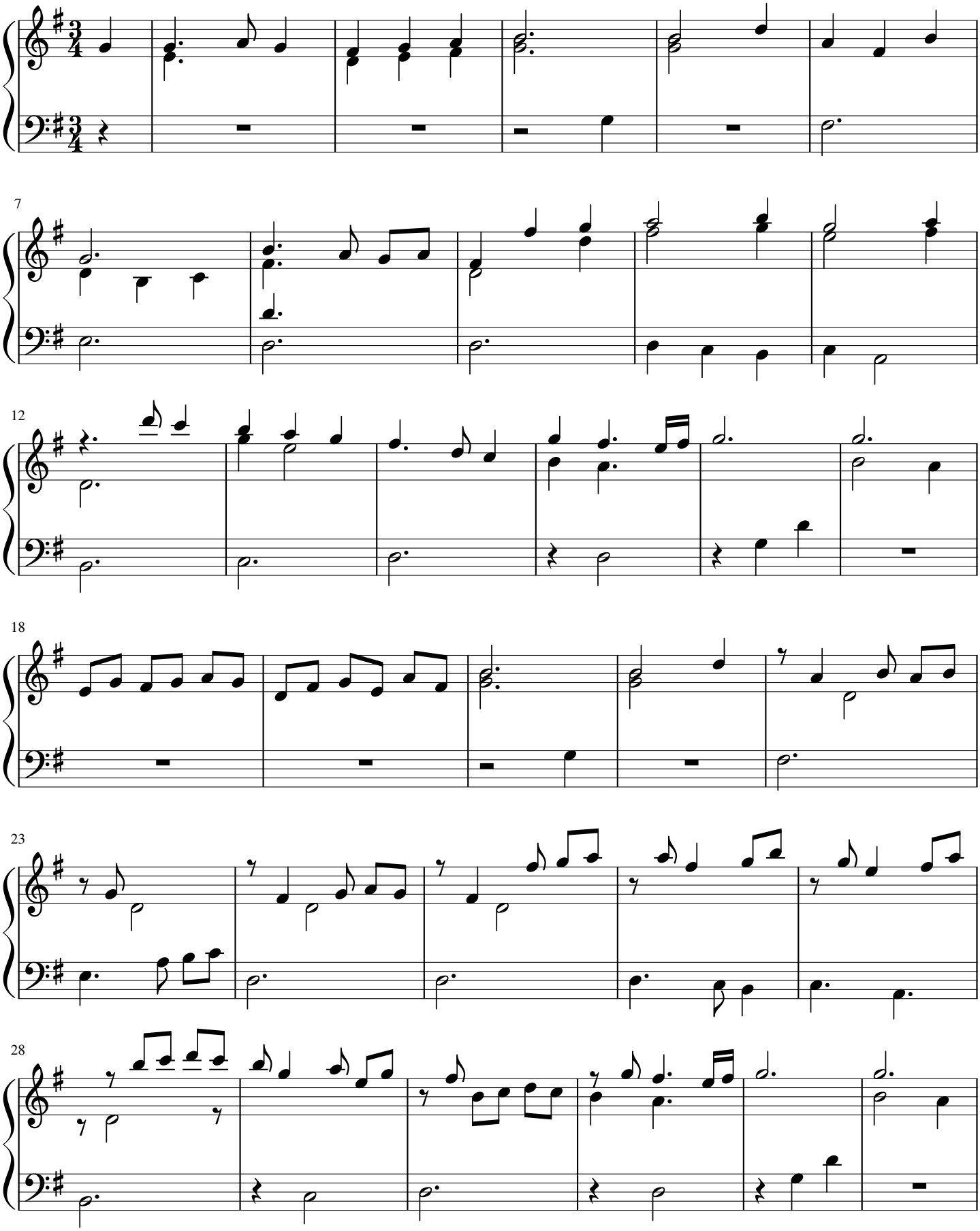
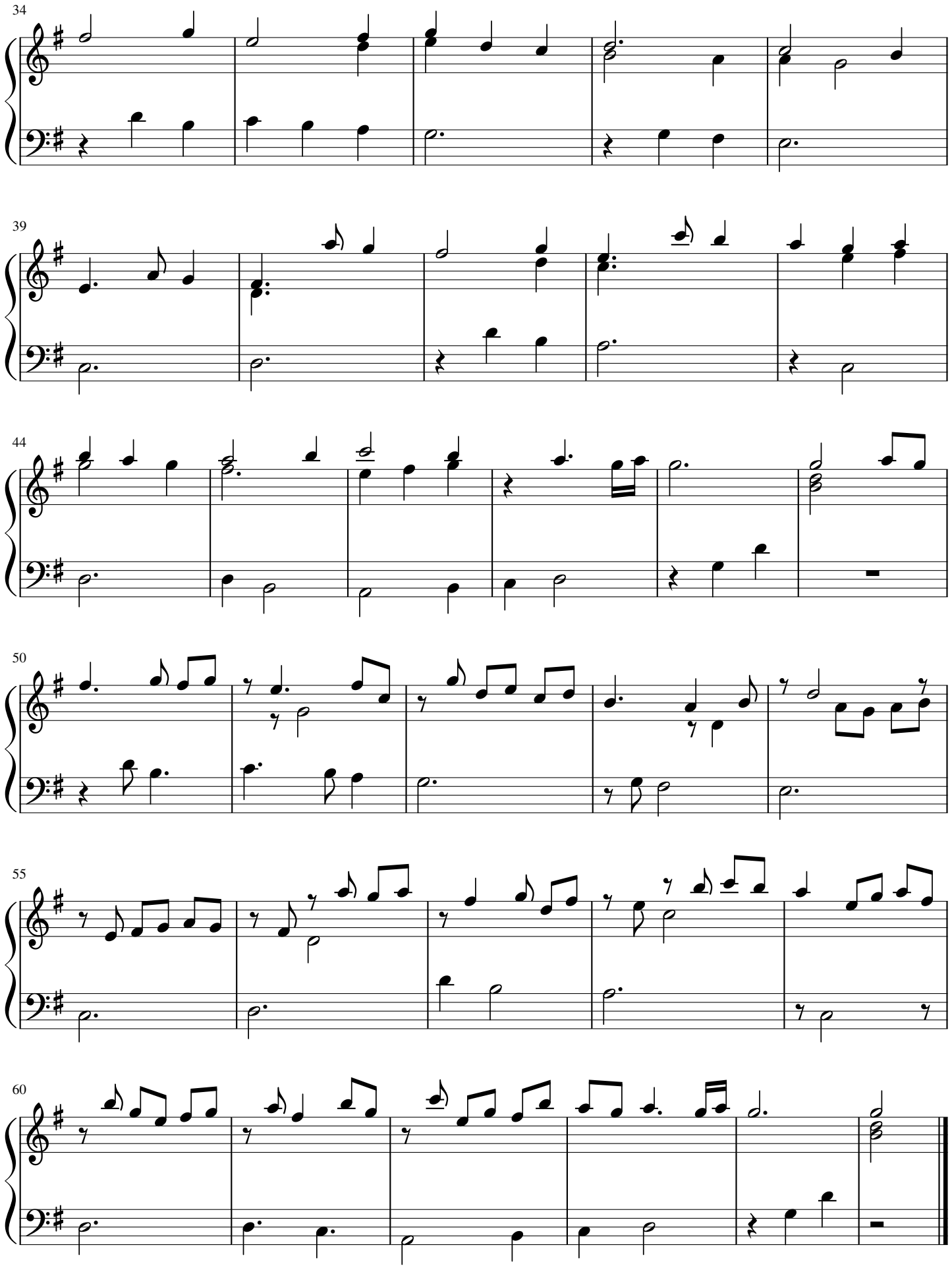
Corrente page 44

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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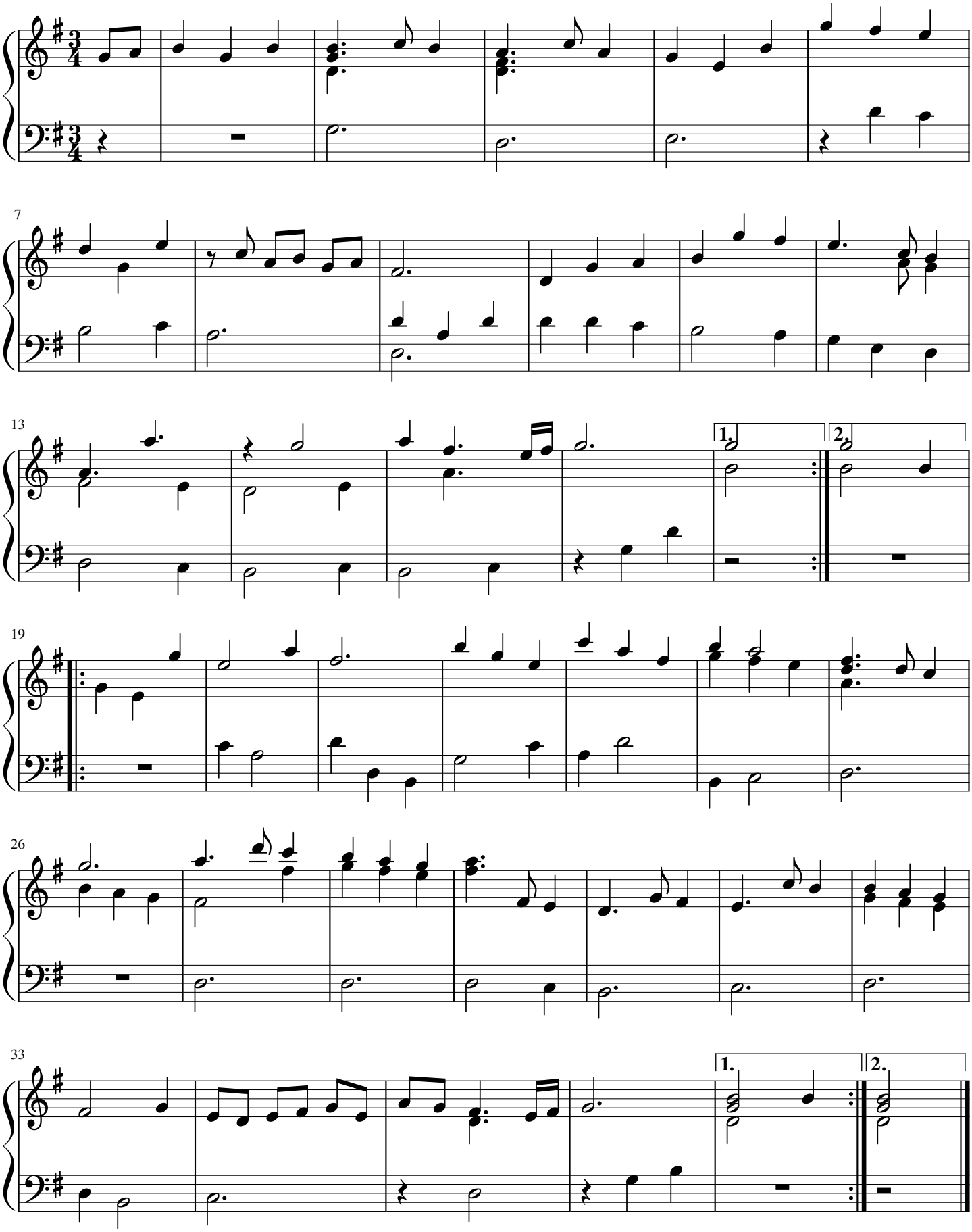
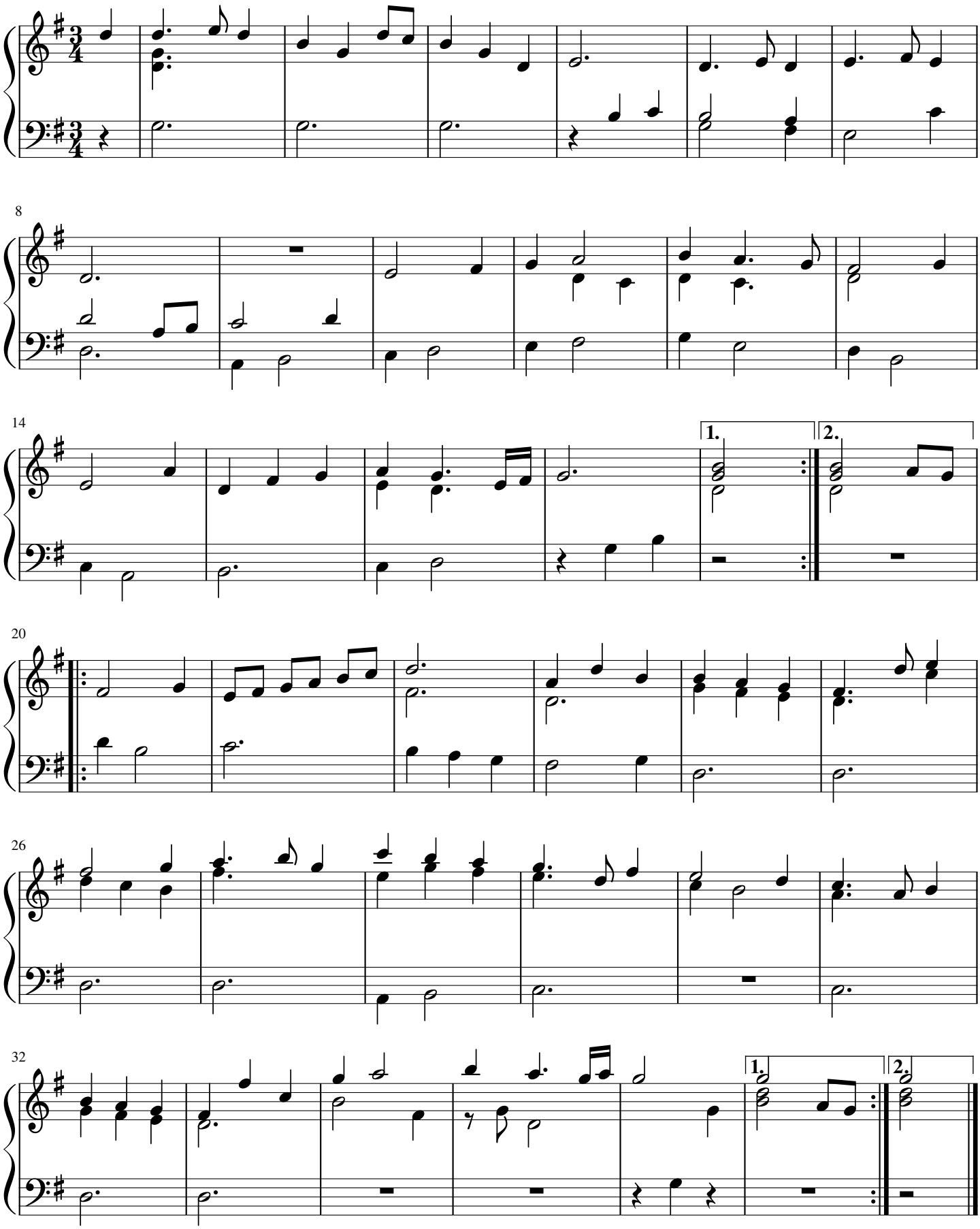
Volta page 45

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



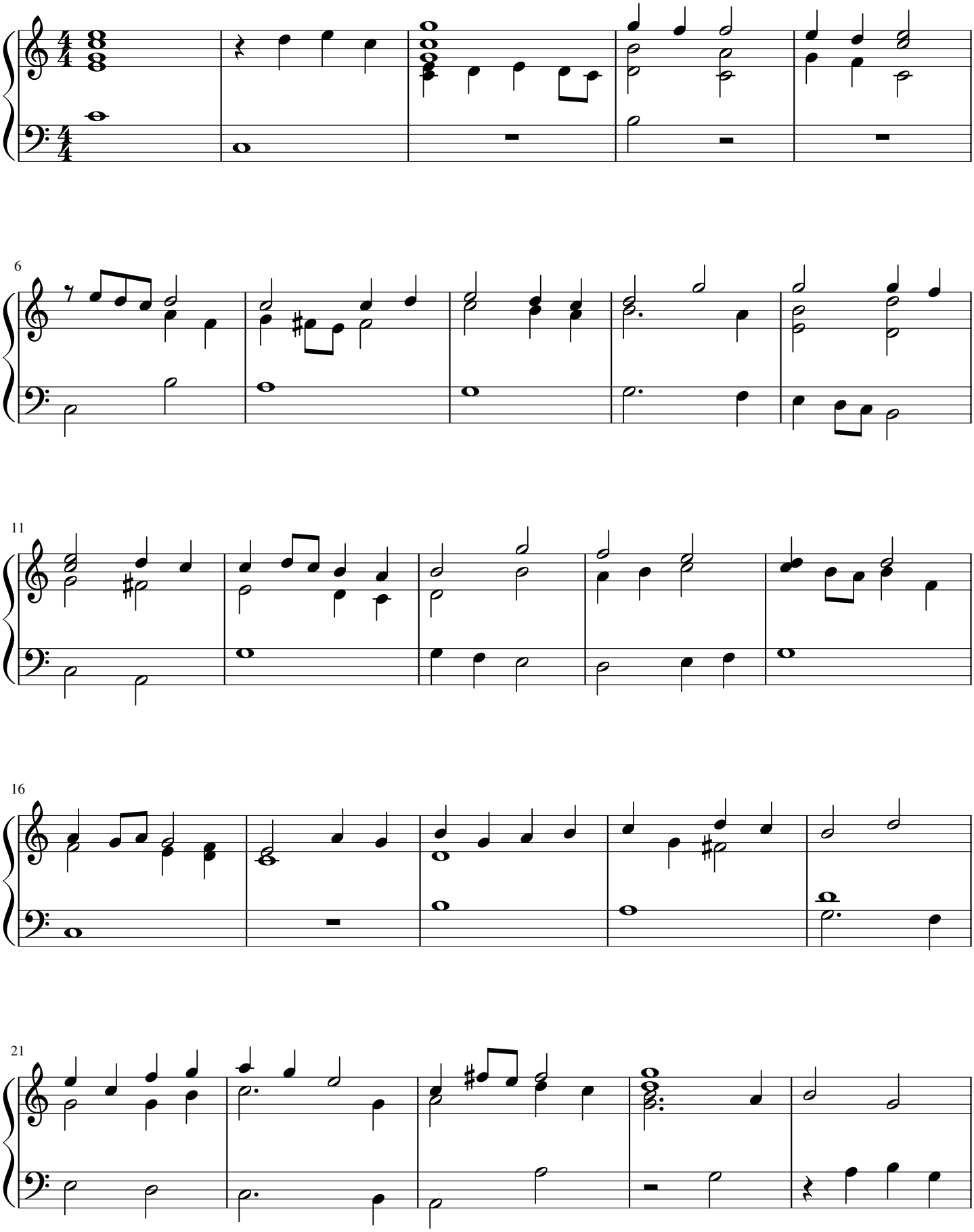
Volta page 46

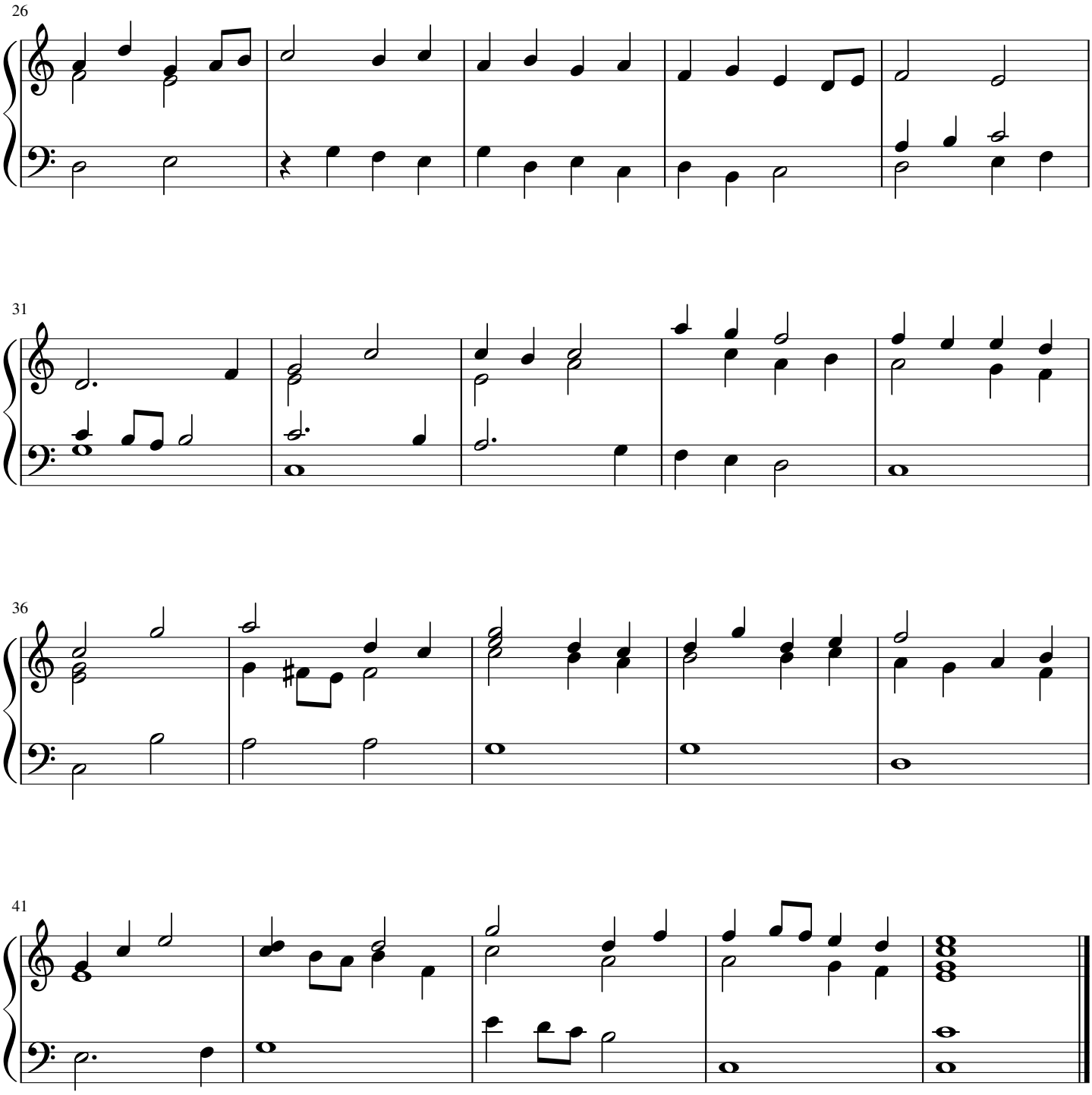
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Toccata page 47

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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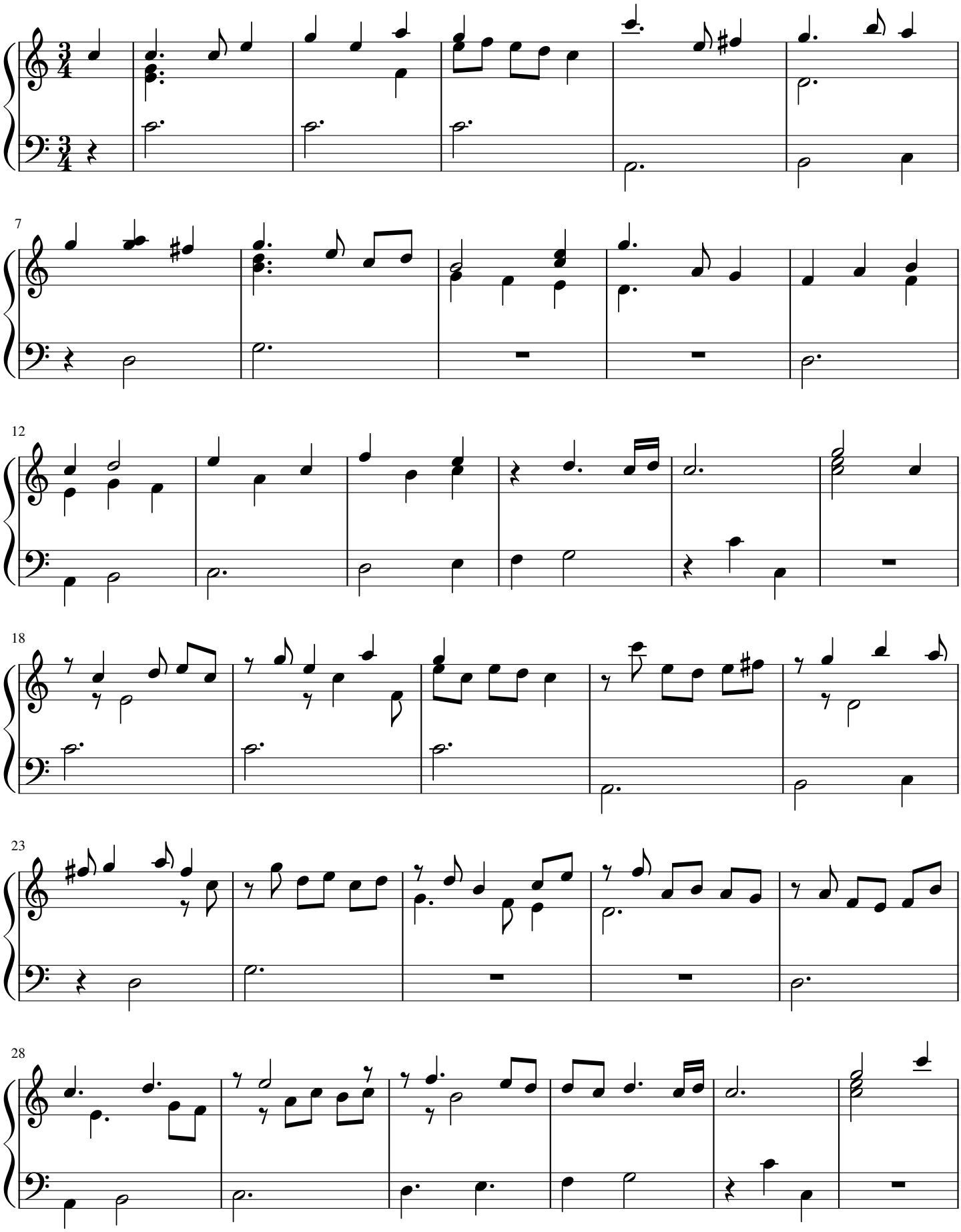
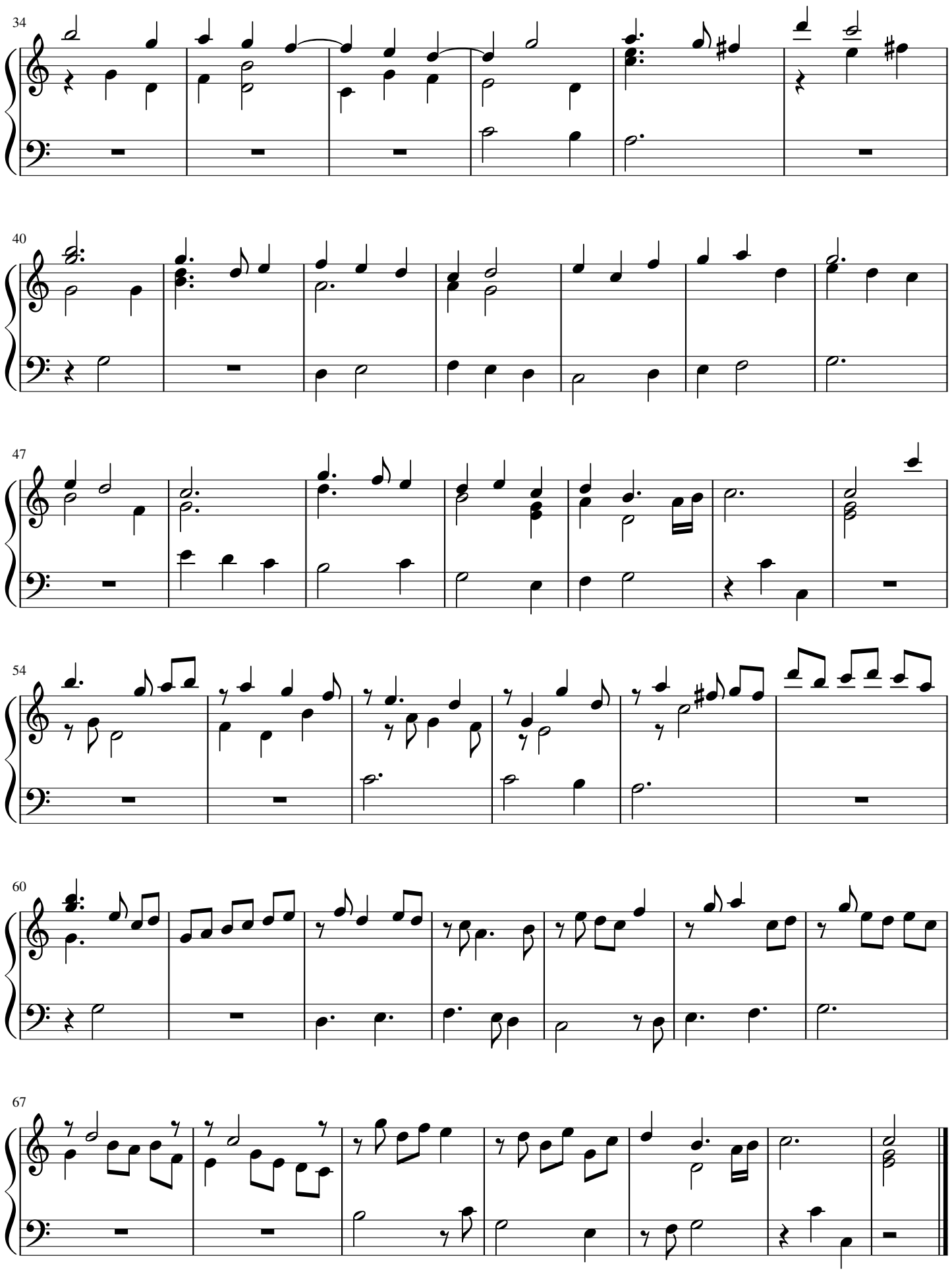
Volta page 48

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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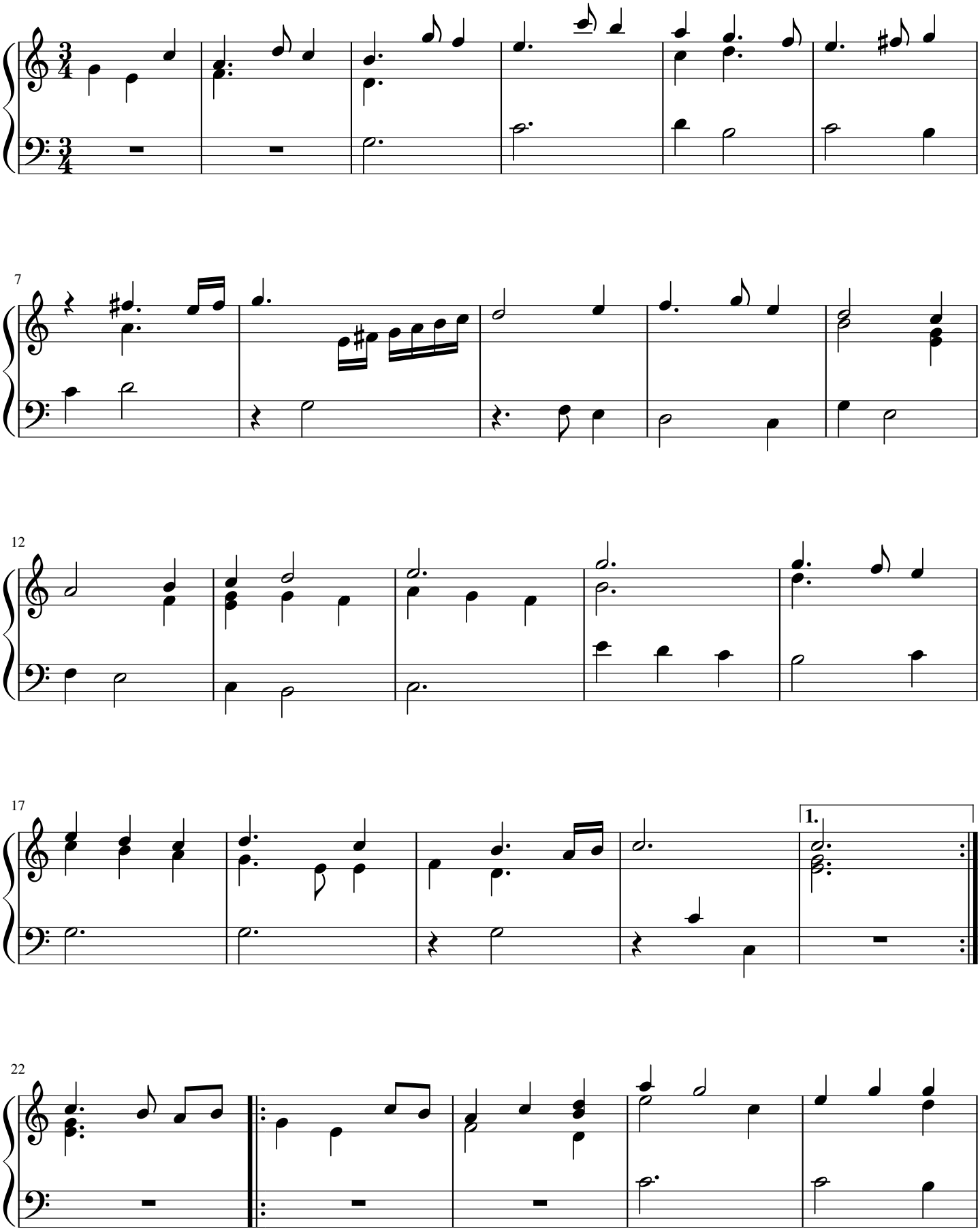
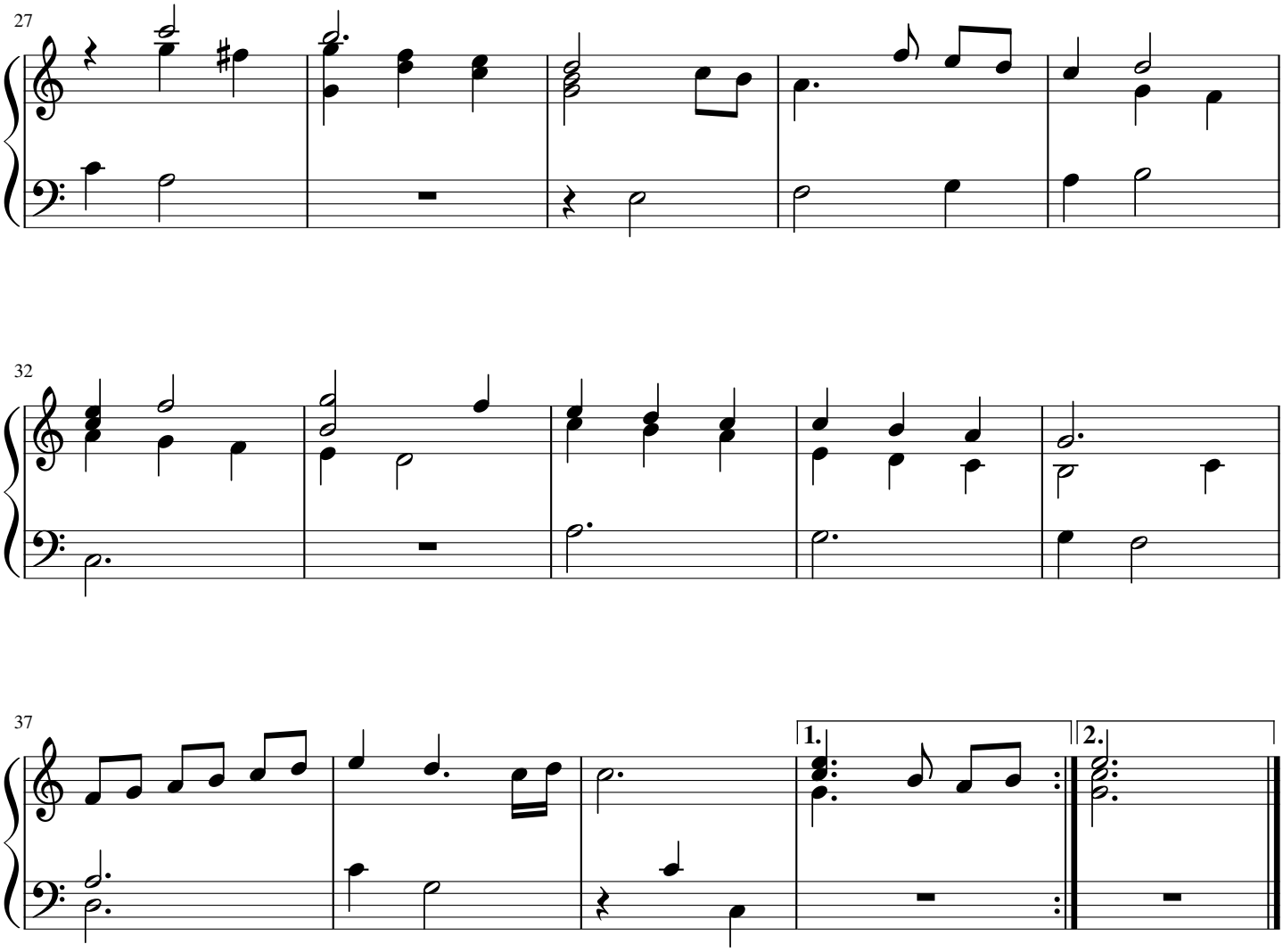
Volta page 49

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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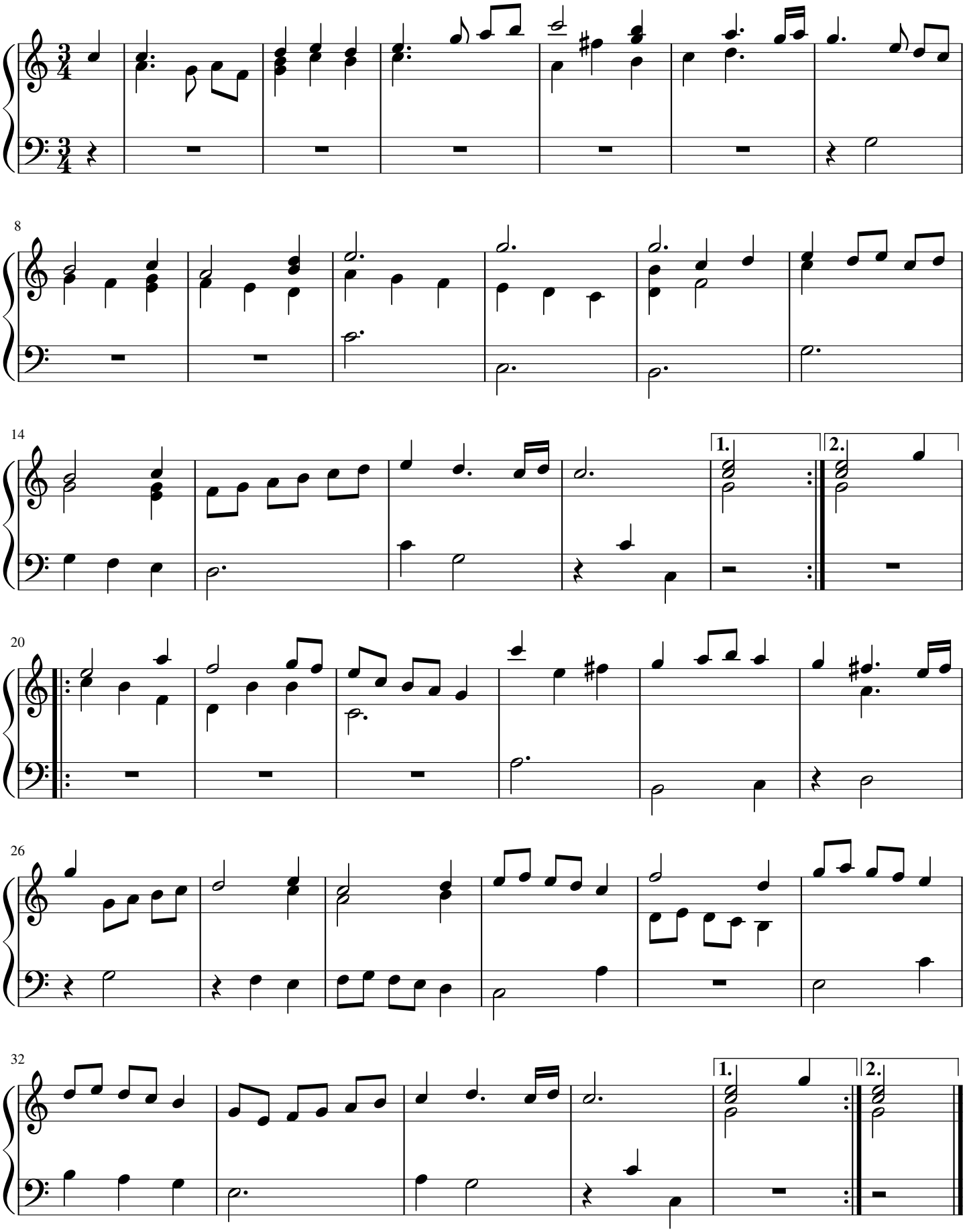
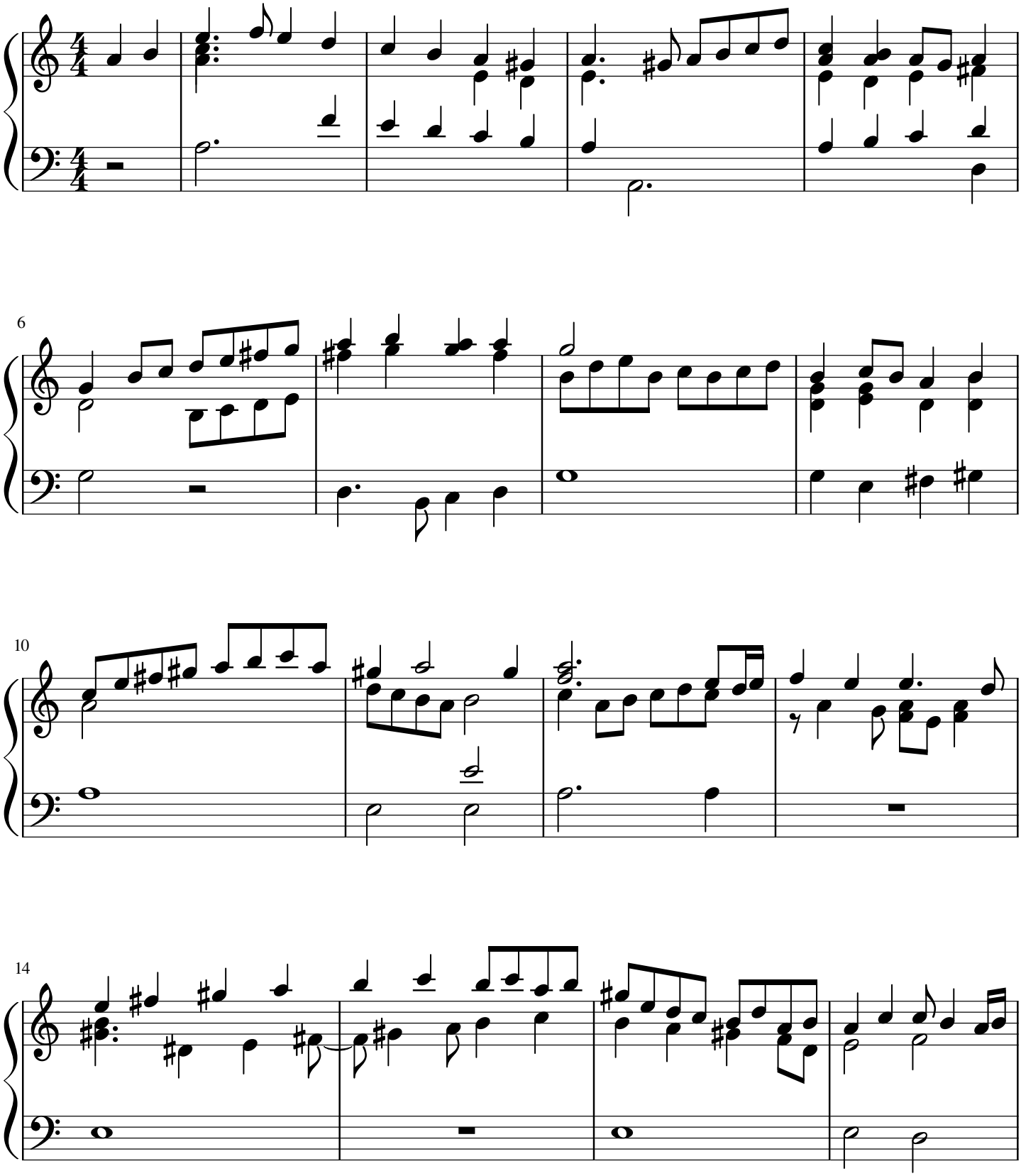
Volta page 50

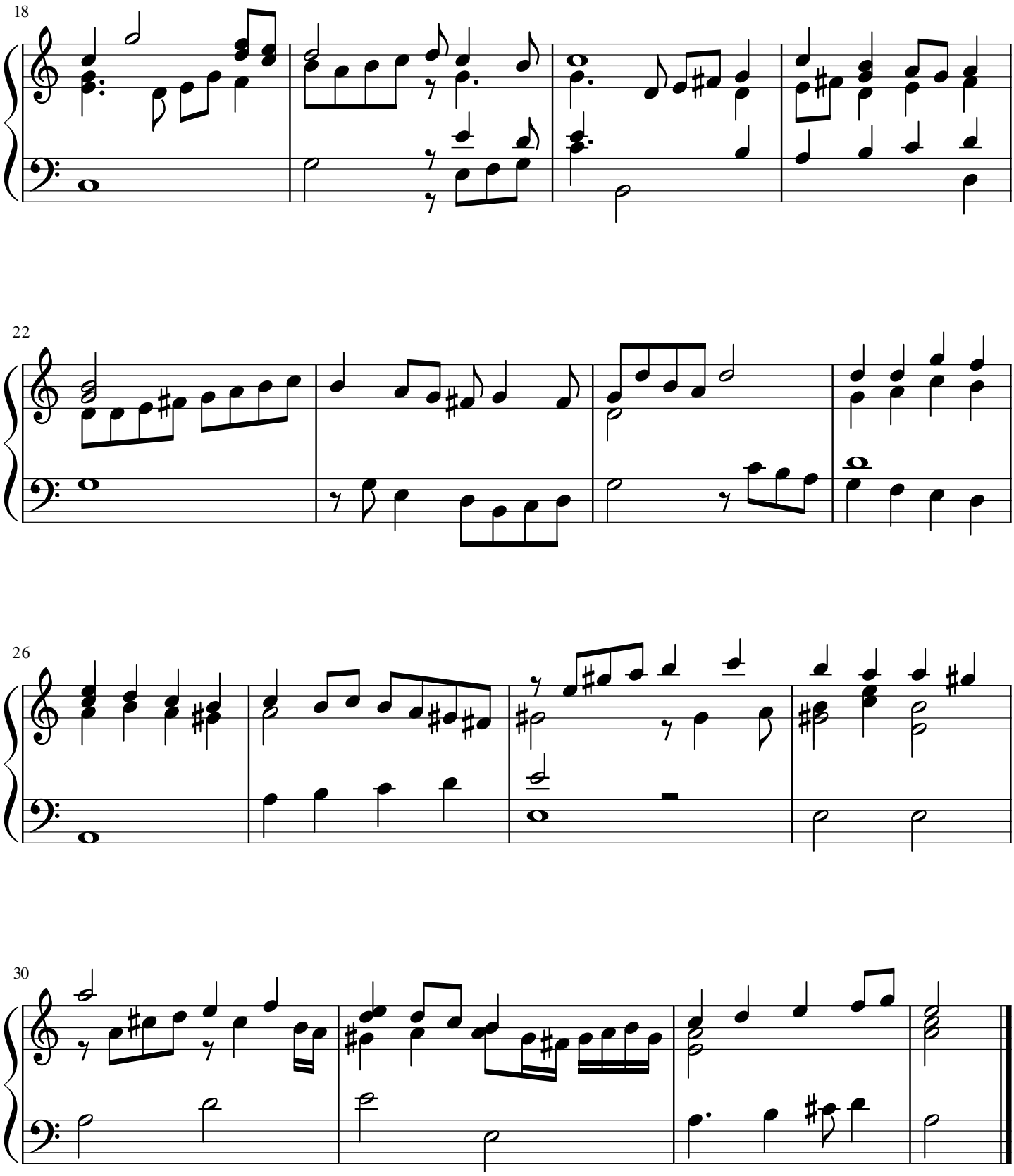
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Passemezzo page 51

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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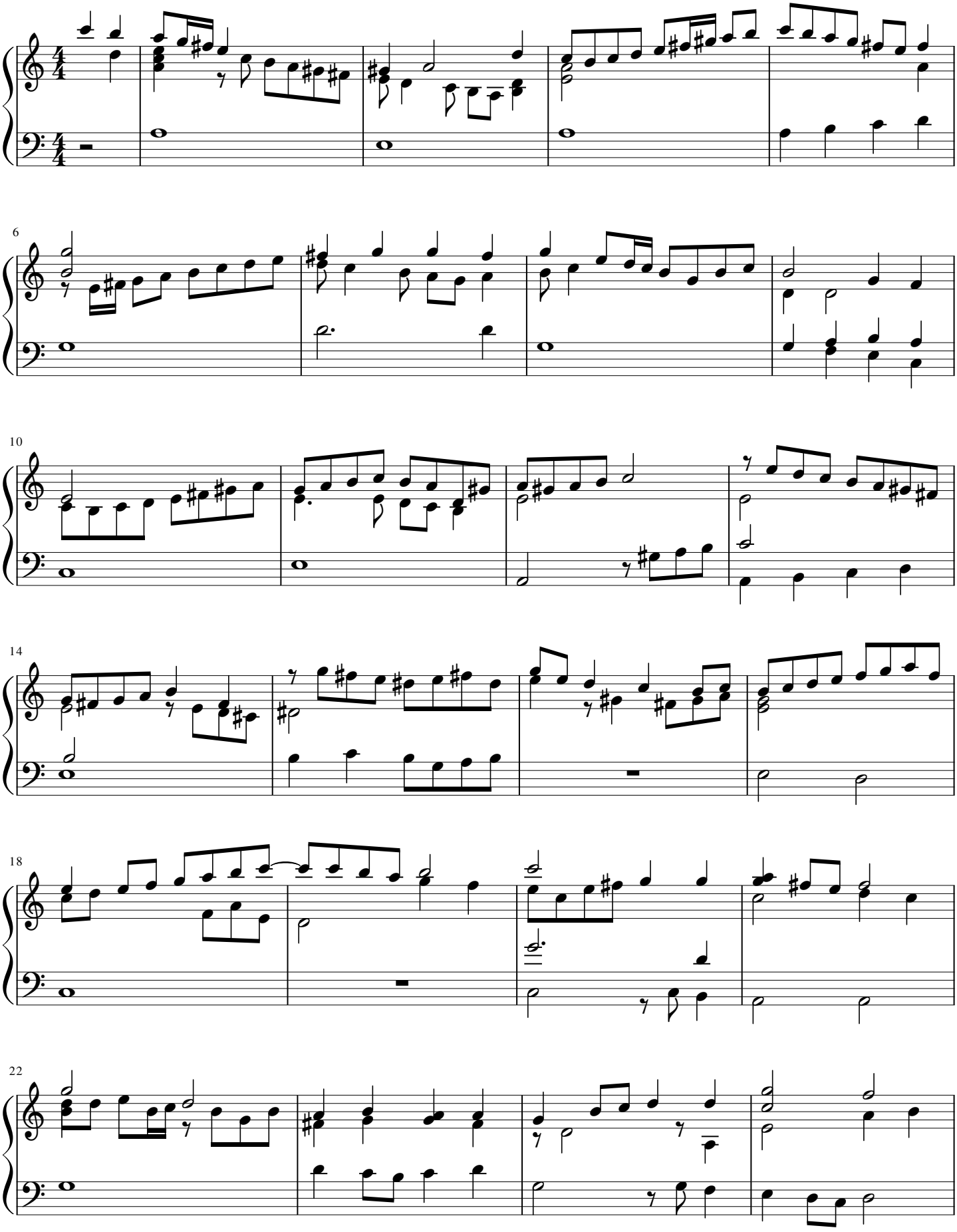
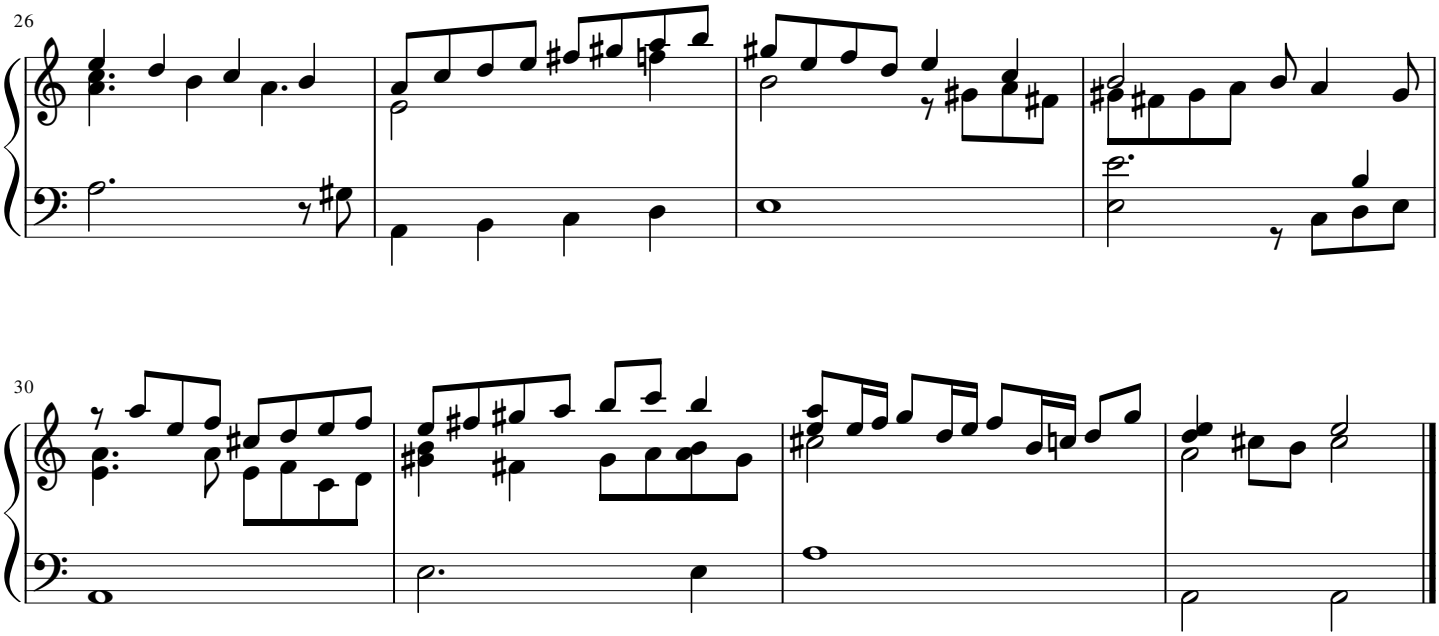
Seconda parte page 52

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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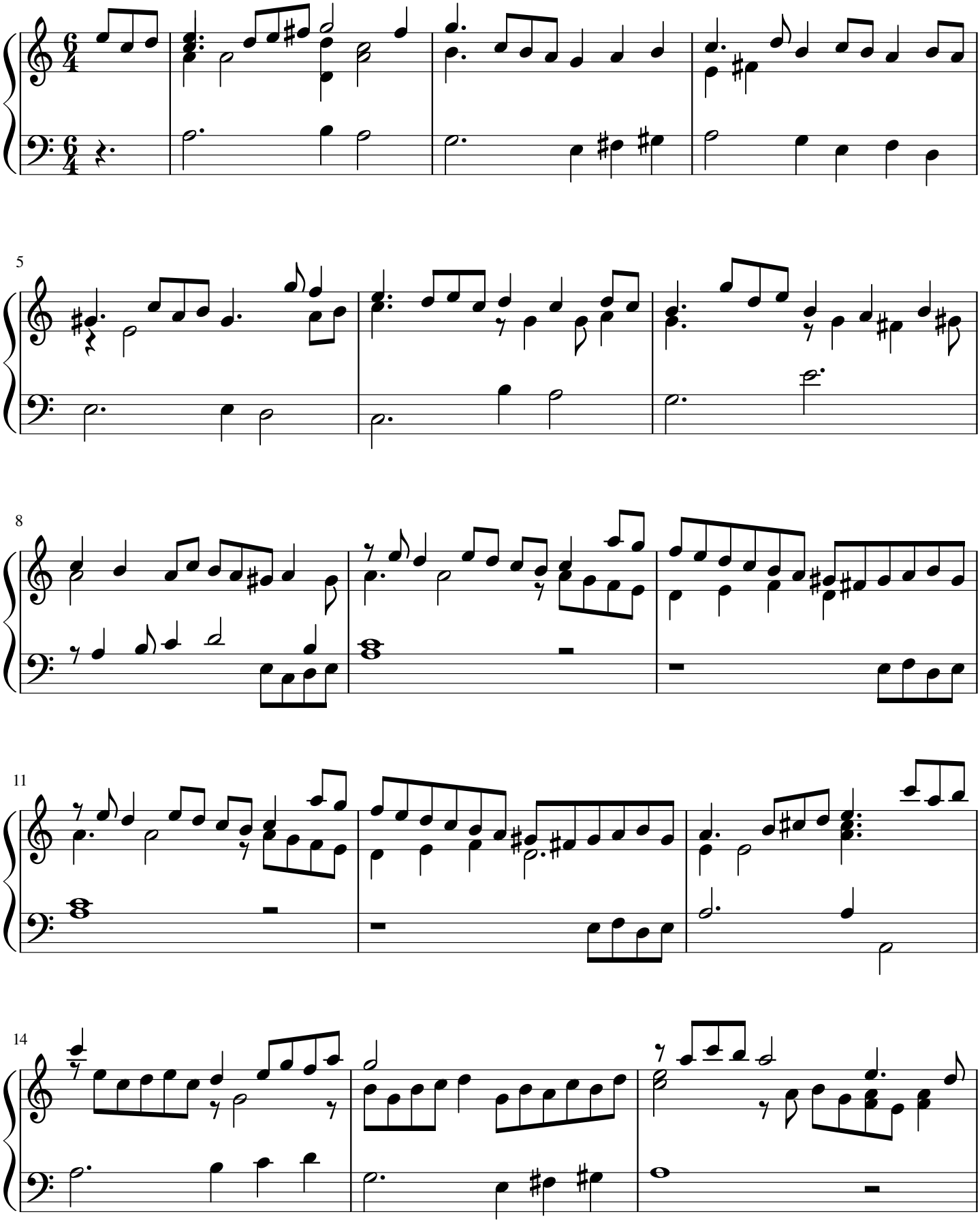
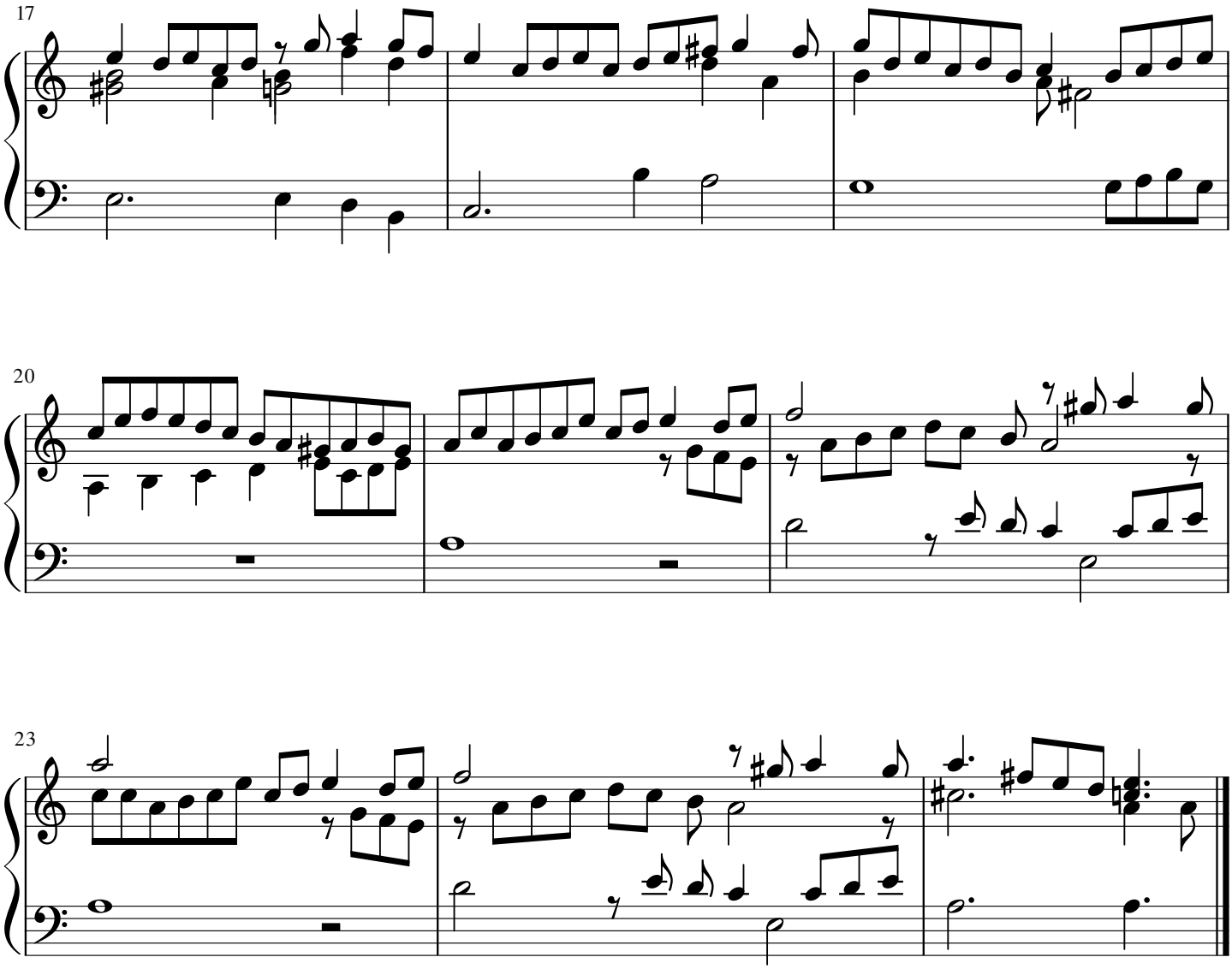
Saltarello page 53

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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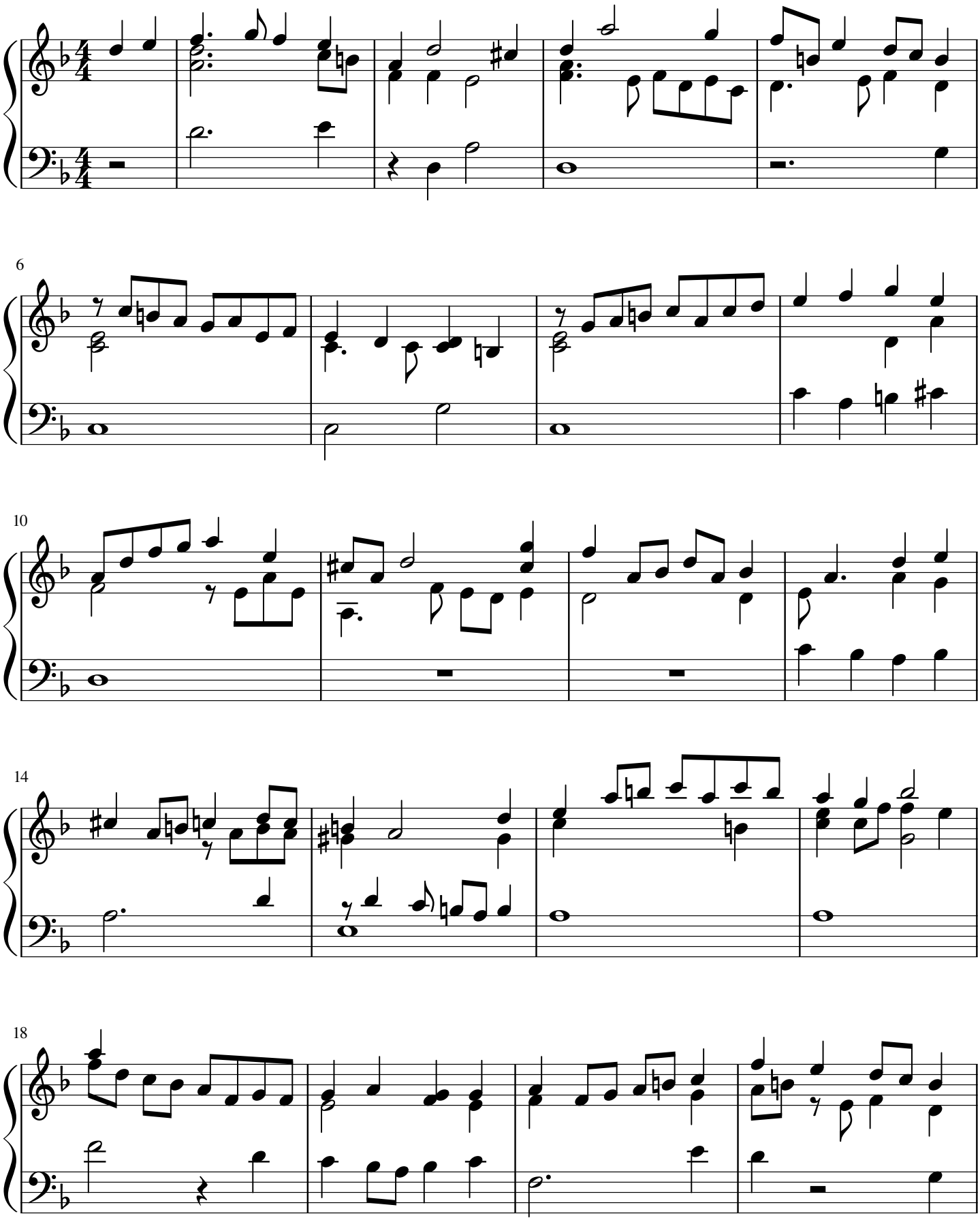
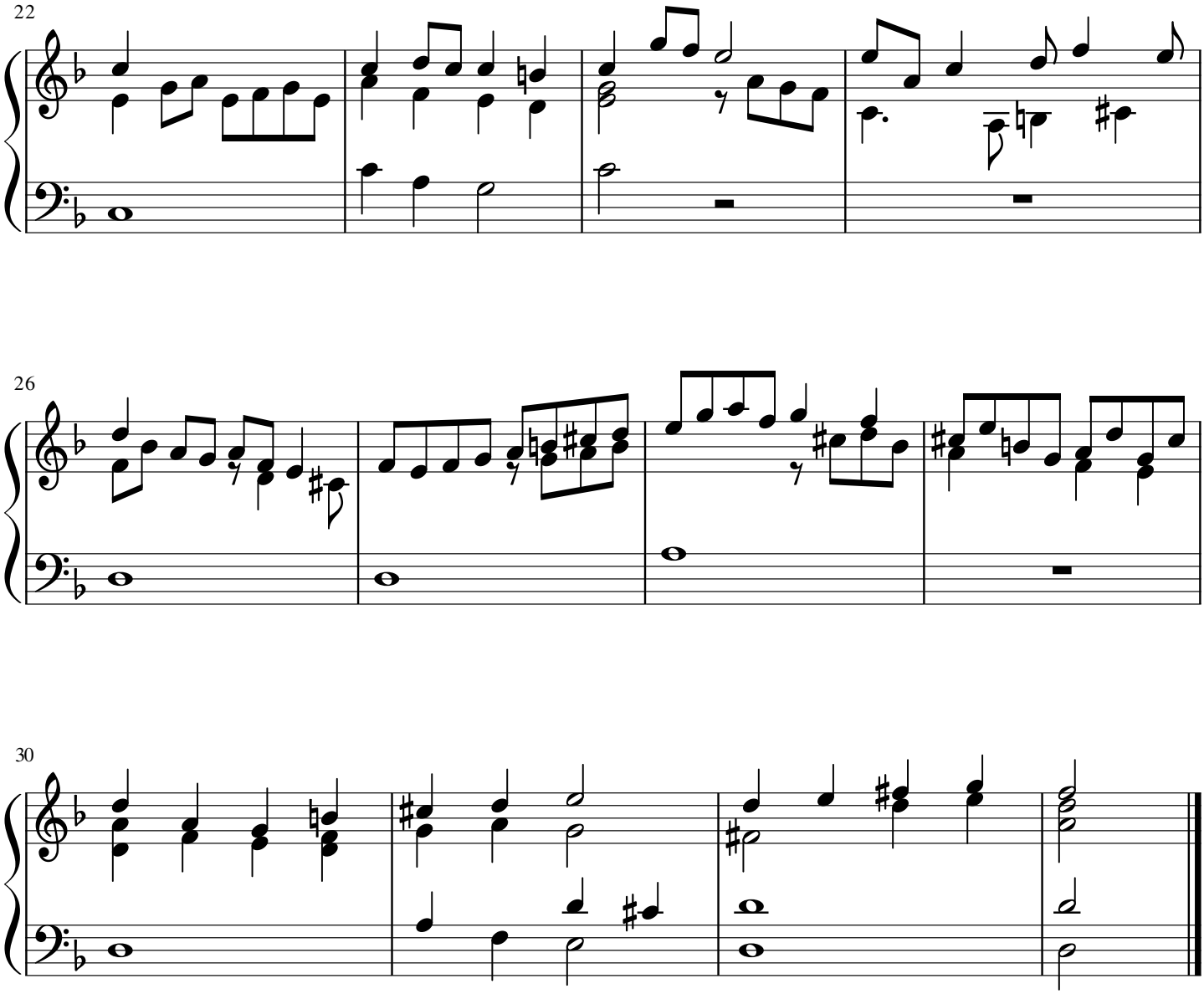
Passemezzo page 54

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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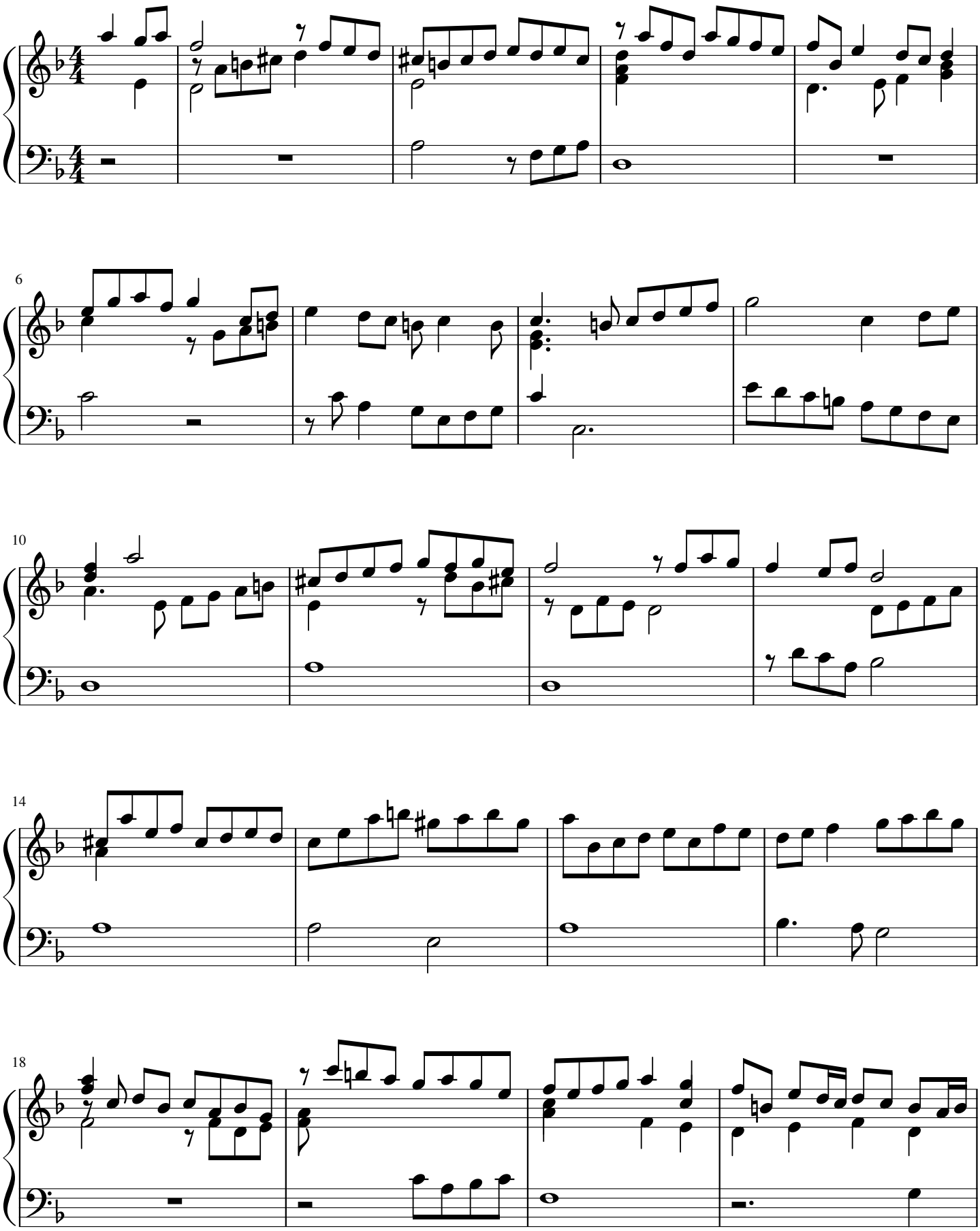
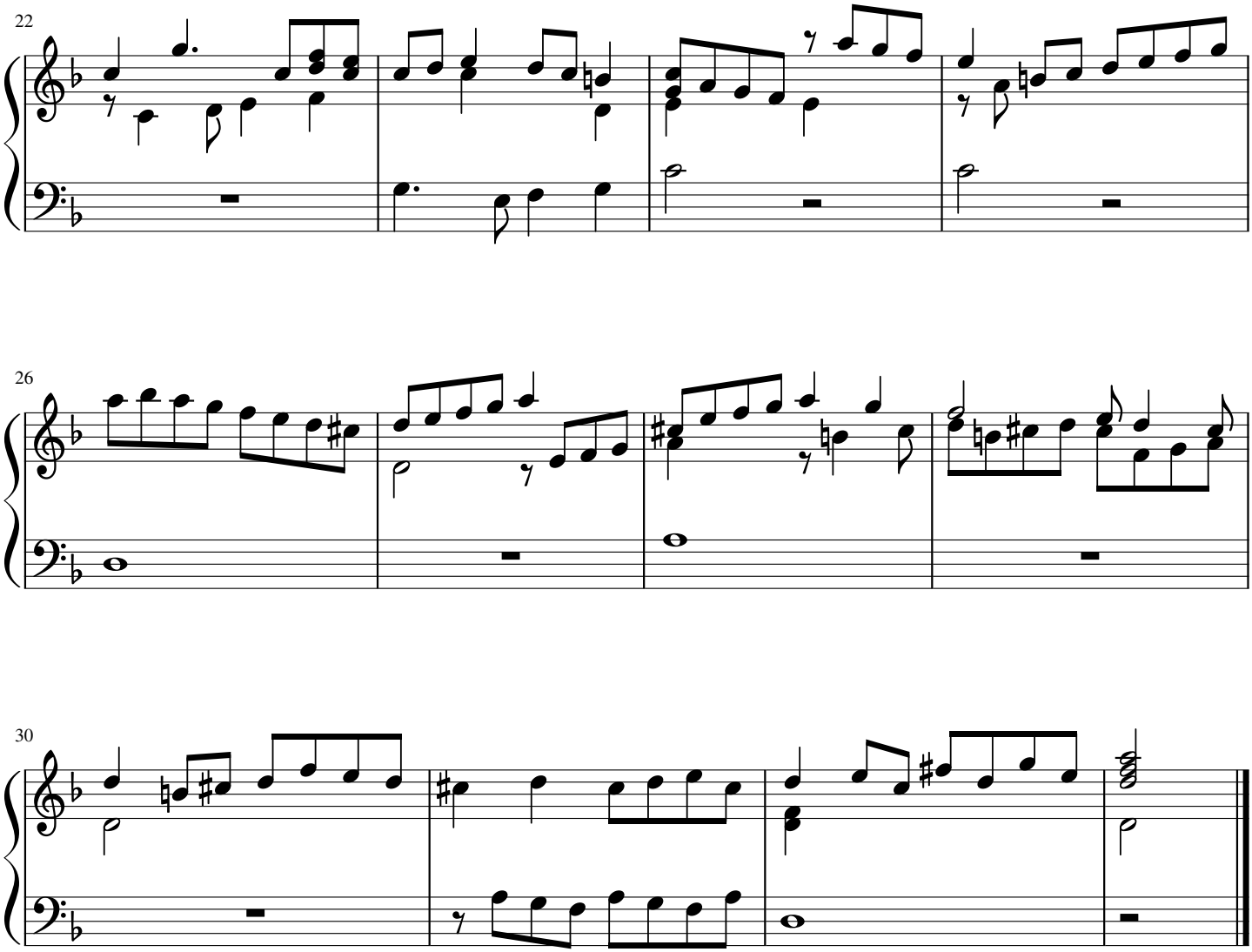
IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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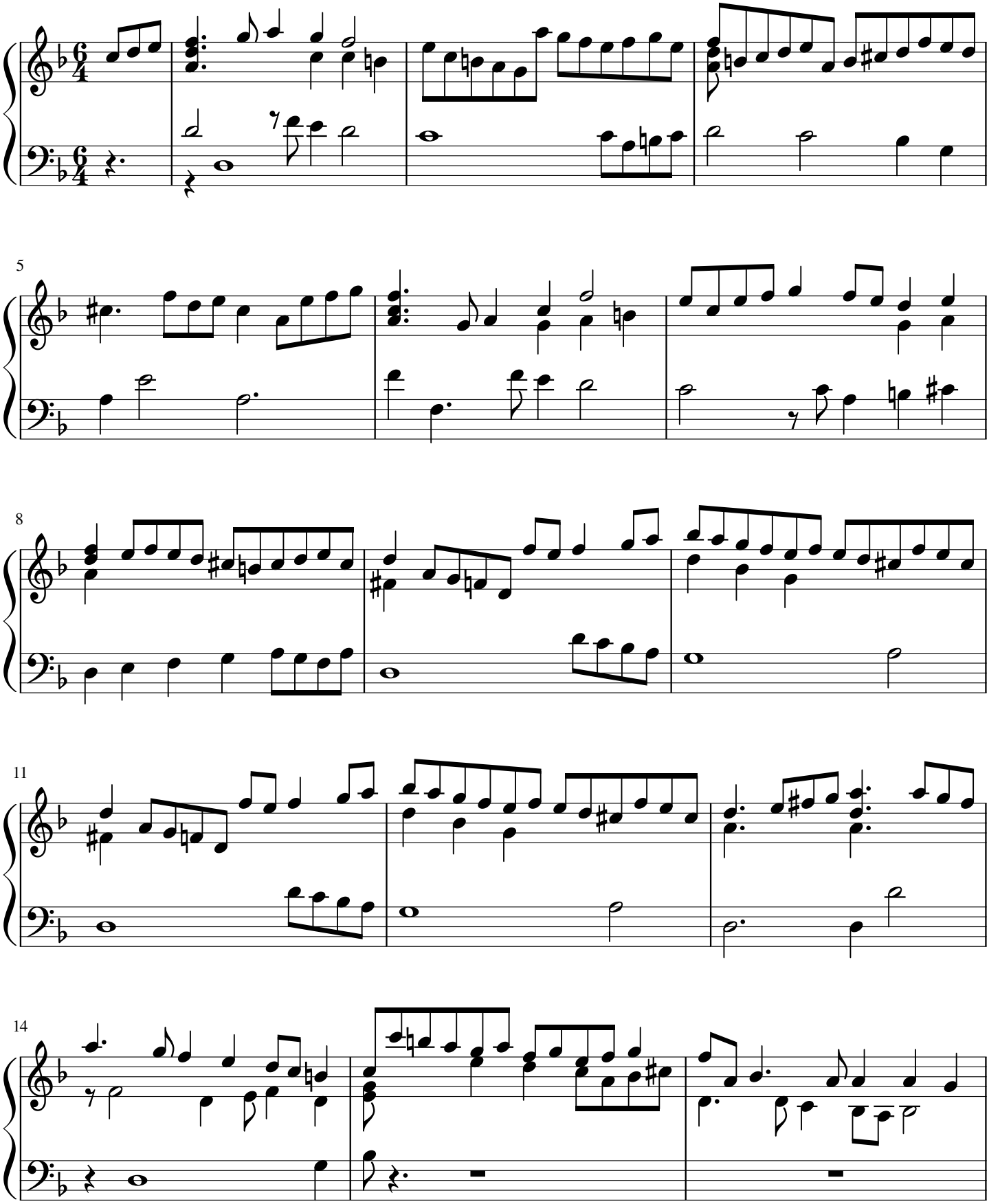
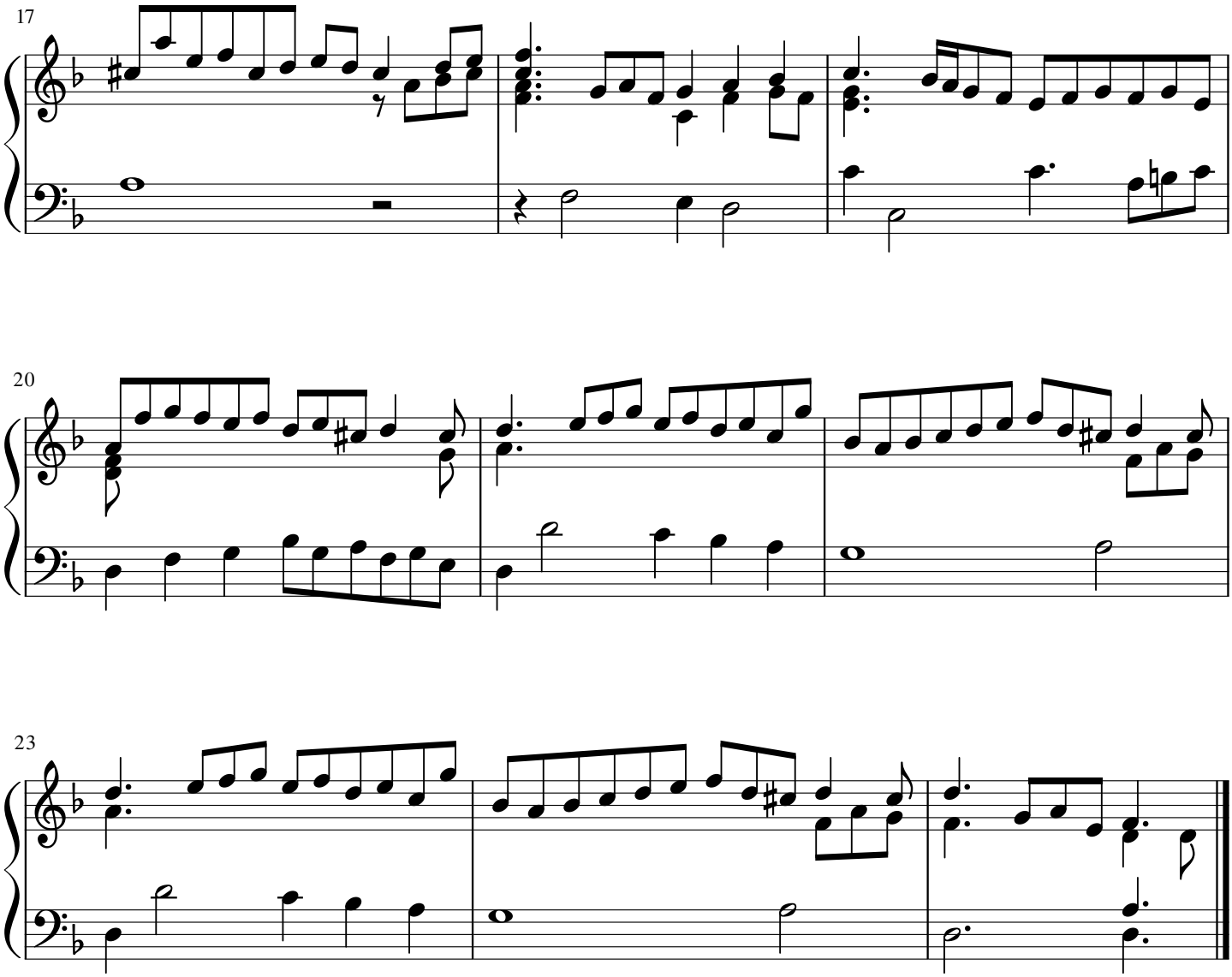
Saltarello page 56

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei

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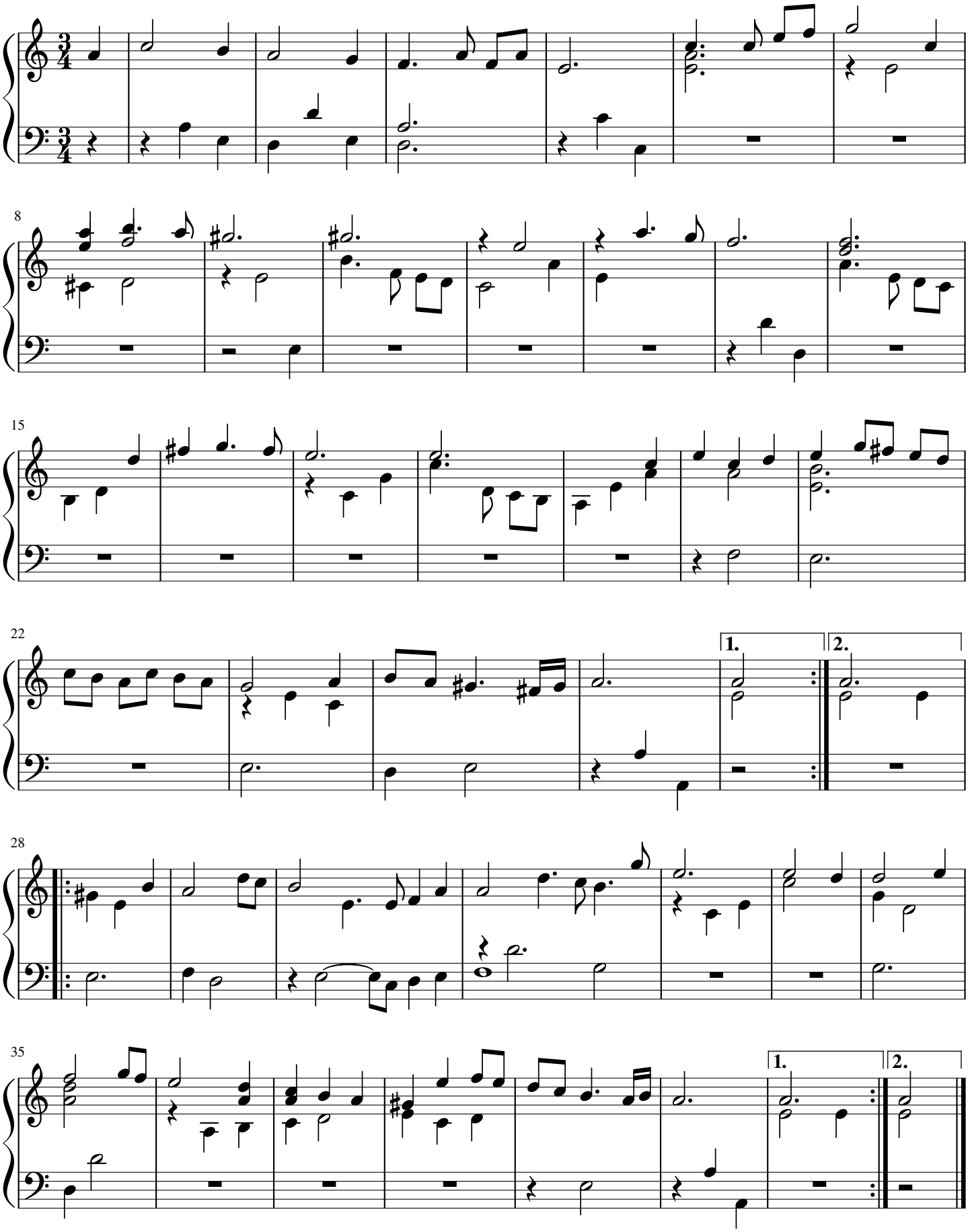
Corrente W. page 8ii & 9ii

London K.3.m.21 IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Seconda parte page 9iii

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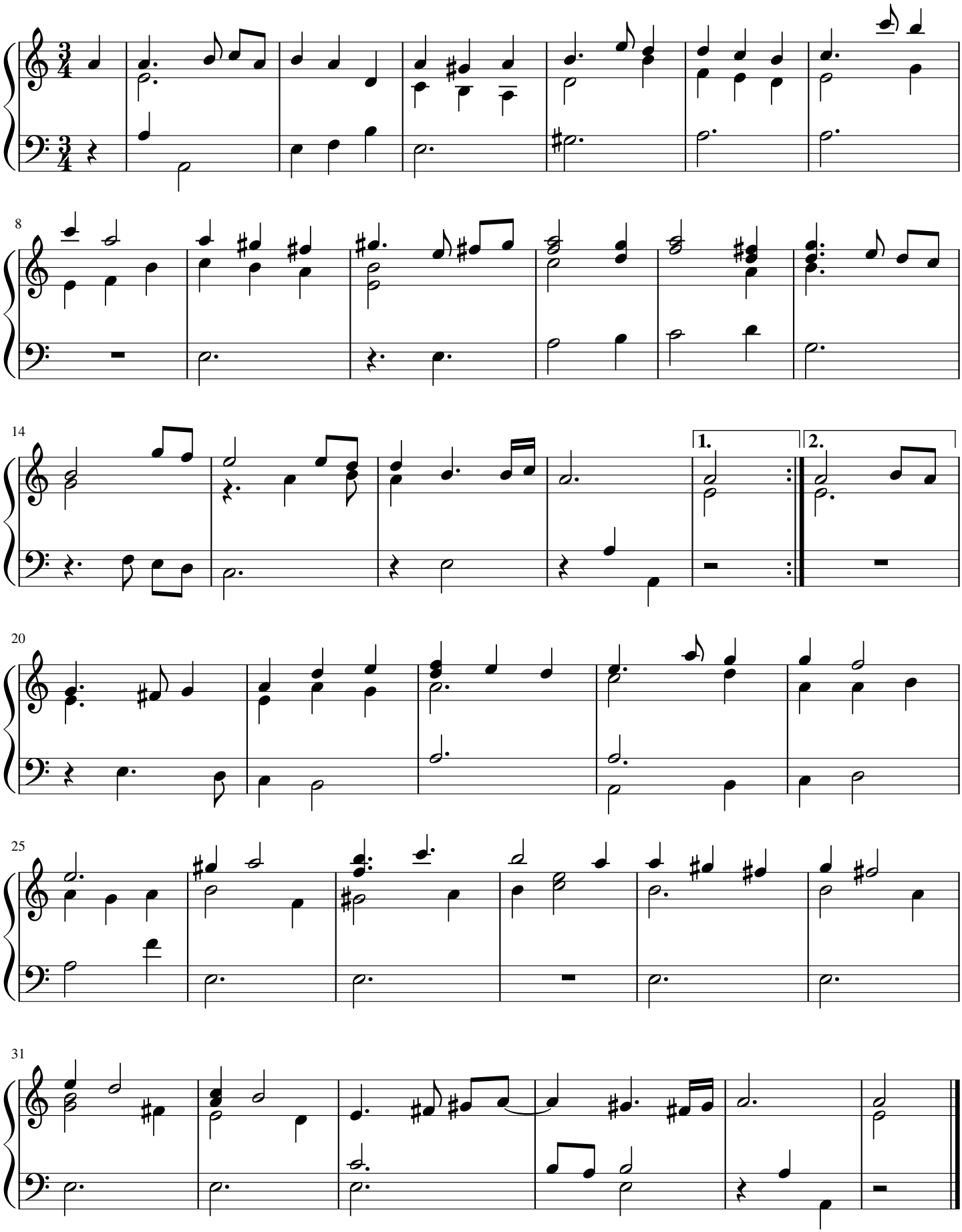
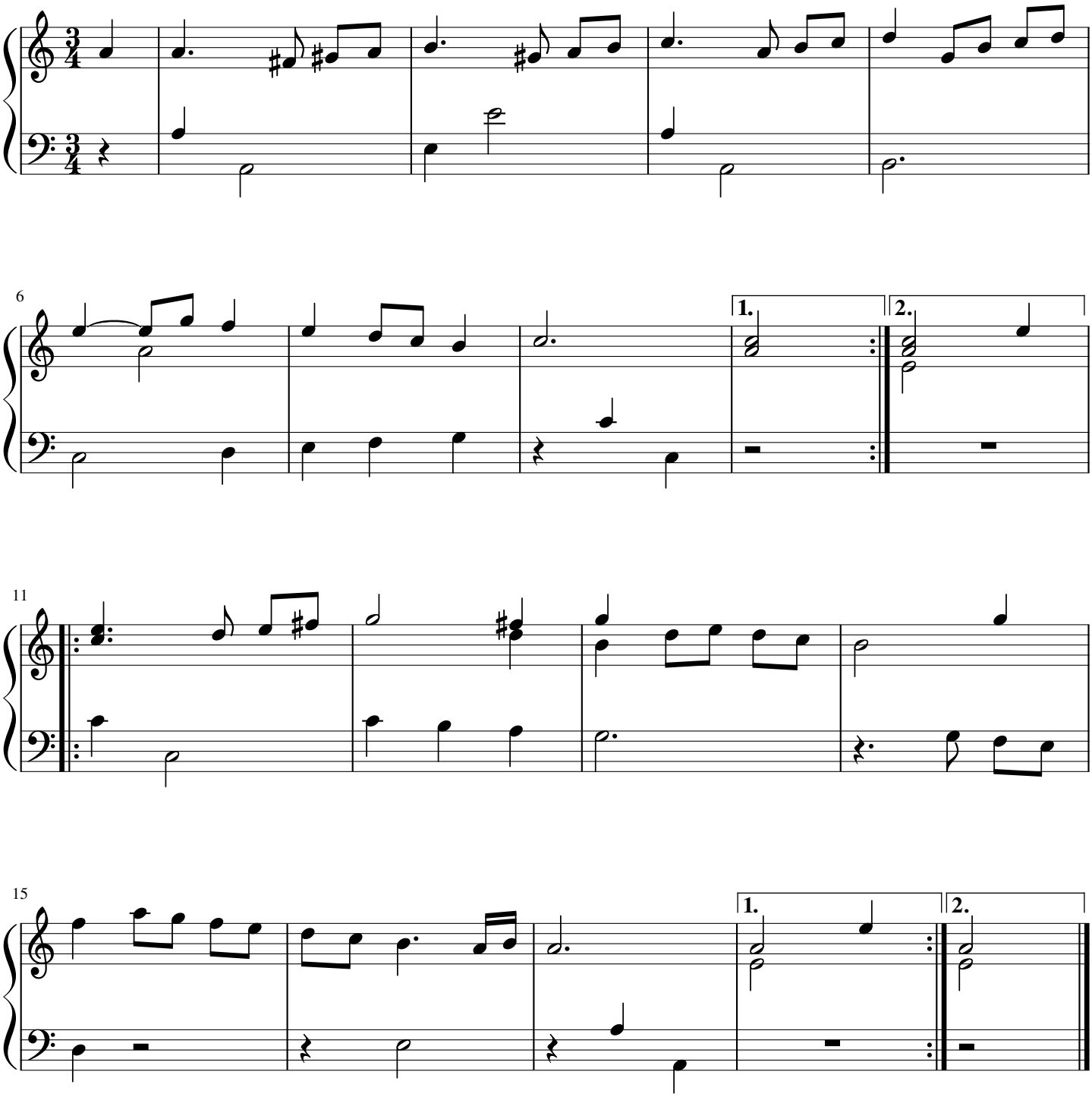


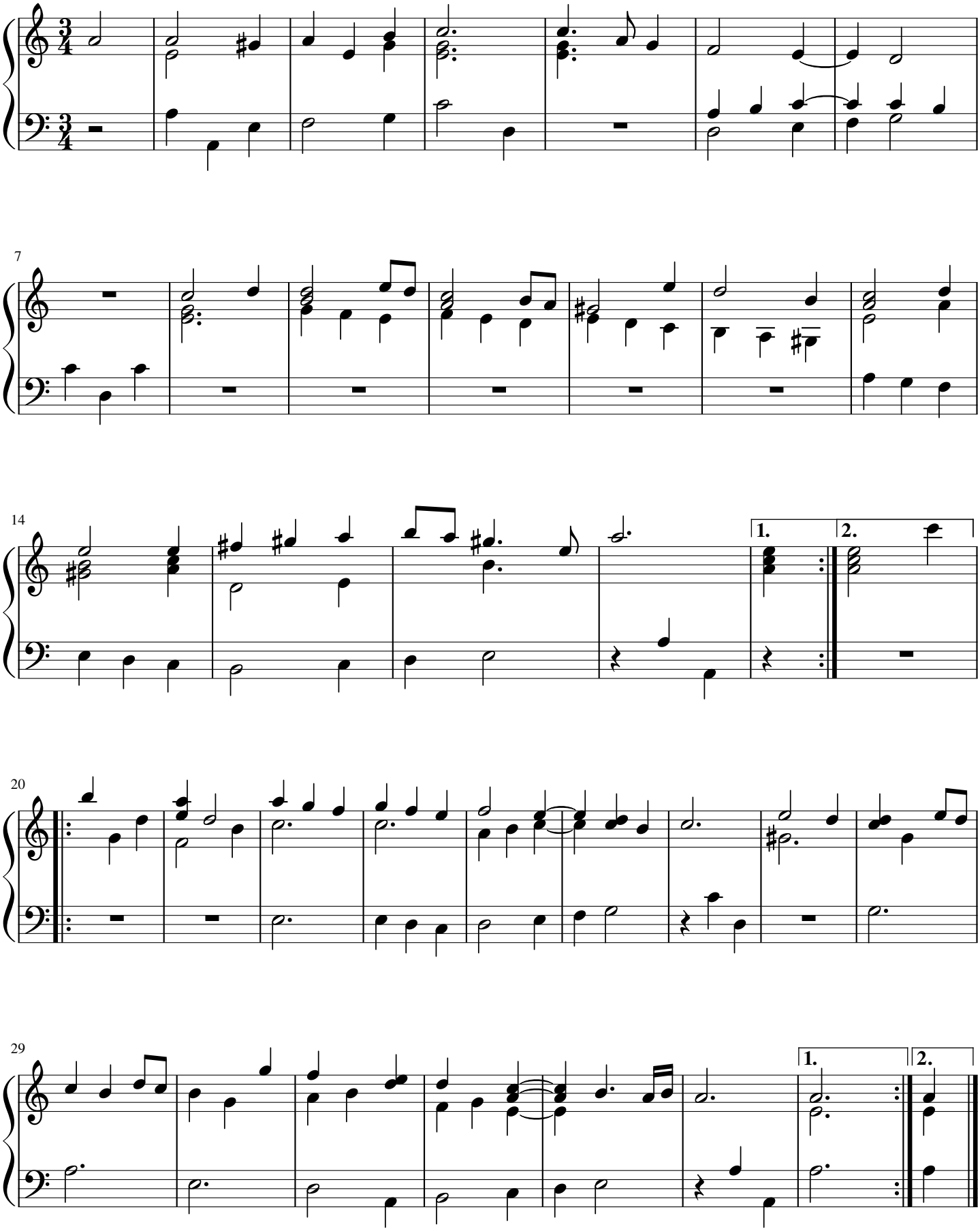
Terza parte page 12ii

London K.3.m. 21 IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei



Corrente del S. Gallilae quarta parte

Albrecht Werl BSB-Hss Mus.ms. 21646 folio 75r



Volte Galilei page 10ii

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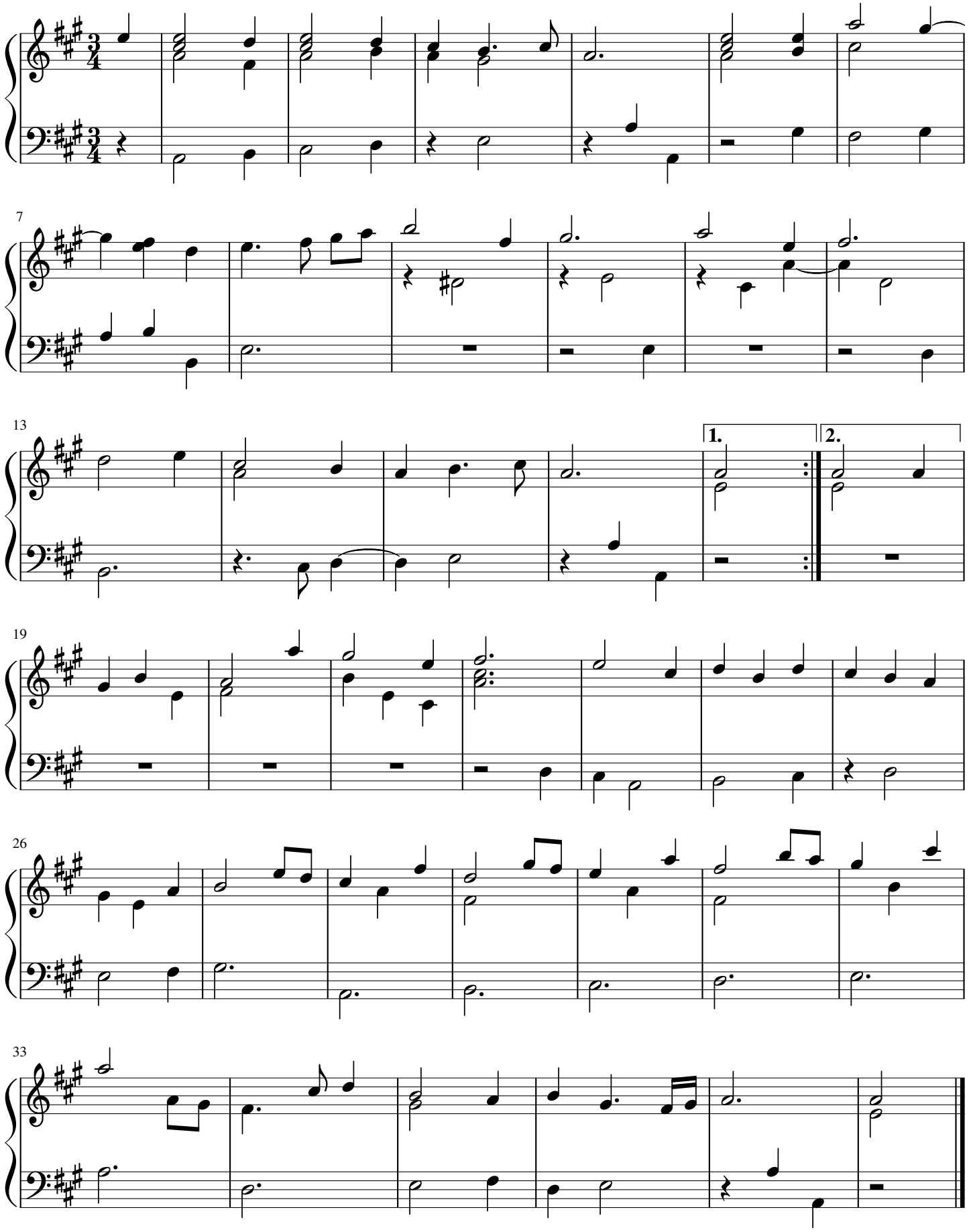
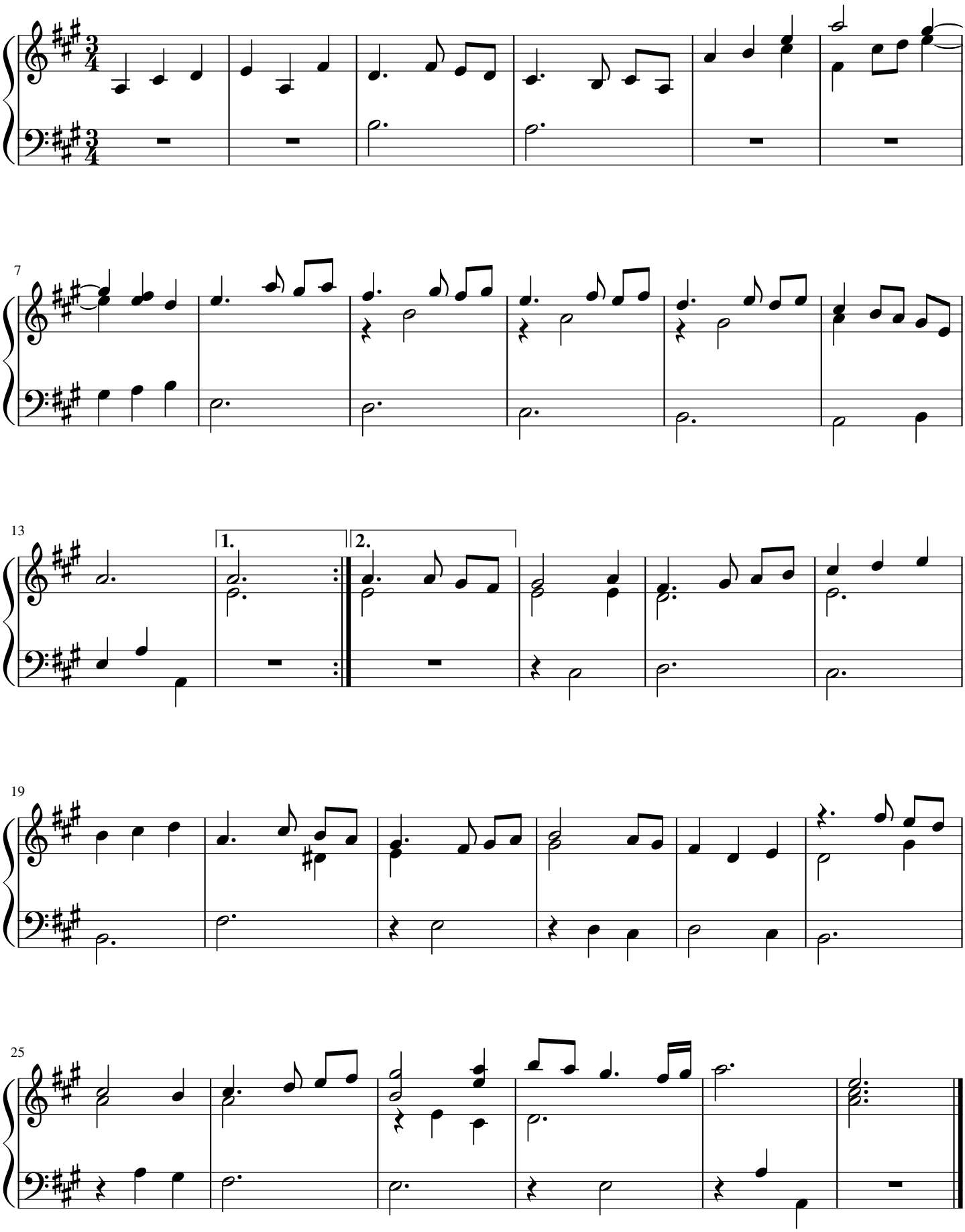


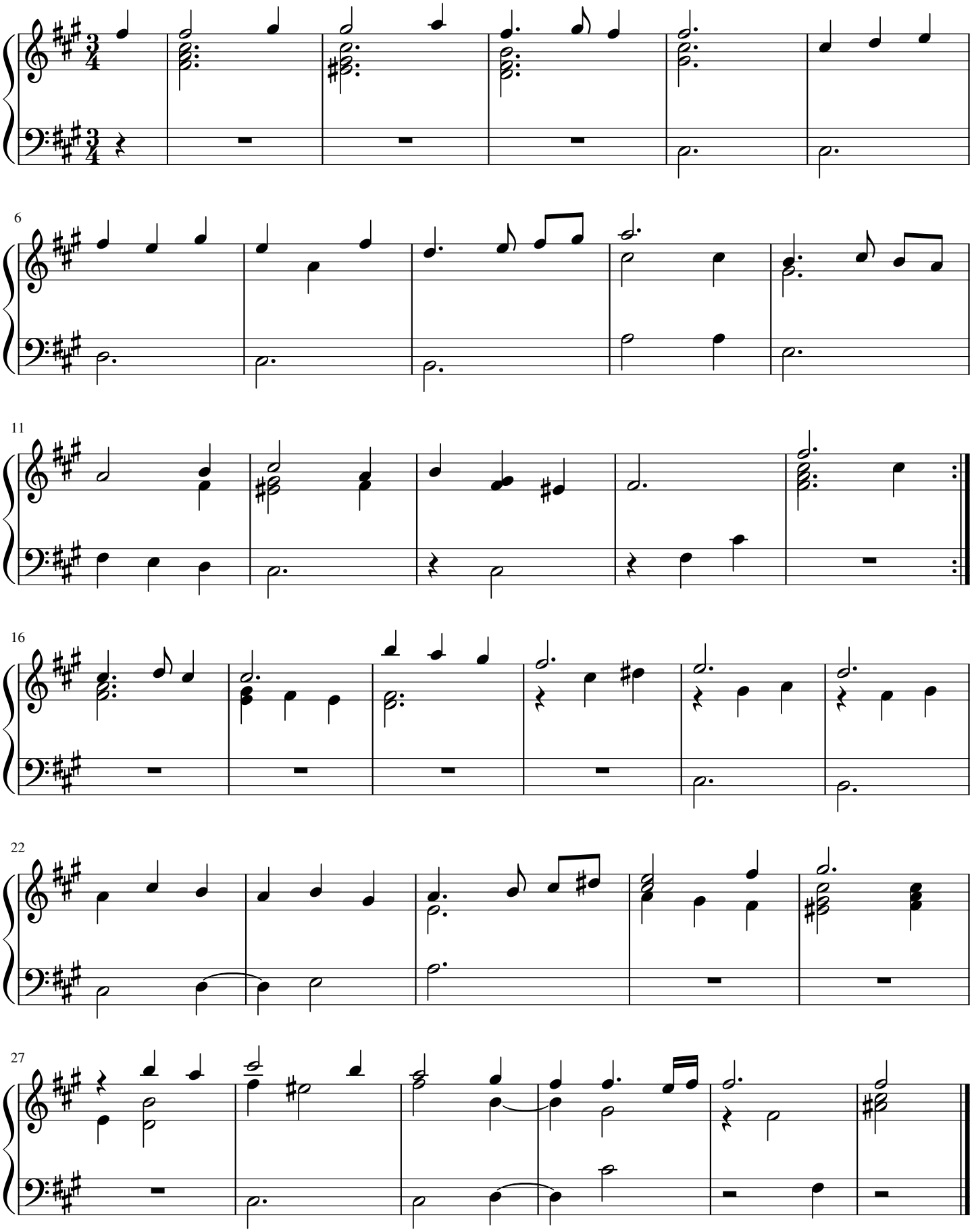
Corrente page 11ii

London K.3.m.21 Libro d'intavolatura di livto di Michelagnolo Galilei



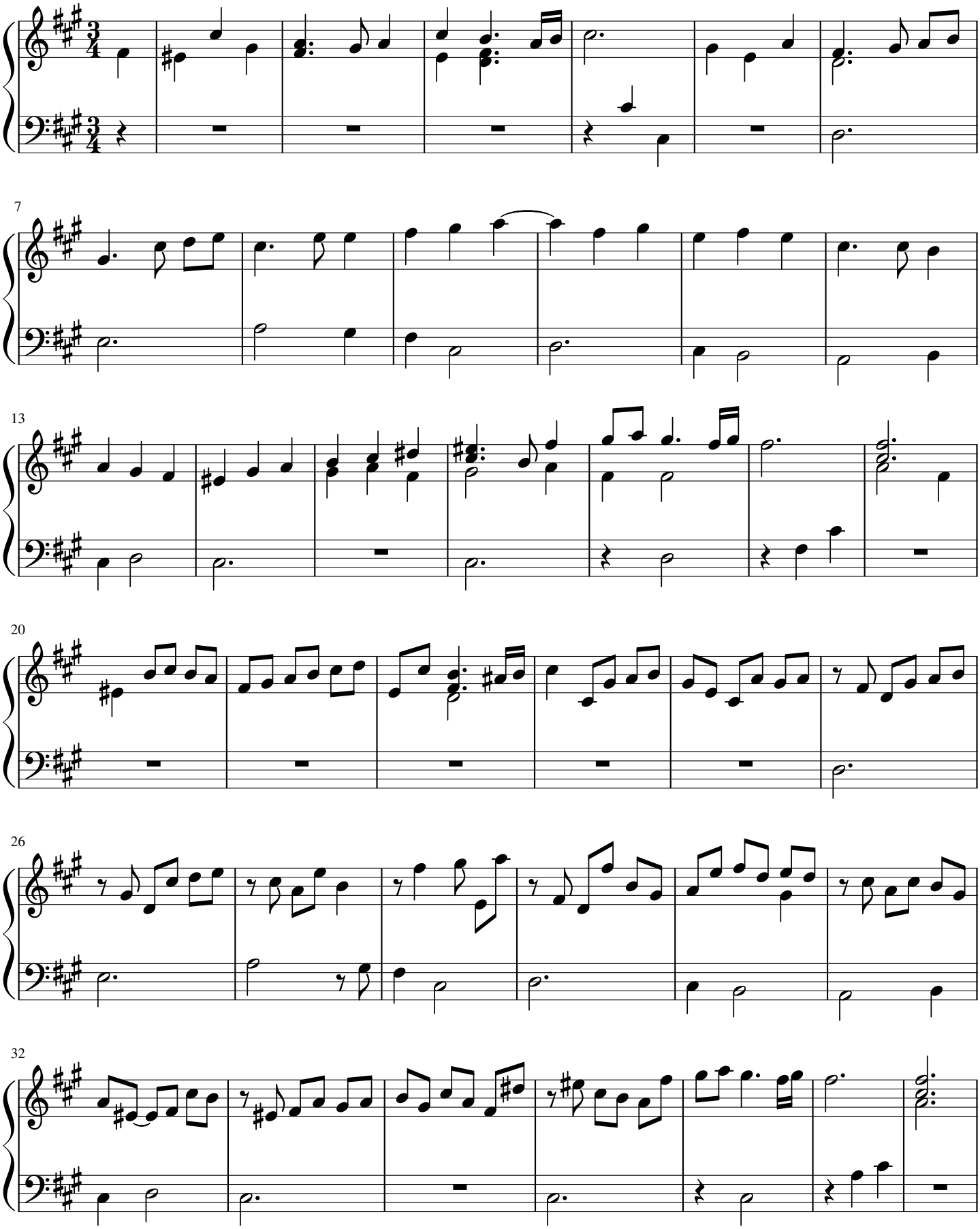
Courante Nouelle Galilei

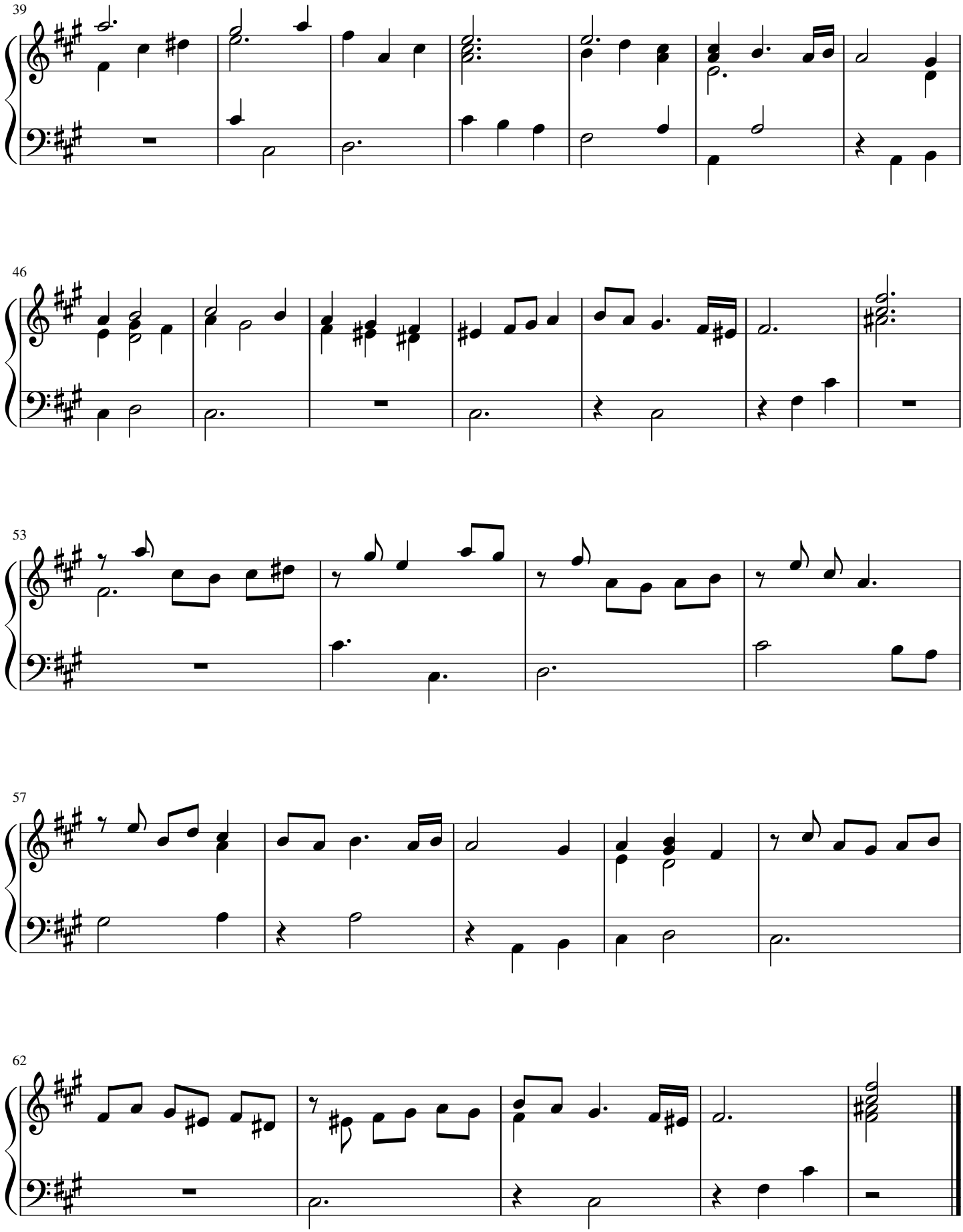
Johannes Aegidius Berner de Rettenwert in Lampotin Praha IV.G.18 folio 52 verso



Courante Galilei

Johannes Aegidius Berner de Rettenwert in Lampotin Praha IV.G.18 folio 55 verso 56 recto

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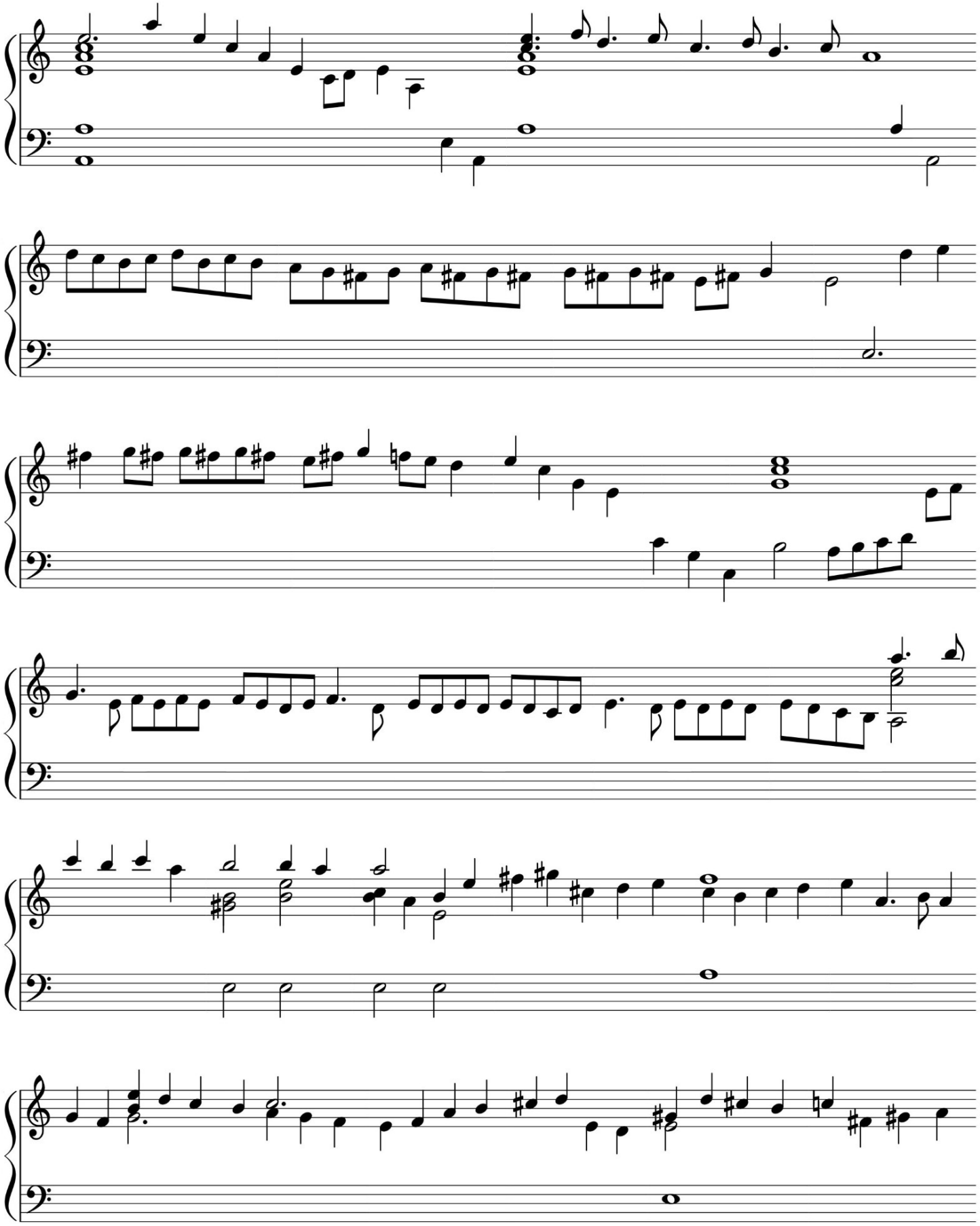
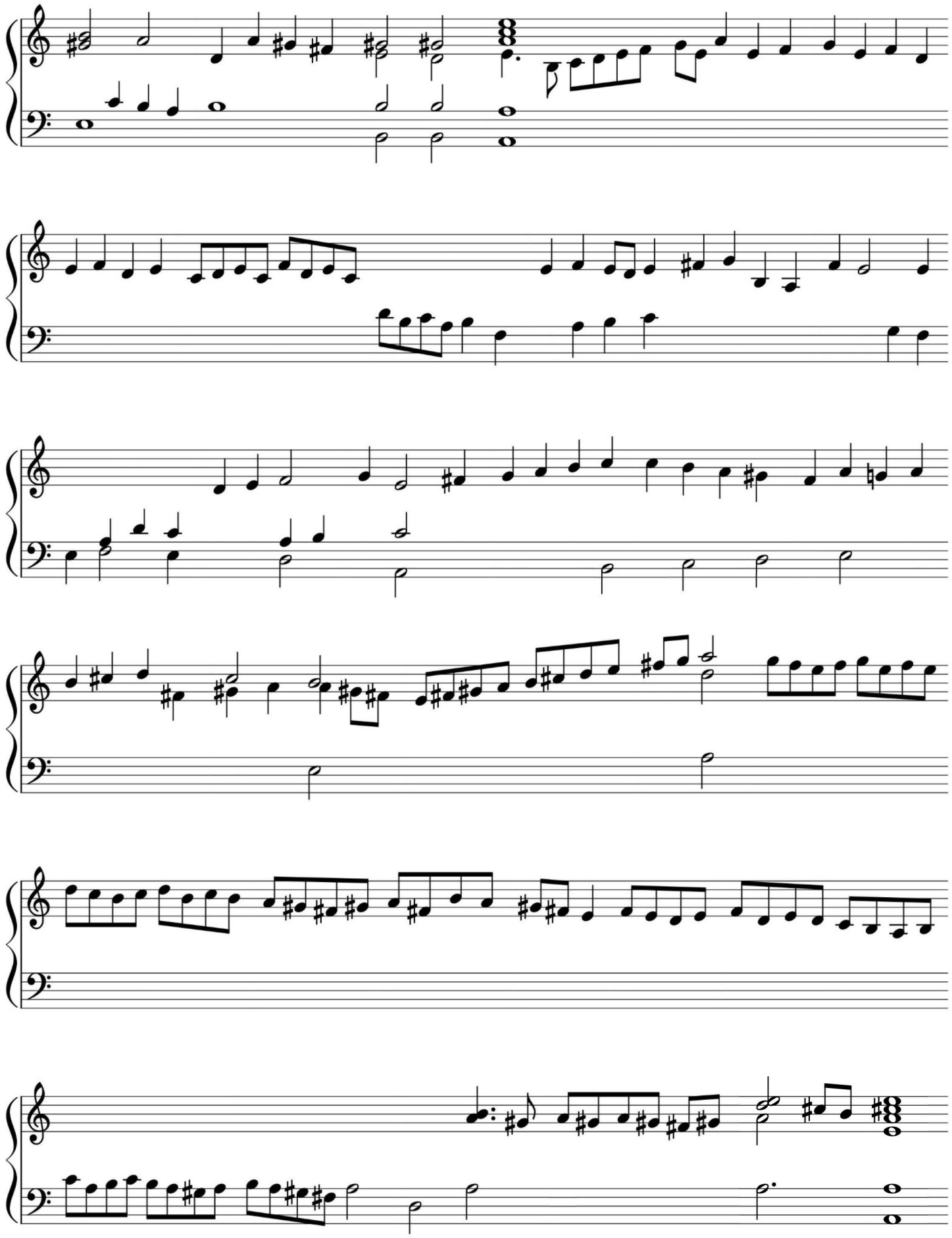
Toccata galilei

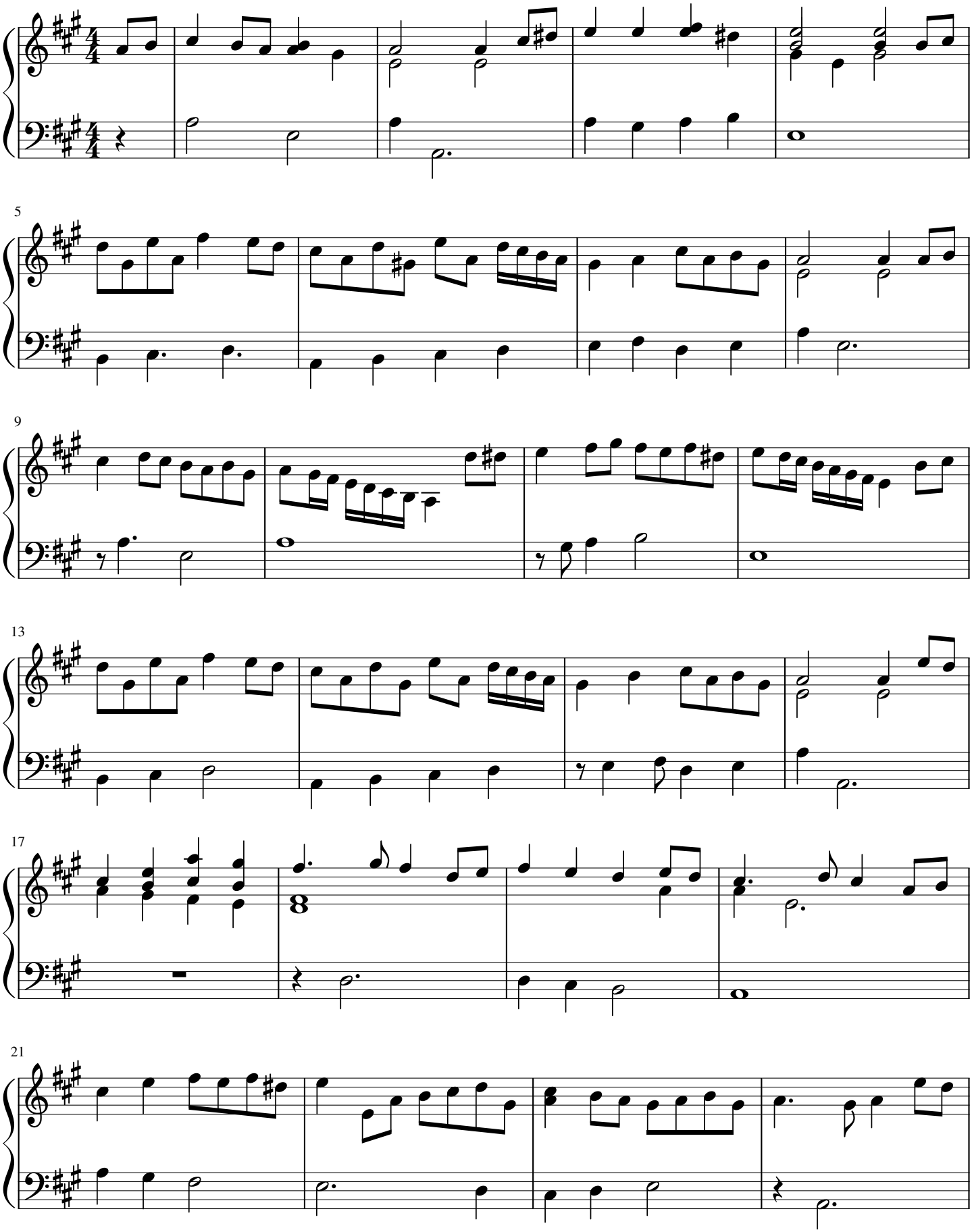
Johannes Aegidius Berner de Rettenwert in Lampotin Praha IV.G.18 folio 112 verso 113 recto

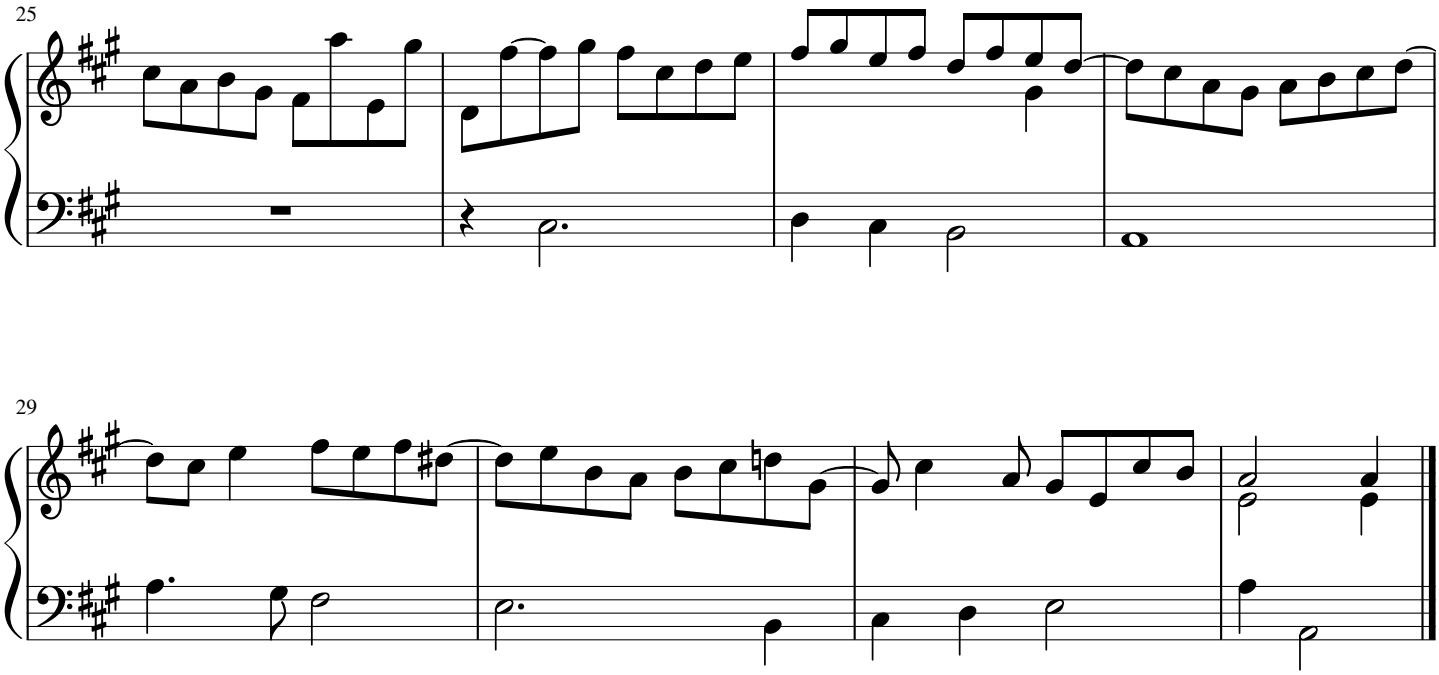




Ballet galilei

Johannes Aegidius Berner de Rettenwert in Lampotin Praha IV.G.18 folio 139 verso 140 recto

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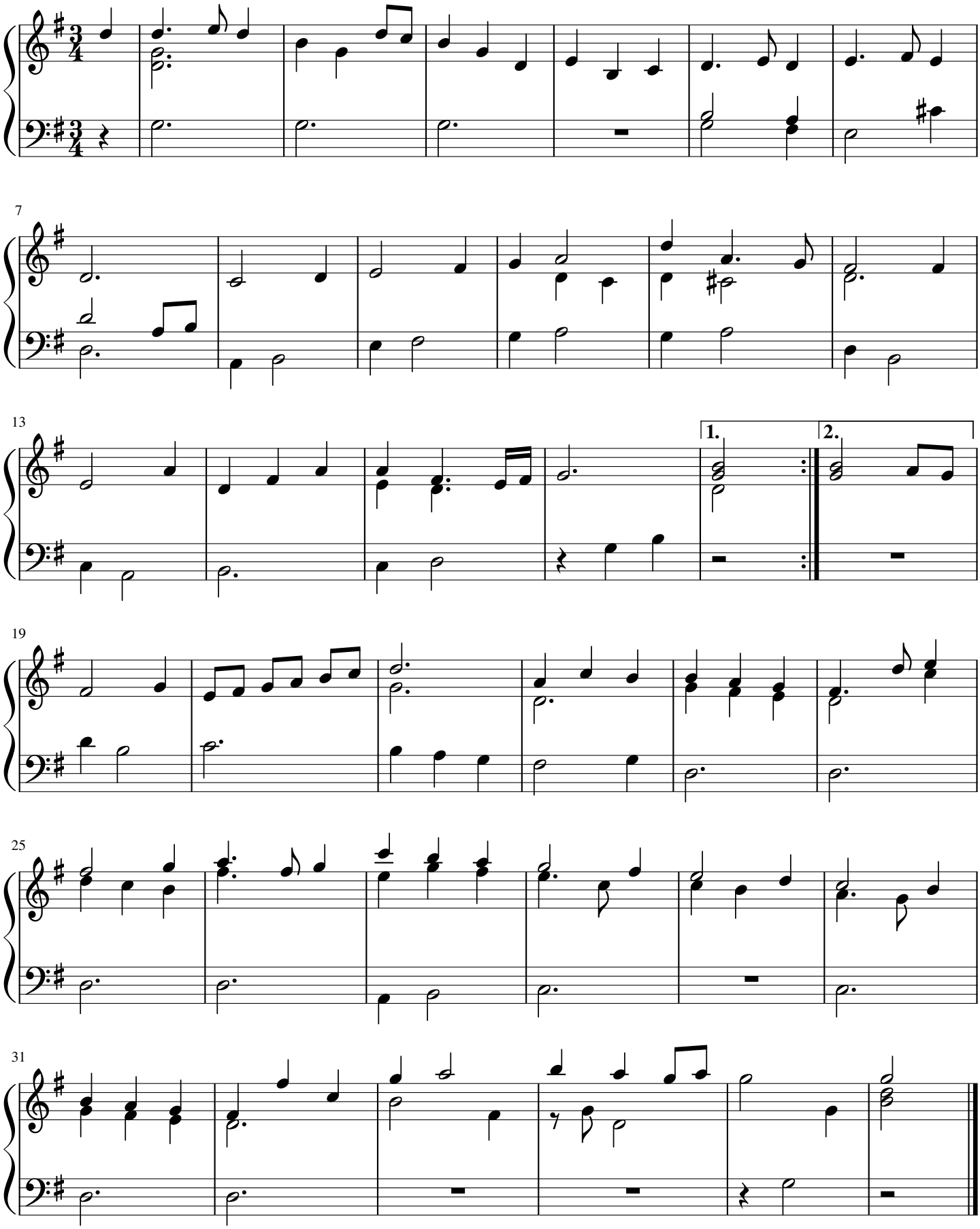
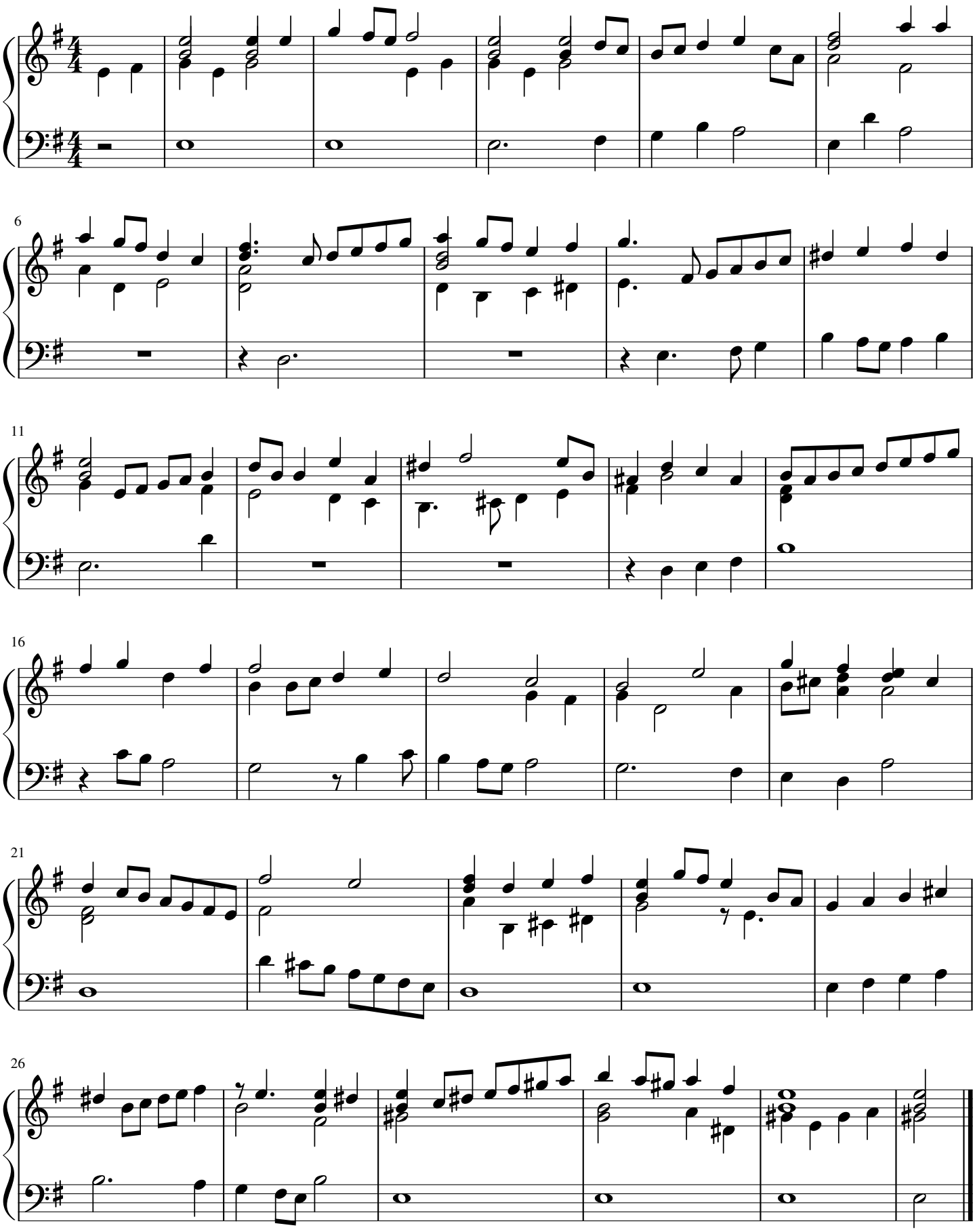
Volte D.G.

Johannes Aegidius Berner de Rettenwert in Lampotin Praha IV.G.18 folio 166 recto



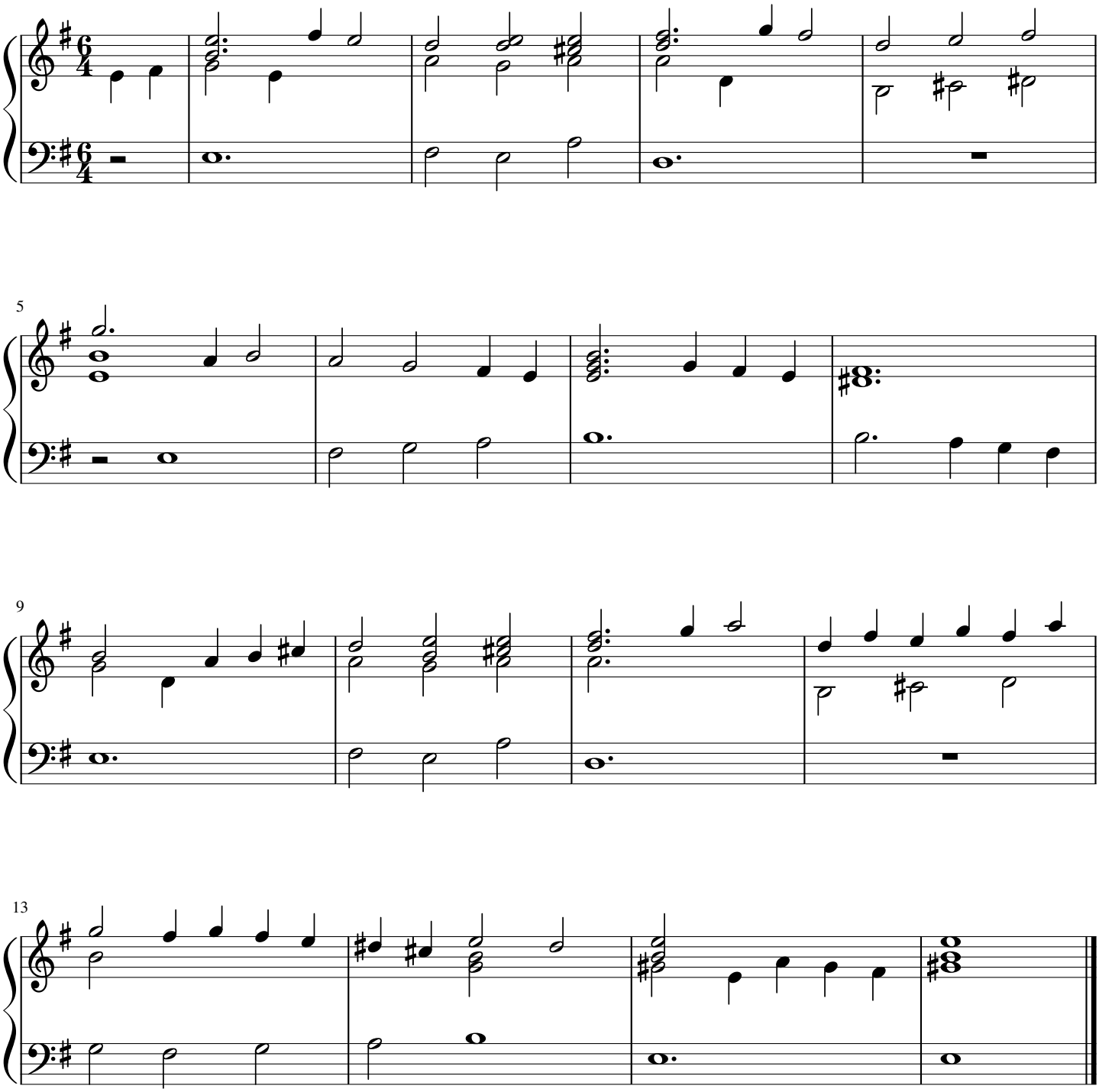
Passomezo galilei

Johannes Aegidius Berner de Rettenwert Dolmetsch Haslemere M.II.B.1 folio 151 verso 152 recto



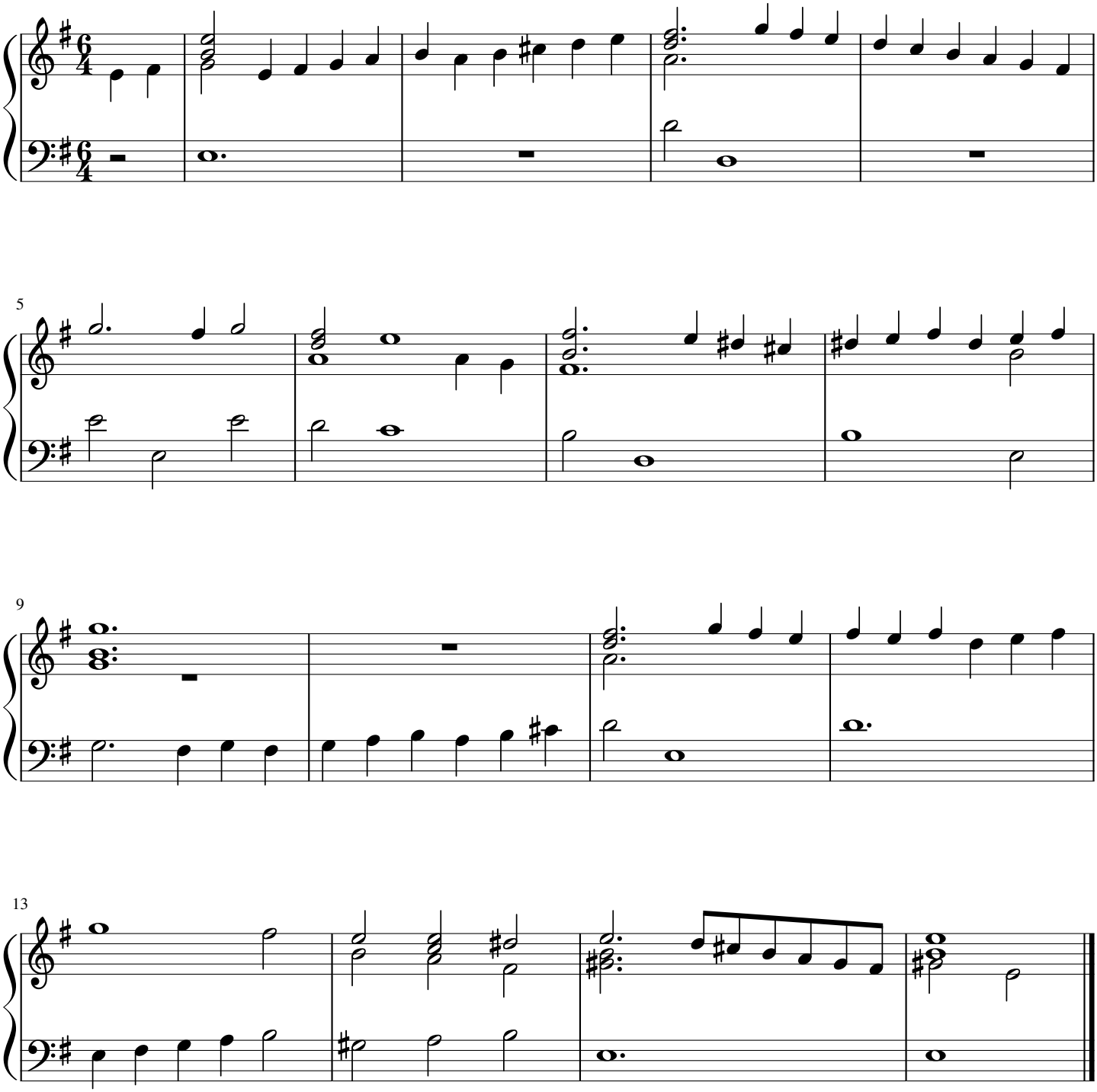
Saltarello Eiusde

Johannes Aegidius Berner de Rettenwert Dolmetsch Haslemere M.II.B.1 folio 152v



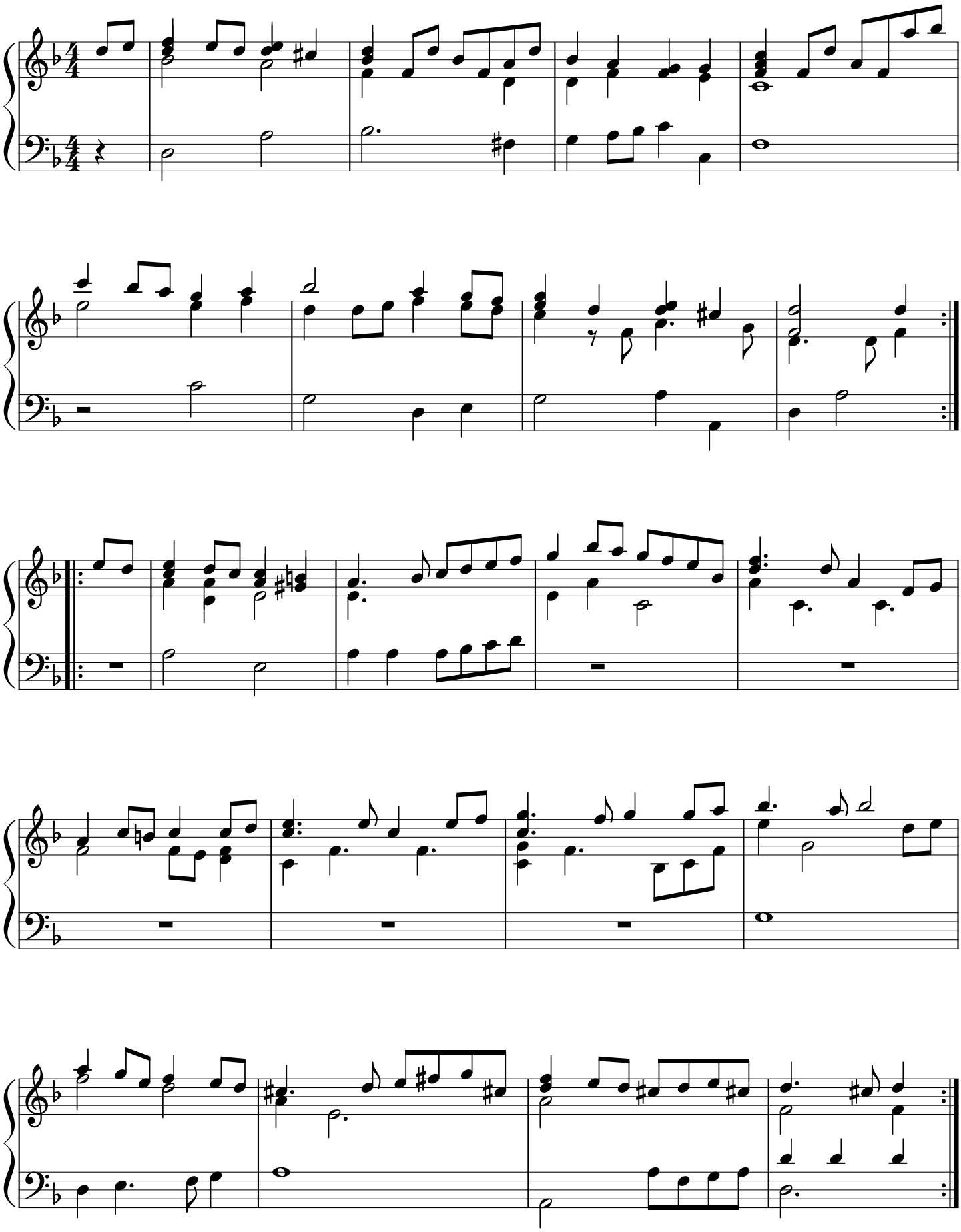
Saltarello aliud

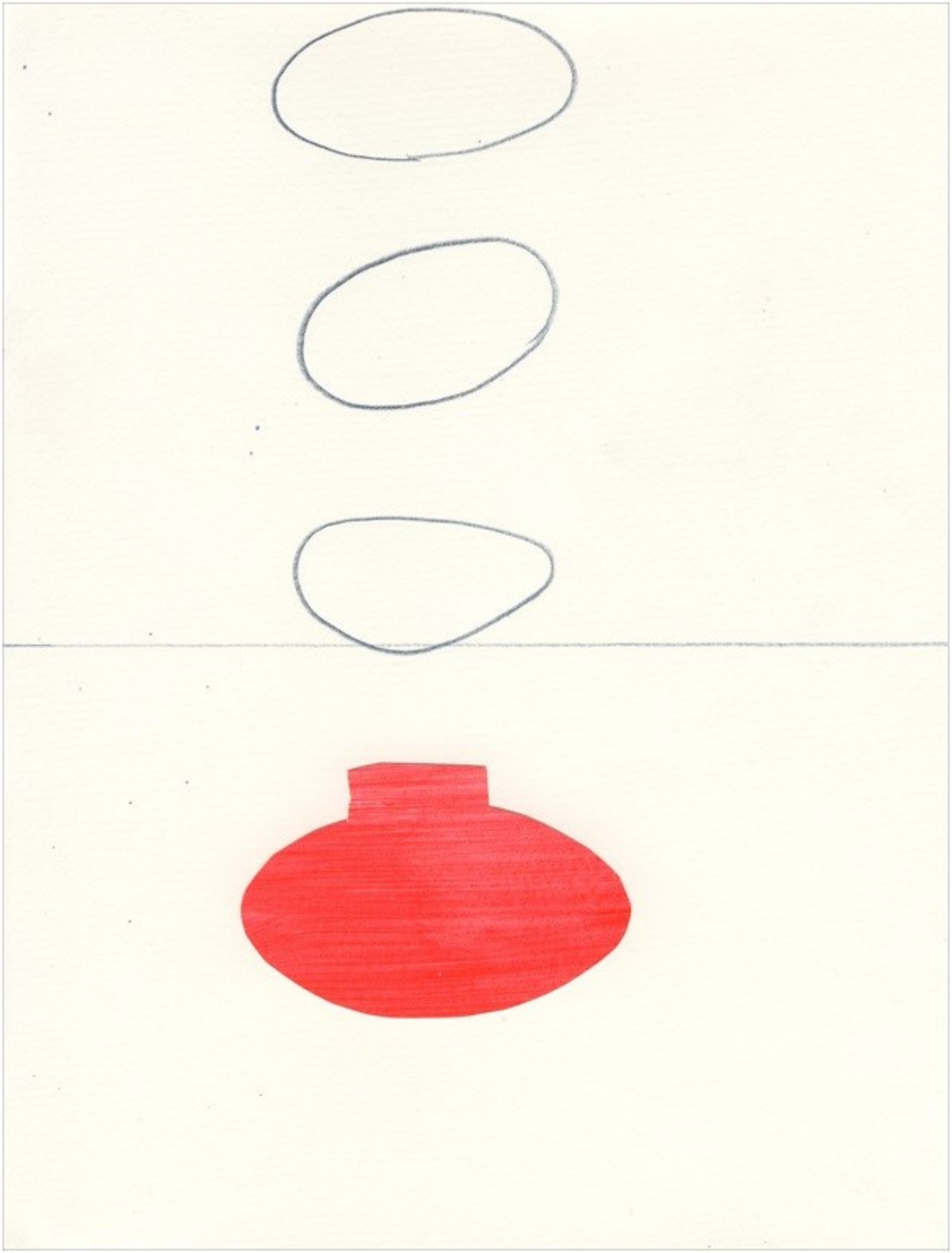
Johannes Aegidius Berner de Rettenwert Dolmetsch Haslemere M.II.B.1 folio 153r



Intrada Michelangelo Galilei

Johannes Aegidius Berner de Rettenwert Dolmetsch Haslemere M.II.B.1 folio 280v -281r





By Joost Witte

A ricercare which could be composed by Galilei

Galileo and Music: A Family affair

Dinko Fabris - The Inspiration of Astronomical Phenomena VI. Proceedings of a conference held October 18-23, 2009 in Venezia, Italy. Edited by Enrico Maria Corsini. ASP Conference Series, Vol. 441. San Francisco: Astronomical Society of the Pacific, 2011

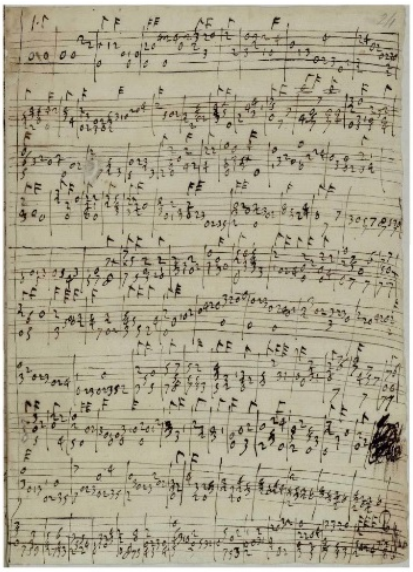
Galilei Vincenzio juniore

Carta 146r Vincenzo Galilei died 02 july 1591 Copia dell'atto di inumazione di Vincenzo di Michelangelo Galilei

Dinko Fabris wrote in his article *Galileo and Music: A Family affair*:

"In the miscellaneous manuscript Anteriori di Galileo 9 of the National Library in Florence, a collection of madrigals copied in "reversed score" by Vincenzo Galilei (in order to prepare lute intabulations), a single sheet can be found in a different hand, which includes a manuscript Ricercare intabulated for solo lute probably at the end of the 16th century.

This sheet is attributed to "Vincenzo Juniore" in the Library catalogue. The style of the music, written anonymously at the very end of the 16th century, is too modern for Vincenzo (death in 1595) and too old-fashioned for both Michelangelo or his son Vincenzo Jr.: even without any evidence, I like the idea that this could be the only remaining piece of lute music composed by the young Galileo Galilei."



The purpose of the article below is to zoom in on the paragraphs above and add some arguments. It focuses on (the different hand of) possible candidates for ascription and on some characteristics of this ricercare.
Based on creative association two side paths are being followed: that of a sunny metaphor by Vincenzo Galilei and the trail of a soldier into the service of Duke Maximilian of Bavaria.
During these investigations the ongoings of Michelangelo Galilei stands prominently in the spotlights, but that reveals nothing about the final conclusion.

The text has three parts: first family members with a connection to music are inventoried, the next focuses on features of the manuscript and the music, and finally the last part reflects on several explanations for clues.

Candidates of the Galilei family

To sum up the musicians in the Galilei family:

Vincenzo father of:
- Galileo father of:
  - Virginia
  - Vincenzo
- Michelangelo father of:
  - Vincenzo
  - Melchilde
  - Cosimo
  - Alberto Cesare father of:
    - Albe Cäsar

To sharpen the image some facts about these music stars can be noted:

Bayerisches Musiker Lexikon Kinder Galilei Albertus Caesar

Bibliographisches Quellen by Robert Eitner 1900 - 1904

Die Familie Galilei in München by Karl Trautmann 1889

Albe & Piber : Alberto & Siber

Little Ice Age A cold

Alberto's family according to:
BMLO - one child Albe Cäsar based on the

Albe Cäsar, child of Alberto Cesare, was a violin student of Piber. He may have been the last musician in the Galilei family in four generations.

The Quellen lists 1635 as the time for his studies.

In the years 1634 -1636 his father Alberto was studying violin with hofmusiker Franz Siber.

Of course we should be very careful with similarities but the couple Albe and Piber and the names Alberto and Siber do look alike - did a cold, a dialogue and phonetic writing create doppelgangers in the archives?

The sources do not give unambiguous results about the family composition of Alberto Cesare.

Bibliografische quellen
Musik in Bayern Dieter Kirsch Michelagnolo Galilei und seine Familie 2006 Band 71 - one child Franz Nestor based on Kirchenbücher der Pfarrei Unser Lieben Frau
Sie haben in München gelebt - vier Kinder
source(s) not specified

BMLO Galilei Albertus Caesare

Kreisarchiv serie C Fasc. 467.37
Theater und Hofmusik. No. 467.
Personalakte Albrecht Cäsar Galileis

Alberto Cesare *24 September 1615 † 16 September 1692 was Instrumentist an den Hofkapelle in München, like his father Michelangelo was before him. He was Lautenist, Trompeter, Geiger (lutist, player of the trumpet and strings) and also played kittära (guitar).

EN XIII. 1805 Edizione Nazionale delle opere di Galileo Galilei

The son of Michelangelo was offered by Sr Renatto from Paris to take him in his house and teach him with care everything he knows.

Dieter Kirsch identifies the son as Vincenzo Galilei. Musik in Bayern 2006 note 59

Sr Renatto was a friend of the Galileis, who composed in the new French style, different as what he used to do in Italy, and was highly praised.

The son is understood by Claude Chauvel as Alberto.
Il primo libro Minckhoff Edition Introduction par Claude Chauvel 1988 note 22

Claude Chauvel hesitates to link the identity of signor Renatto with René Mesangeau, of the most famous lutenists of the time in Paris and who supposedly lived in Germany until 1619.

CD Michelagnolo Galilei by Anthony Bailes 2013 booklet page 10

Luteshop Courante by Monsieur Saman, and a related Volta. By Martin Sheperd.

Would he be René Saman (fl. 1610-31), lutenist to Louis XIII, who composed a courante related to Michelangelo's Volta page 9 Il Primo Libro?

Dossier. Le luth en France au XVIIème Posté le 11.11.2014 par Camille De Joyeuse

Saman was a musician in 1615–16 to Marie de Medici - Queen of France.

Marie de Medici played lute since her childhood in Florence and as Queen had constantly lute players in her vicinity.

The French Court wrote to Galileo: "Discover as soon as possible some moon to which his Majesty's name may be fitly attached. You will gain renown, and likewise lasting riches for yourself and your family."

An impatient and eager Marie de Medici shocked Italian gentlemen, who brought Galileo's telescope, and the French court by going on her knees to see the moon.

Saman, René Volume Grove Music Online by Andrew Ashbee 2001

In 1619 Saman was appointed lutenist to Louis XIII and also taught boys of the royal chapel.

Tutta L'arte Della Trombetta Complete English Translation, biography and Critical Commentary by Edward H.Tarr 2011 page 9

Another connection with the French court is Alberto Cesare's aunt: a document shows Catharina Bendinelli was Chief chamber servant of Maria de Medici in 1603. She must have been of outstanding reputation and proven reliability.

Intercession of Cesare Bendinelli 06 April 1603 Munich Staatsarchiv Oberbayern call no. HR facs. 81. Nr. 48

Several important musicians studied at a young age in faraway places. For example Sweelink probaly went from Amsterdam to Italy between the 11th and 15th year of his life, to study Zarlino and Gabrieli.

The Galilei's weren't many handshakes away of this court. Did Alberto follow Renatto's lessons in his early years?

EN XIII. 1805 06 januari 1627
EN XIII. 1815 05 may 1627
EN XIII. 1870 05 april 1628
EN XIII. 1895 05 juli 1628

His father contemplates that he doesn't dare to take Alberto from school to fully let him concentrate on studying lute because that would provoke the hate of the Jesuits. In may 1627 he graduated from school with many praise. In april 1628 Alberto is in Italy wasting time - his lute skills going backwards and his father fears he might give up.

Bay HStA HR I Fasc. 467 10 may 1629

The scholarship of his brother Vincenzo was transferred in 1629 to Alberto - an achievement that must have have required much from Michelangelo's diplomatic skills and persuasiveness.

EN XVI. 3331 01 august 1636
EN XVI. 3343 16 august 1636

In 1636 Alberto is serving as virtuoso di liuto e violino. That year Galileo remembered Alberto's playing in 1628 as admirable (mirabile).

Tutta L'arte Della Trombetta 1614

Compiled in 1614 the music dates about

We might get an idea of Alberto's trumpet study by the documented instructions of his grandfather. Cesare Bendinelli was Chief Trumpeter at the Munich Court, violist, composer, maker of automatic music boxes, and personal servant to various princes

1580

Cesare Bendinelli: Some Recent Biographical Discoveries, Renato Meucci 2012 Historic Brass Society Journal vol. 24

Sie haben in München gelebt
Biografien aus acht Jahrhunderten page 207 Werner Ebnet / Allitera Verlag 2016

EN XVI. 3331 & in manuscript
Alberto Cesare Galilei e Giacinto Cornacchioli a Galileo in Arcetri. Monaco, 1° agosto 1636.

In 1634 an outbreak of the bubonic plague killed 15,000 Munich residents

Anna Chiara (widow of Michelangelo), her three daughters and a son died in 1634 at Galileo's house. They perished shortly after arrival at Arcetri. Galileo's daughter
Dava Sobel 1999 page 362

Fronimo 1584 Vincenzo Galilei page 104: his library contained 3000 pieces composed by himself & 14.000 pieces by other composers

Die Familie Galilei in München by Karl Trautmann 1889

In 1630 Holzner composed five instrumental canzonas.

Gabrieli was the second organist in Venice, first organist was Claudio Merulo. Gabrieli was an outstanding teacher and composer and had many influential students.

Glen Wilson CD booklet Andrea Gabrieli Keyboard Music 2010.

Portale Galileo EN XVII 3601

Monteverdi, who originated from Cremona, was choirmaster at the San Marco in Venice.

Buy one Amati single-handedly carried over the tradition of violin making to his students which included Guarneri, Rogeri and possibly Stainer and inspired Ruggierri and Stradivari.

EN XVII. 3565 Porro a Galileo 1637

Galileo's Daughter D. Sobel 1999 page 362

EN XVIII. 3994 19 aprile 1640 Alberto Cesare a Galileo

EN XVIII. 4073 01 novembre 1640 Alberto Cesare a Galileo

and electors. In 1593 Bendinelli ordered three fiddles for his pupils - so he could have instructed for strings also.

The Trumpeters Guild in Munich was founded in 1623 and carefully regulated instruction.

A contract shows Cesare Bendinelli wanted to open a brewery at the Sendlingerstrasse and his grandson Alberto Cesare Galilei would later operate a small one nearby his house around the corner in the Fűrstenfelder Straße. Alberto had a happy live (zufriedenes leben).

Although that is not the first thing that comes to mind when you read his letter of august 1636. The plague had killed his parents, his sisters and a brother.

During the plundering of the city of Munich in the Thirty Years War all of his possessions perished in fire and flames. This could have included a chest with manuscripts, letters, and books inherited from his father Michelangelo.

Vincenzo - father of Galileo and Michelangelo, teached that every musician should have a library. Did the library of Michelangelo contain a part of the enormous collection of music manuscripts compiled by Vincenzo? This collection must have been the base of Michelangelo's musical education and Vincenzo's method - giving an eagle's view on 16th century composers.

Or did Guilia Ammannati - mother of Galileo and Michelangelo, use the paper inheritance of her husband to light up the stove in the period 1591 - 1620, at the peak of the little ice age (in familiar and climate sense)?

In 1632 and 1633 Alberto was in Italy studying lute, theorbo, latin and Italic writing ("und weliche schrifft", Welichland is Italy).

Hof-organist Anton Holzner taught him theory and contrapunt.

Did Anton Holzner and Alberto Galilei study the compositions of Andrea Gabrieli, the former organist at the Kapelle in Munich and at the San Marco in Venice?

Gabrieli was a master in the use of augmentation - magnifying the length of his themes up to 4 times. Harpsichordist Glen Wilson writes that his ricercares are a quantum leap beyond previous efforts and that Gabrieli is the ancestor of Bach's fugues.

Gabrieli's themes have character and personality, there is unity by singularity and his ricercares are clear instrumental music: going where no choir is able to go.

Crossover between keyboard (organ, harpsichord) and lute repertoire was omnipresent. Many musicians and composers were familiar with both.

In 1637 Galileo bought a particularly valuable (12 golden ducats) Cremonese violin from Claudio Monteverdi - who acted as an agent for the purchase, for his cousin Alberto Cesare.

The violin maker was probably Nicolò Amati: he was the only instrument maker who survived the plague in Cremona in the years around 1630. Amati lost all of his family.

Chapelmaster Giacomo Porro of Maximilian's court wrote to Galileo in 1637 that the lute was out of favour for the last ten years. The duke would only like to hear the harp, viola bastarda and violin. This must also have had an effect on the position of his father Michelangelo, when he was alive.

Finding the solitude of his house intolerable Galileo desired Alberto to come and live with him in 1639. He stayed for ten months but went back to Munich to marry Maria Maximiliana. According to the matricle entry of 19 january 1694 his son Franz Nestor, born in 1640, was dumb.

His salary in 1640 was 220 gulden & in accordance with the originally allocated stipendium for his brother Vincenzo. It forced him and his family to live in poverty, to his memory different as what he was used to, when living with his parents. Michelangelo had apparently succeeded not to share his financial concerns with his children.

BayHstA HR II Fasz. 467

For almost two decades he disappears out of the archives. From 1658 till 1692 he was lutenist at the Bayern Hof.

Die Familie Galilei in München by Karl Trautmann - Jahrbuch Münchener Geschichte 1889

The dwarf Jörgl was taught to play the guitar in 1661 by Alberto and he learned a second dwarf how to play the violin. For a couple of years he purchased strings for the chambre instruments of the Hofkapel.

Music, Piety, and Propaganda: The Soundscapes of Counter-Reformation Bavaria by Alexander J. Fisher 2013

Alberto was a member of the Franciscan Cordeliers. Rudolph and Ferdinand di Lasso were among the earliest known members. Once a month they sang hymns in a public procession. It would be going too far to assume that the old Hymns that Vincenzo Galilei published were on the play list.

Sometimes spelled otherwise:
Cosmas or Cosmo

Cosimo *08 december 1621 - son of Michelangelo.

The music director of the Munich Jesuits was Georg Victorinus.

After losing most of his family by the plague he stayed with his brother Alberto and attended the school of the Jesuits.

EN XVII. 3643 Giacomo Porro a Galileo Galilei 08 gennaio 1638

In 1638 Giacomo Porro wrote that the brother of Alberto was on his way to Italy. As a page Cosimo did have a scholarship payed by Signor Residenti di Spagna to study violin and lute.

EN XVIII. 4073 Alberto Cesare Galilei a Galileo in Firenze. Monaco, 1 novembre 1640.

We can catch another spark of his story from a letter by his brother to Galileo. Alberto proudly writes that Cosimo returned to Regensburg with his patron who loves him like his own son and plays the lute, spinet and guitar and speaks German, French, Italian and Latin. "He has no other wish than to see you and would travel to Florence on the first possible occasion."

Johannes Kepler died in Regensburg.

Michelangelo Galilei in Monaco a Galileo in Firenze:
EN XIII. 1829 14 luglio 1627
EN XIII. 1863 22 marzo 1628
EN XIII. 1867 29 marzo 1628
EN XIII. 1876 27 aprile 1628

Mechilde *1612 † 1634 - daughter of Michelangelo played harpsichord and lute.

Mechilde had a bright mind. She learned Latin among other things and was very popular with her Jesuit teachers who came from Rome. After her studies she went into a convent.

Michelangelo could no longer afford the house he lived in since his arrival in 1607 and moved to a cheaper house in 1627. Further impoverishment also resulted in acceptance off loss of status, resulting in a third option for Mechilde besides getting married or being a nun: she came home. Michelangelo took her out of the convent "for good reasons". The extreme strict regime of the convent turned out to be to much for her.

In 1604 an employee of Galileo reported him to the Inquistion. Among the accusations was the testimony of Guilia Ammannati that she had him spied on and find out he was going to his beloved Marina instead of going to mass.

Galileo found an acceptable social facade for his wish to live with Marina Gamba, the woman he loved but could not marry according to social standards: she became his housekeeper.

Marina Gamba died in 1612

In 1627 Mechilde lives quietly and lovingly with her father and her aunt Massimiliana Bendinelli (who took care of the household) in Munich. There were fives mouths to feed, probadly two lute students lived in.

Tutta L'arte Della Trombetta Complete English Translation, biography and Critical Commentary by Edward H.Tarr 2011

According to Edward Tarr Cesare and Elena Bendinelli had 2 daughters and 2 sons. Chiara (who in 1627 - 28 took care of the household of Galileo in Florence and had brought her children besides Mechilde) was married to Michelangelo. Her sister Catharina was Chief chamber servant of Maria de Medici.

Did Cesare and Elana had three daughters? Or is Catharina the same person as Massimiliana and was Michelangelo's household run by the former Chief chamber servant of the Queen of France?

EN XII. 1422 Michelangelo Galilei a Galileo in Firenze. Monaco 10 ottobre 1619

Vincenzo - son of Michelangelo *28 may 1610 played lute and theorbo.

He was creative: as a young boy he showed sculptural talent making a horse and carriage and other things out of wax without any tools.

He was instructed with great diligence by his father. At the age of eight he performed with great success for the duke and eight princes.

EN XIII. 1805 Michelangelo a Galileo in Firenze 05 maggio 1627

In may 1627 Michelangelo had not yet made a decision where Vincenzo had to study, but thought it would be Rome. Rome could deliver for the music service at the Duke's chapel what France couldn't because they didn't play that kind of music.

Die Familie Galilei in München
Karl Trautmann - Jahrbuch Münchener

In 1627 Vincenzo was in Italy studying lute, theorbo, latin and Italic writing on the base of a stipendium payed by the duke of Bayern.

Geschichte 1889

EN XIII. 1791 Castelli a Galileo 1626	At first the plan was that he could stay at the house of Giovanni Girolamo Kapsperger in Rome.
Bayerisches Hauptstaatsarchiv HZR 77, 78	
Giovanni Girolamo Kapsperger by Anne Marie Dragosits 2012	It seems like he did not have taken lessons by Kapsperger himself.
Booklet CD Kapsberger 1993 Rolf Lislevand: "his works are lacking the qualities that generally characterize a good composer. No musical discourse is built up."	Kapsberger was admired as an musician, as a composer he is a one of his kind. His music is full of surprises. An amazing accomplishment of his compositions is that it's swerving character does not devalue its artistic merits.
EN XIII. 1852 Benedetto Castelli a Galileo Galilei	The plan changed for reasons unknown and Vincenzo was brought to Benedetto Castelli. His counterpoint teacher was Paolo Agostini, chaplemaster at the San Pietro.
EN XIII. 1880 Francesco Crivelli a Galileo Galilei	His lute teacher was the most eminent lutenist of Rome. Which could be Giuseppe Baglioni who served Urban VIII or Andrea Falconieri who served Cardinal Ludoviski. In his lessons he relied on four sonatas which he knew out of memory. The repertoire of the 17 year old was probably bigger but he was reluctant to show.
In Munich it was difficult to prevent spread and performance of blasfemic songs on the streets. More effort was expended on interdiction and censorship than on prosecuting individual singers. Music, Piety, & Propaganda - Alexander J. Fisher 2014 page 222	Vincenzo explored the freedom of getting drunk with some friends and singing mocking songs. It was not the time nor was Rome a good place for a mocking bird to jibe religion.
	In Rome he felt alone and abandoned by his family, behaved accordingly - and as a result was abandoned and left alone. "Why, do you believe, did my father and my uncle sent me here? Maybe because my father couldn't teach me, like someone else? They have done that, because they don't care about me."
"Bleibt noch einen Blick auf Vincenzo zu werfen, den man aus heutiger Sicht nicht so streng verurteilen würde, wie es seine damalige Umgebung tat." Michelagnolo Galilei und seine Familie Musik in Bayern 2006 Band 71 Dieter Kirsch page 23	Biographers regularly parrots Michelangelo's sons were difficult. This is a moral verdict framing Alberto, Cosimo and Vincenzo - and is grounded in Vincenzo's experience in Rome.
	From the letters Michelangelo wrote to Galileo we can trace how important the musical education of his sons was for him - he never lost this interest out of his sight, no matter how high the tensions would go.
	Michelangelo sought explanation of the unfortunate complications in the fact that Vincenzo's wet nurse had been a whore. From our distance in time that sounds more like a verbalisation of a rather negative coloured personal affect than as a logic explanation or analysis.
EN XIII, 1889 Benedetto Castelli a Galileo	In june 1628 Vincenzo was spending his last days in Rome copying music by hand.
EN XIV. 2161 Maurelio Gigli a Andrea Cioli	In 1631 he was trying his luck in the Polish-Lithuanian Commonwealth.
EN XVI. 3331 EN XVIII. 4073 Alberto Cesare Galilei in Monaco a Galileo in Firenze.	Vincenzo took a job at the service of a prince in the Polish-Lithuanian Commonwealth as virtuoso lutenist and singer. Alberto informs us in 1640 that he hadn't heard of him for two years.
Michelagnolo Galilei und seine Familie by Dieter Kirsch 2006	According to Polinski Vincenzo would have led the chapel of Janusz Tyszkiewicz.
Galileo Galilei e Il mondo Polacco Karolina Targosz 2002	The royal secretary Girolamo Pinocci paid Vincenzo's travel bills to Warschau (february and march 1645) and Lublin (juli 1647).
Lemma Michelangelo Wikipedia 7 march 2007 Being difficult	Patterns repeats: many members of the Galilei family ended up on one's own. Their conflictual behaviour separated them and reconciliation & being stubborn aren't an easy mixture. But the "difficult" children of Michelangelo made the best out of it.
Kapsperger by Anne Marie Dragosits 2012	**Vincenzo - son of Galileo** *12 August 1606 † 21 January 1649 was a poet, lutenist and inventor of musical instruments. When he was twenty he became a teacher for singers in the service of the Barberini. Presumably he also taught music theory.
In 1639, at age 17, Vincenzo Viviani became the student, secretary and assistant of Galileo.	According to Viviani this Vincenzo made a lute with such art that, playing it so excellently, he extracted continuous and goliardic voices from the cords as if they were issuing from an organ's pipes.
As an inventor Vincenzo must have loved the stories of his uncle Michelangelo about the music boxes of Cesare Bendinelli.	Vincenzo - son of Galileo, and Michelangelo had several things in common and their relationship with Galileo sometimes followed identical roads. Both were alienated for years for the same kind of reasons.
The son of Galileo The son of Michelangelo	Galilei and Galilei created doppelgangers: Vincenzo Galilei and Vincenzo Galilei sometimes get mixed up in secondary literature.

In biographies both are sometimes confused with Vincenzo Galilei - the father of Galileo and Michelangelo.

According to Antonio Favaro - director of the Edizione Nazionale of Galileo's works. Galileo at Work: His Scientific Biography Stillman Drake 1978 page 449

A. Favaro, Amici e corrispondenti di Galileo Galilei , XII, V. G ., in Atti del R. Istituto veneto di scienze, lettere e arti , LXIV (1904-05) pp. 1349 -1377

PP 139 - 148 N. Vaccalluzzo, Le rime inedite di VG, in Galileo letterato e poeta, Catania Catania in 1896

PP 171 - 216 D. Ciampoli, Nuovi studi letterari e bibliografici, Rocca San Casciano 1900

Singing Dante by Elena Abramov-Van Rijk 2014

Galileo, Dante Alighieri, and how to calculate the dimensions of hell by Len Fisher 2016

Galilei Vincenzio by Laura Riccioni 1998 Dizionario Biografico degli Italiani

Hans Leo Hassler von Roseneck was a German pupil of Andrea Gabrieli who instructed him in composition & was strongly influenced by Orlando di Lasso. He was Hofdiener to the court in Prague during the time Kepler worked there.

Essays on the history of Mechanical Engineering - 2015 page 289

Buy one and have a pendulum to put next to your new violin.

Tick tick tick tick

Galileo's Daughter by Dava Sobel 1999

EN XIII. 1939 Maria Celeste a Galileo. The Galilo Project
D. Sobel translated chitaronne as guitar.

On the Origin of the Chitarrone by Douglas Alton Smith 1979

Hemelse boodschappen NRC 31 december 1999 H. Brandt Corstius: "Couldn't Galileo have been more brave about the fate of his daughters?"

Francesca Caccini at the Medici Court by Suzanne G. Cusick 2009

Vincenzo Galilei's experiences in Rome were not that much different as the one from Vincenzo Galilei.

The poetry of Vincenzo was to be of extremely ingenious organization.

About 3500 verses in autograph cod. 2749 dated 1647 titled "Rime diverse di Vincenzo Galilei" are kept in the Biblioteca Riccardiana di Firenze.

These poems play with the classic Renaissance models of Dante and Petrarca.

In 1580 Vincenzo - father of Galileo and Michelangelo, had presented the first experiment with the stile recitativo before the Florentine Camerata. The text chosen was an exerpt from Dante's Divine Comedy.

The literal interpretation of a piece of poetic imagery can lead to absurd results. The Florentine academy asked Galileo to calculate the exact dimensions of hell, based on Dante's description.

Galileo calculated that the roof of hell would have to be 600 kilometres thick. Galileo soon realised he errored. Scaling up the proportions of Florentine's Dome to a geographic level has consequences. Augmentation means change.

Autograph cod. It., IX, 138 (= 6749) under the name Licinio Fulgenzio Nej in the Biblioteca nazionale Marciana di Venezia is also written by Vincenzo - son of Galileo. This volume dates back to 1648 and contains eighty-four prophecies.

The poetry is witty, the verses have a concise form and are demarcated by lambent rules. It can be appreciated as l'art pour l'art avant la lettre & at the same time can be taken very serious in its implication, consideration and perception of how the world turns. A major role is given to the music of chance.

What does it mean when it is said Vincenzo invented a lute? Confusion of parroted clichés or valuable scientific information grounded on a reliable source?

Did he invent a lute like Galileo invented the telescope: does replacement of *invented* by *improved* connects it with the facts of history?

Or is it wiser to say that Vincenzo was very capable of constructing his own lute and that he had the mindset of a clockmaker which explains why he enjoyed building mechanical music boxes, like Hassler or Bendinelli?

Vincenzo Viviani and Vincenzo Galilei were part of a debate in the 17th century about the primacy of the invention and construction of the first pendulum clock.

Galileo and Vincenzo discussed how to learn to construct a pendulum in 1641. Vincenzo drew a blueprint of the pendulum invented by Galilei and in 1649 began construction. A smith made the parts, Vincenzo did the finishing touch: making the teeth for the gears and assembling it.

He died in Venice before the clock ticked reliably.

Virginia - daughter of Galileo *13 August 1600 † 02 April 1634 played chitarronne.

In 1609, when she was still a child in Padua, Galileo had set a telescope in the garden behind his house and turned it skyward.

In the words of Dava Sobel: "Never-before-seen stars leaped out of the darkness to enhance familiar constellations; the nebulous Milky Way resolved into a swath of densely packed stars, mountains and valleys pockmarked the storied perfection of the Moon; and a retinue of four attendant bodies travelled regularly around Jupiter like a planetary system in miniature."

In 1616 Virginia became a nun and adopted the name Maria Celeste, in a gesture that acknowledged her father's fascination with the stars.

She made little embroidered collars and cuffs for her uncle Michelangelo and his children. Little Alberto stole her hart.

Virginia might have followed private music lessons taught by Francesca Caccini, who

Primo Libro delle Musiche Francesca Caccini 1618 Florence

Celeste amore Maria Francesca Caccini page 17 Maria, dolce Maria: surprising harmonics and profound word painting.

Costellazione della Pleiadi Galileo Galilei

Never before seen stars leaped out of the darkness Galilo Galilei

Carolyn Raney credits Caccini with creating strong and active bass lines, particular individuality, lyric beauty and great variety. Francesca Caccini, Musician to the Medici, and Her Primo Libro 1971

is known to have participated in the conversazione at Galileo's home. Performances of Francesca's "little girls" (princesses, ladies-in-waiting, female court personal and various other pupils) are mentioned in reports of activities at the Medici court.

Francesca Caccinni was a virtuoso on the lute, guitar and harpsichord, poetess and gifted composer serving the Medici court. The French King said Francesca was a better singer than anyone in France. In 1614 she was the Medici court's most highly paid musician. She was a master of dramatic harmonic surprise.

Francesca's book of 1618 reveals her to have taken extraordinary care over the notation of her music. Especially the ornamentation is written-out brilliantly. She was cited by contemporaries for her training in counterpoint.

Maria Celeste taught *canto firmo* to the novices and had daily duties with the choir. The Convent in Arcetri was neither rigorous nor wealthy.

Her chitarronne, a gift from Galileo, had collected dust in 1629 and was replaced by two updated breviaries, for her and her sister.

Spelled otherwise:
Michael Engl Gallilei & Michael Angl Gallileis by his widow Maria Klara (Anna Chiara)
Michaal Agnolo & *Michael Angeli Gallilai* by Maximilian I
Michaëlis Angeli by Georg Victorinus
Michaeli Archangeli and *Michaelis Archangeli* by Johannes Donfrid
Michael Agnolo by Wolfgang Caspar Printz
Michelagnolo by Virginia; Galileo; Livia; Lorenzo Petrangeli; Il primo libro; Contrapunti a due voci
Michelagnoli by Georg Draud
Michelagniolo by his mother Giulia Ammannati
Michel Angelo by Girolamo Mercuriale
MichelAngelo Galilei fiorentin by Besard
Michelangelo Gallilei by Aurelio Gigli
Michele Angelo Galilei by Johann Gottfried Walther
M.Gallileus Italus by Georg Leopold Fuhrmann

Ten children: Michelagnolo Galilei und seine Familie 2006 Band 71 Dieter Kirsch page 12

Dedication Contrapunti a due voci by Vincenzo Galilei 1584

Vincenzo Galilei and the Instructive Duo by Alfred Einstein 1937

Didactic music in printed Italian collections of the renaissance and baroque by Andrea Bornstein 2001

EN X. 49
Livia Galilei a Galileo 1593

Booklett CD 1988 Paul Beier Michelagnolo Galilei page 11

POLSKI WĄTEK W ŻYCIU I SPRAWIE GALILEUSZA Polish thread in Life and Question of Galileo, "Galileo Galilei e il mondo polacco" by Bronislaw Bilinski (1969) with supplements, Karolina Targosz
Partly translated

Michelangelo (sometimes spelled otherwise) brother of Galileo *11.25 hour.minute 18 December 1575 Firenze † 03 January 1631 Munich. Singer, composer, player of the viola, lute & theorbo.

A life with ample misery.

He lost his father at young age. His mother had a terrible temper, she was prickly and quarrelsome and never tired of pointing out that she came from a very noble family from which also came the famous cardinal Jacopo of Pavia and that they have to live accordingly in splendour (her father had the habit of beating his family when he returned from the tavern).
Michelangelo's obligations as a young man to contribute to his sisters dowries surpassed his year income manifold.
He did not improve a tool that would change the world.
Three of his ten children died young. He banded his oldest son.
The war had a devastating effect on his circumstances. War taxes caused inflation in 1623 which led to a tenfold increase in living costs and he desperately asked his brother many times for help.
The plague hunted and got him.

19th, 20th & 21th century literature (in the many biographies about his brother) did not spare him.

Some assume that the financial burden to provide for his family urged Galileo to make inventions like the proportional compass and the thermometer to earn money.

Michelangelo Galilei was a first-rate composer.

He received a thorough training in counterpoint and composing by his father Vincenzo. Michelangelo wrote the dedication to Federico Tedaldi for a didactic book his father composed. Tedaldi was the nine year old son of the family were Galileo housed in Pisa.

The preface of the Contrapunti specifies *da cantara e sonare*. Its purpose was instructing the young how to sing, play and compose. Most pieces lean to instrumental music. According to the keys the instruments asked for are either treble viol with viola da gamba or violin with viola.

In 1593 he left for the Polish-Lithuanian Commonwealth. This resulted out of Galileo's contacts - the quality of Michelangelo's much wanted sonata must have played a role also.

Michelangelo returned from the Polish-Lithuanian Commonwealth to Padua in 1599 and 1606 (possibly on the run for an outbreak of the plague in Lithuania in 1605 or the threatening insurrection by the nobility against the King).

On his returns he lived at his brother's house in Padua, playing lute and composing music. Attempts were made to introduce him to the court of the Medici - without result.

Euridice: among the singers were Francesco Rasi and Francesca Caccini. Claudio Monteverdi was likely among the audience.

In october 1600 Marie de Medici married King Henry IV of France in Florence. Part of the festivities was an opera, the earliest to survive. It was composed by Peri in the new style Vincenzo Galilei had envisioned.

In 1600 Galileo financied Michelangelo's journey with 200 crowns. Michelangelo's year income would be 300 crowns (200 ducats) plus perquisites.

On his second journey in august 1600 to Polonia Michelangelo travelled with three lutes and two copies of the *Dialogo della musica* written by his father.

We have almost no facts about his years in the Polish-Lithuanian Commonwealth.

Upon arrival in the Polish_Lithuanian Commonwealth Galileo expected Michelangelo immediatley to pay 200 crowns for Livia's wedding outfit, 600 crowns more in cash and 200 crowns a year for a five year period for the dowries of his sisters.

Here it might be noteworthy to observe that in 16th century Lithunian folkmusic a unique and significant form of three-voiced polyphony was very popular, called the *sutartinės* (meaning universal harmony). It took hold of the listener with its somberness.

They were sung by women, but men performed instrumental versions on wind instruments or the traditional kanklės, a plucked string instrument.

Special characteristic of this music was its bitonality.

Michelangelo didn't respond for a long period to Galileo's letters. In 1608 he wrote: "I cannot pay the 1,400 crowns to get rid of the debt to our two brothers-in-law. You should have given my sisters a dowry in conformity with the size of my purse and not in conformity with your own ideas of what is right and fitting. I sent you fifty crowns and would do more if I could." EN X. 174

This challenged musical axioms of Michelangelo's father (concepts about centre, dissonance and consonance), who had written that many lessons could be learned from simple songs of the populace, putting it to a test.

The poetry of the sutartinės is very visual. Michelangelo might have heard this tunes for 14 years on the streets, at gatherings and weddings.

Three centuries later Igor Stravinsky got his hands in Warsaw on an anthology with 1,785 sutartinės wedding songs and borrowed five for The Rite of Spring - widely credited for popularizing bitonality.

This actually makes sense. Galileo had a scanty stipend in those years but in biographies is praised for his generosity to provide silken bed-hangings and black velvet dresses with light blue damask (which costs a fortune) for his sisters Virginia and Livia.

Stravinsky admitted borrowing number 157 *Tu mano seserėle: You my sister*, a song with wedding advice: do not marry above your position.

The (Rite of) Winter at the turn of the 16th century was one of the coldest in the last thousand years and Michelangelo's sister Livia desperately wanted to escape another force of nature: her mother, but was determent not to go to a convent. Her way out was a bitonal constellation: getting married, but that came with a price: a dowry had to be paid.

Driving force behind keeping up appearances: Guilia Ammannanti - mother of Galileo, Michelangelo, Virginia and Livia - did not have harmonic family life as her primary concern.

The marriage contract dated 01 january 1601 of his sister Livia noted that Michelagnolo lived in Litauen. A letter of Galileo dated 20 november 1601 is addressed to Michelangelo in the city of Vilnius.

The Lithuanian Roots of Igor Stravinsky by William J. Morrison 2013

Maximilian I Decretum

Michelangelo came into the service of the duke of Bayern in 1607. The title instrumentist meant player of more than one instrument.

A House Divided: Wittelsbach Confessional Court Cultures in the Holy Roman Empire by Andrew L. Thomas 2010

The Italian scene in Munich had its genesis in the court orchestra lead by Orlando di Lasso. The court became a leading centre for late renaissance music at the end of the 16th century. Dutch counterpoint, Italian vivacity, German gravity and French gallantry were blended.

Cesare Bendinelli: Some Recent Biographical Discoveries, Renato Meucci 2012 Historic Brass Society Journal vol. 24

Lassus reorganised the ensemble and Italian instrumentalists invaded the court, including some lutenists.

Payed lutenist under Lassus:
1552 - 1568 Lienhart Reillstorffer
1561 - 1570 Hans Kolman
1570 - 1579 Giovanni Gabrieli
1573 - 1573 Cesare Cremonese
1573 - 1581 Cosimo Bottrigari
1574 - 1575 Josquin Salem

The splendour of the flourishing musical chapel and chamber music of the court of Munich was unmatched. Two styles bloomed: traditional polyphonic music and the new style of accompanied monody introduced by Lassus's sons.

The Florentine lutenist and singer Cosimo Bottegari, who sat at the table of the Bavarian court as *gentiluomo della camera* in the years 1573 - 81, was likely acquinted with Vincenzo Galilei.

Ein ältest Orchester 1530 - 1980 Hans-Joachim Nösselt

Bottegari's lute manuscript contains a formularic *Aria in terza rima* composed to sing any terza rima, which in practice could have included Dante's epic poetry.

That Dante's Divine Comedy was sung is demonstrated by an example as early as 1531 when of an extract of Dante's Inferno canto III (entering the gate of Hell,

Singing poetry in compagnia in 16th century Italy by Phillippe Canguilhem 2016	abandon hope all ye who enter here) was performed in Rome at the sound of the lute played by Pietro Polo.
Letter Giovanni Mauro d'Arcano 16 december 1531	There is no mention of Michelangelo's involvement in the chapel. He played the theorbo - but no remarks about thorough bass accompaniment appear in his letters.
Bottegari *1554 - 1620	During his appointment there were several music directors: Ferdinand I di Lasso 1602 - 1609, Jacomo Perlatio 1609 - 1612, Bernardino Borlasca 1611 - 1625, Ferdinand II di Lasso 1616 - 1629.
EN X. 174 Michelangelo a Galileo 1608	Galileo gave Michelangelo cases for his lutes, which he is eager to receive because he has to play often during lent in concert.
Bayerisches Hauptstaatsarchiv HZR 57, 447r Badua - Padua: Another cold, same scribe?	In 1608 the court paid Michelangelo a total of 110 Gulden, 30 Kreuzer for 2 Tijorba, vnd zwaÿ Lautten, so vom Badua herkhom[m]en.
EN X.354 1610 Massimiliano a Galileo	Michelangelo did own a telescope made by his brother. He demonstrated the working in 1610 to the duke - who had first tried the device himself unsuccessfully while it was heavy snowing & complained he saw nothing: "di non haver visto niente".
EN XI.522 1611 Michelangelo a Galileo	
The Six-Cornered Snowflake by Johannes Kepler 1611 A special case of the general problem of the genesis of forms. It comes from heaven and lookes like a star.	Meanwhile when Wacker von Wackenfels found out about Galileo's telescope results he raced across Prague to tell Kepler. Wacker "told me the story of the discovering of four new planets orbiting Jupiter from his carriage in front of my house," the astonished Kepler wrote. "Overcome with joy he scarcely managed to talk, and I to listen."
Kepler recognizes a problem, discusses several solutions, rejects them all, and passes the problem to be solved in the future. René Descartes would take up that challenge.	In 1611 Kepler published a pamphlet about snowflakes and nothing, offered as a New Year gift to Wacker von Wackenfels. (Nix = snowflake in Latin and nothing in German.)
EN XIX S.197	Michelangelo and la sua famiglia Anna Chiara and Vincenzo travelled to Padua and Venice in january 1611.
EN XI. 522	In 1612 Michelangelo was teaching two students.
Cesare Bendinelli: Some Recent Biographical Discoveries, Renato Meucci 2012 Historic Brass Society Journal vol. 24	According to guild practice instrumentalists were allowed to instruct one or two students. The mentees paid for schooling and room, living in the house of the master.
Bayerisches Hauptstaatsarchiv HZR 63, 530r	In 1614 Michelangelo instructed Elias Helm, a choirboy, in theorbo.
EN XII. 1271	Again two students are mentioned in a letter written in 1617.
Testudo Gallo-Germanica by Georg Leopold Fuhrmann Nürnberg 1615 page 23 & 29	How modern or old-fashioned would the music of the young, eager and talented Michelangelo – aged twenty in 1595 – have sounded like?
Hortus Musicalis Novus by Elias Mertel Strasbourg 1615 with two anonymous versions of toccata page 38 IL Primo Libro The second version has far wandering harmonic additions, raising questions about authorship.	Like the compositions we know of, printed for the first time in 1615 in two anthologies – twenty years later? The first piece of Michelangelo to appear in print - the Tocata page 23 Testudo - is squeezed in in a chapter with canzoni by another outstanding composer: Hans Leo Hassler. (At Rudolfs court in Prague Hassler experimented with automatic instruments.)
In 1617 two toccata's of Michelangelo were published in the Novus Partus by Jean-Baptiste Besard Augsburg	Michelangelo and his father Vincenzo are the only members of the Galilei family of whom we have scores which can be ascribed.
Les sources manuscrites de la musique pour luth sur les "Accords Nouveaux" by François-Pierre Goy éd. par Andreas Schlegel	Let us adjust our lenses and take a closer look at Michelangelo's music.
Celestial Sirens and Nightingales Alexander Fisher The Journal of Seventeenth-Century Music (JSCM) 2008 References 54 and 56	In 1616 Michelangelo delivered a motet for three sopranos for an anthology compiled by the director of the Munich Jesuits Georg Victorinus. It was printed by Anna Berg in Munich and financed by her husband Johannes Hertzroy from Ingolstadt. The anthology captured new developments in the field of composing. Its title *Celestial Sirens* suggests heavenly seduction, which frames the music in a cosmic context. Michelangelo was sensitive to such poetic arrangement.
Filiae Jerusalem (using moveable do), Victorinus, Georg [Hrsg.]: Siren Coelestis 1616 & 1622	The three voiced motet starts with repeated notes and a descending fourth (the opening motiv of a canzona - chanson in French).
Printers in Munich	Did Michelangelo adress the Artusi - Monteverdi dispute about the new way of composing, with his choice for the Daughters of Jerusalem?

The motet was included in an anthology by Johannes Donfrid 1623

A Theory of Art by Karol Berger 1999 page 129 The debate continued for centuries. Rousseau formulated the same metaphor about colours as Galilei.

Melting the Venusberg by Heidi Epstein 2004 page 142 Archival evidence reveals a gaping hole between the church's theoretical reforms and the virgin's whoring music.

Sisters doing it for themselves by Laurie Stras 2017.Choirs of singing nuns were called Celestial Sirens. "Hearing these motets I understood why the bishops were so queasy about nuns' singing."

Ten years later troop movements associated with the Thirty Years War carried the plague to Italy. Series of outbreaks of the bubonic plague ravaged Italy and spread north of the alpine region in 1629 – 1631.

EN XII. 1422 Michelangelo a Galileo

EN XVI. 3331 La gran peste killed Michelangelo

Grab Michelangelo was buried on the Friedhof an der Frauenkirche München.

François Dufault by Tim Crawford 1998

Michelangelo Galilei and Esaias Reusner by Paul Beier 2011

Esaias Reusner Junior by Grzegorz Joachimiak 2012

Introduction to Il Primo Libro Claude Chauvel Minkhoff 1988

Bibliotheca Librorum Germaniorum Classica by Geord Draud 1625

Page 743 On the same page: Mylius.

Natural History-Mathematical Works of Habsburg, German, and Roman Jesuits at Prince Auersperg's Trust Library of Ljublj by Stanislav Južnič 2007

Two printed copies survived:
London K.3.m.21 and Krakow G140

Both have a doppelganger: a handwritten copy of London K.3.M.21 is CH-Bfenyves Pauer Privatsammlung Albert Fenyves Frontespizio

Krakow G140 is bound with Johann Daniel Mylius 1622 Thesaurus Gratiarum. 38 pieces of Il Primo Libro are included in the Thesaurus: an engraved doppelganger.

Artusi wondered how Monteverdi has preserved their chaste if he had made them become like a painted whore. With this colourful word-painting the beholder Artusi tried to express that he did not like it and that is was wrong, very attractive and exciting.

Against this background Michelangelo's motet was a clear artistic statement.

The polemic recapitulated the Zarlino - Galilei debate about the new practice. In his treatise on counterpoint Vincenzo had compared the function of consonances in music with colours in painting.

Virginia - daughter of Galileo, adopted the name Celeste and became a nun (Daughter of Jerusalem) in 1616. This decade celestial imagery celebrated its high days. Celeste might have conducted her Celestial choir singing her uncle's *Filiae Jerusalem*.

In 1616 Galileo was brought before the inquisition who reported that the proposition that the Sun is stationary at the centre of the universe is foolish and absurd in philosophy.

The start of the Thirty Years War in 1618 and the reduction of his duties as a result gave Michelangelo opportunity to composite a book with his music for lute.

According to Michelangelo if the only advantage of the book would be to show the world that he knew something and what he was capable of, it would be worth the effort and the money spend.

The money spend is Galileo's. We have no record of Galileo's opinion on Michelangelo's view. There is a gap of letters for seven years. When resumed, you get the impression that in previous years there has been no contact.

Advantage of Michelangelo's book must have been letting other courts (Vilnius, Florence, Paris) know what he could - however it didn't brought him an other position.

Based on stylistic features François Dufault (Paris) and Esaias Reusner (Vilnius) can be counted among Michelangelo's intellectual heirs.

Michelangelo didn’t want to leave the city to supervise the printing, this would harm the musical education of Vincenzo, so the printing was taken to Munich.

The watermark of the London copy has a saltcellar motiv connected to the city of Au near Munich.

Munich’s book trade demanded a license to print and sell and Hertzroy is mentioned in Georg Draud’s catalogue as seller.

The book was sold in foliants: the buyer had to bring it to a binder to make a book out of the sheets.

Baron Wolf Engelbert Auersperg bought a copy: "Volf ni hranil le Galilejevih fizikalnih del, temveč je kupil tudi sonate in drugo glasbo za lutnjo Galilejevega mlajšega brata Michelangela (1620)." Is this exemplar traceable?

IL Primo Libro d'intavolatura di livto di Michelagnolo Galilei Nobile fiorentino Livtista del' Ser.mo Sig.r Dvca Massimiliano di Baviera was published in 1620.

The front specifies: nuouamente composto e dato in luce in Monaco di Baviera. Newly composed in Munich: based on this description we can deduce that his output as composer before his arrival in Bayern did not found its way in this book.

The preface mentions: "be careful when playing in b dur to tune the eighth course with the e in the tenor and when playing in b mol with the D of the same string, which is an octave lower."

The music is written for a lute with ten courses and ten frets on the neck.

The tablature used is French with basses noted as ciphers for the four lowest

The Thesaurus pieces are in a different pattern of beats, showing different groupings. Augmentation changes the view.

Mylius was lutenist of the Hauptkirche in Frankfurt. He settled as Korrektor in Buchdruck, which seems unlikely, taken into account the tsunami of mistakes flushing through the Thesaurus.

Berlinka Troop movements in WOII caused Krakow G140 to be out of sight for decades.

Overview on all sources.

Passemezzo Antico U. Meyer

Although phrasing the seemingly light footed dances can be as demanding as the multi voiced toccata, there is a difference in degree of technical difficulty of Michelangelo's survived music before publication of Il Primo Libro & afterwards.

An explanation might be that the music (after) in the hand of Albrecht Werl en Aegidius Rettenwert is composed for teaching his pupils, and the music in the anthologies (before) is for showing the world what he is capable of.

Rettenwert enriched Michelangelo's surviving works with specials forms: ballet and intrada (an opening piece).

In 1870 it was stated that some say Michelangelo's book was a dissertation on the flight of swallows. The Private Life of Galileo 1870 Macmillan page 135.

This may indeed be the case: English Collins Dictionary - English Definition & Thesaurus 2000 A flight of swallows:
- a soaring mental journey above or beyond the normal everyday world
- a journey through space

courses.

Sonate can be understood as instrumental music - in opposition to *cantate*: for voice.

The toccata are classic Venetian: opening slow and alternating passage-work with fugal episodes. In Venice they grew out of improvisations of the organist handing over the pitch to the choir, bridging the spoken word of the liturgy and the sung part of the service. The freedom of the toccata melodies is akin to the new recitative style, approaching speech.

The toccata are an inspiring source of motives for the dance pieces. Every piece has its own page. The tonal arrangements of the pieces practically results in the concepts of the suite.

Ten groups consist of a toccata and dance pieces: gagliarde, correnti and volte. The last two groups are variations on a bass foundation: passemessi and saltarelli.

Long arches of melody are conveyed despite the unsustained tones. Long melody lines, more suggested as sounded, are a major mark of the lute's influence in the history of music.

The use of dissonances, embellishments and tonality is very personal.

The contrast between high and low lying passages and the craftsmanship of counterpoint are striking. Vincenzo would have been proud if he could hear this.

And as Vincenzo had catalogued a complete spectrum of affects in his 1584 Libro di liuto for accompanying poetry, so did Michelangelo demonstrate his ability to express all kind of affects in pure instrumental music.

The structure of the dances is non-strophic. The irregularity of the number of measures gives a sensation of freedom and unpredictability.

The AA BB form of the dances is a shift from the renaissance flow of melodies. Despite the repeats every passage is fresh and never the result of a template.

The suggesting of several voices with just one, called the broken style, is elaborated masterly.

There is an awareness of unity throughout the whole libro.

A sense is created that something deep and meaningful is communicated.

This music is a journey of discovery.

Michelangelo's brother was also a discoverer.

Racconto istorico della vita di Galileo by Vincenzio Vivianni 1654 "being most rich in invention": the only historical source referring to Galileo as a composer.

Booklet CD page 11 Michelangelo Galilei - Paul Beier 1988

EN X. 50 Giulia Ammannati Galilei a Galileo in Padova 29 maggio 1593.

Weird-mom worries Moon Man *What Galilei saw by* Adam Gopnik 2013 New Yorker magazine. Guilia Ammannati *1538 † September 1620 was cold and crazy.

Galileo, Virginia, Vincenzo, Michelangelo, Vincenzo, Mechilde, Alberto, Cosimo

Galileo*15 February 1564 † 08 January 1642 played keyboard and lute, with the example of his father's teaching so excellently, that he often found himself competing with the best in Florence and Pisa, being most rich in invention on that instrument, exceeding Vincenzo in gentleness and grace, which he kept till his last days according to the first-hand witness and biographer Viviani.

The brothers had their quarrels. In 1593 their mother Guilia Ammannati wrote that Michelangelo was angry and annoyed because Galileo gave sonate of Michelangelo to someone who sent princes at their door, asking for more.

Would Monsu mentioned in this letter and the composer of music Michelangelo is searching for, be René Saman? Monsu being shortage for monsigneur?

July 1627 Michelangelo - on the run for the war, took his family from Munich to Florence to move in with Galileo. His family would stay there for nearly a year.

Two generations of musicians in the Galilean family lived closely together or nearby at that time. All inquiring minds who could lay their hands on or compiling the manuscript.

With so many skilful hands around the house a reason appears why no copy of Michelangelo's Libro Primo survived in Galileo's library: it could have been taken by a family member for use.

Little evidence exists about what manuscripts Galilei may have owned. Crystall Hall - Galileo's reading 2013 page 29

Galileo Engineer Matteo Valleriani 2010

In Tune With the Universe by Robert Lundberg 1992

Renaissance Genius Galileo & his legacy by David Whithouse 2009

Vincenzo Galilei's Fronimo Centre d'Études Supérieures de la Renaissance: Collection 'Épitome musical'. Minerve, Paris and Tours, 2001 By Philippe Canguilhem

Zarlino was choir master at the San Marco and member of the Accademia Venetiana.

Another student of Zarlino was Claudio Merulo - the first organist at San Marco in Venice. The San Marco had two organs and Merulo and Gabrieli did duel on their instruments - improvising musical dialogues.

Stillman Drake The role of music in Galileo's experiments, *Scientific American* 1975

Studies in the History of Italian Music and Music History by C.V. Palisca 1994 page 367

By this kind of patronage the composer hoped for a substantial contribution to pay for the publication.

Dialogo della musica antica et della moderna 1581

Translated by Robert H. Herman 1973

Part II by Robert H. Herman 1973

Libro d'intavolature di liuto 1584 dances set on twelve ascending semitones in an equal-tempered octave applied to 24 scales - 12 major and 12 minor.

Vincenzo Galilei's manuscript Libro d'intavolatura di liuto 1584: an introductory

"I like the idea that this could be the only remaining piece of lute music composed by the young Galileo Galilei".

Galileo was born in 1564. How old did the young Galileo has to be to find the equilibrium between too modern and too old-fashioned? Twenty-five and kicking? Michelangelo and Galileo differ nine years. Thirty-five and the clock still ticking?

When the clock of the convent of Galileo's daughter broke down he reassembled some parts before it was send back to the clockmaker in Munich, where Michelangelo had commissioned its manufacture.

At the end of his life music and especially playing lute was a source of great pleasure and a special comfort and solace.

At the end of his life even his father's lute went untouched as he remembered the sunny days and madrigals of his youth.

Vincenzo*circa 1520 † 02 July 1591 - father of Galileo and Michelangelo, was a lutenist, composer, bass or baritone singer and music theorist. In his music school he taught lute and organ.

He composed two books of madrigals, along with music for voice and lute, much of which anticipated early Baroque music. His co-invention of monody is often cited as leading to the use of recitative in opera.

His Florentine patron Giovanni de Bardi sent him to study with one of to the leading theorists of the day, Gioseffo Zarlino.

Bardi wrote in 1634 that Vincenzo had un tenore di buona voce e intelligibile. He might have been mistaken about the tenore: the intabulated reductions in Fronimo are for a bass or baritone voice.

The title page of the Contrapunti a due voci speficies that the canto is for tenore. The composing took only a few days (two duos were composed at least sixteen years earlier, since they were included in the first edition of the Fronimo).

Vincenzo adopted an empirical approach to acoustics. In the basement of his house in Pisa, strings of different lengths, thickness and mixture of materials were hanging with different weights to systematically test and measure properties.

He had the habit of supplementing personal copies of his books with additional arrangements, some of these are in a different hand.

In 1568 Vincenzo dedicated a book titled Fronimo to Duke Wilhelm of Bavaria. Fronimo gives a clear view on the teaching lessons and method he imparted.

His book Dialogo della musica antica et della moderna is full of new ideas. He advocated equal temperament. He states that we must very carefully examine what the intention of the composer is.

Music was to be viewed above all as a branch of rhetoric. His ideal was the union of music and words through monody and poetry.

The Dialogo contains three ancient music scores composed by Mesomedes, court musician of the 2th century Emperor Hadrian. It was extremely fascinating and Vincenzo tried to decode it. One song was a *Hymne to the Sun.*

He proposed the airs for singing poetry at the beginning of the 16th century as a model for modern vocal music in simple three- and four-part arrangements.

Vincenzo's advice for composers was to study how actors used their voices in order to express various affects: singing should imitate emotional speech. His sons were witnesses of his developments in this area.

After his Dialogo his work is focused on how to put his concepts into practice. The Libro d'intavolatura di liuto 1584 explores homophonic and slow changing harmonic writing for effective expression of passions that approaches modern modality.

Some people expierence lack of depth and beauty hearing this simple music & wonder if it can be heard in a row without being bored. When one judges its merits one must take into account that this music is about serving poetry and is incomplete

study by Luis Gasser 1991

without it. Its goal was supporting an improvised recital of text, executed with a slight prolongation of the notes so that is was close to ordinary speech. This music is declarant for a declamating performer - it blossoms besides a storyteller.

Digital booklet pdf Vincenzo Galilei The Well-tempered Lute by Žak Ozmo 2014

Singing Dante by Elena Abromov - van Rijk 2014

In 1582 he sang Ugolino's lament lines 4 - 75 Canto 33 from Dante's Divine Comedy, precisely accompanied by a consort of viols requiring a beat, in a first experimental attempt before the Florentine Camerata.
Bardi: "Undoubtedly, this was generally liked, although jealous persons were not lacking, who, green with envy, at first even laughed at him".
The experiment of Galilei raised some perplexity for "a certain rudeness and too much antiquity that was felt".

"Seguitando il mio canto con quel suono": Dante in musica nel madrigale by Marco Materassi 2017

The last word of each of the three Divene Comedy's canticas is stelle (stars).

Ugolino's terrible narration is told at the frozen core of Hell. Therewith the *stile recitativo* originated dramatically at the centre of the universe and midpoint of the geocentric worldview.

Romanesca undecima con cento parti Libro d'intavolatura di liuto 1584 page 72 - 110. The romanesca is a melodic harmonic aria formula used for singing poetry and instrumental variation.

The music of Vincenzo's experiments, reconstructing ancient performance practise at the Camerata, is said not to be preserved. But Vincenzo's Libro d'intavolatura di liuto 1584 includes a romanesca with 100 variations over 2004 bars, suited to *parlar cantando* epic ottava rimes.

I musici convivi di Roma (1530 - 1540) by Philippe Canguilhem 2013

Reciting accompanied poetry was popular at cardinal banquets in the years 1530 - 1540 in Rome. What was special and new about the Florentine experiments was its embedding in the profound historical investigations by Girolamo Mei, its ambition to recreate ancient Greek drama and Vincenzo's vision to combine all the elements and put it into practice.

In the decades that followed opera arose from the enormous possibilities that were created with it. From the space given to singers a new phenomenon emerged: virtuosic stars like Francesca Caccini and Francesco Rasi begin to sparkle. Soon there were stars everywhere who were able to let you experience all affects.

Johann Mattheson crisply clarified and catalogued a century and a half later again the musical wherewithal of the Affektenlehre: the doctrine of how to spiritually move the mind with music that expressed a single emotion. It became obsolete at the end of the Baroque because composers wanted to use with whatever means fantasy and intuition may suggest to express subjective feelings.

Musica contrappunto 1588 - 1591 unpublished and twice rewritten.

Vincenzo's reflections on harmony, expressed at the end of his life, will have been discussed during lessons with his son Michelangelo (a goal of his libro primo was to show what he had understood).

Cosi nel mio cantar Discorso intorno 147v Vincenzo Galilei 1589 performing Dante (parlar is replaced by cantar). Typical are the many repeated notes and cadences at the end of a sentence.

His *counterpoint* treatises are the first treatises on *harmony* in the usual modern sense. As teacher, composer and theorist he was up to date, summing up the experience of his contemporaries.

Vincenzo Galilei's Counterpoint Treatise: A Code for the Seconda pratica by Claude V. Palisca 1994 "The counterpoint treatise is Galilei's most significant achievement. For prophetic vision, originality and integrity it has few equals."

Music theory was usually of not much use to contemporary composers because it described archaic rules of preceding generations. Vincenzo's work was an exception and being old fashioned would not be a fitting epitaph.

His theories for vocal music must be seperated from his ideals for instrumental music. The complex, well-ordered art of counterpoint was admirably suited to purely instrumental music, to which it should be confined. Vincenzo liked contemporary artful instrumental music, which reached a state of supreme excellence. Claudio Monteverdi would likewise embrace two ways of composing.

It is noting dissonance examples written in two, three, four and five parts from Josquin to the present in 1591 and even adding several irregular resolutions. It presented ground rules for good practice in the modern style.

Vincenzo Galilei and Music: Some Socio-Culturel and Accoustical Discussions by Carla Bromberg & Anna Maria Alfonso - Goldfarb 2009

In all his books Vincenzo wrote about the importance and necessity of knowing musical theory - his children and grandchildren were well versed in this area.

The Galilei family
9 or 10 musicians 18 or 20 hands

These are the talented musicians that qualify as member of the Galilei family as possible composer of the ricercare.

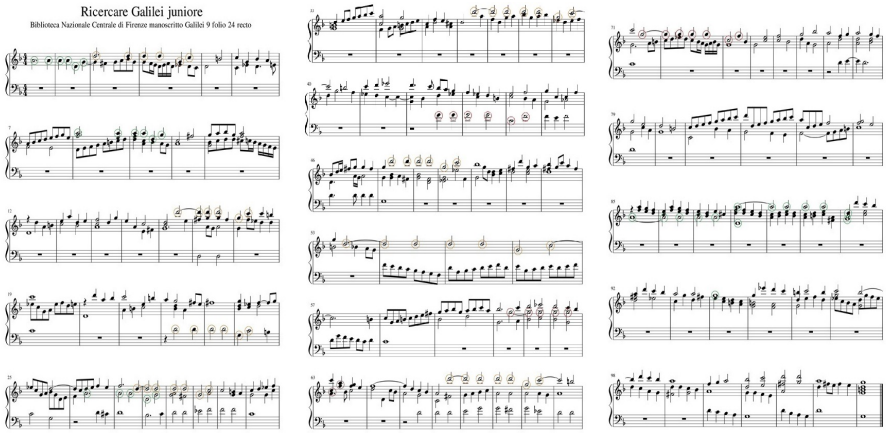
The ricercare

[Manuscript]

[Tablature]

[Staff notation transcribed and transposed]

[Flac file]



[EN X. 50] Guilia Ammannati a Galileo

Vincenzo's counterpoint treatises were possessore Piero de Bardi. Where they handed over by Michelangelo to Bardi at Vincenzo's request?

What happened to the documents of Vincenzo – father of Galileo and Michelangelo, after his death? Did they immediately came into the possession of Galileo who lived in Pisa in 1591 or did the papers stay with Guilia Ammannati in Florence (and were Michelangelo lived and composed music until he left for Polania in 1593)?

Dinko Fabris states the manuscript of the ricercare is written in a different hand. The writing hand is not necessarily equal to the composing hand. Is every musician a composer?

The seventh course is struck once in the piece, and the eight only plucked twice, giving the impression of not fully exploring all the (new) possibilities of eight courses, making it not implausible that the piece was originally written for an instrument with six or seven courses.

Could for example Alberto Cesare have written down this music composed by let us say Vincenzo - father of Galileo and Michelangelo, handed over to him by family tradition, and modernising it a bit (octavating two bas notes downwards in measure 17), during a stay in Italy?

Galileo used to stay the weekends in Venice when he lived in Padua in the years 1592 - 1610. (In juli 1609 in Venice he heard about the invention of the telescope and immediately was excited about its potential.) Did he saw or heard the organists of the San Marco at a private concert in Venice and bought some scores which triggered him to improvise and emulate on keyboard or lute?

Sounding the canzon subject in the low register on the notes A2 D2 G2 (as one would expext from the older Michelangelo) does not happen.

Canzon subject: Keyboard Music Before 1700 Alexander Silbiger 2004 page 250

Or did Michelangelo play with the populair canzon subject, inspired by the latest books of Terzi and Gabrieli, in 1599 and 1600 when he was in Padua? Did the contumacious melodies of the ricercare flew out his eloquent lyrical quill?

What proof or clues, if any, do we have? Did non family members have access to the manuscript? What story does this sheet of paper tell? What was the intention of the composer? Can we translate the rhetoric of the ricercare into words?

[Galilei Vincenzio juniore]
Frontespizio Carta: 1r
Galilei Vincenzio Juniore musica
Indice Carta: 2r
Musica diversa di *Vincenzio Galilei Juniore*

The labelling *Galilei Vincenzio Juniore* on the frontspice and *Vincenzio Galilei Juniore* at the index of the manuscript at the National Library in Florence dates from the 19thcentury. The digital index of the National Library ascribes the possession of the manoscritto to Vincenzo - son of Galileo. We can distinguish the scribe, the composer and the owner; not necessarily the same person.

[Possessore Vincenzo Galilei]

Archives of the Scientific Revolution by Michael Cyril William Hunter 1998

Two days after Galileo's death his son Vincenzo exhorted Viviani to take care of a chest in which his father's manuscripts were kept safe. Most of Galileo's papers and writings were left in the hands of his son. After Vincenzo's death in 1649 these papers were passed by his widow Sestilia Bocchineri to Viviani.

Plans for formation of a Galilean Collection merged into an project. Viviani had set himself to have all Galileo's works reprint in folio form, including suspect and prohibited material.

Definitive ordering of the material took place in the second decade of the 19th century. Favaro declared the 20 editions of Galileo really complete in 1909.

[Gran padr' Carta: 3r]
Il secondo libro dei madrigali a cinque voci.

Carta 3r is digitally indexed as "Il secondo libro del madrigali a cinque voci". The text in the manuscript is more extensive and speaks of gran padr', what does that indicate?

Il suo primo 1555 & secondo libro
Carta 3r & 31 v Constanzo Porta
Il terzo & quarto libro
Carta 17v & 23r Pietro Luinej

The madrigals are composed by Constanzo Porta and Pietro Luinej.
Constanzo Porta 1529 - 1601 had studied with Adrian Willaert and was a close friend of Claudio Merulo. He was highly esteemed for his art and as a teacher & spent his final years in Padua (were Galileo and Michelangelo lived).
Why did the scribe choose these compositions to put into reverse score? Who is the scribe of the reversed scores?

Can we distract from the titles of the

madrigals by Pietro Luinej a preference for Petrarch's poetry?

Petrarca Galileo's library contained three titles and five editions. Galileo's reading by Crystal Hall 2013

A finger of Galileo still pointing at the stars

Handwriting of:
1630.12.07v Vincenzo - son of Galileo
1630.12.07r Vincenzo - son of Galileo
1631.03.11 Virginia (Maria Celeste)
1633.05.02 Vincenzo - son of Galileo
1633.06.02 Vincenzo - son of Galileo
1633.08.26v Vincenzo - son of Galileo
1633.08.26r Vincenzo - son of Galileo
1636.08.01 Alberto Cesare

A broader selection of letters

An inventory of the numbers in the letters of Michelangelo

Playing polyphony on the lute by Martin Sheperd 2017

Measure 03, 14, 24, 31, 39 & 40

RISM 10 copies of Fronimo 1568 & 36 copies of Fronimo 1584 survived

Galilei's Arrangement for Voice and Lute by Claude V. Palisca 1994 page 368
Catalogue M. Horoce de Landau 1885 Florence page 522

Inventario Libreria Riccardi
10431 Fronimo 1568
10432 Fronimo 1581

Libro d'intavolature di liuto 1584 page 273 & 274 non autografe

Dialogo 1581 engravings page 71 and 78 tables of notes

Valerio Dorico: Music in Sixteenth-Century Rome Suzanne G.Cusick 1981 page 92 & 93

Krakow G140 A difference with London K.3.m.21 is that London is printed two-sided and Krakow one-sided. This could be caused by handling the deterioration of the quality of the copper plates by the rolling process, or the quality of the available paper.

Stanley Boorman, 'Printing and Publishing of Music', 'I. Printing / 1. Early Stages', *The New Grove Dictionary of Music Online*

This effect can be experienced by drawing after an upside down portrait. This setup causes a decomposement of prejudices about what you see and results in mindfulness for details and better proportions which contribute to a good resemblance.

The many carefree breaks in Michelangelo's

Are we sure the ricercare is written in a different hand? Is it different when it looks different?

We can compare the handwriting with identified handwriting. We know the hand of Vincenzo (father of Galileo and Michelangelo), Galileo (we can visit three of his fingers), Virginia, Vincenzo (son of Galileo), Michelangelo, and Alberto.

There seems to be a difference between male and female handwriting in the Galilei family: how more readable, well-kept and carefully is the handwriting of Livia Galilei - sister of Galileo and Michelangelo, Guilia Ammananti, and Virginia. Does this exclude Virginia or Mechilde as scribe of the manuscript?

The handwriting of Vincenzo - son of Galileo, looks variable.

At the end of his life Galileo's handwriting disintegrates and he became blind. Several letters dictated by Galileo are in the hand of Vincenzo.

Since the score of the ricercare is in Italian tablature and no words are penned we should search for ciphers.

Vincenzo Galilei did use the hold sign as a reminder to lutenists of their obligation towards polyphony. Six times a hold sign (the addition sign - tenuto) is noted.

No identified autograph of lute tablature by Michelangelo has survived.

Some Fronimo supplements might be written by Vincenzo's sons. Is it likely he agreed that a student of his scuola was allowed to add notes to his exemplars of books or manuscripts?

Folios 1 recto and 2 recto of the Landau manuscript appendice copy of Fronimo 1568 are in a different hand, although the titles are in Vincenzo's. The scribe was less faithfully and skilfully than was Vincenzo's custom.

Another copy of Fronimo 1568: the Riccardiana manuscript contains three instrumental pages, the third page partly in his hand.

A more complete picture would enumerate and compare all manuscripts and books of Vincenzo with additions in another hand. High reward and likely outcome of such an investigation would be music scores in the hand of Galileo and Michelangelo.

Michelangelo's Libro Primo 1620 is engraved. A new printing technique for music and for the second time in history applied in a book by his father, the Dialogo of 1581.

Vincenzo's printer Valerio Dorico may not have had any financial interest in printing beyond being paid for the technical services he offered.

The invention of the rolling press made printing from copper plates economically feasible.

The hand-driven engraved lines in copper where as flexible and nimble as the lines drawn with a quill. It solved many problems letterpress printing techniques faced. Printers reached for a technique producing printed music that resembles manuscripts.

Engraved music spread quickly: Florence 1581, Rome 1586, England 1612, Netherlands 1615, France and Germany 1620.

The engraver of Michelangelo's lute book could have worked from an autograph placed in front of a mirror. This eases working in mirror writing.

A side effect of working this way is that it objectifies copying exactly and suppresses own handwriting. A second hand may tell about a first.

German composers often published their music at their own expense and had a certain control in the production proces.

book at the end of the staves at a section of a bar seems to show that the etcher or the original scribe did not bother much or had an eye for the layout.

A curious case of breaks occur in the pieces of Michelangelo in the anthology by Besard: there is plenty enough space for whole measures to be written out. Can these breaks be explained by copying the breaks after an original ten stave manuscript?

In total space of 180 staves was not used in Michelangelo's book: 18 of the 58 plates could have been spared, about 3/10 of the costs for paper, printing and plates. Paper cost were ussually 70% of the total.

The empty staves of the London copy catched 5 unique pieces composed by Michelangelo and notated by Albertus Werl.

Volta page 16 measure 7 and 8 are not repeated in the style brisé part.

A hold sign is not applied. The repetition sign appears in many forms.

Michelangelo ensures us in his preface that no mistakes have been made: "every one can be assured that I have minutely checked the whole book many times and I am certain that it is perfectly correct."

A riskful claim and the first tablature page immediately undermines his words by ending in messed up rhythm.

Two hands full of small defects and errors in his book leaves one puzzled to what extent he was involved in proofreading and correcting.

The preface could have been written, etched and approved before the tablature was engraved and the book he describes meticulously checking over and over again might have been the original manuscript.

The loose calligraphy of dedication and preface also suggests that the engraver was not a determined perfectionist.

Striking anomalies occur in Volta 45 Primo libro 1620 measure 2 course 2 capital A and measure 16 course 6 second d has a hybrid character. Is this the first page the engraver made under supervision of Michelangelo?

A very rare book by Nicolas Schmidle New Yorker 16 december 2013

A Galileo forgery 2014

A famous forgery of Galileo's Starry Messenger 1610 shows Galileo's faked signature at the title page in a form Galileo only used once in an authentic letter addressed to Michelangelo.

Instead of further comparing handwriting and jumping to conclusions based on similarities and differences, let's broaden our view to some features of the ricercare.

Eight The shape of the cipher 8 in the manuscript is not rigid. It looks like the scribe hadn't decided yet how to write this number and is trying out several options, the number rather being composed of different parts than arising out of a flowing movement.

The ricercare is written for a lute with 8 courses and 8 frets on the neck.

The solitary bass notes D2 8th course measure 17 seems to come out of nowhere.

What is this string marking?

CD Booklet Galilei Anthony Bailes page 12

The appendice: Gagliarde ed arie di Autori diversi Libro d'intavolatura di liuto 1584 by Vincenzo Galilei

Vincenzo - father of Galileo and Michelangelo, argued against the use of a lute with more than 6 courses in 1568 and he didn't change his mind for a long time when the quality of the new strings improved rapidly. However after 1584 he apparently did, the appendix of his lute book contains several pieces for seven courses.

Michele Carrara Rome 1585

In 1584 lutes with 7 courses were the norm and in 1585 the first manifesto for a lute with 8 courses was printed in Rome.

The lute in its historical reality
Mimmo Perufo 2008

The best new strings were produced in the region between Bologna and Florence. Michelangelo preferred these even when living in Munich – a city renowned for his strings.

The manuscript sources of 17th century Italian lute Music by Victor Coelho 1995

7- and 8-course lutes were commonly used throughout the 17th century.

The young Galileo was visually gifted, if he could redo his life he would without hesitation elect to become a painter. One would presume him to visually think ahead.

The unsteady horizontal lines of the score give the impression of bad planning.

From a compositorical point of view this is misleading. Here a composer is at work who is in control and exactly knows what he or she is doing.

A vertical line connects uninterrupted nine of the ten staves. This line was probably the first the scribe put on this sheet, presumably thinking there will be ample space to write the whole piece down.

The term ricercare is not written in manuscript.

Approaching the piece with the toolbox of a fugue is legitimized by the continued polyphone working with the same subject throughout the entire length of the piece and the usage of stretti and augmentation.

When this turned out to be a problematic

A tonal rather than a modal approach can be based on Vincenzo's late writings and compositions.

case the solution was shrinking of the handwriting (in opposition to the musical development wherein the subject is augmented to the max).

Applying the fontsize of stave ten to the whole piece means that only eight staves would have been needed.

The horizontal lines deflect downward as a right hand tends to do. A ruler or rastrum was not used.

Measure 20 some wrong notes have been removed by damaging the paper. A sortlike case can be found on page 1 Libro for lute 1584 by Vincenco Galilei.
At the end of stave four several events occur: collision with the end of the page, (and because of that?:) the missing of a bar line, shrinking of the font and wrong notes. Halfway stave eight the writing broadens and crashes at the end when again something wrong was written & an orbital knot was penned to erase.

When we take a look at the other side of the sheet we can decipher a bit which notes (s)he penned under the knot. Maybe the scribe didn't want to break a bar at the end of a stave and realised to late the lengthy bar could not fit entirely.

Ink has corroded three digits in measure 69.

BWV 1001 Well known among lutenists by the intabulation of Weyrauch BWV 1000

The Myth of Bach's lute Suites Clive Titmuss 2015

BWV 877 fugue No. 8 Repeated notes, rhetoric and meaning in Bach's music. Timothy A. Smith Poetry used to explain and understand music.

The Aesthetic of Johann Sebastian Bach by Andre Pirro 1907 page 42 the meaning of motifs with repeated notes

The key signature of manuscript BWV 1001 suggests the key of d minor or Dorian mode because of notational Baroque convention - the mode of the piece is g minor.

"And yet it moves!" Toward a history of "eppur si muove" Darin Hayton June 3, 2012

An Historical Survey of the Origins of the Circle: Music and Theory by Jamie L. Henke 1997 Earliest theoretic reference to harmonic circles by descending fifth or ascending fourth can be found in Kircher.

Galileo's telescope:
1609 3-powered; 8x
1610 14x; 20x; 21x; 30x

The subject of the three voiced ricercare is a rhythmic figure – a knocking motive: *hello, here I am!* – followed by a fifth downwards and a fourth upwards.

The fanfara character of the theme makes it suitable for a performance by wind instruments directed by Cesare Bendinelli.

The exploration of open strings is a central device in the development of the music.

By contrast dramatic use of alternative positioning is applied. The most significant example is in measure 91 fifth course seventh position G3 (at the beginning of stave ten in the manuscript). The reason why this note is very special will be substantiated in the following.

The idiomatic suitability of playing a repeating motif on open strings was explored by Johann Sebastian Bach in a related fugue subject for violin BWV 1001.

A lutenist may have a distorted image of Bach's idiomatic writing because his so-called lute works are in fact keyboard pieces.

Bach composed his motifs upon the principles guiding the musical language of his contemporaries.

Bach developed the conviction that composition is a mode of thought and expression. The harmonies ought to be dictated by the mind, by the intentions of what the composer had to say.

Repeated notes are an example of physical immobility and steadfastness.

A striking difference between Bach's related subject for a violin fugue and the ricercare by Galilei Vincenzio juniore is that Bach's subject in the exposition is firmly anchored in triads of the main key of the piece.

With the hammering on one note the subject of the ricercare seems harmonic motionless, but it ends up in an orbiting experience by circling harmonics.
It consists of two opposite parts, together impersonating Galileo's mumbled mythical oneliner: "and yet it moves".

A fugue subject is often not in itself a melodic sealed unit; the first melody usually only closes off as the second voice has already begun.

One of the features of the ricercare is the transformation of the subject melody from not yet completed in the exposition, to closed in itself in the coda.

The metamorphose of the function of the notes of the subject is a common thread in the musical story of the ricercare. One of the ways in which this change is implemented is by augmentation. As if we are looking through a telescope and the concept of what we see changes before our eyes.

The reason for composing the ricercare could have been educational. Alternative scenery for the genesis of the ricercare: Galileo or Michelangelo to one of their offspring: “Today let’s compose a ricercare on your grandfather's lute in the old polyphonic style, for a start take a look at this bunch of madrigals.”

The changing nature is underlined by free counterpoint and the lack of a countersubject.

For a composer using the modern French style and at the same time making compositions in the old polyphone fashion, illustrating renaissance and early baroque features separately see Joachim van den Hove in 1615 as described in The Lute in the Dutch Golden Age - Jan.W.J.Burgers - Amsterdam University Press 2013 p. 122

The ricercare's structure can be divided in thirds and quarters distributing relief after built up tension and follows classic renaissance modelling.

The subject includes a remarkable overall tonal plan for the 104 measures the ricercare endures.

D2 F2 G2 C3 F3 A3 D4 G4

A renaissance lute with eight courses is most likely tuned in G. The ricercare ends then in G(alilei) minor(juniore).

The letters of the name Galilei can be made to sound as a style brisé motiv in lute tablature and has a very modern nature.

The function of the notes A3 and D4 in the subject of the exposition can be qualified as dominant and tonic. When the subject is sounded in measure 8 en 9 we hear the chords minor-d and first inversion A major.

The exposition starts with the subject opening on A3 and the answer beginning on D4 suggesting the mode of d minor.

Das Wohl Temperierte Klavier II
BWV 870 - 893

A deeper understanding of the rhetoric of the ricercare can be achieved by further consulting Johann Sebastian Bach. He proved to be a great historian in his second book with preludes and fugues in all major and minor keys. Several times Bach reflected masterly on the rhetoric of the old ricercare.

BWV 874 fugue No. 5 Timothy A. Smith
Page 5: plagal exposition of Bach in a fugue with repeated notes.
Page 10: a trice-repeated pitch and a rising consonant fourth: the canzona motif from the late middle ages.

Carl Philipp Emanuel Bach wrote about his father: "When he listened to a fugue he could soon say after the first entries of the subjects what contrapuntual devices would be possible to apply, and which of them the composer by rights ought to apply."

We can turn this around and see what Bach did with the related subject based on the canzona motive in fugue number 5 of Das Wohltemperierte Klavier II.

The classical cadence William Caplin 2004
"We should banish the plagal cadence from theoretical writings."

What devices did the composer ought to apply according to Bach in this piece?

BWV 874 Luke Dahn “Fixing” Bach’s D Major Fugue from WTC2, BWV 874:
"The opening X motive implies G major more than it does D major."
"... results in an ambiguity of tonal center. "

The most remarkable feature of this fugue is the plagal exposition. The exposition of the ricercare can also be experienced as plagal. In this plagal exposition the progression is V-I-V in the key of D and has the same sounds as I-IV-I in the key of G.

The keys are heard differently and one can choose to hear it either way. Who has the final word? Listen to the music and you can hear arguments for both modes.

The instrumental canzona arose directly from the chanson, many were edited for lute. The opening motif of a canzona consisted of one long and two short notes of identical pitch.

If there is one thing that roots the ricercare in the 16th century it is the plagal exposition. Is that a clue for the date of composition? Bach used it in the 18th century.

In northern Italy outside Venice the canzona was the chief instrumental genre from 1580 to 1620. Venetian instrumental music from Gabrieli to Vivaldi - Elenanor Selfridge-Field 1994 page 116

To reuse Alfred Einstein's description of some of Bach's duets: "This is only one of many of those mysterious cases in which Bach seemed to revert to the sixteenth century, without our being able to adduce philological proof that he knew music which by his time had long reposed in the sepulchres of oblivion."

Andrea Gabrieli (1532-1585 Venice) wrote keyboard canzonas that are intensely polyphonic and considered as precursors of the fugue.

Bach's nephew Johan Nicolaus Bach intended to revive the declining interest in the lute by providing the instrument with keys. The easy-to-play luteharpsichord could deceive the best lute players with its sound. Is that deceitful sound an indication for its tuning?

In 1720, the year he composed the first book of The Well-Tempered clavier, Johann Sebastian Bach obtained a luteclavichord. In 1740, the year he started his second book of The Well-Tempered clavier he obtained a new luteclavichord, this time built on his instructions.

Between 1562 and 1565 Andrea Gabrieli

Bach could tune a harpsichord at lightning speed. He was very reserved against

was in Germany and worked as an organist at the Kapelle in Munich with Orlando di Lasso. His nephew the lutenist Giovanni Gabrieli followed him to Munich.

Canzona Ariosa Il terzo Libro di Ricerari 1596 Venezia This organ composition is Gabrieli at its best and looks like a primary source of inspiration for the composer of the ricercare.

Vincenzo - son of Galileo, owner of the ricercare manuscript, a poet with an inventive mind, his poetry rooted in renaissance models, an artist with a love for extreme ingenious organization, grounded in musical theory, played lute & it sounded as organ pipes. Was the comparison Viviani made with an organ trickered by hearing Vincenzo many times improvising on a lute exploring organ scores?

An Historical Survey of the Origins of the Circle: Music and Theory by Jamie L. Henke 1997 At times entire works of Gabrieli are based on circle progressions. He was the first to use circle progression to target a specific pitch.

Vincenzo Galilei and Andrea Gabrieli both composed a cycle of ricercares through the 12 degrees of the chromatic scale.

The Order of Things: A reappraissal of Vincenzo Galilei's Two Fronimo Dialogues by Peter Argondizza Fronimo 1568 and Fronimo 1584 show a shift from 8 mode to 12 mode order.

Intavolatura di liutto 1593 The canzon motif of Andrea Gabrieli in Giovanni Antonio Terzi

In the final entries the function of the notes A D G of the subject turns out to be secondary or artificial dominant, dominant and tonic.

A Dialog by **G**alilei: Dialogo sopra i due massimi sistemi del mondo Galileo Galilei 1632

Classifying the harmonics with certainty in this bitonal constellation is impossible. The perspective of the observer directs the observations.

BWV 874 fugue No. 5 by Timothy A. Smith 2016 quoting Dante: "What? Are you here?"

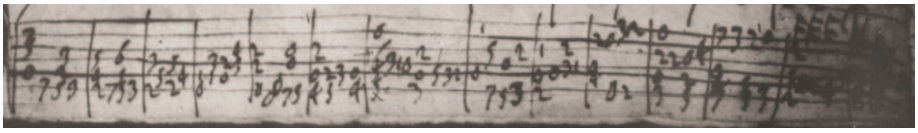
experiments with different forms of tuning. It is possible that in 1720 the luteharpsichord showed him a way to equal temperament and urged him to rigorously implement the design he had devised for his inventions and sinfonia's.

The luteclavichord would travel into the dark space of history and oblivion.

A clue for the key of the ricercare, although not decisive, is the final chord.

Vincenzo Galilei, father of Galileo and Michelangelo, had contended that the designated mode of a modern polyphonic piece could only be distinguished through the last note in the bass.

The reproduction of the manuscript in the paper of Dinko Fabris is not as crisp as one would wish. The final chord in the last measure is obscured in darkness & the last readable final chord is D in stead of G:



The music of chance is here playing with the core of the concept of the composer: it is not clear what is the main key of the composition and the final answer / word / chord / note in the bass is in the realm of dark space.

In the development part the ricercare seems to modulate from d minor to the closely related key of g minor, the mode in which the piece ends. It is as if we have entered the world with a new base. The exposition is in d minor and the final entries in g minor.

A difference with regular modulation to a closely related key is that there is no turning back, it is final. We have experienced a tonal shift from one centre to a new one.

This musical affair in Galilean terms sounds familiar. A suitable title for this dramatic harmonic story would be *A Dialogue Concerning Two Chief Systems*.

The question in which key the music is composed can only be answered after viewing the whole piece, after all arguments have been weighed and then one has to choose or to conclude that both are an option. Considered this way the ricercare is a rhetorical discourse without a final answer.

What does it mean when a piece of music is not structured on a single mode? Why did Bach and Galilei emulate on a canzona theme explored in a modal mixture and disrupted unity?

Timothy A. Smith connects the provenance of the instrumental music evolved from the French chanson as far back as Mauchant, de Vitry, and Landini - composers of the same epoch as Dante.

Art is about making up, applying and breaking rules and it is entrusted to the French

chanson as is is to the Lithuanian sutartinės to not care about how things should be done. Like the rule that there should be modal unity in music.

Scherzi Musicali Dichiarazione by Guilio Cesare Monteverdi 1607

Guilio Cesare Monteverdi, the brother of Claudio, wrote in 1607 a defence of his brothers music. It was part of Claudio's publication Scherzi Musicali.

Harmony, once considered the master, becomes the servant of the text, and the text the master of the harmony.

Guilio Cesare expands on modal irregularities and mixture of modes. He cites examples of the occurrence of more than one mode in a number of Gregorian chants and compositions by Josquin Desprez, Allessandro Striggio, Adriano Willaert and Cipriano de Rore. The Monteverdi brothers applied different modes in one composition to almost equal force. Claudio honors, reveres and praises both *prima* and *seconda pratica*.

The Language of the Modes: Studies in the History of Polyphonic Modality by Frans Wiering 2013

Theoretical writing about music is something different as composing. When a theory does not match practice, it still can be clarifying because of its formulated presumed guiding axioms.

The Illusion of the Prima Pratica and Seconda Pratica in the Music of Willaert and Rore by Karen Atkins 2012

Verbalizing legitimation for the new way of composing fuelled easy to understand inspired figurative correspondence-thinking: for example when water is involved, the notes moves in waves.

Tonal Structures for Early Music by Frans Wiering 2000: the integrated whole of a mode was an intellectual abstraction.

Easy to understand but nonetheless multi-interpretable, which deepens its artistic meaning but blurs its concepts, still challenging its listeners.

Madrigalism vividly illustrates a word or phrase's literal meaning.

Grandscale word-painting in music, instead of incidentally or accidentally, was a novelty. Its usage could be annoying silly simplistic or impressive profound simple.

Vincenzo Galilei's Counterpoint Treatise: A Code for the Seconda pratica by Claude V. Palisca 1994

Claude V. Palisca noticed that Vincenzo's unknown treatises on counterpoint can be understood as the conceptual foundation for Claudio Monteverdi's seconda pratica.

Why break the rule of modal unity, what is the artistic logic? What meaning can be attributed to the mixed harmony of the ricercare?

Dialogue on ancient and modern music by Vincenzo Galilei translated, with introduction and notes by Claude V. Palisca 2003 page 61

According to Vincenzo - father of Galileo and Michelangelo, music can be directly connected to the heliocentric view.

He wrote a remarkable metaphor about intervals in his Dialogue on music in 1581:

"...si come le molte linee tirate dal centro alla circonferenza del cerchio, tutte nel centro di esso rimorono; nell'istes so modo ciascun musico interuallo nell'Ottaua, come in uno Specchio riguarda, à guisa che fanno ancora le stelle nel Sole; non altramente che da esse ciascuno (secondo la sua capacità) l'esse re & la perfettione riceua."

"Like the many lines drawn from the centre of a circle to the circumference, which all gaze back at the centre, every musical interval in the octave sees itself as if in a mirror, like the planets do in the sun, not otherwise than the way everyone, depending on individual capacity, receives from it the person's being and perfection."

Similar laconically demonstrated acceptance of Copernicus's theory can be found in the essay An Apology for Raymond Sebond written by his contemporary Michel de Montaigne 1533 - 1592

It is not the reflected platonic essences that make this sentence outstanding. It is the heliocentric metaphor and the laconic, natural tone wherein it is voiced by this sometimes more quarrelsome man. Intervals function as planets who revolve around the sun.

Planets are called stars (stelle) - as Galileo appointed the moons of Jupiter.

Seen through the glass of this metaphor a music score transforms into a star map. *Hymne to the Sun* could be an alternative title for the ricercare, inspired on familiar metaphorical roots.

In his 1581 book Vincenzo also composed this dialogue:

Strozzi: "...la qual cosa mi fa dubitare che ci siano dell'altre cose (cir ca l'inuentione) che sono antichissime, e ci sono predicate per nuoue da questo & quello."

Strozzi: "This makes me wonder if there are other discoveries that are very ancient but acclaimed as new by this person or that."

Bardi: "Non ne dubitate punto; imperoche i semplici molte volte nel leggere alcuno libro di qual si voglia facultà, credono (per la poca esperienza) che quelle cose non si trouino altroue che in quello; le quali i piu delle volte sono scritte in molti, le migliaia de gli anni auanti.

Bardi: "Don't doubt that at all, because simpletons often believe that what they read in a book in whatever discipline – owing to their limited experience – is not found in any other book, whereas it is written in many books thousands of years earlier."

Simple quotes Vincenzo Galilei 1581

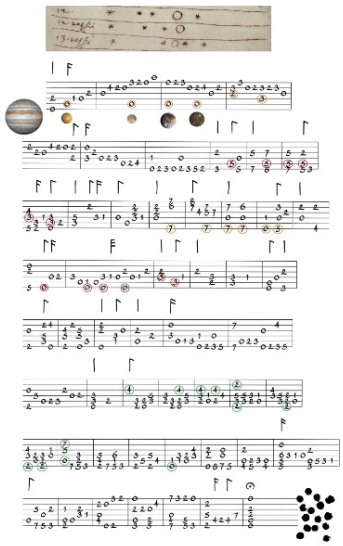
Simpletons (semplici in Italian) have a voice in the doppelganger and layman Simplicio in the Dialogue Concerning the Two Chief World Systems.

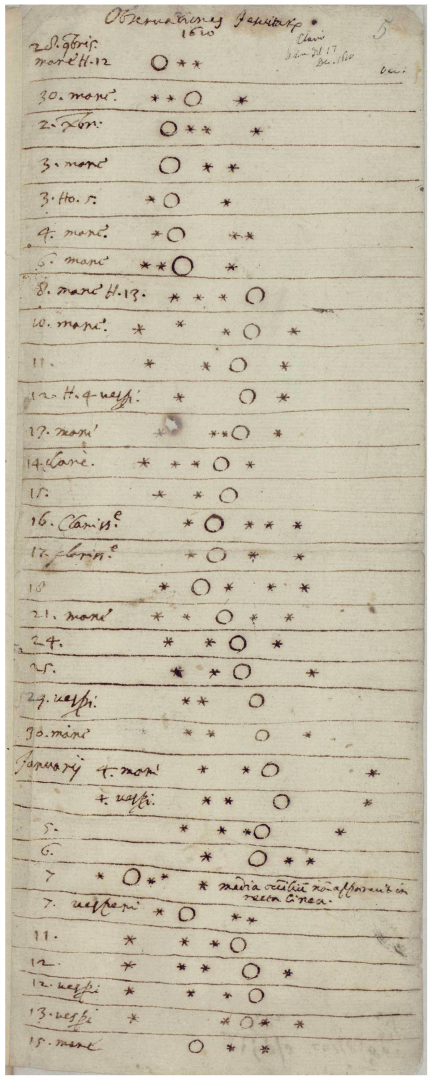
The word *semplici* is used 96 times in Vincenzo's Dialogo (providing enough quotations to accommodate the 96 variations a canto of his 100 part romanesca).

Preoccupation with simpleness was hammered into his sons experience.

The Discovery of Jupiter's Satellite Made by Gan De 2000 years Before Galileo by Xi Zezong Chinese Physics 1981. A moon of Jupiter was discovered in 364 BCE.

Notes Galileo
MS. Gal. 49. fols 4r & 5r

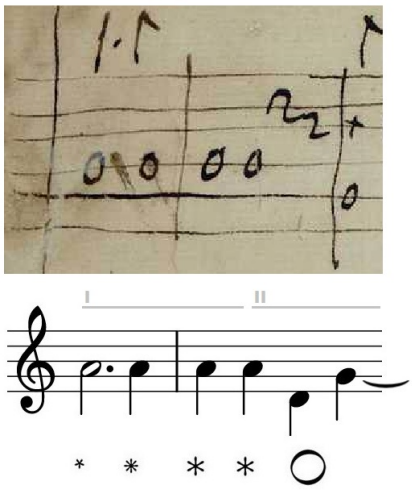




Galileo's copy of Observatione Jesuitare 28 november 1610 - 15 january 1611.

Vincenzo's son Galileo would found out that putting words into the mouth of a simpleton can cause critical problems.

A playful feature of the ricercare is the visual resemblance of the knocking motive in the tablature with the notes Galileo took of his observations of the four moons of Jupiter.



Four moons orbiting - visualised in a subject.

(& an swept ink drop impersonating a passing meteor with tail)

Part I of the subject consists of four notes in perfect unison. When played on open strings these note are written as four circles in Italian lute tablature.

Galileo had turned his telescope on Jupiter for the first time on the 7th of january 1610. Several nights he saw three moons. Then another moon appeared on the 13th of january 1610.

Galileo didn't draw the Jupiter's in a straight line under each other: the centre seems to move - instead of the moons.

For Galileo it sometimes appeared Jupiter had not moved to the west but rather to the east.

Part II measure 2 in tablature - the numbers two on courses five and four - have the shape of a wave. The Jupiters in Galileo's notes move in a vertical wave.

Some nights it was clouded. Some bright nights he made two notes - his observations separated by a couple of hours. How did Galileo spend his time in the late hours in between, his mind focused on his notes and the things he saw and figuring out what they mean and how they move? Did he pluck some strings thinking about strange things, pinning Jupiter?

Pin Jupiter and the moons starts to orbit on paper.

History tells he figured it out how they move on the night of the 15th of january 1610. For eight puzzling nights he had thought it was Jupiter moving & not being at the centre.

In traditional cosmology there was only one centre of motion. With the moons performing their revolutions around Jupiter there were now at least two centres of motion in the universe, the Earth or Sun and Jupiter.

Two months later he published his findings, which made him famous overnight.

Michelangelo witnessed Galileo taking notes of his observations in january 1611. He and his family were in Padua and Venice from 10 january till 01 february 1611. It was Galileo first acquaintance with Anna Chiara and 6 months old Vincenzo.

The horizontal lines tend to bend downwards. Fire and the rhythm of the music of chance burnt a hole in this sheet in roughly the same area as is the hole in the ricercare manuscript.

Part of their conversations would likely have been about the events exactly one year before at exact the same spot.

Jupiter's moons offered a paradigm shift not easily accepted. Galileo provided many with telescopes to confirm his observations and emphasized that his data agreed with the Jesuits.

1611 january
Left: Galileo's observations
Right: Jesuits.

Ricercare subject part I
Counting unit: quarter notes starting in
measure 01: **A** 3 1 1 1
measure 04: **D** 3 1 1 1
measure 08: **A** 3 1 1 1
measure 12: **D** 3 1 2
measure 22: **D** 3 1 2 2
measure 26: **A** 3 2 2
measure 27: **D** 3 2 2 2
measure 36: **D** 4 2 2 2
measure 42: **G** 1 1 2 2
measure 47: **D** 2 1 2 2
measure 53: **D** 5 2 2 2
measure 60: **G** 4 2 2 2
measure 66: **D** 4 2 2 2
measure 71: **G** 3 1 1 1
measure 85: **A** 6 2 2 2
measure 88: **A** 6 2 2 2

The subject of the ricercare is augmented gradually (as Galileo's telescope power did).

To the left: the length of the augmented first four notes of the subject compared to each other. The proportions and relationships change.

Eight times the subject starts on D & eight times the subject starts on A or G.

Concepts

Vincenzo's son occupied himself intensively with the heliocentric worldview. Here an illustration from a manuscript of Galileo's book from 1632. Sunspots and rays regrouped into a face, somewhat like a tongue in cheek lion. Based on this drawing one could assume that Kepler's ellipses did find his way in Galileo's concepts of our solar system.

À guisa che fanno ancora le stelle nel Sole.

The countersubject of the circle of harmonics in measure 4 consists of fast notes and contributes to the sensation of movement.

Part II of the subject - the circle of harmonics - is slowed down by the augmentation & is harmonic coming to a stand in measure 88 - 91.

To summarize what have been phrased about the conceptual level of the ricercare:

Vincenzo - father of Galileo and Michelangelo, seems to have accepted and laconic proclaimed the heliocentric system of Copernicus and the ricercare which is at the centre of this article seems to illustrate the shift to such a view and even gamesome refers to Galileo's discoveries of Jupiter's moons.

By what means does the music illustrate a shift?

When we compare the subject (measure 1-2) in the exposition with the subject (measure 85-91) in the final entries - things have changed.

In the exposition the subject is embedded in a different tonic as in the final entries.

By what means does the music illustrate such a view?

The subject is composed of two opposing parts - one motionless (perfect unisons) and one moving in circles (descending fifth and ascending fourth).
The subject is augmented & at the end gives space to the two voiced counterpoint to ad arguments for the subject to be final in itself.

What in the beginning seemed motionless (the knocking on a) turns out to move around a centre (the tonic g).

Complementary, what seems to move in the beginning (g in measure 2) is at the centre in the end (g in measure 91).

The most dramatic use of alternative positioning on the neck of the lute is applied to this very special note. For a luteplayer it takes much concentration and experience to sound a note eloquent and melodious in this position, high up the neck in the low register. It connects difficult physical effort with a big mental step. The conceptual duration of this note passes far and far beyond its actual sounding and written notation: it could go on for ever.

Extremely ingenious constructed the ricercare is, Yoda would say.

When we were talking about the number of courses we seemed to touch ground, but now we seems to find ourselves in outer space. Has it gone out of hand and are we lost? Being composed in the old-fashioned style how can the concepts of the heliocentric view or the discovery of Jupiter's moons being part of this composition?

Associations, connections and analogies

An annotated census of Copernicus' De Revolutionibus (Nuremberg, 1543 and Basel, 1566). Owen Gingerich Leiden 2002:

Brill p. 133

Among professional astronomers (compliers of horoscopes) and almanac makers the heliocentric system was not so much a revolutionary cosmologic model, but rather the basis of assessment for improved calculations.

Two interesting books at the Biblioteca Nazionale Marciana:
- The Copernicus owned by Zarlino
- Prophecies by Licinio Fulgenzio Nej

Un rivoluzionario prudente by Willian Shea 2001

Libro del Sol by Marsilio Ficino Firenze 1493

Singer-songwriters, the Lute, and the Stile Nuovo by John Griffiths 2015 "Ficino's performance style appears to have been transmitted as intangible legend rather than in material form."

Similar expressions Gary Zabel courses Philosophy The Sun

Un rivoluzionario prudente by Willian Shea 2001

Copernicus in the Cultural Debates of the Renaissance by Pietro Daniel Omodeo 2014

Diversarum speculationum mathematicarum et physicarum liber by Giovanni Benedetti 1585

Galileo's Pisan studies in science and philosophy by William A. Wallace 1998

Quantifying Music by H.F. Cohen 1984

Letter In 1597 Galileo reveals to Kepler he thought Copernican cosmology was right.

EN XI. 838 Francesco Rasi a Galileo in Firenze 28 gennaio 1613

As historian of sciences Owen Gingerich wondered how many people have actually read the book Revolutions by Copernicus, when it was published, almost five hundred years ago. A quote of his investigations might be helpful:

“I.116 1543 Venice 1. Biblioteca Nazionale Marciana 132.D.31 Provenance:
1. (fl) Anno Christi navitatis 1556 die Septimo mensis Decembris Venetiis L 10L (TP) P. Josephii Zarlinii. Giuseppe Zarlino (†1590), choirmaster at the San Marco cathedral, distinguished music theoretician, possessor of a large library and author of some small tracts on calendrical problems.
No annotations."

How can this author of calendrical problems help us any further?

Zarlino was the teacher of Vincenzo and apparently he owned a copy of the book by Copernicus. We know Vincenzo’s opinion and we now know that he has had the opportunity to have the book in his hands when he was a student.

How did he come to his opinion? We should take a step deeper into time.

Renaissance Neoplatonism led quite naturally to a representation of the sun as a central and universal appearance.

This can be clearly seen in the books of Florentine humanist Marsilio Ficino. Ficino translated Plato's works & coined the couple platonic and love.

Ficino translated the 2nd century CE Orphic Hymns and was famous for singing them while improvising on the lute.

Several of Ficino's metaphors in his book about the sun resonate verbatim in the book Copernicus wrote.

Copernicus was imbued with contemporary Neoplatonic ideals. Radical thinkers of the 16th century found it interesting to speak out publicly for Copernicus.

The Camerata Fiorentina, a group of musicians, poets, humanists and scientist, gathered under the protection of Vincenzo’s patron Bardi in the years 1573-87 and experienced intellectual pleasure of challenging new ideas.

The Venetian Giambattista Benedetti (1530 - 1590) defended Copernicus in 1580 and 1581 in an academic quarrel with Benedetto Altavilla at the Turin court. Both published two booklets about this controversy concerning heavenly predictions.

Benedetti was interested in the science of music and published correspondence (explaining consonance and dissonance in physical terms) with Cypriano de Rore - the favorite composer of Vincenzo Galilei. Girolamo Mei, who provided the intellectual impetus to the Camerate, had followed some much appreciated university courses by Benedetti in Rome.

Benedetti was "court mathematician and philosopher": a title which was like music to Galileo's ears. It is thought that Galileo derived his initial theory of the speed of a freely falling body from his reading of Benedetti's works. The core of Galileo's musical discourse was the combination of concepts of Giovanni Benedetti and Vincenzo Galilei.

Within this context it is clear how Vincenzo could have come in touch with the book of Copernicus, occasionally thought and discussed about its concepts and as part of the inquiring minds of the 16th century could have accepted the heliocentric view and published a metaphor about it.

How could the composer of the ricercare prove to Galileo’s work by fidget with his 17th century notes of Jupiter’s moons? Being written in the renaissance style at the end of the 16th century a 16th century date as origin seems more plausible. Did he have predictive abilities?

Concepts in which predictions play a role are horoscopes.

A good friend of Michelangelo was the singer Francesco Rasi. In 1607 he created the title role in Monteverdi's Orfeo.

A task of Galileo as a mathematician at Padua University was teaching medical students how to cast a horoscope.

Unlike his predecessors, Galileo did not include the subject of astrology in his courses. Sara Bonechi - How they make me suffer - Florence 2008 page 21

In 1610 Rasi was sentenced in Florence to be hanged, drawn, and quartered (just to make sure, in line with classic renaissance modelling and the fate of the murderer of the French King Henry IV in the same year - who before being drawn and quartered was scalded with burning sulphur, molten lead and boiling oil and resin, his flesh then being torn by pincers).

In 1612 the complete and alive but sick Rasi visited Michelangelo in Munich and as good friends do, they talked about fate and facts of life.

Michelangelo suggested Rasi to request Galileo to make his horoscope, which Galileo did.

Astrologica nonnulla Carta 20r horoscope of Michelangelo Galilei

The horoscope of Michelangelo is preserved and might give us insight into the predicting gifts of Galileo.

Minkhoff Edition Il primo libro d'intabolatura di liuto Introduction par Claude Chauvel 1988 page 28: "A precision unknown to astrologers before the introduction of the telescope in 1664".

In 1988 Claude Chauvel asked Antoinette Le Calvez to interpret with a precision previously unknown the horoscope of Michelangelo made by Galileo.

The outcome was a brief summary of the biography that Claude had compiled himself and it does seems to proof cliche moral verdicts are written in the stars.

Year 1664 does not exactly contribute to confidence in the precision of this exercise.

This was done long after the facts, which a little detracts to the amazingness of Antionette's performance.

Sidereus Nuncius Galileo Galilei 1610

In 1610 Galileo published his discovery of four moons of Jupiter in his book The Starry Messenger. The book contains a horoscope of the man it was dedicated to and Galileo finally got the job and title he wanted: court mathematician and philosopher.

Galileo's money problems were over. He moved to Florence but would later look back at his Paduan days as his happy years.

The Book Nobody Read
Owen Gingerich 2004 chapter 12

After that astrology would never again play a role in his work.

Tertium Intervens by Johannes Kepler 1610

This contrasted with Kepler who after reading The Starry Messenger wanted a reformation of astrology "but not to throw the baby out with the bathwater."

800 of Kepler's horoscopes have been preserved.

In 1595 amidst the little ice-age Kepler had succes rightly predicting coming winter would be cold.

The trip took him from Linz to Tübingen. Halfway: München

While on a journey in 1617, to save his mother from prosecution as a witch, Kepler read Vincenzo's Dialogo with the greatest pleasure.

Johannes Kepler's interest in Practical Music Earthly Music and Cosmic Harmony Peter Pesic - ISCM Issues Volume 11 2005 No.1

He read three quarters of the book, so he came into contact with Vincenzo's heliocentric metaphor. Especially the first part was read with the greatest attention.

Briefe 783 Kepler to M. Wacker von Wackenfels 1618

It was fresh on his mind when he worked on Harmonice Mundi and Vincenzo Galilei is cited many times.

Band 21 2009 Kepler's handwritten commends on Vincenzo Galilei's Dialogo

Music and the making of modern science by Peter Pesic 2014

Kepler (1571 -1630) had a musical education and invited composers of his age to write music that will incorporate the harmonies he had discovered in planetary data:

And Yet it is Heard by Tito M. Tonietti 2014

"Shall I perhaps be committing an abuse if I demand some ingenious motet from individual composers of this age for this declaration?"

The music had to be ingenious.

Based on his reading of Vincenzo's Dialogo modern composers were for Kepler the ones representing the old-fashioned polyphonic style.

Contemporaries of his age:
1571 - 1630 Johannes Kepler
1575 - 1631 Michelangelo Galilei

The incipit A moving and singing earth redolent of human misery.

In 1619 Kepler published Harmonice Mundi. The book refers repeatedly to Orlando di Lasso and his interpretation of the motet 'In me transierunt" is remarkable - analysing and connecting a specific piece of music with the structure of the universe.

A typical case of over-interpretation by an obsessed layman focussing on something random, instead of an essence?

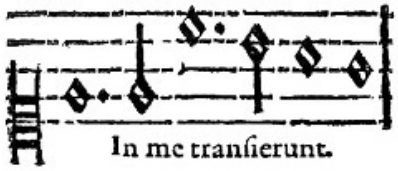
Kepler adored Orlando di Lasso, wishing he was alive to teach him how to tune a clavichord.

Or should we qualify the drawn correspondences between this motet and the world as meaningful poetry - not as

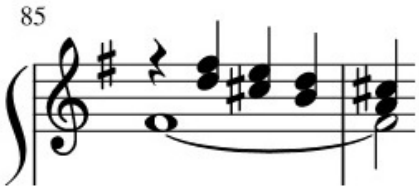
Compare Kepler's citation of the start of the motet *In me transierunt* and the lament measure 85 & 86 of the ricercare:

much as poetry by di Lasso but as Kepler's?

In me transierunt - Orlando di Lasso
Pages 6 & 7
Il secondo libro Intabolatura di liuto di Melchior Neysidler 1566



Joachim Burmeister's Musica poetica 1606 contains a minutely detailed analysis of the motet. It is widely regarded as the first full-scale analysis of a piece of music.
Music Analysis in the Nineteenth Century by Ian Bent 1994



For a clear analysis of Burmeister's analysis see Claude V. Palisca Studies in the history of Italian music and music theory 1993

The harmonies of a moving and singing earth redolent of human misery are incorporated in the ricercare at its dramatic peak.

Burmeister dissects and describes, in yet another application of correspondence thinking, equating musical techniques and rhetorical figures, but ignores any common thread.
His comparisons makes it possible to speak about structures of a composition with the well-assorted toolbox of the rethoric.

In his book Kepler describes how the earth wanders around its G string, whereupon Jupiter is marking the D string with its perhelial movement.

Of course harmonic similarities can be chance.

Did Galileo had enough of Kepler's neo-Platonic projected cosmic archetypes?

Galileo has rarely used Kepler's findings in his observations & ignored Kepler's calculations showing that the earth turned in an ellips and not in a circle. Soon after publication of The Starry Messenger Galileo stopped answering Kepler's letters.

Therewith it seems likely this is a dead-end way on the road to understand what is happening in the ricercare.

It is time to look into a different direction and follow a different trail, that of a soldier, who was a real philosopher, widely regarded as the father of modern philosophy.

Musicae Compendium 1618

After René Descartes *31 March 1596 † 11 February 1650 had written his first book in 1618 about music, he decided it was time to see something of the world.

In 1633 Galileo was condemned for ascerting his cosmological findings as fact. The news reached Descartes at the moment he had just finsihed his cosmology book, titled *Le Monde* - The World, also establishing the heliocentric system as fact. Terrified by Galileo's fate and afraid to make Jesuits his enemies, while he needed them to teach his method, he decided not to publish.

Using the network of the Jesuits he ended up as a fighting man in the service of Duke Maximilian I of Bavaria just in time to participate in the beginnings of the Thirty Years War.

The start of the war that gave Michelangelo the opportunity to compile his book about *The flight of Swallows* brought Descartes to the battle of the White Mountain, joining the staff of the Duke of Bavaria and accompanying his army on its campaing. Both serving the same Duke.

His method: accept only what is clear without doubt, split difficulties, go from simple (a preoccupation shared with others) to complex and verify.

Some say that Descartes book about music was nothing more than what he had transferred from Zarlino.
Others say that every aspect of his method is already there.

This night he slept in Neuburg an der Donau (Johannes Molitor) - not far from München.

Snowbound on the bitterly cold evening of 10 november 1619 Descartes read a treatise on music and fell asleep due to the excessive heat of the stove.

The army had taken winter quarters. Joining the army & seeing something of the world meant being lodged in with a town inhabitant, living a gentle, comfortable life.

He had several dreams. In his last dream he saw two books: a dictionary which appeared to be of little interest and use and a compendium of poetry which appeared to be a union of philosophy and wisdom.

Most of all it meant waiting. He rarely left the house, spending his time in Bayern reading and contemplating. Whhich books were hot from the press in 1619?

Descartes was familiar with Kepler's books (he did use the new math described in Kepler's Harmonice) but made little explicit reference to him. A reference to *On the Six-Cornered Snowflake* being the exception. Correspondence 127 Descartes to Mersenne March 1630

The star-shaped snow constituted an inexplicable miracle and admitting the impossibility of a rational explication suggests the programmed failure of Descartes' project. Winter Facets: Traces and Tropes of the Cold 2007 Andrea Dortmann page 78

The Snowflake was testing ground for his Discours de la Methode 1637, fundamentally demonstrating the hypothetical method of mechanical philosophy.

Descartes and Augustine - Stephen Menn 2002 page 28 Fragments in: Olympia; Rules for the Direction of the mind; Discourse I

Descartes interpreted his dreams of this night as the starting and foundation of his philosophical endeavours and project.

Isn't there a lot of poetry to be found in dictionaries?

The dictionary was the sciences in sterile and dry disconnection.

The poems marked the union of philosophy with wisdom.

In his college days the thing that made the most impression on Descartes was his encounter with Galileo's ideas in 1610.

To his conviction the words of poets are fuller of meaning and better expressed because of the nature of inspiration and the might of phantasy.

In 1610 the King of France was murdered.

What is the point of this story for our quest?

While the French Court wrote secretly to Galileo to discover a celestial body to which the name of Henry could be attached, the heart of the King was taken to be enshrined at the College Chapel at La Flèche.

The loose associations, connections and analogies that artists can make, so different from the by various requirements restricted science, can express insights which form a valuable resource to understanding.

The connections of the concepts of the heliocentric view with the ricercare or the analogies between Jupiter's moons and the manuscript aren't scientific.

A year after the chalice with the heart arrived essays and poems were displayed at a ceremony held at the College. Fifteen year old Réne Descartes is a likely (très probable) candidate to be the author of the *Sonnet sur la mort du roy*.

But they might be in serious dialogue with the intentions and rhetoric of the composer.

The theme as Galileo's punchline, the score as starmap, the harmonic constellation with two centers: these were features that struck me after hearing the music and seeing the tablature.

The poem links Galileo's thrilling discovery of four previously unknown heavenly bodies moving around Jupiter and the journey through space of the soul of the French King Henry IV.

This paper set these associations in a conceptual and historical framework, clarifying a communicated core or a projection (the distinction depends on the perspective).

Cosmopolis The Hidden Agenda of Modernity Stephen Toulmin 1990 page 60

It documents many (different) insights of many people. What they deem, think, regard, count, reckon, believe, credit, regard, take for, repute, reject, accept, consider, submit and why.

Libro del Sol
Marsilio Ficino Firenze 1493
“Le muse, infatti, con Apollo non discutono, ma cantano.”

Ficino had written in his Book about the Sun: "the Muse and Apollo, in fact, they do not quarrel, they sing along".

Something deep and meaningful is touched in the ricercare. That is the accomplishment of a gift. Art in the hands of a gifted composer will spread tone at what he is capable of.

Abstract concepts can resonate in the eye and ear of the beholder as we speak of the ricercare which is at the heart of this article and the music of chance will sing along.

There are many stars spinning around in this constellation and pinning the ricercare to one Galilei is speculative.

I have not yet got to the bottom of this. Nothing is certain but hypothetically there are some arguments that have been added in this article for this or for that.

I like to think of the ricercare as a little mechanical music box or a tiny clockwork machine reaching for the stars, so personally I go for the poet:

Vincenzo - son of Galileo *12 August 1606 † 21 January 1649 was a poet with the mindset and experience of a clockmaker, lutenist and composer of music with extremely ingenious organization.

Joost Witte
2018