

CARL CZERNY

160 KURZE ÜBUNGEN

OP. 821

NEU REVIDIERTE AUSGABE

EIGENTUM DES VERLEGERS - ALLE RECHTE VORBEHALTEN

C. F. PETERS · FRANKFURT  
LEIPZIG · LONDON · NEW YORK



# Kurze Übungen

Petites Etudes      Short studies

Jede Nummer ist wenigstens acht-  
mal nacheinander ununterbrochen  
im Tempo zu üben, indem sie auf die-  
se Weise eine größere Etüde bildet.

Il faut jouer chaque numéro au  
moins 8 fois sans interruption,  
formant de cette manière une  
grande étude.

Each number to be practised at  
least 8 times without interruption,  
forming in this manner one great  
study

C. Czerny, Op. 821 Cah. I

**Allegro**

1.

**Allegro**

2.

4

## Allegretto

3.

Sheet music for Allegretto, measures 1-3. The music is in common time (indicated by 'C'). The treble clef is on the top line, and the bass clef is on the bottom line. Measure 1 starts with a dynamic *p*. Measures 2 and 3 show eighth-note patterns with various slurs and grace notes. Measure 3 ends with a repeat sign and a double bar line.

## Vivace

4.

Sheet music for Vivace, measures 1-4. The music is in common time (indicated by 'C'). The treble clef is on the top line, and the bass clef is on the bottom line. Measure 1 starts with a dynamic *p dolce*. Measures 2 and 3 continue the rhythmic pattern with sixteenth-note figures. Measure 4 begins with a dynamic *cresc.*, followed by a dynamic *sf* and a dynamic *f*.

## Andantino espressivo

5.

Sheet music for Andantino espressivo, measures 1-3. The music is in common time (indicated by 'C'). The treble clef is on the top line, and the bass clef is on the bottom line. Measure 1 starts with a dynamic *p*. Measures 2 and 3 show eighth-note patterns with slurs and grace notes.

A musical score for piano. The top staff shows a treble clef, a key signature of one flat, and a common time signature. The bottom staff shows a bass clef and a common time signature. Measure 4 begins with a dynamic *sforzando* (sf). Measure 5 begins with a dynamic *pianissimo* (p). Measure 5 ends with a measure repeat sign.

## Andantino

Musical score for piano, page 6, measures 11-12. The score consists of two staves. The top staff is in treble clef, B-flat key signature, and 3/4 time. It features a bassoon-like line with eighth-note chords and a continuous eighth-note bass line underneath. Measure 11 ends with a fermata over the eighth note. Measure 12 begins with a dynamic *f*. The bottom staff is in bass clef, B-flat key signature, and 3/4 time. It shows a continuous eighth-note bass line. Measure 11 ends with a fermata over the eighth note. Measure 12 begins with a dynamic *f*.

## **Allegro vivace**

The image shows the beginning of a piano piece on page 7. The top staff is in common time (C) and treble clef, with a key signature of one sharp. The bottom staff is also in common time (C) and bass clef. Measure 1 starts with a forte dynamic (F) and consists of two groups of eighth-note chords. The first group has a bass note of B4 and a treble note of G5. The second group has a bass note of D5 and a treble note of C6. Measure 2 begins with a piano dynamic (P) and consists of two groups of eighth-note chords. The first group has a bass note of E4 and a treble note of C5. The second group has a bass note of A4 and a treble note of G5. The piano part continues with sustained notes and eighth-note chords throughout the measure.

A musical score for piano featuring two staves. The top staff uses a treble clef and the bottom staff uses a bass clef. The key signature is one flat. Fingerings are indicated above the notes in the upper staff, such as '1 2 1' over a sixteenth-note cluster. A dynamic marking 'cresc.' is placed above the bass staff. The score includes a fermata over the first note of the upper staff's melody. Measure numbers 5, 8, and 12 are marked below the staff.

**Allegro**

8.

*f*

**Vivace**

9.

*p*

**Allegro**

10.

*f*

*sf*

4      5      5      2      5      2      3

**Allegro moderato**

**11.**

*p*

2      3      4      5

**Allegro moderato**

**12.**

1      2      3      4

cresc. - - - -

1      2      3      5

*f*

5      3      4      2      1

## Allegro moderato

13.

13.

14.

## Allegretto

14.

**Allegretto**

15.

Musical score for Allegretto, measures 15-18. The score consists of two staves. The top staff is in treble clef, 2/4 time, and has a dynamic of *p*. The bottom staff is in bass clef, 2/4 time. Measure 15: Treble staff shows a sixteenth-note pattern with fingers 1-5. Bass staff shows eighth-note chords. Measure 16: Treble staff shows a sixteenth-note pattern with fingers 1-5. Bass staff shows eighth-note chords. Measure 17: Treble staff shows a sixteenth-note pattern with fingers 1-5. Bass staff shows eighth-note chords. Measure 18: Treble staff shows a sixteenth-note pattern with fingers 1-5. Bass staff shows eighth-note chords. The bass staff includes a crescendo marking (*cresc.*) and a dynamic *f*.

**Allegro moderato**

16.

Musical score for Allegro moderato, measures 16-19. The score consists of two staves. The top staff is in treble clef, 2/4 time, and has a dynamic of *p*. The bottom staff is in bass clef, 2/4 time. Measure 16: Treble staff shows a sixteenth-note pattern with fingers 4-3-2-1. Bass staff shows eighth-note chords. Measure 17: Treble staff shows a sixteenth-note pattern with fingers 4-3-2-1. Bass staff shows eighth-note chords. Measure 18: Treble staff shows a sixteenth-note pattern with fingers 3-2-1. Bass staff shows eighth-note chords. Measure 19: Treble staff shows a sixteenth-note pattern with fingers 3-2-1. Bass staff shows eighth-note chords. The bass staff includes a dynamic *p* and a measure number 4.

**Allegro vivace**

17.

Musical score for Allegro vivace, measures 17-20. The score consists of two staves. The top staff is in treble clef, common time, and has a dynamic of *p*. The bottom staff is in bass clef, common time. Measure 17: Treble staff shows a sixteenth-note pattern with fingers 4-3-2-1. Bass staff shows eighth-note chords. Measure 18: Treble staff shows a sixteenth-note pattern with fingers 4-3-2-1. Bass staff shows eighth-note chords. Measure 19: Treble staff shows a sixteenth-note pattern with fingers 2-4-3-2-3. Bass staff shows eighth-note chords. Measure 20: Treble staff shows a sixteenth-note pattern with fingers 1-2-3. Bass staff shows eighth-note chords. The bass staff includes a dynamic *p* and a measure number 4.

**Allegretto**

18.

**Allegretto animato**

19.

**Allegro**

20.

**21.** Allegretto moderato

*f legato e marcato*

**22.** Allegro vivace

*p*

**23.** Allegro

*p*

**Allegro**

24.

24.

**Allegro**

25.

**Allegretto**

26.

26.

**Allegretto giocoso**

27.

**Allegro moderato**

28.

## Allegretto moderato

29.

29.

*p dolce*

## Allegro

30.

30.

*f*

## Allegro

34.

A musical score for piano featuring two staves. The top staff uses a treble clef and the bottom staff uses a bass clef. Both staves are in common time and include a key signature of three flats. The music consists of six measures. Measure 1 starts with a sixteenth-note pattern (1 2) followed by a sixteenth-note cluster (1 3). Measures 2-3 show a sixteenth-note pattern (4 3 2 4) followed by a sixteenth-note cluster (1 2). Measures 4-5 show a sixteenth-note pattern (5 4) followed by a sixteenth-note cluster (2). Measures 6-7 show a sixteenth-note pattern (5) followed by a sixteenth-note cluster (1 5 3 1 2). Measures 8-9 show a sixteenth-note pattern (5 3 1 2) followed by a sixteenth-note cluster (5 3 1 2). Measures 10-11 show a sixteenth-note pattern (3 1 2 4) followed by a sixteenth-note cluster (1). Measures 12-13 show a sixteenth-note pattern (1 4) followed by a sixteenth-note cluster (2).

## **Andantino grazioso**

32.

**32.**

**Andantino grazioso**

*p e delicatamente*

**32.**

## Allegro

33.

A musical score for piano, featuring two staves. The top staff is in treble clef and the bottom is in bass clef. The key signature is A major (three sharps). Measure 8 starts with a sixteenth-note pattern: 5, 3, 1, 2, 4, 1. Measures 9 and 10 continue this pattern with variations in the right hand. Measure 11 begins with a forte dynamic (fz) and a bass note. The score includes measure numbers 8, 9, and 10.

**Allegro**

34.

8.....

**Allegro**

35.

**Allegro**

36.

*tenute*

**f**

36.

**Allegro****37.**

*p leggiermente*

3

**Vivace****38.**

*mf*

*legato*

4

3

4

5

2

1

**Allegro moderato**

39.

39.

**Allegro moderato**

40.

40.

**Allegretto**

41.

41

cresc.

f

Vivace

42.

p

cresc.

p

cresc.

f

# Kurze Übungen

Petites Etudes

Short studies

C. Czerny, Op. 821 Cah.II

Allegro moderato

43.

43.

Allegro

44.

44.

44.

**Allegro vivace****45.***p dolce leggiurm.*
**Allegro****46.***p*

*cresc.* - -

**Vivace**

47.

**Vivace**

48.

**Allegro**

49.

Allegretto animato

50.

*dolce*

*p*

*ten.*

*leggiero*

*pp*

*cresc.*

*p*

Allegro moderato

51.

*p*

*cresc.*

*f*

*sforzando*

*dolce*

*p*

## Allegro

52.

52.

## Andantino

53.

53.

## Vivace

54.

54.

The image shows two staves of musical notation for piano. The top staff is in treble clef and the bottom staff is in bass clef. Both staves are in G major (three sharps) and common time. The music consists of eighth-note patterns. Fingerings are indicated above the notes: in the first measure, the right hand has fingerings 3, 4, 3, 4, 2, 3, 1, 4, 3, 4; in the second measure, the right hand has fingerings 3, 1, 4, 2, 3, 4, 3, 1, 4, 2, 3, 4, 2; in the third measure, the right hand has fingerings 1, 2, 3, 4, 1, 2, 3, 4; in the fourth measure, the right hand has fingerings 5, 3, 1, 4, 1, 2, 3, 4. The left hand provides harmonic support with sustained notes.

The image shows a page of sheet music for piano. It consists of two staves. The top staff is in common time and the bottom staff is in 2/4 time. Both staves are in G major, indicated by three sharps in the key signature. The top staff uses a treble clef and the bottom staff uses a bass clef. Fingerings are written above the notes in each measure, such as '4 2 1 2' or '3 2 1 4'. Measures 1-4 are on the top staff, and measures 5-8 are on the bottom staff.

### **Allegro**

A musical score for piano featuring two staves. The top staff uses a treble clef and shows a melodic line with various note heads and stems. Above the notes are fingering markings such as '3 1', '5 1', '2', '3', '5 1', '5 3 4', '1', '3 5 2 1', '3 4 2 1', '3 4 2 1', '5 3 2 1', '4 2', '3 5 4', and '5 2 3'. The bottom staff uses a bass clef and provides harmonic support with sustained notes and chords. Fingering markings at the bottom include '3 5', '5 3', '2 1 5', and '1 4 2'.

## Allegro

Musical score for piano, page 56, Allegro section. The score consists of two staves. The top staff is in treble clef, 3/4 time, and F major (indicated by a key signature of one sharp). The bottom staff is in bass clef, 3/4 time, and G major (indicated by a key signature of one sharp). The music features a continuous pattern of eighth-note chords and sixteenth-note figures. Measure numbers 56 through 60 are present above the top staff. Measure 56 starts with a dynamic *f*. A performance instruction *sempre staccato* is placed between measures 57 and 58. Measure 60 concludes with a dynamic *p*.

A musical score for piano, featuring two staves. The top staff is in treble clef and the bottom is in bass clef. Measure 11 begins with a forte dynamic. The right hand plays eighth-note chords (e.g., B7, G7) with fingerings 3, 4, 5, 4; 3, 4; 5, 4; 4. The left hand provides harmonic support with eighth-note chords. Measure 12 continues with eighth-note chords in both hands, maintaining the rhythmic pattern established in measure 11.

**Allegro**

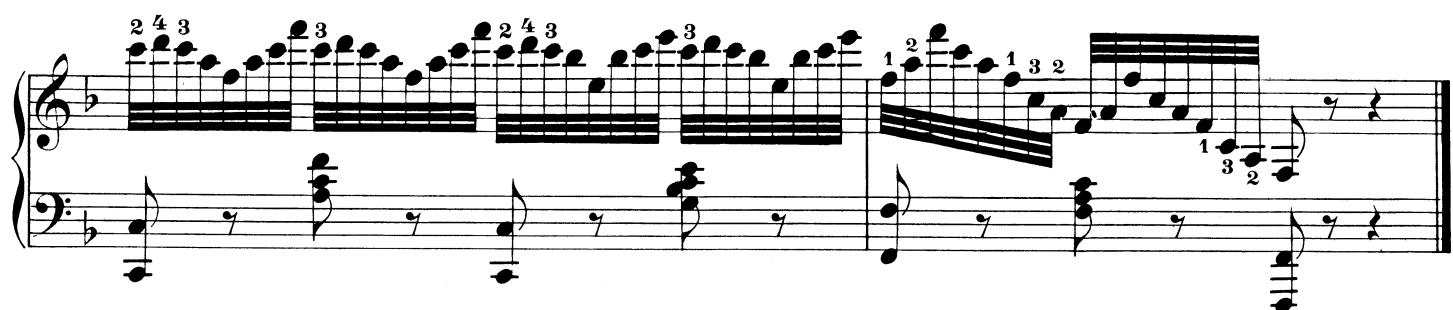
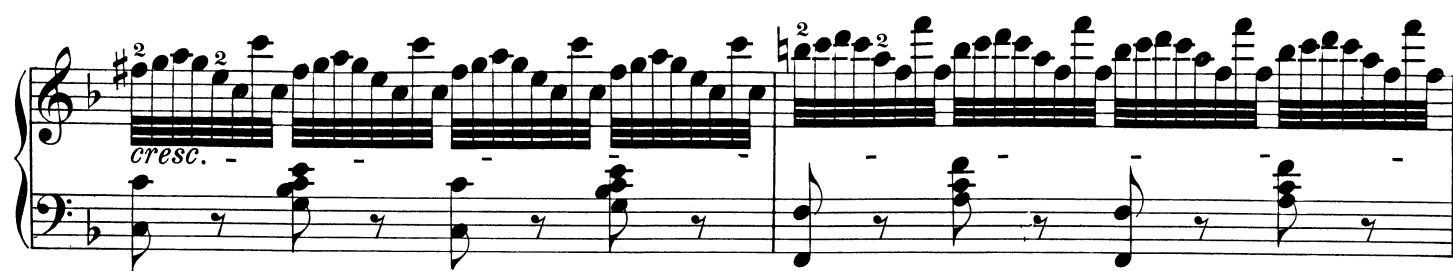
57.

**Vivace**

58.

**Veloce**

59.



**Andante**

**60.**

**Allegro**

61.

**Allegro moderato**

62.

**Allegretto**

63.

64.

*Andante**p legato**cresc.*
*Allegro*

65.

*p**cresc.*

**Allegro**

66.

**Allegro**

67.

68.

**Allegro**

Three staves of musical notation in 2/4 time, treble and bass clefs, key signature of two flats. The first two staves show eighth-note patterns. The third staff begins with a dynamic 'cresc.' followed by a forte dynamic 'f'.

## Allegro vivace

69.

Allegro vivace

69.

1 2 1 4      3      4      3      2 1      1      2 1      3 2 1      4

5 2 1      1      4      3      2 1      1      2 1      3 2 1      4

3      4      3      2      1 3 5 4      1 2      3      5 1      2 3 1 2 2      3 2

1      4 1      5 3 2 1 2      1      4 1      5 3 2 1 2      1

**Allegro**

70.

**Allegro giocoso**

71.

**Allegro moderato**

72.

**Andantino espressivo**

73.

**Allegro**

74.

74.

**Allegro moderato**

75.

p dolce

75.

**Allegro**

76.

76.

77.

77.

78.

**Allegro vivace**

Sheet music for piano, page 36, measures 78-79. The music is in 3/4 time, key signature is B-flat major (two flats). Measure 78 starts with a dynamic ***ff***. Measure 79 begins with a dynamic ***f***.

79.

**Allegro**

Sheet music for piano, page 36, measure 79. The music is in common time, key signature is B-flat major (two flats). The dynamic is ***f***. The instruction ***staccato*** is written below the notes.

Sheet music for piano, page 36, measure 80. The music is in 3/4 time, key signature is B-flat major (two flats). The dynamic is ***ff***.

**Allegro**

Sheet music for piano, page 36, measure 80. The dynamic is ***p***. The instruction ***ten.*** is written above the notes.

Sheet music for piano, page 36, measure 80. The dynamic is ***p***. The instruction ***ten.*** is written above the notes.

Sheet music for piano, page 36, measure 80. The dynamic is ***p***. The instruction ***ten.*** is written above the notes.

Sheet music for piano, page 36, measure 80. The dynamic is ***p***. The instruction ***ten.*** is written above the notes.

Sheet music for piano, page 36, measure 80. The dynamic is ***p***. The instruction ***ten.*** is written above the notes.

## Allegro moderato

81.

ff      *tr.*      sf      *tr.*

*sf*      *tr.*      *sf*

*sf*      *tr.*

*sf*

## Allegro

82.

*p dolce*

*cresc.*

*f*

*sf dimin.*

*p*

# Kurze Übungen

Petites Etudes

*Short studies*

Andante con moto

C. Czerny, Op. 821 Cah. III

83.

The sheet music consists of five staves of musical notation for piano, arranged vertically. The first four staves are in common time (indicated by 'C') and the fifth staff is in 2/4 time (indicated by '2/4'). The key signature is A major (three sharps). The music is labeled 'Andante con moto' and includes dynamic markings such as *p*, *sf*, and *f*. Fingerings are indicated above the notes, and measure numbers 20, 23, 15, and 23 are marked. The bass line provides harmonic support, and the treble line features various melodic patterns and arpeggiated chords. The final staff concludes with a fermata over the bass note.

84.

**Allegro** *m.g.*

**Allegretto**

85.

**Allegro**

86.

**Allegro vivace**

87.

**Allegro agitato**

88.

5 4  
dumin.  
5 3  
5 3

p cresc. sf

f sf

**Presto***marcatissimo*

89.

12/8 f simile ff

## Allegro

90.

Musical score for piano, page 42, measures 90-91. The score consists of two systems of music, each with two staves: treble and bass. The key signature is A major (three sharps). Measure 90 starts with a forte dynamic (f) in common time. The right hand plays eighth-note chords, and the left hand provides harmonic support. Measure 91 begins with a dynamic of  $\frac{3}{8}$ . The right hand continues with eighth-note chords, while the left hand provides harmonic support. Measure 91 concludes with a dynamic of  $\frac{2}{4}$ .

## Allegro vivace

91.

Continuation of the musical score for piano, page 42, measure 91. The score consists of two systems of music, each with two staves: treble and bass. The key signature is A major (three sharps). The right hand plays sixteenth-note patterns, and the left hand provides harmonic support. Measure 91 concludes with a dynamic of  $\frac{2}{4}$ .

8.....

## Allegro

92.

Allegro

92.

## Allegro moderato

93.

energico

*sf*

## Allegro moderato

94.

## Vivace

95.

*dolce*

*simile*

**Allegretto vivace**

96.

**Allegro agitato**  
*tenute*

97.

97.

*marcato*

*sf*

**Molto vivace.**

98.

*m.g.*

*p leggiérmente*

*m.g.*

*cresc.*

*f*

98.

*dimin.*

*p*

**99.**

**Allegro veloce**

*ten.*

**99.**

**Allegro veloce**

*ten.*

**100.**

**Allegro vivace**

*mf*

*poco cresc.*

**4 1**

*sempre cresc.*

**f**

**ff**

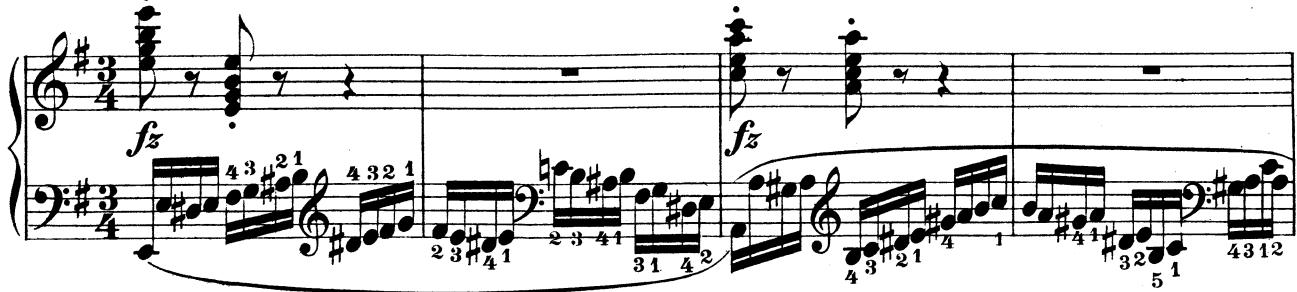
**ff**

**3 2 1**

**2 1**

*Allegro*

101.

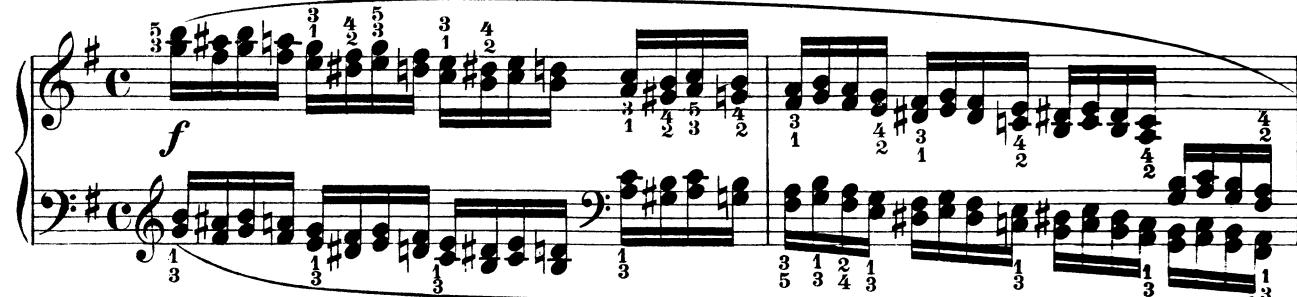


8.....

8.....

*Allegro moderato*

102.



## Allegro brillante

103.

103.

## Allegro

104.

104.

## Molto allegro

105.

*ff staccato*

## Allegro

106.

*f*

## Allegro

107.

*mf*

108.

**Allegro**

**f**

109.

**Presto**

**f**

## Allegro moderato

110.

## Vivace

111.

**142.** **Andantino**

142. **Andantino**

*p dolce*

142. **ff**

142. **calando**

*pp*

*calando*

*ff*

**143. Agitato**

143. **Agitato**

*ff*

*ff*

*sf*

*fz*

*sf*

## Allegretto animato

114.

*p dolce scherzoso*

## Allegro vivace

115.

*p*

*cresc. p. a. p.*

8

116.

*f*

*Allegro*

Allegro vivace

117.

*f*

*Molto vivace ed energico*

118.

Presto

119.

Presto

119.

*sempre staccato*

Velocissimo

120.

Velocissimo

120.

*f*

8.

8.

8.

8.

8.

8.

8.

## Allegro vivace

121.

*p dolce legato*

(L. & \*)

## Allegro energico

122.

# Kurze Übungen

Petites Etudes

*Short studies*

Andante

C. Czerny, Op. 821 Cah. IV

123.

Sheet music for exercise 123, Andante. The music is in common time (indicated by 'g'). The key signature is A major (three sharps). The music features continuous eighth-note patterns on the treble and bass staves, with various fingering markings (e.g., 1, 2, 3, 4, 5) and dynamics (p, f, ff).

Allegro con fuoco

124.

Sheet music for exercise 124, Allegro con fuoco. The music is in common time (indicated by 'c'). The key signature is F major (one sharp). The music features continuous eighth-note patterns on the treble and bass staves, with various fingering markings (e.g., 1, 2, 3, 4, 5) and dynamics (ff).



**Allegro vivace**

125.

**Allegro**

126.

**Allegro**

127.

*ten.*

*mf*

*ten. cresc.*

*f*

*sf*

128.

**Allegro**

*f*

## Allegro

129.

ff

## Allegro vivace

130.

8

## Allegretto moderato

131.

*cresc. poco a poco*

132.



## Allegretto animato.

133.

{

## Presto

134.

{

**Allegro**

135.

**Allegro brillante**

136.

## Moderato

137.

Moderato

137.

Sheet music for Exercise 137. The music is in common time, key signature of one sharp (F#). The left hand plays eighth-note patterns on the bass clef staff, and the right hand plays sixteenth-note patterns on the treble clef staff. Fingerings are indicated above the notes: 1 2 3 4 5 for the left hand and 5 4 3 2 1 for the right hand. Measure 1 starts with a forte dynamic (f).

## Allegro

138.

Allegro

138.

Sheet music for Exercise 138. The music is in common time, key signature of one sharp (F#). The left hand plays eighth-note patterns on the bass clef staff, and the right hand plays sixteenth-note patterns on the treble clef staff. Fingerings are indicated below the notes: 5 3 2 1, 3 2 1 4, 5 4 1 4, 5 4 2 1, 4 2 1 4, 5 4 1 4 for the left hand; and 5 3 2 1, 3 2 1 4, 5 for the right hand. Measures 1-2 start with a forte dynamic (f).

## Allegro

139.

## Allegro

140.

Vivace *m.g.*

141.

Sheet music for piano, Vivace *m.g.*, 141. The music consists of six staves of musical notation. The first two staves are in common time (C), with the left hand playing eighth-note chords and the right hand playing sixteenth-note patterns. The key signature is one flat. The third staff begins in common time (C) and transitions to common time (C) with a key signature of one sharp. The fourth staff begins in common time (C) and transitions to common time (C) with a key signature of one sharp. The fifth staff begins in common time (C) and transitions to common time (C) with a key signature of one sharp. The sixth staff begins in common time (C) and transitions to common time (C) with a key signature of one sharp. The music features various dynamics, including *f*, *ff*, and *p*.

Allegro

142.

Sheet music for piano, Allegro, 142. The music consists of four staves of musical notation. The first two staves are in common time (C) and transition to common time (C). The key signature changes from one flat to one sharp. The third staff begins in common time (C) and transitions to common time (C). The fourth staff begins in common time (C) and transitions to common time (C). The music features various dynamics, including *f*, *ff*, and *p*. The notation includes fingerings (e.g., 1, 2, 3, 4, 5) and grace notes.

*Allegro vivace*

143.

*con fuoco*

*Molto allegro*

144.

*Molto allegro*

145.

*f*

Sheet music for piano, page 69, showing two staves of musical notation. The top staff is in treble clef and the bottom staff is in bass clef. Fingerings are indicated above the notes, such as '1 2 3 5' and '8'. A dynamic marking 'f' is present. The music consists of six measures.

Allegro

146.

Sheet music for piano, page 69, showing four staves of musical notation for Allegro movement 146. The top staff is in treble clef and the bottom staff is in bass clef. Fingerings are indicated above the notes. Measures 1 through 8 are shown, ending with a dynamic marking 'ff'.

Allegro

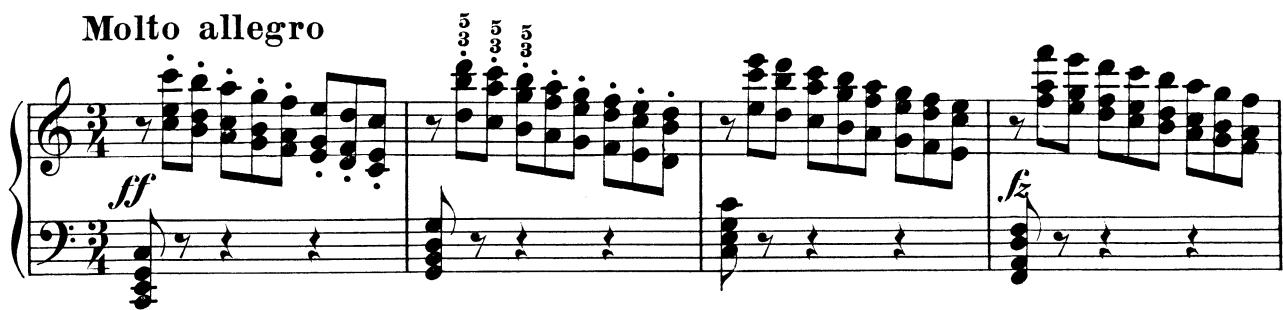
147.

Sheet music for piano, page 69, showing three staves of musical notation for Allegro movement 147. The top staff is in treble clef and the bottom staff is in bass clef. Fingerings are indicated above the notes. Measures 1 through 8 are shown.

Sheet music for piano, page 69, showing two staves of musical notation for movement 147. The top staff is in treble clef and the bottom staff is in bass clef. Fingerings are indicated above the notes. Dynamic markings 'dimin.' and 'poco' are present. Measures 1 through 8 are shown.

## Molto allegro

148.



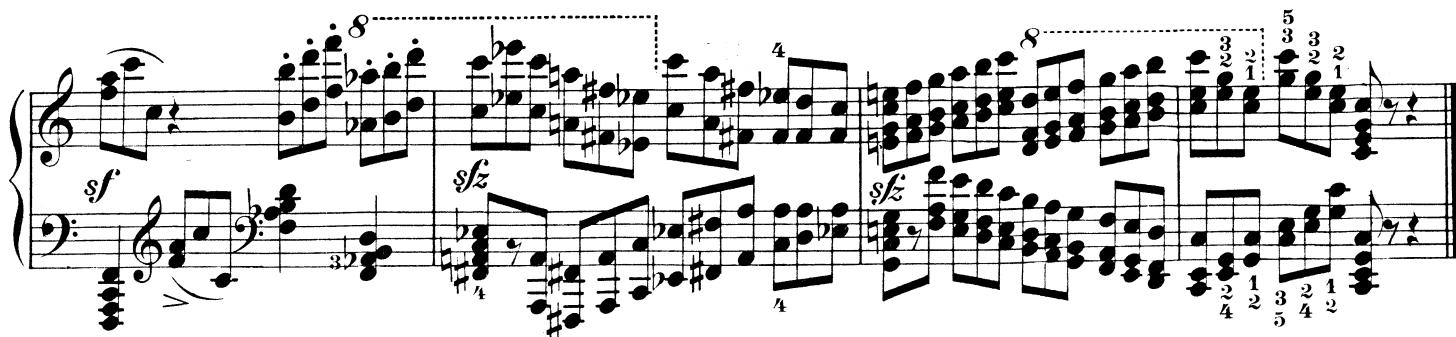
## Allegro comodo

149.



## Allegro con bravura

150.



## Allegro vivace

151.

Musical score for exercise 151. The score consists of two staves. The top staff is in common time (C) and treble clef, with a dynamic of *f*. The bottom staff is in common time (C) and bass clef. Both staves feature sixteenth-note patterns with various fingerings (e.g., 1, 2, 3, 4, 5) and slurs. The bass staff includes a bassoon part with sixteenth-note patterns.

## Allegro vivace

152.

Musical score for exercise 152. The score consists of two staves. The top staff is in common time (C) and treble clef, with a dynamic of *p*. The bottom staff is in common time (C) and bass clef. The music features eighth-note chords. The bass staff includes a bassoon part. A crescendo marking (*cresc.*) is present in the middle of the page, followed by a diminuendo marking (*dimin.*) and a fermata over the last measure.

Musical score for exercises 153 and 154. The score consists of two staves. The top staff is in common time (C) and treble clef, with a dynamic of *f*. The bottom staff is in common time (C) and bass clef. The music features eighth-note chords. The bass staff includes a bassoon part. Measure 153 starts with a dynamic of *poco a poco*, indicated by a crescendo and a decrescendo. Measure 154 begins with a dynamic of *f*.

**Molto allegro***martellato*

153.

153.

**Vivace**

154.

cresc.

## Allegretto

155.

## Allegretto

156.

## Allegro vivace

157.

## Allegro

158.

**Allegro**

159.

Sheet music for piano solo, Op. 159, Allegro. The music consists of three staves of sixteenth-note exercises. The first two staves are in common time (C) and the third is in 3/4 time (G). Fingerings are indicated above the notes. The first staff starts with a dynamic *f*. The second staff begins with a dynamic *f*.

**Molto allegro**

160.

Sheet music for piano solo, Op. 160, Molto allegro. The music consists of three staves of sixteenth-note exercises. The first two staves are in common time (C) and the third is in 3/4 time (G). Fingerings are indicated above the notes. The first staff starts with a dynamic *ff*. The second staff begins with a dynamic *ff*. The third staff begins with a dynamic *ff*.